City of Arvada
City Council Agenda
APRIL 21, 2026

Councilmembers:
Lauren Simpson, Mayor
Randy Moorman, Mayor Pro-Tem
Shawna Ambrose, District 2
Sharon Davis, At large
Bob Fifer, District 4
Michael P. Griffith, At large
Rebecka Lovisone, District 3

Staff Members Usually Present:
Don Wick, City Manager
Linda Haley, Deputy City Manager
Allison Scheck, Deputy City Manager
Rachel Morris, City Attorney
Jacqueline Rhoades, Director of Infrastructure
Jessica Garner, Director of Community & Econ. Dev.
Bryan Archer, Chief Financial Officer
Gabriella Bommer, Director of Human Resources
Ryan Stevenson, Director of Vibrant Community & Neighborhoods
Rachael Kuroiwa, Director of Communications & Engagement
Ed Brady, Chief of Police
Kristen Rush, City Clerk

Info: 720-898-7550

THIRD FLOOR CONFERENCE ROOM
EXECUTIVE SESSION
4:00 P.M.

Legal Advice, Pursuant to CRS 24-6-402(4)(b) Related to a Potential Violation of the City's Code of Ethics and the Ongoing Ethics Investigation
Legal Advice, Pursuant to CRS 24-6-402(4)(b) Relating to Avalon Arvada (Welby Center) Project

REGULAR MEETING
CITY COUNCIL CHAMBERS
6:00 P.M.

1. Call to Order - 6:00 PM
2. Moment of Reflection and Pledge of Allegiance - Mayor Pro Tem Moorman
3. Roll Call of Councilmembers
4. Approval of Minutes
   A. April 7, 2026 City Council Meeting
5. Recognitions and Communications
   A. Proclamation for National Crime Victims' Rights Week - Presented by Councilmember Ambrose
   B. Proclamation for Earth Day - Presented by Councilmember Davis
   C. Proclamation for Arbor Day - Presented by Councilmember Fifer
   D. Certificate of Recognition - Scharfenberg Family for the Trees Across Arvada Program - Presented by Councilmember Griffith
   E. Certificate of Recognition of Rachael Kuroiwa — Recipient of the CCCMA Program Excellence Award for her Community Conversations on Homelessness Program - Presented by Councilmember Lovisone
6. Presentations

A. 2025 Year-End Financial Report

7. Public Comment on Issues not Scheduled on Agenda - Three Minute Limit

8. New Business

A. Consent Agenda

1. R26-011, A Resolution Authorizing A Master License Agreement By and Between the City of Arvada and Forged Fiber 37, LLC (Continued from February 17, 2026)

2. R26-029, A Resolution Authorizing an Agreement by and Between the City of Arvada and Brannan Sand and Gravel Company, LLC for Arvada's Pavement Resurfacing Project, Project No. 26-STS-01B in an Amount not to Exceed $6,794,380.65

3. R26-030, A Resolution Authorizing Amendment No. 2 to an Agreement between the City of Arvada and Jacobs Engineering Group Inc. for Engineering Services Related to the Water Treatment Plant Replacement, Piloting and Process Selection in an Amount not to Exceed $615,337.00, thereby Increasing the Total Contract Amount to an Amount not to Exceed $14,207,989.00

4. R26-031, A Resolution Authorizing An Agreement Between the City of Arvada and EDGE Contracting, Inc. for 2026 Sanitary Sewer Open Cut Construction Services, Project No. 26-SR-01, in an Amount Not to Exceed $1,382,541.00

B. Resolutions

1. R26-032, A Resolution Authorizing an Agreement Between the City of Arvada and Axon Enterprise, Inc. for Goods and Services Related to Police Department Technology Improvements in an Amount not to Exceed $1,180,369.75 in the First Year (Presenter: Padraic Emerine, Senior Assistant City Attorney)

2. R26-009, A Resolution Repealing the Current City Council Rules of Procedures Governing Meetings and Adopting City Council Bylaws (Presenter: Rachel Morris, City Attorney) (Continued from February 3, 2026) (TO BE CONTINUED TO MAY 5, 2026)

C. Ordinances (First Reading)

1. CB26-016, An Ordinance Repealing, Retitling, and Reenacting Chapter 94, Article II, Construction and Repair of Sidewalks, etc., of the Arvada City Code (Public Hearing to be set for May 5, 2026 at 6:15 p.m.) (Presenter: Chris Lisberg, Assistant City Engineer)

9. Other

A. Appointments to Boards and Commissions

10. Public Hearings - 6:15 PM

A. CB26-015, An Ordinance Authorizing an Additional Appropriation for Fiscal Year 2026 (Ordinance No. 4931) (Presenter: Bryan Archer, CFO)

B. PROJECT: Annexation and Zoning for Martinez Annexation No. 1 & 2, a 1.17 acre parcel of land approximately located at 5044 Carr St.

1. R26-033, A Resolution Setting Forth Certain Findings of Fact and Conclusions as to the Annexation of Certain Land into the City of Arvada, Colorado, Martinez Annexation No. 1 and No. 2 from Jefferson County R-2 to City of Arvada R6 (Residential, 6), a 1.17 Acre Parcel of Land Approximately Located at 5044 Carr St., and Amending the Official Zoning Maps of the City of Arvada, Colorado (Presenter: Rob Smetana, Planning Manager)

2. CB26-009, An Ordinance Annexing Certain Land into the City of Arvada, Martinez Annexation No. 1, a 0.06 Acre Parcel of Land Approximately Located at 5044 Carr Street, in the City of Arvada, County of Jefferson, State of Colorado (Ordinance No. 4925) (Presenter: Rob Smetana, Planning Manager)

3. CB26-010, An Ordinance Annexing Certain Land Into the City of Arvada, Martinez Annexation No. 2, a 01.11 Acre Parcel of Land Approximately Located at 5044 Carr Street, in the City of Arvada, County of Jefferson, State of Colorado (Ordinance No. 4926)

(Presenter: Rob Smetana, Planning Manager)

4. CB26-011, An Ordinance Zoning Martinez Annexation No. 1 and No. 2, from Jefferson County R-2 to City of Arvada R6 (Residential, 6), a 1.17 Acre Parcel of Land Approximately Located at 5044 Carr St., and Amending the Official Zoning Maps of the City of Arvada, Colorado (Ordinance No. 4927) (Presenter: Rob Smetana, Planning Manager)

C. CB26-008, An Ordinance Approving a Conditional Use Permit to Allow 384 Multifamily and 51 Townhome Units on Site in the MX-S (Mixed Use Suburban) Zoning District for Avalon Arvada, a 20.1 Acre Parcel of Land Approximately Located at 17201 W 64th Ave. (Ordinance No. 4924) (Presenter: Rob Smetana, Planning Manager)

11. Public Comment - Five Minute Limit

12. Reports from City Council

A. Council Committee Reports

13. Reports from City Manager

A. Review of Future Workshops and Presentations

14. Reports from City Attorney

15. Adjournment

SUMMARY OF MINUTES OF THE MEETING OF THE ARVADA CITY COUNCIL HELD APRIL 7, 2026

1. Executive Session – 5:00 p.m.
   A. Legal Advice, Pursuant to CRS 24-6-402(4)(b) Relating to Master License Agreement between the City and Forged Fiber 37

Councilmember Ambrose moved to go into executive session for Legal Advice, Pursuant to CRS 24-6-402(4)(b) Relating to Master License Agreement between the City and Forged Fiber 37

The following votes were cast on the Motion:
Those voting Yes: Simpson, Moorman, Ambrose, Davis, Fifer, Griffith, Lovisone
The Motion was Approved

1. Call to Order - 6:00 p.m.

2. Moment of Reflection and Pledge of Allegiance

3. Roll Call of Councilmembers

Those Present: Mayor Lauren Simpson, Mayor Pro Tem Randy Moorman, Councilmember Shawna Ambrose, Councilmember Sharon Davis, Councilmember Bob Fifer, Councilmember Michael Griffith, Councilmember Rebecka Lovisone.

Also Present: Don Wick, City Manager, Rachel Morris, City Attorney, Linda Haley, Deputy City Manager, Bryan Archer, Chief Financial Officer, Jacqueline Rhoades, Director of Infrastructure, Jessica Garner, Director of Community and Economic Development, Jessie Bauters, Communications Manager, Department of Community and Economic Development and Kristen Rush, City Clerk.

4. Approval of Minutes – March 24, 2026

The minutes stand approved.

5. Recognition and Communication
   A. Proclamation for National Kite Month - Presented by Councilmember Lovisone

Councilmember Lovisone read the proclamation and said that City Council proclaims April 2026 as National Kite Month and invite all residents to participate in the Arvada Kite Festival on Sunday, April 12 at the Stenger Sports Complex.

Accepting the proclamation was Vihaan Juvvalapalem who was voted on by the community as the winner of the inaugural Arvada Kite Festival Youth T-Shirt Design Contest. T-shirts featuring Vihaan's design will be available for purchase at the Kite Festival on Sunday, April 12. All proceeds from the sale of the shirts will benefit Ralston House.

6. Public Comment –
   A. Mike Rawluk, Golden resident, addressed council regarding R26-028.
   B. Lynn Clemens, Arvada resident, addressed council regarding the Jefferson County Planning Commission Meeting that will be held on April 8.
   C. Kristen Clipke, Arvada resident, addressed council regarding the Climate and Sustainability Action Plan.
   D. Laurel Matry, Arvada resident, addressed council regarding the Climate and Sustainability Action Plan.
   E. Debbie Bacon, Arvada resident, addressed council regarding Water Rates for Multi-Family Communities.

7. New Business
   A. Consent Agenda –
      1. R26-026 A Resolution Authorizing Acceptance of Donations Made to the Majestic View Nature Center in 2025

Councilmember Davis moved that R26-026, A Resolution Authorizing Acceptance of Donations Made to the Majestic View Nature Center in 2025, be approved.

The following votes were cast on the Motion:
Those voting Yes: Simpson, Moorman, Ambrose, Davis, Fifer, Griffith, Lovisone
The Motion was Approved

   B. Resolutions –
      1. R26-027 A Resolution Authorizing a First Amendment to an Intergovernmental Agreement Between the City of Arvada and Jefferson County Public Library Designating Maintenance Responsibilities for the Rocky Mountain Greenway Trailhead at the Standley Lake Library

Darin DeLay, Parks & Urban Design Manager, reviewed this resolution with council.

Councilmember Davis moved that R26-027, A Resolution Authorizing a First Amendment to an Intergovernmental Agreement Between the City of Arvada and Jefferson County Public Library Designating Maintenance Responsibilities for the Rocky Mountain Greenway Trailhead at the Standley Lake Library, be approved.

The following votes were cast on the Motion:
Those voting Yes: Simpson, Moorman, Ambrose, Davis, Fifer, Griffith, Lovisone
The Motion was Approved

      2. R26-028 A Resolution Adopting a Golf Course Facility Visitor Code of Conduct

Ryan Stevenson, Director of Vibrant Community & Neighborhoods, reviewed this resolution with council.

Mayor Pro Tem Moorman moved that R26-028, A Resolution Adopting a Golf Course Facility Visitor Code of Conduct, be approved.

The following votes were cast on the Motion:
Those voting Yes: Simpson, Moorman, Ambrose, Davis, Fifer, Griffith, Lovisone
The Motion was Approved

C. Ordinances (First Reading) -
1. CB26-015 An Ordinance Authorizing an Additional Appropriation for Fiscal Year 2026

Mayor Pro Tem Moorman moved that CB26-015, An Ordinance Authorizing an Additional Appropriation for Fiscal Year 2026, be approved on first reading, ordered published in full and a public hearing set for April 21, 2026, at 6:15 p.m.

The following votes were cast on the Motion:
Those voting Yes: Simpson, Moorman, Ambrose, Davis, Fifer, Griffith, Lovisone
The Motion was Approved

9. Other - None

10. Public Hearings – None

11. Other - None

12. Public Comment - Five Minute Limit –
A. Patty Shannon, Arvada resident, addressed council regarding Dieldrin contamination at 51st and Marshall.
B. Mike Rawluk, Golden resident, addressed council regarding Data Centers.
C. Debbie Bacon, Arvada resident, addressed council regarding the updated sidewalks on West 80th Avenue and minors on e-bikes.

13. City Council Reports –
A. Councilmember Fifer discussed the Jefferson County Comprehensive Plan.
B. Councilmember Fifer asked that we look at sustainability rules around Data Centers.
C. Councilmember Fifer asked that we review and update our e-bike ordinance.
D. Mayor Pro Tem Moorman said that the Arvada Center will have its Arts for All Gala on Saturday.
E. Mayor Pro Tem Moorman said that the State of the City Address will be on Friday.
F. Mayor Pro Tem Moorman welcomed Mayor Simpson back from medical leave.
G. Councilmember Ambrose said that she and Mayor Pro Tem Moorman attended a Pre Audit Committee Meeting.
H. Councilmember Ambrose discussed the Adams County Open Space Sales Tax.
I. Councilmember Lovisone gave an update on the Olde Town Business Improvement District and the strategic reinvestment plan and street sealing in olde town.
J. Councilmember Lovisone reminded everyone that water restrictions begin on April 15.
K. Councilmember Davis invited everyone to the Kite Festival on Sunday.

L. Mayor Simpson said that "Come From Away" opened at the Arvada Center

14. City Manager Reports –
   A. Don Wick, City Manager, reviewed the upcoming workshop schedule.
   B. Mr. Wick said that tomorrow, Huntoes Hispanic Network Group is holding their Conference and some members will be visiting Arvada.

15. City Attorney Reports – None

16. Adjournment at 7:35 p.m.

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Lauren Simpson, Mayor

SEAL:

_____
Kristen R. Rush, City Clerk

CITY OF ARVADA

REPORT TO CITY COUNCIL

AGENDA ITEM 5.A.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: Proclamation for National Crime Victims' Rights Week - Presented by Councilmember Ambrose

Report in Brief

City Council will proclaim the week of April 19-25, 2026 as National Crime Victims' Rights Week.

Victim Outreach Board President Dave Pickett and Board Member Roz Cooper will be present to accept the proclamation.

Prepared by:
Chris Koch, CCO Admin

Reviewed by:

Toni Riebschlager, Law Office Administrator	03/30/2026
Megan McCall, Assistant City Attorney II	03/31/2026

Approved by:

Rachel Morris, City Attorney	04/03/2026
Linda Haley, Deputy City Manager	04/03/2026
Don Wick, City Manager	04/08/2026

Enclosure, exhibits & attachments required to support the report

WHEREAS, National Crime Victims' Rights Week is observed annually to recognize and affirm the rights of crime victims and survivors, to acknowledge their strength and resilience, and to promote awareness of the importance of victim services and justice; and

WHEREAS, victims of crime deserve to be treated with dignity, respect, fairness, and compassion throughout the criminal justice process; and

WHEREAS, the City of Arvada is committed to upholding victims' rights, promoting meaningful access to support services, and ensuring victims are informed, supported, and empowered throughout the justice process; and

WHEREAS, in 2025 Victim Outreach, Inc. responded on-site 379 times in the City of Arvada and provided crisis and trauma services to 2,686 individuals impacted by crime or other traumatic events, most of whom were Arvada residents, highlighting the ongoing need for victim support and community awareness; and

WHEREAS, National Crime Victims' Rights Week provides an opportunity to honor the resilience of survivors, recognize the dedication of those who serve them, and reaffirm our commitment to advancing justice and healing.

NOW, THEREFORE, BE IT PROCLAIMED by the Mayor and members of the City Council that April 19-25, 2026, be designated as **NATIONAL CRIME VICTIMS' RIGHTS WEEK** in the City of Arvada, and encourages all residents to uphold victims' rights, support services that aid survivor healing, and work together to foster a community grounded in safety, justice, and compassion.

Dated this 21st day of April 2026.

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Lauren Simpson, Mayor

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Randy Moorman, Mayor Pro Tem

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Shawna Ambrose, Councilmember

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Sharon Davis, Councilmember

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Bob Fifer, Councilmember

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Michael P. Griffith, Councilmember

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Rebecka Lovisone, Councilmember

CITY OF ARVADA

REPORT TO CITY COUNCIL

AGENDA ITEM 5.B.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: Proclamation for Earth Day - Presented by Councilmember Davis

Report in Brief

City Council will proclaim April 22, 2026 as Earth Day.

Senior Sustainability Coordinator Steven Russell and members of the Arvada Sustainability Advisory Committee will be accepting the proclamation.

Prepared by:
Chris Koch, CCO Admin

Reviewed by:

Toni Riebschlager, Law Office Administrator	03/30/2026
Megan McCall, Assistant City Attorney II	03/31/2026

Approved by:

Rachel Morris, City Attorney	04/03/2026
Linda Haley, Deputy City Manager	04/03/2026
Don Wick, City Manager	04/08/2026

Enclosure, exhibits & attachments required to support the report

WHEREAS, Earth Day serves as an annual reminder of the vital importance of protecting our environment for future generations; and

WHEREAS, the theme for Earth Day 2026, *Our Power, Our Planet*, affirms that environmental progress is sustained by the everyday actions of communities, educators, workers, and families protecting where they live and work; and

WHEREAS, the City of Arvada is finalizing its Climate and Sustainability Action Plan (CASAP), a roadmap that establishes nearly 30 goals and more than 150 strategies to reduce greenhouse gas emissions, build community resilience to climate-related emergencies, and foster a sustainable future in Arvada; and

WHEREAS, the CASAP reflects a commitment to responsible stewardship of natural resources, community prosperity and quality of life, waste reduction and diversion, and efficient community design — balancing environmental, economic, and social interests for a healthier and more equitable Arvada; and

WHEREAS, the City of Arvada has demonstrated a steadfast commitment to sustainable energy practices, as exemplified by becoming the first Colorado municipality to meet its energy savings goal as a part of the U.S. Department of Energy Better Buildings Challenge; and

WHEREAS, Arvada is dedicated to the preservation and enhancement of its parks and natural areas, providing accessible opportunities for recreation and environmental education through resources like the Majestic View Nature Center; and

WHEREAS, the City recognizes that as our local climate becomes more unpredictable, climate and sustainability actions are essential to ensure that all Arvadans can thrive in a resilient community;

NOW, THEREFORE, BE IT PROCLAIMED that the Mayor and the Arvada City Council hereby designate April 22, 2026, as Earth Day 2026 and encourage all residents, businesses, and organizations to continue their commitment to creating a more sustainable Arvada.

Dated this 21st day of April 2026.

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Lauren Simpson, Mayor

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Randy Moorman, Mayor Pro Tem

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Shawna Ambrose, Councilmember

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Sharon Davis, Councilmember

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Bob Fifer, Councilmember

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Michael P. Griffith, Councilmember

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Rebecka Lovisone, Councilmember

CITY OF ARVADA

REPORT TO CITY COUNCIL

AGENDA ITEM 5.C.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: Proclamation for Arbor Day - Presented by Councilmember Fifer

Report in Brief

City Council will proclaim April 24, 2026 as Arbor Day.

City Forester, Ian MacDonald will be present to accept the proclamation.

Prepared by:
Chris Koch, CCO Admin

Reviewed by:

Toni Riebschlager, Law Office Administrator	03/30/2026
Megan McCall, Assistant City Attorney II	03/31/2026

Approved by:

Rachel Morris, City Attorney	04/03/2026
Linda Haley, Deputy City Manager	04/03/2026
Don Wick, City Manager	04/08/2026

Enclosure, exhibits & attachments required to support the report

WHEREAS, in 1872, the Nebraska Board of Agriculture established a special day to be set aside for the planting of trees; and

WHEREAS, this holiday, called Arbor Day, was first observed with the planting of more than a million trees in Nebraska, and

WHEREAS, Arbor Day is now observed throughout the nation and the world, including here in Arvada, where the City has celebrated its annual Arbor Day tree planting with local elementary school students for the past 39 years, planting more than 500 trees in Arvada parks; and

WHEREAS, trees can be a solution to combating climate change by reducing the erosion of our precious topsoil by wind and water, cutting heating and cooling costs, moderating the temperature, cleaning the air, producing life-giving oxygen, and providing habitat for wildlife; and

WHEREAS, trees are a renewable resource giving us paper, wood for our homes, fuel for our fires, and countless other wood products, and

WHEREAS, trees in our city increase property values, enhance the economic vitality of business areas, and beautify our community, and

WHEREAS, trees — wherever they are planted — are a source of joy and spiritual renewal.

NOW, THEREFORE, BE IT PROCLAIMED that the Mayor and the Arvada City Council hereby designate April 24, 2026, as Arbor Day and urge all residents to support efforts to protect our trees and urban forests.

Dated this 21st day of April 2026.

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Lauren Simpson, Mayor

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Randy Moorman, Mayor Pro Tem

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Shawna Ambrose, Councilmember

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Sharon Davis, Councilmember

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Bob Fifer, Councilmember

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Michael P. Griffith, Councilmember

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Rebecka Lovisone, Councilmember

CITY OF ARVADA

REPORT TO CITY COUNCIL

AGENDA ITEM 5.D.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: Certificate of Recognition - Scharfenberg Family for the Trees Across Arvada Program - Presented by Councilmember Griffith

Report in Brief

For more than two decades, the Scharfenberg family has helped make Arvada a greener community through their leadership of the Trees Across Arvada program. Founded by Jim and Jean Scharfenberg, each year the program provides the Arvada community the opportunity to purchase low-cost deciduous trees, encouraging homeowners to plant and care for trees that enhance the city's community forest.

Since its inception in 2003, the program has helped distribute more than 4,000 drought-tolerant trees across Arvada neighborhoods. Through the Colorado Tree Coalition's statewide Trees Across Colorado initiative, the program promotes tree diversity and supports species well-suited to Colorado's climate and water conditions, helping residents beautify their yards while contributing to a healthier urban forest.

Jean Scharfenberg, who passed away in 2020, was deeply passionate about the program and the positive impact trees can have on communities. In the years since her passing, Jim and their daughter Becky have continued the work to ensure the program's success. After more than 22 years of service to the Arvada community, the Scharfenberg family will conclude their leadership of Trees Across Arvada following the 2025–2026 season. The City recognizes the Scharfenberg family for their dedication and lasting contribution to Arvada's urban forest.

Prepared by:
Chris Koch, CCO Admin

Reviewed by:

Toni Riebschlager, Law Office Administrator	03/30/2026
Megan McCall, Assistant City Attorney II	03/31/2026

Approved by:

Rachel Morris, City Attorney	04/03/2026
Linda Haley, Deputy City Manager	04/03/2026
Don Wick, City Manager	04/08/2026

Enclosure, exhibits & attachments required to support the report

presented to

SCHARFENBERG FAMILY FOR THEIR LEADERSHIP OF THE TREES ACROSS ARVADA PROGRAM

Presented this 21st day of April 2026

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Lauren Simpson, Mayor

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Randy Moorman, Mayor Pro Tem

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Shawna Ambrose, Councilmember

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Sharon Davis, Councilmember

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Bob Fifer, Councilmember

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Michael P Griffith, Councilmember

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Rebecka Lovisone, Councilmember

CITY OF ARVADA

REPORT TO CITY COUNCIL

AGENDA ITEM 5.E.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: Certificate of Recognition of Rachael Kuroiwa — Recipient of the CCCMA Program Excellence Award for her Community Conversations on Homelessness Program - Presented by Councilmember Lovisone

Report in Brief

Rachael Kuroiwa, Director of Communication and Engagement for the City of Arvada, was recognized by the Colorado City and County Management Association (CCCMA) for Program Excellence regarding her innovative work in creating and administering the "Community Conversations on Homelessness" program. This program represents an outstanding contribution to local government in Colorado by fundamentally changing how a municipality engages residents on one of the most complex and polarizing policy issues facing communities statewide. Rachael designed and implemented a structured, deliberative engagement model that prioritized learning, listening, and shared problem-solving. The program created safe, facilitated spaces where residents with diverse perspectives could engage with accurate information, weigh tradeoffs, and articulate values that should guide policy decisions related to homelessness.

This approach strengthened democratic practice at the local level, improved the quality of input provided to elected officials, and helped rebuild trust between residents and local government during a period of heightened tension and visibility around homelessness. The program has since informed both policy direction and engagement practices within the City and serves as a replicable model for other Colorado municipalities grappling with similarly complex issues.

The development of this program arose from a significant public crisis and turning point in the City of Arvada's response to homelessness. Identifying a path forward to rebuild community trust required grit, innovation and courage. The resulting program is a step in a more productive direction on the topic of homelessness in the community as well as a model of harnessing productive tension for informed policy decisions.

Prepared by:
Chris Koch, CCO Admin

Reviewed by:

Approved by:

Linda Haley, Deputy City Manager 04/13/2026
Don Wick, City Manager 04/13/2026

Enclosure, exhibits & attachments required to support the report

presented to

RACHAEL KUROIWA FOR RECEIVING THE CCCMA PROGRAM EXCELLENCE AWARD FOR HER COMMUNITY CONVERSATIONS ON HOMELESSNESS PROGRAM

Presented this 21st day of April 2026

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Lauren Simpson, Mayor

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Randy Moorman, Mayor Pro Tem

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Shawna Ambrose, Councilmember

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Sharon Davis, Councilmember

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Bob Fifer, Councilmember

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Michael P Griffith, Councilmember

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Rebecka Lovisone, Councilmember

CITY OF ARVADA

REPORT TO CITY COUNCIL

AGENDA ITEM 6.A.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: 2025 Year-End Financial Report

Report in Brief

Bryan Archer - CFO
The Finance team will present the 2025 year-end financial report. This will include an overview of the major revenue categories in the General Fund, a high-level look at the other Major Funds including: Parks, Tax Increment, Water, Wastewater, Stormwater, Solid Waste and Golf, a review of the City's investment portfolio and an overview of Grants.

Prepared by:
Debra Nielson, Deputy Director of Finance

Reviewed by:

Approved by:

Jenna Belec, Executive Assistant	03/25/2026
Bryan Archer, Chief Financial Officer	03/26/2026
Gail Walker, Legal Specialist-Contracts	03/26/2026
Zachary Woolweaver, Assistant City Attorney I	03/26/2026
Rachel Morris, City Attorney	03/27/2026
Linda Haley, Deputy City Manager	03/27/2026
Don Wick, City Manager	03/30/2026

Enclosure, exhibits & attachments required to support the report

CITY OF ARVADA

REPORT TO CITY COUNCIL

AGENDA ITEM 8.A.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: Consent Agenda

Report in Brief

1. R26-011, A Resolution Authorizing A Master License Agreement By and Between the City of Arvada and Forged Fiber 37, LLC

2. R26-029, A Resolution Authorizing an Agreement by and Between the City of Arvada and Brannan Sand and Gravel Company, LLC for Arvada's Pavement Resurfacing Project, Project No. 26-STS-01B in an Amount not to Exceed $6,794,380.65

3. R26-030, A Resolution Authorizing Amendment No. 2 to an Agreement between the City of Arvada and Jacobs Engineering Group Inc. for Engineering Services Related to the Water Treatment Plant Replacement, Piloting and Process Selection in an Amount not to Exceed $615,337.00, thereby Increasing the Total Contract Amount to an Amount not to Exceed $14,207,989.00

4. R26-031, A Resolution Authorizing An Agreement Between the City of Arvada and EDGE Contracting, Inc. for 2026 Sanitary Sewer Open Cut Construction Services, Project No. 26-SR-01, in an Amount Not to Exceed $1,382,541.00

Suggested Motion: Moved by: _____ I move that the Consent Item(s), Number(s)_____
be
(Removed from the Consent Agenda and Heard Upon Item _____) (Referred to a Workshop) (Postponed Indefinitely).

YES _____ NO _____ ABSENT _____

That All/Remaining Consent Items be (Approved) (Rejected).

YES _____ NO _____ ABSENT _____

Prepared by:
Chris Koch, CCO Admin

Reviewed by:

Approved by:

Enclosure, exhibits & attachments required to support the report

CITY OF ARVADA

REPORT TO CITY COUNCIL RESOLUTION

AGENDA ITEM 8.A.1.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: R26-011, A Resolution Authorizing A Master License Agreement By and Between the City of Arvada and Forged Fiber 37, LLC (Continued from February 17, 2026)

Report in Brief

PRESENTER: Claudia Vaughan, City Engineer

This license agreement will allow utilities access to the public right-of-way, establish the specific terms and conditions for Metronet's fiber deployment, covering issues like right-of-way management, permitting, and construction standards. By granting this non-exclusive license, Council is furthering the goal of supporting improved technology systems for community members while ensuring City infrastructure is protected, consistent with the broader strategic results for the community.

The Arvada team recommends that the City Council approve R26-011, A Resolution Authorizing A Master License Agreement By and Between the City of Arvada and Forged Fiber 37, LLC.

Financial Impact

There is no financial impact.

Background

No previous City Council action has been taken related to this master license agreement between the City of Arvada and Forged Fiber 37, LLC and the agreement incorporates city engineering standards, as well as access policy and procedure.

Discussion

This non-exclusive agreement ensures that a private provider can legally and safely install a new fiber network, which provides competition and expanded high-speed internet access for community members and local institutions.

Public Contact

Posting of the City Council agenda.

Commission Recommendation

N/A

Strategic Alignment

This action aligns with the Infrastructure Priority Area and Service: INF5 Applies cost-effective and timely engineering, planning and design, construction practices, and established standards and specifications to align public infrastructure reinvestment capacity with community needs.

Alternative Courses of Action

N/A

Recommendation for Action

The Arvada team recommends that the City Council approve R26-011, A Resolution Authorizing A Master License Agreement By and Between the City of Arvada and Forged Fiber 37, LLC.

Suggested Motion:

I move that R26-011, A Resolution Authorizing A Master License Agreement By and Between the City of Arvada and Forged Fiber 37, LLC., be (approved) (rejected).

Prepared by:
Claudia Vaughan, City Engineer

Reviewed by:

Approved by:

Claudia Vaughan, City Engineer	03/31/2026
Jacqueline Rhoades, Director of Infrastructure	03/31/2026
Bryan Archer, Chief Financial Officer	03/31/2026
Tammy Hedlund, Legal Specialist	03/31/2026
Zachary Woolweaver, Assistant City Attorney I	03/31/2026
Rachel Morris, City Attorney	03/31/2026
Allison Scheck, Deputy City Manager	03/31/2026
Don Wick, City Manager	03/31/2026

Enclosure, exhibits & attachments required to support the report

RESOLUTION NO. R26-011

A RESOLUTION AUTHORIZING A MASTER LICENSE AGREEMENT BY AND BETWEEN THE CITY OF ARVADA AND FORGED FIBER 37, LLC

WHEREAS, the residents of Arvada would benefit from the deployment of fiber throughout the City; and

WHEREAS, a Master License Agreement would allow Forged Fiber 37, LLC to begin their work of deploying fiber while adequately protecting the City and its resources.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF ARVADA, COLORADO:

Section 1. The Mayor or Mayor Pro Tem is authorized to sign and the City Clerk to attest, in form approved by the City Attorney, a Master License Agreement by and Between the City of Arvada and Forged Fiber 37, LLC, which is in substantially the same form as that attached hereto.

Section 2. This resolution shall be effective upon its approval by the City Council.

APPROVED AND ADOPTED this 21st day of April, 2026.

_____
Lauren Simpson, Mayor

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:
Rachel A. Morris, City Attorney

By: _____

MASTER LICENSE AGREEMENT

This Non-Exclusive Master License Agreement ("**Agreement**") is entered into on this ____ day of _____, 202__, by and between the City of Arvada, a Colorado home rule municipality ("**the City**"), and Forged Fiber 37, LLC, a Delaware limited liability company, and its subsidiaries, successors, or assigns ("**Licensee**").

RECITALS

A. The City has jurisdiction over the access to and use of the public rights-of-way located within the City ("**Public ROW**"). For purposes of this Agreement, "Public ROW" is defined as "each of the following which have been dedicated to the public or are hereafter dedicated to the public and maintained under public authority or by others and located within the City: streets, roadways, highways, avenues, lanes, alleys, bridges and sidewalks." Parks, trails, open space and ditch property are not right-of-way; provided however that Licensee may utilize any utility easements within such properties where the specific terms of such easements grant access to Grantee.

B. Licensee desires, and the City desires to authorize Licensee, to install, maintain, operate, and control a fiber optic infrastructure network in Public ROW (**"Network**") for the purpose of offering communications services ("**Services**"), including broadband Internet access service as defined in 47 C.F.R. § 8.1(b) ("**Broadband Internet Services**"), but excluding wireless communications services which are subject to authorization and regulation under Chapter 7 of the City's Land Development Code, and multichannel video programming services that would be subject to a video services franchise and telecommunications services as defined in 47 C.F.R. § 153(53), to residents and businesses in the City ("**Customers**").

C. The Network consists of equipment and facilities that may include aerial or underground fiber optic cables, lines, wires, or strands; underground conduits, vaults, access manholes and handholes; electronic equipment; power generators; batteries; pedestals; boxes; cabinets; vaults; and other similar facilities, and except for fiber optic lines, excludes any equipment and facilities commonly considered as part of wireless communications facilities ("**Network Facilities**").

AGREEMENT

In consideration of the mutual promises made below, the City and Licensee agree as follows:

1. <u>Permission to Use and Occupy</u>.

1.1. <u>Permission to Use and Occupy Public ROW</u>. The City grants Licensee permission to use and occupy the Public ROW (the "**License**") for the purpose of constructing, installing, repairing, maintaining, operating, and if necessary, removing the Network and the related Network Facilities (the "**Work**"). This Agreement and the License do not authorize Licensee to use any property other than the Public ROW as agreed herein. The permission described herein is a general authorization to use the Public ROW and does not authorize any site-specific use or occupation. Site-specific authorization shall be granted pursuant to the City's regular permitting process. Licensee's use of any other

City property, including poles and conduits, which if granted, will be governed under a separate agreement regarding that use.

1.2. Scope of Agreement. All rights expressly granted to the Licensee under this Agreement, which shall be exercised at the Licensee's sole cost and expense, shall be subject to the exercise of the City's police powers. This Agreement is subject to the City's authority under Applicable Law as it exists now or may be amended from time-to-time, and subject to the conditions set forth in this Agreement. For the purposes of this Agreement, "Applicable Law" means any statute, ordinance, judicial decision, executive order or regulation having the force and effect of law, that determines the legal standing of a case or issue, and includes, without limitation, Chapter 94 of the Arvada Municipal Code.

1.3. Subject to City's Right to Use Public ROW. This Agreement is subject and subordinate to the City's prior and continuing right to use the Public ROW, including constructing, installing, operating, maintaining, repairing, or removing sewers, water pipes, storm drains, gas pipes, utility poles, overhead and underground electric lines and related facilities, and other public utility and municipal uses.

1.4. Subject to Pre-Existing Property Interests. The authorization granted by the City herein is subject to all valid pre-existing easements, restrictions, conditions, covenants, encumbrances, claims of title or other property interests that may affect the Public ROW. Licensee will obtain at its own cost and expense any permission or rights as may be necessary to accommodate such pre-existing property interests.

1.5. No Grant of Property Interest. The License does not grant or convey any property interest.

1.6. Non-Exclusive. The License is not exclusive. The City expressly reserves the right to grant licenses, permits, franchises, privileges or other rights to any other individual, corporation, partnership, limited liability company, trust, joint stock company, business trust, unincorporated association, joint venture, governmental authority or other entity of any nature whatsoever ("**Person**"), as well as the right in its own name, to use Public ROW for similar or different purposes allowed Licensee under this Agreement.

1.7. Applicability of City Site Planning Process. Nothing in this Agreement shall waive or modify the Licensee's obligation to comply with the City's regular site plan process, in the placement of the Licensee's equipment. In addition, the Licensee shall comply with the City's most recent Engineering Code of Standards and Specifications (the "Standards") and with all requirements as stated in the applicable permits. Licensee understands and agrees that the City is in the process of developing and approving standards and specifications governing fiber optic installation and maintenance in the Public ROW, and Licensee shall be bound to comply with any generally applicable standards and specifications as and when they are adopted.

2. Licensee's Obligations.

2.1. Obtaining Required Permits. Licensee shall apply for and obtain all required Public ROW Permits and pay any associated review and inspection fees. The City shall respond to the Licensee's requests for permits in the ordinary course of its business to facilitate the deployment of the Network in the Public ROW in a reasonable and timely manner. Such review and inspection fees will be in accordance with the City's adopted fee schedule

reflecting the City's costs in administering permits, plus any other documented expenses incurred by the City, including, without limitation, the cost of any dedicated staff, or outside consultants, to facilitate the coordination, permitting and inspection of this Work and to maintain the City's ability to respond in such reasonable and timely manner. Except for a non-refundable application fee, City will provide Licensee with an estimate of the fees associated with the Public ROW Permits prior to incurring the costs associated with the review and inspection. As a condition of obtaining any permit that involves digging or other excavation in the Public ROW, the Licensee shall provide plans in the specified format based on the method of deployment and further explained in Exhibit B and in accordance with the City's Engineering Code of Standards and Specifications, as may be amended, including without limitation, any adopted fiber optic specifications. Such drawings and plans shall be provided to the City with each request for a construction permit. If the Licensee wishes to change the location or method of deployment of any of the equipment from what is indicated in the original permits, the Licensee shall apply for a new permit prior to changing any location; provided, however, that Licensee may make reasonable changes at the time of deployment depending on the conditions found at the permitted locations at the discretion of the Municipal Inspector. Review and approval of the construction plans is only for general compliance with the City Code and regulations. All responsibility for existing conditions, correctness of dimensions, details, concepts, quantities, and safety during construction shall remain with Licensee. Construction inspection by the City in no way reflects any responsibility on the part of the City for safety, quality, or quantity control, and in no way implies acceptance of the work, or any part thereof, by the City.

2.2. Obtaining Required Stormwater Management Plan Permits. Licensee shall obtain a State of Colorado Stormwater Discharge Permit prior to obtaining any permit from the City. A copy of the Stormwater Discharge Permit shall be provided to the City upon the City's request. Licensee will utilize best management practices as identified in the Stormwater Management Plan. The City is authorized to require additional Best Management Practices or erosion methods if the City determines they are necessary.

2.3. No Interference. Licensee, in the performance and exercise of its rights and obligations under this Agreement, shall not interfere in any manner with the existence and operation of all public and private rights of way (except in the case where the Licensee's rights are prior or superior to such private right of way), sanitary sewers, water mains, storm drains, gas mains, poles, aerial and underground electrical and telephone wires, cable television, and other communications, utility, or municipal or other government property, except as permitted by Applicable Law, this Agreement, or mutual agreement with any affected party.

2.4. Gas and Electric Facilities.

2.4.1 Licensee agrees and understands that if the City has permitted or allowed natural gas gathering, storage, transmission, distribution, or related facilities within the Public ROW, the Licensee has been fully advised by the City that such natural gas facilities may now transport and may continue to transport natural gas at significant pressures. Licensee shall advise all employees, agents, contractors, and other persons who enter upon the Public ROW of the existence and nature of such natural gas facilities and the potential danger and risk involved.

2.4.2 Licensee agrees and understands that any natural gas facilities, if located within the Public ROW, may be subject to cathodic protection by rectifier and related anode beds, and that Licensee shall not be liable for stray current or interfering signals induced in the Licensee's equipment as a result of the operating of the cathodic protection system.

2.4.3 Licensee agrees and understands that if the City has permitted and allowed to be constructed electric transmission, distribution, or related facilities within the Public ROW, Licensee has been fully advised by the City that such electric facilities may now transmit and may continue to transmit electric current at significant voltages, and that the conductors on electric lines may not be insulated. Licensee shall advise its employees, agents, contractors, and other persons who enter upon the Public ROW of the existence and nature of such electric facilities and the potential danger and risk involved.

2.5. Damage and Restoration. Whenever any Work is required or permitted under this Agreement and any applicable permit, and such Work shall cause the Public ROW or any City or other public or private property to be damaged, or whenever Licensee, in connection with any of its operations, causes damage to the Public ROW or any other public or private property, the Licensee, at its sole cost and expense, shall repair, or cause to be repaired, the damage and return the Public ROW and all affected property to a safe and satisfactory condition equal to or better than as existed prior to the damage. Further, if the City's Infrastructure Director determines that any damage poses a risk to the safety and/or health of the public, such damage shall be repaired within 24 hours; any damage to public infrastructure, including roadways, sidewalks, drainage or utility infrastructure, and associated items, or actively operating irrigation systems, shall be repaired within ten (10) days; any other damage to private property shall be repaired within thirty (30) days. If the Licensee does not repair the damage as described herein, then the City shall have the following options along with any other remedy available by law: (A) upon fifteen (15) days' prior written notice to the Licensee, to perform or cause to be performed such reasonable and necessary work on behalf of the Licensee and to (1) use the Licensee's Performance Bond, specified in Section 7 below, to fund such work and (2) charge the Licensee for the actual costs incurred by the City at City's standard rates, including administrative time; and (B) upon fifteen (15) days' prior written notice to the Licensee, to Stop Work on all other projects of Licensee within the City until repairs are made or reimbursement to City is paid. Upon receipt of a demand for payment by the City, the Licensee shall promptly reimburse the City for such costs. All restoration work undertaken or caused by Licensee within the Public ROW shall adhere to the standards listed in Chapter 95 of the Arvada Municipal Code and the City's Engineering Code of Standards and Specifications, as may be amended.

2.6. Fire, Disaster or Other Emergency. In the case of fire, disaster or other emergency, or when the City determines any part of the Network poses an immediate threat to the health and safety of the public, the City may relocate, remove, or disconnect the Licensee's Network facilities located in the Public ROW or on any other property of the City in accordance with Section 3.1. Any removal, disconnection, or relocation performed by the City under this provision and Section 3.1 shall be at the Licensee's sole cost and expense.

2.7. Licensee's Sole Cost and Expense. Licensee will perform the Work at its sole cost and expense. Licensee shall be solely responsible for all repairs, maintenance, and adjustments, and damage to the Network, excluding damage caused by third parties, and

City shall have no obligation to repair such damage, except where the damage arises from the negligence or willful misconduct of City, its employees, agents, or contractors.

2.8. Reasonable Care. Licensee will exercise reasonable care when performing the Work and will use commonly accepted practices and equipment to minimize the risks of personal injury, property damage, soil erosion, and pollution of surface or groundwater.

2.9. No Nuisance. Licensee will maintain its Network Facilities in good and safe condition so that its Network Facilities do not cause a public nuisance.

2.10. As-Built Drawings and Maps. Licensee shall maintain accurate as-built drawings and maps of its Network located within the City and shall provide electronic or hard copies, as requested by the City, following the completion of construction for a permitted segment. Licensee shall cooperate with the City to furnish such information in an electronic mapping format compatible with the then-current City electronic mapping format.

2.11. Network Design. Nothing in this Agreement requires Licensee to build to all areas of the, and subject to Applicable Law, Licensee retains the discretion to determine the scope, location, and timing of the design and construction of the Network. Notwithstanding the foregoing, the Licensee will consider community need and areas without significant access to alternative fiber optic communications systems in developing plans for the Network.

2.12. Construction Forecast. Following the Installation Date, the Licensee shall provide the City, on an annual basis, a construction forecast for the upcoming three-year period. The City recognizes that the Licensee cannot guarantee the construction forecast, but the Licensee agrees to keep the City informed of the progress of its schedule.

2.13. Authority of the City Infrastructure Director. The Infrastructure Director or designee is designated by the City Manager to exercise all authority on behalf of the City to ensure that the proposed design of facilities is in compliance with the City's Code and regulatory standards. The Infrastructure Director or designee shall have the authority to request additional information to be provided to resolve potential issues related to the interests of the Public and City infrastructure. The Infrastructure Director or designee may require certain improvements or repairs to be included when the proposed work directly affects public safety or the sustainability of City infrastructure or when otherwise authorized by Applicable Law; provided, however, that any such requirements will be included in the applicable approved permit. The Infrastructure Director, or their designee, must approve of all changes or field modifications that, in the opinion of the Infrastructure Director, affect public safety or the sustainability of City infrastructure.

2.14. Authority of the City Municipal Inspector. The City Municipal Inspector is designated by the City Manager to exercise all authority on behalf of the City to ensure that the proposed construction of facilities is in general compliance with the City's Code and regulatory standards. Municipal Inspectors will observe work performed under the issued permit for construction, including all materials to be incorporated in the work, excavation, bedding, backfill, and all construction methods and practices. The Municipal Inspectors have the authority to request relevant additional information be provided to verify compliance with the City's Code and regulatory standards and approved construction plans when deemed necessary in the opinion of the Municipal Inspectors.

The Licensee shall furnish all reasonable facilities and shall assist the Municipal Inspectors as necessary for the proper inspection of materials to be used and workmanship involved in the construction. The Municipal Inspectors have the authority to reject inferior materials or defective workmanship and to suspend work not in accordance with the City's Code and regulatory standards until such time as corrections are made and approved. The Municipal Inspectors, as designated field representatives of the Infrastructure Director, are authorized to make minor changes to approved drawings or require changes to be resubmitted to the Infrastructure Director for approval before proceeding with the work.

2.15. Work Hours. Licensee shall abide by all City requirements regarding authorized work hours. Licensee shall obtain any necessary nighttime work exemptions from the City Engineer for all work outside of those authorized work hours.

2.16. Hazardous Substances. Licensee agrees that Licensee, its contractors, subcontractors and agents, will not use, generate, store, produce, transport or dispose of any Hazardous Substance on, under, about or within the area of the Public ROW in violation of Applicable Law. Except to the extent of the negligence or intentional misconduct of City, Licensee shall pay, indemnify, defend and hold City harmless against and to the extent of any loss or liability incurred by reason of any Hazardous Substance produced, disposed of, or used by Licensee, its contractors or subcontractors pursuant to this Agreement. Licensee shall ensure that any on-site or off-site storage, treatment, transportation, disposal or other handling of any Hazardous Substance will be performed by persons who are properly trained, authorized, licensed and otherwise permitted to perform those services.

2.17. Utility Notification Center. Prior to undertaking any work pursuant to this Agreement, the Licensee shall take all actions necessary to become a tier 1 member of the Utility Notification Center of Colorado, and comply with and adhere to local procedures, customs and practices relating to the one call locator service program established in C.R.S. Section 9-1.5-101, et seq., as such may be amended from time to time.

2.18. Post-Removal Restoration of Public ROW. When removal or relocation is required under this Agreement, Licensee will, after the removal or relocation of the Network Facilities, at its own cost, repair and return the Public ROW in which the facilities were located to a safe and satisfactory condition in accordance with the construction-related conditions and specifications as established by the City.

3. City's Obligations.

3.1. Emergency Removal or Relocation by City. In the event of a public emergency that creates an imminent threat to the health, safety, or property of the City or its residents as determined by the Infrastructure Director, the City may remove or relocate the applicable portions of the Network Facilities without prior notice to Licensee. The City will, however, make best efforts to provide prior notice to Licensee before making an emergency removal or relocation. In any event, the City will promptly provide to Licensee a written description of any emergency removals or relocations of Licensee's Network Facilities. Licensee will reimburse the City for its actual, reasonable, and documented costs or expenses incurred for any such work performed by the City, the direct cause of which was Licensee's construction, installation, operation, maintenance, repair, or

removal of its Network Facilities. Upon receipt of a demand for payment by the City, the Licensee shall promptly reimburse the City for such costs. If payment is not received within forty (45) days, the City may draw on the Performance Bond, specified in Section 7 below, for the costs incurred and/or issue a Stop Work on all other projects of Licensee within the City.

3.2. Relocation to Accommodate Governmental Purposes. If Licensee's then-existing Network Facilities would interfere with the City's planned use of the Public ROW or other City property for a legitimate governmental purpose, such as the construction, installation, repair, maintenance, or operation of a new water, sewer, or storm drain line, or a public road, curb, gutter, sidewalk, park, or recreational facility, Licensee will, upon written notice from the City, relocate its Network Facilities at Licensee's own expense to such other location or locations in the Public ROW as may be mutually agreed by the parties, taking into account the needs of City's governmental purpose and Licensee's interest in maintaining the integrity and stability of its Network. Licensee will relocate its Network Facilities within a commercially reasonable period of time agreed to by the parties, but in no event later than 30 days after receipt of written notice from the City, taking into account the urgency of the need for relocation, the difficulty of the relocation, and other relevant facts and circumstances.

3.3. Relocation to Accommodate Non-Governmental Purposes. If Licensee's then-existing Network Facilities would interfere with a third-party's use of the Public ROW, Licensee will not be required to relocate its Network Facilities, unless another party incurs the cost of Licensee's relocation.

4. Contractors and Subcontractors.

4.1. Use of Contractors and Subcontractors. Licensee may retain contractors and subcontractors to perform the Work on Licensee's behalf. Licensee shall be responsible for ensuring a contractor's or subcontractor's compliance with all applicable provisions of this Agreement, and shall be responsible to the City for all activities in which contractors or subcontractors are involved.

4.2. Contractors to be Licensed. Licensee's contractors and subcontractors used for the Work will be properly licensed under Applicable Law.

4.3. Authorized Individuals. Licensee's contractors and subcontractors may submit individual permit applications to the City on Licensee's behalf, so long as the permit applications are signed by individuals that Licensee has authorized to act on its behalf via a letter of authorization provided to the City in the form attached as **Exhibit A** ("**Authorized Individuals**"). The City will accept permit applications under this Agreement submitted and signed by Authorized Individuals, and will treat those applications as if they had been submitted by Licensee under this Agreement.

5. Defense and Indemnity.

5.1. Obligations. Licensee will defend, protect, indemnify and hold harmless the City, its officers, elected representatives, and employees, and indemnify them against all third party claims, demands, losses, damages, liabilities, fines, charges, penalties, administrative and judicial proceedings and orders, judgments, and all costs and expenses incurred in connection therewith, including reasonable attorney's fees and

costs of defense (collectively, the "Losses") arising out of the Licensee's activities, actions and inactions, undertaken pursuant to this Agreement, except to the extent arising from or caused by the negligence or willful misconduct of the City, its elected officials, officers, employees, agents, or contractors.("**Third Party Legal Proceeding**").

5.2. Waiver of Claims. Licensee waives all claims, demands, causes of action, and rights it may assert against the City on account of any loss, damage, or injury to any Network Facilities or any loss or degradation of the Services as a result of any event or occurrence which is beyond the reasonable control of the City.

5.3. Conditions. Section 6.1 (Obligations) is conditioned on the following: (a) the City must promptly notify Licensee in writing of the Third Party Legal Proceeding and any allegation(s) that preceded the Third Party Legal Proceeding no later than fifteen (15) days after the City became aware of the Third Party Legal Proceeding; (b) the City must reasonably cooperate in the defense at Licensee's request and any reasonable costs incurred by the City in providing such cooperation shall be reimbursed by the Licensee; and (c) the City must tender sole control of the indemnified portion of the Third Party Legal Proceeding to Licensee, subject to the following: (i) the City may appoint its own non-controlling counsel, at its own expense; and (ii) any settlement requiring the City to admit liability, pay money, or take (or refrain from taking) any action, will require City's prior written consent, not to be unreasonably withheld, conditioned, or delayed, and the ultimate decision on settlement is in the City's sole discretion.

6. Limitation of City's Liability. To the extent permitted by law, the City shall be liable only for the cost of repair to damaged Network Facilities arising from the negligence or willful misconduct of City, its employees, agents, or contractors and shall in no event be liable for indirect or consequential damages. The City does not waive any of the benefits, coverages or protections of the Colorado Governmental Immunity Act.

7. Performance Bond. Licensee will, promptly after the Effective Date, provide the City with a replenishable performance bond in the amount of fifty thousand dollars ($50,000) naming the City as obligee and guaranteeing Licensee's faithful performance of its obligations under this Agreement. The performance bond will remain in full force during the Term of this Agreement. This performance bond may be used to cover actual costs incurred by the City as required by any provision of this Agreement including, without limitation, covering any costs incurred to repair any damage to the Public ROW not corrected by the Licensee.

8. Insurance.

8.1. Licensee will carry and maintain:

Commercial General Liability (CGL) insurance, with policy limits not less than $5,000,000 in aggregate and $5,000,000 for each occurrence covering bodily injury and property damage with the following features and including personal and advertising injury liability and products-completed operations : (a) CGL primary insurance endorsement; and (b) Commercial Automobile Liability covering all owned, hired, and non-owned autos in an amount of $5,000,000 combined single limit each accident for bodily injury and property damage; (c) all required insurance policies shall include the City, its council members, officers, and employees as additional insureds as their interest may appear under this Agreement for any covered liability arising out of the Licensee's performance of work under this

Agreement: (d) coverage shall be in an occurrence form and in accordance with the limits and provisions specified herein. Claims-made policies are not acceptable; (e) upon receipt of notice from its insurer(s), the Licensee shall use commercially reasonable efforts to provide the City with thirty (30) days' advance written notice of cancellation, unless Licensee is not provided at least forty-five (45) days' advance notice of the cancellation from its insurer. In such case, the Licensee shall provide notice to the City of the cancellation within seven (7) days of receiving notice from its insurer.

8.2. All insurance certificates, endorsements, coverage verifications and other items required pursuant to this Agreement will be mailed directly to City's Risk Manager, which at a minimum, shall state the following: (a) The policy number; name of insurance company; name and address of the agent or authorized representative; name and address of insured; project name; policy expiration date; and specific coverage amounts; (b) that the Licensee's insurance policies are primary as respects any other valid or collectible insurance that the City may possess, including any self-insured retentions the City may have; and any other insurance the City does possess shall be considered excess insurance only and shall not be required to contribute with this insurance; and (c) that the Licensee's insurance policies waive any right of recovery the insurance company may have against the City.

The certificate(s) of insurance shall be mailed to the City at the address specified in Section 12 below and shall be updated annually within thirty (30) days of the anniversary of the Effective Date of this Agreement.

8.3 Workers' Compensation Insurance. Licensee shall obtain and maintain, at all times during the term of this Agreement statutory workers' compensation and employer's liability insurance in an amount of $1,000,000 each accident/disease/policy limit and shall furnish the City with a certificate showing proof of such coverage.

8.4 Insurer Criteria. Any insurance provider of the Licensee shall be admitted and authorized to do business in the State of Colorado and shall carry a minimum rating assigned by *A.M. Best & Company's Key Rating Guide* of "A-" Overall and a Financial Size Category of "VII". Insurance policies and certificates issued by non-admitted insurance companies are not acceptable.

8.5 Severability of Interest. "Severability of interest" or "separation of insureds" clauses shall be made a part of the Commercial General Liability and Commercial Automobile Liability policies.

9. **Term**. This Agreement is effective on the date the last party to sign executes this Agreement ("**Effective Date**"). The Agreement will expire automatically on the twentieth anniversary of the Effective Date ("**Original Term**"), unless earlier terminated in accordance with the provisions herein. Thereafter, the Agreement will automatically renew for successive 5-year terms (each a "**Renewal Term**") unless a party provides at least six (6) months' prior written notice to the other party of its intent not to renew. Notwithstanding the foregoing, the Licensee must use commercially reasonable efforts to commence construction of its Network within the City within two (2) years of the Effective Date. If construction is not commenced in such time period, unless the City agrees to an extension, this Agreement may be terminated in the City's sole discretion.

10. Termination.

10.1. Termination by the City. The City may terminate this Agreement if Licensee is in default of any material provisions of the Agreement, provided that the City must first provide Licensee written notice of the default and forty-five (45) days to cure, unless the cure cannot reasonably be accomplished in that time period, in which case Licensee must commence its efforts to cure within that time period and diligently process such cure to completion. If the Licensee believes that a reason beyond its control has prevented or delayed its ability to cure the default, it shall provide documentation as reasonably required by the City to substantiate the Licensee's claim. If the Licensee has not yet cured the deficiency, it shall also provide the City with its proposed plan for remediation, including the timing for such cure.

10.2. Termination by Licensee. Licensee may terminate this Agreement for convenience upon one hundred eighty (180) days' written notice to the City. Upon termination under this clause, the Licensee shall follow the removal requirements under this Agreement and Applicable Law. The removal of the Network shall be at the Licensee's sole expense.

11. Assignment.

11.1 In this Section, the following words have the meanings indicated:

(a) "Control" means actual working control in whatever manner exercised. "Control" includes, but may not necessarily require, majority stock ownership.

(b) "Proposed Transferee" means a proposed purchaser, transferee, lessee, assignee, or person acquiring ownership or control of this Agreement or of the Licensee.

11.2 Except as set forth below, Licensee shall not sell, transfer, lease, assign, sublet or dispose of, in whole or in part, either by forced or involuntary sale, or by ordinary sale, contract, consolidation or otherwise, this Agreement or any of the rights or privileges therein granted, without the prior consent of the City, except that such consent shall not be required for sales, transfers, leases, assignments, subleases or disposals to any parent, subsidiary, affiliate or any person, firm or corporation that Controls, or is under common Control, with the Licensee. The Licensee shall provide no less than thirty (30) days written notice to the City of the details of any transaction described herein that requires City consent.

11.3 The requirements of Subsection 11.2 shall not, except as set forth below, apply to any surviving successor entity or newly created successor entity in the event of a merger, sale, reorganization or consolidation involving the Licensee, unless such merger, sale, reorganization or consolidation results in a change of control. The City reserves the right to be reimbursed for its reasonable costs relating to a transfer of ownership, including without limitation, attorneys' fees. The word "control" as used herein is not limited to majority stockholders but includes actual working control in whatever manner exercised.

11.4 Following any assignment of this Agreement to an Affiliate, Licensee will remain responsible for such Affiliate's performance under the terms of this Agreement. For purposes of this section, (a) "Affiliate" means any Person that now or in the future, directly or indirectly controls, is controlled with or by, or is under common control with Licensee; and (b) "control" means, with respect to: (i) a U.S. corporation, the ownership, directly or indirectly, of fifty

percent (50%) or more of the voting power to elect directors thereof, or (ii) a non-U.S. corporation, if the voting power to elect directors thereof is less than fifty percent (50%), the maximum amount allowed by applicable law; and (iii) any other Person, fifty percent (50%) or more ownership interest in said Person, or the power to direct the management of such Person.

11.5 The consent or approval of the City to transfer by the Licensee does not constitute a waiver or release of the rights of the City in or to its Public ROW or easements and any transfer shall by its own terms be expressly subject to the terms and conditions of this Agreement.

11.6 Any sale, transfer or assignment of this Agreement will bind the successor in interest to the terms of this Agreement.

11.7 Notwithstanding anything contained in this Agreement, the Licensee may pledge the assets of the Network for the purpose of financing provided that such pledge of assets shall not impair the Licensee or mitigate the Licensee's responsibility and capability to meet all its obligations under the provisions of this Agreement.

12. Notice. All notices related to this Agreement will be in writing and sent, if to Licensee to the email addresses set forth below, and if to the City to the address set forth in the City's signature block to this Agreement. Notices are effective (a) when delivered in person, (b) upon confirmation of a receipt when transmitted by electronic mail, (c) on the next business day if transmitted by registered or certified mail, postage prepaid (with confirmation of delivery), (d) on the next business day if transmitted by overnight courier (with confirmation of delivery), or I three (3) days after the date of mailing, whichever is earlier.

Licensee's e-mail address for notice is: FF_Right_Of_Way@att.com.

13. General Provisions.

13.1 Governing Law; Jurisdiction. This Agreement is governed by the laws of the state of Colorado, without reference to its conflicts of law principles. If suit is brought by a party to this Agreement, the parties agree that trial of such action shall be vested exclusively in the state courts of Colorado, County of Jefferson, or in the United States District Court for the District of Colorado.

13.2 Neither party will be liable for failure or delay in performance to the extent caused by circumstances beyond its reasonable control. If a party believes that a reason beyond its control has prevented or delayed its ability to perform, it shall provide documentation as reasonably required by the other party to substantiate its claim, and shall also provide the other party with its proposed plan for completing performance.

13.3 This Agreement sets out all terms agreed between the parties and supersedes all previous or contemporaneous agreements between the parties relating to its subject matter.

13.4 Entire Agreement. This Agreement, including any exhibits, constitutes the entire agreement between the parties related to this subject matter, and any change to its terms must be in writing and signed by the parties.

13.5 Non-exclusive Use. Licensee understands that this Agreement does not provide the Licensee with exclusive use of the Public ROW and that City shall have the right to permit other providers of communications services and other utilities to install equipment or devices in the Public ROW. Licensee and the City acknowledge that any agreement for placement of facilities or equipment in the Public ROW will be a public record, and will always be accessible to the Licensee, upon request.

13.6 Waiver of Breach. The waiver by either party of any breach or violation of any provision of this Agreement shall not be deemed to be a waiver or a continuing waiver of any subsequent breach or violation of the same or any other provision of this Agreement.

13.7 Severability of Provisions. If any one or more of the provisions of this Agreement shall be held by court of competent jurisdiction in a final judicial action to be void, voidable, or unenforceable, such provision(s) shall be deemed severable from the remaining provisions of this Agreement and shall not affect the legality, validity, or constitutionality of the remaining portions of this Agreement. Each party hereby declares that it would have entered into this Agreement and each provision hereof regardless of whether any one or more provisions may be declared illegal, invalid, or unconstitutional.

13.8 Contacting the Licensee. Licensee shall be available to the staff employees of any City department having jurisdiction over the Licensee's activities twenty-four (24) hours a day, seven (7) days a week, regarding problems or complaints resulting from the attachment, installation, operation, maintenance, or removal of the Network Facilities. The City may contact by telephone the 24-hour emergency operator at telephone number (877) 453-8353, Option 1 or by email to FF_Right_Of_Way@att.com regarding non-emergency problems or complaints. The Licensee shall provide to the City a new 24-hour telephone number pursuant to Section 12 prior to changing telephone numbers.

13.9 Federal and State Authorizations. Licensee has obtained all government licenses, permits and authorizations by the Federal Communications Commission which are required in order to provide the Services.

13.10 Consent Criteria. In any case, where the approval or consent of one party hereto is required, requested or otherwise to be given under this Agreement, the approval or consent must be in writing and such party shall not unreasonably delay, condition, or withhold its approval or consent.

13.11 Representations and Warranties. Each of the parties to this Agreement represents and warrants that it has the full right, power, legal capacity, and authority to enter into and perform the parties' respective obligations hereunder and that such obligations shall be binding upon such party without the requirement of the approval or consent of any other person or entity in connection herewith.

13.12 Amendment of Agreement. This Agreement may not be amended except pursuant to a written instrument signed by both parties.

13.13 No Third-Party Beneficiaries. It is expressly understood and agreed that enforcement of the terms and conditions of this Agreement and all rights of action relating to such enforcement shall be strictly reserved to the parties. It is the express intention of the parties that any person other than the City and the Licensee shall be deemed to be only an incidental beneficiary under this Agreement.

13.14 Governmental Immunity. No term or condition of this Agreement shall be construed or interpreted as a waiver, express or implied, of any of the immunities, rights, benefits, protections, or other provisions of the Colorado Governmental Immunity Act, C.R.S. §§ 24-10-101, *et seq*.

13.15 Public Document. Licensee hereby acknowledges that the City is a public entity subject to the Colorado Open Records Act, C.R.S. § 24-72-201, *et seq.* (CORA), and as such, this Agreement may be subject to public disclosure thereunder. In the event the provisions of any exhibit or attachment hereto, or of any other document, including any electronic document, purport to require protection from public disclosure of any so-called "confidential" or "proprietary" information or data, such provisions shall be null and void to the extent inconsistent or in conflict with CORA, and the City's good faith disclosure of any such information or data pursuant to CORA shall not constitute a breach of this Agreement.

13.16 No Binding Dispute Resolution. Any exhibit or attachment hereto, or any other document, including any electronic document, governing the provision of the Services that requires binding arbitration, or any other binding extra-judicial dispute resolution process in which the final resolution is not determined by the City, shall be void and unenforceable. Those final resolutions determined by the City are subject to review by court action pursuant to City Code and Rule 106 of the Colorado Rules of Civil Procedure.

13.17 Headings. Paragraph headings used in this Agreement are for convenience of reference and shall in no way control or affect the meaning or interpretation of any provision of this Agreement.

13.18 Counterparts; Electronic Disposition. This Agreement may be executed in any number of counterparts, including facsimile, PDF, and other electronic copies, each of which shall be deemed to be an original and all such counterparts taken together shall be deemed to constitute one and the same instrument. Each party to this Agreement agrees that both parties may use electronic signatures. The parties acknowledge and agree that the original of this Agreement, including the signature page, may be scanned and stored in a computer database or similar device, and that any printout or other output readable by sight, the reproduction of which is shown to accurately represent the original of this Agreement, may be used for any purpose as if it were the original, including proof of the content of the original writing.

[*Signature page follows*]

Signed by authorized representatives of the parties on the dates written below.

_____	**Arvada, Colorado**
_____	_____
(Authorized Signature)	(Authorized Signature)
_____	_____
(Name)	(Name)
_____	_____
(Title)	(Title)
Address:	Address:
_____	_____
_____	_____
Date: _____	Date: _____

EXHIBIT A
FORM OF LETTER OF AUTHORIZATION

[LICENSEE LETTERHEAD]
[Date]
Via Email ([Email Address])

CITY OF ARVADA
8101 RALSTON ROAD
ARVADA, CO 80002

Re: [Amended] Letter of Authorization

Dear [Name],

In accordance with Section [4.3] of the Non-Exclusive Public ROW License Agreement dated _____ between the City of Arvada ("City") and [_____] ("_____"), _____ hereby designates the following Authorized Individuals (as that term is defined in the Agreement), who may submit and sign permit applications and other submissions to Municipality on behalf of _____.
[*If applicable:* This letter amends and supersedes the Letter of Authorization dated ____.]

[Insert name and title for each Authorized Individual, including any Authorized Individual previously named and whose authority continues. Strike through the names of any individuals who are no longer authorized, if any.]

1. Name, Title
2. Name, Title
3. Name, Title (previously authorized, authorization continues)
4. Name, Title (authorization withdrawn)

This authorization may be withdrawn or amended and superseded by a written amendment to this Letter of Authorization, which will be effective 24 hours after receipt by Municipality.

Kind regards,

[Name]
Manager, _____

Exhibit B

Plans submitted to the City by the Licensee for the purpose of obtaining Right of Way Permits shall follow the City of Arvada Engineering Code of Standards and Specifications and comply with the following general requirements for each method of deployment:

Micro-Trenching

a. RESERVED. Licensee will not use micro-trenching as a method of deployment.

Conventional Trenching below 24 inches

Refer to City of Arvada Engineering Code of Standards and Specifications, including but not limited to:

a. Base sheets need to include a readable (in focus) aerial photo with property lines, easements, address, and other basic information provided.
b. The plan must show existing utilities at a Quality Level B as defined by ASCE 38-02. Additional potholing may be required to verify existing utilities in the area of work.
c. The proposed utility can be shown schematically with specific details indicated by legend and/or notes to show the intended installation location.

Conventional Boring

Refer to City of Arvada Engineering Code of Standards and Specifications, including but not limited to:

a. Base sheets need to include a readable (in focus) aerial photo with property lines, easements, address, and other basic information provided.
b. The plan must show existing utilities at a Quality Level B as defined by ASCE 38-02. Additional potholing may be required to verify existing utilities in the area of work.
c. The proposed utility can be shown schematically with specific details indicated by legend and/or notes to show the intended installation location.
d. Pothole information is required for City of Arvada utilities, gas lines, and in some areas, sanitary sewer services.
e. A proposed profile will be shown for the bore as requested.
f. Municipal Inspectors or authorized representatives must be present for any and all bore crossings of Arvada owned infrastructure.

The above list of general requirements is not exhaustive. Additional information or steps will likely be requested during the permitting process.

CITY OF ARVADA

REPORT TO CITY COUNCIL RESOLUTION

AGENDA ITEM 8.A.2.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: R26-029, A Resolution Authorizing an Agreement by and Between the City of Arvada and Brannan Sand and Gravel Company, LLC for Arvada's Pavement Resurfacing Project, Project No. 26-STS-01B in an Amount not to Exceed $6,794,380.65

Report in Brief

Council action is requested on the attached resolution authorizing an agreement with Brannan Sand and Gravel for Construction of CSB-26-STS-001, 2026 Pavement Resurfacing Program, Project number 26-ST-01B in the amount of $6,794,380.65.

This annual project involves the use of asphalt treatments, which include milling and overlaying that will ultimately increase the overall quality of roadways in the City and is in support of the Wildly Important Goal (WIG) of paving 75 lane miles.

The Arvada team recommends that the City Council approve R26-029, A Resolution Authorizing an Agreement By and Between the City of Arvada and Brannan Sand and Gravel for Construction of CSB-26-STS-001, 2026 Pavement Resurfacing Program, Project number 26-ST-01B in an Amount Not to Exceed $6,794,380.65.

Financial Impact

This is a one-time request for 2026 project construction cost
Fund: Pavement Management Program Fund – Work Day Fund 102FD/10100CC/10204PG/50035SC

Background

Council action is requested on the attached resolution authorizing a Construction Contract Agreement with Brannan Sand and Gravel for Construction of CSB-26-STS-001, 2026 Pavement Resurfacing Program in an Amount Not to Exceed $6,794,380.65. This annual project involves the use of asphalt treatments, which include milling and overlaying that will ultimately increase the overall quality of roadways in the City and is in support of the WIG of Paving 75 lane miles.

Bids were opened February 19, 2026. Eight responses were received. The results were as follows;

Asphalt Specialties $6,709,010.35
Brannan Sand and Gravel $6,794,380.65
Martin Marietta $7,462,892.05
Loya Construction $7,719,938.03
National Pavement Partners $8,020,835.39
APC Co $8,280,712.55
Alpine Civil Construction $8,421,692.90
Western Plains Construction $8,437,690.90

Brannan Sand and Gravel was selected because they offered the best value and was the most responsive bid, substantiating they could meet service requirements.

Discussion

Brannan Sand and Gravel was selected because they offered the best value and was the most responsive bid, substantiating they could meet service requirements. They have also completed previous asphalt projects throughout the City in conformance with the City's performance measures.

This year's program will include the following areas summarized below. Please note that these areas are also shown on a map and detailed list that is included in the agenda packet.

3" Mill and SMA Overlay

- W 80th Ave Between Sheridan and Wadsworth
- W 72nd Ave Between Wadsworth and Pierce St.

2" Mill and Overlay

- Pierce St between W 72nd Ave and W 68th Ave
- Lamar Heights 7 Neighborhood
- Paradise Acres Neighborhood
- Parkway Estates 1 North Neighborhood
- Vance Dr between Wadsworth and W 80th Ave.
- W 74th Ave between Pierce St and Wadsworth
- Hackberry Hill Estates 1 &2

This work is expected to be completed in 150 working days from the Notice to Proceed.

Public Contact

Posting of the City Council Agenda

Commission Recommendation

N/A

Strategic Alignment

This annual project involves the use of asphalt treatments, which include milling and overlaying that will ultimately increase the overall quality of roadways in the City and is in support of the WIG of Paving 75 lane miles.

The recommended action also aligns with the Infrastructure Priority Area within the City Council Strategic Plan. Specifically, the recommended action is consistent with the Infrastructure Work System Service INF3: Maintains existing roads and transportation network in tandem with snow and ice control services to ensure swift and safe transportation modes for the community.

This street maintenance project will improve the quality of infrastructure throughout the City of Arvada. It is a direct effort to move toward achieving the overall goal of the street maintenance plan to keep City streets in good condition.

Alternative Courses of Action

N/A

Recommendation for Action

The Arvada team recommends that the City Council approve R26-029, A Resolution Authorizing an Agreement By and Between the City of Arvada and Brannan Sand and Gravel for Construction of CSB-26-STS-001, 2026 Pavement Resurfacing Program, Project Number 26-ST-01B in an Amount Not to Exceed $6,794,380.65.

Suggested Motion:

I move that R26-029, A Resolution Authorizing an Agreement By and Between the City of Arvada and Brannan Sand and Gravel for Construction of CSB-26-STS-001, 2026 Pavement Resurfacing Program in an Amount Not to Exceed $6,794,380.65, be (approved) (rejected).

Prepared by:
Fabian Ruiz, Pavement Management Coordinator

Reviewed by:

Approved by:

Benjamin Sawaya, Pavement Manager	03/24/2026
Richard Thomas, Civil Engineer III	03/31/2026
Claudia Vaughan, City Engineer	03/31/2026
Jacqueline Rhoades, Director of Infrastructure	04/03/2026
Bryan Archer, Chief Financial Officer	04/06/2026
Tammy Hedlund, Legal Specialist	04/06/2026
Zachary Woolweaver, Assistant City Attorney I	04/06/2026
Rachel Morris, City Attorney	04/06/2026
Allison Scheck, Deputy City Manager	04/06/2026
Don Wick, City Manager	04/08/2026

Enclosure, exhibits & attachments required to support the report

RESOLUTION NO. R26-029

A RESOLUTION AUTHORIZING AN AGREEMENT BY AND BETWEEN THE CITY OF ARVADA AND BRANNAN SAND AND GRAVEL COMPANY, LLC FOR ARVADA'S PAVEMENT RESURFACING PROJECT, PROJECT NO. 26-STS-01B IN AN AMOUNT NOT TO EXCEED $6,794,380.65

WHEREAS, Arvada solicited proposals from interested construction professionals for the provision of construction services related to its pavement resurfacing project as described in the Contract Documents (the "Project" or the "Work"); and

WHEREAS, based on Contractor's submissions, Arvada has selected Contractor for the Project; and

WHEREAS, Arvada and Contractor desire to enter into this Agreement regarding the construction of the Project.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF ARVADA, COLORADO:

Section 1. The Mayor or Mayor Pro Tem is authorized to sign and the City Clerk to attest, in form approved by the City Attorney, an Agreement that is in substantially the same form as that attached hereto.

Section 2. The City Council hereby approves and authorizes the Director of Infrastructure to execute change orders increasing the scope of services under this Agreement up to, but not to exceed, the amounts included in the approved budget without any need to seek additional authority or approval of the City Council.

APPROVED AND ADOPTED this 21st day of April, 2026.

_____
Lauren Simpson, Mayor

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:
Rachel A. Morris, City Attorney

By: _____

AN AGREEMENT BY AND BETWEEN THE CITY OF ARVADA AND BRANNAN SAND AND GRAVEL COMPANY, LLC FOR ARVADA'S PAVEMENT RESURFACING PROJECT, PROJECT NO. 26-STS-01B IN AN AMOUNT NOT TO EXCEED $6,794,380.65

This Agreement made this _____day of _____, 2026, by and between the City of Arvada, a home rule municipal corporation ("Arvada" and/or "City") and Brannan Sand and Gravel Company, LLC ("Contractor").

WITNESSETH: That for and in consideration of the covenants, promises, and payments hereinafter mentioned:

WITNESSETH:

WHEREAS, Arvada solicited proposals from interested construction professionals for the provision of construction services related to its pavement resurfacing project as described in the Contract Documents (the "Project" or the "Work"); and

WHEREAS, based on Contractor's submissions, Arvada has selected Contractor for the Project; and

WHEREAS, Arvada and Contractor desire to enter into this Agreement regarding the construction of the Project.

NOW, THEREFORE, for and in consideration of the covenants, promises, and payments hereinafter mentioned, the parties agree as follows:

ARTICLE 1. GENERAL DESCRIPTION OF SERVICES

1.1. **The Services.** Contractor agrees to furnish or arrange for the construction services set forth in the Contract Documents and required for the completion of the Project within the timeframe provided in the Contract Documents. Contractor represents that it is thoroughly familiar with, and understands, the requirements of the Project's scope and is experienced in the construction of projects of the type and scope contemplated by the Contract Documents. Contractor represents to Arvada that Contractor has all necessary education, skill, knowledge, expertise and experience required for construction of the Project, and will maintain, at all times during the term of this Agreement, such personnel on its staff to provide the services contemplated hereby within the time periods required hereby. In addition, Contractor represents that it or Arvada-approved subcontractors or subconsultants performing services under this Agreement have all applicable licenses required by the State of Colorado to perform such services and all required insurance coverage as required by this Agreement and by law.

1.2. **Cooperation.** The Contractor shall endeavor to develop, implement and maintain, a spirit of cooperation, collegiality, and open communication with Arvada, Arvada's Consultants, and Arvada's residents so that the goals and objectives of each are clearly understood,

potential problems are resolved promptly, and upon completion, the Project is deemed a success by all interested parties.

1.3. **Preparation/Sufficiency of Site.** Before commencing the Project, the Contractor shall (i) visit and thoroughly inspect the Project Site and any structure(s) or other man-made features to be modified and become familiar with local conditions under which the Project will be constructed and operated; (ii) familiarize itself with the survey, including the location of all existing buildings, utilities, conditions, streets, equipment, components and other attributes having or likely to have an impact on the Project; (iii) familiarize itself with Arvada's engineering and design requirements, design objectives, and budget for the Project; (iv) familiarize itself with pertinent Project dates and programming needs, including the Project schedule; (v) review and analyze all Project geotechnical, environmental, and construction materials tests, investigations and recommendations, (vi) review all specifications; and (vii) gather any other information necessary for a thorough understanding of the Project. Claims by Contractor resulting from Contractor's failure to familiarize itself with the Site or pertinent documents shall be deemed waived.

1.4. **Contract Documents.** The Contract Documents are incorporated herein by reference. The term "Contract Documents" means and includes the following:

A. Arvada's solicitation entitled CSB 26-STS-01B (the "CSB"), including all exhibits and/or addenda;
B. Contractor's Response to the CSB, Advertisement for Bid, Bid Proposal, Bid Schedule, Bid Bond ("Contractor's Response");
C. Notice of Award;
D. Performance and Payment Bond;
E. Notice(s) to Proceed;
F. Change Orders (if any);
G. City of Arvada Engineering Code of Standards and Specifications for the Design and Construction of Public Improvements dated October 23, 2023;
H. Requests for Information and Responses (if any);
I. All supplementary requirements regarding wage rates, E.E.O., affirmative action and all other Federal-State requirements as outlined in the specifications (if applicable).

1.5. **Interpretation of Contract Documents.** In the event of conflicts or discrepancies among the Contract Documents, the documents shall govern in the following order: (1) the Agreement; (2) Arvada's solicitation, CSB 26-STS-01B; (3) City of Arvada Engineering Code of Standards and Specifications for the Design and Construction of Public Improvements; (4) Contractor's Response; (5) Change Orders; (6) Requests for Information and Response.

ARTICLE 2. ARVADA'S DUTIES, OBLIGATIONS AND RESPONSIBILITIES

2.1. **Project Information.** Contractor acknowledges that Arvada has provided Contractor with information regarding Arvada's requirements for the Project as set forth in the Contract Documents, including Project Specifications.

2.2. **Arvada's Budget.** Arvada has established, and will update, an overall budget for the Project, including amounts allocated for construction, Arvada's other costs, and reasonable contingencies related to these costs as appropriate.

2.3. **Arvada's Representative.** Arvada will designate a representative authorized to act on Arvada's behalf with respect to the Project.

2.4. **Purpose of Arvada's Review.** Arvada's review, inspection, or approval of any work, Testing Documents, Applications for Payment, or other submittals shall be solely for the purpose of determining whether the same are generally consistent with Arvada's standards, policies and requirements. No review, inspection, or approval by Arvada of such work or documents shall relieve Contractor of its responsibility for the performance of its obligations under the Agreement or the accuracy, adequacy, fitness, suitability, or coordination of its construction services. Approval by any governmental or other regulatory agency or other governing body of any work, Testing Document, or the Construction Documents shall not relieve Contractor of responsibility for the performance of its obligations under this Agreement. Payment by Arvada pursuant to the Agreement shall not constitute waiver of any of Arvada's rights under the Agreement or at law, and Contractor expressly accepts the risk that defects in its performance, if any, may not be discovered until after payment, including final payment, is made by Arvada. Notwithstanding the foregoing, reasonable notice shall be given by Arvada to the Contractor if Arvada becomes aware of any fault or defect in the Project or non-conformance with the Contract Documents.

ARTICLE 3. CONSTRUCTION SERVICES REQUIREMENTS AND STANDARDS

3.1. **Quality of Construction Services.** Contractor shall be responsible for the quality, completeness, accuracy, and coordination of the Work. Contractor shall provide construction services that meet all industry standards, including all environmental and regulatory requirements. Arvada will provide and be responsible for all material testing and all other testing if needed.

3.2. **Arvada's Right to Carry Out the Work.** If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven calendar day period after written notice from Arvada to commence and continue correction of such default or neglect with diligence and promptness, Arvada may after such seven-day period, without prejudice to other remedies Arvada may have, correct such deficiencies. In such a case, an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for any consultant's additional services and expenses made necessary by such default, neglect or failure. If payments then or thereafter due the Contractor are not

sufficient to cover such amounts, the Contractor shall pay the difference to Arvada within ten days of receipt of an invoice for such amounts from Arvada.

3.3. **Legal Standard.** Contractor shall furnish construction services in accordance with industry standards currently practiced by construction professionals on projects similar in size, complexity and cost to the Project.

3.4. **Construction Standards.** Contractor shall perform all services in accordance with requirements of governmental agencies having jurisdiction over the Project, City of Arvada Engineering Code of Standards and Specifications for the Design and Construction of Public Improvements, and the requirements set forth in the Contract Documents. In addition, the Contractor's work shall comply with all applicable building codes, accessibility laws and regulations, environmental regulations, and other applicable legal requirements in effect at the time of the work. To the extent Arvada's standards exceed applicable legal requirements, such standards shall be met unless Contractor obtains a variance from Arvada in writing.

3.5. **Permits.** Contractor shall be responsible for obtaining all necessary permits and other governmental approvals necessary for the development of the Project and shall obtain the same at the times necessary to meet the Project schedule. Contractor's responsibility includes providing environmental services and permitting coordination as further described in the Contract Documents.

3.6. **Notice of Non-Compliance.** Contractor shall carefully study and compare the Contract Documents with each other and with information furnished by Arvada, and shall at once report to Arvada any errors, inconsistencies or omissions discovered as well as any foreseeable constructability issues arising from the project specifications and/or site conditions. If the Contractor performs any construction activity knowing or should have known it involves an error, inconsistent, omission or constructability issue in the Contract Documents without such notice to Arvada, the Contractor shall assume full responsibility for such performance and shall bear the full costs for correction, including reimbursement for any delay caused to the Project.

ARTICLE 4. CHANGES TO THE WORK

4.1. **Minor Contract Revisions.** Miscellaneous modifications in the Work, ordered by Arvada in the form of a Field Order, will be considered a Minor Contract Revision. Payment for accepted work performed under this pay item "Minor Contract Revision" will be made in accordance with Sections 1100 of the Arvada Engineering Code of Standards and Specifications.

4.2. **Field Orders.** An authorized representative of the Contractor shall acknowledge receipt of Field Orders by promptly signing all written field orders delivered to the job site. Verbal field orders given by Arvada will be recorded in writing in the municipal inspector's daily report that is to be signed by the Contractor's authorized representative.

4.3. **Field Engineered Changes**. Arvada may modify the construction plans including changing the slope and alignment of flow lines and appurtenances or modifying other improvements as necessary to accommodate construction around existing utilities or other field conditions. No additional compensation shall be made for minor costs and inconveniences incurred while performing field engineering changes as directed by Arvada or its Consultant. No additional compensation shall be made for any down time encountered while Arvada determines what field engineered changes would be appropriate to accommodate construction around existing utilities or other field conditions. Reasonable time must be allowed for Arvada or its Consultant to design field engineered changes. Any additional costs for performing field engineered construction changes to accommodate existing utilities or other field conditions and for also allowing Arvada reasonable time to design field engineered changes as necessary to complete the work shall be considered a subsidiary obligation of the contract.

4.4. **Pre-Construction Meetings.** Contractor agrees to assist in the preparation for and to participate in any pre-construction meetings with Arvada.

4.5. **Arvada Change Orders.** Arvada may, by written order signed by Arvada, at any time, and without notice to any surety, and subject to all appropriate adjustments, make changes within the general scope of this Contract in any one or more of the following: (a) changes in scope of services; (b) completion date; (c) contract amount; (d) any applicable material modifications; and, (e) any other matters that the parties deem necessary.

4.6. **Location of Work.** Arvada's CSB includes a map of proposed areas, street list and summary of approximate quantities to indicate where the Parties anticipate Contractor to perform the Work. Arvada reserves the right to add, delete, or modify construction locations, priority order and portions of the Work upon written notice without amending the Agreement.

4.7. **Contractor Requested Change Orders.** The Contractor may request a Change in the Work ("Requested Change Order"), including one or more of the following: (a) changes in scope of services; (b) completion date; (c) contract amount; (d) any applicable material modifications; and, (e) any other matters that the parties deem necessary.

4.8. **Change Order Contents.** Any Requested Change Order shall include (a) a detailed description of the requested change to the original contract; (b) itemized documentation of any subcontractor costs; (c) the total costs associated with the proposed change; (d) the impact on the project completion date, if any, associated with the proposed change; and (e) a statement of the contractual basis for the requested change.

4.9. **Basis for Change Order Requests.** The following may be considered a valid basis for requesting a Change Order: (a) Contract Document error or omission; (b) Arvada induced enhancement; (c) unforeseeable constructability issue; (d) unforeseeable geotechnical issue. The following will not be considered a valid basis for requesting a Change Order absent extraordinary circumstances: (a) utility relocation; (b) utility conflicts; (c)

foreseeable geotechnical issue; (d) foreseeable constructability issue; (e) defective construction.

4.10. **Written Authorization Required.** The Contractor shall not proceed with any change in the Work without the appropriate written authorization.

ARTICLE 5. SUPERVISION AND CONSTRUCTION PROCEDURES

5.1. **Supervision.** The Contractor shall supervise and direct the Work using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the Work under this Contract, unless Contract Documents give other specific instructions concerning these matters.

5.2. **Acts and Omissions of Subcontractors and Agents.** The Contractor shall be responsible to Arvada for acts and omission of the Contractor's employees, Subcontractors, and their agents and employees, and other persons performing portions of the Work under a contract with the Contractor

5.3. **Inspection and Subsequent Work.** The Contractor shall be responsible for inspection or portions of Work already performed under this Contract to determine that such portions are in proper condition to receive subsequent Work.

ARTICLE 6. COMPENSATION.

6.1. **Completion of Services.** Contractor will furnish all material, supplies, tools, equipment, labor, and other services necessary for the completion of the Work within Arvada's timeframe and monetary limitations set forth below:

6.1.1. Contractor shall commence the Work required by the Contract Documents within seven calendar days after the date of the Notice to Proceed unless otherwise mutually agreed-upon by the Parties in writing;

6.1.2. Contractor shall complete the Work required by the Contract Documents on an ongoing basis as scheduled by the City throughout the Term of this Agreement; and

6.1.3. Compensation Amount. Contractor agrees to perform the Work for an amount not to exceed $6,794,380.65**.**

6.2. **Term.** The term of the Agreement shall be for one year from Arvada's execution of the Agreement, unless otherwise agreed to in writing by the parties, subject to availability of funds, or Arvada's termination for convenience under the Contract Documents.

6.3. **Renewal.** This Agreement may be renewed by Arvada for four consecutive one-year terms. Any renewals shall be on the same terms as this Agreement, including the Compensation Amount, and automatic unless Arvada gives Contractor 30 calendar days' written notice to terminate the Agreement. The Parties may amend the Compensation

Amount of any renewal term to reflect adjustments to Contractor's pricing structure in accordance with Section 11 of the Project Special Terms and Conditions for Bidders in Exhibit A to this Agreement as authorized by the Arvada City Code.

6.4. **Additional Services.** While Arvada has listed its major requirements for its solicitation in the Contract Documents, Arvada may, during the term of this Agreement, wish to purchase other related services identified and offered by Contractor, based upon the Bid Schedule amounts contained in Contract Documents. Arvada reserves the right to award these ancillary items to Contractor. This option, if exercised, in no way obligates Arvada to pursue additional services with Contractor.

6.5. **Payment for Services.** At least twenty calendar days before the date established for each monthly progress payment, the Contractor shall submit to Arvada an itemized Application for Payment for construction completed in accordance with the Bid Schedule. Such application shall be support by such data substantiating the Contractor's right to payment as Arvada may require, such as copies of invoices or requisitions from subcontractors and material suppliers and reflecting retainage. Arvada shall pay NET 30 for services performed in accordance with the Bid Schedule and with this Agreement, but in no event shall the total Contract Amount exceed $6,794,380.65 absent a properly executed Change Order. Measurement of the work performed, and monthly payment shall be made in accordance with requirements of the Measurement and Payment Section in the Contract Documents unless otherwise specifically provided herein.

6.6. **Non-Conforming Materials or Construction.** Where materials installed or the finished product fails to meet minimum requirements of the Contract Documents, the basis of determining final payment to the Contractor shall be determined in accordance with current revised Section 105.03 of the Colorado Department of Transportation Standard Specifications.

6.7. **Retainage Requirements.** Contractor agrees to submit monthly invoices together with any retainage requirements as prescribed by Colorado state statutes (*see e.g.,* C.R.S. § 24-91-101 *et seq*). Payment from Arvada will be paid NET 30 days. Invoices will accurately reflect actual work completed by Contractor and its subconsultants or subcontractors.

ARTICLE 7. MISCELLANEOUS.

7.1. **Waiver.** No provision of this Agreement may be waived except by written agreement of the parties. A waiver of any provision on one occasion shall not be deemed a waiver of that provision on any subsequent occasion, unless specifically stated in writing. A waiver of any provision shall not affect or alter the remaining provisions of this Agreement.

7.2. **Strict Compliance.** No failure of Arvada to insist upon strict compliance by the Contractor with any provision of the Contract Documents shall operate to release, discharge, modify, change or affect any of the Contractor's obligations.

7.3. **Successors and Assigns.** Arvada and Contractor, respectively, bind themselves, their partners, successors, assigns and legal representatives to the other party to this Agreement and to the partners, successors and assigns of such other parties with respect to all covenants of this Agreement. Contractor shall not assign (whether partially or wholly) this Agreement whether by operation of law or otherwise, without the written consent of Arvada. If Contractor makes an assignment in accordance with this provision, Contractor shall nevertheless remain legally responsible for all obligations arising under the Agreement, unless otherwise agreed in writing by Arvada.

7.4. **Additional Documents.** The parties agree to execute any additional documents and to take any additional action that is necessary to carry out this Agreement.

7.5. **Binding Effect.** This Agreement shall inure to the benefit of, and be binding upon, the parties, their respective legal representatives, successors, heirs, and assigns; provided, however, that nothing in this paragraph shall be construed to permit the assignment of this Agreement except as otherwise expressly authorized herein. All provisions of this Agreement which contain continuing obligations shall survive its expiration or termination.

7.6. **Paragraph Captions.** The paragraph captions in this Agreement are set forth only for the convenience and reference of the parties and are not intended in any way to define, limit, or describe the scope or intent of this Agreement.

7.7. **Integration, Amendment, and Severability.** This Agreement represents the entire agreement between the parties, and there are no oral or collateral agreements or understandings. This Agreement may be amended only by an instrument in writing signed by the parties. If any other provision of this Agreement is held invalid or unenforceable, no other provision shall be affected by such holding, and all of the remaining provisions of this Agreement shall continue in full force and effect if the essential terms and conditions of this Agreement for both parties remain valid, legal, and enforceable.

7.8. **Notices.** Any notice or notification required or permitted by the Agreement shall be in writing and shall be deemed to have been sufficiently given for all purposes if sent electronically, or by certified mail or registered mail, postage and fees prepaid, addressed to the party to whom such notice is to be given at the address set forth on the signature page below, or at such other address as has been previously furnished in writing, to the other party or parties. Such notice or notification shall be deemed to have been given when electronically sent or when deposited in the United States mail.

7.9. **Binding Authority.** Contractor represents and affirms that the signature page hereof accurately states the full legal name of Contractor (whether as a corporation, partnership, limited liability company, sole proprietorship, or other), contains all requisite signature(s) on behalf of Contractor, and in all other respects is effective to bind Contractor, in accordance with all applicable statutes, regulations, resolutions, rules, bylaws, agreements, or similar sources of authority or limitation. This Agreement may be executed in counterpart(s), each of which shall be deemed to be an original, and all of which, taken together, shall constitute one instrument.

7.10. **Preferences in Employment of Colorado Labor.** To the extent that obligations and responsibilities may be established by C.R.S. § 8-17-101 *et seq.,* as amended, with respect to certain public entities and those contracting therewith as to the procurement of services:

7.10.1. Colorado labor shall be employed to perform eighty percent (80%) of the work.

7.10.2. Any waiver of this requirement must comply with C.R.S. § 8-17-101 *et seq.,* as amended.

7.11. **No Third-Party Beneficiaries.** The Parties understand and agree that enforcement of the terms and conditions of this Agreement, and all rights of action relating to such enforcement, shall be strictly reserved to the Parties, and nothing contained in this Agreement shall give or allow any such claim or right of action to any other third party on this Agreement. It is the intention of the Parties that any person other than the Parties receiving services or benefits under this Agreement shall be deemed to be an incidental beneficiary only.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement which shall be deemed an original on the date first above written.

[Signatures on next page]

DATED this _____ day of_____, 2026.

CITY OF ARVADA, a Colorado home rule municipal corporation

_____

Lauren Simpson
Mayor
8101 Ralston Road
Arvada, CO 80002

ATTEST:

_____

City Clerk

APPROVED AS TO FORM:
Rachel A. Morris

By: _____

BRANNAN SAND AND GRAVEL COMPANY, a Colorado limited liability company.

_____

J.C. Marvel, Jr.
President
2500 Brannan Way
Denver, CO 80229
Email: CMarvel@Brannan1.com

Exhibit A

AN AGREEMENT BY AND BETWEEN THE CITY OF ARVADA AND BRANNAN SAND AND GRAVEL COMPANY, LLC FOR ARVADA'S PAVEMENT RESURFACING PROJECT, PROJECT NO. 26-STS-01B IN AN AMOUNT NOT TO EXCEED $6,794,380.65

COMPETITIVE SEALED BID

BID #:	**26-STS-001**
Title:	**2026 Pavement Resurfacing Program (Project No. 26-ST-01B)**
Issue Date:	**01/20/2026**
Pre-bid Meeting:	**MANDATORY – *Vendor attendance is required in order to submit a bid response*.** **01/26/2026 – 10:00 AM MT** **Location**: Online via ZOOM Join Zoom Meeting https://arvadaco-gov.zoom.us/j/87698834538?pwd=aoLLj8QlmJgUmq0szfZ4au8MyT15R5.1 Meeting ID: 876 9883 4538 Passcode: 728821 One tap mobile +17193594580,,87698834538#,,,,*728821# US +13462487799,,87698834538#,,,,*728821# US (Houston) Join by SIP 87698834538@zoomcrc.com Passcode: 728821 Join instructions https://arvadaco-gov.zoom.us/meetings/87698834538/invitations?signature=-UU3OLzi5lLI_5iiDxBVTHfx0ZYi-q9nbMJ7nEq-IBU
Questions Deadline:	**02/12/2026– no later than 2:00 PM MT** **Questions must be submitted through BidnetDirect.com**. Responses will be posted on BidNet via addendum.
Bid Due Date:	**02/19/2026 no later than 2:00 PM MT**
Virtual Opening Information	Join Zoom Meeting https://arvadaco-gov.zoom.us/j/82830401767?pwd=zqfo7JmPiayypp3aUVk5LPUweJs4Fs.1 Meeting ID: 828 3040 1767 Passcode: 974737 One tap mobile +17193594580,,82830401767#,,,,*974737# US +16694449171,,82830401767#,,,,*974737# US Join by SIP 82830401767@zoomcrc.com Passcode: 974737 Join instructions https://arvadaco-gov.zoom.us/meetings/82830401767/invitations?signature=HITSEWypbENICg04OJQiDzbWkE3n9wPUONxrlcNAMtk
Bid Delivery address:	Electronic Submissions must be submitted online at BidNetDirect.com by the above date and time. **Late responses will not be considered for award.**

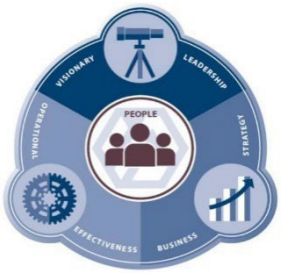
For additional administrative information not related to the project, contact: Melanie Ortiz at mortiz@arvada.org.
Contact with The requesting department may result in vendor disqualification.

ARVADA'S VISION MISSION AND VALUES

VISION: We dream big and deliver.
MISSION: We are dedicated to delivering superior services to enhance the lives of everyone in our community.

VALUES:

Innovation – We excel in creativity, flexibility and the use of best practices while valuing diverse backgrounds, ideas and perspectives.
Passion – We are a high performing, inclusive team inspiring each other to pursue excellence.
Opportunity – We value our diversity, embrace possibilities, face challenges, persevere and take action to deliver quality results.



Documents included in this Request:

Cover Page	Pages 1-2
Advertisement for Bidders	Page 3
General Terms and Conditions	Pages 4-6
Special Terms and Conditions for Bidders	Pages 7-9
Insurance Requirements	Page 10
Project Special Provisions	Pages 11-26
Submittal Forms to be **completed and returned**	
• Bid	Page 27
• Bid Bond	Page 28
• Bid Proposal	Page 29
• Required Contractor Submittal Form	Page 30
• Performance Measures Form	Page 31
Sample Documents if Awarded	Pages 32-35
Project Images	Pages 36-45

ADVERTISEMENT FOR BIDS

Submit bids electronically on Bidnetdirect.com for the construction of City of Arvada, Project No. CSB 26-STS-001

Project Title: 2026 Pavement Resurfacing Program (Project No.26-ST-01B)

The BID DOCUMENTS, consisting of Advertisement for Bids, General Terms and Conditions, Special Terms and Conditions, Insurance Requirements, Project Special Provisions, Addendum when issued, Bid Bond, Bid Proposal, Bid Schedule, Performance and Payment Bond, Submittal Checklist and References, Sample documents, and the Project Drawings may be examined at the following location: www.bidnetdirect.com.

No cost bidding documents may be obtained at www.bidnetdirect.com on or after 01/06/2026.

ESTIMATED QUANTITIES OF THE MAJOR ITEMS OF WORK ARE:

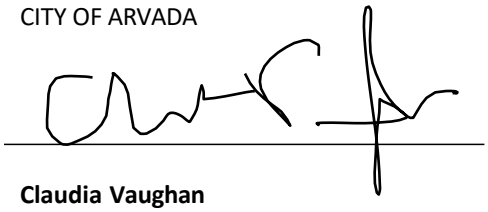
72,569 SY – 3" Depth Full Width Milling
161,490 ~~165,062 SY – 2"~~ Depth Full Width Milling
12,821 TON – 3" Top Course (SMA Mix)
7,783 ~~6,519~~ TON – Patching (SG-75 PG 64-22)
2,869 ~~2,834~~ TON - 2" SX ½" (75) PG 64-28 Top Course
16,834 TON – 2" SX ½" (75) PG 58-28 Balanced Mix Design Top Course
12,821 Tons - Top Course SMA Paving 1/2" 75 Gyr 76-28

Miscellaneous items include citizen notification, traffic control, and other appurtenances.

Bidders, subcontractors and suppliers must be familiar with the current City of Arvada *Engineering Code of Standards and Specifications,* dated October 2,2023, which will be combined with the Bid Documents to form the Contract Documents for the Project. A copy of the Standards may be obtained from the office of the City Engineer upon a non-refundable payment of $50.00. Holders will be notified when supplemental revisions and additions are available as they are adopted. The Standards are also available at no cost on the City's web site at https://www.arvadaco.gov/167/Engineering-Code. Holders are responsible for keeping current their City of Arvada Engineering Code of Standards and Specifications.

Date: 1/14/26

CITY OF ARVADA



Claudia Vaughan
City
Engineer
8101 Ralston Road
Arvada, Colorado 80002

GENERAL TERMS AND CONDITIONS

1. **NO MULTI-YEAR FISCAL OBLIGATION**. Financial obligations of Arvada payable after the current fiscal year are contingent on funds for that purpose being appropriated, budgeted, and otherwise made available by the City Council for Arvada. Arvada's obligations under the Agreement shall be from year to year only and shall not constitute a multiple-fiscal year direct or indirect debt or other financial obligation of Arvada within the meaning of Article X, Section 20 of the Colorado Constitution (TABOR).

2. **TAXES**. Arvada shall not be liable for the payment of any excise, sales, or use taxes. Arvada is exempt from federal excise taxes under I.R.C. Chapter 32 (26 U.S.C., Subtitle D, Ch. 32) and from State and local government sales and use taxes under §§39-26-704(1), *et seq.,* C.R.S. (Colorado Sales Tax Exemption Identification Number 98-01789). Contractor shall not invoice Arvada for any state, federal or local taxes. Upon written notification by Arvada, Contractor shall reimburse Arvada in a timely manner for any taxes erroneously paid by Arvada.

3. **NO INDEMNIFICATION BY ARVADA**. Arvada is prohibited under Article XI, Section 1 of the Colorado Constitution from indemnifying anyone. Despite any provision in any contract document to the contrary, Arvada does not indemnify Contractor or anyone else under the Agreement.

4. **INDEMNIFICATION OF ARVADA.** Contractor shall indemnify, defend, and hold harmless Arvada, its employees, agents and assignees (the "Indemnified Parties"), against any and all costs, expenses, claims, damages, liabilities, court awards, and other amounts (including attorneys' fees and related costs) arising from or related to any act or omission by Contractor, or its employees, agents, Subcontractors, or assignees in connection with the Agreement.

   4.1. Confidential Information Indemnification. Disclosure or use of Arvada Confidential Information by Contractor may be cause for legal action by third parties against Contractor, Arvada, or their respective agents. Contractor shall indemnify, defend, and hold harmless the Indemnified Parties, against any and all claims, damages, liabilities, losses, costs, expenses (including attorneys' fees and costs) incurred by Arvada in relation to any act or omission by Contractor, including any unauthorized disclosure of Arvada Confidential Information, or by its employees, agents, assigns, or subcontractors. "Confidential Information" means any and all Arvada Records are not subject to disclosure under CORA. Confidential Information includes, but is not limited to, Personally Identifiable Information ("PII"), Protected Health Information ("PHI"), Payment Card Industry data ("PCI"), data related to tax information, Criminal Justice Information ("CJI"), and Arvada personnel records are not subject to disclosure under the Colorado Open Records Act (C.R.S. §§24-72-200.1 et seq.)("CORA"). Confidential Information shall not include information or data concerning individuals that is not deemed confidential but nevertheless belongs to Arvada, which has been communicated, furnished, or disclosed by Arvada to Contractor which (i) is subject to disclosure pursuant to CORA; (ii) is already known to Contractor without restrictions at the time of its disclosure to Contractor; (iii) is or subsequently becomes publicly available without breach of any obligation owed by Contractor to Arvada; (iv) is disclosed to Contractor, without confidentiality obligations, by a third party who has the right to disclose such information; or (v) was independently developed without reliance on any Confidential Information. "Arvada Records" means any and all Arvada data, information, and records, regardless of physical form, including, but not limited to, information subject to disclosure under the CORA.

   4.2. Intellectual Property Indemnification. Contractor shall indemnify, save, and hold harmless the Indemnified Parties, against any and all costs, expenses, claims, damages, liabilities, and other amounts (including attorneys' fees and costs) incurred by the Indemnified Parties in relation to any claim that any deliverable, good or service, software, or work provided by Contractor under the Agreement (collectively, "IP Deliverables"), or the use thereof, infringes a patent, copyright, trademark, trade secret, or any other intellectual property right. Contractor's obligations shall not extend to the combination of any IP Deliverables provided by Contractor with any other product, system, or method, unless the other product, system, or method is (a) provided by Contractor or Contractor's subsidiaries or affiliates; (b) specified by Contractor to work with the IP Deliverables; (c) reasonably required in order to use the IP Deliverables in its intended manner and the infringement could not have been avoided by substituting another reasonably available product, system, or method capable of performing the same function; or (d) is reasonably expected to be used in combination with the IP Deliverables.

   4.3. Artificial Intelligence (AI). Contractor shall be fully responsible for all acts and omissions related to its use of any AI functionality to provide the Work. Contractor shall indemnify, save, and hold harmless the Indemnified Parties, against any and all costs, expenses, claims, damages, liabilities, and other amounts (including attorneys' fees and costs) incurred by the Indemnified Parties in relation to any claim arising from Contractor's use of AI functionality to provide the Work.

5. **GOVERNMENTAL IMMUNITY.** Liability for claims for injuries to persons or property arising from the negligence of Arvada, its departments, boards, commissions, committees, bureaus, offices, employees and officials shall be governed by the provisions of the Colorado Governmental Immunity Act, §§24-10-101, et seq., C.R.S. (CGIA). No term or condition of the Agreement shall be construed or interpreted as a waiver, express or implied, of any of the immunities, rights, benefits, protections, or other provisions contained in the CGIA.

6. **OPEN RECORD REQUESTS.** Arvada is obligated to comply with the Colorado Open Records Act (C.R.S. §§24-72-200.1 *et seq.*)(CORA), which may require Arvada to disclose all or a portion of communications relating to the Agreement, any transaction under the Agreement, and other related matters. Contractor has been advised to familiarize itself with CORA. Any confidentiality provisions in any contract documents are subject to the provisions of CORA.

7. **PROTECTION OF PERSONAL IDENTIFYING INFORMATION.** In the event the Agreement includes or requires Arvada to disclose to Contractor any Personal Identifying Information as defined in C.R.S. § 24-73-101, Contractor shall comply with the applicable requirements of C.R.S. §§ 24-73-101, et seq., relating to third-party service providers.

8. **NO THIRD PARTY BENEFICIARIES.** The Agreement does not and is not intended to confer any rights or remedies upon any person or entity other than Arvada and Contractor. Enforcement of the Agreement and all related rights and obligations are reserved solely to Arvada and Contractor. Any services or benefits which third parties receive as a result of the Agreement are incidental and do not create any rights for such third parties.

9. **ASIGNMENT.** Contractor's rights and obligations under the Agreement are personal and may not be transferred or assigned without the prior, written consent of Arvada. Any attempt at assignment or transfer without such consent shall be void. Any assignment or transfer of Contractor's rights and obligations approved by Arvada shall be subject to the provisions of the Agreement. Any provision of an assignment that enlarges any duty, responsibility, or obligation of Arvada, or that limits, curtails, or diminishes any right or privilege of Arvada, without Arvada's express written consent, shall be void.

10. **BINDING EFFECT.** This Agreement shall inure to the benefit of, and be binding upon, the parties, their respective legal representatives, successors, heirs, and assigns.

11. **SURVIVAL.** Any provision of the Agreement that imposes an obligation on a party after the Agreement's termination or expiration shall survive the termination or expiration and shall be enforceable by the other party.

12. **SUBCONTRACTS.** Contractor shall not subcontract any of its responsibilities without Arvada's prior written approval, which will not be unreasonably withheld. Contractor shall submit to Arvada a copy of each such subcontract upon Arvada's request. All subcontracts Contractor enters into in connection with the Agreement shall comply with all applicable federal, state, and local laws and regulations, shall provide that they are governed by the laws of the State of Colorado, and shall be subject to all provisions of the Agreement. Contractor agrees it is fully responsible for subcontractors performing services under the Agreement. Contractor shall be Arvada's sole point of contact regarding the services, including with respect to payment.

13. **INDEPENDENT CONTRACTOR.** Contractor shall perform its duties under the Agreement as an independent contractor and not as an employee. Neither Contractor nor any agent or employee of Contractor shall be deemed to be an agent or employee of Arvada. Contractor shall not have authorization, express or implied, to bind Arvada to any agreement, liability, or understanding, except as expressly set forth herein. Contractor and its employees and agents are not entitled to unemployment insurance or workers compensation benefits through Arvada and Arvada shall not pay for or otherwise provide such coverage for Contractor or any of its agents or employees. Contractor shall pay when due all applicable employment taxes and income taxes and local head taxes incurred pursuant to the Agreement. Contractor shall: (i) provide and keep in force workers' compensation and unemployment compensation insurance in the amounts required by law; (ii) provide proof thereof when requested by Arvada; and (iii) be solely responsible for its acts and those of its employees and agents.

14. **LICENSES, PERMITS, AND OTHER AUTHORIZATIONS.** Contractor shall secure, prior to the effective date, and maintain at all times during the term of the Agreement, at its sole expense, all licenses, certifications, permits, and other authorizations required to perform its obligations under the Agreement, and shall ensure that all employees, agents and subcontractors secure and maintain at all times during the term of their employment, agency or subcontract, all license, certifications, permits and other authorizations required to perform their obligations in relation to the Agreement.

15. **STANDARD AND MANNER OF PERFORMANCE.** Contractor shall perform its obligations under the Agreement in accordance with the highest standards of care, skill, and diligence in Contractor's industry, trade, or profession.

16. **TIME OF THE ESSENCE.** Contractor acknowledges and agrees that time is of the essence for this Agreement and that it is an essential term of this Agreement that Contractor maintain a rate of progress in the Work that will result in completion of the Work in accordance with this Agreement. To that end, Contractor agrees to proceed with all due diligence to complete the Work in a timely manner in accordance with this Agreement and further agrees that failure to complete any of the Work during the Term of this Agreement, or as may be more specifically set forth in an attachment, exhibit, or modification, shall be deemed a breach.

17. **WAIVER OF BREACH.** A waiver by any party to the Agreement of a breach of any Agreement term shall not operate or be construed as a waiver of any subsequent breach by either party.

18. **RIGHT TO TERMINATE.** Arvada shall have the right to terminate, without cause, the Agreement. Any such termination shall not be considered a breach of the Agreement or any extension. In the event Arvada terminates for convenience, Arvada will pay Contractor for requested work performed up until the time of termination, not to exceed the total amount

of the contract price agreed upon by Arvada and Contractor.

19. **EXTERNAL TERMS AND CONDITIONS.** Notwithstanding anything to the contrary, Arvada shall not be subject to any provision included in any terms, conditions, or agreements appearing on Contractor's or a subcontractor's website or any provision incorporated into any click-through or online agreements related to the Work unless that provision is specifically referenced in the Agreement.

20. **PROHIBITED TERMS.** Any term included in the Agreement that requires Arvada to indemnify or hold Contractor harmless; requires Arvada to agree to binding arbitration; limits Contractor's liability for damages resulting from death, bodily injury, or damage to tangible property; or that conflicts with this provision in any way shall be void ab initio. Any term included in the Agreement that limits Contractor's liability that is not void under this section shall apply only in excess of any insurance to be maintained under the Agreement, and no insurance policy shall be interpreted as being subject to any limitations of liability of the Agreement.

21. **COMPLIANCE WITH ALL LAWS.** Contractor shall comply with all applicable federal, Colorado and Arvada laws, rules, regulations, policies and procedures in effect or hereafter established, including, without limitation, laws applicable to discrimination and unfair employment practices.

22. **BINDING ARBITRATION PROHIBITED.** Arvada does not agree to binding arbitration by any extra-judicial body or person. Any provision to the contrary shall be null and void.

23. **GOVERNING LAW AND VENUE.** Colorado law, rules, and regulations shall be applied in the interpretation, execution, and enforcement of the Agreement. Any provision included or incorporated herein by reference which conflicts with said laws, rules, and regulations shall be null and void. All suits or actions related to the Agreement shall be filed and proceedings held in the State of Colorado and exclusive venue shall be in Jefferson County.

24. **OWNERSHIP OF WORK PRODUCT.** The originals of all plans, reports, studies, data, or other materials or information relating to the Work that are produced by Contractor shall be delivered to and become the property of Arvada. Contractor may retain copies of any originals; however, no plans, reports, studies, data, or other materials or information relating to the Work shall be released to any person or entity without the prior written consent of Arvada. Nothing in this clause is intended to affect Contractor's right to use generic know-how learned in the course of providing services under the Agreement for the future benefit of Arvada or others.

25. **SOFTWARE PIRACY PROHIBITION.** Arvada or other public funds payable under the Agreement shall not be used for the acquisition, operation, or maintenance of computer software in violation of federal copyright laws or applicable licensing restrictions. Contractor hereby certifies and warrants that, during the term of the Agreement and any extensions, Contractor has and shall maintain in place appropriate systems and controls to prevent such improper use of public funds. If Arvada determines that Contractor is in violation of this provision, Arvada may exercise any remedy available at law or in equity or under the Agreement, including, without limitation, immediate termination of the Agreement and any remedy consistent with federal copyright laws or applicable licensing restrictions.

26. **ACCESSIBILITY COMPLIANCE UNDER C.R.S. §24-85-104.**

    26.1. Contractor shall comply with the accessibility standards for an individual with a disability adopted by the office of information technology pursuant to C.R.S. §24-85-103.

    26.2. Contractor shall indemnify, hold harmless, and assume liability on behalf of Arvada, and Arvada's officers, employees, and agents, for all costs, expenses, claims, damages, liabilities, court awards, attorney fees and related costs, and any other amounts incurred by the state agency or public entity in relation to Contractor's noncompliance with the accessibility standards for an individual with a disability adopted by the office of information technology pursuant to C.R.S. §24-85-103.

    26.3. Arvada may require that Contractor's compliance with the accessibility standards for an individual with a disability adopted by the office of information technology pursuant to C.R.S. §24-85-103 be determined and attested to by a qualified third party selected by Arvada.

27. **ARTIFICIAL INTELLIGENCE (AI) DISCLOSURE & USE.** Contractor shall not use any AI functionality while performing the work or providing the goods or deliverables without Arvada's prior written consent. Contractor shall not use, access, or permit access to any Arvada Records for the purpose of training, improving, or refining any AI functionality, regardless of whether the functionality belongs to Contractor or a third-party, without Arvada's prior written consent.

28. **PROHIBITED PRICING PRACTICES.** Contractor shall not include speculative tariff increases, unsupported contingency amounts, or broad percentage markups labeled as "tariff risk" in any contract document. Any line-item or percentage factor appearing on any document incorporating these terms and conditions must be tied to current, published tariff levels and documented upon request in a manner satisfactory to Arvada.

SPECIAL TERMS AND CONDITIONS FOR BIDDERS

1. **RECEIPT AND OPENING OF BIDS.** Bids submitted electronically on the BidnetDirect.com website only become available to the City of Arvada after the bid closes. Bidder shall assume full responsibility for timely upload of bid to the BidnetDirect website. The City reserves the right, where its best interest will be served, to accept or reject any conditional or qualified bid.

2. **QUANTITY AND NATURE OF THE WORK.** Bidders must satisfy themselves of the accuracy of the estimated quantities in the Bid Schedule by examination of the site and a review of the drawings and specifications including Addendum. After Bids have been submitted the Bidder shall not assert that there was a misunderstanding concerning the quantities of work or of the nature of the work to be done.

3. **CONTENTS OF BID.** Contractors are required to submit Bids with the following conditions:
   - **3.1.** Contractors shall make all investigations necessary to inform themselves of the sites affected and the work required by the Solicitation.
   - **3.2.** Any official interpretation of the Solicitation may only be issued by an authorized agent of the City. The City shall not be responsible for other interpretations offered by employees not authorized.
   - **3.3.** The City shall issue Addenda if substantial changes are required which may impact the content and submission of Bids. A copy of such addenda will be publicly posted with the original CSB posting.
   - **3.4.** The apparent silence or omissions within this Solicitation regarding a detailed description of the materials or services shall be interpreted to mean that only the best commercial practices are to prevail and that only materials and workmanship of first quality are to be provided.

4. **BID SECURITY.** Each Bid must be accompanied by a PHOTO of the Bid Bond, on the form attached to these contract documents, payable to the City for five (5) percent of the total amount of the Bid. As soon as the bid Prices have been compared, the City will issue intent to award on the Bidnetdirect.com web site. The vendor who is named as the intent to award Contractor must submit the physical Bid Bond within 10 days or the intent to award may be revoked. The Bid Bond of the successful Bidder will be retained until the Payment and Performance Bond has been executed and approved after which it will be returned. A certified check may be used in lieu of a Bid Bond.

5. **POWER OF ATTORNEY.** Attorneys-in-fact who sign Bid Bonds or Payment and Performance Bonds must file with each bond a certified and effective dated copy of their power of attorney.

6. **QUALIFICATION OF BIDDER.** The City may make such investigation as it deems necessary to determine the ability of the Bidder to perform the work. The City reserves the right to reject any Bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy the City that such Bidder is properly qualified to carry out the obligation of the Contract Agreement and to complete the work contemplated therein. The City reserves the right, before awarding the contract, to require a Contractor to submit evidence of its qualifications including, but not limited to, financial, technical, and other qualifications, as well as past performance with the City, for consideration in making the award in the best interest of the City.

7. **AWARD OF CONTRACT.** A contract/s shall be awarded to the lowest-priced responsible and most responsive bidder/s whose bid meets the requirements and criteria set forth in the CSB within the limits of funds available and that best serves the City's interest. The City, within seven (7) calendar days of receipt of acceptable Contract Security and the Contract Agreement, signed by the Bidder to whom the Contract was awarded, shall sign the Contract Agreement and return to the Bidder an executed copy of the Contract Agreement. Should the City not execute the Contract Agreement within such period, the Bidder may, by written notice, withdraw their signed Contract Agreement. Such notice of withdrawal shall be effective upon receipt of the written notice by the City.

8. **NOTICE OF AWARD AND FAILURE TO ENTER INTO CONTRACT.** The party to whom the Contract is to be awarded will be required to execute the Contract Agreement, obtain Certificates of Insurance and a Performance and Payment Bond, as Contract security, within five (5) calendar days from the date the Notice of Award is delivered to the Bidder. The Notice of Award shall be accompanied by the Contract Agreement and the necessary Performance and Payment Bond forms. In case of failure of the bidder to execute the Contract Agreement and provide satisfactory Insurance and Contract Security, the City may at its option, consider the Bidder in default, in which case the Bid Bond accompanying the Proposal shall become the property of the City.

9. **CONTRACT DOCUMENTS.** The Contract Documents consisting of the Bid Documents, which include the Advertisement for Bids, Information for Bidders, General Terms and Conditions, Special Terms and Conditions, Insurance Requirements, Project Special Provisions, Addendum, Bid Bond, Bid Proposal, Bid Schedule, Vendor Submittal Form, Construction Drawings, Supplemental Specifications and the City of Arvada "Engineering Code of Standards and Specifications for the Design and Construction of Public Improvements", dated October 2, 2023, which include the Measurement and Payment specifications, and the attached Notice of Award form, Contract Agreement form, Performance and Payment Bond form, Notice to Proceed form, and Change Order form, when combined, contain

the provisions required for the construction of the Project. Information obtained from an agent or employee of the City or any other person shall not affect the risks or obligations assumed by the Contractor or relieve him from fulfilling any of the conditions of the contract.

10. TERM OF CONTRACT. The term of the Agreement shall be for one year from Arvada's execution of the Agreement, subject to the availability of funds, or Arvada's termination for convenience. . The City shall have the option to renew up to two (2) consecutive one-year periods, provided however that the Contractor provided satisfactory performance during the previous contract period. Any renewals shall be on the same terms as the Agreement, including the Compensation Amount, and automatic unless Arvada gives Contractor 30 calendar days' written notice to terminate the Agreement. Any required warranty period which exceeds this term shall remain in full force for the duration of the warranty period.

11. PRICING SHALL BE FIXED AND FIRM. The prices offered by the Contractor shall remain fixed and firm for at least 90 ninety days. No changes in the Bid shall be allowed after the date and time of the Bid deadline due to error by the Contractor. Awarded vendor/s may submit proposed new rates during the renewal option period, if applicable, in writing with proper documentation to the City for review and approval. Any approved new pricing shall remain in effect for a period of one year. The City reserves the right to accept or reject any/all proposed increases.

12. CONTRACT SECURITY. A Performance and Payment Bond, on the form attached to these contract documents, in the amount of 100% of the Contract price, with a corporate surety approved by the City, will be required for the faithful performance of the Contract.

13. NOTICE TO PROCEED. The Notice to Proceed shall be issued within seven (7) calendar days of the execution of the Contract Agreement by the City. Should there be reason why the Notice to Proceed cannot be issued within such period, the time may be extended by mutual agreement between the City and the Contractor. In the event the Notice to Proceed has not been issued within the seven day period or within the period mutually agreed upon the Contractor may terminate the Contract Agreement without further liability on the part of either party.

14. MODIFICATION OR WITHDRAWAL OF BIDS BY CONTRACTOR.

14.1. **Modifications to Bids**- Changes to the Bid after the submission deadline shall be allowed only when the Contractor can show convincing evidence that an unintentional factual mistake was made. Modification requests must be made in writing. Any modification submitted to the City must have the Contractor's name, address, Solicitation Number and title included.

14.2. **Withdrawal of Bids**- If a Bid is withdrawn by Contractor after the Bid Opening, the City may, at its option, suspend the Contractor for a six (6) month period following the withdrawal. Withdrawal of the Bid after the Bid Opening will result in the Contractor forfeiting the provided Bid Bond.

15. REJECTION OF OFFERS BY CITY.

The City may reject a Bid, in whole or in part, for reasons including, but not be limited to:

15.1. The Contractor misstates or conceals any material fact in its Bid;
15.2. The Contractor's Bid does not strictly conform to the law or requirements of the Solicitation;
15.3. The Bid expressly requires or implies a conditional award that conflicts with the method of award stipulated in the Special Conditions;
15.4. The Bid does not include documents which are required for submission with the Bid; or
15.5. The Bid has not been executed by the Contractor through an authorized signature.

The City may, at its sole and absolute discretion:

15.6. Reject all or parts of Bids submitted by prospective Contractors;
15.7. Re-advertise this Solicitation;
15.8. Postpone or cancel the Solicitation;
15.9. A Bid may not be accepted from, nor any contract be awarded to, any person or firm which
15.9.1. is in arrears to the City for any debt or Contract or is a defaulter as surety for any obligation to the City.
15.9.2. has failed to perform faithfully any previous contract with the City, State or Federal government for a minimum period of one (1) year after this previous Contract was terminated for cause.
15.9.3. has pending litigation against the City on the date and time that the Solicitation is due.

16. CLARIFICATION AND MODIFICATIONS. The contract resulting from this solicitation will be subject to the Solicitation materials, City Ordinance, State and Federal Statutes. When conflicts occur, the highest authority shall prevail. Contractors are required to indicate any variances to the terms, conditions, requirements and specifications of this Solicitation; no matter how slight. If variations are not stated in the Contractor's Bid, it shall be agreed that the Contractor's Bid fully complies with all conditions identified in this Solicitation.

17. ELECTRONIC PAYMENT METHODS - CITY OF ARVADA SINGLE USE ACCOUNT.

Contractors are encouraged to consider the following method of payment.

17.1. **Single Use Account**: The City incorporates the use of Single User Accounts as an option to seamlessly process payment of larger dollar purchase orders and contracts to vendors/contractors/providers. A secure, one-time payment transaction account processes to pay invoices via the Contractor's merchant bank. Invoice payments have an enhanced speed-of-pay cycle that can significantly benefit cash flow.

18. CONDITIONS OF WORK AND OBLIGATION OF BIDDER. Each Bidder is responsible for independently inspecting the site and for reading and being thoroughly familiar with the Contract Documents and for providing the names of major suppliers and sub-contractors in the space provided on the Bid Proposal form. The failure or omission of any Bidder to do any of the foregoing shall in no way relieve the Bidder from any obligation in respect to their Bid Proposal.

19. CONTRACTOR LICENSE. The Contractor to whom the contract is awarded and any subcontractors employed by the Contractor must have or acquire the appropriate Contractor's license issued by the City of Arvada Engineering Division, including submittal of license bond, necessary insurance certificate, and license fee before initiating any work. The Contractor and any subcontractors will also be required to obtain at no charge Public Improvements Permit from the City of Arvada Engineering Division prior to initiating any and all work on this project.

20. PERFORMANCE MEASUREMENTS FOR SERVICES THAT ARE MORE THAN $15,000. The City has incorporated Performance Management into its organizational culture. The City will monitor and report on the following performance measures. These measures will determine, in part, renewals and eligibility for future awards. Measures include: (a) safety as defined by observation and OSHA reportable injuries, (b) quality of contracted work, (c) work completed within required schedule, (d) administration and coordination of estimates, RFIs, ASIs, change orders, pay requests and close out documents, (e) fair and justifiable change orders, (f) responsiveness and follow through on requests.

20.1. *SERVICES* means: the furnishing of labor, time, effort, maintenance, etc., by a vendor/contractor/consultant, with an initial contract amount of more than $15,000.

21. PREPARATION AND SUBMISSION.
Bids will be prepared as follows:

21.1. A blank shall be construed as "No Bid/not offered". Where there is a discrepancy between the unit price and the extension of prices, the unit price shall prevail.

21.2. Contractors will not knowingly participate in solicitations where there exists a conflict of interest with their firm and a member of City staff or their immediate family.

21.3. The only authorized version of this Bid is posted on WWW.BIDNETDIRECT.COM. Registration is available to receive email notification of new solicitations, addenda, and communications.

INSURANCE REQUIREMENTS

The following listed insurance requirements shall be carried by the selected Contractor for the entirety of the contract. Applicable requirements for this solicitation are identified by completed check boxes.

1. ☒ **Commercial General Liability**, written on an occurrence form, for limits not less than $1,000,000 for bodily injury and property damage for each occurrence and not less than $2,000,000 aggregate. Coverage shall include premises and operations liability, blanket contractual, broad form property damage, products and completed operations and personal injury endorsements.
2. ☒ **Workers' Compensation and Employers Liability** as required by statute. Employers Liability coverage is to be carried for a minimum limit of $1,000,000 each accident/disease and $2,000,000 aggregate.
3. ☒ **Automobile Liability** for limits not less than $1,000,000 combined single limit for bodily injury and property damage for each occurrence. Coverage shall include owned, non-owned and hired automobiles.
4. ☐ **Umbrella Liability** of $, following form to the Commercial General Liability.
5. ☐ **Builders Risk or Course of Construction** Purchased by contractor to cover physical damage to property in construction or rehab. Contractors will ensure that City and subcontractors will be covered as additional insureds, excluding their own machinery, tools and equipment.
6. ☒ **Professional Liability:** Professional Liability insurance in an amount of not less than $1,000,000 per occurrence, covering the professional work contemplated under this proposal. The coverage shall have an extended reporting period of three (3) years following the date of substantial completion of the work for reporting of claims.
7. ☐ **Pollution Legal Liability Insurance** for limits not less than $1,000,000 per occurrence (or claims made) and not less than $1,000,000 aggregate for bodily Injury, personal Injury and property Damage.
8. ☐ **Privacy/Network/Cyber Liability Insurance f**or limits not less than $1,000,000 for any firm providing product or services associated with IT, software, communication, or network.

Additional Insurance Requirements:

- Contractor will be required to, at its own expense, keep in full force and effect during the term of the Agreement, and during the term of any extension or amendment of the Agreement, insurance reasonably sufficient to insure against the liability assumed by Contractor pursuant to the provisions of the solicitation sent by the City of Arvada or as determined by the City of Arvada Risk Manager.
- All coverage must be written with carriers holding a minimum A.M. Best rating of A-:VII and authorized to do business in Colorado. Coverage shall be primary, and any insurance held by the City of Arvada is excess and non-contributory.
- Issuance of a Purchase Order/Contract is contingent upon the receipt of the insurance documents. Work shall not commence before this requirement is met. If the Contractor fails to submit the required insurance documents within 15 calendar days after notice to submit such policies is given to the Contractor by a City representative, the Contractor may be in default of the Award.
- Except for Workers Compensation, Employer's Liability insurance, Automobile Liability and Professional Liability insurance, the City of Arvada must be endorsed as an additional insured on a Certificate of Insurance.
- The City, through its Risk Manager, reserves the right to require additional insurance coverage and other requirements.

SPECIAL PROVISIONS

City of Arvada Project No. 26-ST-01B, Project Title: 2026 Pavement Resurfacing Program

Conditions peculiar, but essential, to the successful performance and acceptance of the work on this project are itemized below. As such, they shall take precedence over the current Engineering Code of Standards and Specifications for the Design and Construction of Public Improvements, hereinafter referred to as "City Standard and Specifications."

All materials and workmanship shall be subject to inspection by the City of Arvada. The City reserves the right to accept or reject any such workmanship that does not conform to the above Standards and Specifications.

All contractors bidding on this project are responsible for acquainting themselves thoroughly with all applicable specifications prior to submitting their bid. The successful bidder is responsible for thoroughly acquainting all the personnel the contractor intends to use on this project with all the applicable specifications prior to the commencement of any construction.

The Contractor shall comply with Article1.5 of Title9, CRS ("Excavation Requirements") when excavating or grading is planned in the area of underground utility facilities. The Contractor shall notify all affected utilities at least two (2) business days, not including the actual day of notice, prior to commencing such operations. The contractor shall contact the Utility Notification Center of Colorado (UNCC) at 811, to have locations of UNCC registered lines marked by member companies. All other underground facilities shall be located by contacting the respective owner. Utility service laterals shall also be located prior to beginning excavation or grading. The Contractor shall locate non- member utilities, such storm sewer and ditch facilities as necessary to prevent damage.

A. GENERAL CONSIDERATIONS

SC-A-1 CONTRACT TIME AND LIQUIDATED DAMAGES

The work is to be completed, including cleanup, on or before **October 31, 2026**. A Notice to Proceed is anticipated to be issued on or about **April 2026**. Unless otherwise approved by the Project Manager. Once work begins in a designated area, the contractor shall maintain continuous progress until the area is fully completed.

The bidder shall agree to pay the owner, as liquidated damages the sum of $3,300.00 for each consecutive calendar day that the work exceeds the allotted contract time for the work. Asphalt paving may not occur after October 31st unless approved by the Project Manager, in writing.

SC-A-2 APPLICATION OF SPECIFICATIONS

Except as specifically noted in these Special Conditions, all work in this contract shall be in accordance with the City of Arvada Engineering Code of Standards and Specifications for the Design and Construction of Public Improvements, ("City Standards"), and the most recent editions of CDOT "Standard Specifications for Road and Bridge Construction." In the case of conflict between City and other standards or specifications, the City Standards shall take precedence.

SC-A-3 MEASUREMENT AND PAYMENT

Measurement of the Work performed and payment, at the unit or lump sum price quoted in the Bid Schedule, shall be made in accordance with requirements of the Measurement and Basis of Payment Section of the City Standard Specifications, or as hereinafter stated in the Special Conditions. Payment for lump sum items will be equal to the percentage of the total dollar amount completed in that month.

SC-A-4 NON CONFORMITY OF MATERIAL OR FINISHED PRODUCT

Where materials installed or the finished product fails to meet the minimum requirements of these Contract Documents, the basis of determining final payment to the Contractor shall be determined in accordance with the current revised Section 105.03 of the Colorado Department of Transportation Standard Specifications.

SC-A-5 SUMMARY OF APPROXIMATE QUANTITIES AND ADDITIONS/DELETIONS TO OR FROM THE CONTRACT

The items of work and estimated quantities for this project are listed in the Bid Schedule. Specific streets and the approximate square yards associated with each street are listed under Full Width Mill Patch and Overlay Asphalt of these special conditions. A Summary of Approximate Quantities for the major items of work is also provided for prospective bidders in the contract documents.

The City reserves the right to add, modify, or delete quantities, portions of work, and contract line items listed in the Bid Schedule without change in the unit prices bid, subject to the following conditions:

a. *Within General Scope* – Adjustments shall be limited to work that is within the general scope of the original Contract and reasonably related to the work described in the Contract Documents.
b. *Field Conditions* – The City may increase quantities or direct additional work as required by conditions encountered in the field that could not have been reasonably anticipated at the time of bidding.
c. *Unforeseen Conditions* – Where concealed physical conditions (e.g., subsurface conditions, utilities, unexpected pavement deterioration) materially differ from those indicated in contract documents, the Contractor shall notify the

City in writing. The Contract Sum and Contract Time shall be adjusted in accordance with recognized change order procedures.

d. *Budget and Funding Availability* – Additional work directed by the City shall be contingent upon the availability of budgeted funds or authorized contingency amounts. The City is not obligated to fund additional work beyond appropriate or available monies unless expressly authorized.
e. *Permissible Changes Without Re-Bidding* – When additional work is within the general scope of the contract, as described above, the work may be authorized by contract amendment or change order instead of a separate competitive procurement, consistent with applicable public procurement laws.

The Contractor is encouraged to make a field site visit prior to submitting their bid. In order to further assist the prospective bidder in clarifying any item(s) and in answering any questions he/she may have.

SC-A-6 WORK SCHEDULE

The list of streets to be resurfaced with this project is shown on the Bid-Schedule and Summary of Approximate Quantities included with these specifications.

Prior to issuance of the "Notice to Proceed", and at the Preconstruction Conference, the Contractor shall provide the Project Manager with a project schedule reflecting the list of streets and identifying critical events for each work location throughout the duration of the project. The Schedule shall be updated and submitted to the Project Manager for approval on a weekly basis. The contractor shall schedule their labor and equipment in such a manner that once work has begun on a street or area, work will progress continuously until that street or area is completed. The Project Manager may restrict the Contractor from beginning work at another site until this condition has been satisfied. No additional payment shall be made for mobilization to each work location but shall be included in the lump sum bid item for Mobilization. The City also reserves the right to coordinate execution of any part of the work under this contract as circumstances warrant with respect to weather, or conflicts with other City projects, including but not limited to utility work, concrete replacement, other asphalt paving, etc.

SC-A-7 CITIZEN NOTIFICATION

Residents and businesses located in or near the milling and overlay locations shall be notified by the Contractor at least 24 hours in advance of the beginning of these operations. The Contractor shall notify residents and businesses by distributing informational "doorhangers" provided either by the City, or by the Contractor with prior approval of the Project Manager. Door hangers or flyers shall be distributed at least 24 hours in advance of the work and at the time "No Parking" signs are set on the street where applicable prior to beginning any phase of the contract work.

It shall be the Contractor's responsibility to keep a written log of communication with business owners, and their representatives should questions arise regarding proper advance notification. Prior to milling and overlay operations, the Contractor shall personally contact the management of local businesses on streets within the project to ensure that they are informed of the progress on the project. A log of names and conversations shall be kept and made available to the City. At no time shall complete access be blocked to a local business. At least one entrance/exit access area shall be left open at all times during milling and overlay operations to these businesses.

Payment for Citizen Notification shall be paid as a percentage of the lump sum bid item for the contract amount earned. Payment for Citizen Notification shall include all labor, materials, equipment and incidentals required during each phase of the contract work. No additional compensation shall be made for additional notification due to weather delays, equipment breakdowns, etc.

SC-A-8 PROJECT STATUS MEETINGS

Meetings for discussion of project status, scheduling and problem solving will be held bi-weekly or as necessary as determined by the project Manager at a location and time determined at the pre-construction conference. The Contractor shall ensure that his Project Manager or Field Superintendent is present at these meetings to discuss and have available weekly quantity updates on work that has been completed, upcoming work schedule for purposes of inspection and testing, citizen notification, and other issues as they may arise. Field meetings with the Contractor, Project Manager and Project Inspector will be held to discuss specific issues on an as-needed basis.

SC-A-9 CITY HOLIDAYS

No work will be allowed during City observed holidays and observances.

SC-A-10 WORK WITHIN CDOT, BNSF, or RTD RIGHT-OF-WAY AND CITY OF ARVADA PERMIT REQUIREMENTS

The Contractor will be required to prepare and apply for CDOT, BNSF, or RTD access permits where work will occur on or adjacent to their respective rights of way or where construction signage will be placed on their respective rights of way. The City of Arvada will be indicated as the permittee on the permit applications. The Contractor shall apply for CDOT, BNSF, or RTD access permits far enough in advance of the work so as not to delay the project.

CDOT, BNSF, or RTD permits will not be paid for separately but shall be included in the cost of Traffic Control.

The successful bidder who is awarded this project shall obtain or be currently licensed with the City of Arvada, Engineering Division with a Class MC-B Contractor license. A City of Arvada no- charge permit for this project shall be obtained prior

to issuance of the Notice to Proceed.

SC-A-11 MINOR CONTRACT REVISIONS

Miscellaneous modifications in the work ordered by the Project Manager in the form of a field order will be considered a Minor Contract Revision. Payment for work performed under this item will be made in accordance with Sections 1100 of the City Standard Specifications.

SC-A-12 INSURANCE REQUIREMENTS

The Contractor shall at their own expense, maintain insurance in full force and effect, throughout the duration of the contract with the City.

SC-A 13 OSHA REQUIREMENTS

Observing the rules and regulations required by the Occupational Health and Safety Administration (OSHA) shall be the responsibility of the contractor on this project.

SC-A-14 PROJECT WARRANTY PERIOD

The warranty period for this project shall be (2) two years in accordance with Section 200 - Acceptance Procedures of the City Standard Specifications. The Performance and Payment Bond shall remain in full force and effect throughout the two (2) year guarantee and warranty period.

B. ROADWAY(S)

SC-B-15 PLANT MIX PAVEMENTS - GENERAL REQUIREMENTS

All materials used in this project shall meet the minimum requirements of the current revised edition of the Colorado Department of Transportation (CDOT) Standard Specifications for Road and Bridge Construction, and Sections 11 - Hot Mix Asphalt Pavement and Section 900 - Streets of the City of Arvada Engineering Code of Standards and Specifications, or these Special Conditions where they vary from the City Standard Specifications.

A. Composition of Mixtures

The bituminous plant mix shall be composed of a mixture of aggregate, filler or additives, bituminous material, and recycled asphalt pavement (RAP) as allowed. Up to 20% RAP is allowed in HMA mix designs for this project. No RAP will be allowed in SMA mix designs for this project. All mixes shall be designed and produced with 1% hydrated lime as an anti- stripping agent.

B. Recycled Asphalt Pavement

Recycled Asphalt Pavement (RAP) material shall be of uniform quality and gradation with a maximum size no greater than the nominal aggregate size of the mix. HMA mixes shall not contain more than 20 percent RAP. All recycled asphalt shall be clean and free of deleterious material and shall be subject to inspection at the plant source and in the field prior to placement.

The Contractor shall identify the source of each RAP stockpile proposed to be incorporated in the asphalt mixes. Contractor shall identify the project from which the material was removed, mix data from the original project including mixture type, aggregate classification, location and depth of the pavement structure. Extracted gradation information shall also be provided along with a description of the stockpile location and quantity. Additional material shall not be added to an approved RAP stockpile during the course of the work.

The Project Manager may reject a RAP stockpile for non-uniformity based on visual inspection. RAP stockpiles containing concrete chunks, grass, dirt, wood, metal, coal tar or other foreign or environmentally restricted materials shall not be used Stockpiles are to be worked in such a manner that the materials removed are representative of a cross section of the pile. The Project Manager or their representative may reject RAP that in their opinion does not meet this specification.

C. Lime

Lime shall be added at the rate of 1% by dry weight of the aggregate and shall be included in the amount of material passing the No. 200 sieve. Hydrated lime for aggregate pretreatment shall conform to the requirements of ASTM C 207, Type N. In addition, the residue retained on a 200- mesh sieve shall not exceed 10% when determined in accordance with ASTM C 110. (Drying of the residue in an atmosphere free from carbon dioxide will not be required.)

D. Tack Coat

Materials and construction shall comply with MGPEC Item 20 (latest edition).

E. Asphalt Cement

The Contractor shall provide an acceptable 'Certification of Compliance' from the supplier for each asphalt cement grade used on this project. The minimum optimum oil content in asphalt mix designs used on this project shall be as follows: For Grading S (3/4” mix), a minimum oil content of 5.1% in the HMA is required, and for Grading SX (1/2” mix), a minimum oil content of 5.4% in the HMA is required. Mix designs or asphalt loads delivered to the project which do not meet these minimum requirements shall be cause for rejection by the City of Arvada.

F. Superpave Mixture Design Method

The Superpave mix design method shall be used for this project. A proposed design job mix shall be submitted for each mixture required by the Contract. The design shall be determined using Colorado Procedure CP-L 5115 for the Superpave Method of Mixture Design. Mix designs shall meet the requirements of Subsection 900 in the City of Arvada Standard Specifications.

G. Mix Design Submittals

The Contractor shall submit two copies of all mix designs to the Project Manager for approval. Mix designs shall be performed in a materials laboratory under the direct supervision of a professional engineer licensed in the state of Colorado and currently practicing in this field. In addition, the Contractor shall submit as part of the mix design, documents to verify the following:

1. Source of materials
2. Gradation, specific gravity, source and description of individual aggregates and the final blend
3. Aggregate physical properties (CDOT Subsection 703.04)
4. Design Mix Formula
5. Superpave PG Binder properties
6. Mixing and compaction temperatures used
7. Mix properties determined at a minimum of four asphalt cement contents and graphs showing mix properties versus asphalt cement content
8. Mix properties at the minimum required optimum asphalt cement content
9. Lottman test data at the optimum asphalt cement content

The asphalt cement for each PG grade binder shall meet the requirements specified in the Properties of Superpave Performance Graded Binders Table in Subsection 900 - Asphalt Cement of the City of Arvada Standard Specifications.

The design mix for each PG grade shall establish a single percentage of bituminous material to be added to the aggregate, and a single temperature for the mixture at the plant discharge point. The city may test the Contractor's proposed design mix for each hot bituminous pavement PG Grade utilizing materials actually produced and stockpiled for use. The Contractor shall provide a sufficient quantity of each aggregate, mineral filler, recycled asphalt and lime additive for required laboratory tests if requested by the City. After each design mix is approved a new design mix shall be submitted to the Project Manager if there is a change in the sources of materials.

H. Allowable Mix Production Range

The proposed job-mix gradation for each mixture required by this Contract shall fall within the limits specified in the Gradation Range Table in Section 922.00 - Aggregate before the tolerances in the Table of Job Mix Formula Tolerances shown in Section

11.13.3 of the City of Arvada Standard Specifications are applied. The weight of lime shall be included in the total weight of the material passing the No. 200 sieve.

After each design mix is approved, all mixtures shall meet the tolerance ranges specified in the Table of Job Mix Formula Tolerances in Subsection 11.13.3 of the City of Arvada Standard Specifications. These tolerances shall be applied to each mix design to establish the allowable mix production ranges for mix production.

City of Arvada Engineering Code of Standards and Specifications shall be revised to include the design specifications for the composition of Stone Matrix Asphalt Mixes as described below.

SMA Mixture Gradation (AASHTO T 11 & T27)

Sieve Size	**½”**	**¾”**
(1”)		100
(¾”)	100	90-100
(½”)	90-100	50-88
(⅜”)	50-80	25-60
(#4)	20-35	20-28
(#8)	16-24	16-24
(#16)		
(#30)	12-18	12-18
(#50)		
(#100)		
(#200)	8-11	8-11

Mixture Properties for SMA

Properties	Test Method	Value
Lab Compaction (Gyrations) N Design	AASHTO T-312	75
Air Voids (Va) % at N Design	AASHTO T-312	3.0 - 4.0
Accelerated Moisture: Susceptibility, tensile strength ratio, (Lottman)	AASHTO T-283 Method B	80 Min.
Dry Split Tensile Strength, psi	AASHTO T-283, Method B	30 Min.
Grade of Asphalt Binder	N/A	PG 76-28
Voids in Mineral Aggregate (VMA) % Minimum	AASHTO PP19	17
Drain Down at Production Temperature	AASHTO T-305	0.3 Max.

Minimum Voids in Mineral Aggregate (VMA)

SMA Mixes

Nominal Maximum Particle Size	Minimum VMA (%)		
	3.0% Va	3.5% Va	4.0% VA
SMA - ½"	17.0	17.0	17.0
SMA - ¾"	17.0	17.0	17.0

SMA Placement

The CONTRACTOR shall establish and document a roller pattern for the SMA being placed. The roller pattern shall include, but is not limited to the following:

- Number, size, and type of rollers
- Amplitude, frequency, and speed of rollers
- Temperature of mixture being compacted during each process (break down, intermediate and finish)
- Number of roller passes for each phase

SMA mix shall be placed with the assistance of an MTV (Shuttle Buggy). A Big Sonic ski attachment and sensors shall be equipped on the paver to achieve maximum smoothness. Heated End Gates on screed.

The in-place density shall be determined during placement of the first 1,000 feet with a minimum of 95% of Theoretical Maximum Density (Rice). The allowable variance shall be ± 2%. Test results shall be reported to the nearest whole number.

The CONTRACTOR should minimize flushing and drain down during the transport and placement of SMA. If more than 50 square feet of flushed area is observed, the CONTRACTOR shall provide a remedy to address the flushing and/or drain down.

In place density may be determined by nuclear gauge measurements in accordance with ASTM D 2950 and AASHTO T 230, or based on cores in accordance with AASHTO T 166, Method B. When cores are used, the CONTRACTOR shall provide all labor and equipment for the coring and repair of the holes.

The paver shall include an approved longitudinal paver wedge system to create a sloped safety edge. The wedge system shall be attached to the screed and shall compact the HMA to a density at least as dense as the compaction imparted to the rest of the HMA layer by the paving screed. The system shall provide a sloped safety edge equal to 32 degrees plus or minus 5 degrees measured from the pavement surface cross slope extended. A single plate strike off shall not be used. The system shall be adjustable to accommodate varying paving thicknesses. The Engineer may allow the Contractor to use handwork for short sections or to saw-cut the sloped safety edge after paving operations is completed in areas such as transitions at driveways, intersections, interchanges. The Contractor shall submit the proposed paver wedge system for approval at the Pre-construction Conference. The Engineer may require proof that the system has been used on previous projects with acceptable results or may require a test section constructed before the beginning of work to demonstrate that it creates an acceptable wedge shape and compaction. The safety edge may be constructed on each lift of HMA or on the full-specified plan depth on the final lift. The finished shape of the safety edge shall extend for the full depth of the asphalt pavement or to the top 5 inches whichever is less.

Nuclear gauge measurements shall be used when the material being placed is on a structure (bridge deck).

SC-B-16 WARM MIX ASPHALT

General Description:

Warm Mix Asphalt (WMA) may be used on this project. The producer shall submit a mix design for WMA production or submit a statement that details production and testing items that require attention if the design is performed by standard HMA practice. The design shall be in accordance with the mix requirements as specified in these Special Conditions or City Standard Specifications. Some modifications to asphalt mixture plants may be necessary to accommodate the WMA technologies as noted in the WMA Construction Section below. All provisions for the production and placement of conventional hot mix asphalt (HMA) mixtures as stipulated in these Special Conditions or City Standard Specifications are in force except as noted below.

WMA Mix Requirements:

1. Warm Mix Asphalt (WMA) may be produced by one or a combination of several technologies involving hot mix asphalt plant foaming processes and equipment, mineral additives, or chemicals that allow the reduction of mix production temperatures by as much as 100 degrees Fahrenheit. Apply all mix design requirements for hot mix asphalt to the development of the WMA mix design.
2. Asphalt (WMA) mixture design shall identify the technology to be used. The producer shall comply with the manufacturer's recommendations for incorporating additives and WMA technologies into the mix. Comply with the manufacturer's recommendations regarding receiving, storage, and delivery of additives. Maintain supplier recommendations on file at the asphalt mixing plant and make available for reference while producing WMA.
3. Warm Mix Asphalt (Additive): For WMA using additives, the design shall be performed using the additive. Each WMA design shall specify the production temperatures recommended by the WMA additive manufacturer to be used in production of Warm Mix Asphalt.
4. Warm Mix Asphalt (Foaming): For WMA using foamed asphalt technology, a design may be developed using conventional hot mix asphalt temperatures in accordance with CDOT CPL 5115.

WMA Construction Requirements:

1. Asphalt Mixing Plant: Modify the asphalt mixing plant as required by the manufacturer to introduce the WMA technology. Plant modifications may include additional plant instrumentation, the installation of asphalt binder foaming systems and/or WMA additive delivery systems, tuning the plant burner and adjusting the flights in order to operate at lower production temperatures and/or reduced tonnage.

   Equipment: Use equipment and WMA technology capable of producing an asphalt mixture that meet specification requirements and is workable at the minimum placement and compaction temperature desired, regardless of storage or haul distance considerations.
2. Placement: Place WMA only on dry, unfrozen surfaces and only when weather conditions allow for proper production, placement, handling and compacting. The minimum delivery, placement, and compaction temperatures should be reviewed to accommodate the WMA reduced temperature and achieve workability and density requirements. Documentation that demonstrates a proven history of the WMA technology's ability to be placed and compacted at the reduced temperatures may be required. A test strip or initial production verification requirement can be used to demonstrate placement and compaction at the reduced temperature. Minimum ambient paving temperature requirements may be lowered by 10ºF to 20ºF. Do not lower ambient paving temperatures to below freezing.

SC-B-17 MANHOLE, VALVE BOX, AND SURVEY RANGE BOX ADJUSTMENTS

The Contractor shall adjust valve boxes, survey range boxes and manholes to a tolerance of ¼ inch below the final grade of roadway surface. Contractor will supply riser rings with set crews for these adjustments.

Contractor shall take special note of survey range boxes containing Section Corner monuments. Contractor shall coordinate with the City Project Inspector and City Survey Crews prior to work adjacent to any Section corner. Contractor is responsible for protection of all survey monuments, range boxes, manholes, etc. throughout the construction of the project. Any damage to a range box, survey monument, manhole, etc., caused by the Contractor shall be repaired, restored or replaced, including restoration by a Colorado registered Land Surveyor, at the Contractor's sole cost.

SC-B-18 MATERIALS TESTING & QUALITY CONTROL

The City will provide materials testing services ("Project Tester") throughout the duration of this project. The Contractor is encouraged to take independent or additional tests at their discretion, but such tests shall be performed at no additional cost to the City. The Contractor will cooperate with the city to ensure that adequate materials samples are made available to the Project Tester and that such materials are accessible at all times.

The Contractor's attention is directed to Sections 900 - Hot Mix Asphalt and 15 - Streets of the City Standard Specifications and the appropriate subsections thereof regarding production tolerances, Inspection, materials testing, and frequency of testing. Specifications contained in these Sections and subsections of the City Standard Specifications will be strictly adhered to.

When the City determines that the material furnished, work performed, or the finished product is not in conformity with these contract documents and has resulted in inferior or unsatisfactory product, the finished product or materials shall be removed and replaced or otherwise corrected by, and at the expense of the Contractor, unless the Project Manager determines that the work can be accepted at a reduced price. Payment reduction, where allowed, shall be accomplished by adjusting pay quantities and following the procedures indicated in Section 1179.00 - Payment Reduction of the City Standard Specifications and applying contract unit prices to the reduced quantities.

SC-B-19 FULL DEPTH ASPHALT RECONSTRUCTION

No streets have been identified for reconstruction in 2026 at time of bid. However, unit costs associated with full depth asphalt reconstruction are included in Bid Alternate A using estimated quantities from previous years programs. Streets identified for Mill and Overlay for 2026 are subject to change to full depth asphalt reconstruction at the discretion of the Project Manager.

SC-B-20 STREET RECONSTRUCTION

This work consists of removing the entire section of asphalt pavement and subgrade to a depth specified above, if needed preparation of subgrade per Section 300, and repaving to the minimum depth of asphalt specified for the roadway type for the entire street width and length as shown on the plans. At the end of each workday, no unpaved areas will be permitted to remain. The portion of the street under construction shall be repaved up to the elevation of the bottom of the proposed top lift (typically 2.0-inches less than the Reconstruct Depth, or 1.5-inch below concrete lip-line). The proposed top shall be placed after the bottom lift has been completed for the entire street. Contractor shall provide temporary asphalt from ramps to driveways until all paving work is complete.

Payment for street reconstruction work shall be paid for under separate items including, but not limited to, Removal of Asphalt Mat, Extra Depth Asphalt Mat Removal, Stabilization Material, 2" HMA Paving , and 3" to 7" HMA Paving . No separate payment shall be made for completing the bottom lifts of pavement after each workday as specified and providing temporary asphalt driveway ramps but shall be included as part of the work.

SC-B-21 ASPHALT REMOVAL AND EXTRA DEPTH ASPHALT REMOVAL

This work shall consist of removal and disposal of the existing asphalt pavement mat by milling or otherwise removing the entire pavement width and depth up to 8-inch thickness, excluding curbs and gutters and medians. Asphalt mat removal shall result in removal of all existing asphalt material including large asphalt chunks to the satisfaction of the City.

Removal of the asphalt mat may be accomplished by the use of an approved milling machine or grinder. All removed asphalt pavement shall be loaded directly onto trucks. All asphalt millings where milling equipment is used shall be removed the same day as the milling operation from adjacent gutters, sidewalks, yards, driveways, etc.

The contractor shall exercise caution when removing the asphalt pavement around manholes, water valve boxes and other roadway appurtenances. Manholes, Water valve boxes, and similar structures shall be cut around the structure using milling equipment, or the asphalt mat removed in such a way so as not to damage the structure and the accompanying ring and lid cover. The contractor shall exercise care to prevent chipping, gouging and breakage of existing concrete gutter lip lines, driveways, and cross pans. The contractor will be responsible solely at their cost for repair and/or replacement of manholes, valve boxes, concrete, etc. damaged by their equipment during the asphalt mat removal operation.

Millings resulting from the use of milling equipment to remove the asphalt mat shall become the property of the contractor. No additional payment will be made for haul and disposal of asphalt or asphalt millings but shall be included in the pay item for Asphalt Mat Removal.

Asphalt mat removal will be measured and paid for at the unit price per square yard based on an average thickness of 6 inches. Removal of asphalt mat for existing asphalt that is greater than 6-inch depth shall be measured by the SY-IN of existing asphalt removed and paid for under the item, "Extra Depth Asphalt Mat Removal." Asphalt pavement existing above the concrete gutter pan lip will not be considered as additional asphalt mat removal thickness but shall be included in the pay item for Asphalt Mat Removal.

SC-B-22 SUBGRADE PREPARATION

Subgrade preparation prior to placement of Hot Mix Asphalt Paving, which includes compaction of subgrade and proof roll, if necessary, shall not be measured or paid for separately but shall be considered a part of the contract work.

SC-B-23 STABILIZATION MATERIAL

This work shall consist of over-excavation, furnishing, placing and compacting 6" of crushed rock, CDOT Class 6 recycled concrete, or CDOT Aggregate Base Course (Class 6) where unsuitable, wet, soft or unstable subgrade areas are encountered and designated for stabilization at City direction. Rock used for stabilization shall be 100% crushed with 100% passing 2-inch and a maximum 15% passing No. 4 sieves respectively. The Project Manager shall determine the type of stabilization material and depth required based on the existing conditions.

Payment for tons of rock stabilization based on certified weight tickets received at the site shall be full compensation for furnishing all labor, equipment, materials and incidentals required to place and compact 6" inch rock or CDOT Class 6 recycled concrete material complete in place including over excavation and disposal of unsuitable materials in accordance with the project specifications.

SC-B-24 HOT MIX ASPHALT (HMA) PAVING

This work shall consist of placement and compaction of Hot Mix Asphalt (HMA) paving to the specified thickness, binder grade and density as indicated on the Bid Schedule, and in accordance with the City Standard Specifications and these Special Conditions. Where the Special Conditions vary from the City Standard Specifications, the Special Conditions shall take precedence.

Tack coat material consisting of CSS-1h emulsified asphalt and an equal amount of clean water shall be applied at a rate of 0.10 gallons per square yard and allowed to break prior to completing the wearing surfaces. Prior to application of the tack coat the street shall be swept clean with a pick-up type of sweeper meeting current EPA air pollutant control requirements.

The Contractor shall sweep gutters, sidewalks and driveways free of any loose debris or asphalt millings prior to the paving operation, and before the end of each workday. Asphalt concrete or tack coat tracked, spilled onto gutters and on sidewalks during the paving operation shall be swept up, cleaned, and otherwise removed immediately.

The paving shall be placed and compacted such that the vertical difference between the wearing surface and the gutter lip line shall not exceed ½ inch. Special care shall be taken to ensure longitudinal joints are clean and uniform. Longitudinal joints shall be constructed and placed per the City of Arvada Standard Specifications. The HMA wearing course at the specified thickness shall be completed in one operation on each phase of the project and will not be placed until the bottom HMA layer is first placed and compacted over the entire surface area of the roadway.

Hot Mix Asphalt (HMA) Paving will be measured and paid for by the actual tons compacted in place as verified by certified weight tickets at the project delivery location. The contract pay item for HMA paving shall include tack coat, placement and compaction of the HMA, sweeping of gutters, sidewalks and driveways, and all labor, equipment, materials, and incidentals necessary to complete the work to the satisfaction of the City.

SC-B-25 ASPHALT MILLING

This work shall consist of milling, removal and disposal of asphalt pavement over the entire width of mill machine pass and to the specified depth as shown on the plans or Bid Schedule, or as directed otherwise by the Project Manager.

Milling shall result in a surface acceptable to the Project Manager. Acceptability shall be based upon the following criteria:

1. Free of surface ridges in excess of ¼ inch
2. Planed surface parallel to lane lines
3. Surface area free of excess surface fines
4. All planned surfaces, especially wheel ruts, show scoring by planer teeth
5. Specified cut depth attained at edges, roadway appurtenances, and along curb lines

Milling and removal of the specified milling depth shall be accomplished using an approved milling machine or grinder. The approved machine shall be equipped with an adequate automatic control system to ensure proper control of the depth of milling and the profile of the final milled surface.

The minimum depth of cut at the lip line shall be 1-3/4 inch below the lip line. All removed asphalt pavement shall be loaded directly onto trucks by means of a self-loading conveyor which is an integral part of the planer. The planer must be capable of picking up all removed asphalt mat in a single operation. Windrows will not be allowed. All milled areas shall be swept clean with pick-up type street sweepers before the street is opened to traffic. All asphalt millings shall be swept or otherwise removed from the gutters, sidewalks, yards, driveways, medians, etc.

Failure to clean the roadway in an expeditious manner will result in a temporary suspension of milling operations until the sweeping operation maintains reasonable pace with the milling operation. Work will not resume until the Project Manager has approved the Contractor's revised written description of the method proposed by the Contractor to comply with the requirements of this specification.

The Contractor shall exercise caution when milling around manholes, water valve boxes, and other roadway appurtenances. Manholes, water valve boxes, and other similar structures shall either be adjusted to below the bottom of the cut prior to milling operations or cut around the structure using milling equipment. The maximum deviation between the top of the milled pavement and top of the manhole or water valve box shall be no more than ¾ inch in areas open to traffic. This will be achieved by placing a temporary taper around the structure. This temporary taper shall be removed prior to placement of new HMA. All water valves, range boxes and manholes shall be ramped after milling.

A detailed milling machine shall be utilized to remove asphalt adjacent to cross-pans, as directed by the Project Manager. Payment for detail milling will be made under 2-inch Depth Milling (Full Width) or Edge Milling (12-foot Width) and will not be paid for separately.

The Contractor shall exercise care to prevent chipping, gouging and breakage of existing concrete gutter lip lines,

driveways, and cross-pans. The Contractor will be responsible solely at their cost for replacement of all concrete damaged as a result of carelessness during the milling operation.

Millings shall become the property of the Contractor.

Measurement and payment shall be by the square yard at the specified depth. Milling depths greater than those specified will be measured and paid for by the square yard-inch. Asphalt pavement existing above the lip will not be considered as additional depth milling at the lip but shall be included in the pay Item for 2 Inch Depth Milling (Full Width). No separate measurement or payment will be made for traffic control, hauling and disposal of material, maintenance of milled surface prior to resurfacing etc., but shall be included in the work.

SC-B-26 4" HMA PATCHING

Four-inch (4") Hot Mix Asphalt (HMA) patching shall be performed after the completion of the two-inch (2") full-width milling for each street location scheduled for patching and overlay. Exceptions to this requirement may be made if, prior to milling, the existing pavement section is determined to be structurally insufficient or if the pavement is designated for full removal and replacement. At the time of this specification, no streets are identified for full removal and replacement; however, this determination is subject to change.

Following completion of the 2" full width milling and street sweeping, the Project Inspector shall mark areas requiring patching in accordance with these Special Conditions or as otherwise directed by the Project Manager.

Pavement cutting shall be performed using a milling machine or another method approved by the City. All cuts shall produce neat, straight lines with clean, vertical faces and shall not deform the adjacent pavement surface. The subgrade shall be properly prepared, compacted, and proof-rolled, where required, prior to placement of asphalt.

All vertical faces of the cut pavement shall be uniformly coated with CSS-1H tack material prior to placement of HMA. Asphalt lifts shall not exceed four inches (4") in thickness. HMA patching shall be placed using a paver where dimensions permit. Any areas exhibiting excessive segregation, as identified by the Project Inspector or Project Manager, shall be immediately removed and replaced at no additional cost to the City.

All 4" HMA patching shall consist of HMA (Grading SG) (75) (PG 64-22).

Measurement and payment for 4" HMA patching shall be by the ton and shall include but not be limited to: asphalt mill patching; removal and disposal of existing asphalt pavement; subgrade removal and disposal; compaction and proof rolling where necessary; application of tack coat; placement of HMA (Grading SG) (75) (PG 64-22); and all labor, equipment, materials, and incidentals required to complete the work. Asphalt cement shall not be paid for separately and shall be included in the unit price for this item.

SC-B-27 HOT MIX ASPHALT (HMA) OVERLAY

This work shall consist of placing and compacting Hot Mix Asphalt (HMA) overlay to the required thickness and binder grade as listed in the Bid Schedule, and as specified in these Special Conditions or in the City Standard Specifications.

Where curb and gutter exist adjacent to the pavement, the paving shall be placed and compacted such that the vertical difference between the wearing surface and the gutter lip line does not exceed ½ inch. Special care shall be taken to ensure longitudinal joints are clean and uniform. Longitudinal joints shall be constructed and placed by the City of Arvada Standard Specifications. Overlay on milled sections of the street shall be completed within ten (10) days of the completion of the full width milling unless a time extension is granted by the City. If the Contractor does not complete the overlay within these time limitations, there may be a price reduction of $1,000/day for each day this limitation is violated. The price reduction will not constitute a penalty but will be considered a failure to perform resurfacing in accordance with the contract requirements.

Tack coat material consisting of CSS-1h emulsified asphalt and an equal amount of clean water shall be applied at a rate of

0.10 gallons per square yard and allowed to break prior to completing overlay or surface replacement on each street. Prior to application of the tack coat the street shall be swept clean with a pick-up type of sweeper meeting current EPA air pollutant control requirements.

The Contractor shall sweep gutters and sidewalks immediately following overlay or patching operations, and prior to the end of each workday. The Contractor shall have the necessary equipment and materials readily available to immediately clean up any tack coat, diesel fuel or oil spills should such spills occur. Asphalt or tack coat tracked, spilled, or raveled into gutters and on sidewalks during overlay operations shall be swept up, cleaned, and removed immediately following the overlay work.

Hot Mix Asphalt (HMA) Overlay will be measured by the actual ton in place as verified by certified weight tickets at each location. The pay item for Hot Mix Asphalt (HMA) Overlay shall include soil sterilant, weed burning, tack coat, sweeping of gutters, sidewalks and asphalt paths, and all labor, equipment, materials, and incidentals necessary to complete the work to the satisfaction of the City. Asphalt cement shall not be paid for separately but shall be included in the work.

C. EDGE MILL

No streets have been identified for Edge Mill in 2026 at time of bid. However, unit costs associated with Edge Mill are included in Bid Alternate item 27 using estimated quantities from previous year's programs. Streets identified for Mill and Overlay for 2024 are subject to change to Edge Mill and Overlay at the discretion of the Project Manager.

SC-C-28 EDGE MILLING (12-FOOT WIDTH)

This special condition amends SC-28 – Asphalt Milling. Payment for Edge Milling shall be by the square yard with depths of milling ranging from a maximum of 1.5-inches at the curb-line or edge of pavement to 0-inches at 12-feet from the curb-line or edge of pavement. Actual depth will be set in the field by the Project Manager.

Butt joints shall be constructed where edge milled streets intersect adjacent streets without a cross-pan and are not scheduled for milling. The intersecting area of adjacent streets shall be full depth patched; extending 20 to 50-feet back from the ending point of the edge milling, as directed by the Project Manager. The top 1.5-inches of adjacent street milling shall be included in the cost of Edge Milling (SY). The remainder of the butt joint depth will be paid for through 4-inch Depth.

HMA Patching (SY). Payment shall include all labor, materials, equipment, and incidentals necessary to complete the work.

D. TRAFFIC CONTROL

SC-D-29 TRAFFIC AND PARKING CONTROL

All traffic control shall be in accordance with the latest addition of the FHWA "Manual on Uniform Traffic Control Devices" (MUTCD) and Colorado Supplement and the most current revision of the City of Arvada Engineering Code of Standards and Specifications.

The contractor shall submit two copies of a "Traffic Control Plan" (TCP) for all work locations to the City's Traffic Division for review and approval at least two business days prior to beginning work on the project. The contractor shall not proceed with any work until the City's Traffic Division has approved the site-specific traffic control plans. If during construction the City determines that the traffic control plan needs to be adjusted to meet actual field conditions, the Contractor shall immediately make such adjustments and at no additional cost to the city.

The contractor is responsible for determining the traffic control requirements for each work location with the Traffic Division prior to submitting their bid. The contractor is directed at Section 100 of the City's Engineering Code of Standards and

Specifications for more specific information on traffic control. The contractor shall notify the Traffic Division (720-898-7740) a minimum of two business days in advance of all closures including temporary lane closures on public roads, private and business access. Two-way traffic control shall be maintained at all times.

Where parking is allowed on a street where work is scheduled, "No Parking" signs shall be placed by the contractor at least 24 hours minimum (48 hours on major collectors and arterials) in advance of any phase of work where parking is normally allowed. The contractor will be required to remove all "No Parking" signs promptly upon completion at each location and phase of work. Hand painted signs or other signs which do not meet MUTCD requirements or City of Arvada standards and specifications will not be permitted.

Residential and commercial establishment written notification in advance of each phase of work is the responsibility of thew contractor, and to ensure that vehicles are cleared from the site prior to each phase of the work. The City will assist the contractor in clearing parked vehicles by private towing contract in isolated cases where vehicles impede the work and vehicle owners fail to respond to "No Parking" signs, and where personal attempts are made by the contractor to have vehicles moved from the work area.

Prior to milling and prior to overlay at each work location, the Contractor shall personally contact the management of all businesses or other establishments within and adjacent to the work area and inform the management of such business establishments of the schedule for each phase of the work. A log of names and conversations shall be kept and made available to the City. At no time shall complete access be blocked to businesses and other establishments except for brief periods of less than 30 minutes during the milling and overlay operations. At least one entrance/exit and emergency access shall be left open where possible during milling and overlay operations. Where there is only one access available to a business or other establishment, such access shall be blocked only during milling, sweeping and overlay operations, and for no more than approximately 20 minutes. This requirement will not be paid for separately but shall be included in the lump sum bid item for Citizen Notification. The Contractor shall furnish standard traffic control including advance-warning signs at the beginning and end of each phase of the work as it progresses. Patching, milling and overlay operations shall proceed in such a manner to minimize traffic interruption and hazards.

In addition to providing advanced traffic control and traffic control during work operations, the contractor shall furnish traffic control, including lane closures as may be necessary, to allow the City Project Inspector to safely mark out locations to be patched. Contractor shall coordinate this work with the Project Inspector.

Payment for "Traffic Control Devices" in one lump sum shall be paid in accordance with Section 3.46 of the City Standard

Specifications and shall constitute full compensation for preparation and submittal of CDOT permits and permit fees, traffic control plans, furnishing, placement, maintenance and removal of traffic control signs, working lighted barricades, arrow boards, temporary pavement marking tape, traffic control for City Project Inspector and all labor, equipment, materials and miscellaneous items necessary to complete the work. Uniformed Traffic Control, Uniformed Traffic Control (Vehicle), Traffic Control Supervisor and Flagging shall be paid for separately.

SC-D-30 UNIFORMED TRAFFIC CONTROL AND UNIFORMED TRAFFIC CONTROL (VEHICLE)

Uniformed Traffic Control (UTC) and Uniformed Traffic Control Vehicle (UTCV) shall be used only at signalized intersections and when required by the Project Manager. UTC and UTCV shall be provided in accordance with the Colorado Department of Transportation Standard Specifications for Road and Bridge Construction Section 630 - Construction Zone Traffic Control except as revised for this project as follows:

Section 630 shall include the following:

A. This work includes furnishing a uniformed police agency officer to perform uniformed traffic control. The officer shall have completed "The Safe and Effective Use of Law Enforcement Personnel in Work Zones" Training course. The Contractor shall provide copies of documentation certifying the officer's successful completion of this course.

B. This work includes furnishing a vehicle for the officer to use in performing uniformed traffic control.

C. Traffic Control Vehicles: When called for on the plans, and/or as authorized by the Project Manager, the Contractor shall furnish full-sized, late model, white sedans, or a police agency's patrol vehicle to be used by uniformed police agency officers in the performance of Uniformed Traffic Control duties. The contractor shall be responsible for licensing, insuring, servicing, and fueling the vehicle.

D. For each Traffic Control Vehicle furnished by the contractor, the contractor shall furnish Class 1 SAE certified light bar and control panel for exclusive use by uniformed police agency officers while performing Uniformed Traffic Control.

E. The light bars shall be mounted on traffic control vehicles and shall be maintained in good operating condition at all times. The Contractor shall obtain a permit from the police department, if required, for the use of the light bars. The Contractor shall keep the light bars covered at all times when the traffic control vehicle is being used by someone other than the authorized uniform police agency officer.

SC-D-31 MEASUREMENT AND PAYMENT

Uniformed Traffic Control will be measured by the total number of hours that are required for uniformed traffic control officer including minimum shift hours required by the agency. The accepted number of hours of Uniformed Traffic Control will be paid for at the contract unit price per hour. Uniformed Traffic Control (Vehicle) will be measured as the contract unit price per hour for the uniformed traffic control officer and traffic control vehicle. No separate payment shall be made for the Contractor furnishing a Traffic Control Vehicle with light bars and other equipment, licensing, insuring, servicing, and fueling a Traffic Control Vehicle but shall be included in the work.

Hours of Uniformed Traffic Control or Uniformed Traffic Control (Vehicle) that are not authorized or approved will not be paid for. Scheduling of traffic control will not be measured and paid for separately but shall be included in the work.

SC-D-31 FLAGGING

Flagging shall be performed, measured and paid for in accordance with Section 630 - Construction Zone Traffic Control of the Colorado Department of Transportation Standard Specifications for Road and Bridge Construction.

At the end of each day, it is the responsibility of the TCM to make sure all trash left behind by flaggers is picked up.

SC-D-32 TRAFFIC CONTROL MANAGEMENT

Traffic Control Management shall be performed, measured and paid for in accordance with Section 630 Construction Zone Traffic Control of the Colorado Department of Transportation Standard Specifications for Road and Bridge Construction.

SC-D-33 WORK HOURS AND STREET CLOSURE RESTRICTIONS

No work shall be done between the hours of 9:00 p.m. and 7:00 a.m., or at any time on a Sunday, except with the written permission of the City Manager, or in case of an emergency.

Barricading, traffic control devices, and protective materials shall remain in place until the work is opened to traffic. Emergency vehicle access shall be maintained at all times. Such access shall be a minimum width of 16 feet.

Lane closures for the street classifications within this project are as follows:

- ARTERIAL STREETS:
  - Lane closures: 8:30 am – 3:30 pm only.
  - Construction activities: 8:30 am – 3:30 pm only Must maintain one lane each way at all times.
- COLLECTOR STREETS:
  - Lane closures: 8:30 am – 3:30 pm only
  - Must maintain one lane with adequate flagging at all times.

- LOCAL STREETS:
  - Lane closures: 7:00 am – 7:00 pm only
  - Construction activities: 7:00 am – 7:00 pm only
  - Traffic restrictions on weekends will be determined on a case-by-case basis.

If the Contractor violates these working time limitations, the Project Manager may give written notice to stop work on the project at the beginning of the next workday. Work cannot resume until the Contractor provides a written explanation for the violation and assurance to the city that there will not be a recurrence of the violation. If subsequent working time violations do occur, the Project Manager will notify the Contractor in writing that there will be a price reduction for each incident of violation in accordance with the schedule described further below. The price reduction will not be imposed when changed contract conditions are encountered during the normal working time or the violation was a result of circumstances beyond the control of the Contractor or subcontractor. Delays in material delivery are not considered circumstances beyond the control of the Contractor. The price reduction will not constitute a penalty, but it will be considered a failure to perform traffic control in accordance with the contract specifications.

An incident is any violation up to 30 minutes in duration. Each 30 minutes or increment thereof will be considered an incident. A price reduction will be assessed for each successive or cumulative 30-minute period of violation as determined by the Project Manager. The price reduction will increase at a progressive rate. A 15-minute grace period may be granted at the beginning of the second incident before a price reduction is applied. The incident charges are cumulative throughout the project. Adherence to this procedure and any violations as a result of non-compliance to this procedure will be strictly enforced by the city.

PRICE REDUCTION SCHEDULE

INCIDENT	INCIDENT RATE	TOTAL PRICE REDUCTION
1st	Notice to Stop Work	$0
2nd	$150	$150
3rd	$300	$450
4th	$600	$1,050
5th	$600	$1,650
6th	$600	$2,250
ETC.	$600	$2,850

SC- D-33 PORTABLE VARIABLE MESSAGE SIGN

Contractor shall furnish, operate and maintain a minimum or one Portable Variable Message Sign at the end of each work location. Additional intermediate message signs may be required to be placed and maintained as determined by the City's Traffic Division. Each message sign shall be placed and working at least three (3) days prior to the start of construction activity and maintained in satisfactory operating condition throughout the duration of this project.
Each sign shall be fully self-contained on a portable trailer capable of being licensed for normal highway travel and shall include leveling and stabilization jacks. The sign panel shall display a minimum of three eight-character lines of text. The text of the messages shall not scroll or travel horizontally or vertically across the face of the sign. The sign panel shall be a dot-matrix type with fluorescent yellow flip disks legend or LED legend on a flat black background. Each sign shall have its own separate power source with an independent battery back-up source to provide continuous operation upon failure of the primary power source.

The mounting of the sign on the trailer shall be such that the bottom of the sign panel is a minimum of five feet above the roadway, visible from one-half mile under both day and night conditions, and legible from a minimum of 650 feet.

Payment for each unit shall include delivery to each location, maintenance, operation, storage, repairs, relocation to other sites, and all labor, equipment, materials, and incidentals.

SC- D-34 TEMPORARY PAVEMENT STRIPING

Whenever permanent striping is removed on any roadway, temporary striping must be installed before the end of each workday. Payment for temporary striping will be made as a lump-sum item only if the temporary striping has been completed. If work occurs in an area where temporary striping is not installed, no payment will be made for that item.

E. STORMWATER MANAGEMENT

SC-E-35 EROSION CONTROL

This work shall consist of all materials, installation, maintenance, and removal of erosion control measures using Best Management Practices (BMPs) located within the erosion control limits of each street reconstruction and parking lot location listed on the Street Schedule and Summary of Approximate Quantities throughout the duration of the contract. The contractor shall comply with all provisions of the City of Arvada Site Development Permit for this project, which will be considered as a part of the contract documents.

A. BEST MANAGEMENT PRACTICES (BMPs) FOR STORMWATER MANAGEMENT:

This section provides a set of criteria and technical guidance for erosion and sediment control and material management at concrete replacement and asphalt projects. Erosion control measures limit erosion of soil from disturbed areas including stockpiled material at the construction site. Sediment control measures prevent the transport of sediment off-site to downstream properties and stormwater conveyances. Materials management is the practice of containing and controlling all materials used in order to eliminate potential pollutants from leaving the site. Due to the fast-paced nature of concrete and asphalt projects, the site's erosion and sediment controls and material management BMPs must be inspected and maintained daily.

1. Site Development Permit (SDP):

   In accordance with the City of Arvada's permit criteria, concrete and asphalt operations including the installation and repair of all concrete and asphalt public right of ways must acquire a City Site Development Permit and implement and maintain erosion control, sediment entrapment and material management BMPs.

   Initial documentation required:
   a. Completed SDP application
   b. Application fee (waived for City funded projects)
   c. Escrow/LOC (waived for City funded projects)
   d. Site map
   e. Potential pollutant list
   f. BMP specification details

2. SDP - Required Documentation:
   a. A site map including construction boundaries, all locations of BMPs, stockpiles, staging areas, portable restrooms, concrete containment/washout area, construction material storage and waste material storage must be provided to the City's Stormwater Division prior to beginning work. This site map must be updated daily to reflect the site's condition.
   b. Potential pollutants must be listed and BMPs prescribed for each individual pollutant. If on-site fueling or maintenance are conducted, a spill plan must be provided to the Stormwater Division prior to beginning work and a copy must be retained by fueling/maintenance personnel during operations.
   c. A copy of these requirements including BMP specifications and applicable details indicated in this Section and drawings contained within the City Standard Specifications must remain on site and referred to by any personnel installing, maintaining, repairing, repositioning or inspecting BMPs.
   d. A daily log of BMP inspections, installation, repair and maintenance must be kept on site. This log must contain the date, name, location of BMP, and nature of work. It must also include that the site map was revised.

3. SDP - Enforcement Policy:

   If it is determined by the city inspector that control measures are not inspected, installed and maintained daily, payment to the contractor may be withheld. If control measures are not installed or maintained for a period of three consecutive days, a separate company will be contracted to do the work, whereas costs incurred will be 100% reimbursed to the City with an inclusion of an additional 50% for administrative fees.

4. Site Development Permit BMP Requirements for Concrete and Asphalt Operations:
   a. All paved surfaces, gutters and sidewalks affected by work must be cleaned at the end of each day.
   b. All inlets within and downstream of the work areas shall be protected.
   c. Curb check dams will be installed at all locations downstream of work areas where stormwater flows may potentially come in contact with dirt and exit the work area.
   d. An area must be designated for construction material waste. All waste materials must be placed into waste containers and covered immediately.
   e. Portable Toilets must be provided on site and an area designated for their placement.
   f. A portable concrete washout basin (where applicable) must be provided on site.
   g. Staging areas must be designated and employ appropriate BMPs.
   h. Stockpiles must, at all times, have perimeter control measures installed at the downstream side and all material dragged from a stockpile during operations must be swept back into the pile at the end of each day.

i. If replacing a storm sewer inlet, pipes within the inlet must be temporarily plugged during the inlet construction.

j. All erosion and sediment control measures shall be maintained and repaired by the Contractor during construction as needed to assure continued performance of their intended function. All erosion and sediment control measures must be inspected, maintained and replaced daily if necessary.

k. After all work has been completed, including asphalt and re-vegetation, cleanup and remove all temporary construction erosion and sediment control measures.

l. At all times during construction, the Contractor shall be responsible for preventing and controlling on-site erosion including keeping the property sufficiently watered to minimize wind-blown dust/sediment. The Contractor shall also be responsible for installing and maintaining all erosion control facilities shown herein.

B. BEST MANAGEMENT PRACTICES (BMPs)

1. BMP/Control Measure - Stockpiles

a. BMP/Control Measure Application - Straw Wattle or Rock Bag used for stockpile containment. If stockpiles are located within 100 feet of a waterway, including conveyances to them, additional sediment controls must be provided which could include silt fencing. A weighted down wattle or rock bag must be installed on the downstream side of all stockpiles.

b. BMP/Control Measure Installation - Install in an arced position on the downhill side of stockpiles. Place two feet from the toe of the stockpile to allow for ponding. Instruct persons accessing the stockpiles with equipment to work around the control measure or temporarily relocate it. Damaged control measures must be replaced immediately.

c. BMP/Control Measure Maintenance - Sediment entrapment control measures (wattles or rock bags) must be cleaned and repositioned daily. Broken or crushed control measures must be replaced immediately. Any materials spilled from the control measure when damage occurs must be removed from the site and disposed of.

BMP Detail - SW-10.

2. BMP/Control Measure – Perimeter Sediment Control

a. BMP/Control Measure Application – Sediment Control Logs are used as a sediment barrier to intercept sheet flow runoff from disturbed areas.

b. BMP/Control Measure Installation – Install around the entire perimeter of the disturbed area.

c. BMP/Control Measure Maintenance - Remove accumulated sediment before the depth is one-half the height of the sediment log and repair damage to the sediment log by replacing the damaged section.

BMP Detail – SW-11

3. BMP Control Measure - Inlet Protection

a. BMP/Control Measure Application - An approved design for protecting inlets must be installed at all storm sewer inlets directly downstream of and within the work area.

b. BMP/Control Measure Installation - Install around the entire inlet or from curb to curb.

c. BMP/Control Measure Maintenance - Inlet protection must be repositioned or replaced at the end of every day. Sediment and debris accumulated at inlet protection must be removed and disposed of daily.

d. BMP/Control Measure Detail - SW-9, Colorado Department of Transportation M Standard M-208-1 Storm Drain Inlet Protection (Type II) Option A and B or “Dandy Bag,” or approved equal. In circumstances where vehicles will be traveling close to or on gutter pans, CDOT type inlet protection or “Dandy Bags” shall be used. No extra payment will be made for the use of CDOT type or Dandy Bag Inlet protection but shall be included in the lump sum cost of Erosion Control.

4. BMP/Control Measure - Inlet Pipe Protection

a. BMP/Control Measure Application - An approved design for protecting pipes during storm sewer inlet re-construction must be installed within the inlet at all pipe connections.

b. BMP/Control Measure Installation - Install at piping within inlet.

c. BMP/Control Measure Maintenance - Inlet protection must be repositioned or replaced at the end of every day. Sediment and debris accumulated at inlet protection must be removed and disposed of daily. After inlet construction is completed all dirt, materials and pipe protection must be removed and disposed of and

an approved inlet protection installed.

BMP Detail - SW-9.

5. BMP/Control Measure - Check Dams (Curb/Rock Sock)

   a. BMP/Control Measure Application – Rock bag gutter check dams used for sediment entrapment downstream of work area.
   b. BMP/Control Measure Installation - Rock bags must be installed within gutters, contacting the curb and set at a 45-degree angle.
   c. BMP/Control Measure Maintenance - Rock bags must be repositioned or replaced if broken daily. Accumulated sediment must be removed and disposed of daily.

BMP Detail - SW-2.

6. BMP/Control Measure - Street Sweeping (Non-Structural BMP)

   a. BMP/Control Measure Application - Street sweeping either by machine or manually for the removal of excess materials on the roadway, sidewalks or gutters.
   b. BMP/Control Measure Maintenance - Street sweeping must be conducted at the end of each day. This includes the removal of materials in the gutters or accumulated at sediment entrapment control measures.

BMP Detail - No detail.

7. BMP/Control Measure - Stabilized Staging Areas

   a. BMP/Control Measure Application - Areas designated for equipment and material storage.

   b. BMP/Control Measure Installation - Staging areas whether on private or public areas must remain organized and clean. The staging area may be used for equipment and construction material storage, sanitary waste receptacles and other waste receptacles. All fluids or hazardous materials stored at the staging area must be stored inside or covered on pallets.

   c. BMP/Control Measure Maintenance - Organize and clean the staging area daily. Do not allow dumpsters to become over full or store waste piles on site. All waste piles must be contained.

BMP Detail - SW-7.

8. BMP/Control Measure – Vehicle Tracking Control

   a. BMP/Control Measure Application - Vehicle tracking control provides stabilized construction site access to remove sediment (mud or dirt) from vehicles and reduce tracking onto the paved surface.

   b. BMP/Control Measure Installation – Install at construction site access.

   c. BMP/Control Measure Maintenance - Replace aggregate used for a stabilized entrance/exit as needed. If the area becomes clogged and ponds water, remove and dispose of excess sediment or replace material with a fresh layer of aggregate as necessary. Ensure rock and debris from the vehicle tracking area do not enter the public right-of-way. Remove sediment that is tracked onto the public right of way daily or more frequently as needed.

BMP Detail - SW-5.

9. BMP/Control Measure - Waste Management

   a. BMP/Control Measure Application - All waste generated on site must be contained. At no time will construction debris or waste generated at the site be allowed to be stored onsite, uncontained.

   b. BMP/Control Measure Installation - Dumpsters and trash bins must be provided on site and placed in a designated area.

   c. BMP/Control Measure Maintenance - Receptacles must be emptied frequently. Liquids may not be placed within the receptacles if there is a possibility they could leak.

BMP Detail - No detail.

10. BMP/Control Measure - Materials Management

    a. BMP/Control Measure Application - Construction materials including stockpiles and equipment must be stored in a designated area.

    b. BMP/Control Measure Installation - Perimeter control measures must be installed at all stockpiles, at pipe storage areas, and where equipment is stored on impervious surfaces that may contribute grease, oil or dirt to the site.

    c. BMP/Control Measure Maintenance - Materials must be kept organized and neatly stored. Perimeter

control measures must be repositioned or replaced if damaged, daily.

BMP Detail - No detail.

11. BMP/Control Measure - Fueling/Maintenance Operations

    a. BMP/Control Measure Application - If equipment undergoes fueling, maintenance or repair on site, control measures must be used to include use of a double-wall tank.

    b. BMP/Control Measure Installation - A drip pan, or container will be used during on site fueling, maintenance or repair operations. Absorbents must be available should a spill occur.

    c. BMP/Control Measure Maintenance - Spills must be cleaned up immediately. Fluids leaking from any vehicle or equipment must be cleaned immediately and that vehicle or piece of equipment repaired or removed from the site.

BMP Detail - No detail.

12. BMP/Control Measure - Sanitary Waste Management (Portable Toilets)

    a. BMP/Control Measure Application - Portable sanitary waste receptacles required on site for use by all personnel.

    b. BMP/Control Measure Installation - Portable receptacles must be secured in place and not positioned on an impervious surface. Receptacles must be located at least 3' from all impervious areas, flow lines, ditches, creeks or storm sewer inlets. Attachment to fencing or a roll-off/dumpster to prevent tipping may be allowed if no other alternatives are available.

    c. BMP/Control Measure Maintenance - Receptacles must be checked daily and routinely maintained. In the event materials are spilled from a receptacle, immediate clean-up is required. If a contracted company must respond for the clean-up and the response time is unknown, absorbents must be applied to the spill by the onsite contractor immediately.

BMP Detail – No detail.

13. Measurement and Payment for Erosion Control shall be paid on a monthly basis as a percentage of the lump sum bid item for the contract amount earned. Payment for Erosion Control shall include all labor, materials, equipment and incidentals required for each phase of the work. No additional compensation will be made for the Erosion Control Supervisor (ECS), installation, maintenance or removal of bmp/control measure devices, additional devices required by the City's Stormwater Management Division, or reuse of BMP/control measure devices during construction operations included in this contract or sufficiently controlling mud and dust to reduce or eliminate complaints to the City of Arvada from affected property owners and citizens.

BID FORMS

The following pages contain forms to be completed and returned with bid submission.

BID BOND

We, the undersigned _____ as Principal, and _____ as Surety, are hereby held and firmly bound unto the City of Arvada, Colorado, in the penal sum of _____ for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

THE CONDITION of this obligation is such that whereas the Principal has submitted to the City of Arvada, Colorado the accompanying Bid Proposal, and hereby made a part hereof to enter into a Contract Agreement for the construction of City of Arvada Project No. _____.

WHEREAS, the City, as a condition for receiving said Bid Proposal, requires the Principal to deposit with the City a Bid Proposal Guaranty, equivalent to not less than 5 Percent of the amount of said Bid Proposal.

NOW THEREFORE,

(A) If said Bid Proposal shall be rejected; or in the alternate,

(B) If said Bid Proposal shall be accepted and the Principal shall execute and deliver a Contract Agreement (properly completed in accordance with said Bid Proposal) and shall furnish a Performance and Payment Bond upon the forms prescribed by the City for the faithful performance of said Contract; and for the payment of all persons performing labor or furnishing materials in connection therewith; and shall in all other respects perform the agreement created by the acceptance of said Bid Proposal;

Then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the City may accept such Bid and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, this ____ day of _____, 20__, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

PRINCIPAL	SURETY
Name: _____	_____.
Address: _____	_____.
By: _____	By: _____.
Title: _____	Title: _____.

Attorney-in-Fact:

_____

(SEAL)

NOTE: Surety Companies executing bonds must be authorized to transact business in the State of Colorado and be acceptable to the City.

BID PROPOSAL

TO: City of Arvada, Colorado (hereinafter called "CITY").

FROM: _____(hereinafter called "BIDDER"), organized and existing under the laws of the State of _____ doing business as (a corporation), (a partnership), (an individual).

The Bidder, in compliance with your Advertisement for Bids, hereby proposes to perform all Work in strict accordance with the Contract Documents, for the construction of City of Arvada Project No. _____ entitled _____ within the time set forth therein, and at the prices stated on the included Bid Schedule as totaled herein.

By submission of this Bid Proposal, each Bidder certifies, and in the case of a joint venture each party thereto certifies as to his/her own organization, that this Bid Proposal has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this Bid Proposal with any other Bidder or with any competitor.

Bidder acknowledges receipt of **Addendum Nos.** Initials:_____ _____ _____ _____
Bidder states that their:

Major Material Suppliers are:	Material They Will Supply
_____	_____
_____	_____
_____	_____
_____	_____

Major Subcontractors are:	Work They Will Perform
_____	_____
_____	_____
_____	_____
_____	_____

CONTRACT TIME AND LIQUIDATED DAMAGES: All work shall be completed, including clean-up, within **150** working days after the date to be specified in the Notice to Proceed. A Notice to Proceed is anticipated to be issued on or about _____. The bidder shall agree to pay the owner the sum of $3,300.00 for each calendar day that the work exceeds the allotted contract time. Contract time may be adjusted by Change Order.

Total from included Bid Schedule: **TOTAL BID $**_____

SUBMITTED BY:

Company Name: _____

Contact Names: _____

Address: _____

Phone: (____) _____ Email(s): _____

The undersigned hereby affirms that:

- He/she is a duly authorized agent of the Contractor;
- He/she has read all Terms and Conditions and technical specifications made available in conjunction with this solicitation and fully accepts and acknowledges this bid is consistent with the specifications and terms and conditions.
- The bid is in all respects fair, without outside collusion or otherwise illegal action.

By:_____ _____
Signature of Authorized Agent Date FEIN

_____ _____ _____
Typed/Printed Name of Agent Title of Agent Agent's email

PAYMENT TERMS: The City standard is net thirty (30) days, but every effort is made to meet net fifteen (15) days after the approved partial payment date when the contractor is satisfactorily performing the contract. The final 5% of total payment will be paid once the contract is completed satisfactorily, advertisement for final settlement is complete, and the project is accepted by the City.
Payment is the date of the check mailing or date of the credit card transaction.

REQUIRED CONTRACTOR SUBMITTAL FORM

SUBMITTAL CHECKLIST:

Bid Proposals shall be submitted in the order listed below with each section clearly identified. **Missing information or required documents may result in submission being deemed non-responsive**.

- ☐ Submit completed Bid Bond, Bid Proposal, Bid Schedule, Required Contractor Submittal, and any other attachments requested.
- ☐ Submit implementation timeline and warrantees, if applicable.
- ☐ Attach Contractor's Licensing, if applicable.
- ☐ Insurance – Checking this box accepts that the insurance requirements listed by the City are acceptable.
- ☐ Variations: Checking this box indicates that the contractor has variations to this solicitation. Identify all variations and exceptions to this CSB on a separate sheet/s of paper. If variations are not stated in the contractor's Offer, it shall be agreed that the contractor's Offer fully complies with all conditions identified in this Solicitation. For each variation listed, reference the applicable section of the solicitation document, the page number, and the variance. Submittal of a vendor contract is considered excessive in variations and may be cause for determining that the Bid is non-responsive and ineligible for award.

REFERENCES:

- ☐ Check here if Contractor's standard reference sheet is attached, otherwise, use the space below.

Name:_____ Contact Person: _____

Address:_____

Telephone No:_____ Email: _____

Describe type of work/service performed or items supplied: _____

_____

Name:_____ Contact Person: _____

Address:_____

Telephone No:_____ Email: _____

Describe type of work/service performed or items supplied: _____

_____

Name:_____ Contact Person: _____

Address: _____

Telephone No:_____ Email: _____

Describe type of work/service performed or items supplied: _____

_____

VENDOR NAME: _____ **SOLICITATION #:** _____

QUOTE #: _____

PERFORMANCE MEASURES FORM INSTRUCTIONS:

The City has incorporated Performance Management into its organizational culture. When vendors submit offers to the City in response to solicitations for ***Services*** (not associated with the primary purchase of goods, supplies, or software), they shall identify the methods and goals by which the City will monitor and report on the Vendor's performance providing those services to the City. Vendor's performance shall be documented as to (a) Price/Cost, (b) Punctuality/Responsiveness (c) Quality/Reliability, and (d) Sustainability/or Innovation.

1. Vendor will define 1-2 measures for (a) Price/Cost, (b) Punctuality/Responsiveness (c) Quality/Reliability, and (d) Sustainability/or Innovation, that follow S.M.A.R.T goals: Specific, Measurable, Achievable, Relevant, and Timely, per category.
2. The awarded vendor will be evaluated by the City per these defined metrics 2 months prior to contract renewal.
The department will review with the vendor any measures needing improvement.

SERVICES means: the furnishing of labor, time, effort, maintenance, etc., by a vendor/contractor/consultant, with an initial contract amount of more than $15,000.

(a) Price/Cost

Example Measure: Consultant will submit detailed invoices substantiating amounts requested.

1. _____
2. _____

(b) Punctuality/Responsiveness

Example Measure: Reporting of project status will occur monthly with the City and consultant's Project Manager.

1. _____
2. _____

(c) Quality/Reliability

Example Measure: Revisions are drafted within two weeks, and no more than 3 revisions prior to final draft.

1. _____
2. _____

(d) Sustainability and/or Innovation

Example Measure: Digital reports delivered to the City 95% of the time will to reduce the use of paper.

1. _____
2. _____

Performance measures will be queried for every year of the contract. Performance measures reporting will be considered when renewing or awarding a contract with a vendor.

CONTRACT DOCUMENTS

The following pages contain documents used upon contract award. They are included here for reference and are subject to change.

PERFORMANCE AND PAYMENT BOND

Bond No._____

(Firm): _____

(Address): _____

(an Individual), (a Partnership), (a Corporation), hereinafter called Principal; and

(Firm): _____

(Address)_____
hereinafter called Surety, are held and firmly bound unto the City of Arvada, a Colorado municipal corporation, 8101 Ralston Road, Arvada, Colorado 80002, hereinafter called the City, in the penal sum of _____ , Dollars, _____, in lawful money of the United States, for the payment of such sum will and truly to be made, we bind ourselves, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that the Principal entered into a certain Contract with the City, dated the _____ day of _____, 20__, a copy of which is hereto attached and made a part hereof, for the performance of City of Arvada Project No.'s _____, _____, _____, _____.

NOW THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions and agreements of said Contract during the original term thereof, and any extensions thereof which may be granted by the City, with or without Notice to the surety and during the life of the guaranty period, and if he shall satisfy all claims and demands incurred under such Contract, and shall fully indemnify and save harmless the City from all cost and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the City all outlay and expense which the City may incur in making good any default, and if he shall promptly make payment to all persons, firms, subcontractors and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such Contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, repairs on machinery, equipment and tools, consumed, rented or used in connection with the construction of such work, and all insurance premiums on said work, and for all labor, performed in such work whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the specifications accompanying the same shall in anyway affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the specifications.

PROVIDED, FURTHER, that no final settlement between City and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in three counterparts, each one of which shall be deemed an original, this the _____ day of _____, 20__.

IN PRESENCE OF: _____

PRINCIPAL: _____

By: _____

Address: _____

(Corporate Seal)

OTHER PARTNERS

(Surety Seal)

SURETY: _____

Attorney: _____ in_____ Fact:_____

Address: _____

Note: If Contractor is Partnership, all partners should execute Bond. Important: Surety Company must be authorized to transact business in the State of Colorado and be acceptable to the City.

NOTICE OF AWARD

Date
Company

Address
City, State Zip

RE: Project No.: _____, _____

Dear Representative

of:_____

The City of Arvada, Colorado (hereinafter called "City") has considered the Bid Proposals submitted for referenced work in response to its Advertisement for Bids dated_____and Information for Bidders.

You are hereby notified that your Bid Proposal has been accepted for items and prices stated in the Bid Schedule, in the amount of $_____.

You are required to execute the Contract, the Insurance Certificates and a Performance and Payment Bond within seven (7) days from the date of this Notice to you.

The Performance and Payment Bond need to be filled out, returned (one original must be returned to the City), and accompanied by the Power of Attorney from your surety company. Also, please make sure that the insurance certificate is in the minimum amounts set forth in the Contract Documents and the City of Arvada is named as an additional insured for the specific Project Number and Title. An Additional Insured endorsement certificate should also be attached.

If you fail to execute said Contract and furnish the necessary Insurance Certificates and Bond within the time allotted from this date, the City will be entitled to consider all your rights arising out of the City's acceptance of your Bid Proposal as abandoned and as a forfeiture of your Bid Bond. The City will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this Notice of Award and enclosures to the Project Engineer. CITY OF ARVADA, COLORADO

_____
City Engineer

BIDDER
Company

Receipt of above Notice of Award accompanied with a Performance and Payment Bond form and a copy of the Contract is hereby acknowledged.

This_____day of_____, 20_____.

By: _____

Name: _____

Title: _____

NOTICE TO PROCEED

Date

Company
Address
City, State Zip

RE: Project No. _____, _____

Dear Representative of_____:

You are hereby notified to commence work on referenced Project, in accordance with the Contract dated on or before _____, and you are to complete the Work, including cleanup within_calendar days thereafter. The date of completion of all Work is therefore .

CITY OF ARVADA, COLORADO

_____

City Engineer

BIDDER

Receipt of this Notice to Proceed is hereby acknowledged this_____day of _____, 20_____.

Company

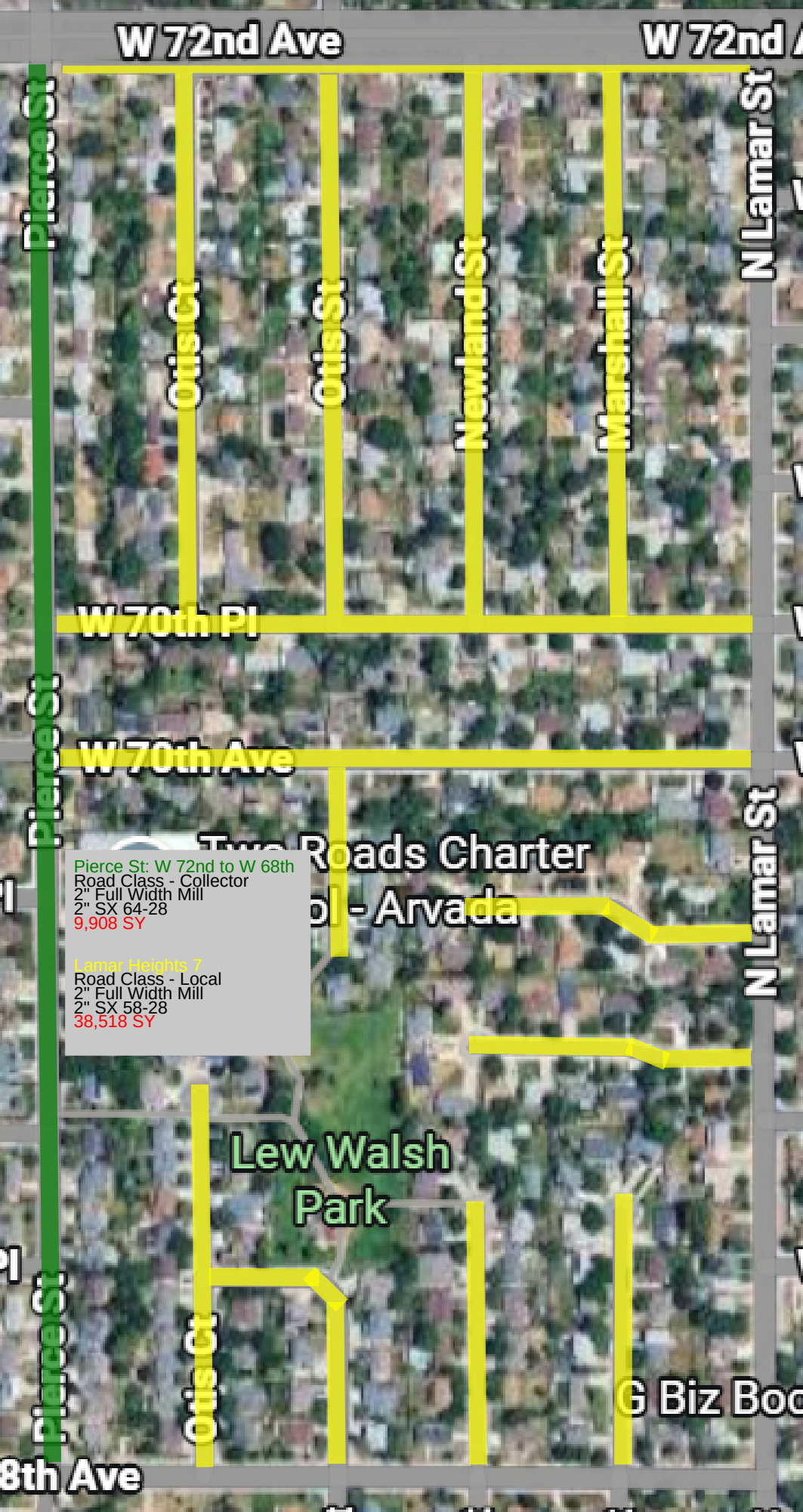
By: _____

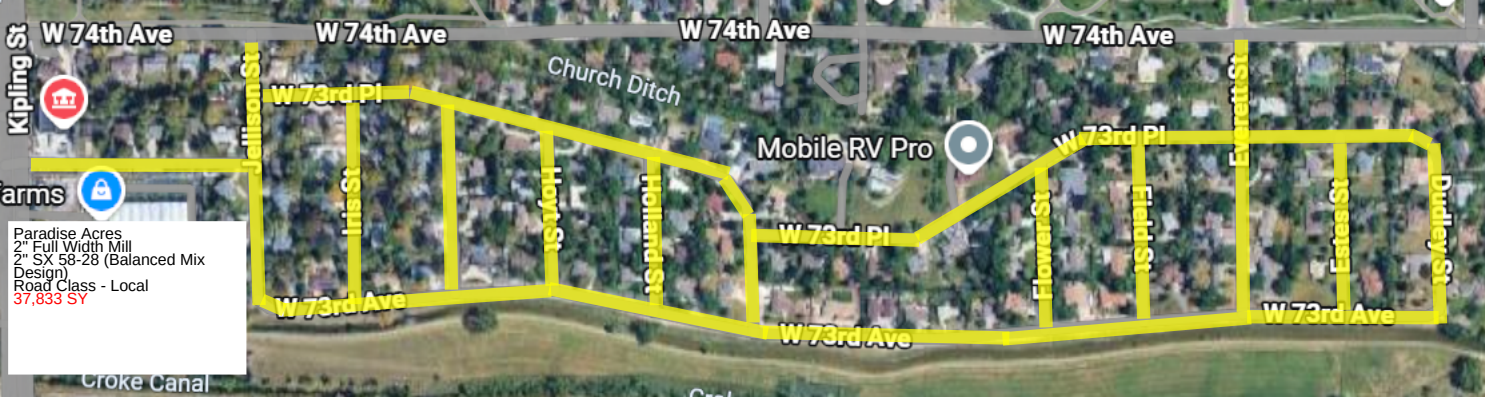
Title: _____

PROJECT IMAGES

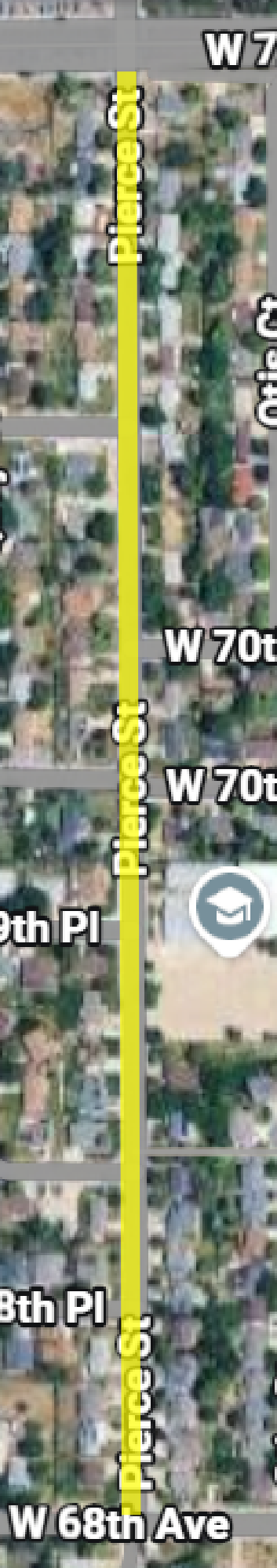
The following images are street surfaces that will be a part of the project.

W. 80th Ave.
W. 72nd Ave.
Wadsworth Blvd. (csh 121)
Sheridan Blvd. (csh 95)
Kipling St.
Denver Boulder Turnpike

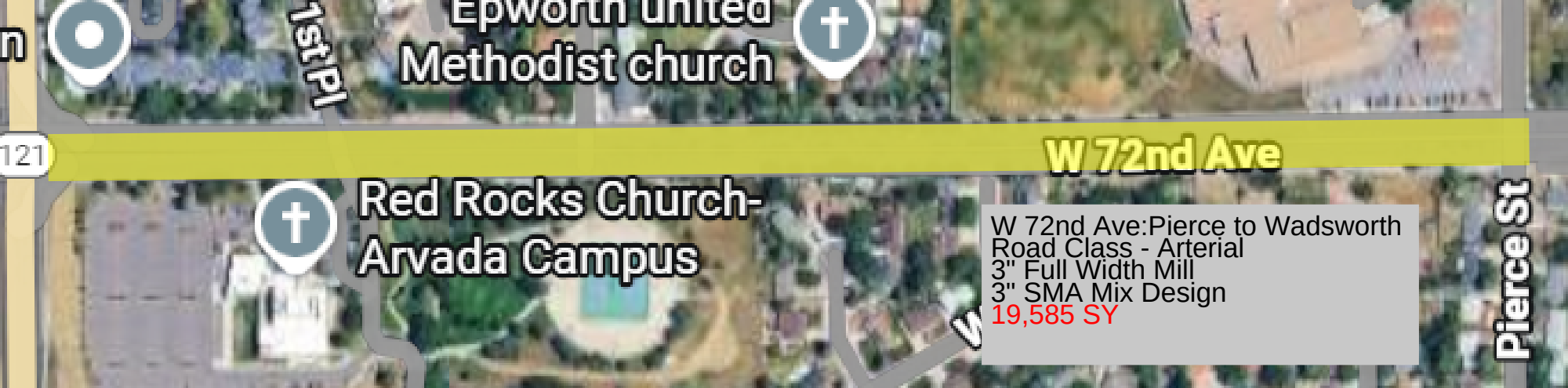

W 72nd Ave
W 72nd A
Pierce St
Otis St
Otis St
Newland St
Marshall St
N Lamar St
W 70th Pl
W 70th Ave
Pierce St
Two Roads Charter
ol - Arvada
N Lamar St
Pierce St: W 72nd to W 68th
Road Class - Collector
2" Full Width Mill
2" SX 64-28
9,908 SY
Lamar Heights 7
Road Class - Local
2" Full Width Mill
2" SX 58-28
38,518 SY
Lew Walsh
Park
Pierce St
Otis St
G Biz Boo
8th Ave

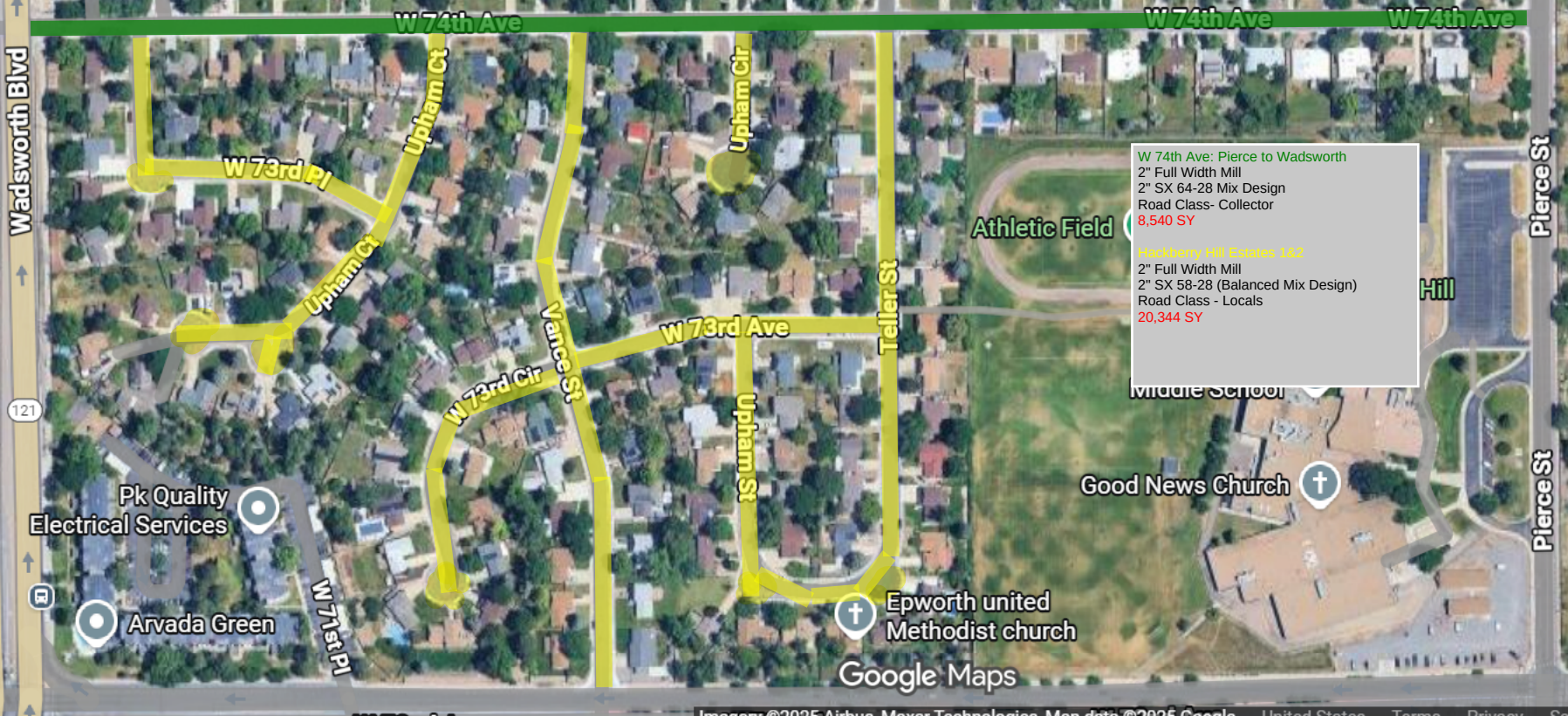

W 74th Ave
W 74th Ave
W 74th Ave
W 74th Ave
Kipling St
Julian St
W 73rd Pl
Church Ditch
Mobile RV Pro
Irving St
Hoyt St
Holland St
W 73rd Pl
Flower St
Field St
Everett St
Estes St
Dudley St
W 73rd Pl
farms
Paradise Acres
2" Full Width Mill
2" SX 58-28 (Balanced Mix Design)
Road Class - Local
37,833 SY
W 73rd Ave
W 73rd Ave
W 73rd Ave
Croke Canal

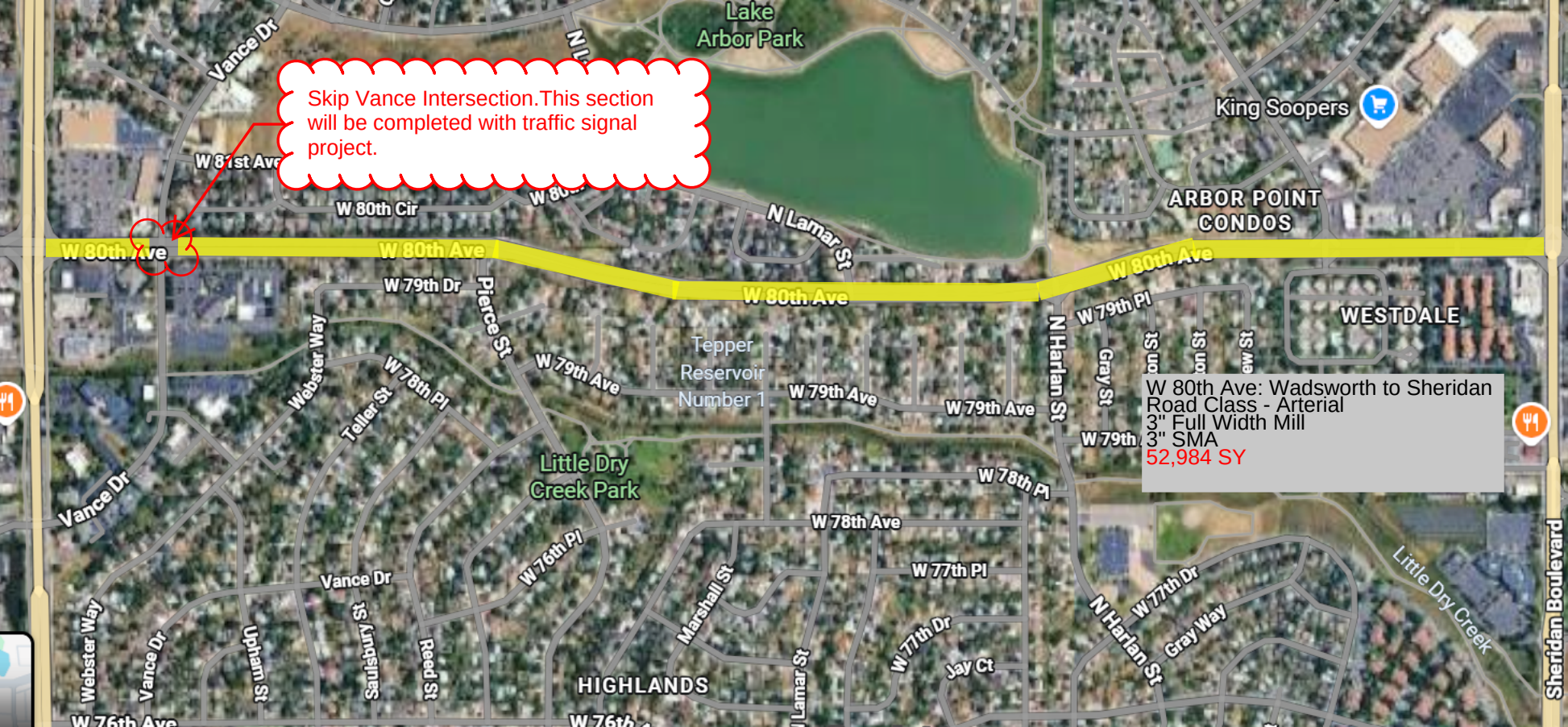
W 80th Ave
W 80th Ave
W 80th Pl
W 80th Ave
W 80th Ave
W 80th Ave
W 79th Dr
Pierce St
Webster Way
Teller St
W 78th Pl
Reed St
W 78th Ave
Webster Way
W 79th Ave
Lois Cir
Tepper
Reservoir
Number 1
W 79th Ave
Ingalls Cir
Ingalls St
N Harlan St
Marshall St
Little Dry
Creek Park
Quay St
W 78th Ave
Parkway Estates 1 North
2" Full Width Mill
2" SX 58-28(Balance Mix Design)
Road Class- Local
40,217 SY


W 7
Pierce St
W 70t
Pierce St
W 70t
9th Pl
8th Pl
Pierce St
W 68th Ave

Vance Dr: Wadsworth to W 80th Ave
6,130 SY
2" Full Width Mill
2" SX 64-28
Road Class - Collector
W 80th Ave
Wadsworth Blvd
121
Vance Dr
Arby's
Fast Food
Canvas Credit Union
Arvada Branch
Shell
Walgreens
Drug store
Santa's Pop-Up
Seasonal goods store
Arvada Massage
and Stretch
Wells Fargo Bank
W 78th Ave
W 78th Ct
Community of Grace,
A Presbyterian Church
7 Steps Learning
Academy
Indian Tree
Animal Hospital
Peter Medaugh
Webster Way


Epworth United
Methodist church
1st Pl
121
W 72nd Ave
Red Rocks Church-
Arvada Campus
Pierce St
W 72nd Ave:Pierce to Wadsworth
Road Class - Arterial
3" Full Width Mill
3" SMA Mix Design
19,585 SY


W 74th Ave
W 74th Ave
W 74th Ave
Wadsworth Blvd
121
Upham Ct
Upham Cir
W 73rd Pl
Upham Ct
Vance St
W 73rd Ave
Teller St
W 73rd Cir
Upham St
Pierce St
Pierce St
Athletic Field
Hill
Middle School
Good News Church
Pk Quality
Electrical Services
Arvada Green
W 71st Pl
Epworth united
Methodist church
Google Maps
W 74th Ave: Pierce to Wadsworth
2" Full Width Mill
2" SX 64-28 Mix Design
Road Class- Collector
8,540 SY
Heckberry Hill Estates 1&2
2" Full Width Mill
2" SX 58-28 (Balanced Mix Design)
Road Class - Locals
20,344 SY


Skip Vance Intersection.This section will be completed with traffic signal project.
W 80th Ave: Wadsworth to Sheridan
Road Class - Arterial
3" Full Width Mill
3" SMA
52,984 SY
Lake Arbor Park
King Soopers
ARBOR POINT CONDOS
WESTDALE
Tepper Reservoir Number 1
Little Dry Creek Park
HIGHLANDS
Vance Dr
W 80th Ave
W 80th Cir
N Lamar St
W 79th Dr
Pierce St
W 79th Ave
W 79th Pl
N Harlan St
Gray St
Webster Way
Teller St
W 78th Pl
W 78th Ave
W 77th Pl
W 77th Dr
Gray Way
Jay Ct
Marshall St
W 76th Pl
Upham St
Salisbury St
Reed St
W 76th Ave
Little Dry Creek
Sheridan Boulevard

CITY OF ARVADA
Purchasing Division
Phone: 720-898-7098 Email: Purchasing@arvada.org

COMPETITIVE SEALED BID - ADDENDUM No. 01

Proposal #:	26-STS-001
Title:	2026 Pavement Resurfacing Program (Project No. 26-ST-01B)
RFP Issued:	01/20/2026
Addendum #:	**1**
Today's Date:	01/23/2026
Questions Deadline:	***02/12/2026 2:00 PM MT (UPDATED)***
Bids Due By:	***02/19/2026 2:00 PM MT (UPDATED)***

Solicitation and all related addenda and communications are available at WWW.BIDNETDIRECT.COM

The following clarifications are provided to be incorporated into the Competitive Sealed Bid (CSB) 26-STS-001 – 2026 Pavement Resurfacing Program (Project No. 26-ST-01B). All updated language will be marked in ***bold, italic, underlined, and red font***.

1. Due Dates
The information on the front page of BidNet Direct has updated the Question Due Date and the Bid Closing Date to the following:

FROM: Question Acceptance Deadline
01/27/2026 02:00 PM MST
TO: Question Acceptance Deadline
02/12/2026 2:00 PM MT

FROM: Closing Date
02/10/2026 02:00 PM MST
TO: Closing Date
02/19/2026 2:00 PM MT

2. Virtual Bid Opening Information
The information below is for the virtual bid opening.

Bid Opening Date: 02/19/2026 at 2:00 PM MT
Join Zoom Meeting
https://arvadaco-gov.zoom.us/j/82830401767?pwd=zqfo7JmPiayypp3aUVk5LPUweJs4Fs.1
Meeting ID: 828 3040 1767
Passcode: 974737

One tap mobile +17193594580,,82830401767#,,,,*974737# US
+16694449171,,82830401767#,,,,*974737# US

Join by SIP 82830401767@zoomcrc.com
Passcode: 974737

Join instructions
https://arvadacogov.zoom.us/meetings/82830401767/invitations?signature=HITSEWypbENICg04OJQiDzbWkE3n9wPUONxrlcNA Mtk

Purchasing Division
Phone: 720-898-7098 Email: Purchasing@arvada.org

COMPETITIVE SEALED BID - ADDENDUM No. 02

Proposal #:	26-STS-001
Title:	2026 Pavement Resurfacing Program (Project No. 26-ST-01B)
RFP Issued:	01/20/2026
Addendum #:	**2**
Today's Date:	01/26/2026
Questions Deadline:	***02/12/2026 2:00 PM MT (UPDATED)***
Bids Due By:	***02/19/2026 2:00 PM MT (UPDATED)***

Solicitation and all related addenda and communications are available at WWW.BIDNETDIRECT.COM

The following clarifications are provided to be incorporated into the Competitive Sealed Bid (CSB) 26-STS-001 – 2026 Pavement Resurfacing Program (Project No. 26-ST-01B). All updated language will be marked in ***bold, italic, underlined, and red font***.

1. **Pre-Bid Meeting Information and Sign-In Sheet**
   The attached documents accompanying this addendum are the following:
   - The Pre-Bid Sign-In Sheet and Meeting Agenda on January 26, 2026 at 10:00 AM MT
   - The 2024 Pavement Program Bid Tabulation
   - Updated Bid Documents with clarification
   - Updated Bid Schedule Worksheet with clarification
2. **Clarifications**
   Updated RFP with updated Estimated Quantities within the Advertisement for Bid Page (Page no. 3)
   - Strikethrough ~~165,062~~ SY – 2" Depth Full Width Milling
     - Replace with ***161,490*** SY – 2" Depth Full Width Milling
   - Updated quantity in the Bid Schedule Worksheet ***161,490*** SY– 2" Depth Full Width Milling

COMPETITIVE SEALED BID

BID #:	**26-STS-001**
Title:	**2026 Pavement Resurfacing Program (Project No. 26-ST-01B)**
Issue Date:	**01/20/2026**
Pre-bid Meeting:	**MANDATORY – *Vendor attendance is required in order to submit a bid response*.** **01/26/2026 – 10:00 AM MT** **Location**: Online via ZOOM Join Zoom Meeting https://arvadaco-gov.zoom.us/j/87698834538?pwd=aoLLj8QImJgUmq0szfZ4au8MyT15R5.1 Meeting ID: 876 9883 4538 Passcode: 728821 One tap mobile +17193594580,,87698834538#,,,,*728821# US +13462487799,,87698834538#,,,,*728821# US (Houston) Join by SIP 87698834538@zoomcrc.com Passcode: 728821 Join instructions https://arvadaco-gov.zoom.us/meetings/87698834538/invitations?signature=-UU3OLzi5lLI_5iiDxBVTHfx0ZYi-q9nbMJ7nEq-lBU
Questions Deadline:	**02/12/2026– no later than 2:00 PM MT** **Questions must be submitted through BidnetDirect.com**. Responses will be posted on BidNet via addendum.
Bid Due Date:	**02/19/2026 no later than 2:00 PM MT**
Virtual Opening Information	Join Zoom Meeting https://arvadaco-gov.zoom.us/j/82830401767?pwd=zqfo7JmPiayypp3aUVk5LPUweJs4Fs.1 Meeting ID: 828 3040 1767 Passcode: 974737 One tap mobile +17193594580,,82830401767#,,,,*974737# US +16694449171,,82830401767#,,,,*974737# US Join by SIP 82830401767@zoomcrc.com Passcode: 974737 Join instructions https://arvadaco-gov.zoom.us/meetings/82830401767/invitations?signature=HITSEWypbENICg04OJQiDzbWkE3n9wPUONxrIcNAMtk
Bid Delivery address:	Electronic Submissions must be submitted online at BidNetDirect.com by the above date and time. **Late responses will not be considered for award.**

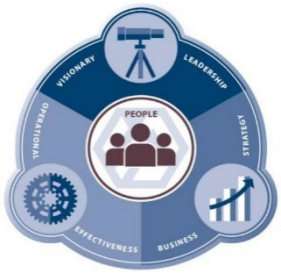
For additional administrative information not related to the project, contact: Melanie Ortiz at mortiz@arvada.org.
Contact with The requesting department may result in vendor disqualification.

ARVADA'S VISION MISSION AND VALUES

VISION: We dream big and deliver.
MISSION: We are dedicated to delivering superior services to enhance the lives of everyone in our community.

VALUES:

Innovation – We excel in creativity, flexibility and the use of best practices while valuing diverse backgrounds, ideas and perspectives.
Passion – We are a high performing, inclusive team inspiring each other to pursue excellence.
Opportunity – We value our diversity, embrace possibilities, face challenges, persevere and take action to deliver quality results.



Documents included in this Request:

Cover Page	Pages 1-2
Advertisement for Bidders	Page 3
General Terms and Conditions	Pages 4-6
Special Terms and Conditions for Bidders	Pages 7-9
Insurance Requirements	Page 10
Project Special Provisions	Pages 11-26
Submittal Forms to be **completed and returned**	
• Bid	Page 27
• Bid Bond	Page 28
• Bid Proposal	Page 29
• Required Contractor Submittal Form	Page 30
• Performance Measures Form	Page 31
Sample Documents if Awarded	Pages 32-35
Project Images	Pages 36-48

ADVERTISEMENT FOR BIDS

Submit bids electronically on Bidnetdirect.com for the construction of City of Arvada, Project No. CSB 26-STS-001

Project Title: 2026 Pavement Resurfacing Program (Project No.26-ST-01B)

The BID DOCUMENTS, consisting of Advertisement for Bids, General Terms and Conditions, Special Terms and Conditions, Insurance Requirements, Project Special Provisions, Addendum when issued, Bid Bond, Bid Proposal, Bid Schedule, Performance and Payment Bond, Submittal Checklist and References, Sample documents, and the Project Drawings may be examined at the following location: www.bidnetdirect.com.

No cost bidding documents may be obtained at www.bidnetdirect.com on or after 01/06/2026.

ESTIMATED QUANTITIES OF THE MAJOR ITEMS OF WORK ARE:

72,569 SY – 3" Depth Full Width Milling

161,490 ~~165,062~~ SY – 2" Depth Full Width Milling

12,821 TON – 3" Top Course (SMA Mix)

6,519 TON – Patching (SG-75 PG 64-22)

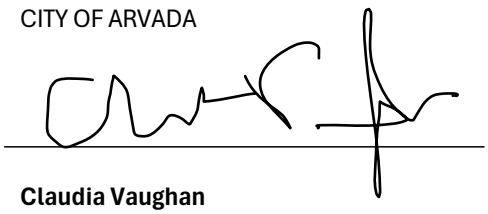
2,834 TON - 2" SX ½" (75) PG 64-28 Top Course

16,834 TON – 2" SX ½" (75) PG 58-28 Balanced Mix Design Top Course
Miscellaneous items include citizen notification, traffic control, and other appurtenances.

Bidders, subcontractors and suppliers must be familiar with the current City of Arvada *Engineering Code of Standards and Specifications*, dated October 2,2023, which will be combined with the Bid Documents to form the Contract Documents for the Project. A copy of the Standards may be obtained from the office of the City Engineer upon a non-refundable payment of $50.00. Holders will be notified when supplemental revisions and additions are available as they are adopted. The Standards are also available at no cost on the City's web site at https://www.arvadaco.gov/167/Engineering-Code. Holders are responsible for keeping current their City of Arvada Engineering Code of Standards and Specifications.

Date: 1/14/26

CITY OF ARVADA



Claudia Vaughan
City
Engineer
8101 Ralston Road
Arvada, Colorado 80002

GENERAL TERMS AND CONDITIONS

1. **NO MULTI-YEAR FISCAL OBLIGATION**. Financial obligations of Arvada payable after the current fiscal year are contingent on funds for that purpose being appropriated, budgeted, and otherwise made available by the City Council for Arvada. Arvada's obligations under the Agreement shall be from year to year only and shall not constitute a multiple-fiscal year direct or indirect debt or other financial obligation of Arvada within the meaning of Article X, Section 20 of the Colorado Constitution (TABOR).

2. **TAXES**. Arvada shall not be liable for the payment of any excise, sales, or use taxes. Arvada is exempt from federal excise taxes under I.R.C. Chapter 32 (26 U.S.C., Subtitle D, Ch. 32) and from State and local government sales and use taxes under §§39-26-704(1), *et seq.,* C.R.S. (Colorado Sales Tax Exemption Identification Number 98-01789). Contractor shall not invoice Arvada for any state, federal or local taxes. Upon written notification by Arvada, Contractor shall reimburse Arvada in a timely manner for any taxes erroneously paid by Arvada.

3. **NO INDEMNIFICATION BY ARVADA**. Arvada is prohibited under Article XI, Section 1 of the Colorado Constitution from indemnifying anyone. Despite any provision in any contract document to the contrary, Arvada does not indemnify Contractor or anyone else under the Agreement.

4. **INDEMNIFICATION OF ARVADA.** Contractor shall indemnify, defend, and hold harmless Arvada, its employees, agents and assignees (the "Indemnified Parties"), against any and all costs, expenses, claims, damages, liabilities, court awards, and other amounts (including attorneys' fees and related costs) arising from or related to any act or omission by Contractor, or its employees, agents, Subcontractors, or assignees in connection with the Agreement.

   4.1. Confidential Information Indemnification. Disclosure or use of Arvada Confidential Information by Contractor may be cause for legal action by third parties against Contractor, Arvada, or their respective agents. Contractor shall indemnify, defend, and hold harmless the Indemnified Parties, against any and all claims, damages, liabilities, losses, costs, expenses (including attorneys' fees and costs) incurred by Arvada in relation to any act or omission by Contractor, including any unauthorized disclosure of Arvada Confidential Information, or by its employees, agents, assigns, or subcontractors. "Confidential Information" means any and all Arvada Records are not subject to disclosure under CORA. Confidential Information includes, but is not limited to, Personally Identifiable Information ("PII"), Protected Health Information ("PHI"), Payment Card Industry data ("PCI"), data related to tax information, Criminal Justice Information ("CJI"), and Arvada personnel records are not subject to disclosure under the Colorado Open Records Act (C.R.S. §§24-72-200.1 et seq.)("CORA"). Confidential Information shall not include information or data concerning individuals that is not deemed confidential but nevertheless belongs to Arvada, which has been communicated, furnished, or disclosed by Arvada to Contractor which (i) is subject to disclosure pursuant to CORA; (ii) is already known to Contractor without restrictions at the time of its disclosure to Contractor; (iii) is or subsequently becomes publicly available without breach of any obligation owed by Contractor to Arvada; (iv) is disclosed to Contractor, without confidentiality obligations, by a third party who has the right to disclose such information; or (v) was independently developed without reliance on any Confidential Information. "Arvada Records" means any and all Arvada data, information, and records, regardless of physical form, including, but not limited to, information subject to disclosure under the CORA.

   4.2. Intellectual Property Indemnification. Contractor shall indemnify, save, and hold harmless the Indemnified Parties, against any and all costs, expenses, claims, damages, liabilities, and other amounts (including attorneys' fees and costs) incurred by the Indemnified Parties in relation to any claim that any deliverable, good or service, software, or work provided by Contractor under the Agreement (collectively, "IP Deliverables"), or the use thereof, infringes a patent, copyright, trademark, trade secret, or any other intellectual property right. Contractor's obligations shall not extend to the combination of any IP Deliverables provided by Contractor with any other product, system, or method, unless the other product, system, or method is (a) provided by Contractor or Contractor's subsidiaries or affiliates; (b) specified by Contractor to work with the IP Deliverables; (c) reasonably required in order to use the IP Deliverables in its intended manner and the infringement could not have been avoided by substituting another reasonably available product, system, or method capable of performing the same function; or (d) is reasonably expected to be used in combination with the IP Deliverables.

   4.3. Artificial Intelligence (AI). Contractor shall be fully responsible for all acts and omissions related to its use of any AI functionality to provide the Work. Contractor shall indemnify, save, and hold harmless the Indemnified Parties, against any and all costs, expenses, claims, damages, liabilities, and other amounts (including attorneys' fees and costs) incurred by the Indemnified Parties in relation to any claim arising from Contractor's use of AI functionality to provide the Work.

5. **GOVERNMENTAL IMMUNITY.** Liability for claims for injuries to persons or property arising from the negligence of Arvada, its departments, boards, commissions, committees, bureaus, offices, employees and officials shall be governed by the provisions of the Colorado Governmental Immunity Act, §§24-10-101, et seq., C.R.S. (CGIA). No term or condition of the Agreement shall be construed or interpreted as a waiver, express or implied, of any of the immunities, rights, benefits, protections, or other provisions contained in the CGIA.

6. **OPEN RECORD REQUESTS.** Arvada is obligated to comply with the Colorado Open Records Act (C.R.S. §§24-72-200.1 *et seq.*)(CORA), which may require Arvada to disclose all or a portion of communications relating to the Agreement, any transaction under the Agreement, and other related matters. Contractor has been advised to familiarize itself with CORA. Any confidentiality provisions in any contract documents are subject to the provisions of CORA.

7. **PROTECTION OF PERSONAL IDENTIFYING INFORMATION.** In the event the Agreement includes or requires Arvada to disclose to Contractor any Personal Identifying Information as defined in C.R.S. § 24-73-101, Contractor shall comply with the applicable requirements of C.R.S. §§ 24-73-101, et seq., relating to third-party service providers.

8. **NO THIRD PARTY BENEFICIARIES.** The Agreement does not and is not intended to confer any rights or remedies upon any person or entity other than Arvada and Contractor. Enforcement of the Agreement and all related rights and obligations are reserved solely to Arvada and Contractor. Any services or benefits which third parties receive as a result of the Agreement are incidental and do not create any rights for such third parties.

9. **ASIGNMENT.** Contractor's rights and obligations under the Agreement are personal and may not be transferred or assigned without the prior, written consent of Arvada. Any attempt at assignment or transfer without such consent shall be void. Any assignment or transfer of Contractor's rights and obligations approved by Arvada shall be subject to the provisions of the Agreement. Any provision of an assignment that enlarges any duty, responsibility, or obligation of Arvada, or that limits, curtails, or diminishes any right or privilege of Arvada, without Arvada's express written consent, shall be void.

10. **BINDING EFFECT.** This Agreement shall inure to the benefit of, and be binding upon, the parties, their respective legal representatives, successors, heirs, and assigns.

11. **SURVIVAL.** Any provision of the Agreement that imposes an obligation on a party after the Agreement's termination or expiration shall survive the termination or expiration and shall be enforceable by the other party.

12. **SUBCONTRACTS.** Contractor shall not subcontract any of its responsibilities without Arvada's prior written approval, which will not be unreasonably withheld. Contractor shall submit to Arvada a copy of each such subcontract upon Arvada's request. All subcontracts Contractor enters into in connection with the Agreement shall comply with all applicable federal, state, and local laws and regulations, shall provide that they are governed by the laws of the State of Colorado, and shall be subject to all provisions of the Agreement. Contractor agrees it is fully responsible for subcontractors performing services under the Agreement. Contractor shall be Arvada's sole point of contact regarding the services, including with respect to payment.

13. **INDEPENDENT CONTRACTOR.** Contractor shall perform its duties under the Agreement as an independent contractor and not as an employee. Neither Contractor nor any agent or employee of Contractor shall be deemed to be an agent or employee of Arvada. Contractor shall not have authorization, express or implied, to bind Arvada to any agreement, liability, or understanding, except as expressly set forth herein. Contractor and its employees and agents are not entitled to unemployment insurance or workers compensation benefits through Arvada and Arvada shall not pay for or otherwise provide such coverage for Contractor or any of its agents or employees. Contractor shall pay when due all applicable employment taxes and income taxes and local head taxes incurred pursuant to the Agreement. Contractor shall: (i) provide and keep in force workers' compensation and unemployment compensation insurance in the amounts required by law; (ii) provide proof thereof when requested by Arvada; and (iii) be solely responsible for its acts and those of its employees and agents.

14. **LICENSES, PERMITS, AND OTHER AUTHORIZATIONS.** Contractor shall secure, prior to the effective date, and maintain at all times during the term of the Agreement, at its sole expense, all licenses, certifications, permits, and other authorizations required to perform its obligations under the Agreement, and shall ensure that all employees, agents and subcontractors secure and maintain at all times during the term of their employment, agency or subcontract, all license, certifications, permits and other authorizations required to perform their obligations in relation to the Agreement.

15. **STANDARD AND MANNER OF PERFORMANCE.** Contractor shall perform its obligations under the Agreement in accordance with the highest standards of care, skill, and diligence in Contractor's industry, trade, or profession.

16. **TIME OF THE ESSENCE.** Contractor acknowledges and agrees that time is of the essence for this Agreement and that it is an essential term of this Agreement that Contractor maintain a rate of progress in the Work that will result in completion of the Work in accordance with this Agreement. To that end, Contractor agrees to proceed with all due diligence to complete the Work in a timely manner in accordance with this Agreement and further agrees that failure to complete any of the Work during the Term of this Agreement, or as may be more specifically set forth in an attachment, exhibit, or modification, shall be deemed a breach.

17. **WAIVER OF BREACH.** A waiver by any party to the Agreement of a breach of any Agreement term shall not operate or be construed as a waiver of any subsequent breach by either party.

18. **RIGHT TO TERMINATE.** Arvada shall have the right to terminate, without cause, the Agreement. Any such termination shall not be considered a breach of the Agreement or any extension. In the event Arvada terminates for convenience, Arvada will pay Contractor for requested work performed up until the time of termination, not to exceed the total amount

of the contract price agreed upon by Arvada and Contractor.

19. **EXTERNAL TERMS AND CONDITIONS.** Notwithstanding anything to the contrary, Arvada shall not be subject to any provision included in any terms, conditions, or agreements appearing on Contractor's or a subcontractor's website or any provision incorporated into any click-through or online agreements related to the Work unless that provision is specifically referenced in the Agreement.

20. **PROHIBITED TERMS.** Any term included in the Agreement that requires Arvada to indemnify or hold Contractor harmless; requires Arvada to agree to binding arbitration; limits Contractor's liability for damages resulting from death, bodily injury, or damage to tangible property; or that conflicts with this provision in any way shall be void ab initio. Any term included in the Agreement that limits Contractor's liability that is not void under this section shall apply only in excess of any insurance to be maintained under the Agreement, and no insurance policy shall be interpreted as being subject to any limitations of liability of the Agreement.

21. **COMPLIANCE WITH ALL LAWS.** Contractor shall comply with all applicable federal, Colorado and Arvada laws, rules, regulations, policies and procedures in effect or hereafter established, including, without limitation, laws applicable to discrimination and unfair employment practices.

22. **BINDING ARBITRATION PROHIBITED.** Arvada does not agree to binding arbitration by any extra-judicial body or person. Any provision to the contrary shall be null and void.

23. **GOVERNING LAW AND VENUE.** Colorado law, rules, and regulations shall be applied in the interpretation, execution, and enforcement of the Agreement. Any provision included or incorporated herein by reference which conflicts with said laws, rules, and regulations shall be null and void. All suits or actions related to the Agreement shall be filed and proceedings held in the State of Colorado and exclusive venue shall be in Jefferson County.

24. **OWNERSHIP OF WORK PRODUCT.** The originals of all plans, reports, studies, data, or other materials or information relating to the Work that are produced by Contractor shall be delivered to and become the property of Arvada. Contractor may retain copies of any originals; however, no plans, reports, studies, data, or other materials or information relating to the Work shall be released to any person or entity without the prior written consent of Arvada. Nothing in this clause is intended to affect Contractor's right to use generic know-how learned in the course of providing services under the Agreement for the future benefit of Arvada or others.

25. **SOFTWARE PIRACY PROHIBITION.** Arvada or other public funds payable under the Agreement shall not be used for the acquisition, operation, or maintenance of computer software in violation of federal copyright laws or applicable licensing restrictions. Contractor hereby certifies and warrants that, during the term of the Agreement and any extensions, Contractor has and shall maintain in place appropriate systems and controls to prevent such improper use of public funds. If Arvada determines that Contractor is in violation of this provision, Arvada may exercise any remedy available at law or in equity or under the Agreement, including, without limitation, immediate termination of the Agreement and any remedy consistent with federal copyright laws or applicable licensing restrictions.

26. **ACCESSIBILITY COMPLIANCE UNDER C.R.S. §24-85-104.**

    26.1. Contractor shall comply with the accessibility standards for an individual with a disability adopted by the office of information technology pursuant to C.R.S. §24-85-103.

    26.2. Contractor shall indemnify, hold harmless, and assume liability on behalf of Arvada, and Arvada's officers, employees, and agents, for all costs, expenses, claims, damages, liabilities, court awards, attorney fees and related costs, and any other amounts incurred by the state agency or public entity in relation to Contractor's noncompliance with the accessibility standards for an individual with a disability adopted by the office of information technology pursuant to C.R.S. §24-85-103.

    26.3. Arvada may require that Contractor's compliance with the accessibility standards for an individual with a disability adopted by the office of information technology pursuant to C.R.S. §24-85-103 be determined and attested to by a qualified third party selected by Arvada.

27. **ARTIFICIAL INTELLIGENCE (AI) DISCLOSURE & USE.** Contractor shall not use any AI functionality while performing the work or providing the goods or deliverables without Arvada's prior written consent. Contractor shall not use, access, or permit access to any Arvada Records for the purpose of training, improving, or refining any AI functionality, regardless of whether the functionality belongs to Contractor or a third-party, without Arvada's prior written consent.

28. **PROHIBITED PRICING PRACTICES.** Contractor shall not include speculative tariff increases, unsupported contingency amounts, or broad percentage markups labeled as "tariff risk" in any contract document. Any line-item or percentage factor appearing on any document incorporating these terms and conditions must be tied to current, published tariff levels and documented upon request in a manner satisfactory to Arvada.

SPECIAL TERMS AND CONDITIONS FOR BIDDERS

1. **RECEIPT AND OPENING OF BIDS.** Bids submitted electronically on the BidnetDirect.com website only become available to the City of Arvada after the bid closes. Bidder shall assume full responsibility for timely upload of bid to the BidnetDirect website. The City reserves the right, where its best interest will be served, to accept or reject any conditional or qualified bid.

2. **QUANTITY AND NATURE OF THE WORK.** Bidders must satisfy themselves of the accuracy of the estimated quantities in the Bid Schedule by examination of the site and a review of the drawings and specifications including Addendum. After Bids have been submitted the Bidder shall not assert that there was a misunderstanding concerning the quantities of work or of the nature of the work to be done.

3. **CONTENTS OF BID.** Contractors are required to submit Bids with the following conditions:
   - **3.1.** Contractors shall make all investigations necessary to inform themselves of the sites affected and the work required by the Solicitation.
   - **3.2.** Any official interpretation of the Solicitation may only be issued by an authorized agent of the City. The City shall not be responsible for other interpretations offered by employees not authorized.
   - **3.3.** The City shall issue Addenda if substantial changes are required which may impact the content and submission of Bids. A copy of such addenda will be publicly posted with the original CSB posting.
   - **3.4.** The apparent silence or omissions within this Solicitation regarding a detailed description of the materials or services shall be interpreted to mean that only the best commercial practices are to prevail and that only materials and workmanship of first quality are to be provided.

4. **BID SECURITY.** Each Bid must be accompanied by a PHOTO of the Bid Bond, on the form attached to these contract documents, payable to the City for five (5) percent of the total amount of the Bid. As soon as the bid Prices have been compared, the City will issue intent to award on the Bidnetdirect.com web site. The vendor who is named as the intent to award Contractor must submit the physical Bid Bond within 10 days or the intent to award may be revoked. The Bid Bond of the successful Bidder will be retained until the Payment and Performance Bond has been executed and approved after which it will be returned. A certified check may be used in lieu of a Bid Bond.

5. **POWER OF ATTORNEY.** Attorneys-in-fact who sign Bid Bonds or Payment and Performance Bonds must file with each bond a certified and effective dated copy of their power of attorney.

6. **QUALIFICATION OF BIDDER.** The City may make such investigation as it deems necessary to determine the ability of the Bidder to perform the work. The City reserves the right to reject any Bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy the City that such Bidder is properly qualified to carry out the obligation of the Contract Agreement and to complete the work contemplated therein. The City reserves the right, before awarding the contract, to require a Contractor to submit evidence of its qualifications including, but not limited to, financial, technical, and other qualifications, as well as past performance with the City, for consideration in making the award in the best interest of the City.

7. **AWARD OF CONTRACT.** A contract/s shall be awarded to the lowest-priced responsible and most responsive bidder/s whose bid meets the requirements and criteria set forth in the CSB within the limits of funds available and that best serves the City's interest. The City, within seven (7) calendar days of receipt of acceptable Contract Security and the Contract Agreement, signed by the Bidder to whom the Contract was awarded, shall sign the Contract Agreement and return to the Bidder an executed copy of the Contract Agreement. Should the City not execute the Contract Agreement within such period, the Bidder may, by written notice, withdraw their signed Contract Agreement. Such notice of withdrawal shall be effective upon receipt of the written notice by the City.

8. **NOTICE OF AWARD AND FAILURE TO ENTER INTO CONTRACT.** The party to whom the Contract is to be awarded will be required to execute the Contract Agreement, obtain Certificates of Insurance and a Performance and Payment Bond, as Contract security, within five (5) calendar days from the date the Notice of Award is delivered to the Bidder. The Notice of Award shall be accompanied by the Contract Agreement and the necessary Performance and Payment Bond forms. In case of failure of the bidder to execute the Contract Agreement and provide satisfactory Insurance and Contract Security, the City may at its option, consider the Bidder in default, in which case the Bid Bond accompanying the Proposal shall become the property of the City.

9. **CONTRACT DOCUMENTS.** The Contract Documents consisting of the Bid Documents, which include the Advertisement for Bids, Information for Bidders, General Terms and Conditions, Special Terms and Conditions, Insurance Requirements, Project Special Provisions, Addendum, Bid Bond, Bid Proposal, Bid Schedule, Vendor Submittal Form, Construction Drawings, Supplemental Specifications and the City of Arvada "Engineering Code of Standards and Specifications for the Design and Construction of Public Improvements", dated October 2, 2023, which include the Measurement and Payment specifications, and the attached Notice of Award form, Contract Agreement form, Performance and Payment Bond form, Notice to Proceed form, and Change Order form, when combined, contain

the provisions required for the construction of the Project. Information obtained from an agent or employee of the City or any other person shall not affect the risks or obligations assumed by the Contractor or relieve him from fulfilling any of the conditions of the contract.

10. TERM OF CONTRACT. The term of the Agreement shall be for one year from Arvada's execution of the Agreement, subject to the availability of funds, or Arvada's termination for convenience. . The City shall have the option to renew up to two (2) consecutive one-year periods, provided however that the Contractor provided satisfactory performance during the previous contract period. Any renewals shall be on the same terms as the Agreement, including the Compensation Amount, and automatic unless Arvada gives Contractor 30 calendar days' written notice to terminate the Agreement. Any required warranty period which exceeds this term shall remain in full force for the duration of the warranty period.

11. PRICING SHALL BE FIXED AND FIRM. The prices offered by the Contractor shall remain fixed and firm for at least 90 ninety days. No changes in the Bid shall be allowed after the date and time of the Bid deadline due to error by the Contractor. Awarded vendor/s may submit proposed new rates during the renewal option period, if applicable, in writing with proper documentation to the City for review and approval. Any approved new pricing shall remain in effect for a period of one year. The City reserves the right to accept or reject any/all proposed increases.

12. CONTRACT SECURITY. A Performance and Payment Bond, on the form attached to these contract documents, in the amount of 100% of the Contract price, with a corporate surety approved by the City, will be required for the faithful performance of the Contract.

13. NOTICE TO PROCEED. The Notice to Proceed shall be issued within seven (7) calendar days of the execution of the Contract Agreement by the City. Should there be reason why the Notice to Proceed cannot be issued within such period, the time may be extended by mutual agreement between the City and the Contractor. In the event the Notice to Proceed has not been issued within the seven day period or within the period mutually agreed upon the Contractor may terminate the Contract Agreement without further liability on the part of either party.

14. MODIFICATION OR WITHDRAWAL OF BIDS BY CONTRACTOR.

14.1. **Modifications to Bids**- Changes to the Bid after the submission deadline shall be allowed only when the Contractor can show convincing evidence that an unintentional factual mistake was made. Modification requests must be made in writing. Any modification submitted to the City must have the Contractor's name, address, Solicitation Number and title included.

14.2. **Withdrawal of Bids**- If a Bid is withdrawn by Contractor after the Bid Opening, the City may, at its option, suspend the Contractor for a six (6) month period following the withdrawal. Withdrawal of the Bid after the Bid Opening will result in the Contractor forfeiting the provided Bid Bond.

15. REJECTION OF OFFERS BY CITY.

The City may reject a Bid, in whole or in part, for reasons including, but not be limited to:

15.1. The Contractor misstates or conceals any material fact in its Bid;
15.2. The Contractor's Bid does not strictly conform to the law or requirements of the Solicitation;
15.3. The Bid expressly requires or implies a conditional award that conflicts with the method of award stipulated in the Special Conditions;
15.4. The Bid does not include documents which are required for submission with the Bid; or
15.5. The Bid has not been executed by the Contractor through an authorized signature.

The City may, at its sole and absolute discretion:

15.6. Reject all or parts of Bids submitted by prospective Contractors;
15.7. Re-advertise this Solicitation;
15.8. Postpone or cancel the Solicitation;
15.9. A Bid may not be accepted from, nor any contract be awarded to, any person or firm which
15.9.1. is in arrears to the City for any debt or Contract or is a defaulter as surety for any obligation to the City.
15.9.2. has failed to perform faithfully any previous contract with the City, State or Federal government for a minimum period of one (1) year after this previous Contract was terminated for cause.
15.9.3. has pending litigation against the City on the date and time that the Solicitation is due.

16. CLARIFICATION AND MODIFICATIONS. The contract resulting from this solicitation will be subject to the Solicitation materials, City Ordinance, State and Federal Statutes. When conflicts occur, the highest authority shall prevail. Contractors are required to indicate any variances to the terms, conditions, requirements and specifications of this Solicitation; no matter how slight. If variations are not stated in the Contractor's Bid, it shall be agreed that the Contractor's Bid fully complies with all conditions identified in this Solicitation.

17. ELECTRONIC PAYMENT METHODS - CITY OF ARVADA SINGLE USE ACCOUNT.

Contractors are encouraged to consider the following method of payment.

17.1. **Single Use Account**: The City incorporates the use of Single User Accounts as an option to seamlessly process payment of larger dollar purchase orders and contracts to vendors/contractors/providers. A secure, one-time payment transaction account processes to pay invoices via the Contractor's merchant bank. Invoice payments have an enhanced speed-of-pay cycle that can significantly benefit cash flow.

18. CONDITIONS OF WORK AND OBLIGATION OF BIDDER. Each Bidder is responsible for independently inspecting the site and for reading and being thoroughly familiar with the Contract Documents and for providing the names of major suppliers and sub-contractors in the space provided on the Bid Proposal form. The failure or omission of any Bidder to do any of the foregoing shall in no way relieve the Bidder from any obligation in respect to their Bid Proposal.

19. CONTRACTOR LICENSE. The Contractor to whom the contract is awarded and any subcontractors employed by the Contractor must have or acquire the appropriate Contractor's license issued by the City of Arvada Engineering Division, including submittal of license bond, necessary insurance certificate, and license fee before initiating any work. The Contractor and any subcontractors will also be required to obtain at no charge Public Improvements Permit from the City of Arvada Engineering Division prior to initiating any and all work on this project.

20. PERFORMANCE MEASUREMENTS FOR SERVICES THAT ARE MORE THAN $15,000. The City has incorporated Performance Management into its organizational culture. The City will monitor and report on the following performance measures. These measures will determine, in part, renewals and eligibility for future awards. Measures include: (a) safety as defined by observation and OSHA reportable injuries, (b) quality of contracted work, (c) work completed within required schedule, (d) administration and coordination of estimates, RFIs, ASIs, change orders, pay requests and close out documents, (e) fair and justifiable change orders, (f) responsiveness and follow through on requests.

20.1. *SERVICES* means: the furnishing of labor, time, effort, maintenance, etc., by a vendor/contractor/consultant, with an initial contract amount of more than $15,000.

21. PREPARATION AND SUBMISSION.
Bids will be prepared as follows:

21.1. A blank shall be construed as "No Bid/not offered". Where there is a discrepancy between the unit price and the extension of prices, the unit price shall prevail.

21.2. Contractors will not knowingly participate in solicitations where there exists a conflict of interest with their firm and a member of City staff or their immediate family.

21.3. The only authorized version of this Bid is posted on WWW.BIDNETDIRECT.COM. Registration is available to receive email notification of new solicitations, addenda, and communications.

INSURANCE REQUIREMENTS

The following listed insurance requirements shall be carried by the selected Contractor for the entirety of the contract. Applicable requirements for this solicitation are identified by completed check boxes.

1. ☒ **Commercial General Liability**, written on an occurrence form, for limits not less than $1,000,000 for bodily injury and property damage for each occurrence and not less than $2,000,000 aggregate. Coverage shall include premises and operations liability, blanket contractual, broad form property damage, products and completed operations and personal injury endorsements.
2. ☒ **Workers' Compensation and Employers Liability** as required by statute. Employers Liability coverage is to be carried for a minimum limit of $1,000,000 each accident/disease and $2,000,000 aggregate.
3. ☒ **Automobile Liability** for limits not less than $1,000,000 combined single limit for bodily injury and property damage for each occurrence. Coverage shall include owned, non-owned and hired automobiles.
4. ☐ **Umbrella Liability** of $, following form to the Commercial General Liability.
5. ☐ **Builders Risk or Course of Construction** Purchased by contractor to cover physical damage to property in construction or rehab. Contractors will ensure that City and subcontractors will be covered as additional insureds, excluding their own machinery, tools and equipment.
6. ☒ **Professional Liability:** Professional Liability insurance in an amount of not less than $1,000,000 per occurrence, covering the professional work contemplated under this proposal. The coverage shall have an extended reporting period of three (3) years following the date of substantial completion of the work for reporting of claims.
7. ☐ **Pollution Legal Liability Insurance** for limits not less than $1,000,000 per occurrence (or claims made) and not less than $1,000,000 aggregate for bodily Injury, personal Injury and property Damage.
8. ☐ **Privacy/Network/Cyber Liability Insurance f**or limits not less than $1,000,000 for any firm providing product or services associated with IT, software, communication, or network.

Additional Insurance Requirements:

- Contractor will be required to, at its own expense, keep in full force and effect during the term of the Agreement, and during the term of any extension or amendment of the Agreement, insurance reasonably sufficient to insure against the liability assumed by Contractor pursuant to the provisions of the solicitation sent by the City of Arvada or as determined by the City of Arvada Risk Manager.
- All coverage must be written with carriers holding a minimum A.M. Best rating of A-:VII and authorized to do business in Colorado. Coverage shall be primary, and any insurance held by the City of Arvada is excess and non-contributory.
- Issuance of a Purchase Order/Contract is contingent upon the receipt of the insurance documents. Work shall not commence before this requirement is met. If the Contractor fails to submit the required insurance documents within 15 calendar days after notice to submit such policies is given to the Contractor by a City representative, the Contractor may be in default of the Award.
- Except for Workers Compensation, Employer's Liability insurance, Automobile Liability and Professional Liability insurance, the City of Arvada must be endorsed as an additional insured on a Certificate of Insurance.
- The City, through its Risk Manager, reserves the right to require additional insurance coverage and other requirements.

SPECIAL PROVISIONS

City of Arvada Project No. 26-ST-01B, Project Title: 2026 Pavement Resurfacing Program

Conditions peculiar, but essential, to the successful performance and acceptance of the work on this project are itemized below. As such, they shall take precedence over the current Engineering Code of Standards and Specifications for the Design and Construction of Public Improvements, hereinafter referred to as "City Standard and Specifications."

All materials and workmanship shall be subject to inspection by the City of Arvada. The City reserves the right to accept or reject any such workmanship that does not conform to the above Standards and Specifications.

All contractors bidding on this project are responsible for acquainting themselves thoroughly with all applicable specifications prior to submitting their bid. The successful bidder is responsible for thoroughly acquainting all the personnel the contractor intends to use on this project with all the applicable specifications prior to the commencement of any construction.

The Contractor shall comply with Article1.5 of Title9, CRS ("Excavation Requirements") when excavating or grading is planned in the area of underground utility facilities. The Contractor shall notify all affected utilities at least two (2) business days, not including the actual day of notice, prior to commencing such operations. The contractor shall contact the Utility Notification Center of Colorado (UNCC) at 811, to have locations of UNCC registered lines marked by member companies. All other underground facilities shall be located by contacting the respective owner. Utility service laterals shall also be located prior to beginning excavation or grading. The Contractor shall locate non- member utilities, such storm sewer and ditch facilities as necessary to prevent damage.

A. GENERAL CONSIDERATIONS

SC-A-1 CONTRACT TIME AND LIQUIDATED DAMAGES

The work is to be completed, including cleanup, on or before **October 31, 2026**. A Notice to Proceed is anticipated to be issued on or about **April 2026**. Unless otherwise approved by the Project Manager. Once work begins in a designated area, the contractor shall maintain continuous progress until the area is fully completed.

The bidder shall agree to pay the owner, as liquidated damages the sum of $3,300.00 for each consecutive calendar day that the work exceeds the allotted contract time for the work. Asphalt paving may not occur after October 31st unless approved by the Project Manager, in writing.

SC-A-2 APPLICATION OF SPECIFICATIONS

Except as specifically noted in these Special Conditions, all work in this contract shall be in accordance with the City of Arvada Engineering Code of Standards and Specifications for the Design and Construction of Public Improvements, ("City Standards"), and the most recent editions of CDOT "Standard Specifications for Road and Bridge Construction." In the case of conflict between City and other standards or specifications, the City Standards shall take precedence.

SC-A-3 MEASUREMENT AND PAYMENT

Measurement of the Work performed and payment, at the unit or lump sum price quoted in the Bid Schedule, shall be made in accordance with requirements of the Measurement and Basis of Payment Section of the City Standard Specifications, or as hereinafter stated in the Special Conditions. Payment for lump sum items will be equal to the percentage of the total dollar amount completed in that month.

SC-A-4 NON CONFORMITY OF MATERIAL OR FINISHED PRODUCT

Where materials installed or the finished product fails to meet the minimum requirements of these Contract Documents, the basis of determining final payment to the Contractor shall be determined in accordance with the current revised Section 105.03 of the Colorado Department of Transportation Standard Specifications.

SC-A-5 SUMMARY OF APPROXIMATE QUANTITIES AND ADDITIONS/DELETIONS TO OR FROM THE CONTRACT

The items of work and estimated quantities for this project are listed in the Bid Schedule. Specific streets and the approximate square yards associated with each street are listed under Full Width Mill Patch and Overlay Asphalt of these special conditions. A Summary of Approximate Quantities for the major items of work is also provided for prospective bidders in the contract documents.

The City reserves the right to add, modify, or delete quantities, portions of work, and contract line items listed in the Bid Schedule without change in the unit prices bid, subject to the following conditions:

a. *Within General Scope* – Adjustments shall be limited to work that is within the general scope of the original Contract and reasonably related to the work described in the Contract Documents.
b. *Field Conditions* – The City may increase quantities or direct additional work as required by conditions encountered in the field that could not have been reasonably anticipated at the time of bidding.
c. *Unforeseen Conditions* – Where concealed physical conditions (e.g., subsurface conditions, utilities, unexpected pavement deterioration) materially differ from those indicated in contract documents, the Contractor shall notify the

City in writing. The Contract Sum and Contract Time shall be adjusted in accordance with recognized change order procedures.

d. *Budget and Funding Availability* – Additional work directed by the City shall be contingent upon the availability of budgeted funds or authorized contingency amounts. The City is not obligated to fund additional work beyond appropriate or available monies unless expressly authorized.
e. *Permissible Changes Without Re-Bidding* – When additional work is within the general scope of the contract, as described above, the work may be authorized by contract amendment or change order instead of a separate competitive procurement, consistent with applicable public procurement laws.

The Contractor is encouraged to make a field site visit prior to submitting their bid. In order to further assist the prospective bidder in clarifying any item(s) and in answering any questions he/she may have.

SC-A-6 WORK SCHEDULE

The list of streets to be resurfaced with this project is shown on the Bid-Schedule and Summary of Approximate Quantities included with these specifications.

Prior to issuance of the "Notice to Proceed", and at the Preconstruction Conference, the Contractor shall provide the Project Manager with a project schedule reflecting the list of streets and identifying critical events for each work location throughout the duration of the project. The Schedule shall be updated and submitted to the Project Manager for approval on a weekly basis. The contractor shall schedule their labor and equipment in such a manner that once work has begun on a street or area, work will progress continuously until that street or area is completed. The Project Manager may restrict the Contractor from beginning work at another site until this condition has been satisfied. No additional payment shall be made for mobilization to each work location but shall be included in the lump sum bid item for Mobilization. The City also reserves the right to coordinate execution of any part of the work under this contract as circumstances warrant with respect to weather, or conflicts with other City projects, including but not limited to utility work, concrete replacement, other asphalt paving, etc.

SC-A-7 CITIZEN NOTIFICATION

Residents and businesses located in or near the milling and overlay locations shall be notified by the Contractor at least 24 hours in advance of the beginning of these operations. The Contractor shall notify residents and businesses by distributing informational "doorhangers" provided either by the City, or by the Contractor with prior approval of the Project Manager. Door hangers or flyers shall be distributed at least 24 hours in advance of the work and at the time "No Parking" signs are set on the street where applicable prior to beginning any phase of the contract work.

It shall be the Contractor's responsibility to keep a written log of communication with business owners, and their representatives should questions arise regarding proper advance notification. Prior to milling and overlay operations, the Contractor shall personally contact the management of local businesses on streets within the project to ensure that they are informed of the progress on the project. A log of names and conversations shall be kept and made available to the City. At no time shall complete access be blocked to a local business. At least one entrance/exit access area shall be left open at all times during milling and overlay operations to these businesses.

Payment for Citizen Notification shall be paid as a percentage of the lump sum bid item for the contract amount earned. Payment for Citizen Notification shall include all labor, materials, equipment and incidentals required during each phase of the contract work. No additional compensation shall be made for additional notification due to weather delays, equipment breakdowns, etc.

SC-A-8 PROJECT STATUS MEETINGS

Meetings for discussion of project status, scheduling and problem solving will be held bi-weekly or as necessary as determined by the project Manager at a location and time determined at the pre-construction conference. The Contractor shall ensure that his Project Manager or Field Superintendent is present at these meetings to discuss and have available weekly quantity updates on work that has been completed, upcoming work schedule for purposes of inspection and testing, citizen notification, and other issues as they may arise. Field meetings with the Contractor, Project Manager and Project Inspector will be held to discuss specific issues on an as-needed basis.

SC-A-9 CITY HOLIDAYS

No work will be allowed during City observed holidays and observances.

SC-A-10 WORK WITHIN CDOT, BNSF, or RTD RIGHT-OF-WAY AND CITY OF ARVADA PERMIT REQUIREMENTS

The Contractor will be required to prepare and apply for CDOT, BNSF, or RTD access permits where work will occur on or adjacent to their respective rights of way or where construction signage will be placed on their respective rights of way. The City of Arvada will be indicated as the permittee on the permit applications. The Contractor shall apply for CDOT, BNSF, or RTD access permits far enough in advance of the work so as not to delay the project.

CDOT, BNSF, or RTD permits will not be paid for separately but shall be included in the cost of Traffic Control.

The successful bidder who is awarded this project shall obtain or be currently licensed with the City of Arvada, Engineering Division with a Class MC-B Contractor license. A City of Arvada no- charge permit for this project shall be obtained prior

to issuance of the Notice to Proceed.

SC-A-11 MINOR CONTRACT REVISIONS

Miscellaneous modifications in the work ordered by the Project Manager in the form of a field order will be considered a Minor Contract Revision. Payment for work performed under this item will be made in accordance with Sections 1100 of the City Standard Specifications.

SC-A-12 INSURANCE REQUIREMENTS

The Contractor shall at their own expense, maintain insurance in full force and effect, throughout the duration of the contract with the City.

SC-A 13 OSHA REQUIREMENTS

Observing the rules and regulations required by the Occupational Health and Safety Administration (OSHA) shall be the responsibility of the contractor on this project.

SC-A-14 PROJECT WARRANTY PERIOD

The warranty period for this project shall be (2) two years in accordance with Section 200 - Acceptance Procedures of the City Standard Specifications. The Performance and Payment Bond shall remain in full force and effect throughout the two (2) year guarantee and warranty period.

B. ROADWAY(S)

SC-B-15 PLANT MIX PAVEMENTS - GENERAL REQUIREMENTS

All materials used in this project shall meet the minimum requirements of the current revised edition of the Colorado Department of Transportation (CDOT) Standard Specifications for Road and Bridge Construction, and Sections 11 - Hot Mix Asphalt Pavement and Section 900 - Streets of the City of Arvada Engineering Code of Standards and Specifications, or these Special Conditions where they vary from the City Standard Specifications.

A. Composition of Mixtures

The bituminous plant mix shall be composed of a mixture of aggregate, filler or additives, bituminous material, and recycled asphalt pavement (RAP) as allowed. Up to 20% RAP is allowed in HMA mix designs for this project. No RAP will be allowed in SMA mix designs for this project. All mixes shall be designed and produced with 1% hydrated lime as an anti- stripping agent.

B. Recycled Asphalt Pavement

Recycled Asphalt Pavement (RAP) material shall be of uniform quality and gradation with a maximum size no greater than the nominal aggregate size of the mix. HMA mixes shall not contain more than 20 percent RAP. All recycled asphalt shall be clean and free of deleterious material and shall be subject to inspection at the plant source and in the field prior to placement.

The Contractor shall identify the source of each RAP stockpile proposed to be incorporated in the asphalt mixes. Contractor shall identify the project from which the material was removed, mix data from the original project including mixture type, aggregate classification, location and depth of the pavement structure. Extracted gradation information shall also be provided along with a description of the stockpile location and quantity. Additional material shall not be added to an approved RAP stockpile during the course of the work.

The Project Manager may reject a RAP stockpile for non-uniformity based on visual inspection. RAP stockpiles containing concrete chunks, grass, dirt, wood, metal, coal tar or other foreign or environmentally restricted materials shall not be used Stockpiles are to be worked in such a manner that the materials removed are representative of a cross section of the pile. The Project Manager or their representative may reject RAP that in their opinion does not meet this specification.

C. Lime

Lime shall be added at the rate of 1% by dry weight of the aggregate and shall be included in the amount of material passing the No. 200 sieve. Hydrated lime for aggregate pretreatment shall conform to the requirements of ASTM C 207, Type N. In addition, the residue retained on a 200- mesh sieve shall not exceed 10% when determined in accordance with ASTM C 110. (Drying of the residue in an atmosphere free from carbon dioxide will not be required.)

D. Tack Coat

Materials and construction shall comply with MGPEC Item 20 (latest edition).

E. Asphalt Cement

The Contractor shall provide an acceptable 'Certification of Compliance' from the supplier for each asphalt cement grade used on this project. The minimum optimum oil content in asphalt mix designs used on this project shall be as follows: For Grading S (3/4” mix), a minimum oil content of 5.1% in the HMA is required, and for Grading SX (1/2” mix), a minimum oil content of 5.4% in the HMA is required. Mix designs or asphalt loads delivered to the project which do not meet these minimum requirements shall be cause for rejection by the City of Arvada.

F. Superpave Mixture Design Method

The Superpave mix design method shall be used for this project. A proposed design job mix shall be submitted for each mixture required by the Contract. The design shall be determined using Colorado Procedure CP-L 5115 for the Superpave Method of Mixture Design. Mix designs shall meet the requirements of Subsection 900 in the City of Arvada Standard Specifications.

G. Mix Design Submittals

The Contractor shall submit two copies of all mix designs to the Project Manager for approval. Mix designs shall be performed in a materials laboratory under the direct supervision of a professional engineer licensed in the state of Colorado and currently practicing in this field. In addition, the Contractor shall submit as part of the mix design, documents to verify the following:

1. Source of materials
2. Gradation, specific gravity, source and description of individual aggregates and the final blend
3. Aggregate physical properties (CDOT Subsection 703.04)
4. Design Mix Formula
5. Superpave PG Binder properties
6. Mixing and compaction temperatures used
7. Mix properties determined at a minimum of four asphalt cement contents and graphs showing mix properties versus asphalt cement content
8. Mix properties at the minimum required optimum asphalt cement content
9. Lottman test data at the optimum asphalt cement content

The asphalt cement for each PG grade binder shall meet the requirements specified in the Properties of Superpave Performance Graded Binders Table in Subsection 900 - Asphalt Cement of the City of Arvada Standard Specifications.

The design mix for each PG grade shall establish a single percentage of bituminous material to be added to the aggregate, and a single temperature for the mixture at the plant discharge point. The city may test the Contractor's proposed design mix for each hot bituminous pavement PG Grade utilizing materials actually produced and stockpiled for use. The Contractor shall provide a sufficient quantity of each aggregate, mineral filler, recycled asphalt and lime additive for required laboratory tests if requested by the City. After each design mix is approved a new design mix shall be submitted to the Project Manager if there is a change in the sources of materials.

H. Allowable Mix Production Range

The proposed job-mix gradation for each mixture required by this Contract shall fall within the limits specified in the Gradation Range Table in Section 922.00 - Aggregate before the tolerances in the Table of Job Mix Formula Tolerances shown in Section

11.13.3 of the City of Arvada Standard Specifications are applied. The weight of lime shall be included in the total weight of the material passing the No. 200 sieve.

After each design mix is approved, all mixtures shall meet the tolerance ranges specified in the Table of Job Mix Formula Tolerances in Subsection 11.13.3 of the City of Arvada Standard Specifications. These tolerances shall be applied to each mix design to establish the allowable mix production ranges for mix production.

City of Arvada Engineering Code of Standards and Specifications shall be revised to include the design specifications for the composition of Stone Matrix Asphalt Mixes as described below.

SMA Mixture Gradation (AASHTO T 11 & T27)

Sieve Size	**½”**	**¾”**
(1”)		100
(¾”)	100	90-100
(½”)	90-100	50-88
(⅜”)	50-80	25-60
(#4)	20-35	20-28
(#8)	16-24	16-24
(#16)		
(#30)	12-18	12-18
(#50)		
(#100)		
(#200)	8-11	8-11

Mixture Properties for SMA

Properties	Test Method	Value
Lab Compaction (Gyrations) N Design	AASHTO T-312	75
Air Voids (Va) % at N Design	AASHTO T-312	3.0 - 4.0
Accelerated Moisture: Susceptibility, tensile strength ratio, (Lottman)	AASHTO T-283 Method B	80 Min.
Dry Split Tensile Strength, psi	AASHTO T-283, Method B	30 Min.
Grade of Asphalt Binder	N/A	PG 76-28
Voids in Mineral Aggregate (VMA) % Minimum	AASHTO PP19	17
Drain Down at Production Temperature	AASHTO T-305	0.3 Max.

Minimum Voids in Mineral Aggregate (VMA)

SMA Mixes

Nominal Maximum Particle Size	Minimum VMA (%)		
	3.0% Va	3.5% Va	4.0% VA
SMA - ½"	17.0	17.0	17.0
SMA - ¾"	17.0	17.0	17.0

SMA Placement

The CONTRACTOR shall establish and document a roller pattern for the SMA being placed. The roller pattern shall include, but is not limited to the following:

- Number, size, and type of rollers
- Amplitude, frequency, and speed of rollers
- Temperature of mixture being compacted during each process (break down, intermediate and finish)
- Number of roller passes for each phase

SMA mix shall be placed with the assistance of an MTV (Shuttle Buggy). A Big Sonic ski attachment and sensors shall be equipped on the paver to achieve maximum smoothness. Heated End Gates on screed.

The in-place density shall be determined during placement of the first 1,000 feet with a minimum of 95% of Theoretical Maximum Density (Rice). The allowable variance shall be ± 2%. Test results shall be reported to the nearest whole number.

The CONTRACTOR should minimize flushing and drain down during the transport and placement of SMA. If more than 50 square feet of flushed area is observed, the CONTRACTOR shall provide a remedy to address the flushing and/or drain down.

In place density may be determined by nuclear gauge measurements in accordance with ASTM D 2950 and AASHTO T 230, or based on cores in accordance with AASHTO T 166, Method B. When cores are used, the CONTRACTOR shall provide all labor and equipment for the coring and repair of the holes.

The paver shall include an approved longitudinal paver wedge system to create a sloped safety edge. The wedge system shall be attached to the screed and shall compact the HMA to a density at least as dense as the compaction imparted to the rest of the HMA layer by the paving screed. The system shall provide a sloped safety edge equal to 32 degrees plus or minus 5 degrees measured from the pavement surface cross slope extended. A single plate strike off shall not be used. The system shall be adjustable to accommodate varying paving thicknesses. The Engineer may allow the Contractor to use handwork for short sections or to saw-cut the sloped safety edge after paving operations is completed in areas such as transitions at driveways, intersections, interchanges. The Contractor shall submit the proposed paver wedge system for approval at the Pre-construction Conference. The Engineer may require proof that the system has been used on previous projects with acceptable results or may require a test section constructed before the beginning of work to demonstrate that it creates an acceptable wedge shape and compaction. The safety edge may be constructed on each lift of HMA or on the full-specified plan depth on the final lift. The finished shape of the safety edge shall extend for the full depth of the asphalt pavement or to the top 5 inches whichever is less.

Nuclear gauge measurements shall be used when the material being placed is on a structure (bridge deck).

SC-B-16 WARM MIX ASPHALT

General Description:

Warm Mix Asphalt (WMA) may be used on this project. The producer shall submit a mix design for WMA production or submit a statement that details production and testing items that require attention if the design is performed by standard HMA practice. The design shall be in accordance with the mix requirements as specified in these Special Conditions or City Standard Specifications. Some modifications to asphalt mixture plants may be necessary to accommodate the WMA technologies as noted in the WMA Construction Section below. All provisions for the production and placement of conventional hot mix asphalt (HMA) mixtures as stipulated in these Special Conditions or City Standard Specifications are in force except as noted below.

WMA Mix Requirements:

1. Warm Mix Asphalt (WMA) may be produced by one or a combination of several technologies involving hot mix asphalt plant foaming processes and equipment, mineral additives, or chemicals that allow the reduction of mix production temperatures by as much as 100 degrees Fahrenheit. Apply all mix design requirements for hot mix asphalt to the development of the WMA mix design.
2. Asphalt (WMA) mixture design shall identify the technology to be used. The producer shall comply with the manufacturer's recommendations for incorporating additives and WMA technologies into the mix. Comply with the manufacturer's recommendations regarding receiving, storage, and delivery of additives. Maintain supplier recommendations on file at the asphalt mixing plant and make available for reference while producing WMA.
3. Warm Mix Asphalt (Additive): For WMA using additives, the design shall be performed using the additive. Each WMA design shall specify the production temperatures recommended by the WMA additive manufacturer to be used in production of Warm Mix Asphalt.
4. Warm Mix Asphalt (Foaming): For WMA using foamed asphalt technology, a design may be developed using conventional hot mix asphalt temperatures in accordance with CDOT CPL 5115.

WMA Construction Requirements:

1. Asphalt Mixing Plant: Modify the asphalt mixing plant as required by the manufacturer to introduce the WMA technology. Plant modifications may include additional plant instrumentation, the installation of asphalt binder foaming systems and/or WMA additive delivery systems, tuning the plant burner and adjusting the flights in order to operate at lower production temperatures and/or reduced tonnage.

   Equipment: Use equipment and WMA technology capable of producing an asphalt mixture that meet specification requirements and is workable at the minimum placement and compaction temperature desired, regardless of storage or haul distance considerations.

2. Placement: Place WMA only on dry, unfrozen surfaces and only when weather conditions allow for proper production, placement, handling and compacting. The minimum delivery, placement, and compaction temperatures should be reviewed to accommodate the WMA reduced temperature and achieve workability and density requirements. Documentation that demonstrates a proven history of the WMA technology's ability to be placed and compacted at the reduced temperatures may be required. A test strip or initial production verification requirement can be used to demonstrate placement and compaction at the reduced temperature. Minimum ambient paving temperature requirements may be lowered by 10ºF to 20ºF. Do not lower ambient paving temperatures to below freezing.

SC-B-17 MANHOLE, VALVE BOX, AND SURVEY RANGE BOX ADJUSTMENTS

The Contractor shall adjust valve boxes, survey range boxes and manholes to a tolerance of ¼ inch below the final grade of roadway surface. Contractor will supply riser rings with set crews for these adjustments.

Contractor shall take special note of survey range boxes containing Section Corner monuments. Contractor shall coordinate with the City Project Inspector and City Survey Crews prior to work adjacent to any Section corner. Contractor is responsible for protection of all survey monuments, range boxes, manholes, etc. throughout the construction of the project. Any damage to a range box, survey monument, manhole, etc., caused by the Contractor shall be repaired, restored or replaced, including restoration by a Colorado registered Land Surveyor, at the Contractor's sole cost.

SC-B-18 MATERIALS TESTING & QUALITY CONTROL

The City will provide materials testing services ("Project Tester") throughout the duration of this project. The Contractor is encouraged to take independent or additional tests at their discretion, but such tests shall be performed at no additional cost to the City. The Contractor will cooperate with the city to ensure that adequate materials samples are made available to the Project Tester and that such materials are accessible at all times.

The Contractor's attention is directed to Sections 900 - Hot Mix Asphalt and 15 - Streets of the City Standard Specifications and the appropriate subsections thereof regarding production tolerances, Inspection, materials testing, and frequency of testing. Specifications contained in these Sections and subsections of the City Standard Specifications will be strictly adhered to.

When the City determines that the material furnished, work performed, or the finished product is not in conformity with these contract documents and has resulted in inferior or unsatisfactory product, the finished product or materials shall be removed and replaced or otherwise corrected by, and at the expense of the Contractor, unless the Project Manager determines that the work can be accepted at a reduced price. Payment reduction, where allowed, shall be accomplished by adjusting pay quantities and following the procedures indicated in Section 1179.00 - Payment Reduction of the City Standard Specifications and applying contract unit prices to the reduced quantities.

SC-B-19 FULL DEPTH ASPHALT RECONSTRUCTION

No streets have been identified for reconstruction in 2026 at time of bid. However, unit costs associated with full depth asphalt reconstruction are included in Bid Alternate A using estimated quantities from previous years programs. Streets identified for Mill and Overlay for 2026 are subject to change to full depth asphalt reconstruction at the discretion of the Project Manager.

SC-B-20 STREET RECONSTRUCTION

This work consists of removing the entire section of asphalt pavement and subgrade to a depth specified above, if needed preparation of subgrade per Section 300, and repaving to the minimum depth of asphalt specified for the roadway type for the entire street width and length as shown on the plans. At the end of each workday, no unpaved areas will be permitted to remain. The portion of the street under construction shall be repaved up to the elevation of the bottom of the proposed top lift (typically 2.0-inches less than the Reconstruct Depth, or 1.5-inch below concrete lip-line). The proposed top shall be placed after the bottom lift has been completed for the entire street. Contractor shall provide temporary asphalt from ramps to driveways until all paving work is complete.

Payment for street reconstruction work shall be paid for under separate items including, but not limited to, Removal of Asphalt Mat, Extra Depth Asphalt Mat Removal, Stabilization Material, 2" HMA Paving , and 3" to 7" HMA Paving . No separate payment shall be made for completing the bottom lifts of pavement after each workday as specified and providing temporary asphalt driveway ramps but shall be included as part of the work.

SC-B-21 ASPHALT REMOVAL AND EXTRA DEPTH ASPHALT REMOVAL

This work shall consist of removal and disposal of the existing asphalt pavement mat by milling or otherwise removing the entire pavement width and depth up to 8-inch thickness, excluding curbs and gutters and medians. Asphalt mat removal shall result in removal of all existing asphalt material including large asphalt chunks to the satisfaction of the City.

Removal of the asphalt mat may be accomplished by the use of an approved milling machine or grinder. All removed asphalt pavement shall be loaded directly onto trucks. All asphalt millings where milling equipment is used shall be removed the same day as the milling operation from adjacent gutters, sidewalks, yards, driveways, etc.

The contractor shall exercise caution when removing the asphalt pavement around manholes, water valve boxes and other roadway appurtenances. Manholes, Water valve boxes, and similar structures shall be cut around the structure using milling equipment, or the asphalt mat removed in such a way so as not to damage the structure and the accompanying ring and lid cover. The contractor shall exercise care to prevent chipping, gouging and breakage of existing concrete gutter lip lines, driveways, and cross pans. The contractor will be responsible solely at their cost for repair and/or replacement of manholes, valve boxes, concrete, etc. damaged by their equipment during the asphalt mat removal operation.

Millings resulting from the use of milling equipment to remove the asphalt mat shall become the property of the contractor. No additional payment will be made for haul and disposal of asphalt or asphalt millings but shall be included in the pay item for Asphalt Mat Removal.

Asphalt mat removal will be measured and paid for at the unit price per square yard based on an average thickness of 6 inches. Removal of asphalt mat for existing asphalt that is greater than 6-inch depth shall be measured by the SY-IN of existing asphalt removed and paid for under the item, "Extra Depth Asphalt Mat Removal." Asphalt pavement existing above the concrete gutter pan lip will not be considered as additional asphalt mat removal thickness but shall be included in the pay item for Asphalt Mat Removal.

SC-B-22 SUBGRADE PREPARATION

Subgrade preparation prior to placement of Hot Mix Asphalt Paving, which includes compaction of subgrade and proof roll, if necessary, shall not be measured or paid for separately but shall be considered a part of the contract work.

SC-B-23 STABILIZATION MATERIAL

This work shall consist of over-excavation, furnishing, placing and compacting 6" of crushed rock, CDOT Class 6 recycled concrete, or CDOT Aggregate Base Course (Class 6) where unsuitable, wet, soft or unstable subgrade areas are encountered and designated for stabilization at City direction. Rock used for stabilization shall be 100% crushed with 100% passing 2-inch and a maximum 15% passing No. 4 sieves respectively. The Project Manager shall determine the type of stabilization material and depth required based on the existing conditions.

Payment for tons of rock stabilization based on certified weight tickets received at the site shall be full compensation for furnishing all labor, equipment, materials and incidentals required to place and compact 6" inch rock or CDOT Class 6 recycled concrete material complete in place including over excavation and disposal of unsuitable materials in accordance with the project specifications.

SC-B-24 HOT MIX ASPHALT (HMA) PAVING

This work shall consist of placement and compaction of Hot Mix Asphalt (HMA) paving to the specified thickness, binder grade and density as indicated on the Bid Schedule, and in accordance with the City Standard Specifications and these Special Conditions. Where the Special Conditions vary from the City Standard Specifications, the Special Conditions shall take precedence.

Tack coat material consisting of CSS-1h emulsified asphalt and an equal amount of clean water shall be applied at a rate of 0.10 gallons per square yard and allowed to break prior to completing the wearing surfaces. Prior to application of the tack coat the street shall be swept clean with a pick-up type of sweeper meeting current EPA air pollutant control requirements.

The Contractor shall sweep gutters, sidewalks and driveways free of any loose debris or asphalt millings prior to the paving operation, and before the end of each workday. Asphalt concrete or tack coat tracked, spilled onto gutters and on sidewalks during the paving operation shall be swept up, cleaned, and otherwise removed immediately.

The paving shall be placed and compacted such that the vertical difference between the wearing surface and the gutter lip line shall not exceed ½ inch. Special care shall be taken to ensure longitudinal joints are clean and uniform. Longitudinal joints shall be constructed and placed per the City of Arvada Standard Specifications. The HMA wearing course at the specified thickness shall be completed in one operation on each phase of the project and will not be placed until the bottom HMA layer is first placed and compacted over the entire surface area of the roadway.

Hot Mix Asphalt (HMA) Paving will be measured and paid for by the actual tons compacted in place as verified by certified weight tickets at the project delivery location. The contract pay item for HMA paving shall include tack coat, placement and compaction of the HMA, sweeping of gutters, sidewalks and driveways, and all labor, equipment, materials, and incidentals necessary to complete the work to the satisfaction of the City.

SC-B-25 ASPHALT MILLING

This work shall consist of milling, removal and disposal of asphalt pavement over the entire width of mill machine pass and to the specified depth as shown on the plans or Bid Schedule, or as directed otherwise by the Project Manager.

Milling shall result in a surface acceptable to the Project Manager. Acceptability shall be based upon the following criteria:

1. Free of surface ridges in excess of ¼ inch
2. Planed surface parallel to lane lines
3. Surface area free of excess surface fines
4. All planned surfaces, especially wheel ruts, show scoring by planer teeth
5. Specified cut depth attained at edges, roadway appurtenances, and along curb lines

Milling and removal of the specified milling depth shall be accomplished using an approved milling machine or grinder. The approved machine shall be equipped with an adequate automatic control system to ensure proper control of the depth of milling and the profile of the final milled surface.

The minimum depth of cut at the lip line shall be 1-3/4 inch below the lip line. All removed asphalt pavement shall be loaded directly onto trucks by means of a self-loading conveyor which is an integral part of the planer. The planer must be capable of picking up all removed asphalt mat in a single operation. Windrows will not be allowed. All milled areas shall be swept clean with pick-up type street sweepers before the street is opened to traffic. All asphalt millings shall be swept or otherwise removed from the gutters, sidewalks, yards, driveways, medians, etc.

Failure to clean the roadway in an expeditious manner will result in a temporary suspension of milling operations until the sweeping operation maintains reasonable pace with the milling operation. Work will not resume until the Project Manager has approved the Contractor's revised written description of the method proposed by the Contractor to comply with the requirements of this specification.

The Contractor shall exercise caution when milling around manholes, water valve boxes, and other roadway appurtenances. Manholes, water valve boxes, and other similar structures shall either be adjusted to below the bottom of the cut prior to milling operations or cut around the structure using milling equipment. The maximum deviation between the top of the milled pavement and top of the manhole or water valve box shall be no more than ¾ inch in areas open to traffic. This will be achieved by placing a temporary taper around the structure. This temporary taper shall be removed prior to placement of new HMA. All water valves, range boxes and manholes shall be ramped after milling.

A detailed milling machine shall be utilized to remove asphalt adjacent to cross-pans, as directed by the Project Manager. Payment for detail milling will be made under 2-inch Depth Milling (Full Width) or Edge Milling (12-foot Width) and will not be paid for separately.

The Contractor shall exercise care to prevent chipping, gouging and breakage of existing concrete gutter lip lines,

driveways, and cross-pans. The Contractor will be responsible solely at their cost for replacement of all concrete damaged as a result of carelessness during the milling operation.

Millings shall become the property of the Contractor.

Measurement and payment shall be by the square yard at the specified depth. Milling depths greater than those specified will be measured and paid for by the square yard-inch. Asphalt pavement existing above the lip will not be considered as additional depth milling at the lip but shall be included in the pay Item for 2 Inch Depth Milling (Full Width). No separate measurement or payment will be made for traffic control, hauling and disposal of material, maintenance of milled surface prior to resurfacing etc., but shall be included in the work.

SC-B-26 4" HMA PATCHING

Four-inch (4") Hot Mix Asphalt (HMA) patching shall be performed after the completion of the two-inch (2") full-width milling for each street location scheduled for patching and overlay. Exceptions to this requirement may be made if, prior to milling, the existing pavement section is determined to be structurally insufficient or if the pavement is designated for full removal and replacement. At the time of this specification, no streets are identified for full removal and replacement; however, this determination is subject to change.

Following completion of the 2" full width milling and street sweeping, the Project Inspector shall mark areas requiring patching in accordance with these Special Conditions or as otherwise directed by the Project Manager.

Pavement cutting shall be performed using a milling machine or another method approved by the City. All cuts shall produce neat, straight lines with clean, vertical faces and shall not deform the adjacent pavement surface. The subgrade shall be properly prepared, compacted, and proof-rolled, where required, prior to placement of asphalt.

All vertical faces of the cut pavement shall be uniformly coated with CSS-1H tack material prior to placement of HMA. Asphalt lifts shall not exceed four inches (4") in thickness. HMA patching shall be placed using a paver where dimensions permit. Any areas exhibiting excessive segregation, as identified by the Project Inspector or Project Manager, shall be immediately removed and replaced at no additional cost to the City.

All 4" HMA patching shall consist of HMA (Grading SG) (75) (PG 64-22).

Measurement and payment for 4" HMA patching shall be by the ton and shall include but not be limited to: asphalt mill patching; removal and disposal of existing asphalt pavement; subgrade removal and disposal; compaction and proof rolling where necessary; application of tack coat; placement of HMA (Grading SG) (75) (PG 64-22); and all labor, equipment, materials, and incidentals required to complete the work. Asphalt cement shall not be paid for separately and shall be included in the unit price for this item.

SC-B-27 <u>HOT MIX ASPHALT (HMA) OVERLAY</u>

This work shall consist of placing and compacting Hot Mix Asphalt (HMA) overlay to the required thickness and binder grade as listed in the Bid Schedule, and as specified in these Special Conditions or in the City Standard Specifications.

Where curb and gutter exist adjacent to the pavement, the paving shall be placed and compacted such that the vertical difference between the wearing surface and the gutter lip line does not exceed ½ inch. Special care shall be taken to ensure longitudinal joints are clean and uniform. Longitudinal joints shall be constructed and placed by the City of Arvada Standard Specifications. Overlay on milled sections of the street shall be completed within ten (10) days of the completion of the full width milling unless a time extension is granted by the City. If the Contractor does not complete the overlay within these time limitations, there may be a price reduction of $1,000/day for each day this limitation is violated. The price reduction will not constitute a penalty but will be considered a failure to perform resurfacing in accordance with the contract requirements.

Tack coat material consisting of CSS-1h emulsified asphalt and an equal amount of clean water shall be applied at a rate of

0.10 gallons per square yard and allowed to break prior to completing overlay or surface replacement on each street. Prior to application of the tack coat the street shall be swept clean with a pick-up type of sweeper meeting current EPA air pollutant control requirements.

The Contractor shall sweep gutters and sidewalks immediately following overlay or patching operations, and prior to the end of each workday. The Contractor shall have the necessary equipment and materials readily available to immediately clean up any tack coat, diesel fuel or oil spills should such spills occur. Asphalt or tack coat tracked, spilled, or raveled into gutters and on sidewalks during overlay operations shall be swept up, cleaned, and removed immediately following the overlay work.

Hot Mix Asphalt (HMA) Overlay will be measured by the actual ton in place as verified by certified weight tickets at each location. The pay item for Hot Mix Asphalt (HMA) Overlay shall include soil sterilant, weed burning, tack coat, sweeping of gutters, sidewalks and asphalt paths, and all labor, equipment, materials, and incidentals necessary to complete the work to the satisfaction of the City. Asphalt cement shall not be paid for separately but shall be included in the work.

C. EDGE MILL

No streets have been identified for Edge Mill in 2026 at time of bid. However, unit costs associated with Edge Mill are included in Bid Alternate item 27 using estimated quantities from previous year's programs. Streets identified for Mill and Overlay for 2024 are subject to change to Edge Mill and Overlay at the discretion of the Project Manager.

SC-C-28 EDGE MILLING (12-FOOT WIDTH)

This special condition amends SC-28 – Asphalt Milling. Payment for Edge Milling shall be by the square yard with depths of milling ranging from a maximum of 1.5-inches at the curb-line or edge of pavement to 0-inches at 12-feet from the curb-line or edge of pavement. Actual depth will be set in the field by the Project Manager.

Butt joints shall be constructed where edge milled streets intersect adjacent streets without a cross-pan and are not scheduled for milling. The intersecting area of adjacent streets shall be full depth patched; extending 20 to 50-feet back from the ending point of the edge milling, as directed by the Project Manager. The top 1.5-inches of adjacent street milling shall be included in the cost of Edge Milling (SY). The remainder of the butt joint depth will be paid for through 4-inch Depth.

HMA Patching (SY). Payment shall include all labor, materials, equipment, and incidentals necessary to complete the work.

D. TRAFFIC CONTROL

SC-D-29 TRAFFIC AND PARKING CONTROL

All traffic control shall be in accordance with the latest addition of the FHWA "Manual on Uniform Traffic Control Devices" (MUTCD) and Colorado Supplement and the most current revision of the City of Arvada Engineering Code of Standards and Specifications.

The contractor shall submit two copies of a "Traffic Control Plan" (TCP) for all work locations to the City's Traffic Division for review and approval at least two business days prior to beginning work on the project. The contractor shall not proceed with any work until the City's Traffic Division has approved the site-specific traffic control plans. If during construction the City determines that the traffic control plan needs to be adjusted to meet actual field conditions, the Contractor shall immediately make such adjustments and at no additional cost to the city.

The contractor is responsible for determining the traffic control requirements for each work location with the Traffic Division prior to submitting their bid. The contractor is directed at Section 100 of the City's Engineering Code of Standards and

Specifications for more specific information on traffic control. The contractor shall notify the Traffic Division (720-898-7740) a minimum of two business days in advance of all closures including temporary lane closures on public roads, private and business access. Two-way traffic control shall be maintained at all times.

Where parking is allowed on a street where work is scheduled, "No Parking" signs shall be placed by the contractor at least 24 hours minimum (48 hours on major collectors and arterials) in advance of any phase of work where parking is normally allowed. The contractor will be required to remove all "No Parking" signs promptly upon completion at each location and phase of work. Hand painted signs or other signs which do not meet MUTCD requirements or City of Arvada standards and specifications will not be permitted.

Residential and commercial establishment written notification in advance of each phase of work is the responsibility of thew contractor, and to ensure that vehicles are cleared from the site prior to each phase of the work. The City will assist the contractor in clearing parked vehicles by private towing contract in isolated cases where vehicles impede the work and vehicle owners fail to respond to "No Parking" signs, and where personal attempts are made by the contractor to have vehicles moved from the work area.

Prior to milling and prior to overlay at each work location, the Contractor shall personally contact the management of all businesses or other establishments within and adjacent to the work area and inform the management of such business establishments of the schedule for each phase of the work. A log of names and conversations shall be kept and made available to the City. At no time shall complete access be blocked to businesses and other establishments except for brief periods of less than 30 minutes during the milling and overlay operations. At least one entrance/exit and emergency access shall be left open where possible during milling and overlay operations. Where there is only one access available to a business or other establishment, such access shall be blocked only during milling, sweeping and overlay operations, and for no more than approximately 20 minutes. This requirement will not be paid for separately but shall be included in the lump sum bid item for Citizen Notification. The Contractor shall furnish standard traffic control including advance-warning signs at the beginning and end of each phase of the work as it progresses. Patching, milling and overlay operations shall proceed in such a manner to minimize traffic interruption and hazards.

In addition to providing advanced traffic control and traffic control during work operations, the contractor shall furnish traffic control, including lane closures as may be necessary, to allow the City Project Inspector to safely mark out locations to be patched. Contractor shall coordinate this work with the Project Inspector.

Payment for "Traffic Control Devices" in one lump sum shall be paid in accordance with Section 3.46 of the City Standard

Specifications and shall constitute full compensation for preparation and submittal of CDOT permits and permit fees, traffic control plans, furnishing, placement, maintenance and removal of traffic control signs, working lighted barricades, arrow boards, temporary pavement marking tape, traffic control for City Project Inspector and all labor, equipment, materials and miscellaneous items necessary to complete the work. Uniformed Traffic Control, Uniformed Traffic Control (Vehicle), Traffic Control Supervisor and Flagging shall be paid for separately.

SC-D-30 UNIFORMED TRAFFIC CONTROL AND UNIFORMED TRAFFIC CONTROL (VEHICLE)

Uniformed Traffic Control (UTC) and Uniformed Traffic Control Vehicle (UTCV) shall be used only at signalized intersections and when required by the Project Manager. UTC and UTCV shall be provided in accordance with the Colorado Department of Transportation Standard Specifications for Road and Bridge Construction Section 630 - Construction Zone Traffic Control except as revised for this project as follows:

Section 630 shall include the following:

A. This work includes furnishing a uniformed police agency officer to perform uniformed traffic control. The officer shall have completed "The Safe and Effective Use of Law Enforcement Personnel in Work Zones" Training course. The Contractor shall provide copies of documentation certifying the officer's successful completion of this course.

B. This work includes furnishing a vehicle for the officer to use in performing uniformed traffic control.

C. Traffic Control Vehicles: When called for on the plans, and/or as authorized by the Project Manager, the Contractor shall furnish full-sized, late model, white sedans, or a police agency's patrol vehicle to be used by uniformed police agency officers in the performance of Uniformed Traffic Control duties. The contractor shall be responsible for licensing, insuring, servicing, and fueling the vehicle.

D. For each Traffic Control Vehicle furnished by the contractor, the contractor shall furnish Class 1 SAE certified light bar and control panel for exclusive use by uniformed police agency officers while performing Uniformed Traffic Control.

E. The light bars shall be mounted on traffic control vehicles and shall be maintained in good operating condition at all times. The Contractor shall obtain a permit from the police department, if required, for the use of the light bars. The Contractor shall keep the light bars covered at all times when the traffic control vehicle is being used by someone other than the authorized uniform police agency officer.

SC-D-31 MEASUREMENT AND PAYMENT

Uniformed Traffic Control will be measured by the total number of hours that are required for uniformed traffic control officer including minimum shift hours required by the agency. The accepted number of hours of Uniformed Traffic Control will be paid for at the contract unit price per hour. Uniformed Traffic Control (Vehicle) will be measured as the contract unit price per hour for the uniformed traffic control officer and traffic control vehicle. No separate payment shall be made for the Contractor furnishing a Traffic Control Vehicle with light bars and other equipment, licensing, insuring, servicing, and fueling a Traffic Control Vehicle but shall be included in the work.

Hours of Uniformed Traffic Control or Uniformed Traffic Control (Vehicle) that are not authorized or approved will not be paid for. Scheduling of traffic control will not be measured and paid for separately but shall be included in the work.

SC-D-31 FLAGGING

Flagging shall be performed, measured and paid for in accordance with Section 630 - Construction Zone Traffic Control of the Colorado Department of Transportation Standard Specifications for Road and Bridge Construction.

At the end of each day, it is the responsibility of the TCM to make sure all trash left behind by flaggers is picked up.

SC-D-32 TRAFFIC CONTROL MANAGEMENT

Traffic Control Management shall be performed, measured and paid for in accordance with Section 630 Construction Zone Traffic Control of the Colorado Department of Transportation Standard Specifications for Road and Bridge Construction.

SC-D-33 WORK HOURS AND STREET CLOSURE RESTRICTIONS

No work shall be done between the hours of 9:00 p.m. and 7:00 a.m., or at any time on a Sunday, except with the written permission of the City Manager, or in case of an emergency.

Barricading, traffic control devices, and protective materials shall remain in place until the work is opened to traffic. Emergency vehicle access shall be maintained at all times. Such access shall be a minimum width of 16 feet.

Lane closures for the street classifications within this project are as follows:

- ARTERIAL STREETS:
  - Lane closures: 8:30 am – 3:30 pm only.
  - Construction activities: 8:30 am – 3:30 pm only Must maintain one lane each way at all times.
- COLLECTOR STREETS:
  - Lane closures: 8:30 am – 3:30 pm only
  - Must maintain one lane with adequate flagging at all times.
- LOCAL STREETS:
  - Lane closures: 7:00 am – 7:00 pm only
  - Construction activities: 7:00 am – 7:00 pm only

Traffic restrictions on weekends will be determined on a case-by-case basis.

If the Contractor violates these working time limitations, the Project Manager may give written notice to stop work on the project at the beginning of the next workday. Work cannot resume until the Contractor provides a written explanation for the violation and assurance to the city that there will not be a recurrence of the violation. If subsequent working time violations do occur, the Project Manager will notify the Contractor in writing that there will be a price reduction for each incident of violation in accordance with the schedule described further below. The price reduction will not be imposed when changed contract conditions are encountered during the normal working time or the violation was a result of circumstances beyond the control of the Contractor or subcontractor. Delays in material delivery are not considered circumstances beyond the control of the Contractor. The price reduction will not constitute a penalty, but it will be considered a failure to perform traffic control in accordance with the contract specifications.

An incident is any violation up to 30 minutes in duration. Each 30 minutes or increment thereof will be considered an incident. A price reduction will be assessed for each successive or cumulative 30-minute period of violation as determined by the Project Manager. The price reduction will increase at a progressive rate. A 15-minute grace period may be granted at the beginning of the second incident before a price reduction is applied. The incident charges are cumulative throughout the project. Adherence to this procedure and any violations as a result of non-compliance to this procedure will be strictly enforced by the city.

PRICE REDUCTION SCHEDULE

INCIDENT	INCIDENT RATE	TOTAL PRICE REDUCTION
1st	Notice to Stop Work	$0
2nd	$150	$150
3rd	$300	$450
4th	$600	$1,050
5th	$600	$1,650
6th	$600	$2,250
ETC.	$600	$2,850

SC- D-33 PORTABLE VARIABLE MESSAGE SIGN

Contractor shall furnish, operate and maintain a minimum or one Portable Variable Message Sign at the end of each work location. Additional intermediate message signs may be required to be placed and maintained as determined by the City's Traffic Division. Each message sign shall be placed and working at least three (3) days prior to the start of construction activity and maintained in satisfactory operating condition throughout the duration of this project.

Each sign shall be fully self-contained on a portable trailer capable of being licensed for normal highway travel and shall include leveling and stabilization jacks. The sign panel shall display a minimum of three eight-character lines of text. The text of the messages shall not scroll or travel horizontally or vertically across the face of the sign. The sign panel shall be a dot-matrix type with fluorescent yellow flip disks legend or LED legend on a flat black background. Each sign shall have its own separate power source with an independent battery back-up source to provide continuous operation upon failure of the primary power source.

The mounting of the sign on the trailer shall be such that the bottom of the sign panel is a minimum of five feet above the roadway, visible from one-half mile under both day and night conditions, and legible from a minimum of 650 feet.

Payment for each unit shall include delivery to each location, maintenance, operation, storage, repairs, relocation to other sites, and all labor, equipment, materials, and incidentals.

SC- D-34 TEMPORARY PAVEMENT STRIPING

Whenever permanent striping is removed on any roadway, temporary striping must be installed before the end of each workday. Payment for temporary striping will be made as a lump-sum item only if the temporary striping has been completed. If work occurs in an area where temporary striping is not installed, no payment will be made for that item.

E. STORMWATER MANAGEMENT

SC-E-35 EROSION CONTROL

This work shall consist of all materials, installation, maintenance, and removal of erosion control measures using Best Management Practices (BMPs) located within the erosion control limits of each street reconstruction and parking lot location listed on the Street Schedule and Summary of Approximate Quantities throughout the duration of the contract. The contractor shall comply with all provisions of the City of Arvada Site Development Permit for this project, which will be considered as a part of the contract documents.

A. BEST MANAGEMENT PRACTICES (BMPs) FOR STORMWATER MANAGEMENT:

This section provides a set of criteria and technical guidance for erosion and sediment control and material management at concrete replacement and asphalt projects. Erosion control measures limit erosion of soil from disturbed areas including stockpiled material at the construction site. Sediment control measures prevent the transport of sediment off-site to downstream properties and stormwater conveyances. Materials management is the practice of containing and controlling all materials used in order to eliminate potential pollutants from leaving the site. Due to the fast-paced nature of concrete and asphalt projects, the site's erosion and sediment controls and material management BMPs must be inspected and maintained daily.

1. Site Development Permit (SDP):

   In accordance with the City of Arvada's permit criteria, concrete and asphalt operations including the installation and repair of all concrete and asphalt public right of ways must acquire a City Site Development Permit and implement and maintain erosion control, sediment entrapment and material management BMPs.

   Initial documentation required:
   a. Completed SDP application
   b. Application fee (waived for City funded projects)
   c. Escrow/LOC (waived for City funded projects)
   d. Site map
   e. Potential pollutant list
   f. BMP specification details

2. SDP - Required Documentation:
   a. A site map including construction boundaries, all locations of BMPs, stockpiles, staging areas, portable restrooms, concrete containment/washout area, construction material storage and waste material storage must be provided to the City's Stormwater Division prior to beginning work. This site map must be updated daily to reflect the site's condition.
   b. Potential pollutants must be listed and BMPs prescribed for each individual pollutant. If on-site fueling or maintenance are conducted, a spill plan must be provided to the Stormwater Division prior to beginning work and a copy must be retained by fueling/maintenance personnel during operations.
   c. A copy of these requirements including BMP specifications and applicable details indicated in this Section and drawings contained within the City Standard Specifications must remain on site and referred to by any personnel installing, maintaining, repairing, repositioning or inspecting BMPs.
   d. A daily log of BMP inspections, installation, repair and maintenance must be kept on site. This log must contain the date, name, location of BMP, and nature of work. It must also include that the site map was revised.

3. SDP - Enforcement Policy:

   If it is determined by the city inspector that control measures are not inspected, installed and maintained daily, payment to the contractor may be withheld. If control measures are not installed or maintained for a period of three consecutive days, a separate company will be contracted to do the work, whereas costs incurred will be 100% reimbursed to the City with an inclusion of an additional 50% for administrative fees.

4. Site Development Permit BMP Requirements for Concrete and Asphalt Operations:
   a. All paved surfaces, gutters and sidewalks affected by work must be cleaned at the end of each day.
   b. All inlets within and downstream of the work areas shall be protected.
   c. Curb check dams will be installed at all locations downstream of work areas where stormwater flows may potentially come in contact with dirt and exit the work area.
   d. An area must be designated for construction material waste. All waste materials must be placed into waste containers and covered immediately.
   e. Portable Toilets must be provided on site and an area designated for their placement.
   f. A portable concrete washout basin (where applicable) must be provided on site.
   g. Staging areas must be designated and employ appropriate BMPs.
   h. Stockpiles must, at all times, have perimeter control measures installed at the downstream side and all material dragged from a stockpile during operations must be swept back into the pile at the end of each day.

i. If replacing a storm sewer inlet, pipes within the inlet must be temporarily plugged during the inlet construction.

j. All erosion and sediment control measures shall be maintained and repaired by the Contractor during construction as needed to assure continued performance of their intended function. All erosion and sediment control measures must be inspected, maintained and replaced daily if necessary.

k. After all work has been completed, including asphalt and re-vegetation, cleanup and remove all temporary construction erosion and sediment control measures.

l. At all times during construction, the Contractor shall be responsible for preventing and controlling on-site erosion including keeping the property sufficiently watered to minimize wind-blown dust/sediment. The Contractor shall also be responsible for installing and maintaining all erosion control facilities shown herein.

B. BEST MANAGEMENT PRACTICES (BMPs)

1. BMP/Control Measure - Stockpiles

a. BMP/Control Measure Application - Straw Wattle or Rock Bag used for stockpile containment. If stockpiles are located within 100 feet of a waterway, including conveyances to them, additional sediment controls must be provided which could include silt fencing. A weighted down wattle or rock bag must be installed on the downstream side of all stockpiles.

b. BMP/Control Measure Installation - Install in an arced position on the downhill side of stockpiles. Place two feet from the toe of the stockpile to allow for ponding. Instruct persons accessing the stockpiles with equipment to work around the control measure or temporarily relocate it. Damaged control measures must be replaced immediately.

c. BMP/Control Measure Maintenance - Sediment entrapment control measures (wattles or rock bags) must be cleaned and repositioned daily. Broken or crushed control measures must be replaced immediately. Any materials spilled from the control measure when damage occurs must be removed from the site and disposed of.

BMP Detail - SW-10.

2. BMP/Control Measure – Perimeter Sediment Control

a. BMP/Control Measure Application – Sediment Control Logs are used as a sediment barrier to intercept sheet flow runoff from disturbed areas.

b. BMP/Control Measure Installation – Install around the entire perimeter of the disturbed area.

c. BMP/Control Measure Maintenance - Remove accumulated sediment before the depth is one-half the height of the sediment log and repair damage to the sediment log by replacing the damaged section.

BMP Detail – SW-11

3. BMP Control Measure - Inlet Protection

a. BMP/Control Measure Application - An approved design for protecting inlets must be installed at all storm sewer inlets directly downstream of and within the work area.

b. BMP/Control Measure Installation - Install around the entire inlet or from curb to curb.

c. BMP/Control Measure Maintenance - Inlet protection must be repositioned or replaced at the end of every day. Sediment and debris accumulated at inlet protection must be removed and disposed of daily.

d. BMP/Control Measure Detail - SW-9, Colorado Department of Transportation M Standard M-208-1 Storm Drain Inlet Protection (Type II) Option A and B or “Dandy Bag,” or approved equal. In circumstances where vehicles will be traveling close to or on gutter pans, CDOT type inlet protection or “Dandy Bags” shall be used. No extra payment will be made for the use of CDOT type or Dandy Bag Inlet protection but shall be included in the lump sum cost of Erosion Control.

4. BMP/Control Measure - Inlet Pipe Protection

a. BMP/Control Measure Application - An approved design for protecting pipes during storm sewer inlet re-construction must be installed within the inlet at all pipe connections.

b. BMP/Control Measure Installation - Install at piping within inlet.

c. BMP/Control Measure Maintenance - Inlet protection must be repositioned or replaced at the end of every day. Sediment and debris accumulated at inlet protection must be removed and disposed of daily. After inlet construction is completed all dirt, materials and pipe protection must be removed and disposed of and

an approved inlet protection installed.

BMP Detail - SW-9.

5. BMP/Control Measure - Check Dams (Curb/Rock Sock)

    a. BMP/Control Measure Application – Rock bag gutter check dams used for sediment entrapment downstream of work area.
    b. BMP/Control Measure Installation - Rock bags must be installed within gutters, contacting the curb and set at a 45-degree angle.
    c. BMP/Control Measure Maintenance - Rock bags must be repositioned or replaced if broken daily. Accumulated sediment must be removed and disposed of daily.

BMP Detail - SW-2.

6. BMP/Control Measure - Street Sweeping (Non-Structural BMP)

    a. BMP/Control Measure Application - Street sweeping either by machine or manually for the removal of excess materials on the roadway, sidewalks or gutters.
    b. BMP/Control Measure Maintenance - Street sweeping must be conducted at the end of each day. This includes the removal of materials in the gutters or accumulated at sediment entrapment control measures.

BMP Detail - No detail.

7. BMP/Control Measure - Stabilized Staging Areas

    a. BMP/Control Measure Application - Areas designated for equipment and material storage.

    b. BMP/Control Measure Installation - Staging areas whether on private or public areas must remain organized and clean. The staging area may be used for equipment and construction material storage, sanitary waste receptacles and other waste receptacles. All fluids or hazardous materials stored at the staging area must be stored inside or covered on pallets.

    c. BMP/Control Measure Maintenance - Organize and clean the staging area daily. Do not allow dumpsters to become over full or store waste piles on site. All waste piles must be contained.

BMP Detail - SW-7.

8. BMP/Control Measure – Vehicle Tracking Control

    a. BMP/Control Measure Application - Vehicle tracking control provides stabilized construction site access to remove sediment (mud or dirt) from vehicles and reduce tracking onto the paved surface.

    b. BMP/Control Measure Installation – Install at construction site access.

    c. BMP/Control Measure Maintenance - Replace aggregate used for a stabilized entrance/exit as needed. If the area becomes clogged and ponds water, remove and dispose of excess sediment or replace material with a fresh layer of aggregate as necessary. Ensure rock and debris from the vehicle tracking area do not enter the public right-of-way. Remove sediment that is tracked onto the public right of way daily or more frequently as needed.

BMP Detail - SW-5.

9. BMP/Control Measure - Waste Management

    a. BMP/Control Measure Application - All waste generated on site must be contained. At no time will construction debris or waste generated at the site be allowed to be stored onsite, uncontained.

    b. BMP/Control Measure Installation - Dumpsters and trash bins must be provided on site and placed in a designated area.

    c. BMP/Control Measure Maintenance - Receptacles must be emptied frequently. Liquids may not be placed within the receptacles if there is a possibility they could leak.

BMP Detail - No detail.

10. BMP/Control Measure - Materials Management

    a. BMP/Control Measure Application - Construction materials including stockpiles and equipment must be stored in a designated area.

    b. BMP/Control Measure Installation - Perimeter control measures must be installed at all stockpiles, at pipe storage areas, and where equipment is stored on impervious surfaces that may contribute grease, oil or dirt to the site.

    c. BMP/Control Measure Maintenance - Materials must be kept organized and neatly stored. Perimeter

control measures must be repositioned or replaced if damaged, daily.

BMP Detail - No detail.

11. BMP/Control Measure - Fueling/Maintenance Operations

    a. BMP/Control Measure Application - If equipment undergoes fueling, maintenance or repair on site, control measures must be used to include use of a double-wall tank.

    b. BMP/Control Measure Installation - A drip pan, or container will be used during on site fueling, maintenance or repair operations. Absorbents must be available should a spill occur.

    c. BMP/Control Measure Maintenance - Spills must be cleaned up immediately. Fluids leaking from any vehicle or equipment must be cleaned immediately and that vehicle or piece of equipment repaired or removed from the site.

BMP Detail - No detail.

12. BMP/Control Measure - Sanitary Waste Management (Portable Toilets)

    a. BMP/Control Measure Application - Portable sanitary waste receptacles required on site for use by all personnel.

    b. BMP/Control Measure Installation - Portable receptacles must be secured in place and not positioned on an impervious surface. Receptacles must be located at least 3' from all impervious areas, flow lines, ditches, creeks or storm sewer inlets. Attachment to fencing or a roll-off/dumpster to prevent tipping may be allowed if no other alternatives are available.

    c. BMP/Control Measure Maintenance - Receptacles must be checked daily and routinely maintained. In the event materials are spilled from a receptacle, immediate clean-up is required. If a contracted company must respond for the clean-up and the response time is unknown, absorbents must be applied to the spill by the onsite contractor immediately.

BMP Detail – No detail.

13. Measurement and Payment for Erosion Control shall be paid on a monthly basis as a percentage of the lump sum bid item for the contract amount earned. Payment for Erosion Control shall include all labor, materials, equipment and incidentals required for each phase of the work. No additional compensation will be made for the Erosion Control Supervisor (ECS), installation, maintenance or removal of bmp/control measure devices, additional devices required by the City's Stormwater Management Division, or reuse of BMP/control measure devices during construction operations included in this contract or sufficiently controlling mud and dust to reduce or eliminate complaints to the City of Arvada from affected property owners and citizens.

BID FORMS

The following pages contain forms to be completed and returned with bid submission.

BID BOND

We, the undersigned _____ as Principal, and _____ as Surety, are hereby held and firmly bound unto the City of Arvada, Colorado, in the penal sum of _____ for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

THE CONDITION of this obligation is such that whereas the Principal has submitted to the City of Arvada, Colorado the accompanying Bid Proposal, and hereby made a part hereof to enter into a Contract Agreement for the construction of City of Arvada Project No. _____.

WHEREAS, the City, as a condition for receiving said Bid Proposal, requires the Principal to deposit with the City a Bid Proposal Guaranty, equivalent to not less than 5 Percent of the amount of said Bid Proposal.

NOW THEREFORE,

(A) If said Bid Proposal shall be rejected; or in the alternate,

(B) If said Bid Proposal shall be accepted and the Principal shall execute and deliver a Contract Agreement (properly completed in accordance with said Bid Proposal) and shall furnish a Performance and Payment Bond upon the forms prescribed by the City for the faithful performance of said Contract; and for the payment of all persons performing labor or furnishing materials in connection therewith; and shall in all other respects perform the agreement created by the acceptance of said Bid Proposal;

Then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the City may accept such Bid and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, this ____ day of _____, 20__, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

PRINCIPAL	SURETY
Name: _____	_____.
Address: _____	_____.
By: _____	By: _____.
Title: _____	Title: _____.

Attorney-in-Fact:

_____

(SEAL)

NOTE: Surety Companies executing bonds must be authorized to transact business in the State of Colorado and be acceptable to the City.

BID PROPOSAL

TO: City of Arvada, Colorado (hereinafter called "CITY").

FROM: _____(hereinafter called "BIDDER"), organized and existing under the laws of the State of _____ doing business as (a corporation), (a partnership), (an individual).

The Bidder, in compliance with your Advertisement for Bids, hereby proposes to perform all Work in strict accordance with the Contract Documents, for the construction of City of Arvada Project No. _____ entitled _____ within the time set forth therein, and at the prices stated on the included Bid Schedule as totaled herein.

By submission of this Bid Proposal, each Bidder certifies, and in the case of a joint venture each party thereto certifies as to his/her own organization, that this Bid Proposal has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this Bid Proposal with any other Bidder or with any competitor.

Bidder acknowledges receipt of **Addendum Nos.** Initials:_____ _____ _____ _____
Bidder states that their:

Major Material Suppliers are:	Material They Will Supply
_____	_____
_____	_____
_____	_____
_____	_____

Major Subcontractors are:	Work They Will Perform
_____	_____
_____	_____
_____	_____
_____	_____

CONTRACT TIME AND LIQUIDATED DAMAGES: All work shall be completed, including clean-up, within **150** working days after the date to be specified in the Notice to Proceed. A Notice to Proceed is anticipated to be issued on or about _____. The bidder shall agree to pay the owner the sum of $3,300.00 for each calendar day that the work exceeds the allotted contract time. Contract time may be adjusted by Change Order.

Total from included Bid Schedule: **TOTAL BID $_____**

SUBMITTED BY:

Company Name: _____

Contact Names: _____

Address: _____

Phone: (_____) _____ Email(s): _____

The undersigned hereby affirms that:

- He/she is a duly authorized agent of the Contractor;
- He/she has read all Terms and Conditions and technical specifications made available in conjunction with this solicitation and fully accepts and acknowledges this bid is consistent with the specifications and terms and conditions.
- The bid is in all respects fair, without outside collusion or otherwise illegal action.

By:_____ _____
Signature of Authorized Agent Date FEIN

_____ _____ _____
Typed/Printed Name of Agent Title of Agent Agent's email

PAYMENT TERMS: The City standard is net thirty (30) days, but every effort is made to meet net fifteen (15) days after the approved partial payment date when the contractor is satisfactorily performing the contract. The final 5% of total payment will be paid once the contract is completed satisfactorily, advertisement for final settlement is complete, and the project is accepted by the City.
Payment is the date of the check mailing or date of the credit card transaction.

REQUIRED CONTRACTOR SUBMITTAL FORM

SUBMITTAL CHECKLIST:

Bid Proposals shall be submitted in the order listed below with each section clearly identified. **Missing information or required documents may result in submission being deemed non-responsive**.

- ☐ Submit completed Bid Bond, Bid Proposal, Bid Schedule, Required Contractor Submittal, and any other attachments requested.
- ☐ Submit implementation timeline and warrantees, if applicable.
- ☐ Attach Contractor's Licensing, if applicable.
- ☐ Insurance – Checking this box accepts that the insurance requirements listed by the City are acceptable.
- ☐ Variations: Checking this box indicates that the contractor has variations to this solicitation. Identify all variations and exceptions to this CSB on a separate sheet/s of paper. If variations are not stated in the contractor's Offer, it shall be agreed that the contractor's Offer fully complies with all conditions identified in this Solicitation. For each variation listed, reference the applicable section of the solicitation document, the page number, and the variance. Submittal of a vendor contract is considered excessive in variations and may be cause for determining that the Bid is non-responsive and ineligible for award.

REFERENCES:

- ☐ Check here if Contractor's standard reference sheet is attached, otherwise, use the space below.

Name:_____ Contact Person: _____

Address:_____

Telephone No:_____ Email: _____

Describe type of work/service performed or items supplied: _____

_____

Name:_____ Contact Person: _____

Address:_____

Telephone No:_____ Email: _____

Describe type of work/service performed or items supplied: _____

_____

Name:_____ Contact Person: _____

Address: _____

Telephone No:_____ Email: _____

Describe type of work/service performed or items supplied: _____

_____

VENDOR NAME: _____ **SOLICITATION #:** _____

QUOTE #: _____

PERFORMANCE MEASURES FORM INSTRUCTIONS:

The City has incorporated Performance Management into its organizational culture. When vendors submit offers to the City in response to solicitations for ***Services*** (not associated with the primary purchase of goods, supplies, or software), they shall identify the methods and goals by which the City will monitor and report on the Vendor's performance providing those services to the City. Vendor's performance shall be documented as to (a) Price/Cost, (b) Punctuality/Responsiveness (c) Quality/Reliability, and (d) Sustainability/or Innovation.

1. Vendor will define 1-2 measures for (a) Price/Cost, (b) Punctuality/Responsiveness (c) Quality/Reliability, and (d) Sustainability/or Innovation, that follow S.M.A.R.T goals: Specific, Measurable, Achievable, Relevant, and Timely, per category.
2. The awarded vendor will be evaluated by the City per these defined metrics 2 months prior to contract renewal.
The department will review with the vendor any measures needing improvement.

SERVICES means: the furnishing of labor, time, effort, maintenance, etc., by a vendor/contractor/consultant, with an initial contract amount of more than $15,000.

(a) Price/Cost

Example Measure: Consultant will submit detailed invoices substantiating amounts requested.

1. _____
   _____
2. _____
   _____

(b) Punctuality/Responsiveness

Example Measure: Reporting of project status will occur monthly with the City and consultant's Project Manager.

1. _____
   _____
2. _____
   _____

(c) Quality/Reliability

Example Measure: Revisions are drafted within two weeks, and no more than 3 revisions prior to final draft.

1. _____
   _____
2. _____
   _____

(d) Sustainability and/or Innovation

Example Measure: Digital reports delivered to the City 95% of the time will to reduce the use of paper.

1. _____
   _____
2. _____
   _____

Performance measures will be queried for every year of the contract. Performance measures reporting will be considered when renewing or awarding a contract with a vendor.

CONTRACT DOCUMENTS

The following pages contain documents used upon contract award. They are included here for reference and are subject to change.

PERFORMANCE AND PAYMENT BOND

Bond No._____

(Firm): _____

(Address): _____

(an Individual), (a Partnership), (a Corporation), hereinafter called Principal; and

(Firm): _____

(Address)_____

hereinafter called Surety, are held and firmly bound unto the City of Arvada, a Colorado municipal corporation, 8101 Ralston Road, Arvada, Colorado 80002, hereinafter called the City, in the penal sum of _____ , Dollars, _____, in lawful money of the United States, for the payment of such sum will and truly to be made, we bind ourselves, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that the Principal entered into a certain Contract with the City, dated the _____ day of _____, 20__, a copy of which is hereto attached and made a part hereof, for the performance of City of Arvada Project No.'s _____, _____, _____, _____.

NOW THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions and agreements of said Contract during the original term thereof, and any extensions thereof which may be granted by the City, with or without Notice to the surety and during the life of the guaranty period, and if he shall satisfy all claims and demands incurred under such Contract, and shall fully indemnify and save harmless the City from all cost and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the City all outlay and expense which the City may incur in making good any default, and if he shall promptly make payment to all persons, firms, subcontractors and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such Contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, repairs on machinery, equipment and tools, consumed, rented or used in connection with the construction of such work, and all insurance premiums on said work, and for all labor, performed in such work whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the specifications accompanying the same shall in anyway affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the specifications.

PROVIDED, FURTHER, that no final settlement between City and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in three counterparts, each one of which shall be deemed an original, this the _____ day of _____, 20___.

IN PRESENCE OF: _____

PRINCIPAL: _____

By: _____

Address: _____

(Corporate Seal)

OTHER PARTNERS

(Surety Seal)

SURETY: _____

Attorney: _____ in_____ Fact:_____

Address: _____

Note: If Contractor is Partnership, all partners should execute Bond. Important: Surety Company must be authorized to transact business in the State of Colorado and be acceptable to the City.

NOTICE OF AWARD

Date
Company

Address
City, State Zip

RE: Project No.: _____, _____

Dear Representative

of:_____

The City of Arvada, Colorado (hereinafter called "City") has considered the Bid Proposals submitted for referenced work in response to its Advertisement for Bids dated_____and Information for Bidders.

You are hereby notified that your Bid Proposal has been accepted for items and prices stated in the Bid Schedule, in the amount of $_____.

You are required to execute the Contract, the Insurance Certificates and a Performance and Payment Bond within seven (7) days from the date of this Notice to you.

The Performance and Payment Bond need to be filled out, returned (one original must be returned to the City), and accompanied by the Power of Attorney from your surety company. Also, please make sure that the insurance certificate is in the minimum amounts set forth in the Contract Documents and the City of Arvada is named as an additional insured for the specific Project Number and Title. An Additional Insured endorsement certificate should also be attached.

If you fail to execute said Contract and furnish the necessary Insurance Certificates and Bond within the time allotted from this date, the City will be entitled to consider all your rights arising out of the City's acceptance of your Bid Proposal as abandoned and as a forfeiture of your Bid Bond. The City will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this Notice of Award and enclosures to the Project Engineer. CITY OF ARVADA, COLORADO

_____
City Engineer

BIDDER
Company

Receipt of above Notice of Award accompanied with a Performance and Payment Bond form and a copy of the Contract is hereby acknowledged.

This_____day of_____, 20_____.

By: _____

Name: _____

Title: _____

NOTICE TO PROCEED

Date

Company
Address
City, State Zip

RE: Project No. _____, _____

Dear Representative of_____:

You are hereby notified to commence work on referenced Project, in accordance with the Contract dated on or before _____, and you are to complete the Work, including cleanup within___calendar days thereafter. The date of completion of all Work is therefore_.

CITY OF ARVADA, COLORADO

_____

City Engineer

BIDDER

Receipt of this Notice to Proceed is hereby acknowledged this_____day of _____, 20_____.

Company

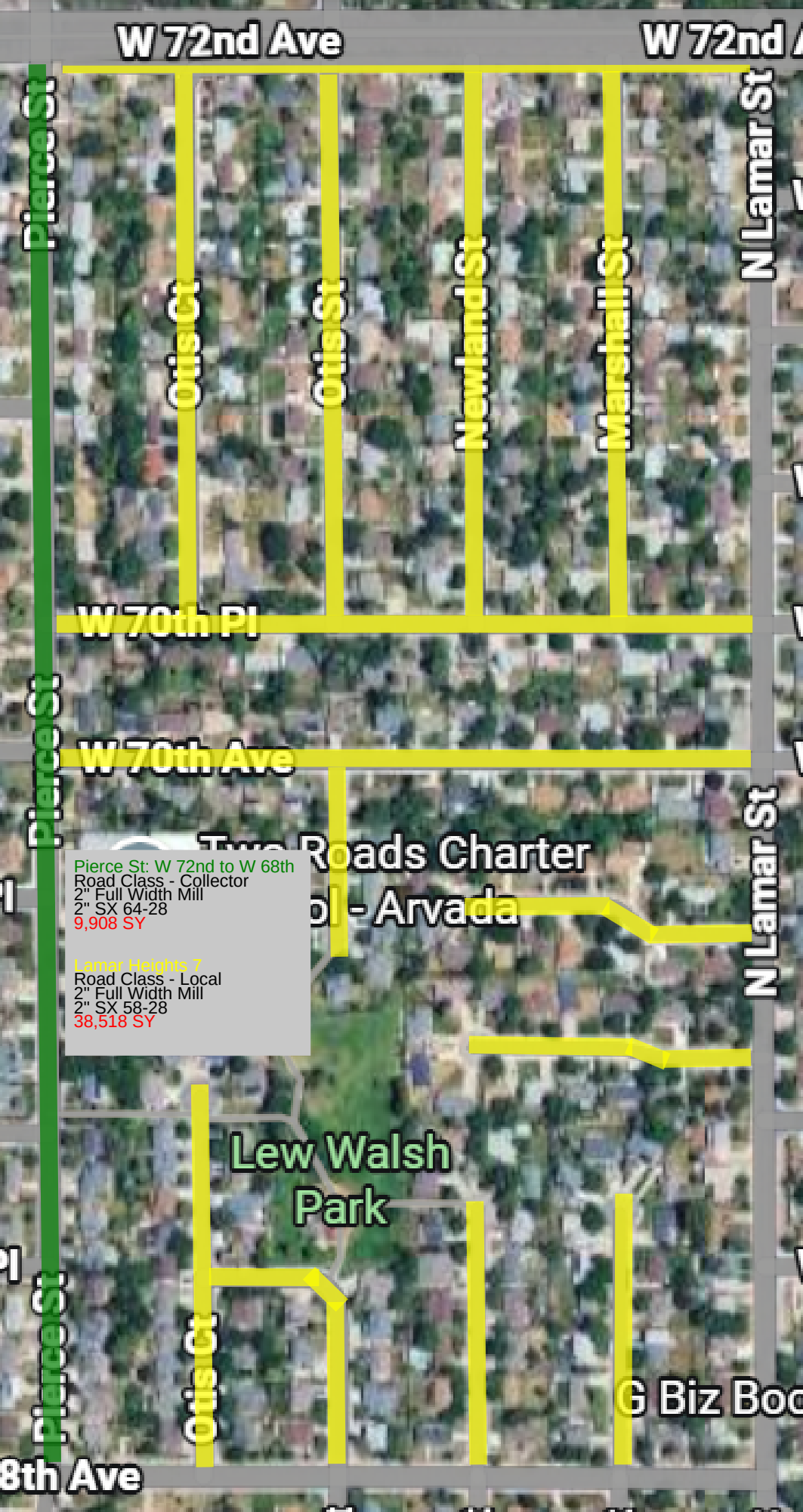
By: _____

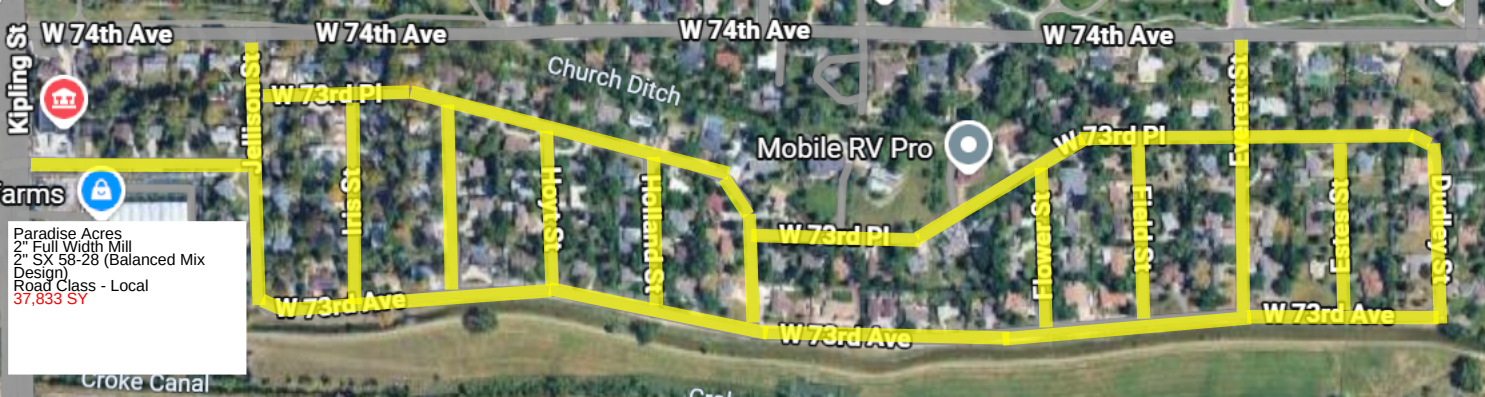
Title: _____

PROJECT IMAGES

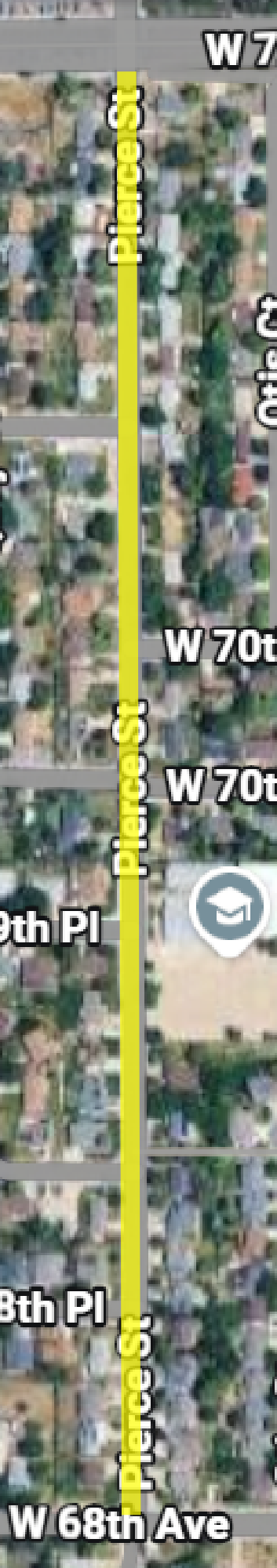
The following images are street surfaces that will be a part of the project.

W. 80th Ave.
W. 72nd Ave.
Wadsworth Blvd. (csh 121)
Sheridan Blvd. (csh 95)
Kipling St.
Denver Boulder Turnpike

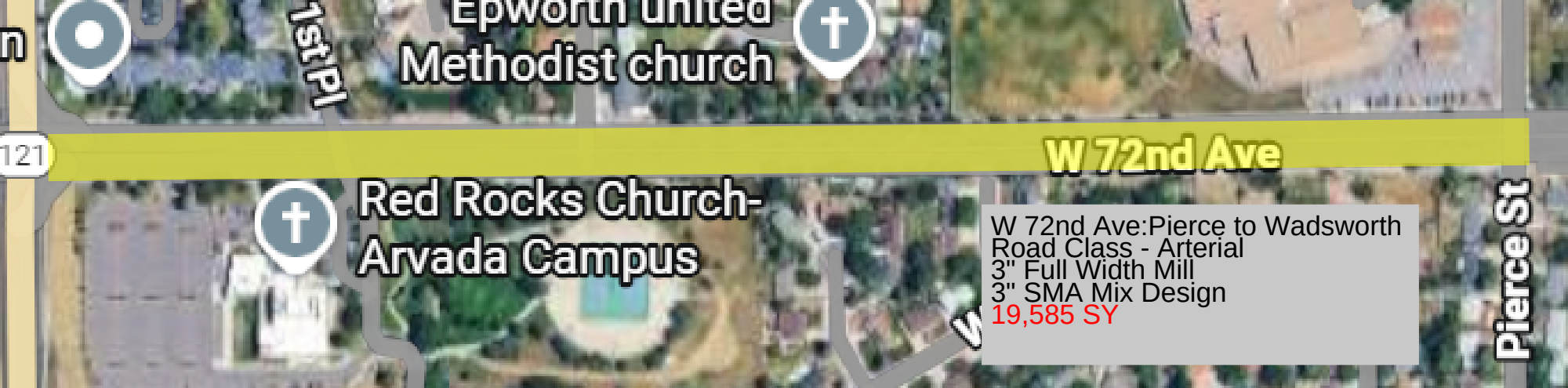

W 72nd Ave
W 72nd A
Pierce St
Otis St
Otis St
Newland St
Marshall St
N Lamar St
W 70th Pl
W 70th Ave
Pierce St
Two Roads Charter
ol - Arvada
N Lamar St
Pierce St: W 72nd to W 68th
Road Class - Collector
2" Full Width Mill
2" SX 64-28
9,908 SY
Lamar Heights 7
Road Class - Local
2" Full Width Mill
2" SX 58-28
38,518 SY
Lew Walsh
Park
Pierce St
Otis St
G Biz Boo
8th Ave

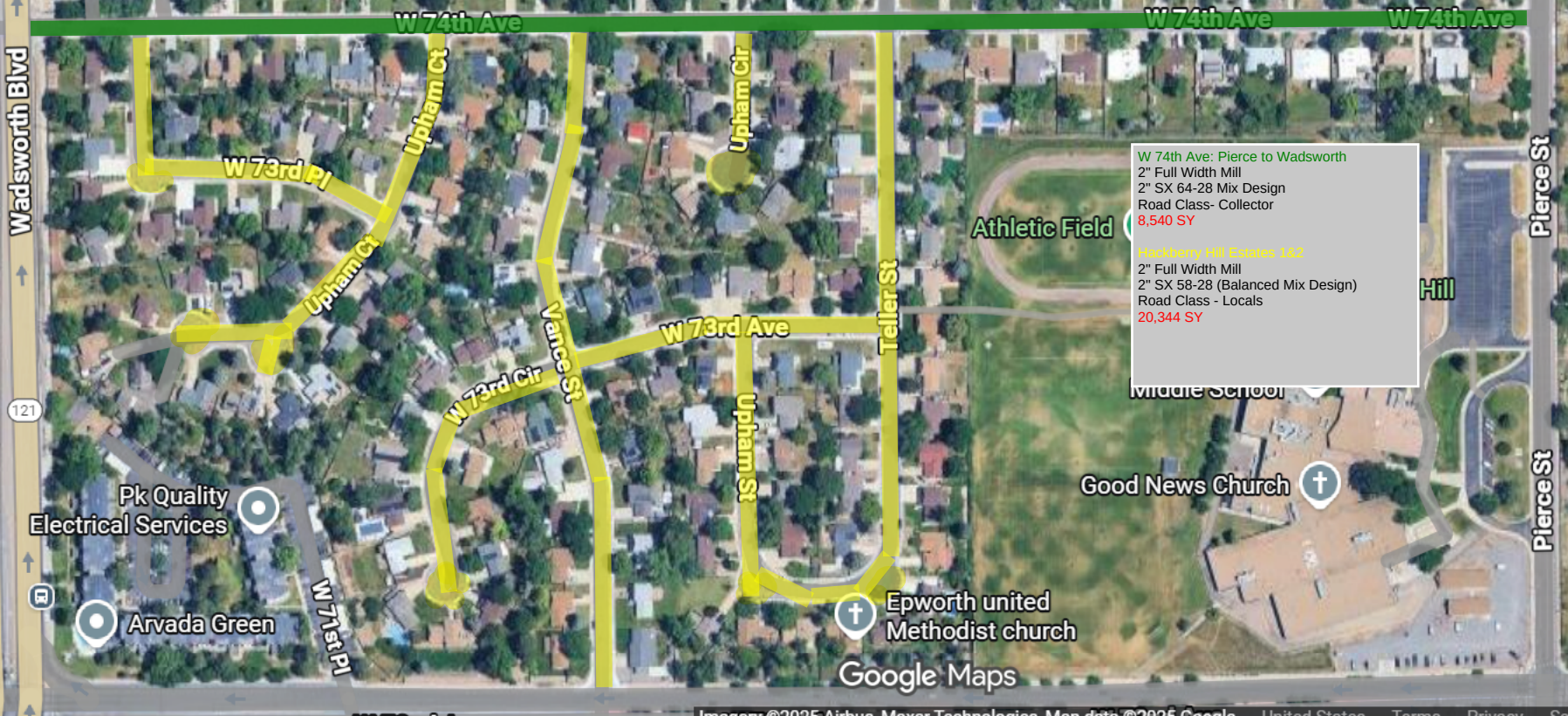

W 74th Ave
W 74th Ave
W 74th Ave
W 74th Ave
Kipling St
Julian St
W 73rd Pl
Church Ditch
Mobile RV Pro
Irving St
Hooker St
Holland St
W 73rd Pl
Flower St
Field St
Everett St
Estes St
Dudley St
W 73rd Pl
W 73rd Ave
W 73rd Ave
W 73rd Ave
farms
Croke Canal
Paradise Acres
2" Full Width Mill
2" SX 58-28 (Balanced Mix Design)
Road Class - Local
37,833 SY

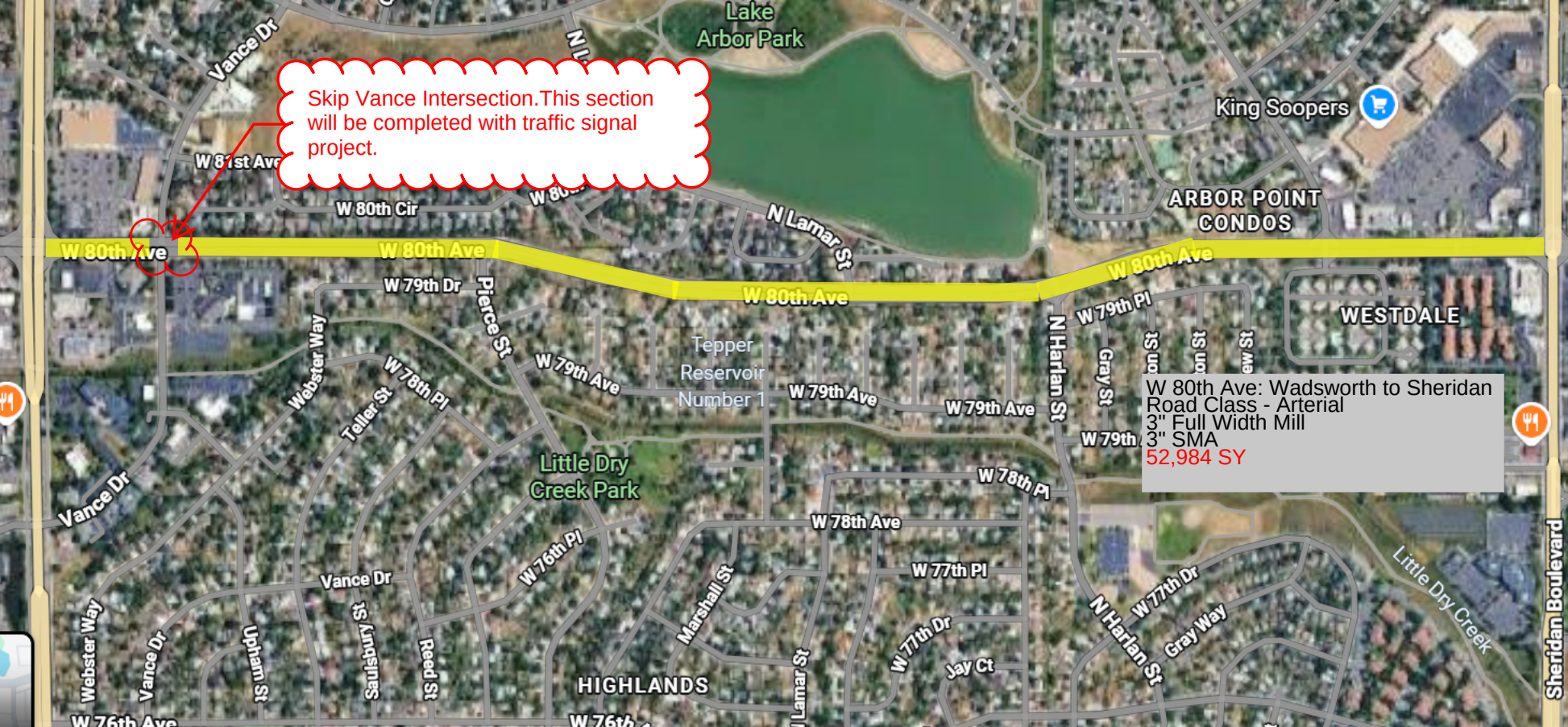
W 80th Ave
W 80th Ave
W 80th Pl
W 80th Ave
W 80th Ave
W 80th Ave
W 79th Dr
Pierce St
Webster Way
Teller St
W 78th Pl
Reed St
W 78th Ave
Webster Way
W 79th Ave
Lois Cir
Tepper
Reservoir
Number 1
W 79th Ave
Ingalls Cir
Ingalls St
N Harlan St
Marshall St
Little Dry
Creek Park
Quay St
W 78th Ave
Parkway Estates 1 North
2" Full Width Mill
2" SX 58-28(Balance Mix Design)
Road Class- Local
40,217 SY


W 7
Pierce St
W 70t
Pierce St
W 70t
9th Pl
8th Pl
Pierce St
W 68th Ave

Vance Dr: Wadsworth to W 80th Ave
6,130 SY
2" Full Width Mill
2" SX 64-28
Road Class - Collector
W 80th Ave
Wadsworth Blvd
121
Vance Dr
Arby's
Fast Food
Canvas Credit Union
Arvada Branch
Shell
Walgreens
Drug store
Santa's Pop-Up
Seasonal goods store
Arvada Massage
and Stretch
Wells Fargo Bank
W 78th Ave
W 78th Ct
Community of Grace,
A Presbyterian Church
7 Steps Learning
Academy
Indian Tree
Animal Hospital
Peter Medaugh
Webster Way


Epworth United
Methodist church
1st Pl
121
W 72nd Ave
Red Rocks Church-
Arvada Campus
Pierce St
W 72nd Ave:Pierce to Wadsworth
Road Class - Arterial
3" Full Width Mill
3" SMA Mix Design
19,585 SY


W 74th Ave
W 74th Ave
W 74th Ave
Wadsworth Blvd
121
Upham Ct
Upham Cir
W 73rd Pl
Upham Ct
Vance St
W 73rd Ave
Teller St
W 73rd Cir
Upham St
Pierce St
Pierce St
Athletic Field
Hill
Middle School
Good News Church
Pk Quality
Electrical Services
Arvada Green
W 71st Pl
Epworth united
Methodist church
Google Maps
W 74th Ave: Pierce to Wadsworth
2" Full Width Mill
2" SX 64-28 Mix Design
Road Class- Collector
8,540 SY
Heckberry Hill Estates 1&2
2" Full Width Mill
2" SX 58-28 (Balanced Mix Design)
Road Class - Locals
20,344 SY


Skip Vance Intersection.This section will be completed with traffic signal project.
W 80th Ave: Wadsworth to Sheridan
Road Class - Arterial
3" Full Width Mill
3" SMA
52,984 SY
Lake Arbor Park
King Soopers
ARBOR POINT CONDOS
WESTDALE
Tepper Reservoir Number 1
Little Dry Creek Park
HIGHLANDS
Vance Dr
W 80th Ave
W 80th Cir
N Lamar St
W 79th Dr
Pierce St
W 79th Ave
W 79th Pl
N Harlan St
Gray St
Webster Way
Teller St
W 78th Pl
W 78th Ave
W 77th Pl
W 77th Dr
Gray Way
Jay Ct
Marshall St
W 76th Pl
Upham St
Salisbury St
Reed St
W 76th Ave
Little Dry Creek
Sheridan Boulevard

CITY OF ARVADA

Pre-Proposal Meeting Agenda

2026 Pavement Resurfacing Program (Project No. 26-ST-01B)

Competitive Sealed Bid: 26-STS-001

Date: January 26, 2026 – **MANDATORY**
Start Time: 10:00 AM MT
Location: **Virtual Only**: Join Zoom Meeting:
https://arvadaco-gov.zoom.us/j/87698834538?pwd=aoLLj8QImJgUmq0szfZ4au8MyT15R5.1

Meeting ID: 876 9883 4538
Passcode: 728821

Attendance:

Name:	Organization	Title
Melanie Ortiz	Arvada	Senior Procurement Specialist
Fabian Ruiz	Arvada	(PM) Pavement Management Coordinator
Benjamin Sawaya	Arvada	Pavement Manager
Christine Biddle	Arvada	Pavement Management Coordinator

Consultants – Add your Firm information into the Chat box: ***Firm name, Contact name, email and phone number***. This is a mandatory meeting, if your company information is not present, then your firm will not be able to submit a response. If you have an AI meeting assistant, or an AI automated transcription tool for meeting notes, please disable it. Any information shared from this meeting that does not originate directly from the City of Arvada is considered unofficial and invalid. Please hold all questions for the Q&A session of this meeting.

1. **Purchasing**
    a. All contact for this solicitation must be directed only to the designated contact Melanie Ortiz at mortiz@arvada.org. Contact with any other City employee, department personnel, or project representatives regarding this solicitation is strictly prohibited and may result in disqualification.
    b. All solicitation materials are posted on www.BidNetDirect.com under the City of Arvada's agency page. Please ensure that your firm is registered with BidNet Direct and that you have access to download all documents, including any addenda that may be issued.
    c. Questions are due **no later than 02/12/2026 – 2:00 PM MT.** All Questions regarding this solicitation must be submitted in writing through BidNetDirect.com. Responses will be posted on BidNet via Addendum.
    d. Proposal Submissions are due **no later than 02/19/2026 – 2:00 PM MT**. Submissions to this solicitation must be submitted online at BidNetDirect.com. This is the only valid source for postings regarding this solicitation. Late responses will not be considered for award. Be sure to upload your response with enough time as BidNet will close the solicitation at 2:00 PM. BidNet will not save proposal if it is still uploading.
2. **Project Background**
    a. The City of Arvada is seeking bids from qualified contractors to complete construction services for a Pavement Resurfacing Program across multiple locations within the City.

3. **Project Scope**
    a. 3” Mill and Overlay on Arterial roads.
    b. 2” Mill and Overlay on Local and Collector roads.
    c. Asphalt Patching of areas as needed.
    d. Water valve and Maintenance Hole height adjustments.
    e. Inlaid Pavement Markings (cross walks, stop bars, bike symbols, sharrows, turn arrows). Grind asphalt ⅛”
    f. Epoxy Striping
    g. Traffic control
    h. One year contract with and option to renew for two additional years

4. **Estimated Quantities**

    a. **72,569 SY – 3” Depth Full Width Milling**
    b. **161,490 SY – 2” Depth Full Width Milling**
    c. **12,821 TON – 3” Top Course (SMA Mix)**
    d. **6,519 TON – Patching (SG-75 PG 64-22)**
    e. **2,834 TON - 2” SX 1⁄2” (75) PG 64-28 Top Course**
    f. **16,834 TON – 2” SX 1⁄2” (75) PG 58-28 Balanced Mix Design Top Course**

5. **Working Hours**
    a. Monday-Friday
    b. Local Road Hours 7am - 7pm
    c. Collectors & Arterials 8:30am - 3:30pm
    d. No weekend work at this time
    e. No work will be allowed during City observed holidays and observances

6. **Scheduling**
    a. Two weeks look ahead to be provided by contractor
    b. The contractor is responsible for scheduling inspections in eTrakit for each day they plan on working. Can schedule two weeks at a time. (Web based, self-serve portal)
    c. NTP is anticipated to be issued in April
    d. All work shall be completed, including clean-up, within 150 working days after the date to be specified in the Notice to Proceed.
    e. Unless otherwise approved by the Project Manager, once work begins in an area, work shall proceed continuously until completed
    f. Monthly Pay requests
    g. Bi-weekly meetings

7. **Contractual Items**
    a. Additional Permits
        i. The Contractor will be required to prepare and apply for any additional permits for CDOT, BNSF, RTD, ETC. (Vance Dr, W 80th Ave, W 74th Ave, W 72nd Ave.
    b. Notifications
        i. Portable message boards to be placed three days prior to start of construction

ii. 24 hours for no parking signs
iii. Onsite superintendent to maintain daily coordination with City Inspector

c. Material Testing
   i. COA will have their own independent tester.
   ii. COA Inspector will coordinate
d. Stormwater
   i. Bmp's to be maintained by contractor
e. Submittals
   i. Mix designs to be submitted for approval
   ii. Traffic control plans to be submitted for approval

8. Questions

a. **Deadline for written questions: 2/12/2026 - 2pm MT**
b. **Bids are due 2/19/2026 - 2pm MT**

CITY OF ARVADA

PRE-BID MEETING ATTENDANCE SHEET	
Bid #: 26-STS-001 - 2026 Pavement Resurfacing Program	**Meeting Date/Time:** January 26, 2026 at 10:00 AM MT
Facilitator: Fabian Ruiz	**Place:** https://arvadaco-gov.zoom.us/j/87698834538?pwd=aoLLj8QImJgUmq0szfZ4au8MyT15R5.1&jst=3

Company	Representative Name	Phone	E-Mail
Caraveo Construction Inc	Marcelo Esmoris	(719) 232-0608	Arch.Marcelo.Esmoris@gmail.com
Alpine Civil Construction	Dean Rossi	(720) 490-8817	dean.r@alpine-civil.com
Amrize	James Govan	(303) 472-3970	James.govan@amrize.com
Asphalt Specialties	Gary Richardson	(303) 289-8555	garyr@asphaltspecialties.com
Brannan Sand & Gravel	Jeff Briar	(720) 240-6571	jbriar@brannan1.com
CMH Concrete	Efren Gutierrez	(720) 474-2708	Efren@cmhconcrete.com
Loya Construction Inc	Liborio Loya	(303) 520-2748	Jr@loya-paving.com
Martin Marietta	Gary Guynn	(720) 392-7451	gary.guynn@martinmarietta.com
Martin Marietta	Bill Oetken		bill.oetken@martinmarietta.com
National Pavement Partners	Hunter Thorn	(720) 597-0654	hthorn@nationalpavementpartners.com
Oldcastle SW Group, Inc., dba APC Construction Co.	Keary Brown for Brandon Shafer	(303) 961-2971	bshafer@apc.us.com
Pro Asphalt	Brian Lipps	(719) 439-6584	brian@proasphalt.com
Top-Notch Pavement Solutions	Mike Medved	(720) 360-9304	mmedved@top-notchpavement.com
Western Plains Construction LLC	Bryan Sanchez	(720) 280-2459	bryansanchez@westernplains.net

24-ST-01C - Phase I Pavement Resurfacing - Bid Comparison

	Roadway Items			COA Estimate		APC CO		Asphalt Specialties		Holcim		Martin Marietta		Brannan		RME	
1	3" Full Width Milling	66,293	SY	$ 2.20	$ 145,844.60	$ 3.45	$ 228,710.85	$ 2.85	$ 188,935.05	$ 2.80	$ 185,620.40	$ 4.05	$ 268,486.65	$ 4.70	$ 311,577.10	$ 3.70	$ 245,284.10
2	SG-75 PG-64-22 Patching	1,167	Tons	$ 115.00	$ 134,205.00	$ 150.00	$ 175,050.00	$ 110.00	$ 128,370.00	$ 172.10	$ 200,840.70	$ 162.11	$ 189,182.37	$ 181.06	$ 211,297.02	$ 192.50	$ 224,647.50
3	Top Course SMA Paving 1/2" 75 Gyr 76-28	11,678	Tons	$ 180.00	$ 2,102,040.00	$ 119.50	$ 1,395,521.00	$ 132.50	$ 1,547,335.00	$ 129.70	$ 1,514,636.60	$ 127.46	$ 1,488,477.88	$ 131.53	$ 1,536,007.34	$ 164.50	$ 1,921,031.00
4	Adjust Manholes	34	EA	$ 147.50	$ 5,015.00	$ 175.00	$ 5,950.00	$ 110.00	$ 3,740.00	$ 255.25	$ 8,678.50	$ 172.78	$ 5,874.52	$ 108.35	$ 3,683.90	$ 86.90	$ 2,954.60
5	Adjust Valve or Range Box	13	EA	$ 105.00	$ 1,365.00	$ 75.00	$ 975.00	$ 75.00	$ 975.00	$ 157.75	$ 2,050.75	$ 55.07	$ 715.91	$ 63.73	$ 828.49	$ 40.10	$ 521.30
6	Cleanout Valve or Range Box	13	EA	$ 105.00	$ 1,365.00	$ 115.00	$ 1,495.00	$ 75.00	$ 975.00	$ 75.70	$ 984.10	$ 130.41	$ 1,695.33	$ 360.11	$ 4,681.43	$ 120.50	$ 1,566.50
	Pavement Markings																
7	Temporary Pavement Markings	1	LS	$ 16,000.00	$ 16,000.00	$ 68,000.00	$ 68,000.00	$ 56,800.00	$ 56,800.00	$ 63,200.00	$ 63,200.00	$ 83,710.48	$ 83,710.48	$ 121,080.00	$ 121,080.00	$ 57,645.00	$ 57,645.00
8	Epoxy Pavement Marking	427	GAL	$ 289.00	$ 123,403.00	$ 137.00	$ 58,499.00	$ 122.00	$ 52,094.00	$ 111.15	$ 47,461.05	$ 181.74	$ 77,602.98	$ 159.40	$ 68,063.80	$ 195.00	$ 83,265.00
9	Epoxy Pavement Marking Mobilization	2	EA	$ 4,000.00	$ 8,000.00	$ 5,100.00	$ 10,200.00	$ 6,650.00	$ 13,300.00	$ 1,010.00	$ 2,020.00	$ 14,318.90	$ 28,637.80	$ 5,950.00	$ 11,900.00	$ 8,825.00	$ 17,650.00
10	Inlayed Thermoplastic (Crosswalk, Stop Bar)	3,776	SF	$ 16.00	$ 60,416.00	$ 13.70	$ 51,731.20	$ 15.00	$ 56,640.00	$ 13.65	$ 51,542.40	$ 13.22	$ 49,918.72	$ 15.95	$ 60,227.20	$ 14.00	$ 52,864.00
11	Inlayed Thermoplastic (Turn Arrow)	38	EA	$ 405.00	$ 15,390.00	$ 380.00	$ 14,440.00	$ 610.00	$ 23,180.00	$ 555.80	$ 21,120.40	$ 275.36	$ 10,463.68	$ 657.60	$ 24,988.80	$ 295.00	$ 11,210.00
12	Inlayed Thermoplastic (Lane Reduction Arrow)	6	EA	$ 750.00	$ 4,500.00	$ 861.00	$ 5,166.00	$ 1,055.00	$ 6,330.00	$ 960.05	$ 5,760.30	$ 991.31	$ 5,947.86	$ 1,005.00	$ 6,030.00	$ 1,055.00	$ 6,330.00
13	Inlayed Thermoplastic (Sharrow)	20	EA	$ 500.00	$ 10,000.00	$ 355.00	$ 7,100.00	$ 610.00	$ 12,200.00	$ 555.80	$ 11,116.00	$ 275.36	$ 5,507.20	$ 415.00	$ 8,300.00	$ 295.00	$ 5,900.00
14	Inlayed Preformed Thermoplastic (Bike Symbol)	6	EA	$ 300.00	$ 1,800.00	$ 406.00	$ 2,436.00	$ 610.00	$ 3,660.00	$ 555.80	$ 3,334.80	$ 220.29	$ 1,321.74	$ 475.00	$ 2,850.00	$ 235.00	$ 1,410.00
	Traffic Control																
15	Portable Variable Message Sign	6	EA	$ 2,250.00	$ 13,500.00	$ 4,265.00	$ 25,590.00	$ 2,350.00	$ 14,100.00	$ 4,550.00	$ 27,300.00	$ 3,029.00	$ 18,174.00	$ 5,020.00	$ 30,120.00	$ 4,855.00	$ 29,130.00
16	Traffic Control Management	55	DAY	$ 930.00	$ 51,150.00	$ 904.00	$ 49,720.00	$ 945.00	$ 51,975.00	$ 1,410.00	$ 77,550.00	$ 881.16	$ 48,463.80	$ 1,065.00	$ 58,575.00	$ 1,030.00	$ 56,650.00
17	Flagging	2,970	HR	$ 36.00	$ 106,920.00	$ 37.70	$ 111,969.00	$ 55.00	$ 163,350.00	$ 36.60	$ 108,702.00	$ 41.86	$ 124,324.20	$ 42.50	$ 126,225.00	$ 43.00	$ 127,710.00
18	Uniformed Traffic Control	600	HR	$ 98.00	$ 58,800.00	$ 108.00	$ 64,800.00	$ 90.00	$ 54,000.00	$ 106.10	$ 63,660.00	$ 125.57	$ 75,342.00	$ 130.00	$ 78,000.00	$ 125.00	$ 75,000.00
19	Uniformed Traffic Control Vehicle	600	HR	$ 25.00	$ 15,000.00	$ 31.00	$ 18,600.00	$ 33.30	$ 19,980.00	$ 30.30	$ 18,180.00	$ 39.65	$ 23,790.00	$ 36.52	$ 21,912.00	$ 35.00	$ 21,000.00
	Lump Sum Items																
20	Traffic Control Devices	1	LS	$ 6,000.00	$ 6,000.00	$ 30,000.00	$ 30,000.00	$ 12,000.00	$ 12,000.00	$ 22,500.00	$ 22,500.00	$ 15,144.99	$ 15,144.99	$ 23,500.00	$ 23,500.00	$ 22,645.00	$ 22,645.00
21	Stormwater Management/Erosion Control	1	LS	$ 4,000.00	$ 4,000.00	$ 6,000.00	$ 6,000.00	$ 4,800.00	$ 4,800.00	$ 5,050.00	$ 5,050.00	$ 3,872.19	$ 3,872.19	$ 4,132.41	$ 4,132.41	$ 7,400.00	$ 7,400.00
22	Citizen Notification, Adjacent Property Owners	1	LS	$ 1,500.00	$ 1,500.00	$ 4,000.00	$ 4,000.00	$ 3,800.00	$ 3,800.00	$ 3,000.00	$ 3,000.00	$ 2,317.20	$ 2,317.20	$ 1,500.00	$ 1,500.00	$ 1,745.00	$ 1,745.00
23	Mobilization	1	LS	$ 65,000.00	$ 65,000.00	$ 57,000.00	$ 57,000.00	$ 45,000.00	$ 45,000.00	$ 68,500.00	$ 68,500.00	$ 53,894.95	$ 53,894.95	$ 55,750.00	$ 55,750.00	$ 88,755.00	$ 88,755.00
24	Minor Contract Revisions	1	LS	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00	$ 200,000.00
	BASE BID				**$ 3,151,213.60**		**$ 2,592,953.05**		**$ 2,663,539.05**		**$ 2,712,808.00**		**$ 2,782,866.45**		**$ 2,971,229.49**		**$ 3,262,314.00**
	ALTERNATE																
25	Edge Milling	2,000	SY	$ 2.50	$ 5,000.00	$ 2.35	$ 4,700.00	$ 3.20	$ 6,400.00	$ 4.75	$ 9,500.00	$ 3.47	$ 6,940.00	$ 5.50	$ 11,000.00	$ 3.20	$ 6,400.00
26	Stabilization Material	235	Ton	$ 88.00	$ 20,680.00	$ 50.00	$ 11,750.00	$ 50.00	$ 11,750.00	$ 106.50	$ 25,027.50	$ 72.67	$ 17,077.45	$ 180.00	$ 42,300.00	$ 78.50	$ 18,447.50
27	Top Course HMA Paving (Grading SX) (75) PG 64-22	15,000	Ton	$ 84.00	$ 1,260,000.00	$ 84.90	$ 1,273,500.00	$ 88.90	$ 1,333,500.00	$ 91.55	$ 1,373,250.00	$ 91.75	$ 1,376,250.00	$ 81.50	$ 1,222,500.00	$ 96.50	$ 1,447,500.00
28	HMA Patching	200	Ton	$ 200.00	$ 40,000.00	$ 150.00	$ 30,000.00	$ 124.00	$ 24,800.00	$ 191.40	$ 38,280.00	$ 162.34	$ 32,468.00	$ 255.00	$ 51,000.00	$ 177.00	$ 35,400.00
	ALTERNATE				**$ 1,325,680.00**		**$ 1,319,950.00**		**$ 1,376,450.00**		**$ 1,446,057.50**		**$ 1,432,735.45**		**$ 1,326,800.00**		**$ 1,507,747.50**
	BASE BID + ALTERNATE				**$ 4,476,893.60**		**$ 3,912,903.05**		**$ 4,039,989.05**		**$ 4,158,865.50**		**$ 4,215,601.90**		**$ 4,298,029.49**		**$ 4,770,061.50**

CITY OF ARVADA
Purchasing Division
Phone: 720-898-7098 Email: Purchasing@arvada.org

COMPETITIVE SEALED BID - ADDENDUM No. 03

Proposal #:	26-STS-001
Title:	2026 Pavement Resurfacing Program (Project No. 26-ST-01B)
RFP Issued:	01/20/2026
Addendum #:	**3**
Today's Date:	02/2/2026
Questions Deadline:	***02/12/2026 2:00 PM MT (UPDATED)***
Bids Due By:	***02/19/2026 2:00 PM MT (UPDATED)***

Solicitation and all related addenda and communications are available at WWW.BIDNETDIRECT.COM

The following clarifications are provided to be incorporated into the Competitive Sealed Bid (CSB) 26-STS-001 – 2026 Pavement Resurfacing Program (Project No. 26-ST-01B). All updated language will be marked in ***bold, italic, underlined, and red font***.

1. **Questions and Clarifications**
   The following are clarifications to questions asked before the Q&A due date of **02/12/2026 at 2:00 PM MT**. Any questions that have not been answered, or marked TBD, will be posted in an additional addendum to follow.

Q1. Which BMD approach will be used? Approach A, Approach B, Approach C. What IdealCT and Hamburg specifications will be used? CDOT is still in the process of developing a specification What testing frequency for BMD testing? Is BMD testing used for ultimate acceptance of these streets or info only? Without a specification written. Does the City have one?

A1. **TBD**

Q2. The square yards and tons on the bid schedule match the square yards on the maps for the 3'' SMA areas, but appear to be off on the 2'' HMA areas. Can you verify these quantities?

A2. The updated quantities will be included in the addendum.

Q3. Who will be the testing firm for the City?

A3. The testing firm has not been decided yet.

Q4. Can we get a copy of 2024's bid tabulation with all of the unit prices from the contractors who bid?

A4. This information was provided in Addendum No. 2. You can find this Addendum on the Documents tab on Bidnetdirect.com.

Q5. A material transfer machine is required, correct?

A5. Yes, for SMA areas. W 80th Ave and W 72nd Ave. Shuttle Buggy

Q6. Has the scope of work map been made available yet?

A6. This information was provided in Addendum No. 2. You can find this Addendum on the Documents tab on Bidnetdirect.com.

Q7. Has the City decided on what balanced mix design process they will use?

A7. **TBD**

Q8. Will the concrete replacement for the streets on this program be completed by April?

A8. Yes, the concrete will be completed.

Q9. How long can street be left milled for?
A9. Overlay on milled sections of the street shall be completed within ten (10) days of the completion of the full width milling.

Q10. Is this a 1-year contract only or does it have language for additional renewal years?
A10. It is a 1-year contract, and the City shall have the option to renew up to two (2) additional consecutive one-year periods.

Q11. Do you have to be prequalified with the city prior?
A11. Please refer to Paragraph 6 of the general terms and conditions section and page 30 and 31 Required contractor submittal form.

Q12. Can you verify your Gr (SX) 64-28 quantities? With 24,578 SY of milling I'm not coming back with 8,073 tons to place back.
A12. The estimated total tons for the 64-28 Mix are 2,869 tons.

Q13. I see the quantities were not changed on the revised bid schedule but the quantities on the addendum reflect the changes.
A13. This information is provided in Addendum No. 3 (this Addendum). You can find this Addendum on the Documents tab on Bidnetdirect.com.

Q14. It looks like the alternate is missing the "Extra Depth Asphalt Mat Removal" item stated in SC-B-21. Can this item be added for the full depth removal of asphalt in the alternate?
A14. **TBD**

Q15. Can you verify the mix quantity on the alternate. The quantity looks to be more than needed.
A15. The reason for the mix quantity is to get pricing for the SX 64-22 as this is an option to renew it for two additional years. Though we do not have any areas needing this mix for the year 2026 there can be a chance we need this for the renewal years.

2. Updated Quantities Bid Schedule

The updated Bid Schedule has been updated to reflect accurate quantities for this project. The previous Bid Schedules will not be used for this project. The updated Bid Schedule will be released with Addendum 3.

CITY OF ARVADA
Purchasing Division
Phone: 720-898-7098 Email: Purchasing@arvada.org

COMPETITIVE SEALED BID - ADDENDUM No. 04

Proposal #:	26-STS-001
Title:	2026 Pavement Resurfacing Program (Project No. 26-ST-01B)
RFP Issued:	01/20/2026
Addendum #:	**4**
Today's Date:	02/17/2026
Questions Deadline:	***02/12/2026 2:00 PM MT (UPDATED)***
Bids Due By:	***02/19/2026 2:00 PM MT (UPDATED)***

Solicitation and all related addenda and communications are available at WWW.BIDNETDIRECT.COM

The following clarifications are provided to be incorporated into the Competitive Sealed Bid (CSB) 26-STS-001 – 2026 Pavement Resurfacing Program (Project No. 26-ST-01B). All updated language will be marked in ***bold, italic, underlined, and red font***.

1. **Questions and Clarifications**
   The following are clarifications to questions asked before the Q&A due date of **02/12/2026 at 2:00 PM MT**. Any questions that have not been answered, or marked TBD, will be posted in an additional addendum to follow.

Q1. What will the minimum width of patching be?
A1. The minimum milling width shall be 4 feet. The City may require transverse cracks to be milled using a skid-steer detail milling head in areas inaccessible to the larger milling machine.

Q2. Are there any traffic loops to deal with?
A2. There are areas with traffic loops on W. 80th Ave. The city will coordinate with internal team to have those replaced or if those will be upgraded to motion detection.

Q3. Will concrete curb & Sidewalk be replaced on the North side of 78th Ave?
A3. There will be no concrete work on W. 78th Ave.

Q4. If needed, How should tree trimming be addressed?
A4. If tree trimming is needed, the City will coordinate with internal team to trim what is needed.

Q5. Balanced Mix Design: What are the passing criteria?
A5. The contractor must submit a signed and stamped mix design from their materials engineer to the City for approval before construction begins. Once the City approves the mix design, the approved mix will be used for density tests and sample evaluations to determine compliance during construction.

Q6. 1). For 72nd Ave going EB from Wadsworth, there is a small eyebrow just east of Hackberry Hill Rd. Does that area get milled and paved with SMA along with the mainline of 72nd Ave.? 2). Is W. 79th Ave. from Pierce St. to Harlan St. getting milled and overlayed? The individual map of Parkway Estates doesn't show it highlighted but the overall map of the work shows it highlighted. Thank you.
A6. 1.) Yes, that eyebrow will also need to be milled and paved with SMA. 2.) Yes W. 79th Ave from Pierce to Harlan is on planned to get milled and overlayed.

Insurance Requirements

AN AGREEMENT BY AND BETWEEN THE CITY OF ARVADA AND BRANNAN SAND AND GRAVEL COMPANY, LLC FOR ARVADA'S PAVEMENT RESURFACING PROJECT, PROJECT NO. 26-STS-01B IN AN AMOUNT NOT TO EXCEED $6,794,380.65

INSURANCE REQUIREMENTS

The following listed insurance requirements shall be carried by the selected Contractor for the entirety of the contract. Applicable requirements for this solicitation are identified by completed check boxes.

1. ☒ **Commercial General Liability**, written on an occurrence form, for limits not less than $1,000,000 for bodily injury and property damage for each occurrence and not less than $2,000,000 aggregate. Coverage shall include premises and operations liability, blanket contractual, broad form property damage, products and completed operations and personal injury endorsements.
2. ☒ **Workers' Compensation and Employers Liability** as required by statute. Employers Liability coverage is to be carried for a minimum limit of $1,000,000 each accident/disease and $2,000,000 aggregate.
3. ☒ **Automobile Liability** for limits not less than $1,000,000 combined single limit for bodily injury and property damage for each occurrence. Coverage shall include owned, non-owned and hired automobiles.
4. ☐ **Umbrella Liability** of $, following form to the Commercial General Liability.
5. ☐ **Builders Risk or Course of Construction** Purchased by contractor to cover physical damage to property in construction or rehab. Contractors will ensure that City and subcontractors will be covered as additional insureds, excluding their own machinery, tools and equipment.
6. ☒ **Professional Liability:** Professional Liability insurance in an amount of not less than $1,000,000 per occurrence, covering the professional work contemplated under this proposal. The coverage shall have an extended reporting period of three (3) years following the date of substantial completion of the work for reporting of claims.
7. ☐ **Pollution Legal Liability Insurance** for limits not less than $1,000,000 per occurrence (or claims made) and not less than $1,000,000 aggregate for bodily Injury, personal Injury and property Damage.
8. ☐ **Privacy/Network/Cyber Liability Insurance f**or limits not less than $1,000,000 for any firm providing product or services associated with IT, software, communication, or network.

Additional Insurance Requirements:

- Contractor will be required to, at its own expense, keep in full force and effect during the term of the Agreement, and during the term of any extension or amendment of the Agreement, insurance reasonably sufficient to insure against the liability assumed by Contractor pursuant to the provisions of the solicitation sent by the City of Arvada or as determined by the City of Arvada Risk Manager.
- All coverage must be written with carriers holding a minimum A.M. Best rating of A-:VII and authorized to do business in Colorado. Coverage shall be primary, and any insurance held by the City of Arvada is excess and non-contributory.
- Issuance of a Purchase Order/Contract is contingent upon the receipt of the insurance documents. Work shall not commence before this requirement is met. If the Contractor fails to submit the required insurance documents within 15 calendar days after notice to submit such policies is given to the Contractor by a City representative, the Contractor may be in default of the Award.
- Except for Workers Compensation, Employer's Liability insurance, Automobile Liability and Professional Liability insurance, the City of Arvada must be endorsed as an additional insured on a Certificate of Insurance.
- The City, through its Risk Manager, reserves the right to require additional insurance coverage and other requirements.

CITY OF ARVADA

REPORT TO CITY COUNCIL RESOLUTION

AGENDA ITEM 8.A.3.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: R26-030, A Resolution Authorizing Amendment No. 2 to an Agreement between the City of Arvada and Jacobs Engineering Group Inc. for Engineering Services Related to the Water Treatment Plant Replacement, Piloting and Process Selection in an Amount not to Exceed $615,337.00, thereby Increasing the Total Contract Amount to an Amount not to Exceed $14,207,989.00

Report in Brief

PRESENTER: Mary Stahl
Jacobs Engineering Inc. and the Arvada team have negotiated an amendment for the engineering design services to provide the Replacement Treatment Plant with potable water service, fire water, and a sanitary sewer connection.

The Arvada team recommends that the City Council approve R26-030, A Resolution Authorizing Amendment No. 2 to an Agreement between the City of Arvada and Jacobs Engineering Group Inc. for Engineering Services Related to the Water Treatment Plant Replacement, Piloting and Process Selection in an Amount not to Exceed $615,337.00, thereby Increasing the Total Contract Amount to an Amount not to Exceed $14,207,989.00.

Financial Impact

CIP Project: Water Treatment Plant - PRJ25000050
Financial Impact, Amendment 2: $615,337.00
Financial Impact, Total Contract Sum: $14,207,989.00
Funding Source: Enterprise Funds and Bond
CIP Account Number: 10060PG

Background

The Arvada Team is continuing the work for the replacement of the aging Arvada Water Treatment Plant (AWTP). This work is based on the Water Treatment Master Plan completed in 2020 by Corona. To date, this work has included the Treatment Expansion and Siting Replacement Study; Public Engagement for the Treatment Expansion and Siting Study; the Water Treatment Plant Replacement, Piloting, and Process Selection; 30% Design; Construction Manager/General Contractor selection and input into the 30% design, including opinion of probable construction cost; Owner's Advisor selection and input, including 3rd party opinion of probable construction cost; and selection and start of design for conveyance infrastructure (raw and finished pipelines/pump stations) to/from the selected site. This amendment continues the work by authorizing design of potable water and sanitary sewer infrastructure to/from the selected site, as well as supporting the easements required for site access for construction, operations, and emergency access.

On April 24, 2023, the Arvada team solicited proposals to select an engineering consultant to support the City in selecting the processes for the Replacement Treatment Plant (Phase I) with the anticipation that the same firm would continue with design (Phase II). The Arvada Team included language to select a different consultant if the original selection did not perform to our standards. The Arvada Team selected Jacobs Engineering based on their experience and best value to the City. Jacobs successfully performed the Pilot and Process Selection for the Arvada Replacement Water Treatment Plant, and the Arvada Team negotiated moving forward with design of the Arvada Replacement Water Treatment Plant, with Council approval of Amendment 1 on March 4th, 2025.

Jacobs Engineering has successfully completed 30% design of the Arvada Replacement Water Treatment Plant, and has begun 60% design. The City has provided direction on the alignment for the potable water pipeline that will provide house and fire water to the Replacement Water Treatment Plant, in addition to the alignment for the Plant's connection to Arvada's sanitary sewer network. This amendment is for the design of those pipelines, including easement acquisition and permitting, including from the Colorado Department of Transportation for crossing Highway 93. The pipeline and sanitary sewer design includes trenchless crossings of Highway 93. Finally, the Arvada team has requested Jacobs provide survey support for easement exhibits required for the Replacement Water Treatment Plant, and that work is also included in the amendment.

Discussion

The City of Arvada owns and operates two water treatment plants, the Ralston Water Treatment Plant (RWTP), and the AWTP. The AWTP, with a capacity of 16 MGD, is at the end of life and requires replacement, as recommended in the Water Treatment Master Plan. In addition to being at end of useful life, the AWTP is not designed for year-round operation which reduces resilience of water treatment. As part of planning for the AWTP replacement, the Utilities team has evaluated current and build-out demands to determine a right-size for initial construction that is cost-effective while also improving resilience. The Water Demand Forecast through 2050 (completed 2022) indicates build-out maximum day demand of up to 54 million gallons per day (mgd).

As part of implementing the Water Treatment Master Plan, the City team has been working on location and quantity of treatment through 2065 and later. This work has resulted in the recommendation that the initial phase of the AWTP replacement should be 18 mgd, resulting in a total treatment capacity of 54 mgd, an increase of 2 mgd from the existing total treatment capacity. This size is recommended based on both current and projected demands. Note that the City's historic maximum day demand is about 44 mgd and has ranged from 38 to 42 mgd in recent years. The City's current average day demand is about 17 mgd, with an estimate of 18 to 19 mgd at build-out. The Utilities team also recommends that the AWTP replacement facility be designed for future expansion to 27 mgd total to provide flexibility in future decision making around condition at the Ralston Water Treatment Plant, future demands, and future resilience discussions. By building less capacity now, the City is avoiding overbuilding for the unknown future.

In 2023, the Arvada Team selected Jacobs Engineering to evaluate treatment processes, with City Council approval of the contract on August 14, 2023. The Arvada Team has evaluated treatment processes that will treat current water quality (including identified historic challenges), as well as anticipated changes in source water quality (flood, drought, and wildfire impacts) and anticipated changes in regulatory requirements. The Utilities team has documented level of service goals for water treatment at the individual contaminant level for varying source water quality. The Arvada Team has selected a treatment process that will address present and future water quality as well as level of service goals.

The Arvada Team is moving into the 60% design of the Arvada Replacement Water Treatment Plant Program (Program) with Jacobs Engineering, and the current amendment will provide house water, fire water, and sanitary sewer service. The pipeline and sanitary sewer must be installed utilizing trenchless techniques and will cross State Highway 93.

Finally, the Arvada team has requested Jacobs support the effort to establish easements to the Replacement Treatment Plant. This work is included in Amendment 2.

Public Contact

Posting of the City Council agenda.

Commission Recommendation

N/A

Strategic Alignment

This project is in line with the City Council Strategic Plan Infrastructure Service INF1: Provides the community with a safe, resilient, high-quality water supply for a full city build-out, as defined by the Comprehensive Plan. Also, the Strategic Goal for Physical and Technology Systems 2: Identify and prioritize projects for modernizing our physical infrastructure to maintain and elevate service levels.

Alternative Courses of Action

The Arvada team recommends that the City Council approve R26-030, A Resolution Authorizing Amendment No. 2 to an Agreement between the City of Arvada and Jacobs Engineering Group Inc. for Engineering Services Related to the Water Treatment Plant Replacement, Piloting and Process Selection in an Amount not to Exceed $615,337.00, thereby Increasing the Total Contract Amount to an Amount not to Exceed $14,207,989.00.

Recommendation for Action

The Arvada team recommends that the City Council approve R26-030, A Resolution Authorizing Amendment No. 2 to an Agreement between the City of Arvada and Jacobs Engineering Group Inc. for Engineering Services Related to the Water Treatment Plant Replacement, Piloting and Process Selection in an Amount not to Exceed $615,337.00, thereby Increasing the Total Contract Amount to an Amount not to Exceed $14,207,989.00.

Suggested Motion:

I move that R26-030, A Resolution Authorizing Amendment No. 2 to an Agreement between the City of Arvada and Jacobs Engineering Group Inc. for Engineering Services Related to the Water Treatment Plant Replacement, Piloting and Process Selection in an Amount not to Exceed $615,337.00, thereby Increasing the Total Contract Amount to an Amount not to Exceed $14,207,989.00, be (approved) (rejected).

Prepared by:
Bethany Kolb, Civil Engineer

Reviewed by:

Approved by:

Mary Stahl, Senior Civil Engineer	03/31/2026
Claudia Vaughan, City Engineer	03/31/2026
Jacqueline Rhoades, Director of Infrastructure	04/03/2026
Bryan Archer, Chief Financial Officer	04/06/2026
Tammy Hedlund, Legal Specialist	04/06/2026
Megan McCall, Assistant City Attorney II	04/06/2026
Rachel Morris, City Attorney	04/06/2026
Allison Scheck, Deputy City Manager	04/06/2026
Don Wick, City Manager	04/08/2026

Enclosure, exhibits & attachments required to support the report

RESOLUTION NO. R26-030

A RESOLUTION AUTHORIZING AMENDMENT NO. 2 TO AN AGREEMENT BETWEEN THE CITY OF ARVADA AND JACOBS ENGINEERING GROUP INC. FOR ENGINEERING SERVICES RELATED TO THE WATER TREATMENT PLANT REPLACEMENT, PILOTING AND PROCESS SELECTION IN AN AMOUNT NOT TO EXCEED $615,337.00, THEREBY INCREASING THE TOTAL CONTRACT AMOUNT TO AN AMOUNT NOT TO EXCEED $14,207,989.00

WHEREAS, on August 14, 2023, City Council adopted R23-074 authorizing an agreement between the City and Jacobs Engineering Group Inc. for engineering services related to the water treatment plant replacement, piloting and process selection in an amount not to exceed $552,687.00 ("Original Agreement"); and

WHEREAS, on March 4, 2025, City Council adopted R25-021 authorizing Amendment No. 1 to the Original Agreement for Phase II design, permitting, and project management services in an amount not to exceed $13,039,965.00, thereby increasing the total contract amount to $13,592,652.00; and

WHEREAS, Amendment No. 2 to the Original Agreement is necessary to add to the Phase II services engineering design services for the potable waterline and sanitary sewer connections to the proposed Arvada replacement treatment plant site in an amount not to exceed $615,337.00, thereby increasing the total contract amount to $14,207,989.00.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF ARVADA, COLORADO:

Section 1. The Mayor or Mayor Pro Tem is authorized to sign and the City Clerk to attest, in form approved by the City Attorney, an Amendment to the Original Agreement that is in substantially the same form as that attached hereto.

Section 2. This resolution shall be effective upon its approval by the City Council.

APPROVED AND ADOPTED this 21st day of April, 2026.

_____
Lauren Simpson, Mayor

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:
Rachel A. Morris, City Attorney

By: _____

AMENDMENT NO. 2
TO "AN AGREEMENT BETWEEN THE CITY OF ARVADA AND JACOBS ENGINEERING GROUP INC. FOR ENGINEERING SERVICES RELATED TO THE WATER TREATMENT PLANT REPLACEMENT, PILOTING AND PROCESS SELECTION" FOR ADDITIONAL PHASE II DESIGN SERVICES IN AN AMOUNT NOT TO EXCEED $615,337.00, THEREBY INCREASING THE TOTAL CONTRACT AMOUNT TO AN AMOUNT NOT TO EXCEED $14,207,989.00

1. PARTIES. The parties to this Amendment No. 2 are the City of Arvada, a Colorado home rule municipal corporation, whose mailing address is 8101 Ralston Road, Arvada, CO 80002 ("Arvada" or "City") and Jacobs Engineering Group Inc., a Delaware Foreign Corporation, with a business office located at 6312 S. Fiddlers Green Circle, Suite 300N, Greenwood Village, CO 80111 ("Consultant"). Arvada and Consultant may be referred to individually as a "Party" and collectively as the "Parties".

2. RECITALS AND PURPOSE.

2.1 On or about August 17, 2023, the Parties entered into an Agreement whereby Consultant would provide Phase I engineering services related to the Water Treatment Plant Replacement, Piloting and Process Selection in an amount not to exceed $552,687.00 (the "Original Agreement").

2.2 On or about March 6, 2025, the Parties executed Amendment No. 1 to the Original Agreement whereby Consultant would provide Phase II design, permitting, and project management services as set forth therein in an amount not to exceed $13,039,965.00, increasing the total contract amount to an amount not to exceed $13,592,652.00 ("Amendment No. 1"). The expected completion date of these services as set forth in Amendment No. 1 is January 31, 2027. Although language indicates in Sections 2.4, 2.5, and 5 of Amendment No. 1 that Amendment No. 1 also includes Phase II construction services, the Phase II services being provided under Amendment No. 1 are not for services during construction.

2.3 Pursuant to Section 6 of the Original Agreement and Section 8 of the Special Terms and Conditions in Exhibit A to the Original Agreement, the Parties can amend the scope of services by executing an amendment.

2.4 As such, the Parties seek to add services to the Phase II design, permitting, and project management services that Consultant is providing pursuant to Amendment No. 1 to include engineering design services for the potable water line and sanitary sewer connections to the proposed Arvada replacement treatment plant site, as reflected in **Exhibit A**, and to increase the overall not to exceed amount by $615,337.00 for a revised not to exceed amount of $14,207,989.00. The Parties additionally seek to amend the completion date for Phase II services provided under Amendment No. 1 and this Amendment No. 2 and to clarify the work being performed as "Phase II" pursuant to the Original Agreement, Amendment No. 1, and this Amendment No. 2.

2.5 The Original Agreement, Amendment No. 1, and other Contract documents are incorporated herein; however, for the convenience of the Parties and to avoid unnecessary duplication of documents, they are not attached hereto but may be viewed at the City Clerk's Office. Except as specifically modified pursuant to this Amendment No. 2, all terms of the Original Agreement, Amendment No. 1, and other Contract Documents remain unchanged.

3. **CONTRACT DOCUMENTS AND EXHIBITS.** The Contract Documents shall consist of the Original Agreement, and all exhibits thereto, Amendment No. 1, and all exhibits thereto, and this Amendment No. 2, together with the following:

Exhibit A: Arvada Replacement Treatment Plant Potable Water Line and Sanitary Sewer Design Scope of Work and Fee dated March 5, 2026 (35 pages).

All exhibits referred to in this Amendment No. 2 are attached hereto and are, by reference, incorporated herein for all purposes. In the event any matter, term, provision, or condition that is the subject of this Amendment No. 2 requires clarification, is in dispute, or is the subject of a difference of opinion, the purpose and intent of this Amendment No. 2 shall be ascertained by reference to the Contract Documents in their entirety. In the event of any disputes or differences between the respective documents that constitute the Contract Documents, then Consultant shall secure the written instructions from Arvada before proceeding with the performance of the services affected by such conflicts, omissions, or discrepancies.

4. **COMPENSATION**. The compensation amount is being increased by $615,337.00 for a revised total not to exceed amount of $14,207,989.00.

5. **SCOPE OF SERVICES.** This Amendment No. 2 is for additional Phase II design, permitting, and project management services for the potable water line and sanitary sewer connections to the proposed Arvada replacement treatment plant site, as set forth in **Exhibit A**. The Parties agree that this Amendment No. 2 is only for additional design services related to Phase II design, permitting, and project management services, which services were incorporated into the Original Agreement through Amendment No. 1, and that these services supplement the services being provided by Consultant pursuant to Amendment No. 1. Any provision of services that the City desires Consultant to perform relating to services during construction will require a separate amendment and are not in this Amendment No. 2, nor were such services in Amendment No. 1.

6. **TERM.** The term and renewals of the Original Agreement are not being modified under this Amendment No. 2.

7. **TIME FOR COMPLETION OF DESIGN SERVICES.** The expected time for completion of Phase II services as set forth in Amendment No. 1 is hereby amended and Consultant is expected to complete Phase II design, permitting, and project management services set forth in Amendment No. 1 and in this Amendment No. 2 by June 30, 2027.

8. **DEFINED TERMS.** Terms defined in the Original Agreement are incorporated herein.

9. **FULL FORCE AND EFFECT.** All other terms and conditions shall be as set forth in the Original Agreement as amended by Amendment No. 1.

10. **SEVERABILITY.** If any provision of this Amendment No. 2 is held invalid or unenforceable, no other provision shall be affected by such holding, and all of the remaining provisions of this Amendment No. 2 shall continue in full force and effect.

11. **BINDING AUTHORITY.** Consultant represents and affirms that the signature page hereof accurately states the full legal name of Consultant (whether as a corporation, partnership, limited liability company, sole proprietorship, or other), contains all requisite signature(s) on behalf of Consultant, in accordance with all applicable statutes, regulations, resolutions, rules, bylaws, agreements, or similar sources of authority or limitation. This Amendment No. 2 may be executed in counterpart(s), each of which shall be deemed to be an original, and all of which, taken together, shall constitute one instrument.

[Signature page follows.]

EFFECTIVE this _____ day of _____, 2026.

CITY OF ARVADA, a Colorado home rule municipal corporation

_____
Lauren Simpson
Mayor
8101 Ralston Road
Arvada, CO 80002

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:
Rachel A. Morris, City Attorney

By: _____

JACOBS ENGINEERING GROUP, INC., a Delaware Foreign Corporation

_____
Albert Paquet
Vice President
6312 S. Fiddlers Green Circle, Suite 300N
Greenwood Village, CO 80111
Email: al.paquet@jacobs.com

Exhibit A

AMENDMENT NO. 2
TO "AN AGREEMENT BETWEEN THE CITY OF ARVADA AND JACOBS ENGINEERING GROUP INC. FOR ENGINEERING SERVICES RELATED TO THE WATER TREATMENT PLANT REPLACEMENT, PILOTING AND PROCESS SELECTION" FOR ADDITIONAL PHASE II DESIGN SERVICES IN AN AMOUNT NOT TO EXCEED $615,337.00, THEREBY INCREASING THE TOTAL CONTRACT AMOUNT TO AN AMOUNT NOT TO EXCEED $14,207,989.00

Arvada Replacement Treatment Plant Potable Water Line and Sanitary Sewer Design Scope of Work and Fee

Date:	March 25, 2026
Project name:	Arvada Replacement Treatment Plant Potable Water Line and Sanitary Sewer
City Project no:	23-WA-70
Attention:	Bethany Kolb, Project Manager
Company:	City of Arvada, Colorado
Prepared by:	Kerry Meyer, PE and Liv Haugen, PE, Madalyn Murphy, PE

Jacobs Engineering Group Inc.
7001 E. Belleview Ave.., Suite 1000
Denver, CO 80237
United States
T +1.303.771.0900
www.jacobs.com

Dear Bethany,

Jacobs Engineering Group Inc. (Jacobs) is pleased to present to the City of Arvada (City) this scope and fee for Engineering Design Services for the Potable Water Line and Sanitary Sewer connections to the proposed Arvada Replacement Treatment Plant (RTP) site.

Specifically, this Task Order will include the following activities:

- Project Management
- Site Characterization
- Pre-Design Engineering Support Activities
- Design
- Permitting

The focus of this contract amendment is Design Phase Services. Excluded from this scope and fee are bidding support services and construction support services. The following supporting documents are provided:

- Attachment 1: Scope of Work
- Attachment 2: Level of Effort (and Rate Table)
- Attachment 3: Draft List of Construction Drawings
- Attachment 4: Draft Project Schedule
- Attachment 5: Draft Project Survey Scope

The detailed scope of work is provided herein as Attachment 1, and the associated level of effort is presented as Attachment 2. Attachment 3 is the draft list of construction drawings for the project. Attachment 4 includes the current project schedule. Attachment 5 provides a draft project survey scope. The assumptions in Attachments 1-5 are to establish a basis for project scoping based on the currently available information.

As always, your input and comments are welcome and valued, so please feel free to call or email Kerry at +1-720-323-0998 or Kerry.Meyer@jacobs.com.

Regards,
Jacobs Engineering Group, Inc.

Kerry Meyer, PE
Project Manager

Al Paquet, PE
Vice President

Attachment 1: Scope of Work

The City of Arvada
Engineering Services for the Arvada Replacement Treatment Plant Potable Water Line and Sanitary Sewer

Attachment 1 to the third contract modification between Jacobs Engineering Group Inc. (Jacobs) and the City of Arvada (City) for design services for the future Arvada RTP.

Project Description

As part of the Arvada RTP project, this phase of the project includes development of design plans to connect the existing Arvada distribution system to the new plant and to connect RTP's sanitary sewer to Arvada's existing sewer main. Key aspects of the project components will be studied and reviewed, and alternatives will be evaluated to clarify and further define the project.

Task 1 – Project Management

Jacobs will complete the following project management subtasks to support design activities.

1.1 Project Management and Administration

Update the existing RTP Management Plan (PMP) describing level-of-effort, schedule, deliverables, and quality reviewers for each activity for this project. Execute the PMP, proactively identify potential deviations, and implement corrective actions as needed. Included in this subtask are the following activities to be completed by Jacobs:

- Staff Management: Identify and utilize the appropriate staff for each project activity. Supervise the project team and identify actions needed to maintain the project cost and schedule.
- Subcontractor Management: Oversee the work efforts of subcontractors.
- Change Management: Plan for project changes as the work is executed. Project changes will be tracked in the Change Management Log. Jacobs will be responsible for updating the project Change Management Log monthly and communicating the status of the project changes with the City's Project Manager (PM) in the Monthly Project Management Meetings (Task 1.4). The Change Management Log will be included in the monthly progress reports to the City's PM.
- Monitor progress, identify changes, and provide the City with proactive communications regarding changes.
- Develop, maintain, and update a decision log for documenting decisions made during the project, including value engineering items.
- Develop, maintain, and update a risk register with resolutions.
- Develop, maintain, and update an action item log with deadlines.
- Maintain a cloud-based site for use by Jacobs's project team, including an area for key City personnel. Implement document controls for management of deliverables.
- Develop Field Safety Instructions (FSIs) for any field work conducted by Jacobs team.
- Schedule: Prepare and provide periodic updates to the project schedule (in a bulleted Milestone list format) showing preliminary dates for deliverables and anticipated dates for workshops, quality assurance/quality control (QA/QC) reviews, key milestone meetings, and submittals.

1.2 Invoicing

Jacobs's Project Manager (PM) will prepare a brief monthly cost and schedule status report along with the monthly invoice, which will be included as part of the RTP invoice. The report will include a narrative description of progress to-date, actual costs for each Task, estimates of percent complete, and a change management update.

1.3 Monthly Project Management Meetings

Jacobs assumes that the Jacobs PM and City PM will attend monthly project management meetings to monitor and direct the work, track progress against project goals and requirements, and adjudicate approaches, goals, or constraints identified or faced by Jacobs's team. Jacobs will monitor progress, identify changes, and provide the City with proactive communications regarding changes. They will coordinate with the City to assess overall satisfaction in meeting project goals. Jacobs's PM will attend this meeting virtually.

1.4 Monthly Collaboration Meetings

Jacobs assumes a monthly one (1) hour meetings with key project team members to discuss key design issues and review project progress with the City at times agreed upon by the City's PM. Jacobs will prepare agenda, compile meeting minutes, and distribute meeting minutes to attendees. Jacobs's PM and up to one (1) other team members will attend this meeting in person, with other team members including the DM attending remotely, if needed.

The monthly meetings can be scheduled to coincide with key decision points and deliverables, including design milestones.

Task Deliverable(s):

- Project Management Plan, including Decision and Action Logs
- Monthly Invoices and Progress Report, to be included in the RTP invoice
- Project Collaboration Meeting Agendas and Meeting Minutes

Task 2 - Site Characterization

Jacobs will conduct field investigations necessary for design of the project as outlined in the following subtasks.

2.1 Site Survey and Utility Location

Jacobs has reviewed existing field surveying, publicly available aerial photography, and photogrammetric site mapping information and will coordinate the additional survey requirements for the water pipeline with the planned survey, topographic information that are required to develop the design for the project. Detailed information related to site survey assumptions, supporting the level of effort captured in Attachment 2, is provided in the Site Survey proposal included in Attachment 5.

Jacobs will work with utility companies with known utilities in the project area to request information regarding location, type, size, and elevation of existing utilities. Jacobs will complete field investigations to collect visible information and coordinate with Jacobs's subconsultant to pothole crossing and nearby existing utilities to meet Subsurface Utility Engineering (SUE) requirements and ASCE 38 Quality Standards. Utility locates include five (5) Denver Water pipelines, three (3) City of Arvada pipelines (including the water connection line) and three (3) North Table Mountain pipelines. Jacobs will coordinate with Colorado Department of Transportation (CDOT) to survey and pothole underground utilities in CDOT's right-of-way. A list of identified underground utilities will be included in the design plans.

2.2 Legal Descriptions

It is assumed that the water pipeline will require temporary construction easements, permanent easements, and legal crossing agreements. To support the City of Arvada with execution of these agreements, Jacobs will prepare up to a total of two (2) legal descriptions including the following:

- Legal description for the water pipeline crossing of Hwy 93
- Legal description for the water pipeline crossing of the Denver Water pipelines and the Ralston Canal (also known as South Boulder Diversion Canal)

It is assumed that the City will obtain title commitments for up to a total of two (2) parcels during the pre-design engineering activities phase and no permanent and/or temporary construction easements are required on City-owned property. Jacobs will review the title commitments to map existing easements on

design plans and identify areas where temporary construction or permanent easements and agreements are required for the pipelines.

2.3 Site Geotech

The site-specific geotechnical investigation will be conducted by a subconsultant with review of key findings and deliverables by Jacobs.

Jacobs's subconsultant will review existing and available information to summarize subsurface conditions and develop a Geotechnical Data Report and Geotechnical Design Memorandum that provides geotechnical recommendations for open-cut and trenchless installation of the water pipeline and restoration of surfaces. For this project, the subconsultant will drill and collect geotechnical data for four (4) new bore holes or test pits at up to forty (40) feet in depth (where needed). The report will contain boring logs showing groundwater level and lab results for the four (4) bore holes, and define areas of difficult excavation and construction recommendations to accommodate activities such as trenchless installations, dewatering, support of excavation and existing pipelines and canal, and reuse of existing site material.

If groundwater is encountered in a borehole, Jacobs's subconsultant will collect samples and send them to a laboratory to analyze in accordance with the parameters outlined in Attachments 1 and 2 of the Colorado Department of Public Health and Environment's (CDPHE) Dewatering Guidance document.

Task Deliverable(s):

- Survey support files (Attachment 5)
- Pothole Log
- Legal Descriptions (up to 2)
- Geotechnical Reports

Task 3 – Pre-Design Engineering Support Activities

3.1 Utility and Access Coordination

Jacobs assumes that access easements are not required for field investigations and construction. The following are detailed assumptions for engineering site investigation access:

- Access to pipelines on the Blunn Reservoir site for utility locates, survey, and potholing will be via the Ralston Creek Trail (gravel access road) on City of Arvada property.
- Access for geotechnical investigation on the Blunn Reservoir site for boring will be via the Ralston Creek Trail (gravel access road) and overland on City of Arvada property to the east side of Hwy 93 near the solar panel field (on City of Arvada property).
- Utility locates and geotechnical boring access to the site on the west side of Hwy 93 will be accessed via the Hwy 93 intersection and overland across RTP's property.
- Access for utility locates in CDOT's Hwy 93 right-of-way will occur outside of road edge with a CDOT Utility and Special Use Permit.

Depending on the final alignment, different site access requirements for construction may exist. Jacobs will provide site access routing and work limits to the contractor via the design documents at the 90% design level. It is assumed that access easements and legal descriptions are not required for construction.

Task Deliverable(s):

- Access Plan (to be included in 90% design plan set)

3.2 Basis of Design Memorandum

Jacobs will develop a Basis of Design Memorandum (BDM) that will include, at a minimum:

- Project specific design criteria, approach, and assumptions
- Applicable codes, standards, and regulations
- Hydraulic evaluation summary
- Permitting matrix
- System shut down plan

It is assumed that the BDM will be started during the Pre-Design Engineering Support Activities and will be progressed through 50% design. The purpose of the BDM is to describe the codes, standards, and approaches that will be followed to execute the design. It is assumed the BDM will generally be used internally to provide consistency across the team. However, the City and Owner's Advisor (OA) will review key assumptions for buy-in and consensus. Wholesale or drastic changes in content is not assumed in the level of effort for responding to the City's and OA's comments. It is anticipated that draft BDM will be submitted for one (1) review to the City and OA two (2) calendar days prior to the scheduled Design Preferences Workshop (Task 3.4), and Jacobs will provide one (1) resubmittal at 50% design.

Task Deliverable(s):

- Draft BDM submitted prior to Design Preferences Workshop (Task 3.4)
- Final BDM at 90% design level

3.3 Alignment Exhibit

Jacobs will develop a horizontal alignment exhibit for the water pipeline. The prepared exhibit will utilize available GIS, survey information, and as-builts provided by the City and others. Jacobs will provide the City with a pdf of the exhibit in advance of the Design Preferences Workshop (Task 3.4). If survey information is available at the time of preparation, such as base mapping, a pdf and a CAD file will be provided to the City. Jacobs will submit the draft exhibit to the City and OA two (2) calendar days prior to the scheduled Design Preferences Workshop (Task 3.4).

Jacobs will update the exhibit based on feedback from the Design Preferences Workshop and will include the final exhibit in the Design Preferences Workshop meeting summary.

Task Deliverable(s):

- Draft Water Pipeline Horizontal Alignment Exhibit
- Final Water Pipeline Horizontal Alignment Exhibit

3.4 Design Preferences Workshop

Jacobs will lead a one-hour (1) Design Preferences Workshop to review the water pipeline BDM and alignment exhibit. Key decisions to be made during the workshop will include: the pipeline alignment, trenchless construction approach and extents, construction access routes, pipeline material(s), pipeline diameter, connection locations, and permitting approach.

Jacobs will develop the presentation and meeting summary. Jacobs's PM and up to four (4) other Jacobs team members will attend this workshop in person. An additional up to two (2) other Jacobs team members will attend this workshop remotely.

Task Deliverable(s):

- Design Preferences Workshop Presentation and Meeting Summary (embedded in PowerPoint)
- Key inputs to Task 1 PMP Decision Log (e.g. documenting design preferences, etc.)

Task 4 – Water Pipeline Design

Design phase services and deliverables for the water pipeline are outlined in the following subtasks.

The City, OA, and CMGC will review submitted design plans and other documents, provide comments, and request revisions at the 90% design milestone. It is assumed that there will be one review cycle for the 90% design milestone the review will be completed per RTP's schedule. Comments from the 90% design review will be addressed and incorporated into the final 100% design submittal.

Review of the 90% design level documents will be limited to one (1) resubmittal if a Revise and Resubmit is issued by the facility lead or discipline engineer to the CMGC.

4.1 50% and 90% Design

Jacobs will incorporate the feedback from the Design Preferences Workshop Presentation to develop a 50% snapshot plan set for the City's review in the 50% snapshot meeting. This plan set will include the final horizontal alignment of the water pipeline, and a preliminary vertical alignment and trenchless design based on information from Task 2. It is anticipated that the 50% snapshot plan set for the project will consist of up to 5 sheets, as presented in Attachment 3.

Jacobs will coordinate with the City to schedule the 50% snapshot meeting, either as a separate meeting or included in the monthly collaboration meeting (Task 1.4). The intent of this snapshot meeting is to review the plan set, resolve issues, and allow for Q&A. If the horizontal alignment or crossing locations shift outside the limits of the surveyed area (Attachment 5) after the 50% design level milestone, Jacobs will initiate a change request to redesign the horizontal alignment and obtain supplemental survey, potholes, and/or geotechnical data.

Conveyance 50% Snapshot Development

- Draft plan and profile drawings (includes trenchless crossing design)
- Incorporate pothole investigations and geotechnical findings in plan set
- Incorporate selected installation method and details for crossing Hwy 93, Denver Water pipelines, and Ralston Canal
- Identify preliminary areas where temporary construction and permanent easements and/or crossing agreements are required

Jacobs's intent is to produce the final construction documents at the 90% detailed design level, with the only remaining changes and fixes representing comments from the City and other reviewing agencies. The specific items that will be completed during the 90% design level of the work are listed below.

The 90% design drawings will have incorporated review comments from the City to finalize the horizontal and vertical design of the water pipeline and installation methods. Project specifications and details will be developed during this design level.

It is anticipated that the 90% design plan set for the project will consist of up to 17 sheets, as presented in Attachment 3.

Jacobs will deliver the 90% design plan set for City review a week prior to the scheduled monthly collaboration meeting (Task 1.4). The intent of this meeting is to review the plan set, resolve issues, allow for Q&A.

Conveyance 90% Detailed Design

- Plan and profile drawings
- Grading, erosion, and sediment control (GESC) plans, includes construction access
- Traffic control plan
- System shut-down plan
- Project-specific and standard details
- Project specifications

4.2 100% Design

Jacobs will incorporate external agency coordination items from Denver Water, CDOT, and other authorities having jurisdiction into the Issued for Construction (IFC) documents. Jacobs will deliver sealed IFC documents to the City.

4.3 CMGC Coordination

Jacobs PM and DM for this project will participate in one-hour (1) virtual biweekly (every two (2) weeks) coordination meetings with the CMGC team, as scheduled by the RTP team. Jacobs will incorporate decisions and issues in the PMP and will address CMGC comments at the 50% and 90% design milestones.

Task Deliverable(s):

- 50% snapshot, 90%,100% Design Deliverables

Task 5 – Permitting and Agency Coordination

Jacobs will assist the City in obtaining permitting approvals by directly coordinating with authorities having jurisdiction (AHJ) and preparing applications and crossing agreements for Denver Water, CDOT, and City of Arvada. Jacobs will include the City in AHJ coordination meetings.

The following anticipated permits or approvals noted in the subtasks. All application or processing fees associated with permits or regulatory filings will be paid by the City or by the CMGC, at the City's direction. The CMGC is responsible for acquiring the necessary permits for construction. The City is responsible for payment to permit agencies for any fees needed for the project.

5.1 Denver Water/City and County of Denver

After incorporating City feedback from the Design Preferences Workshop (Task 3.4) , Jacobs will schedule a one-hour (1) virtual meeting with Denver Water to review the location of the Denver Water pipelines and Ralston Clear Creek Canal crossings and discuss license agreements, permitting requirements, design requirements for these crossings. Following the meeting, Jacobs will incorporate design elements from this meeting into the design.

At the City's request, Jacobs will provide Denver Water with a courtesy copy of the 50% snapshot plans and specifications for an informal review.

Jacobs will assist the City in the development of a permitting package for Denver Water, based on information available at the 90% design level. The package will include a set of pertinent drawings, details, specifications, draft legal exhibits, and other documentation requested in the meeting. Jacobs will submit this permitting package to the City and Denver Water.

Upon receipt of Denver Water's comments, Jacobs will schedule a one-hour (1) virtual meeting with Denver Water to discuss their comments and approach to resolve each comment. Jacobs will prepare a comment response matrix, update the permitting package, and finalize the legal exhibits (to be developed under Task 2.2). Jacobs will deliver the final documents to the City and Denver Water. One (1) comment/response cycle with Denver Water is assumed.

Jacobs's PM and up to two (2) other Jacobs team members will attend each meeting. Jacobs will prepare the agenda and meeting minutes.

5.2 Colorado Department of Transportation

After incorporating City feedback from the Design Preferences Workshop (Task 3.4), Jacobs will schedule a one-hour (1) virtual meeting with CDOT to review the proposed horizontal alignment for the water pipeline and discuss the Utility and Special Use Permit and associated design requirements for crossing Hwy 93. Following this meeting, Jacobs will incorporate CDOT's comments in the design.

At the City's request, Jacobs will provide CDOT with a courtesy copy of the 50% snapshot plans and specifications for an informal review.

Jacobs will assist the City in preparing the Utility and Special Use Permit application (Form 1233), based on information available at the 90% design level. Jacobs will be responsible in preparing the application form, letter of request, plan and profile exhibit, and environmental clearances form. The City will provide the certificate of insurance, and the CMAR develop the traffic control plan in accordance with the *Manual of Uniform Traffic Control Devices for Streets and Highways*. Jacobs will submit the draft permitting package to the City for review, address any comments, and then deliver the submittal to the City and CDOT.

Upon receipt of CDOT's review comments, Jacobs will schedule a one-hour (1) virtual meeting with CDOT to discuss their comments and approach to resolve each comment. Jacobs will prepare a comment response matrix, update the application package, and finalize the legal exhibit for the CDOT crossing (to be developed under Task 2.2). Jacobs will submit the updated permitting package and comment response matrix to the City for review, address any comments, and then deliver the final documents to the City and CDOT. One (1) comment/response cycle with CDOT is assumed.

Jacobs's PM and up to two (2) other Jacobs team members will attend each meeting. Jacobs will prepare the agenda and meeting minutes.

For the environmental clearance form, Jacobs will perform desktop ecological and cultural surveys and coordinate with University of Colorado Museum/Denver Museum of Natural Science for the paleontological desktop survey. Additional surveys and ecological, cultural, and/or paleontological inventory of permit area are not included in the scope.

5.3 City of Arvada

This project will require review and approval by the City of Arvada's Community Development Department. Following completion of the 50% snapshot, Jacobs's PM and up to two (2) other Jacobs team members will attend the required pre-application meeting to identify the civil construction documents needed for

development review. Jacobs will prepare meeting minutes to document key discussion points and action items.

Any design changes resulting from the pre-application meeting will be incorporated into the 90% plans. Jacobs will also utilize the City of Arvada's development review checklist to demonstrate conformance with the City of Arvada Engineering Code of Standards and Specifications for the Design and Construction of Public Improvements. Jacobs will develop the permitting package and submit the package to the City for review. Once client comments are addressed, Jacobs will deliver the submittal to the City and City of Arvada's Community Development Department.

Upon receipt of City of Arvada's Community Development Department comments, Jacobs will schedule a one-hour (1) virtual meeting with the City of Arvada's Community Development Department to discuss their comments and approach to resolve their comments. Jacobs will develop a comment response matrix and update the permitting package. Jacobs will submit these documents to the City for review, address any comments, and deliver the updated submittal to the City and City of Arvada's Community Development Department. Up to three (3) comment/response cycles are assumed for City of Arvada development review.

In addition to the development review process, Jacobs will support the City and CMGC in obtaining a Site Disturbance Permit by providing approved GESC plans (approved from development review process) to the CMGC. It is assumed that the CMGC will apply for the Site Disturbance Permit and coordinate directly with the City of Arvada Community Development Department. Jacobs further assumes that the CMGC will be responsible for preparing the Stormwater Management Plan, truck route map, BMP cost estimate documents, and other required documentation, as well as obtaining state construction and dewatering permits.

It is assumed that a City of Arvada floodplain development permit is not required for this project since the project area lies outside the FEMA-designated 100-year floodplain.

Task Deliverable(s):

- Denver Water Meeting and Meeting Minutes
- Denver Water Permitting Package
- CDOT Meeting and Meeting Minutes
- CDOT Utility and Special Use Permit Application
- City of Arvada Development Review Package and Meeting Minutes

Task 6 – Sanitary Sewer Design

The following subtasks assume that the sanitary sewer design will be completed separately from the water pipeline design tasks (Tasks 1 through 5).

6.1 Project Management

Same tasks and deliverables as noted in Task 1- Project Management.

6.2 Site Characterization

6.2.1 Site Survey and Utility Location

Jacobs has reviewed existing field surveying, publicly available aerial photography, and photogrammetric site mapping information and will coordinate the additional survey requirements for the sanitary sewer with the planned survey, topographic information that are required to develop the design for the project. Detailed information related to site survey assumptions, supporting the level of effort captured in Attachment 2, is provided in the Site Survey proposal included in Attachment 5.

Jacobs will work with utility companies with known utilities in the project area to request information regarding location, type, size, and elevation of existing utilities. Jacobs will complete field investigations to collect visible information and coordinate with Jacobs's subconsultant to pothole crossing and nearby existing utilities to meet Subsurface Utility Engineering (SUE) requirements and ASCE 38 Quality Standards. One (1) pothole of the North Table Mountain waterline and three (3) manhole dips are assumed for the sanitary sewer connection to the existing system. A list of identified underground utilities will be included in the design plans.

6.2.2 Legal Descriptions

It is assumed that the sanitary sewer will require temporary construction easements, permanent easements, and legal crossing agreements. To support the City of Arvada with execution of these agreements, Jacobs will prepare up to a total of three (3) legal descriptions including the following:

- Legal description for the sanitary sewer pipeline crossing of the Denver Water access road
- Legal description for the sanitary sewer pipeline crossing of Hwy 93
- Legal description for the sanitary sewer pipeline on the Athletic Complex (Jefferson County Public Schools)

It is assumed that the City will obtain title commitments for up to a total of two (2) parcels and no permanent and/or temporary construction easements are required on City-owned property. Jacobs will review the title commitments to map existing easements on design plans and identify areas where temporary construction or permanent easements and agreements are required for the pipelines.

6.2.3 Site Geotech

The site-specific geotechnical investigation for the sanitary sewer will be conducted by a subconsultant with review of key findings and deliverables by Jacobs.

Jacobs's subconsultant will review existing and available information to summarize subsurface conditions and develop a Geotechnical Data Report and Geotechnical Design Memorandum that provides geotechnical recommendations for open-cut and trenchless installation of the sanitary sewer pipeline and restoration of surfaces. For this project, the subconsultant will drill and collect geotechnical data for two (2) new bore holes or test pits at up to twenty-five (25) feet in depth. The report will contain boring logs showing groundwater level and lab results for the two (2) bore holes and define areas of difficult excavation and construction recommendations to accommodate activities such as trenchless installations, dewatering, support of excavation and existing pipelines and canal, and reuse of existing site material.

If groundwater is encountered in a borehole, Jacobs's subconsultant will collect samples and send them to a laboratory to analyze in accordance with the parameters outlined in Attachments 1 and 2 of the Colorado Department of Public Health and Environment's (CDPHE) Dewatering Guidance document.

Task Deliverable(s):

- Survey support files (Attachment 5)
- Legal Descriptions (up to 3)
- Geotechnical Reports
- Pothole Log

6.3 Pre-Design Engineering Support Activities

6.3.1 Utility and Access Coordination

Jacobs assumes that access easements are not required for field investigations and construction for the sanitary sewer. The following are detailed assumptions for engineering site investigation access:

- Access for utility locates and geotechnical boring in W 64th Avenue will be via public roadways (Hwy 93 and W 64th Ave) with a City of Arvada Right-of-Way permit.
- Access for utility locates in CDOT's Hwy 93 right-of-way will occur outside of road edge with a CDOT Utility and Special Use Permit.
- Access to the Athletic Complex for utility locates and survey will be provided by the City of Arvada.

Depending on the final alignment, different site access requirements for construction may exist. Jacobs will provide site access routing and work limits to the contractor via the design documents at the 90% design level. It is assumed that access easements and legal descriptions are not required for construction.

Task Deliverable(s):

- Access Plan (to be included in 90% design plan set)

6.3.2 Basis of Design Memorandum

Jacobs will develop a Basis of Design Memorandum (BDM) for the sanitary sewer design that will include, at a minimum:

- Project specific design criteria, approach, and assumptions
- Applicable codes, standards, and regulations
- Hydraulic evaluation summary to confirm flows meet CDPHE Regulation 22 criteria
- Permitting matrix

It is assumed that the BDM will be started during the Pre-Design Engineering Support Activities and will be progressed through 60% design. The purpose of the BDM is to describe the codes, standards, and approaches that will be followed to execute the design. It is assumed the BDM will generally be used internally to provide consistency across the team. However, the City and OA will review key assumptions for buy-in and consensus. Wholesale or drastic changes in content is not assumed in the level of effort for responding to the City's and OA's comments. It is anticipated that draft BDM will be submitted for one (1) review to the City and OA two (2) calendar days prior to the scheduled Design Preferences Workshop (Task 6.3.4), and Jacobs will provide one (1) resubmittal at 60% design.

Task Deliverable(s):

- Draft BDM submitted prior to Design Preferences Workshop (Task 6.3.4)
- Final BDM at 60% design level

6.3.3 Alignment Exhibit

Jacobs will develop a horizontal alignment exhibit for the sanitary sewer. The prepared exhibit will utilize available GIS, survey information, and as-builts provided by the City and others. Jacobs will provide the City with a pdf of the exhibit in advance of the Design Preferences Workshop (Task 6.3.4). If survey information is available at the time of preparation, such as base mapping, a pdf and a CAD file will be provided to the City. Jacobs will submit the draft exhibit to the City and OA two (2) calendar days prior to the scheduled Design Preferences Workshop (Task 6.3.4).

Jacobs will update the exhibit based on feedback from the Design Preferences Workshop and will include the final exhibit in the Design Preferences Workshop meeting summary.

Task Deliverable(s):

- Draft Sanitary Sewer Horizontal Alignment Exhibit
- Final Sanitary Sewer Horizontal Alignment Exhibit

6.3.4 Design Preferences Workshop

Jacobs will lead a one-hour (1) Design Preferences Workshop to review the sanitary sewer BDM and alignment exhibit. Key decisions to be made during the workshop will include: the pipeline alignment, trenchless construction approach and extents, construction access routes, pipeline material(s), pipeline diameter, connection locations, and permitting approach.

Jacobs will develop the presentation and meeting summary. Jacobs's PM and up to four (4) other Jacobs team members will attend this workshop in person. An additional up to two (2) other Jacobs team members will attend this workshop remotely.

Task Deliverable(s):

- Design Preferences Workshop Presentation and Meeting Summary (embedded in PowerPoint)
- Key inputs to Task 6.1 PMP Decision Log (e.g. documenting design preferences, etc.)

6.4 Sanitary Sewer Pipeline Design

Design phase services and deliverables for the sanitary sewer design are outlined in the following subtasks.

The City, OA, and CMGC will review submitted design plans and other documents, provide comments, and request revisions at the 60% and 90% design milestones. It is assumed that there will be one review cycle for each design milestone (60% and 90%), and each review cycle for each design milestone will be completed based on RTP's schedule. Comments from the 60% design review will be addressed and incorporated into the 90% design submittal, and comments from the 90% design review will be addressed and incorporated into the final 100% design submittal.

Review of submittals by Jacobs will be limited to one (1) resubmittal if a Revise and Resubmit is issued by the facility lead or discipline engineer to the CMGC.

6.4.1 60% Design

Jacobs will incorporate the feedback from the Design Preferences Workshop Presentation to develop 60% design level plan set. This plan set will include the final horizontal alignment of the sanitary sewer, and a preliminary vertical alignment and trenchless design based on information from Task 6.2.

Additionally, Jacobs will prepare a draft list of specifications that will be incorporated at the 90% design level. It is anticipated that the 60% design plan set for the project will consist of up to 4 sheets, as presented in Attachment 3.

Jacobs will deliver the 60% design plan set for City review a week prior to the scheduled monthly collaboration meeting (Task 6.1). The intent of this meeting is to review the plan set, resolve issues, allow for Q&A.

Conveyance 60% Design Development

- Draft plan and profile drawings (includes trenchless crossing design)
- Incorporate pothole investigations and geotechnical findings in plan set
- Incorporate selected installation method and details for crossing Hwy 93
- Identify areas where temporary construction and permanent easements and/or crossing agreements are required.

If the horizontal alignment or crossing locations shift outside the limits of the surveyed area (Attachment 5) after the 60% design level milestone, Jacobs will initiate a change request to redesign the horizontal alignment and obtain supplemental survey, potholes, and/or geotechnical data.

6.4.2 90% Design

Jacobs's intent is to produce the final construction documents at the 90% design level, with the only remaining changes and fixes representing comments from the City and other reviewing agencies. The specific items that will be completed during the 90% design level are listed below.

The 90% design drawings will have incorporated review comments from the City to finalize the horizontal and vertical design of the sanitary sewer and installation methods. Project specifications and details will be developed during this design level. It is anticipated that the 90% design plan set will consist of up to 14 sheets, as presented in Attachment 3.

Jacobs will deliver the 90% design plan set for City review a week prior to the scheduled monthly collaboration meeting (Task 6.1). The intent of this meeting is to review the plan set, resolve issues, allow for Q&A.

Conveyance 90% Detailed Design

- Plan and profile drawings
- Grading, erosion, and sediment control (GESC) plans, includes construction access
- Traffic control plan
- Project-specific and standard details
- Project specifications

6.4.3 100% Design

Jacobs will incorporate external agency coordination items from Denver Water, CDOT, and other authorities having jurisdiction into the Issued for Construction (IFC) documents. Jacobs will deliver sealed IFC documents to the City.

6.4.4 CMGC Coordination

Jacobs PM and DM for this project will participate in one-hour (1) virtual biweekly (every two (2) weeks) coordination meetings with the RTP CMGC team, as scheduled by the RTP team. Jacobs will incorporate decisions and issues in the PMP and will address CMGC comments at the 60% and 90% design milestones.

Task Deliverable(s):

- 60%, 90%, 100% Design Deliverables

6.5 Permitting and Agency Coordination

Jacobs will assist the City in obtaining permitting approvals by directly coordinating with authorities having jurisdiction (AHJ) and preparing applications and crossing agreements for Denver Water, CDOT, Jefferson County, and City of Arvada. Jacobs will include the City in AHJ coordination meetings.

The following anticipated permits or approvals noted in the subtasks. All application or processing fees associated with permits or regulatory filings will be paid by the City or by the CMGC, at the City's direction. The CMGC is responsible for acquiring the necessary permits for construction. The City is responsible for payment to permit agencies for any fees needed for the project.

6.5.1 Denver Water

After incorporating City feedback from the Design Preferences Workshop (Task 6.3.4) , Jacobs will schedule a one-hour (1) virtual meeting with Denver Water discuss license agreements for encroachment onto the Denver Water's access road. Following the meeting, Jacobs will incorporate design elements from this meeting in the 60% design level.

At the City's request, Jacobs will provide Denver Water with a courtesy copy of the 60% design plans and specifications for an informal review.

Jacobs will assist the City in the development of a permitting package for Denver Water, based on information available at the 90% design level. The package will include a set of pertinent drawings, details, specifications, draft legal exhibits, and other documentation requested in the meeting. Jacobs will submit this permitting package to the City and Denver Water.

Upon receipt of Denver Water's comments, Jacobs will schedule a one-hour (1) virtual meeting with Denver Water to discuss their comments and approach to resolve each comment. Jacobs will prepare a comment response matrix, update the permitting package, and finalize the legal exhibit (to be developed under Task 6.2.2). Jacobs will deliver the final documents to the City and Denver Water. One (1) comment/response cycle with Denver Water is assumed.

Jacobs's PM and up to two (2) other Jacobs team members will attend each meeting. Jacobs will prepare the agenda and meeting minutes.

6.5.2 Colorado Department of Transportation

After incorporating City feedback from the Design Preferences Workshop (Task 6.3.4), Jacobs will schedule a one-hour (1) virtual meeting with CDOT to review the proposed horizontal alignment for the sanitary sewer and discuss associated design requirements for crossing Hwy 93, if different from the water pipeline. Following this meeting, Jacobs will incorporate CDOT's comments in the 60% design level.

At the City's request, Jacobs will provide CDOT with a courtesy copy of the 60% design plans and specifications for an informal review.

Jacobs will assist the City in preparing the Utility and Special Use Permit application (Form 1233), based on information available at the 90% design level. Jacobs will be responsible in preparing the application form, letter of request, plan and profile exhibit, and environmental clearances form. The City will provide the certificate of insurance, and the CMAR develop the traffic control plan in accordance with the *Manual of Uniform Traffic Control Devices for Streets and Highways*. Jacobs will submit the draft permitting package to the City for review, address any comments, and then deliver the submittal to the City and CDOT.

Upon receipt of CDOT's review comments, Jacobs will schedule a one-hour (1) virtual meeting with CDOT to discuss their comments and approach to resolve each comment. Jacobs will prepare a comment response matrix, update the application package, and finalize the legal exhibit for the CDOT crossing (to be developed under Task 6.2.2). Jacobs will submit the updated permitting package and comment response matrix to the City for review, address any comments, and then deliver the final documents to the City and CDOT. One (1) comment/response cycle with CDOT is assumed.

Jacobs's PM and up to two (2) other Jacobs team members will attend each meeting. Jacobs will prepare the agenda and meeting minutes.

For the environmental clearance form, Jacobs will perform desktop ecological and cultural surveys and coordinate with University of Colorado Museum/Denver Museum of Natural Science for the paleontological desktop survey. Additional surveys and ecological, cultural, and/or paleontological inventory of permit area are not included in the scope.

6.5.3 Jefferson County

A permanent easement will be required on the Jefferson County School District parcel (located in City of Arvada limits) to connect to the existing City of Arvada sanitary sewer. Jacobs will develop a legal exhibit for this easement, as specified in Task 6.2.2.

Limited coordination with Jefferson County is anticipated, as the majority of the project area lies within the City of Arvada limits. For the few areas located in unincorporated Jefferson County, such as the Denver Water access road, Jacobs will schedule a brief coordination meeting with Jefferson County to clarify the authority having jurisdiction for these areas and determine whether Jefferson County can defer their review to City of Arvada.

At the City's request, Jacobs will support the City in discussions with Jefferson County School District or Jefferson County by providing draft legal exhibits and/or relevant plans and specifications.

Jacobs's PM and DM will attend this meeting virtually. Jacobs will prepare agenda and meeting minutes.

6.5.4 City of Arvada

This project will require review and approval by the City of Arvada's Community Development Department. Following completion of the 60% design milestone, Jacobs's PM and up to two (2) other Jacobs team members will attend the required pre-application meeting to identify the civil construction documents needed for development review. Jacobs will prepare meeting minutes to document key discussion points and action items.

Any design changes resulting from the pre-application meeting will be incorporated into the 90% plans. Jacobs will also utilize the City of Arvada's development review checklist to demonstrate conformance with the City of Arvada Engineering Code of Standards and Specifications for the Design and Construction of Public Improvements. Jacobs will develop the permitting package and submit the package to the City for review. Once client comments are addressed, Jacobs will deliver the submittal to the City and City of Arvada's Community Development Department.

Upon receipt of City of Arvada's Community Development Department comments, Jacobs will schedule a one-hour (1) virtual meeting with the City of Arvada's Community Development Department to discuss their comments and approach to resolve their comments. Jacobs will develop a comment response matrix and update the permitting package. Jacobs will submit these documents to the City for review, address any comments, and deliver the updated submittal to the City and City of Arvada's Community Development Department. Up to three (3) comment/response cycles are assumed for City of Arvada development review.

In addition to the development review process, Jacobs will support the City and CMGC in obtaining a Site Disturbance Permit by providing approved GESC plans (approved from development review process) to the CMGC. It is assumed that the CMGC will apply for the Site Disturbance Permit and coordinate directly with the City of Arvada Community Development Department. Jacobs further assumes that the CMGC will be responsible for preparing the Stormwater Management Plan, truck route map, BMP cost estimate documents, and other required documentation, as well as obtaining state construction and dewatering permits.

It is assumed that a City of Arvada floodplain development permit is not required for this project since the project area lies outside the FEMA-designated 100-year floodplain.

Task Deliverable(s):

- Denver Water Meeting and Meeting Minutes
- Denver Water Permitting Package
- CDOT Meeting and Meeting Minutes
- CDOT Utility and Special Use Permit Application
- Jefferson County Meeting and Meeting Minutes
- City of Arvada Development Review Package and Meeting Minutes

Task 7 – Additional Survey Support

The following are additional survey activities not strictly related to the potable water and sewer line engineering activities. These survey activities support the overall RTP plant design and construction efforts and beyond those survey activities originally described in the base engineering contract scope.

7.1 Leach Field Survey

Written authorization from the City is required before proceeding with Leach Field Survey.

Jacobs will utilize Ground Penetrating Radar (GPR) and Electromagnetic Detection (EM) to delineate the horizontal extents of the leach field located south of the house on the Arvada RTP site. If possible, Jacobs will attempt to locate the service line leading to the leach field.

Assumptions

- Approximate depths might be available, but potholing would be the best way of confirming depths if needed.
- At least 3 days' notice so equipment can be rented and setup.
- Weather could affect timing of the survey, since site conditions will need to be dry.

7.2 Access Easement Support

Jacobs will perform surveying services to support the preparation of easement documents required for access to the Arvada RTP site. The work will include surveying and drafting for the following access routes:

- Temporary construction easement from Hwy 93 to the westerly extent of the Arvada RTP site.
- Permanent access and utility easement from Hwy 93 to the westerly extent of the Arvada RTP site.
- Permanent emergency access easement from Hwy 93 to the Arvada RTP site.
- Jacobs will require access to adjoining parcels to calculate and draft the easement. Additionally, Jacobs will require access to the roadway to survey the existing roadway alignment and features.

Assumptions

- City of Arvada will coordinate Right of Entry with private owners for surveying activities.
- City of Arvada will provide title documents identifying existing easements on affected parcels.
- Jacobs will not set any boundary monuments, prepare survey plats or deposit surveys with the County. Additionally, it is anticipated that reproducing or filing any PLSS aliquot corner monument records will not be required.

Deliverables

- Three easement descriptions and corresponding exhibits (PDF) signed and sealed by a licensed Colorado Professional Land Surveyor.

- Traffic Control will not be required to complete the tasks in this Scope of Work.

7.3 Additional Pothole and Survey Support Allowance

This allowance will be used for potholing and verification of additional utilities discovered in the SUE process. Remaining funds in the allowance can be used for additional field or in-office survey needs.

Scope of Work Assumptions

The following assumptions were used in developing this scope of work and fee for Jacobs's services.

- It is assumed the piezometers at the RTP are adequate and no new piezometers are needed.
- Jacobs will be responsible to manage to the contract budget (rather than task level budgets).
- Labor rate escalation is only included through 2026; rates will be subject to escalation into 2027.
- The scope assumes a total of 15 months for weekly and monthly recurring meetings and activities.
- It is assumed that NEPA process will not be required.
- Assume no state or federal funding will be used for this project. If the City decides to pursue state and/or federal funding, this should be identified by the 50%/60% design milestone so that any associated requirements (e.g. Build America Buy American Act) can be addressed within the project budget, scope, and schedule.
- It is assumed that the same Construction Manager/General Contractor (CMGC) for construction delivery will be used for this project. The following assumptions are made:
  - The City will develop and provide the Contract Forms and Conditions of the Contract (Division 0) and some sections of the General Requirements (Division 1) necessary for the CMGC Contract.
  - Jacobs will not revise design work based on change requests received directly from the CMGC.
  - CMGC will be responsible for preparing construction cost estimates and obtaining bid quotes from equipment vendors and material suppliers.
- The attached fee schedule reflects Jacobs's understanding of the scope as defined herein. Should the City determine that services need to be added or deleted from this scope of work, a revised fee and scope will be negotiated.
- The City and/or Jacobs will give prompt notice whenever it is observed or becomes apparent that a development may affect the scope, cost, or timing of the project. Notwithstanding anything to the foregoing, to the extent Jacobs's provision of services for the project are modified by the City, Jacobs's cost and schedule shall be adjusted to account for such modifications. The City and Jacobs must mutually agree on adjustments to Jacobs's cost and schedule based on changes to the Scope of Services or the provision of additional services.
- Jacobs will use proprietary software in execution of this design. Jacobs's use of proprietary software in no way infers transfer of rights or ownership.
- Jacobs will host files on a cloud-based platform (e.g. ProjectWise or Autodesk Construction Cloud) to allow access by the City, Owner's Advisor, and CMGC.
- The design will be based on the federal, state, and local codes and standards in effect at the start of the project. Any changes in these codes may necessitate a change in scope.
- The design documents will be prepared for a single construction contract.
- The City's standard General and Supplemental Conditions conforming to EJCDC and Div 00's will be used without modification by Jacobs.
- Jacob's master specifications will be used as the basis for all specifications and will be reviewed at key design milestones, as described.

- The drawings will follow the Jacobs CAE/CAD standards. MicroStation Select Series 10 and/or AutoCAD 2020/Civil 3D will be used to develop the drawings. At the conclusion of the design phase of the project, the drawing files will be translated to AutoCAD 2020/Civil 3D for the City's records.
- Formal milestone deliverables will include a transmission letter.
- Formal workshops, including Kick-off and external stakeholders/agency meetings, will include standalone meeting summaries provided in MS Word or PDF (for final deliverables). Typical working meetings, where a presentation is delivered, will include embedded meeting summaries.
- Any investigation and remediation of possible hazardous waste, asbestos, lead paint, or other types of contamination will be conducted as a separate contract.
- It is assumed that site conditions are conducive to pipeline construction, including stable ground and absence of subsurface hazards such as coal mines, abandoned shafts, or other geotechnical risks.
- The City (or Owner's Advisor via delegated authority) will provide a single consolidated, reconciled set of comments on project deliverables.
- Unless explicitly in the scope of work, a single review of each project deliverable is assumed.
- The sanitary sewer is not subject for CDPHE's review since the sewer will be less than 24" in diameter. The sanitary sewer design must still conform to the requirements outlined in Regulation 22 and WPC-DR-1 guidance. Water pipeline extension is also not subject for CDPHE's review.
- The City will pay for all permitting and crossing agreement fees for each agency/jurisdiction.
- Scope does not include permitting assistance other than what is stated in Tasks 5 and 6.5. An amendment is required for additional agency/jurisdiction coordination. Unanticipated permitting coordination and approvals as well as additional review cycles would warrant a change and/or amendment from the City to perform the work.
- All required submittals will be complete and accurate at the time of submission to each agency/jurisdiction. The scope assumes approvals from each agency/jurisdiction identified in Tasks 5 and 6.5 will be obtained within 11 weeks from the date of submission. If the review period exceeds 11 weeks, a change in scope, schedule, and/or budget will be required.
- Jacobs can reach out to all AHJ's directly for coordination on permits and approvals.
- It is assumed that the environmental assessment for CDOT only includes desktop analysis and one field visit (per pipeline) to survey migratory birds.
- It is assumed that the City will coordinate with Metro Water Recovery regarding the new sanitary sewer connection.
- Realignments outside the survey and geotechnical extents are excluded and would require amendment from the City to perform the work.
- It is assumed that the City's existing sanitary system has adequate capacity to accommodate the projected flows from RTP.
- It is assumed the waterline will be PVC with ductile iron fittings. Corrosion protection design is included for ductile iron fittings and steel casing pipes.

Attachment 2: Level of Effort (and Rate Table)

Attachment 2 - Level of Effort (and Rate Table)

Fee Estimate

Fee Estimate for: City of Arvada, Replacement Treatment Plant Potable Water and Sewer Pipelines (Optional)

Date of Estimate: 3/5/2026

WORK BREAKDOWN STRUCTURE		Escalation Year	Management				Conveyance					Geotech		Geospatial								Corrosion		Enviro.	Specifications		Labor and Expenses				
			Project Management Kerry Meyer	Project Management Madalyn Murphy	Design Management & Discipline Lead Civil/Yard Pipe Claire Metka	CAD/BIM Management Tyler White	QAQC Civil/Yard Pipe Liv Haugen	Design Management & Discipline Lead Civil/Yard Pipe Claire Metka	Project Engineer Civil/Yard Pipe Eyleen Izaguirre	Trenchless Civil/Yard Pipe Robert Martin	CAD/BIM Geospatial/Survey Tim Tobin	QAQC Geotechnical David Curran	Discipline Lead Geotechnical Dan Iffrig	Survey Lead Geospatial/Survey Robert Guptill	Survey Field Coordinator Geospatial/Survey Russ Misencik	Senior Party Chief Geospatial/Survey Abram Axe	Senior Utility Investigator Geospatial/Survey David Heisen	Project Surveyor Geospatial/Survey Jacob Olmsted	Project Surveyor Geospatial/Survey Edward Silver	Photogrammetrist Geospatial/Survey Mattew Vossman	Survey Scientist Mehrez Elwaseif	Survey Scientist Danny Piccone	QAQC Corrosion Mike Stickley	Dicipline Lead Corrosion Craig VanHorn	Biologist Environmental Pat Hickey	Lead Specifications Kathleen Malin	Admin Specifications Rachel Pohlsteir	Jacobs Total Labor Effort (Hours)	Jacobs Total Labor Value ($)	Jacobs Subconsultant ($)	Jacobs Total Expenses ($)	Total Labor & Expenses ($)
Rate Code			1	5	7	5	1	7	8	1	12	1	4	3	10	9	13	14	11	4	3	14	0	1	4	10	15					
		2026	$268	$171	$146	$171	$268	$146	$144	$268	$139	$268	$196	$229	$161	$126	$120	$106	$151	$196	$229	$106	$290	$268	$196	$161	$111					
		2027	$279	$177	$151	$177	$279	$151	$149	$279	$145	$279	$203	$238	$168	$131	$124	$110	$157	$203	$238	$110	$302	$279	$203	$168	$116					
Task 1 - Project Management			**0**	**95**	**7**	**0**	**21**	**0**	**7**	**4**	**0**	**0**	**3**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**140**	**$26,005**	**$0**	**$2,000**	**$28,005**
1.1	Project Management and Administration	2026		60																								60	$10,234	$0	$0	$10,234
1.2	Invoicing	2026		7																								7	$1,194	$0	$0	$1,194
1.3	Monthly Project Management Meetings	2026		7																								7	$1,194	$0	$1,500	$2,694
1.4	Monthly Collaboration Meetings	2026		21	7		21		7	4			3		3													66	$13,384	$0	$500	$13,884
Task 2 - Site Characterization			**0**	**10**	**10**	**0**	**0**	**0**	**0**	**8**	**0**	**8**	**16**	**0**	**36**	**90**	**45**	**80**	**24**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**335**	**$45,760**	**$21,357**	**$4,895**	**$72,012**
2.1	Site Survey and Utility Location	2025		4	4										26	60	45	58		8								205	$25,101	$5,397	$4,095	$34,593
2.2	Legal Descriptions	2026		4	4										10	30		22	24									94	$12,605	$0	$0	$12,605
2.3	Site Geotech	2026		2	2					8		8	16															36	$8,054	$15,960	$800	$24,814
Task 3 -Pre-Design Activities			**8**	**20**	**32**	**6**	**16**	**48**	**44**	**16**	**20**	**6**	**14**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**6**	**0**	**0**	**0**	**245**	**$43,627**	**$0**	**$1,400**	**$45,027**
3.1	Utility and Access Coordination	2026		2	2		2						4															10	$1,951	$0	$0	$1,951
3.2	Basis of Design Memorandum	2026	2	6	6		6	24	28	12		4	10		6								3	6				113	$21,252	$0	$0	$21,252
3.3	Alignment Exhibit	2026	2	4	4	6	4	24	8	2	20																	74	$11,779	$0	$0	$11,779
3.4	Design Preferences Workshop	2026	4	8	20		4		8	2		2																48	$8,644	$0	$1,400	$10,044
Task 4 - Design			**6**	**50**	**74**	**18**	**36**	**82**	**86**	**52**	**204**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**34**	**0**	**28**	**0**	**670**	**$113,942**	**$0**	**$200**	**$114,142**
4.1	50% Snapshot/90% Design	2026	4	24	40	14	32	78	78	48	180													30		20		548	$93,754	$0	$200	$93,954
4.2	100% / Issued for Construction Design	2026	2	12	20	4	4	4	8	4	24													4		8		94	$15,762	$0	$0	$15,762
4.3	CMGC Coordination	2026		14	14																							28	$4,426	$0	$0	$4,426
Task 5 - Permitting			**6**	**60**	**36**	**0**	**12**	**24**	**54**	**8**	**40**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**24**	**0**	**0**	**268**	**$44,745**	**$0**	**$0**	**$44,745**
5.1	Denver Water/City and County of Denver	2026	2	16	8		4	4	12	4																		50	$8,882	$0	$0	$8,882
5.2	Colorado Department of Transportation	2026	2	24	8		4	4	12	4			4												24			86	$15,721	$0	$0	$15,721
5.3	City of Arvada	2026	2	20	20		4	16	30		40																	132	$20,143	$0	$0	$20,143
Task 6 - Sanitary Sewer Design			**22**	**216**	**150**	**17**	**72**	**144**	**186**	**68**	**226**	**14**	**38**	**0**	**41**	**90**	**40**	**104**	**24**	**0**	**0**	**0**	**1**	**24**	**24**	**28**	**0**	**1529**	**$250,570**	**$11,025**	**$7,720**	**$269,315**
Task 6.1 - Project Management			0	110	8	0	24	0	8	8	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	166	$31,619	$0	$1,000	$32,619
6.1.1	Project Management and Administration	2026		44																								44	$7,505	$0	$0	$7,505
		2027		26																								26	$4,612	$0	$0	$4,612
6.1.2	Invoicing	2026		4																								4	$682	$0	$0	$682
		2027		4																								4	$710	$0	$0	$710
6.1.3	Monthly Management Meetings	2026		4																								4	$682	$0	$0	$682
		2027		4																								4	$710	$0	$500	$1,210
6.1.4	Monthly Collaboration Meetings	2026		12	4		12		4	4			4		4													44	$8,923	$0	$0	$8,923
		2027		12	4		12		4	4																		36	$7,796	$0	$500	$8,296
Task 6.2 - Site Characterization			0	10	10	0	0	0	0	8	0	8	16	0	37	90	40	104	24	0	0	0	0	0	0	0	0	347	$47,309	$11,025	$5,120	$63,454
6.2.1	Site Survey and Utility Location	2026		4	4										24	60	40	76										208	$25,530	$3,045	$4,820	$33,395
6.2.2	Legal Descriptions	2026		4	4										13	30		28	24									103	$13,725	$0	$0	$13,725
6.2.3	Site Geotech	2026		2	2					8		8	16															36	$8,054	$7,980	$300	$16,334
Task 6.3 - Pre-Design Engineering Support Activities			8	20	32	5	16	48	44	12	20	6	14	0	0	0	0	0	0	0	0	0	1	4	0	0	0	230	$40,384	$0	$1,400	$41,784
6.3.1	Utility and Access Coordination	2026		2	2		2						4															10	$1,951	$0	$0	$1,951
6.3.2	Basis of Design Memorandum	2026	2	6	6		6	24	28	8		4	10										1	4				99	$18,095	$0	$0	$18,095
6.3.3	Alignment Exhibit	2026	2	4	4	5	4	24	8	2	20																	73	$11,694	$0	$0	$11,694
6.3.4	Design Preferences Workshop	2026	4	8	20		4		8	2		2																48	$8,644	$0	$1,400	$10,044
Task 6.4 - Sewer Pipeline Design			6	40	64	12	20	74	88	36	166	0	0	0	0	0	0	0	0	0	0	0	0	20	0	28	0	554	$91,777	$0	$200	$91,977
6.4.1	60% Design	2026	2	8	16	4	8	30	35	16	75													8				202	$33,342	$0	$100	$33,442
6.4.2	90% Design	2026	2	8	16	4	8	40	45	16	75													8		20		242	$39,458	$0	$100	$39,558
6.4.3	100% / Issued for Construction Design	2027	2	8	16	4	4	4	8	4	16													4		8		78	$13,918	$0	$0	$13,918
6.4.4	CMGC Coordination	2026		16	16																							32	$5,059	$0	$0	$5,059
Task 6.5 - Permitting and Agency Coordination			8	36	36	0	12	22	46	4	40	0	4	0	0	0	0	0	0	0	0	0	0	0	24	0	0	232	$39,481	$0	$0	$39,481
6.5.1	Denver Water/City and County of Denver	2026	2	4	4		2	2	4																			18	$3,203	$0	$0	$3,203
6.5.2	Colorado Department of Transportation	2026	2	8	8		4	4	12	4			4												24			70	$12,992	$0	$0	$12,992
6.5.3	Jefferson County	2026	2	4	4		2																					12	$2,338	$0	$0	$2,338
6.5.4	City of Arvada	2027	2	20	20		4	16	30		40																	132	$20,948	$0	$0	$20,948
Task 7 - Additional Survey Tasks					**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**40**	**10**	**46**	**33**	**0**	**15**	**40**	**0**	**0**	**0**	**0**	**0**	**197**	**$25,856**	**$3,780**	**$5,454**	**$42,090**
7.1	Leach Field Survey (City Authorization Required)	2026													3						15	40						58	$8,159	$0	$3,604	$11,763
7.2	Easement Survey	2026													10	40	10	46	33									139	$17,698	$3,780	$1,850	$23,328
7.3	Additional Pothole and Survey Allowance	2026																										0	$0	$0	$0	$7,000
Total Labor Hours			**42**	**451**	**309**	**41**	**157**	**298**	**377**	**156**	**490**	**28**	**75**	**0**	**99**	**220**	**95**	**230**	**81**	**8**	**15**	**40**	**4**	**64**	**48**	**56**	**0**	**3384**	**$ 550,506**	**$ 36,162**	**$ 21,669**	**$ 615,337**

Attachment 3: Draft List of Construction Drawings

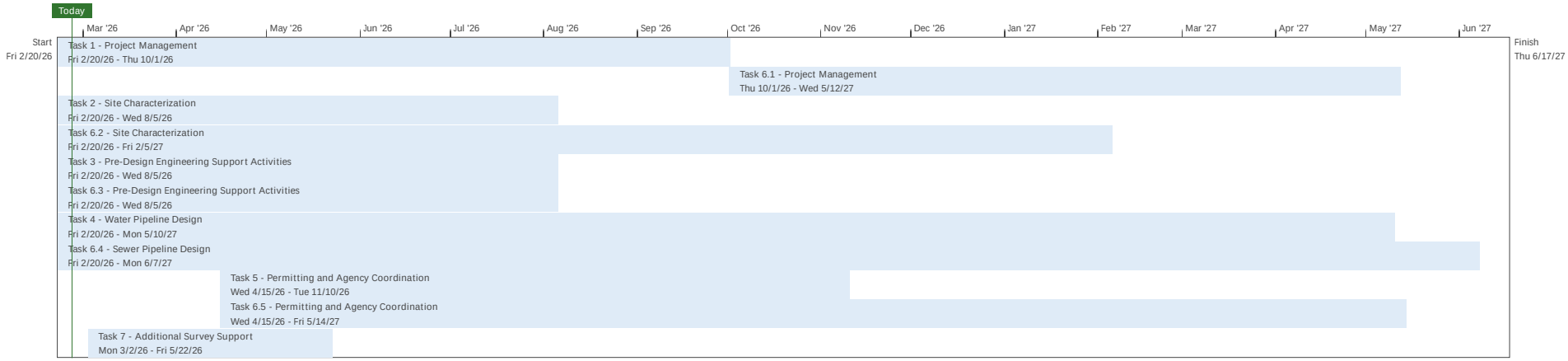
Task 4: Water Pipeline Scope			Design Level		
			50%	90%	100%
1	G-01	Cover Sheet		X	X
2	G-02	Sheet Index & Key Map		X	X
3	G-03	Site Survey Control		X	X
4	G-04	Civil Legend & General Notes		X	X
5	G-05	Boring and Pothole Data		X	X
6	G-06	System Shut-Down Plan		X	X
7	G-07	Site Plan and Traffic Control Plan		X	X
8	G-08	Hydraulic Profile		X	X
9	C-01	Water Plan & Profile 1	X	X	X
10	C-02	Water Plan & Profile 2	X	X	X
11	C-03	Water Trenchless Crossing 1	X	X	X
12	C-04	Water Trenchless Crossing 2	X	X	X
13	C-05	Water Ditch Crossing	X	X	X
14	C-06	Water Connection Detail POB		X	X
15	C-07	Grading Erosion and Sediment Control Plan (access, initial, interim, and final)		X	X
16	C-08	Civil Details (pipe trench & clsm/encasements/utility crossings)		X	X
17	C-09	Civil Details (restoration & BMPs)		X	X

*General Sheets 1 through 4 and Civil Details will be shared sheets with RTP

Task 6: Sanitary Sewer Scope			Design Level		
			60%	90%	100%
p	G-01	Cover Sheet		X	X
2	G-02	Sheet Index & Key Map		X	X
3	G-03	Site Survey Control		X	X
4	G-04	Civil Legend & General Notes		X	X
5	G-05	Boring and Pothole Data		X	X
6	G-06	Site Plan and Traffic Control Plan		X	X
6	G-07	Hydraulic Profile		X	X
8	C-01	Sewer Plan & Profile 1	X	X	X
9	C-02	Sewer Plan & Profile 2	X	X	X
10	C-03	Sewer Trenchless Crossing	X	X	X
11	C-04	Sewer Connection Detail POE	X	X	X
12	C-05	Grading Erosion and Sediment Control Plan (access, initial, interim, and final)		X	X
13	C-06	Civil Details (manhole, any other sewer specific details)		X	X
14	C-07	Civil Details (restoration & BMPs)		X	X

*General Sheets 1 through 4 and Civil Details will be shared sheets with RTP

Attachment 4: Project Schedule


Today
Mar '26
Apr '26
May '26
Jun '26
Jul '26
Aug '26
Sep '26
Oct '26
Nov '26
Dec '26
Jan '27
Feb '27
Mar '27
Apr '27
May '27
Jun '27
Start
Fri 2/20/26
Finish
Thu 6/17/27
Task 1 - Project Management
Fri 2/20/26 - Thu 10/1/26
Task 6.1 - Project Management
Thu 10/1/26 - Wed 5/12/27
Task 2 - Site Characterization
Fri 2/20/26 - Wed 8/5/26
Task 6.2 - Site Characterization
Fri 2/20/26 - Fri 2/5/27
Task 3 - Pre-Design Engineering Support Activities
Fri 2/20/26 - Wed 8/5/26
Task 6.3 - Pre-Design Engineering Support Activities
Fri 2/20/26 - Wed 8/5/26
Task 4 - Water Pipeline Design
Fri 2/20/26 - Mon 5/10/27
Task 6.4 - Sewer Pipeline Design
Fri 2/20/26 - Mon 6/7/27
Task 5 - Permitting and Agency Coordination
Wed 4/15/26 - Tue 11/10/26
Task 6.5 - Permitting and Agency Coordination
Wed 4/15/26 - Fri 5/14/27
Task 7 - Additional Survey Support
Mon 3/2/26 - Fri 5/22/26

Attachment 5: Project Survey Scope

JACOBS PROPOSAL FOR CITY OF ARVADA: REPLACEMENT TREATMENT PLANT (RTP) PROJECT Phase 2 North

PROJECT APPROACH

This project entails employing various surveying techniques to conduct a comprehensive survey for the City of Arvada RTP. Jacobs will perform topographic survey, boundary survey, and Subsurface Utility Engineering (SUE) to support the project's design, planning, and assessments. Each survey component is carefully planned to utilize the appropriate technology and data sources, ensuring cost-effectiveness and project requirements are met. Our Geospatial Services Group offers a full range of services to support planning, engineering, construction, and asset management. We will leverage our extensive group of professionals in a diverse array of surveying expertise combined with our access to the latest technology to fulfill the accurate, comprehensive, and timely delivery of our services.

SURVEY CONTROL

Jacobs will utilize existing City of Arvada and National Geodetic Survey (NGS) control points to survey the site with RTK corrected GNSS.

TOPOGRAPHIC SURVEY

Jacobs surveyors will use a combination of GNSS RTK observations and total station observations to create a topographic map of the project area. This survey focuses on the location shown in Exhibit A. Survey data shall include paved surfaces, pavement markings, buildings, driveways, drainage paths, street signs, street lighting, fences, trees larger than 4" diameter or outline of groves, utility poles, and visible evidence of subsurface utility appurtenances. Boreholes holes will also be surveyed once the holes have been drilled. Topographic data will be used to create a Digital Terrain Model (DTM) of the existing surface and data will be provided to the design team in a digital CAD format.

Aerial Imagery

Jacobs surveyors will collect aerial imagery using an Unmanned Aerial Vehicle (UAV). This will be beneficial to the project to show the existing conditions of the site and will create an orthomosaic which is properly scaled to the drawings.

SUBSURFACE UTILITY ENGINEERING (SUE)

Jacobs will provide SUE services in accordance with Colorado Revised Statutes, 9-1.5-103 and American Society of Civil Engineers (ASCE) 38-22 Standards Guidelines for the Collection and Depiction of Existing Subsurface Utility Data. Services include utility research, investigation, designation, and surveying of existing overhead and subsurface utilities within the SUE boundary. The objective is to achieve ASCE 38-22 Quality Level B for known subsurface utilities within the project corridor. Utilities not meeting Quality Level B will be identified, the reason Quality Level B was not obtained will be noted.

SUE tasks include:

- **Utility Research:** Conduct utility map research within the project boundary using the local one-call facility for utility providers. Jacobs will attempt to obtain maps from these providers and use them as general guidance during utility designation. If maps are not available, surface appurtenances will be used to inform the utility designation effort.

- **Utility Designation:** Based on maps and utility appurtenances, inductive underground utilities within the SUE boundary will be designated using Radio-Frequency Electro-Magnetic Induction (RFEMI) equipment. Some utilities may be of record but unlocatable in the field with RFEMI. Known utilities not meeting Level B quality will be labeled with the appropriate ASCE Quality Level and noted in the final CAD drawing. Utility ownership will be summarized in a separate report to be delivered to the design team.
- **Utility Surveying:** Designated utilities will be surveyed using GNSS RTK observations. Surveyed utilities will be shown in the digital CAD file with the appropriate ASCE Quality Levels. Survey will include measure downs inside storm and sanitary sewer manholes.
- **Utility Potholing:** Pothole locations identified by the design team will be staked out by our surveyors for the potholing subcontractor. We will then survey the horizontal and vertical locations of the restored potholes. Data from the potholes will be incorporated into a pothole table spreadsheet.

BOUNDARY SURVEY

The boundary survey will be used for determining existing property lines and boundary corners, to determine easements for utility crossings. Title documents will be used for final boundary determination and plotting of encumbrances using field-surveyed property pins, ROW monuments and Public Land Survey System (PLSS) aliquot corners. The final boundary lines, ROW and encumbrances will be represented in a survey-grade digital CAD file delivered to the design team.

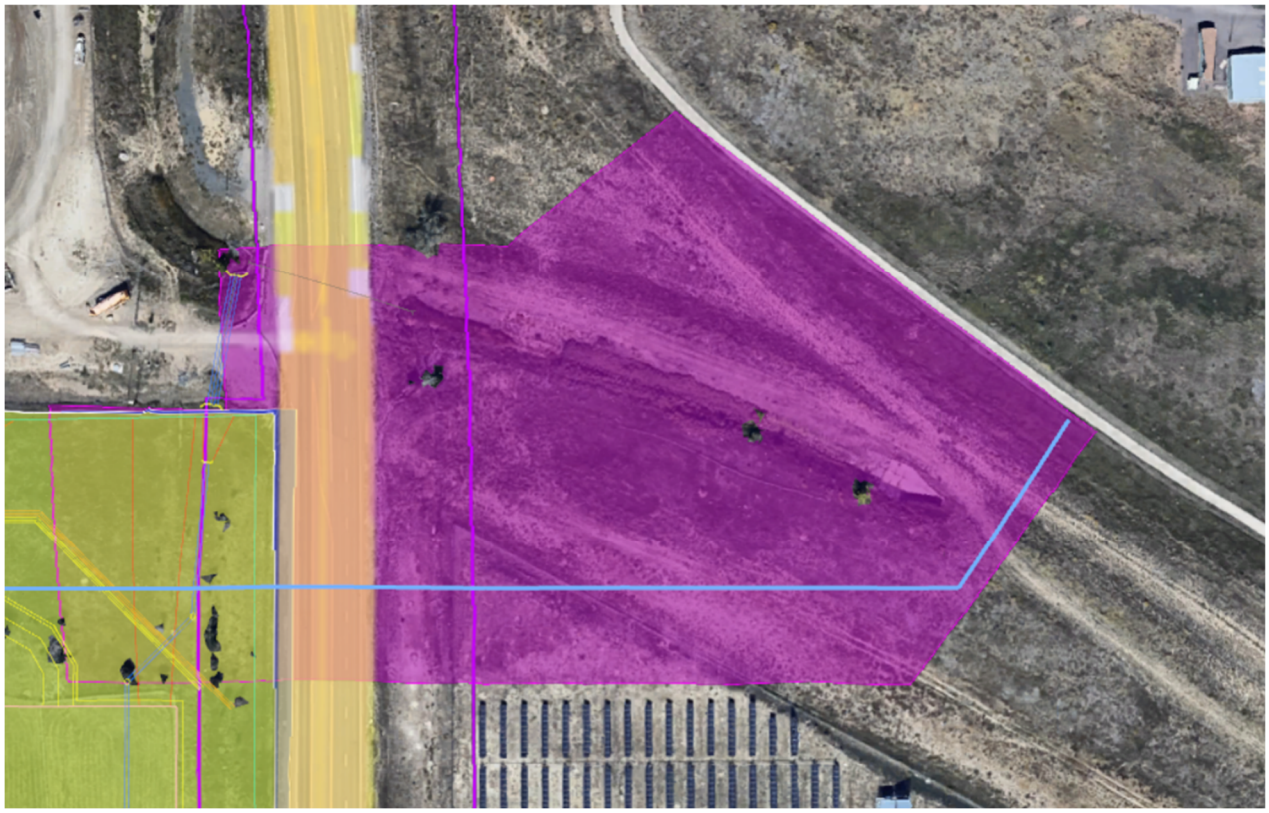
DELIVERABLES

- AutoCAD Civil 3D (.DWG) file depicting site topography, survey control, subsurface utilities identified during record and field investigations assigned to appropriate ASCE Quality Levels and pertinent notes.
- AutoCAD Civil 3D (.DWG) file depiconting site boundary lines, ROW, easement descriptions and encumbrances.
- Digital Terrain Model (DTM) in LandXML format.
- Ortho-rectified aerial imagery.
- Survey control diagram (PDF) signed and sealed by a licensed Colorado Professional Land Surveyor.
- 2 easement descriptions signed and sealed by a licensed Colorado Professional Land Surveyor.
- Two SUE plan sheets (PDF) signed and sealed by a licensed Colorado Professional Engineer.
- A pothole log, depicting the utility type, elevation to topo of utility, depth below grade, size and material of utility.
- Subsurface Utility Report and utility provider maps.

ASSUMPTIONS

- City of Arvada will coordinate Right of Entry with private owners (if applicable, depending on final site selection) for surveying activities.
- All necessary access permissions from private landowners will be obtained in a timely manner.
- The City of Arvada will provide any necessary permits for surveying activities at no cost to the consultant.
- Jacobs is not responsible for disturbed survey control monuments after they have been utilized for this phase of the project.
- No more than one title commitment will be required to complete the tasks in this Scope of Work.
- No subdivision plat is required.
- No more property pins will need to be set.
- Jacobs will not need to set or rest any PLSS aliquot corners.
- No more than two monument records will need to be filed.
- Traffic Control will not be required to complete the tasks in this Scope of Work.
- No more than 11 Utility test holes (potholes) are required.
- No geotechnical holes will be drilled.
- Jacobs will not investigate sanitary service lines.
- Utility relocation services will not be required.
- Utility investigation does not include abandoned utilities, but if identified by record, lines will be shown as Quality Level D in the plan set.
- Depths of utility vaults, pull-boxes, handholes and valves are not part of this scope of work.
- Ground Penetrating Radar (GPR) investigation will not be required.
- City of Arvada will assist Jacobs with the acquisition of DRCOG aerial LiDAR and imagery to be used for this project.
- Jacobs will reasonably rely upon the accuracy, timeliness, and completeness of information provided by others.
- Airspace and weather allow for a UAV flight of the site.

Exhibit A



JACOBS PROPOSAL FOR CITY OF ARVADA: REPLACEMENT TREATMENT PLANT (RTP) PROJECT Phase 2 South

PROJECT APPROACH

This project entails employing various surveying techniques to conduct a comprehensive survey for the City of Arvada RTP. Jacobs will perform topographic survey, boundary survey, and Subsurface Utility Engineering (SUE) to support the project's design, planning, and assessments. Each survey component is carefully planned to utilize the appropriate technology and data sources, ensuring cost-effectiveness and project requirements are met. Our Geospatial Services Group offers a full range of services to support planning, engineering, construction, and asset management. We will leverage our extensive group of professionals in a diverse array of surveying expertise combined with our access to the latest technology to fulfill the accurate, comprehensive, and timely delivery of our services.

SURVEY CONTROL

Jacobs will utilize existing City of Arvada and National Geodetic Survey (NGS) control points to survey the site with RTK corrected GNSS.

TOPOGRAPHIC SURVEY

Jacobs surveyors will use a combination of GNSS RTK observations and total station observations to create a topographic map of the project area. This survey focuses on the location shown in Exhibit A. Survey data shall include paved surfaces, pavement markings, buildings, driveways, drainage paths, street signs, street lighting, fences, trees larger than 4" diameter or outline of groves, utility poles, and visible evidence of subsurface utility appurtenances. Topographic data will be used to create a Digital Terrain Model (DTM) of the existing surface and data will be provided to the design team in a digital CAD format.

SUBSURFACE UTILITY ENGINEERING (SUE)

Jacobs will provide SUE services in accordance with Colorado Revised Statutes, 9-1.5-103 and American Society of Civil Engineers (ASCE) 38-22 Standards Guidelines for the Collection and Depiction of Existing Subsurface Utility Data. Services include utility research, investigation, designation, and surveying of existing overhead and subsurface utilities within the SUE boundary. The objective is to achieve ASCE 38-22 Quality Level B for known subsurface utilities within the project corridor. Utilities not meeting Quality Level B will be identified, the reason Quality Level B was not obtained will be noted.

SUE tasks include:

- **Utility Research:** Conduct utility map research within the project boundary using the local one-call facility for utility providers. Jacobs will attempt to obtain maps from these providers and use them as general guidance during utility designation. If maps are not available, surface appurtenances will be used to inform the utility designation effort.
- **Utility Designation:** Based on maps and utility appurtenances, inductive underground utilities within the SUE boundary will be designated using Radio-Frequency Electro-Magnetic Induction (RFEMI) equipment. Some utilities may be of record but unlocatable in the field with RFEMI. Known utilities not meeting Level B quality will be labeled with the appropriate ASCE Quality Level and noted in the final CAD drawing. Utility ownership will be summarized in a separate report to be delivered to the design team.

- **Utility Surveying:** Designated utilities will be surveyed using GNSS RTK observations. Surveyed utilities will be shown in the digital CAD file with the appropriate ASCE Quality Levels. Survey will include measure downs inside storm and sanitary sewer manholes.
- **Utility Potholing:** Pothole locations identified by the design team will be staked out by our surveyors for the potholing subcontractor. We will then survey the horizontal and vertical locations of the restored potholes. Data from the potholes will be incorporated into a pothole table spreadsheet.

BOUNDARY SURVEY

The boundary survey will be used for determining existing property lines and boundary corners, to determine easements for utility crossings. Title documents will be used for final boundary determination and plotting of encumbrances using field-surveyed property pins, ROW monuments and Public Land Survey System (PLSS) aliquot corners. The final boundary lines, ROW and encumbrances will be represented in a survey-grade digital CAD file delivered to the design team.

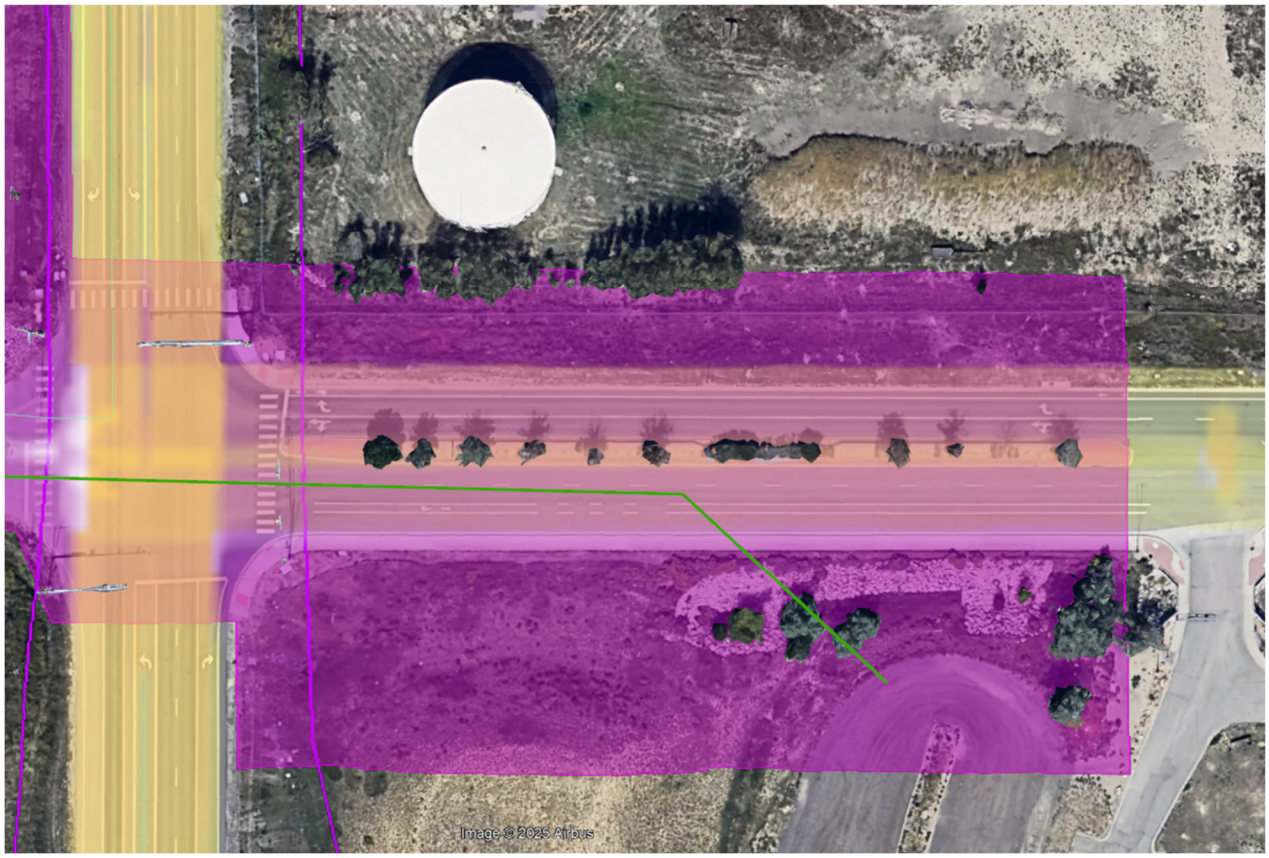
DELIVERABLES

- AutoCAD Civil 3D (.DWG) file depicting site topography, survey control, subsurface utilities identified during record and field investigations assigned to appropriate ASCE Quality Levels and pertinent notes.
- AutoCAD Civil 3D (.DWG) file depiconting site boundary lines, ROW, easement descriptions and encumbrances.
- Digital Terrain Model (DTM) in LandXML format.
- 3 easement descriptions signed and sealed by a licensed Colorado Professional Land Surveyor.
- Two SUE plan sheets (PDF) signed and sealed by a licensed Colorado Professional Engineer.
- A pothole log, depicting the utility type, elevation to topo of utility, depth below grade, size and material of utility.
- Subsurface Utility Report and utility provider maps.

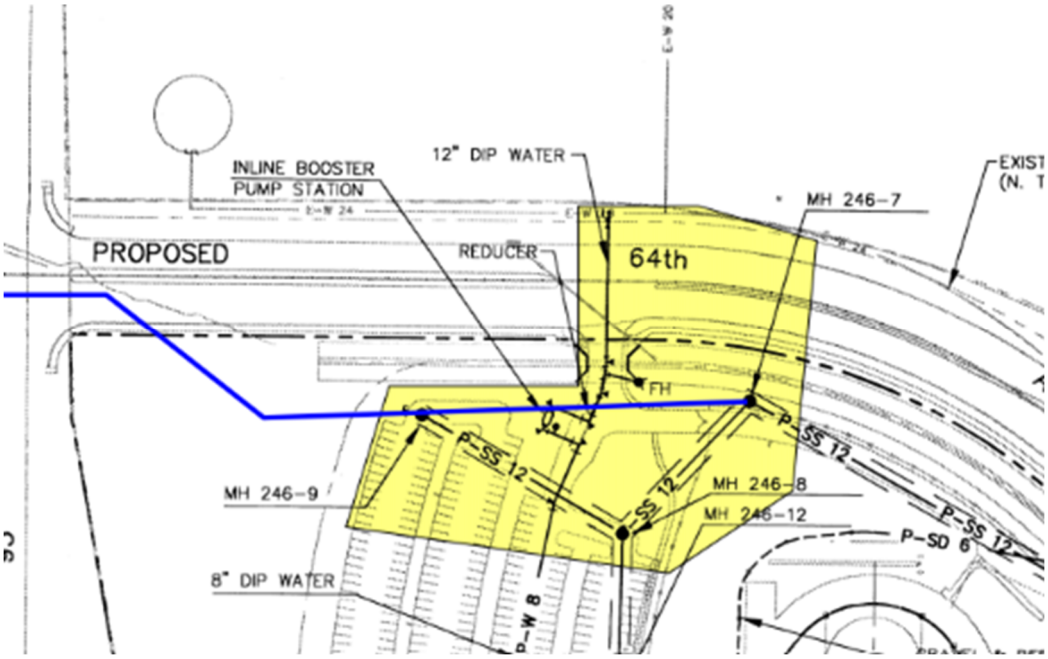
ASSUMPTIONS

- City of Arvada will coordinate Right of Entry with private owners (if applicable, depending on final site selection) for surveying activities.
- All necessary access permissions from private landowners will be obtained in a timely manner.
- The City of Arvada will provide any necessary permits for surveying activities at no cost to the consultant.
- Jacobs is not responsible for disturbed survey control monuments after they have been utilized for this phase of the project.
- No more than one title commitment will be required to complete the tasks in this Scope of Work.
- No subdivision plat is required.
- No more property pins will need to be set.
- Jacobs will not need to set or rest any PLSS aliquot corners.
- No more than two monument records will need to be filed.
- Traffic Control will not be required to complete the tasks in this Scope of Work.
- No geotechnical holes will be drilled.
- Jacobs will not investigate sanitary service lines, unless otherwise noted in the Scope of Work.
- Utility relocation services will not be required.
- Utility investigation does not include abandoned utilities, but if identified by record, lines will be shown as Quality Level D in the plan set.
- No more than 1 utility test holes (potholes) are required.
- Depths of utility vaults, pull-boxes, handholes and valves are not part of this scope of work.
- Ground Penetrating Radar (GPR) investigation will not be required.
- City of Arvada will assist Jacobs with the acquisition of DRCOG aerial LiDAR and imagery to be used for this project.
- Jacobs will reasonably rely upon the accuracy, timeliness, and completeness of information provided by others.

Exhibit A



Additional Survey Extents (2026)



CITY OF ARVADA

REPORT TO CITY COUNCIL RESOLUTION

AGENDA ITEM 8.A.4.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: R26-031, A Resolution Authorizing An Agreement Between the City of Arvada and EDGE Contracting, Inc. for 2026 Sanitary Sewer Open Cut Construction Services, Project No. 26-SR-01, in an Amount Not to Exceed $1,382,541.00

Report in Brief

The attached resolution authorizes an agreement with Edge Contracting Inc. for an amount not to exceed $1,382,541.00. This project involves the installation of 1,180 linear feet of new 8” sewer main to replace existing sewer main that is at the end of useful life. This project will also install 380 linear feet of 8" water main, and 16 sanitary sewer maintenance holes. This segment is part of the annual sanitary sewer open cut program.

The Arvada team recommends that City Council approve R26-031, A Resolution Authorizing An Agreement Between the City of Arvada and EDGE Contracting, Inc. for 2026 Sanitary Sewer Open Cut Construction Services, Project No. 26-SR-01, in an Amount Not to Exceed $1,382,541.00.

Financial Impact

CIP Project: 26SR01 – 2026 Sanitary Sewer Open Cut Construction Services
Financial Impact: $1,382,541.00
Funding Source: UT Wastewater, UT Drinking Water Distribution
CIP Account Number: PRJ26000006, PRJ23098541, and PRJ23097004

Background

This project supports the concrete and paving programs Wildly Important Goal (WIG) by prioritizing sewer infrastructure concerns in areas that overlap with the upcoming paving program work. W 78th Pl. & Reed St, Marshall St and W 55th Pl, and W 62nd Ave and Webster St. are monthly maintenance areas that pose a risk of backing up. The sewer will be replaced, and the new lines will mitigate backup risks and provide adequate grade for proper flow through the line. The other 6 areas will replace clean-outs with maintenance holes to prepare for future trenchless sewer lining work.

Discussion

	Bidders	Bid Amount	Confirmed to Meet Minimum Qualifications as stated in the CSB
1	American West Construction, LLC	$ 2,178,153.00	Yes
2	Brannan Sand & Gravel Company	$1,575,404.00	Yes
3	Ecs Inc	$933,333.33	No
4	**Edge Contracting**	**$1,382,541.00**	**Yes**
5	Mid City Corporation	$1,576,568.50	Yes
6	SMH West	$ 1,512,000.0	Yes

The lowest qualified bidder was Ecs Inc but they did **not** successfully meet minimum qualifications as stated in the CSB. The next lowest bidder was Edge Contracting, and they have successfully met minimum qualifications as stated in the CSB. This

work is expected to begin with a notice to proceed after contract execution and has an estimated construction completion timeframe of December 2026.

Public Contact

Posting of the City Council agenda.

Commission Recommendation

Not applicable.

Strategic Alignment

The recommended action aligns with the Infrastructure Work System Services within the City Council Strategic Plan. Specifically, the recommended action is consistent with service INF1: Provides the community with a safe, reliable high quality water supply, drainage system, and wastewater disposal services for full city build-out, as defined in the Comprehensive Plan. This includes maintaining utility rates at the lowest practical levels with accurate billing that supports replacement of aging infrastructure in order to maintain robust utility systems. This action also aligns with Physical and Technology Systems Strategic Goal 2. Identify and prioritize projects for modernizing our physical infrastructure to maintain and elevate service levels

Alternative Courses of Action

Not applicable.

Recommendation for Action

The Arvada team recommends that the City Council approve R26-031, A Resolution Authorizing An Agreement Between the City of Arvada and EDGE Contracting, Inc. for 2026 Sanitary Sewer Open Cut Construction Services, Project No. 26-SR-01, in an Amount Not to Exceed $1,382,541.00.

Suggested Motion:

I move R26-031, A Resolution Authorizing An Agreement Between the City of Arvada and EDGE Contracting, Inc. for 2026 Sanitary Sewer Open Cut Construction Services, Project No. 26-SR-01, in an Amount Not to Exceed $1,382,541.00, be (approved) (rejected).

Prepared by:
Katy Smith, Civil Engineer II

Reviewed by:

Approved by:

Mary Stahl, Senior Civil Engineer	03/30/2026
Claudia Vaughan, City Engineer	03/31/2026
Jacqueline Rhoades, Director of Infrastructure	04/03/2026
Bryan Archer, Chief Financial Officer	04/06/2026
Tammy Hedlund, Legal Specialist	04/06/2026

Megan McCall, Assistant City Attorney II	04/06/2026
Rachel Morris, City Attorney	04/06/2026
Allison Scheck, Deputy City Manager	04/06/2026
Don Wick, City Manager	04/08/2026

Enclosure, exhibits & attachments required to support the report

RESOLUTION NO. R26-031

A RESOLUTION AUTHORIZING AN AGREEMENT BETWEEN THE CITY OF ARVADA AND EDGE CONTRACTING, INC. FOR 2026 SANITARY SEWER OPEN CUT CONSTRUCTION SERVICES, PROJECT NO. 26-SR-01, IN AN AMOUNT NOT TO EXCEED $1,382,541.00

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF ARVADA, COLORADO:

Section 1. The Mayor or Mayor Pro Tem is authorized to sign and the City Clerk to attest, in form approved by the City Attorney, an Agreement that is in substantially the same form as that attached hereto.

Section 2. This resolution shall be effective upon its approval by the City Council.

APPROVED AND ADOPTED this 21st day of April, 2026.

_____
Lauren Simpson, Mayor

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:
Rachel A. Morris, City Attorney

By: _____

AN AGREEMENT BY AND BETWEEN THE CITY OF ARVADA AND EDGE CONTRACTING, INC. FOR 2026 SANITARY SEWER OPEN CUT CONSTRUCTION SERVICES, PROJECT NO. 26-SR-01, IN AN AMOUNT NOT TO EXCEED $1,382,541.00

This Agreement is made this _____day of _____, 2026, by and between the City of Arvada, a home rule municipal corporation ("Arvada" or "City") and EDGE Contracting, Inc., a Colorado corporation ("Contractor"). Arvada and Contractor may be individually referred to as the "Party" and jointly referred to as the "Parties".

WITNESSETH: That for and in consideration of the covenants, promises, and payments hereinafter mentioned:

WITNESSETH:

WHEREAS, Arvada solicited proposals from interested construction professionals for the provision of construction services related to its 2026 Sanitary Sewer Open Cut Project, Project No. 26-SR-01, as described in the Contract Documents (the "Project" or the "Work"); and

WHEREAS, based on Contractor's submissions, Arvada has selected Contractor for the Project; and

WHEREAS, Arvada and Contractor desire to enter into this Agreement regarding the construction of the Project.

NOW, THEREFORE, for and in consideration of the covenants, promises, and payments hereinafter mentioned, the Parties agree as follows:

ARTICLE 1. GENERAL DESCRIPTION OF SERVICES

1.1. **The Services.** Contractor agrees to furnish or arrange for the construction services set forth in the Contract Documents and required for the completion of the Project within the timeframe provided in the Contract Documents. Contractor represents that it is thoroughly familiar with, and understands, the requirements of the Project's scope and is experienced in the construction of projects of the type and scope contemplated by the Contract Documents. Contractor represents to Arvada that Contractor has all necessary education, skill, knowledge, expertise, and experience required for construction of the Project, and will maintain, at all times during the term of this Agreement, such personnel on its staff to provide the services contemplated hereby within the time periods required hereby. In addition, Contractor represents that it or Arvada-approved subcontractors or subconsultants performing services under this Agreement have all applicable licenses required by the City and by the State of Colorado to perform such services and all required insurance coverage as required by this Agreement and by law.

1.2. **Cooperation.** The Contractor shall endeavor to develop, implement, and maintain a spirit of cooperation, collegiality, and open communication with Arvada, Arvada's consultants, and Arvada's residents so that the goals and objectives of each are clearly understood,

potential problems are resolved promptly, and, upon completion, the Project is deemed a success by all interested parties.

1.3. **Preparation/Sufficiency of Site.** Before commencing the Project, the Contractor shall (i) visit and thoroughly inspect the Project sites and any structure(s) or other man-made features to be modified and become familiar with local conditions under which the Project will be constructed and operated; (ii) familiarize itself with the survey, including the location of all existing buildings, utilities, conditions, streets, equipment, components, and other attributes having or likely to have an impact on the Project; (iii) familiarize itself with Arvada's engineering and design requirements, design objectives, and budget for the Project; (iv) familiarize itself with pertinent Project dates and programming needs, including the Project schedule; (v) review and analyze all Project geotechnical, environmental, and construction materials tests, investigations, and recommendations; (vi) review all specifications; and (vii) gather any other information necessary for a thorough understanding of the Project. Claims by Contractor resulting from Contractor's failure to familiarize itself with any of the site or pertinent documents shall be deemed waived.

1.4. **Contract Documents.** The Contract Documents shall consist of this Agreement, together with the following documents which are, by reference, incorporated herein for all purposes:

A. Arvada's solicitation dated February 12, 2026, numbered CSB # 26-ENG-011, and entitled 2026 Sanitary Sewer Open Cut Construction Services 26-SR-01, including Addendum #1, attached hereto as **Exhibit A** ("CSB 26-ENG-011");
B. Contractor's response to Arvada's solicitation CSB 26-ENG-011, including Bid Bond, Bid Proposal, Bid Schedule, Required Contractor Submittal Form, Qualifications, and Construction Schedule, attached hereto as **Exhibit B** ("Contractor's Response");
C. Notice of Award;
D. Performance and Payment Bond;
E. Notice(s) to Proceed;
F. Change Orders (if any);
G. City of Arvada Engineering Code of Standards and Specifications dated October 2, 2023 ("Arvada Engineering Code of Standards and Specifications");
H. Requests for Information and Responses (if any);
I. All supplementary requirements regarding wage rates, E.E.O., affirmative action and all other Federal-State requirements as outlined in the specifications (if applicable).

1.5. **Interpretation of Contract Documents.** In the event of conflicts or discrepancies among the Contract Documents, the documents shall govern in the following order: (1) this Agreement; (2) Arvada's solicitation CSB 26-ENG-011; (3) Arvada Engineering Code of Standards and Specifications; (4) Contractor's Response; (5) Change Orders; (6) Requests for Information and Response. Except as set forth in this section 1.5., in the event of any dispute or differences between the respective documents that constitute the Contract Documents, Contractor shall secure written instructions from Arvada before proceeding with the performance of services affected by such conflicts, omissions, or discrepancies.

ARTICLE 2. ARVADA'S DUTIES, OBLIGATIONS AND RESPONSIBILITIES

2.1. **Project Information.** Contractor acknowledges that Arvada has provided Contractor with information regarding Arvada's requirements for the Project as set forth in the Contract Documents, including project specifications.

2.2. **Arvada's Budget.** Arvada has established, and will update, an overall budget for the Project, including amounts allocated for construction, Arvada's other costs, and reasonable contingencies related to these costs as appropriate.

2.3. **Arvada's Representative.** Arvada will designate a representative authorized to act on Arvada's behalf with respect to the Project.

2.4. **Purpose of Arvada's Review.** Arvada's review, inspection, or approval of any work, testing documents, applications for payment, or other submittals shall be solely for the purpose of determining whether the same are generally consistent with Arvada's standards, policies, and requirements. No review, inspection, or approval by Arvada of such work or documents shall relieve Contractor of its responsibility for the performance of its obligations under this Agreement or the accuracy, adequacy, fitness, suitability, or coordination of its construction services. Approval by any governmental or other regulatory agency or other governing body of any work, testing document, or the Contract Documents shall not relieve Contractor of responsibility for the performance of its obligations under this Agreement. Payment by Arvada pursuant to this Agreement shall not constitute waiver of any of Arvada's rights under this Agreement or at law, and Contractor expressly accepts the risk that defects in its performance, if any, may not be discovered until after payment, including final payment, is made by Arvada. Notwithstanding the foregoing, reasonable notice shall be given by Arvada to the Contractor if Arvada becomes aware of any fault or defect in the Project or non-conformance with the Contract Documents.

ARTICLE 3. CONSTRUCTION SERVICES REQUIREMENTS AND STANDARDS

3.1. **Quality of Construction Services.** Contractor shall be responsible for the quality, completeness, accuracy, and coordination of the Work. Contractor shall provide construction services that meet all industry standards, including all environmental and regulatory requirements. Arvada will provide and be responsible for all material testing and all other testing if needed.

3.2. **Arvada's Right to Carry Out the Work.** If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven calendar day period after written notice from Arvada to commence and continue correction of such default or neglect with diligence and promptness, Arvada may after such seven-day period, without prejudice to other remedies Arvada may have, correct the identified deficiencies. In such a case, an appropriate Change Order shall be issued deducting from payments then or thereafter due to the Contractor the cost of correcting such deficiencies, including compensation for any consultant's additional services and expenses made necessary by

such default, neglect or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to Arvada within ten calendar days of receipt of an invoice for such amounts from Arvada.

3.3. **Legal Standard.** Contractor shall furnish construction services in accordance with industry standards currently practiced by construction professionals on projects similar in size, complexity, and cost to the Project.

3.4. **Construction Standards.** Contractor shall perform all services in accordance with requirements of governmental agencies having jurisdiction over the Project, Arvada Engineering Code of Standards and Specifications, and the requirements set forth in the other Contract Documents. In addition, the Contractor's work shall comply with all applicable building codes, accessibility laws and regulations, environmental regulations, and other applicable legal requirements in effect at the time of the Work. To the extent Arvada's standards exceed applicable legal requirements, Arvada's standards shall be met unless Contractor obtains a variance from Arvada in writing.

3.5. **Permits.** Contractor shall be responsible for obtaining all necessary permits and other governmental approvals necessary for the development of the Project and shall obtain the same at the times necessary to meet the Project schedule. Contractor's responsibility includes providing environmental services and permitting coordination as further described in the Contract Documents.

3.6. **Notice of Non-Compliance.** Contractor shall carefully study and compare the Contract Documents with each other and with information furnished by Arvada, and shall at once report to Arvada any errors, inconsistencies or omissions discovered as well as any foreseeable constructability issues arising from the project specifications, conditions of the sites, or both. If the Contractor performs any construction activity and knows or should have known it involves an error, inconsistency, omission, or constructability issue in the Contract Documents without such notice to Arvada, the Contractor shall assume full responsibility for such performance and shall bear the full costs for correction, including reimbursement for any delay caused to the Project.

ARTICLE 4. CHANGES TO THE WORK

4.1. **Pre-Construction Meetings.** Contractor agrees to assist in the preparation for and to participate in any pre-construction meetings with Arvada.

4.2. **Minor Contract Revisions.** Miscellaneous modifications in the Work, ordered by Arvada in the form of a Field Order, will be considered a Minor Contract Revision. Payment for accepted work performed under this pay item "Minor Contract Revision" will be made in accordance with the Contract Documents.

4.3. **Field Orders.** An authorized representative of the Contractor shall acknowledge receipt of Field Orders by promptly signing all written field orders delivered to the job site. Verbal field orders given by Arvada will be recorded in writing in the municipal inspector's daily

report that is to be signed by the Contractor's authorized representative. Field Orders shall be deemed part of the Contract Documents.

4.4. **Field Engineered Changes**. Arvada may modify the construction plans including changing the slope and alignment of flow lines and appurtenances or modifying other improvements as necessary to accommodate construction around existing utilities or other field conditions. No additional compensation shall be made for minor costs and inconveniences incurred while performing field engineering changes as directed by Arvada, or its consultant if applicable. No additional compensation shall be made for any down time encountered while Arvada determines what field engineered changes would be appropriate to accommodate construction around existing utilities or other field conditions. Reasonable time must be allowed for Arvada, or its consultant if applicable, to design field engineered changes. Any additional costs for performing field engineered construction changes to accommodate existing utilities or other field conditions and for also allowing Arvada reasonable time to design field engineered changes as necessary to complete the work shall be considered a subsidiary obligation of this Agreement.

4.5. **Arvada Change Orders.** Arvada may by written order signed by Arvada at any time and without notice to any surety and subject to all appropriate adjustments, make changes within the general scope of the Contract Documents in any one or more of the following: (a) changes in scope of services; (b) completion date; (c) contract amount; (d) any applicable material modifications; and (e) any other matters that the Parties deem necessary.

4.6. **Contractor Requested Change Orders.** The Contractor may request a change in the Work ("Requested Change Order"), including one or more of the following: (a) changes in scope of services; (b) completion date; (c) contract amount; (d) any applicable material modifications; and (e) any other matters that the Parties deem necessary.

4.7. **Change Order Contents.** Any Requested Change Order shall include (a) a detailed description of the requested change to this Agreement; (b) itemized documentation of any subcontractor costs; (c) the total costs associated with the proposed change; (d) the impact on the Project completion date, if any, associated with the proposed change; and (e) a statement of the contractual basis for the requested change.

4.8. **Basis for Change Order Requests.** The following may be considered a valid basis for requesting a Change Order: (a) Contract Document error or omission; (b) Arvada induced enhancement; (c) unforeseeable constructability issue; and (d) unforeseeable geotechnical issue. The following will not be considered a valid basis for requesting a Change Order absent extraordinary circumstances: (a) utility relocation; (b) utility conflicts; (c) foreseeable geotechnical issue; (d) foreseeable constructability issue; and (e) defective construction.

4.9. **Written Authorization Required.** The Contractor shall not proceed with any change in the Work without the appropriate written authorization.

ARTICLE 5. SUPERVISION AND CONSTRUCTION PROCEDURES

5.1. **Supervision.** The Contractor shall supervise and direct the Work using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the Work under this Agreement, unless Contract Documents give other specific instructions concerning these matters.

5.2. **Acts and Omissions of Subcontractors and Agents.** The Contractor shall be responsible to Arvada for acts and omission of the Contractor's employees, subcontractors, and their agents and employees, and other persons performing portions of the Work under a contract with the Contractor.

5.3. **Inspection and Subsequent Work.** The Contractor shall be responsible for inspection of portions of the Work already performed under this Agreement, if any, to determine that such portions are in proper condition to receive subsequent Work.

ARTICLE 6. COMPENSATION.

6.1. **Completion of Services.** Contractor will furnish all materials, supplies, tools, equipment, labor, and other services necessary for the completion of the Work within Arvada's timeframe and monetary limitations set forth below:

6.1.1. Contractor shall commence the Work required by the Contract Documents within seven calendar days after the date of the Notice to Proceed unless otherwise mutually agreed-upon by the Parties in writing. Notwithstanding anything in the Contract Documents to the contrary, Contractor must meet all prerequisite requirements of the City before the Notice to Proceed will be issued.

6.1.2. Contractor shall complete the Work required by the Contract Documents in accordance with the dates specified in the Notice to Proceed, unless the period for completion is extended otherwise by the Contract Documents or by written mutual agreement of the Parties; except that Contractor shall complete the priority location areas in accordance with the dates specified in Section 3.02 of the Special Provisions set forth in **Exhibit A**.

6.1.3. Contractor agrees to perform the Work for an amount not to exceed **$1,382,541.00.**

6.2. **Term.** The term of the Agreement shall be from Arvada's execution of this Agreement until the Work is complete and Arvada has accepted it or until December 31, 2026, whichever occurs sooner, unless otherwise agreed to in writing by the Parties, subject to availability of funds, or unless Arvada terminates for convenience in accordance with the Contract Documents. Any required warranty period which exceeds this term shall remain in full force for the duration of the warranty period.

6.2.1. Notwithstanding Section 7 "Award of Contract" of the Special Terms and Conditions for Bidders in **Exhibit A**, Arvada shall execute this Agreement in accordance with Arvada's Purchasing Ordinance.

6.3. **Additional Services.** While Arvada has listed its major requirements for its solicitation in the Contract Documents, Arvada may, during the term of this Agreement, wish to purchase other related services identified and offered by Contractor, based upon the Bid Schedule amounts contained in Contract Documents. Arvada reserves the right to award these ancillary items to Contractor. This option, if exercised, in no way obligates Arvada to pursue additional services with Contractor.

6.4. **Payment for Services.** At least twenty calendar days before the date established for each monthly progress payment, the Contractor shall submit to Arvada an itemized application for payment for construction completed in accordance with the Bid Schedule set forth in the Contract Documents. Such application shall be supported by such data substantiating the Contractor's right to payment as Arvada may require, such as copies of invoices or requisitions from subcontractors and material suppliers and reflecting retainage. Arvada shall pay NET 30 days for services performed in accordance with the Bid Schedule and with this Agreement, but in no event shall the total Contract Amount exceed **$1,382,541.00** absent a properly executed Change Order. Measurement of the work performed and monthly payment shall be made in accordance with requirements of Section 4 "Measurement and Payment" of Special Provisions in **Exhibit A** and any other applicable provision set forth in the Contract Documents unless otherwise specifically provided herein.

6.5. **Non-Conforming Materials or Construction.** Where materials installed or the finished product fails to meet final City approval and acceptance, the basis of determining final payment to the Contractor shall be determined by the Arvada project engineer and in accordance with the Arvada Engineering Code of Standards and Specifications or other applicable provision set forth in the other Contract Documents.

6.6. **Retainage Requirements.** Contractor agrees to submit monthly invoices together with any retainage requirements set forth in the Contract Documents and as prescribed by Colorado state statutes (*see e.g.,* C.R.S. § 24-91-101 *et seq*). Payment from Arvada will be paid NET 30 days. Invoices will accurately reflect actual work completed by Contractor and its subconsultants or subcontractors.

ARTICLE 7. MISCELLANEOUS.

7.1. **Waiver.** No provision of this Agreement may be waived except by written agreement of the Parties. A waiver of any provision on one occasion shall not be deemed a waiver of that provision on any subsequent occasion, unless specifically stated in writing. A waiver of any provision shall not affect or alter the remaining provisions of this Agreement.

7.2. **Strict Compliance.** No failure of Arvada to insist upon strict compliance by the Contractor with any provision of the Contract Documents shall operate to release, discharge, modify, change or affect any of the Contractor's obligations.

7.3. **Successors and Assigns.** Arvada and Contractor, respectively, bind themselves, their partners, successors, assigns, and legal representatives to the other Party to this Agreement and to the partners, successors, and assigns of such other Parties with respect to all covenants of this Agreement. Contractor shall not assign (whether partially or wholly) this Agreement, whether by operation of law or otherwise, without the written consent of Arvada. If Contractor makes an assignment in accordance with this provision, Contractor shall nevertheless remain legally responsible for all obligations arising under this Agreement, unless otherwise agreed in writing by Arvada.

7.4. **Additional Documents.** The Parties agree to execute any additional documents and to take any additional action that is necessary to carry out this Agreement.

7.5. **Binding Effect.** This Agreement shall inure to the benefit of, and be binding upon, the parties, their respective legal representatives, successors, heirs, and assigns; provided, however, that nothing in this paragraph shall be construed to permit the assignment of this Agreement except as otherwise expressly authorized herein. All provisions of this Agreement which contain continuing obligations shall survive its expiration or termination.

7.6. **Paragraph Captions.** The paragraph captions in this Agreement are set forth only for the convenience and reference of the Parties and are not intended in any way to define, limit, or describe the scope or intent of this Agreement.

7.7. **Integration, Amendment, and Severability.** This Agreement represents the entire agreement between the Parties, and there are no oral or collateral agreements or understandings. This Agreement may be amended only by an instrument in writing signed by the Parties. If any other provision of this Agreement is held invalid or unenforceable, no other provision shall be affected by such holding, and all of the remaining provisions of this Agreement shall continue in full force and effect if the essential terms and conditions of this Agreement for both Parties remain valid, legal, and enforceable.

7.8. **Notices.** Any notice or notification required or permitted by this Agreement shall be in writing and shall be deemed to have been sufficiently given for all purposes if sent electronically, or by certified mail or registered mail, postage and fees prepaid, addressed to the Party to whom such notice is to be given at the address set forth on the signature page below, or at such other address as has been previously furnished in writing, to the other Party. Such notice or notification shall be deemed to have been given when electronically sent or when deposited in the United States mail.

7.9. **Binding Authority.** Contractor represents and affirms that the signature page hereof accurately states the full legal name of Contractor (whether as a corporation, partnership, limited liability company, sole proprietorship, or other), contains all requisite signature(s) on behalf of Contractor, and in all other respects is effective to bind Contractor, in

accordance with all applicable statutes, regulations, resolutions, rules, bylaws, agreements, or similar sources of authority or limitation. This Agreement may be executed in counterpart(s), each of which shall be deemed to be an original, and all of which, taken together, shall constitute one instrument.

7.10. **Preferences in Employment of Colorado Labor.** To the extent that obligations and responsibilities may be established by C.R.S. § 8-17-101 *et seq.,* as amended, with respect to certain public entities and those contracting therewith as to the procurement of services:

7.10.1. Colorado labor shall be employed to perform eighty percent (80%) of the work.

7.10.2. Any waiver of this requirement must comply with C.R.S. § 8-17-101 *et seq.,* as amended.

7.11. **No Third-Party Beneficiaries.** The Parties understand and agree that enforcement of the terms and conditions of this Agreement, and all rights of action relating to such enforcement, shall be strictly reserved to the Parties, and nothing contained in this Agreement shall give or allow any such claim or right of action to any other third party on this Agreement. It is the intention of the Parties that any person other than the Parties receiving services or benefits under this Agreement shall be deemed to be an incidental beneficiary only.

IN WITNESS WHEREOF, the Parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement which shall be deemed an original on the date first above written.

[signatures on next page]

DATED this _____ day of _____, 2026.

CITY OF ARVADA, a Colorado home rule municipal corporation

_____
Lauren Simpson
Mayor
8101 Ralston Road
Arvada, CO 80002

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:
Rachel A. Morris

By: _____

EDGE Contracting Inc., a Colorado corporation

_____
Cole Cattoor
Vice President
1453 Brickyard Road
Golden, CO 80403

Exhibit A

AN AGREEMENT BY AND BETWEEN THE CITY OF ARVADA AND EDGE CONTRACTING, INC. FOR 2026 SANITARY SEWER OPEN CUT CONSTRUCTION SERVICES, PROJECT NO. 26-SR-01, IN AN AMOUNT NOT TO EXCEED $1,382,541.00

COMPETITIVE SEALED BID

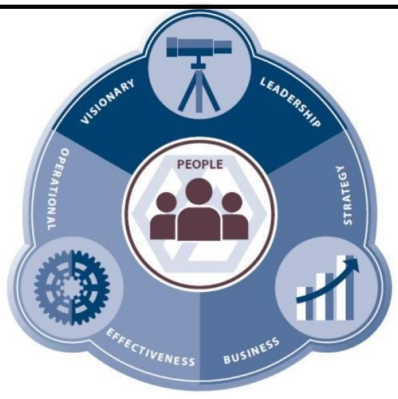
BID #:	**26-ENG-011**
Title:	**2026 Sanitary Sewer Open Cut Construction Services 26-SR-01**
Issue Date:	2/12/2026
Pre-bid Meeting:	2/19/2026 - 11:00 am MT Location: Virtual via ZOOM Join Zoom Meeting: https://arvadaco-gov.zoom.us/j/84669851104?pwd=qppEbJAr1QOoOjMcr9Dkeal5r9aNOX.1 Join by phone: +1 719 359 4580 Meeting ID: 846 6985 1104 Passcode: 976569
Questions Deadline:	2/25/2026 2:00 pm MT Questions must be submitted through BidnetDirect.com. Responses will be posted on Bidnet via addendum.
Bid Due Date: **Virtual Opening Information**	**3/12/2026 2:00 pm MT** Join Zoom Meeting: https://arvadaco-gov.zoom.us/j/86852955850?pwd=sFijacHOZ7psWbHoyBbS6yEgsyhbGq.1 Join by phone: +1 719 359 4580 Meeting ID: 868 5295 5850 Passcode: 937321
Bid Delivery address:	Electronic Submissions must be submitted online at BidNetDirect.com by the above date and time. Late responses will not be considered for award.

For additional administrative information not related to the project, contact: Dawn Krank, dkrank@arvada.org
Contact with the requesting department may result in vendor disqualification.

ARVADA'S VISION MISSION AND VALUES

VISION: We dream big and deliver.
MISSION: We are dedicated to delivering superior services to enhance the lives of everyone in our community.
VALUES:

Innovation – We excel in creativity, flexibility and the use of best practices while valuing diverse backgrounds, ideas and perspectives. **Passion** – We are a high performing, inclusive team inspiring each other to pursue excellence.
Opportunity – We value our diversity, embrace possibilities, face challenges, persevere and take action to deliver quality results.



Documents included in this Request:

Cover Page page 1
Advertisement for Bidders page 3
General Terms and Conditions page 4
Special Terms and Conditions for Bidders page 7
Insurance Requirements page 9
Project Special Provisions page 11
Submittal Forms to be completed and returned
- Bid Bond page 27
- Bid Proposal page 28
- Bid Schedule page 29
- Required Contractor Submittal Form page 31

Sample of Documents if Awarded page 32

ATTACHMENTS

A – CSB 26-ENG-011 Bid Schedule (Excel Format)

B – Project 26SR01 Open Cut Sewer Improvements 100% Bid Set

Docusign Envelope ID: 6CA7A178-A2A9-4373-ACD8-9A73DB50EF42

ADVERTISEMENT FOR BIDS

Submit bids electronically on Bidnetdirect.com for the construction of City of Arvada, Project No. 26-SR-01

Project Title: 2026 Sanitary Sewer Open Cut Construction Services

The BID DOCUMENTS, consisting of Advertisement for Bids, General Terms and Conditions, Special Terms and Conditions, Insurance Requirements, Project Special Provisions, Addendum when issued, Bid Bond, Bid Proposal, Bid Schedule, Performance and Payment Bond, Submittal Checklist and References, Sample documents, and the Project Drawings may be examined at the following location: www.bidnetdirect.com

No cost bid documents may be obtained at www.bidnetdirect.com on or after February 12, 2026.

ESTIMATED QUANTITIES OF THE MAJOR ITEMS OF WORK ARE:

QTY	UOM	ITEM
1	LS	Temporary Sanitary Sewer Bypass Pumping
796	LF	Remove and Replace 8" SDR35 PVC Sewer
388	LF	Remove and Replace 8" C900 PVC Sewer
16	EA	Remove and Replace Sanitary Sewer Maintenance Hole – 4' Diameter, Complete in Place
380	LF	Remove and Replace with 8" PVC Watermain w/Fittings and Restrained Joints
1	EA	Furnish and Install Fire Hydrant Assembly

Miscellaneous items include citizen notification, traffic control, and other appurtenances.

Bidders, subcontractors and suppliers must be familiar with the current City of Arvada *Engineering Code of Standards and Specifications*, dated October 3, 2023, which will be combined with the Bid Documents to form the Contract Documents for the Project. A copy of the Standards may be obtained from the office of the City Engineer upon a non-refundable payment of $50.00. Holders will be notified when supplemental revisions and additions are available as they are adopted. The Standards are also available at no cost on the City's web site at https://www.arvadaco.gov/167/Engineering-Code. Holders are responsible for keeping current their City of Arvada Engineering Code of Standards and Specifications.

Date: 2/11/2026

CITY OF ARVADA

Claudia Vaughan

Claudia Vaughan

City Engineer
8101 Ralston Road
Arvada, Colorado 80002

GENERAL TERMS AND CONDITIONS

1. NO MULTI-YEAR FISCAL OBLIGATION. Financial obligations of Arvada payable after the current fiscal year are contingent on funds for that purpose being appropriated, budgeted, and otherwise made available by the City Council for Arvada. Arvada's obligations under the Agreement shall be from year to year only and shall not constitute a multiple-fiscal year direct or indirect debt or other financial obligation of Arvada within the meaning of Article X, Section 20 of the Colorado Constitution (TABOR).

2. TAXES. Arvada shall not be liable for the payment of any excise, sales, or use taxes. Arvada is exempt from federal excise taxes under I.R.C. Chapter 32 (26 U.S.C., Subtitle D, Ch. 32) and from State and local government sales and use taxes under §§39-26-704(1), et seq., C.R.S. (Colorado Sales Tax Exemption Identification Number 98-01789). Contractor shall not invoice Arvada for any state, federal or local taxes. Upon written notification by Arvada, Contractor shall reimburse Arvada in a timely manner for any taxes erroneously paid by Arvada.

3. NO INDEMNIFICATION BY ARVADA. Arvada is prohibited under Article XI, Section 1 of the Colorado Constitution from indemnifying anyone. Despite any provision in any contract document to the contrary, Arvada does not indemnify Contractor or anyone else under the Agreement.

4. INDEMNIFICATION OF ARVADA.

Contractor shall indemnify, defend, and hold harmless Arvada, its employees, agents and assignees (the "Indemnified Parties"), against any and all costs, expenses, claims, damages, liabilities, court awards, and other amounts (including attorneys' fees and related costs) arising from or related to any act or omission by Contractor, or its employees, agents, Subcontractors, or assignees in connection with the Agreement.

4.1. Confidential Information Indemnification. Disclosure or use of Arvada Confidential Information by Contractor may be cause for legal action by third parties against Contractor, Arvada, or their respective agents. Contractor shall indemnify, defend, and hold harmless the Indemnified Parties, against any and all claims, damages, liabilities, losses, costs, expenses (including attorneys' fees and costs) incurred by Arvada in relation to any act or omission by Contractor, including any unauthorized disclosure of Arvada Confidential Information, or by its employees, agents, assigns, or subcontractors. "Confidential Information" means any and all Arvada Records not subject to disclosure under CORA. Confidential Information includes, but is not limited to, Personally Identifiable Information ("PII"), Protected Health Information ("PHI"), Payment Card Industry data ("PCI"), data related to tax information, Criminal Justice Information ("CJI"), and Arvada personnel records not subject to disclosure under the Colorado Open Records Act (C.R.S. §§24-72-200.1 et seq.)("CORA"). Confidential Information shall not include information or data concerning individuals that is not deemed confidential but nevertheless belongs to Arvada, which has been communicated, furnished, or disclosed by Arvada to Contractor which (i) is subject to disclosure pursuant to CORA; (ii) is already known to Contractor without restrictions at the time of its disclosure to Contractor; (iii) is or subsequently becomes publicly available without breach of any obligation owed by Contractor to Arvada; (iv) is disclosed to Contractor, without confidentiality obligations, by a third party who has the right to disclose such information; or (v) was independently developed without reliance on any Confidential Information. "Arvada Records" means any and all Arvada data, information, and records, regardless of physical form, including, but not limited to, information subject to disclosure under the CORA.

4.2. Intellectual Property Indemnification. Contractor shall indemnify, save, and hold harmless the Indemnified Parties, against any and all costs, expenses, claims, damages, liabilities, and other amounts (including attorneys' fees and costs) incurred by the Indemnified Parties in relation to any claim that any dDeliverable, gGood or sService, software, or wWork provided by Contractor under the Agreement (collectively, "IP Deliverables"), or the use thereof, infringes a patent, copyright, trademark, trade secret, or any other intellectual property right. Contractor's obligations shall not extend to the combination of any IP Deliverables provided by Contractor with any other product, system, or method, unless the other product, system, or method is (a) provided by Contractor or Contractor's subsidiaries or affiliates; (b) specified by Contractor to work with the IP Deliverables; (c) reasonably required in order to use the IP Deliverables in its intended manner and the infringement could not have been avoided by substituting another reasonably available product, system, or method capable of performing the same function; or (d) is reasonably expected to be used in combination with the IP Deliverables.

4.3. Artificial Intelligence (AI). Contractor shall be fully responsible for all acts and omissions related to its use of any AI functionality to provide the Work. Contractor shall indemnify, save, and hold harmless the Indemnified Parties, against any and all costs, expenses, claims, damages, liabilities, and other amounts (including attorneys' fees and costs) incurred by the Indemnified Parties in relation to any claim arising from Contractor's use of AI functionality to provide the Work.

5. GOVERNMENTAL IMMUNITY. Liability for claims for injuries to persons or property arising from the negligence of Arvada, its departments, boards, commissions, committees, bureaus, offices, employees and officials shall be governed by the provisions of the Colorado Governmental Immunity Act, §§24-10-101, et seq., C.R.S. (CGIA). No term or condition of the Agreement shall be construed or interpreted as a waiver, express or implied, of any of the immunities, rights, benefits, protections, or other provisions contained in the CGIA.

6. NO OPINION OF COUNSEL LETTERS. Pursuant to Section 8.1 of the Arvada City Charter, the City Attorney provides advice to the City Council and City Officials in matters relating to their official powers and duties, and will perform such other duties as City Council

may prescribe by ordinance or resolution. The City Attorney will not issue opinion of counsel letters, memoranda or statements to third parties, including, but not limited to that any contract or lease is binding on the public entity, enforceable, etc.

7. CONFIDENTIAL DOCUMENTS. Contractors may designate specific pages or sections within their submission as trade secret or confidential commercial information or as otherwise protected by law ("Confidential Information"). Documents and data that are considered Confidential Information shall be clearly marked as such and separated from the rest of the solicitation submission documents. Comingling is not acceptable. The City does not favor blanket assertions of Confidential Information. Please note that blanket assertions that merely classify and/or broadly claim information is confidential are insufficient as a matter of law. *See, International Brotherhood of Electrical Workers Local 68 v. Denver Metropolitan Major League Baseball Stadium District,* 880 P.2d 160 (Colo. App. 1994). Any information that will be included in any resulting contract cannot be considered Confidential. Under no circumstances may submission pricing information be considered Confidential. In the event a formal contract is entered into with the City and a portion of the Proposal/Response carries a designation indicating the Contractor believes it is Confidential Information, then the City agrees that it will use its best efforts to forward any request for the disclosure of the Confidential Information to the Contractor. By its submission of the Proposal/Response, Contractor agrees to promptly respond to the request for disclosure with any objections and reasons therefor in accordance with the Colorado Open Records Act C.R.S. §§24-72-101*et seq.* and any other applicable law. Further, Contractor agrees to assume the obligation to defend, hold harmless, and indemnify the City in any legal proceeding that arises from non-disclosure of documents or data pursuant to the Contractor's objection.

8. OWNERSHIP OF WORK PRODUCT. The originals of all plans, reports, studies, data, or other materials or information relating to the Work that are produced by Contractor shall be delivered to and become the property of Arvada. Contractor may retain copies of any originals; however, no plans, reports, studies, data, or other materials or information relating to the Work shall be released to any person or entity without the prior written consent of Arvada. Nothing in this clause is intended to affect Contractor's right to use generic know-how learned in the course of providing services under the Agreement for the future benefit of the City of Arvada or others.

9. ASSIGNMENT. Contractor's rights and obligations under the Agreement are personal and may not be transferred or assigned without the prior, written consent of Arvada. Any attempt at assignment or transfer without such consent shall be void. Any assignment or transfer of Contractor's rights and obligations approved by Arvada shall be subject to the provisions of the Agreement. Any provision of an assignment that enlarges any duty, responsibility, or obligation of Arvada, or that limits, curtails, or diminishes any right or privilege of Arvada, without Arvada's express written consent, shall be void.

10. NO THIRD PARTY BENEFICIARIES. The Agreement does not and is not intended to confer any rights or remedies upon any person or entity other than Arvada and Contractor. Enforcement of the Agreement and all related rights and obligations are reserved solely to Arvada and Contractor. Any services or benefits which third parties receive as a result of the Agreement are incidental and do not create any rights for such third parties.

11. INDEPENDENT CONTRACTOR. Contractor shall perform its duties under the Agreement as an independent contractor and not as an employee. Neither Contractor nor any agent or employee of Contractor shall be deemed to be an agent or employee of Arvada. Contractor shall not have authorization, express or implied, to bind Arvada to any agreement, liability, or understanding, except as expressly set forth herein. Contractor and its employees and agents are not entitled to unemployment insurance or workers compensation benefits through Arvada and Arvada shall not pay for or otherwise provide such coverage for Contractor or any of its agents or employees. Contractor shall pay when due all applicable employment taxes and income taxes and local head taxes incurred pursuant to the Agreement. Contractor shall: (i) provide and keep in force workers' compensation and unemployment compensation insurance in the amounts required by law; (ii) provide proof thereof when requested by Arvada; and (iii) be solely responsible for its acts and those of its employees and agents.

12. SUBCONTRACTING. Contractor shall not award work to subcontractor(s) in excess of fifty percent of the total contract price without Arvada's prior written approval. Contractor shall be responsible for any failure by any subcontractor or subcontractor personnel to perform in accordance with the Agreement or to comply with any duties or obligations imposed on Contractor under the Agreement to the same extent as if such failure to perform or comply was committed by Contractor or Contractor's personnel. Contractor shall be Arvada's sole point of contact regarding the services, including with respect to payment.

13. LICENSES, PERMITS, AND OTHER AUTHORIZATIONS. Contractor shall secure, prior to the effective date, and maintain at all times during the term of the Agreement, at its sole expense, all licenses, certifications, permits, and other authorizations required to perform its obligations under the Agreement, and shall ensure that all employees, agents and subcontractors secure and maintain at all times during the term of their employment, agency or subcontract, all license, certifications, permits and other authorizations required to perform their obligations in relation to the Agreement.

14. STANDARD AND MANNER OF PERFORMANCE. Contractor shall perform its obligations under the Agreement in accordance with the highest standards of care, skill, and diligence in Contractor's industry, trade, or profession.

15. TIME OF THE ESSENCE. Contractor acknowledges and agrees that time is of the essence for this Agreement and that it is an essential term of this Agreement that Contractor maintain a rate of progress in the Work that will result in completion of the Work in accordance with this Agreement. To that end, Contractor agrees to proceed with all due diligence to complete the Work in a timely manner in accordance with this Agreement, and further agrees that failure to complete any of the Work during the Term of this Agreement, or as may be more specifically set forth in an attachment, exhibit, or modification, shall be deemed a breach.

16. RIGHT TO TERMINATE. Arvada shall have the right to terminate, without cause, the Agreement. Any such termination shall not be considered a breach of the Agreement or any extension. In the event Arvada terminates for convenience, Arvada will pay Contractor for requested work performed up until the time of termination, not to exceed the total amount of the contract price agreed upon by Arvada and Contractor.

17. COMPLIANCE WITH ALL LAWS. Contractor shall comply with all applicable federal, Colorado and Arvada laws, rules, regulations, policies and procedures in effect or hereafter established, including, without limitation, laws applicable to discrimination and unfair employment practices.

18. WAIVER OF BREACH. A waiver by any party to the Agreement or the breach of any term or provision of the Agreement shall not operate or be construed as a waiver of any subsequent breach by either party.

19. GOVERNING LAW AND VENUE. Colorado law, rules, and regulations shall be applied in the interpretation, execution, and enforcement of the Agreement. Any provision included or incorporated herein by reference which conflicts with said laws, rules, and regulations shall be null and void. All suits or actions related to the Agreement shall be filed and proceedings held in the State of Colorado and exclusive venue shall be in Jefferson County.

20. FORCE MAJEURE. Any delays in or failure of performance by any party of its obligations under the Agreement shall be excused if such delays or failure are a result of acts of God, fires, floods, strikes, labor disputes, accidents, regulations or orders of civil or military authorities, shortages of labor or materials, or other causes, similar or dissimilar, which are beyond the control of such party.

21. BINDING ARBITRATION PROHIBITED. Arvada does not agree to binding arbitration by any extra-judicial body or person. Any provision to the contrary shall be null and void.

22. EQUAL EMPLOYMENT OPPORTUNITY. Contractor shall not refuse to hire, discharge, promote or demote, or discriminate in matters of compensation against any person otherwise qualified solely because of race, creed, sex, color, national origin or ancestry, religion, disability, age, sexual orientation, gender identity, veteran status, or any other basis prohibited by federal, state, or local law.

23. BINDING AUTHORITY. Contractor represents and affirms that the signature page hereof accurately states the full legal name of Contractor (whether as a corporation, partnership, limited liability company, sole proprietorship, or other), contains all requisite signature(s) on behalf of Contractor, has been properly acknowledged by attestation, notary acknowledgment, or both, and in all other respects is effective to bind Contractor, in accordance with all applicable statutes, regulations, resolutions, rules, bylaws, agreements, or similar sources of authority or limitation.

24. PREFERENCES IN EMPLOYMENT OF COLORADO LABOR. To the extent that obligations and responsibilities may be established by C.R.S. § 8-17-101 *et seq.,* as amended, with respect to certain public entities and those contracting therewith as to the procurement of services:

a. Colorado labor shall be employed to perform eighty percent (80%) of the work.
b. Any waiver of this requirement must comply with C.R.S. § 8-17-101 *et seq.,* as amended.

25. RETAINAGE REQUIREMENTS. Contractor agrees to submit monthly invoices together with any retainage requirements as prescribed by Colorado state statutes (*see e.g.,* C.R.S. §§24-91-101 *et seq.*). Payment from Arvada will traditionally be paid NET (15) days but no later than NET thirty (30) days. Invoices will accurately reflect actual work completed by Contractor.

26. ACCESSIBILITY COMPLIANCE UNDER C.R.S. §24-85-104.

26.1 Contractor shall comply with the accessibility standards for an individual with a disability adopted by the office of information technology pursuant to C.R.S. §24-85-103.

26.2 Contractor shall indemnify, hold harmless, and assume liability on behalf of Arvada, and Arvada's officers, employees, and agents, for all costs, expenses, claims, damages, liabilities, court awards, attorney fees and related costs, and any other amounts incurred by the state agency or public entity in relation to Contractor's noncompliance with the accessibility standards for an individual with a disability adopted by the office of information technology pursuant to C.R.S. §24-85-103.

26.3 Arvada may require that Contractor's compliance with the accessibility standards for an individual with a disability adopted by the office of information technology pursuant to C.R.S. §24-85-103 be determined and attested to by a qualified third party selected by Arvada.

27. ARTIFICIAL INTELLIGENCE (AI) DISCLOSURE & USE. Contractor shall not use any AI functionality while performing the work or providing the goods or deliverables without Arvada's prior written consent. Contractor shall not use, access, or permit access to any Arvada Records for the purpose of training, improving, or refining any AI functionality, regardless of whether the functionality belongs to Contractor or a third-party, without Arvada's prior written consent.

28. PROHIBITED PRICING PRACTICES. Contractor shall not include speculative tariff increases, unsupported contingency amounts, or broad percentage markups labeled as "tariff risk" in any contract document. Any line-item or percentage factor appearing on any document incorporating these terms and conditions must be tied to current, published tariff levels and documented upon request in a manner satisfactory to Arvada.

SPECIAL TERMS AND CONDITIONS FOR BIDDERS

1. RECEIPT AND OPENING OF BIDS. Bids submitted electronically on the BidnetDirect.com website only become available to the City of Arvada after the bid closes. Bidder shall assume full responsibility for timely upload of bid to the BidnetDirect website. The City reserves the right, where its best interest will be served, to accept or reject any conditional or qualified bid.

2. QUANTITY AND NATURE OF THE WORK. Bidders must satisfy themselves of the accuracy of the estimated quantities in the Bid Schedule by examination of the site and a review of the drawings and specifications including Addendum. After Bids have been submitted the Bidder shall not assert that there was a misunderstanding concerning the quantities of work or of the nature of the work to be done.

3. CONTENTS OF BID. Contractors are required to submit Bids with the following conditions:

1) Contractors shall make all investigations necessary to inform themselves of the sites affected and the work required by the Solicitation.
2) Any official interpretation of the Solicitation may only be issued by an authorized agent of the City. The City shall not be responsible for other interpretations offered by employees not authorized.
3) The City shall issue Addenda if substantial changes are required which may impact the content and submission of Bids. A copy of such addenda will be publicly posted with the original CSB posting.
4) The apparent silence or omissions within this Solicitation regarding a detailed description of the materials or services shall be interpreted to mean that only the best commercial practices are to prevail and that only materials and workmanship of first quality are to be provided.

4. BID SECURITY. Each Bid must be accompanied by a PHOTO of the Bid Bond, on the form attached to these contract documents, payable to the City for five (5) percent of the total amount of the Bid. As soon as the bid Prices have been compared, the City will issue intent to award on the Bidnetdirect.com web site. The vendor who is named as the intent to award Contractor must submit the physical Bid Bond within 10 days or the intent to award may be revoked. The Bid Bond of the successful Bidder will be retained until the Payment and Performance Bond has been executed and approved after which it will be returned. A certified check may be used in lieu of a Bid Bond.

5. POWER OF ATTORNEY. Attorneys-in-fact who sign Bid Bonds or Payment and Performance Bonds must file with each bond a certified and effective dated copy of their power of attorney.

6. QUALIFICATION OF BIDDER. The City may make such investigation as it deems necessary to determine the ability of the Bidder to perform the work. The City reserves the right to reject any Bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy the City that such Bidder is properly qualified to carry out the obligation of the Contract Agreement and to complete the work contemplated therein. The City reserves the right, before awarding the contract, to require a Contractor to submit evidence of its qualifications including, but not limited to, financial, technical, and other qualifications, as well as past performance with the City, for consideration in making the award in the best interest of the City.

7. AWARD OF CONTRACT. A contract/s shall be awarded to the lowest-priced responsible and most responsive bidder/s whose bid meets the requirements and criteria set forth in the CSB within the limits of funds available and that best serves the City's interest. The City, within seven (7) calendar days of receipt of acceptable Contract Security and the Contract Agreement, signed by the Bidder to whom the Contract was awarded, shall sign the Contract Agreement and return to the Bidder an executed copy of the Contract Agreement. Should the City not execute the Contract Agreement within such period, the Bidder may, by written notice, withdraw their signed Contract Agreement. Such notice of withdrawal shall be effective upon receipt of the written notice by the City.

8. NOTICE OF AWARD AND FAILURE TO ENTER INTO CONTRACT. The party to whom the Contract is to be awarded will be required to execute the Contract Agreement, obtain Certificates of Insurance and a Performance and Payment Bond, as Contract security, within five (5) calendar days from the date the Notice of Award is delivered to the Bidder. The Notice of Award shall be accompanied by the Contract Agreement and the necessary Performance and Payment Bond forms. In case of failure of the bidder to execute the Contract Agreement and provide satisfactory Insurance and Contract Security, the City may at its option, consider the Bidder in default, in which case the Bid Bond accompanying the Proposal shall become the property of the City.

9. CONTRACT DOCUMENTS. The Contract Documents consisting of the Bid Documents, which include the Advertisement for Bids, Information for Bidders, General Terms and Conditions, Special Terms and Conditions, Insurance Requirements, Project Special Provisions, Addendum, Bid Bond, Bid Proposal, Bid Schedule, Vendor Submittal Form, Construction Drawings, Supplemental Specifications and the City of Arvada "Engineering Code of Standards and Specifications for the Design and Construction of Public Improvements", dated October 3, 2023, which include the Measurement and Payment specifications, and the attached Notice of Award form, Contract Agreement form, Performance and Payment Bond form, Notice to Proceed form, and Change Order form, when combined, contain the provisions required for the construction of the Project. Information obtained from an agent or employee of the City or any other person shall not affect the risks or obligations assumed by the Contractor or relieve him from fulfilling any of the conditions of the contract.

10. TERM OF CONTRACT. This contract shall commence on the date of the purchase order or contract execution and shall remain in effect until such time as the commodities, equipment and/or services acquired in conjunction with this Bid have been accepted by the City's authorized representative. Any required warranty period which exceeds this term shall remain in full force for the duration of the warranty period.

11. PRICING SHALL BE FIXED AND FIRM. The prices offered by the Contractor shall remain fixed and firm for at least 90 ninety days. No changes in the Bid shall be allowed after the date and time of the Bid deadline due to error by the Contractor.

12. CONTRACT SECURITY. A Performance and Payment Bond, on the form attached to these contract documents, in the amount of 100% of the Contract price, with a corporate surety approved by the City, will be required for the faithful performance of the Contract.

13. NOTICE TO PROCEED. The Notice to Proceed shall be issued within seven (7) calendar days of the execution of the Contract Agreement by the City. Should there be reason why the Notice to Proceed cannot be issued within such period, the time may be extended by mutual agreement between the City and the Contractor. In the event the Notice to Proceed has not been issued within the seven day period or within the period mutually agreed upon the Contractor may terminate the Contract Agreement without further liability on the part of either party.

14. MODIFICATION OR WITHDRAWAL OF BIDS BY CONTRACTOR.

Modifications to Bids- Changes to the Bid after the submission deadline shall be allowed only when the Contractor can show convincing evidence that an unintentional factual mistake was made. Modification requests must be made in writing. Any modification submitted to the City must have the Contractor's name, address, Solicitation Number and title included.

Withdrawal of Bids- If a Bid is withdrawn by Contractor after the Bid Opening, the City may, at its option, suspend the Contractor for a six (6) month period following the withdrawal. Withdrawal of the Bid after the Bid Opening will result in the Contractor forfeiting the provided Bid Bond.

15. REJECTION OF OFFERS BY CITY.

A. The City may reject a Bid, in whole or in part, for reasons including, but not be limited to:
   1) The Contractor misstates or conceals any material fact in its Bid;
   2) The Contractor's Bid does not strictly conform to the law or requirements of the Solicitation;
   3) The Bid expressly requires or implies a conditional award that conflicts with the method of award stipulated in the Special Conditions;
   4) The Bid does not include documents which are required for submission with the Bid; or
   5) The Bid has not been executed by the Contractor through an authorized signature.

B. The City may, at its sole and absolute discretion:
   1) Reject all or parts of Bids submitted by prospective Contractors;
   2) Re-advertise this Solicitation;
   3) Postpone or cancel the Solicitation;
   4) A Bid may not be accepted from, nor any contract be awarded to, any person or firm which
      a) is in arrears to the City for any debt or Contract, or is a defaulter as surety for any obligation to the City.
      b) has failed to perform faithfully any previous contract with the City, State or Federal government for a minimum period of one (1) year after this previous Contract was terminated for cause.
      c) has pending litigation against the City on the date and time that the Solicitation is due.

16. CLARIFICATION AND MODIFICATIONS. The contract resulting from this solicitation will be subject to the Solicitation materials, City Ordinance, State and Federal Statutes. When conflicts occur, the highest authority shall prevail. Contractors are required to indicate any variances to the terms, conditions, requirements and specifications of this Solicitation; no matter how slight. If variations are not stated in the Contractor's Bid, it shall be agreed that the Contractor's Bid fully complies with all conditions identified in this Solicitation.

17. ELIGIBILITY OF CONTRACTORS: MUST BE ENGAGED IN SUPPLYING PRODUCTS OR SERVICES RENDERED. Bids will only be considered from firms which have been engaged in the business of manufacturing or distributing the goods and/or performing services described in this Solicitation. Contractors must be able to produce evidence that they have an established satisfactory record of performance for at least two (2) years and have sufficient finances and structure to ensure that they can satisfactorily execute the Contract requirements, as determined by authorities of the City. The City reserves the right, before awarding the contract, to require a Contractor to submit evidence of its qualifications including, but not limited to, financial, technical and other qualifications, as well as past performance with the City, for consideration in making the award in the best interest of the City.

18. ELECTRONIC PAYMENT METHODS - CITY OF ARVADA SINGLE USE ACCOUNT.
Contractors are encouraged to consider the following method of payment.

Single Use Account: The City incorporates the use of Single User Accounts as an option to seamlessly process payment of larger dollar purchase orders and contracts to vendors/contractors/providers. A secure, one-time payment transaction account processes to pay invoices via the Contractor's merchant bank. Invoice payments have an enhanced speed-of-pay cycle that can significantly benefit cash flow.

19. CONDITIONS OF WORK AND OBLIGATION OF BIDDER. Each Bidder is responsible for independently inspecting the site and for reading and being thoroughly familiar with the Contract Documents and for providing the names of major suppliers and sub-contractors in the space provided on the Bid Proposal form. The failure or omission of any Bidder to do any of the foregoing shall in no way relieve the Bidder from any obligation in respect to their Bid Proposal.

20. CONTRACTOR LICENSE. The Contractor to whom the contract is awarded and any subcontractors employed by the Contractor must have or acquire the appropriate Contractor's license issued by the City of Arvada Engineering Division, including submittal of license bond, necessary insurance certificate, and license fee before initiating any work. The Contractor and any subcontractors will also be required to obtain a no charge Public Improvements Permit from the City of Arvada Engineering Division prior to initiating any and all work on this project.

21. PERFORMANCE MEASUREMENTS FOR SERVICES MORE THAN $15,000.
The City has incorporated Performance Management into its organizational culture. The City will monitor and report on the following performance measures. These measures will determine, in part, renewals and eligibility for future awards. Measures include: (a) safety as defined by observation and OSHA reportable injuries, (b) quality of contracted work, (c) work completed within required schedule, (d) administration and coordination of estimates, RFIs, ASIs, change orders, pay requests and close out documents, (e) fair and justifiable change orders, (f) responsiveness and follow through on requests.

SERVICES means: the furnishing of labor, time, effort, maintenance, etc., by a vendor/contractor/consultant, with an initial contract amount of more than $15,000.

22. PREPARATION AND SUBMISSION.
Bids will be prepared as follow:

1) A blank shall be construed as "No Bid/not offered". Where there is a discrepancy between the unit price and the extension of prices, the unit price shall prevail.
2) Contractors will not knowingly participate in solicitations where there exists a conflict of interest with their firm and a member of City staff or their immediate family.
3) The only authorized version of this Bid is posted on WWW.BIDNETDIRECT.COM. Registration is available to receive email notification of new solicitations, addenda, and communications.

INSURANCE REQUIREMENTS

The following listed insurance requirements shall be carried by the selected Contractor for the entirety of the contract. Applicable requirements for this solicitation are identified by completed check boxes.

1. ☒ **Commercial General Liability**, written on an occurrence form, for limits not less than $1,000,000 for bodily injury and property damage for each occurrence and not less than $2,000,000 aggregate. Coverage shall include premises and operations liability, blanket contractual, broad form property damage, products and completed operations and personal injury endorsements.

2. ☒ **Workers' Compensation and Employers Liability** as required by statute. Employers Liability coverage is to be carried for a minimum limit of $1,000,000 each accident/disease and $2,000,000 aggregate.

3. ☒ **Automobile Liability** for limits not less than $1,000,000 combined single limit for bodily injury and property damage for each occurrence. Coverage shall include owned, non-owned and hired automobiles.

4. ☒ **Umbrella Liability** of $1,000,000 following form to the Commercial General Liability.

5. ☐ **Builders Risk or Course of Construction** Purchased by contractor to cover physical damage to property in construction or rehab. Contractors will ensure that City and subcontractors will be covered as additional insureds, excluding their own machinery, tools and equipment.

6. ☐ **Professional Liability** Professional Liability insurance in an amount of not less than $1,000,000 per occurrence, covering the professional work contemplated under this proposal. The coverage shall have an extended reporting period of three (3) years following the date of substantial completion of the work for reporting of claims.

7. ☒ **Pollution/Environmental Liability Insurance** for limits not less than $1,000,000 per occurrence (or claims made) and not less than $1,000,000 aggregate for bodily Injury, personal Injury and property Damage.

8. ☐ **Privacy/Network/Cyber Liability Insurance f**or limits not less than $1,000,000 for any firm providing product or services associated with IT, software, communication, or network.

Additional Insurance Requirements:

- Contractor will be required to, at its own expense, keep in full force and effect during the term of the Agreement, and during the term of any extension or amendment of the Agreement, insurance reasonably sufficient to insure against the liability assumed by Contractor pursuant to the provisions of the solicitation sent by the City of Arvada or as determined by the City of Arvada Risk Manager.
- All coverage must be written with carriers holding a minimum A.M. Best rating of A-:VII, and authorized to do business in Colorado. Coverage shall be primary, and any insurance held by the City of Arvada is excess and non-contributory.

- Issuance of a Purchase Order/Contract is contingent upon the receipt of the insurance documents. Work shall not commence before this requirement is met. If the Contractor fails to submit the required insurance documents within 15 calendar days after notice to submit such policies is given to the Contractor by a City representative, the Contractor may be in default of the Award.
- Except for Workers Compensation, Employer's Liability insurance, Automobile Liability and Professional Liability insurance, the City of Arvada must be endorsed as an additional insured on a Certificate of Insurance.
- The City, through its Risk Manager, reserves the right to require additional insurance coverage and other requirements.

SPECIAL PROVISIONS

City of Arvada Project No. 26-SR-01, Project Title: 2026 Sanitary Sewer Open Cut Construction Services 26-SR-01

Conditions peculiar, but essential, to the successful performance and acceptance of the work on this project are itemized below. As such, they shall take precedence over the City of Arvada Engineering Code of Standards and Specifications (latest edition).

SECTION 1

1.01 Project Qualifications

Award of this project will be based on Contractor's competitive pricing assuming Contractor has demonstrated their capabilities through relevant project experience.

a. Project Cost
   - Project cost will be evidenced by the submitted Bid Schedule.

b. Relevant Project Experience
   - Minimum Qualifications
     i. Experience with replacing existing 8"-12" sanitary sewer line, sanitary sewer maintenance holes, and 8" water pipeline and valves in the Front Range of Colorado in the past 3 years.
     ii. Experience working in rehabilitating sanitary sewer line
   - Contractor shall provide three (3) projects, with details and demonstrated experience, that are relevant to the proposed work. The contractor should provide sufficient, recent projects to indicate the competence and ability to do the proposed work.
   - Contractor shall provide the resumes of the proposed project manager, superintendent, and foreman, including references.
     i. Changes to project personnel during the project, including superintendent, project engineer, and foreman will need to be reviewed and accepted by the City.

c. Project Approach
   - Contractor shall include an overview of the project approach and a high-level project schedule (no more than two (2) pages). The schedule will clearly show materials procurement, time for work phases, and length of traffic control measures for each portion of the project.

END OF SECTION

SECTION 2: SPECIAL CONDITIONS TO THE CONSTRUCTION CONTRACT

2.01 SPECIFICATIONS

Specifications for the project shall be as specified the City's Engineering Code of Standards and Specifications, 2023 Edition, as published on the City website unless modified in this project manual.

2.02 EXISTING CONDITIONS

The bidder represents that they have carefully examined the contract documents and the site where the work is to be performed in accordance with the provisions of the General Conditions, and that they have familiarized themselves with all local conditions and federal, state, and local laws, ordinances, rules, and regulations that may affect the performance of the work. The bidder further represents that they have studied all documents pertaining to the job site, that they have performed such additional surveys and investigations as they deem necessary to assure themselves of their ability to complete the work at this bid price, and that they have correlated the results of all such data with the requirements of the contract documents.

The submittal of a bid shall be conclusive evidence that the bidder has investigated and is satisfied as to the conditions to be encountered, including locality, uncertainty of weather and all other contingencies, and as to the character, quality quantities, and scope of work.

The plans and specifications for the work show subsurface conditions or otherwise hidden conditions as they might be expected to exist; but it is not intended nor is it to be inferred that showing said conditions constitute a representation that such conditions are accurate or complete.

Where the City or the Engineer or their consultants have made investigations of subsurface conditions in areas where the work is to be performed, such investigations were made only for the purpose of study and design. The conditions indicated by such investigations apply only at the specific location of each boring or excavation at the time the borings or excavations were made. Where such investigations have been made, bidders or Contractors may inspect the records as to such investigations subject to the above limitations. The record of such investigations is not a part of the contract and is provided solely for the convenience of the bidder or Contractor.

No information derived from such inspection of records of investigation or compilation thereof made by the City, the Engineer, or their consultant will in any way relieve the bidder or Contractor from any risk or from properly fulfilling the terms of the contract nor entitle the Contractor to any additional compensation.

2.03 MOBILIZATION

The Contractor shall limit storage equipment and supplies and remain within the limits of disturbance on the Drawings. The Contractor shall supply portable sanitary facilities for the site.

2.04 SURVEYING

Contractor shall obtain surveying services for the staking of the project and for capturing all project as-builts to be incorporated in a record drawing set. Survey staking shall comply with Section 342 Staking and Grade Control of Engineering Code of Standards and Specifications, 2023 Edition. As-builts shall comply with Section 222.00 Record Drawings of the Engineering Code of Standards and Specifications, 2023 Edition. The surveyor employed shall be a Colorado Registered Licensed Surveyor and have the expertise to perform such services. All costs associated with surveying shall be included in the project construction survey bid item. As-built information shall be submitted to the project engineer for review along with each monthly pay application.

2.05 SAFETY REQUIREMENTS:

The contractor is responsible for ensuring all safety measures are implemented and maintained including rules and regulations required by the Occupational Health and Safety Administration (OSHA).

2.06 PERMITS REQUIRED:

As a subsidiary obligation of the contract, the Contractor shall obtain all required permits needed for the project including those required by other agencies as outlined in section 144.00 of the City of Arvada Standards and Specifications. Permits include but are not limited to the following:

1. City of Arvada
    a. CIP Permit
2. CDPHE
    a. Construction Dewatering Discharge Permit

2.07 CONTRACTOR'S WORK HOURS

Contractor (and Subcontractors) regular working hours shall comply with section 129.01 of the City of Arvada Standards and Specifications. All work to be completed on the project shall be performed during regular working hours, 7:00 a.m. until 7:00 p.m. Monday through Friday. Work hours on arterials and collector streets are from 8:30 a.m. to 3:30 p.m., except as required for nighttime bypass work.

There shall be no weekend or after hours work without formal approval. A formal request must be submitted to the CIty 7 calendar days in advance. There shall also be no construction during City observed holidays. Arvada observed holidays generally include New Year's Day, Martin Luther King, Jr. Day, Presidents' Day, Memorial Day, Juneteenth, Independence Day, Labor Day, Thanksgiving Day, Day After Thanksgiving, Christmas Day.

The Contractor, when performing work on a city holiday, Saturday, Sunday, or in excess of normal working hours on a weekday, in accordance with Table 18-3 Miscellaneous Inspections and Other Fees of the City of Arvada's Administrative Fee Schedule (https://www.arvadaco.gov/DocumentCenter/View/4862/2025-Building-Fee-Schedule-PDF) agrees to reimburse the Owner for the inspector's time at the following rate:

Inspections outside of normal business hours (minimum charge - two (2) hours): $78.00*
* Or the total hourly cost to the city, whichever is the greatest. This cost shall include supervision, overhead, equipment, hourly wages, and benefits of the employees involved.

Payment shall be made payable to the City of Arvada within ten days of the date of invoice from the Owner.

2.08 PROJECT MEETINGS:

Meetings shall be held between the City, Contractor, and other applicable entities at a standard time and place, established during the preconstruction meeting. Meetings are to be typically held on at least a biweekly basis unless otherwise mutually agreed to by all Parties. The City shall require the attendance of Contractor's Project Manager and Superintendent and any other person(s) deemed necessary, including Subcontractors and/or suppliers, at these meetings. The meetings shall be conducted by Contractor for the following purposes:

- Review the overall progress of the work and the current status of the schedule of work.
- Identification and resolution of problems which are or may be impeding the planned progress of the work.
- Coordination of the efforts of concerned Parties so that the work progresses per the schedule of work.
- Maintenance of lines of communication, including sound working relationships between the City and Contractor, and a mutual understanding of requirements of the Contract Documents.

Contractor shall be responsible for the preparation and distribution of the meeting agenda, and the written minutes of these meetings to all attendees and other concerned or impacted parties. Contractor shall be responsible for the preparation and distribution of a three-week lookahead schedule prior to the meeting. Contractor shall distribute the three-week lookahead schedule a minimum of two (2) business days before the meeting.

- A pre-construction meeting will be scheduled prior to the start of work. Attendance by Contractor's Project Manager and/or construction Superintendent will be required.

2.09 FIELD MODIFICATIONS:

Field modifications shall be documented using one of the following methods:

- Request for Information (RFI): Contractor shall be responsible for submitting proposed field changes in writing to the Project Engineer. Reasonable time must be allowed for the Project Engineer to design field engineered changes. The additional costs for performing field engineered construction changes and allowing the Project Engineer reasonable time to design field engineered changes as necessary to complete the work shall be included in the contractor's unit price bid for pipe and appurtenances. The Project Engineer shall have 7 days to respond to the request. The Contractor's RFI submission should include written and visual representation of the proposed changes (i.e. drawing markup & description).

- Field Order: Field orders given by the Project Engineer will be recorded in writing using the City's Field Order Form and is to be signed by the contractor's authorized representative.

If either a field order or request for information results in the need for a change in cost or schedule, the contractor shall submit a change order for review and approval by the City.

2.10 CHANGE ORDERS:

The project manager shall be notified as soon as practical of a change to the project plan/contract. Official change orders shall be submitted within 5 days of the adjustment from the plan and shall indicate changes to cost and schedule. The City shall reserve the right to approve or reject any submitted change order requests from the contractor. Any change order request that is submitted to the City will require (5) business days to review and provide feedback. If the change order request presented is not justified with proper documentation, it will not be reviewed until adequate documentation has been provided. All change order requests are not to exceed the overall unit cost provided in the bid fees summary sheet.

2.11 NON-CONFORMITY OF MATERIAL OR FINISHED PRODUCT:

Materials not in conformance with contract requirements or these Standards and Specifications shall be considered defective and shall be rejected. Rejected materials shall be removed from the work site, and Contractor shall be required to replace and/or repair materials to meet the Contract Documents.

Finished product deemed not acceptable by City staff shall be considered defective and shall be rejected. Rejected finished product shall be removed, and Contractor shall be required to replace and/or repair the finished product to meet City's satisfaction.

2.12 MAINTENANCE OF ACCESS TO RESIDENCES AND BUSINESSES

Access to residences and business shall comply with Section 149 Traffic Control, Barricades, and Warning Signs of Engineering Code of Standards and Specifications, 2023 Edition.

2.13 COORDINATION AND NOTIFICATION OF SERVICE DISRUPTION

Coordination and notification of service disruption shall comply with Section 146 Interruption of Services of Engineering Code of

Standards and Specifications, 2023 Edition. Residents and businesses shall also be notified when service has been restored.

2.14 COMMUNICATION WITH THE PUBLIC

The City will send out communication to the impacted residences, businesses regarding the construction. Contractor should plan on continuous communication with residents regarding work schedule for the duration of the project. The City Project Engineer will help facilitate the efforts; however, an adequate communication plan and implementation of that plan is the responsibility of the Contractor.

2.15 COORDINATION WITH CITY STAFF

City Utility Department personnel are familiar with the project and the system, and are a valuable resource for information. However, they have many responsibilities, are not available at all times, and individuals may not have all the information available that is needed to make a field decision. The Contractor will only receive direction in the field from the Inspector and/or the City Project Manager.

2.16 CONNECTIONS TO EXISTING MAINS

It shall be the Contractor's responsibility to verify the location of all existing sanitary and/or water mains, which are to be connected, prior to the start of construction; and also verify the horizontal and vertical locations of all other utilities, sanitary sewers or water mains that may be affected by work. Procedures for connecting to existing mains shall follow those outlined in the City of Arvada's Engineering Code of Standards and Specifications, 2023 Edition.

2.17 LOCATING AND MARKING EXISTING UTILITIES

The Contractor shall have all existing utilities marked prior to construction and verify their location. Existing utility information shown on the Drawings has been confirmed by only limited locate and potholing data and may not reflect the exact position of existing utilities, and may not show all the utility lines present.

The City will mark City-owned utilities, but other utilities will need to be located. Coordinate utility locates through the Utility Notification Center of Colorado, 811.

City-located utilities will be marked only one time. The Contractor shall be responsible for maintaining the locate marks. The Contractor must request the locates of City-owned utilities periodically as the work progresses rather than as a single event. Requests for locates shall not precede the construction activity in any given area by more than 2 weeks.

Utility potholing for location of existing utilities is required. All potholing must be completed and the information provided to the Project Engineer prior to installing any pipe.

2.18 PROTECTION OF EXISTING UTILITIES

Existing utilities that are not scheduled for replacement, removal or relocation shall be protected to avoid disruption of service. Adequate shoring, bracing and blocking shall be put in place to avoid damage or shifting of the utility lines and trench materials. All repairs required due to the work of the Contractor shall be the responsibility of the Contractor.

2.19 TRENCH BACKFILL

When excavating in concrete or asphalt areas, all native soils shall be considered **not** suitable for trench backfill. Native soil shall be hauled offsite and replaced with CDOT Class 1 Structural Fill material.

2.20 CONSTRUCTION MATERIAL STOCKPILE REQUIREMENTS

Construction stockpiles for earth, bedding materials and pipe materials should be placed in off-street areas where possible, with prior arrangement with property owners and approval by the City. Limited stockpiling in street areas is permitted, but only in small quantities, limited to two days' worth of work on any street. Street stockpiling shall be on the same side of the street as the trenching where practical.

Contractor shall coordinate and review stockpiling with the City prior to the work.

Excavated material and imported backfill material that is not scheduled to be placed as backfill within two days shall be removed from the street stockpile. Stockpiles shall not block the gutter flowline. Measures to control migration of sediment from stockpiles should be put in place, especially if left overnight or over a weekend or other break in the work.

Manhole riser and cone sections, manhole frames and covers, pipe fittings and valves should not be stored in the street but should be stored in an off-site area until the day it is to be installed. Asphalt millings shall be stored in offsite areas and kept covered.

Stockpiling of materials within the boundary of the regulatory floodway is prohibited. Stockpiled materials within the boundary of

the 100-year floodplain shall be anchored and protected against flooding.

2.21 CONSTRUCTION EQUIPMENT

The City has expressed the need to maintain the condition of the existing pavement and concrete infrastructure outside the project work areas, and along equipment and material haul routes. The use of appropriate construction equipment that is adequate to complete the required work for this project while minimizing pavement and concrete damage outside the defined work areas shall be required. The Contractor shall be held responsible for damages outside the defined work areas created by his activities.

2.22 MATERIALS TESTING:

Materials testing requirements shall be in accordance with the City's Engineering Code of Standards and Specifications section 322.00, Minimum Testing Requirements. The City will contract with a third-party testing company for this work. The Contractor shall be responsible for coordinating material testing when needed. The Contractor shall be responsible for safe access into the work area as well as allowing for the third-party tester to perform any tests or take any samples at the frequencies shown in section 322.00. Any non-conformance or covering of work prior to testing and/or acceptance by the City may result in the City not accepting such work. The Contractor shall be responsible for any additional costs associated with non-conformance and/or covering of work prior to acceptance. The Contractor may request electronic copies of any test reports for the project in writing from the City Project Engineer.

2.23 OPERATING EXISTING VALVES AND HYDRANTS

Existing valves and hydrants are to be operated by City Utility Department personnel only. Prior to acceptance by the City, Contractor may operate new valves installed on the new line segment. After City acceptance of new line segment, new valves and hydrants are to be operated only by City personnel. Coordinate with City personnel and the Engineer when operating any new valve adjacent to an existing water line.

2.24 CONSTRUCTION WATER

Use of a fire hydrant to supply construction water will require the Contractor to obtain a hydrant meter. The hydrant meter requires a $2,000 deposit which is refundable upon return of the meter in acceptable working condition. All construction water will be paid for by the City; however, the contractor shall not use water unnecessarily throughout the duration of the project.

2.25 PROTECTION OF EXISTING LANDSCAPING

Existing landscaping in the vicinity of the work areas shall be protected from damage, including lawns, shrubs and trees. Landscaping that interferes with the work may be removed after discussions with the property owner and approval from the City and must be replaced in a manner satisfactory to the property owner and the Engineer. Damaged landscaping shall be replaced in-kind at the expense of the Contractor.

2.26 END OF WORKDAY SITE CONDITIONS

Pipe trenches shall be backfilled to within a maximum of 5 feet from the end of the pipe at the end of each work day. A solid traffic-duty cover shall be placed over any open trench.

Streets where there is active work and/or stockpiles placed shall be swept daily at the end of the work shift. All backfilled and stabilized trenches shall be checked daily and repaired as required by the Engineer.

Erosion control measures shall be checked for correct placement and good condition, and repaired as needed, at the end of each day.

All loose materials, packaging, waste, trash and similar items shall be cleaned up at the end of the day and placed in proper storage location or receptacles.

2.27 TEMPORARY BYPASS PUMPING

2.27.1 SEWER MAINS 8" DIAMETER AND SMALLER

When required, a sewer bypass system shall be installed to maintain service and prevent sewage overflows. Bypass operations shall take place between 7am-7pm unless otherwise approved by City Project Engineer. At least 14 days prior to the bypass system being installed, a detailed bypass pumping plan shall be submitted to the City Project Engineer, Inspector, and Wastewater Manager. The plan shall at a minimum include the following:

1. Name of Contractor or individuals conducting the work. They shall have at least 5 years of verifiable experience with bypass pumping.
2. Anticipated flow rate to be bypassed. Typical flows through 8" Sewer Mains are under 400gpm. This can be variable throughout the City and should be verified prior to bypass pumping.
3. The site plan shows the locations where MH is being pumped from and discharged downstream, as well as the location

of all hosing/piping.
4. Number, type, capacity, and size of pumps, standby equipment, pipe material, pipe layout, and power requirements, if applicable.
5. Design calculations of the system and selected equipment, including flow, TDH with static head including all friction and minor losses, and pump curves showing operating range of flow and TDH.
6. Any necessary vehicle/pedestrian traffic control plans
7. Spill Prevention and Cleanup Plan
8. Noise control for pumps and generators if operation is to take place outside of normal working hours, 7am-7pm.
9. Identification of underdrain cleanouts for 2 MHs upstream and downstream of the bypass location. Identify and document the location underdrain cleanouts in the MH being pumped from, as well as the two MHs immediately upstream and downstream of the bypass location. If found, raise the underdrains to a minimum height of 24 inches above the crown of the sanitary main. Underdrains shall also be capped until the bypass operation is completed.

The bypass system shall be in place and operational for at least one hour prior to conducting any work on the sewer main. During this time the contractor and City Inspector shall monitor the system to ensure that it is of proper size and no leaks are present. During the duration of the bypass operation, the contractor shall have someone monitoring the bypass system to ensure that it is operating adequately. Redundant piping and pumps shall be kept onsite through the duration of the bypass operation to replace any equipment that may fail. No bypass pumping operations will be allowed if there is precipitation in the weather forecast for the day.

In the event of a sewage spill, violations of any state or federal laws shall be the sole responsibility of the Contractor. Should any liquid or solid matter from the sewer collection system be spilled, discharged, leaked, or otherwise deposited to the open environment as a result of the bypass operations, the Contractor shall be responsible for all cleanup and disinfection of the affected area and all associated costs. The Contractor shall also be responsible for notifying the City and appropriate regulatory agencies and performing all required cleanup operations.

2.27.2 SEWER MAINS LARGER THAN 8" DIAMETER OR BYPASS OPERATIONS OVER 24 HOURS IN DURATION

When a sewer bypass system is required on a main larger than 8" in diameter or will be in place for over 24 hours, this will need to be coordinated with the City Project Engineer and Wastewater Manager at least 30 days prior to work taking place. The Contractor shall provide the following information to City staff, who will then determine the requirements for the bypass system and bypass pumping plan:

1. Location of MH(s) to be bypassed
2. Dates that bypassing will be required
3. Pipe size of main(s) to be bypasses
4. Anticipated flows through bypass system

END OF SECTION

SECTION 3: SUMMARY OF WORKLOCATION

All work to be performed under this Contract is located at the areas shown on the attached drawings and summarized by the areas below.

A. Within city ROW on W 62nd and Teller St (Area A)
B. Within city ROW on W 62nd Ave and Newland St. (Area B)
C. Within city ROW on Dudley Circle and W 68th Ave. (Area C)
D. Within city ROW on W 59th Ave and Ralston Rd (Area D)
E. Within city ROW on W 70th Ave and Pierce St. (Area E)
F. Within city ROW on W 79th Ave and Lamar St. (Area F)
G. Within city ROW on W 78th Pl and Reed St. (Area G)
H. Within city ROW and Easement on Marshall St and W 55th Pl. (Area H)
I. Within city ROW on W 62nd Ave and Webster St (Area I)

The City reserves the right to remove areas at any time before or during construction.

3.02 PRIORITY LOCATIONS

The City has identified the below areas to be completed first. These areas will be paved through the City's pavement management project in the summer/fall of 2026:

- Priority 1: W 79th Ave and Lamar St. (Area F) to be completed before June 5, 2026
- Priority 2: W 70th Ave and Pierce St. (Area E) to be completed before June 5, 2026
- Priority 3: W 78th Pl and Reed St (Area G) to be completed before July 1, 2026
- Priority 4: Marshall St and W 55th Pl. (Area H) to be completed before September 1, 2026

The contractor may deviate from the above plan at their discretion assuming all requirements and restrictions are satisfied. The proposed sequencing above is not intended to dictate means and methods for the construction of the project.

The City reserves the right to adjust the priority of each location without change in the contract agreement prices, per subsection 1121.05 Changes in Contract Price of the Arvada Engineering Code of Standards and Specifications.

3.03 DESCRIPTION OF WORK

The work of this Contract consists of furnishing all labor, materials, equipment, and incidentals required and performing all construction, installation, and testing of all improvements, modifications, and additions, as shown on the Drawings and specified in these specifications. The work includes, but is not necessarily limited to:

- New piping and appurtenances
- Excavation, dewatering, and backfilling
- Connections to existing facilities and facilities constructed by others
- Pavement patching, pavement replacement, curb and gutter replacement, ADA ramp/sidewalk replacement
- Other miscellaneous work and cleanup.

The City reserves the right to stop the project before or during construction.

3.04 CONTRACTOR'S USE OF PREMISES

Contractor will not have complete and exclusive use of the premises for construction of the work.

Contractor shall limit the use of the premises for their work and for storage to allow for through traffic and operation of existing facilities during construction. The Contractor shall keep in mind that the Owner will continue to operate the existing facilities throughout construction.

Contractor shall coordinate the use of the premises with the Owner. Areas requiring shutdown of the existing facilities shall be coordinated with the Owner 48 business hours prior to taking those facilities out of service.

Contractor shall assume full responsibility for security of all their, and their subcontractor's, materials and equipment stored on the site. Contractor, if directed by the Owner and/or Engineer, shall move any stored items that interfere with the operations of the Owner.

Contractor shall obtain and pay for use of additional storage if needed to perform the work.

3.05 OWNER OCCUPANCY

Owner will occupy premises during performance of the work for their normal operations. Coordinate all operations with the Owner to minimize conflict and to facilitate Owner usage.

END OF SECTION

SECTION 4: MEASUREMENT AND PAYMENT

4.01 REQUIREMENTS INCLUDED

Measurement and payment shall be as specified the City's Engineering Code of Standards and Specifications, latest edition, as published on the City website unless modified in this Section.

Work to be performed under this contract will be paid for on a unit cost or lump sum basis under the appropriate unit cost or lump sum Bid Items shown on the Bid Form. No item of Work shown on the drawings or in the Specifications will be considered for extra compensation due to a claim that it does not fall within the scope of one of the Bid items.

Contractor shall, within 10 days of receipt of Notice to Proceed, submit a complete breakdown of lump sum and unit cost bid items (Schedule of Values) showing value assigned to each part of Work. payment for materials delivered but not fully incorporated in Work will be made only if such materials are listed and assigned a value in Contractor's Schedule of Values.

The work of this Contract consists of furnishing all labor, materials, equipment and incidentals required and performing all construction, installation and testing of all improvements, modifications and additions, all as shown on the Drawings and as specified in these Specifications.

4.02 BID ITEMS

General

1. Mobilization, Demobilization, Permits, Fees, Licenses, Administration

Shall include all labor, materials, equipment, and incidentals required for the Contractor to mobilize. Shall include all costs for Contractor's insurance and bonds, construction permits and fees, job trailers and site administration expenses, utilities including power, telephone, etc. This item shall not exceed more than ten (10) percent of the Base Bid. This item will be paid as defined in the City of Arvada Engineering Code of Standards and Specifications, latest edition, Section 1124.00.

2. Traffic and Pedestrian Control

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1180.00 (Lump Sum).

3. Sediment and Erosion Control

Sediment and Erosion Control plans shall be a submittal to be reviewed and approved by the City. A Site Disturbance Permit will be required if disturbing over 0.5 acres. This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1136.00 (Lump Sum).

4. Utility Locate Potholing

Shall include all labor, materials, equipment, and incidentals required for construction (Lump Sum).

5. Construction Survey

Shall include all labor, materials, equipment, and incidentals required for construction (Lump Sum).

6. Owner Controlled Minor Contract Revisions

Owner controlled allowance to be applied to address minor work required to provide a fully functioning water transmission line.

Area A – W 62nd Ave and Teller St

7 Remove Sanitary Sewer Cleanout

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1141.00 (Each).

8 Sanitary Sewer Maintenance Hole - 4-foot Diameter (Depth < 10 feet), Complete In Place

This item is for 4-foot diameter maintenance holes listed in the plans with a depth to invert of less than 10-feet and will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1154.00 (Each).

9 6" Asphalt Removal and Patching, Complete in Place

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1171.00 (Square Yards) and the pay limit defined on Detail 500-1, Pipe Bedding and Backfill Limits Sewer Mains.

Area B – W 62nd Ave and Newland St

10 Remove Sanitary Sewer Cleanout

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications,

Sections 1141.00 (Each).

11 Sanitary Sewer Maintenance Hole - 4-foot Diameter (Depth < 10 feet), Complete In Place

This item is for 4-foot diameter maintenance holes listed in the plans with a depth to invert of less than 10-feet and will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1154.00 (Each).

12 6" Asphalt Removal and Patching, Complete in Place

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1171.00 (Square Yards) and the pay limit defined on 500-1, Pipe Bedding and Backfill Limits Sewer Mains.

13 Landscaping & Restoration

This item includes landscape, rock replacement, and mailbox removal, storage, and replacement, This item will be measured and paid by lump sum (LS).

Area C – Dudley Circle and W 68th Ave

14 Remove Sanitary Sewer Cleanout

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1141.00 (Each).

15 Sanitary Sewer Maintenance Hole - 4-foot Diameter (Depth < 10 feet), Complete In Place

This item is for 4-foot diameter maintenance holes listed in the plans with a depth to invert of less than 10-feet and will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1154.00 (Each).

16 6" Thick Concrete Sidewalk Removal and Replacement

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1151.00 (Square Yards).

17 6" Asphalt Removal and Patching, Complete in Place

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1171.00 (Square Yards) and the pay limit defined on 500-1, Pipe Bedding and Backfill Limits Sewer Mains..

Area D – W 59th Ave and Ralston Rd

18 Remove Sanitary Sewer Cleanout

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1141.00 (Each).

19 Sanitary Sewer Maintenance Hole - 4-foot Diameter (Depth < 10 feet), Complete In Place

This item is for 4-foot diameter maintenance holes listed in the plans with a depth to invert of less than 10-feet and will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1154.00 (Each).

20 6" Asphalt Removal and Patching, Complete in Place

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1171.00 (Square Yards) and the pay limit defined on Detail 500-1, Pipe Bedding and Backfill Limits Sewer Mains..

Area E – W 70th Ave and Pierce St

21 Remove Sanitary Sewer Cleanout

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1141.00 (Each).

22 Sanitary Sewer Maintenance Hole - 4-foot Diameter (Depth < 10 feet), Complete In Place

This item is for 4-foot diameter maintenance holes listed in the plans with a depth to invert of less than 10-feet and will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1154.00 (Each).

23 6" Asphalt Removal and Patching, Complete in Place

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1171.00 (Square Yards) and the pay limit defined on 500-1, Pipe Bedding and Backfill Limits Sewer Mains.

Area F – W 79th Ave and Lamar St

24 Remove Sanitary Sewer Cleanout

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1141.00 (Each).

25 Remove 6" VCP Sanitary Sewer Pipe

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1141.00 (Linear Feet).

26 Sanitary Sewer Maintenance Hole - 4-foot Diameter (Depth < 10 feet), Complete In Place

This item is for 4-foot diameter maintenance holes listed in the plans with a depth to invert of less than 10-feet and will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1154.00 (Each).

27 6" Asphalt Removal and Patching, Complete in Place

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1171.00 (Square Yards) and the pay limit defined on 500-1, Pipe Bedding and Backfill Limits Sewer Mains.

Area G – W 78th Pl and Reed St

28 Temporary Bypass Pumping Sewer

Shall include all labor, materials, equipment, and incidentals required for construction. This item will be paid as a lump sum.

29 Remove 12" CIPP Sanitary Sewer Pipe

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1141.00 (Linear Feet).

30 Remove Sanitary Sewer Maintenance Hole - 4-foot Diameter (Depth < 10 feet), Complete In Place

This item is for 4-foot diameter maintenance holes listed in the plans with a depth to invert of less than 10-feet and will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1141.00 (Each).

31 Remove Sanitary Sewer Maintenance Hole - 4-foot Diameter (Depth > 10 feet), Complete In Place

This item is for 4-foot diameter maintenance holes listed in the plans with a depth to invert of greater than 10-feet and will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1141.00 (Each).

32 Sanitary Sewer Maintenance Hole - 4-foot Diameter (Depth < 10 feet), Complete In Place

This item is for 4-foot diameter maintenance holes listed in the plans with a depth to invert of less than 10-feet and will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1154.00 (Each).

33 Sanitary Sewer Maintenance Hole - 4-foot Diameter (Depth > 10 feet), Complete In Place

This item is for 4-foot diameter maintenance holes listed in the plans with a depth to invert of greater than 10-feet and will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1154.00 (Each).

34 12” SDR35 PVC, Complete in Place

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1146.00 (Linear Feet).

35 Connect Sanitary Sewer Service

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1146.02 (Each).

36 6” Asphalt Removal and Patching, Complete in Place

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1171.00 and 1173.00 (Square Yards) and the pay limit defined on Detail 500-1, Pipe Bedding and Backfill Limits Sewer Mains.

Area H – Marshall St and W 55th Pl – Marshall St & Private Drive

37. Temporary Bypass Pumping Sewer

Shall include all labor, materials, equipment, and incidentals required for construction. This item will be paid as a lump sum.

38. Remove Sanitary Sewer Cleanout

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1141.00 (Each).

39. Remove 6" VCP Sanitary Sewer Pipe

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1141.00 (Linear Feet).

40. Remove 6" PVC Sanitary Sewer Pipe

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1141.00 (Linear Feet).

41. Remove 8" VCP Sanitary Sewer Pipe

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1141.00 (Linear Feet).

42. Remove 8" SLIP Sanitary Sewer Pipe

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1141.00 (Linear Feet).

43. Remove 8" CIPP Sanitary Sewer Pipe

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1141.00 (Linear Feet).

44. Remove Sanitary Sewer Maintenance Hole - 4-foot Diameter (Depth < 10 feet), Complete In Place

This item is for 4-foot diameter maintenance holes listed in the plans with a depth to invert of less than 10-feet and will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1141.00 (Each).

45. Sanitary Sewer Maintenance Hole - 4-foot Diameter (Depth < 10 feet), Complete In Place

This item is for 4-foot diameter maintenance holes listed in the plans with a depth to invert of less than 10-feet and will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1154.00 (Each).

46. Rehabilitate Sanitary Sewer Maintenance Hole - 4-foot Diameter (Depth < 10 feet), Complete In Place

This item is for 4-foot diameter maintenance holes listed in the plans with a depth to invert of less than 10-feet and will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1154.00 (Each).

47. Protective Lining of 4' Maintenance Hole

This item is for 4-foot diameter maintenance holes listed in the plans and will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1146.07 (Each).

48. 8" C900 PVC, Complete in Place

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1146.00 (Linear Feet).

49. 8" SDR35 PVC, Complete in Place

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1146.00 (Linear Feet).

50. Connect Sanitary Sewer Service

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1146.02 (Each).

51. 6" SDR35 PVC Sanitary Sewer Service Line, Complete in Place

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1146.00 (Linear Feet).

52. Concrete Curb and Gutter (Type IIB)

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1151.00 (Linear Feet).

53. Sanitary Sewer Service Line Clean Out

This item is for a sanitary sewer service line clean out listed in the plans with a depth to invert of less than 10-feet and will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1154.00 (Each).

54. 6" Thick Concrete Sidewalk Removal and Replacement

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1151.00 (Square Yards).

55. 6" Asphalt Removal and Patching, Complete in Place

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1171.00 and 1173.00 (Square Yards) and the pay limit defined on Detail 500-1, Pipe Bedding and Backfill Limits Sewer Mains.

56. Median Cover Material (Concrete)

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications,

Sections 1151.00 (Square Yards).

57. Median Concrete Curb and Gutter (Type IIB)

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1151.00 (Linear Feet).

58. Landscaping & Restoration

This item includes landscape and sod removal, storage, and replacement. This item will be measured and paid by square yard.

Area H – Marshall St 8" Waterline Replacement

59. Remove and Dispose 6" AC Pipe

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1146.08 (Linear Feet).

60. Remove and Dispose 8" AC Pipe

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1146.08 (Linear Feet).

61. Remove Existing Fire Hydrant

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1141.00 (Each).

62. 8" C900 PVC, Complete in Place

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1146.00 (Linear Feet).

63. Fire Hydrant Assembly

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1143.00 (Each).

64. Chlorination and pressure test

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1146.03 (Lump Sum).

65. Connect to Existing 8" AC Waterline

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1146.02 (Each).

66. Connect to Existing 8" PVC Waterline

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1146.02 (Each).

67. Temporary Water Service to addresses 5530, 5540, and 5560

This item includes connection, transportation, and maintenance of temporary water service. This item will be measured and paid by lump sum.

68. Water Service Tap Reconnection

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications,

Sections 1146.02 (Each).

69. Water Meter Pit

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1165.00 (Each).

70. 6” Asphalt Removal and Patching, Complete in Place

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1171.00 and 1173.00 (Square Yards) and the pay limit defined on Detail 400-1 Typical Trench Section Pipe Protection Water Mains.

71. 6" Thick Concrete Sidewalk Removal and Replacement

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1151.00 (Square Yards).

Area I – W 62nd Ave. and Webster St.

72. Temporary Bypass Pumping Sewer

Shall include all labor, materials, equipment, and incidentals required for construction. This item will be paid as a lump sum.

73. Native Landscaping & Restoration (Includes Seeding, Topsoil & Mulch)

This item includes landscape removal, storage, and replacement, including any seeding, topsoil, or mulch. This item will be measured and paid by square yard.

74. Overhead Utility Pole Protection

Shall include all labor, materials, equipment, and incidentals required for construction and to meet the requirements of Specification 148.03. This item will be paid as a lump sum.

75. Sanitary Sewer Maintenance Hole - 4-foot Diameter (Depth > 10 feet), Complete In Place

This item is for 4-foot diameter maintenance holes listed in the plans with a depth to invert of more than 10-feet and will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1154.00 (Each).

76. Protective Lining of 4’ Maintenance Hole

This item is for 4-foot diameter maintenance holes listed in the plans and will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1146.07 (Each).

77. 6" SDR35 PVC, Complete in Place

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1146.00 (Linear Feet).

78. 8" C900 PVC, Complete in Place

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1146.00 (Linear Feet).

79. Sanitary Sewer Service Line Clean out

This item is for a sanitary sewer service line clean out listed in the plans with a depth to invert of less than 10-feet and will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Section 1154.00 (Each).

80. Connect Sanitary Sewer Service

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1146.02 (Each).

81. 6” Asphalt Removal and Patching, Complete in Place

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1171.00 and 1173.00 (Square Yards) and the pay limit defined on Detail 500-1, Pipe Bedding and Backfill Limits Sewer Mains.

82. Remove 6" VCP Sanitary Sewer Pipe

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1141.00 (Linear Feet).

83. Remove Sanitary Sewer Cleanout

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1141.00 (Each).

84. Abandon Sanitary Sewer (Plug)

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1134.00 (Each).

85. Abandon Sanitary Sewer (CLSM Fill)

This item will be measured and paid according to the City of Arvada Engineering Code of Standards and Specifications, Sections 1141.00 (CY).

END OF SECTION

BID FORMS

The following pages contain forms to be completed and returned with bid submission.

BID BOND

We, the undersigned _____ as Principal, and _____ as Surety, are hereby held and firmly bound unto the City of Arvada, Colorado, in the penal sum of _____ for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

THE CONDITION of this obligation is such that whereas the Principal has submitted to the City of Arvada, Colorado the accompanying Bid Proposal, and hereby made a part hereof to enter into a Contract Agreement for the construction of City of Arvada Project No. _____.

WHEREAS, the City, as a condition for receiving said Bid Proposal, requires the Principal to deposit with the City a Bid Proposal Guaranty, equivalent to not less than 5 Percent of the amount of said Bid Proposal.

NOW THEREFORE,

(A) If said Bid Proposal shall be rejected; or in the alternate,

(B) If said Bid Proposal shall be accepted and the Principal shall execute and deliver a Contract Agreement (properly completed in accordance with said Bid Proposal) and shall furnish a Performance and Payment Bond upon the forms prescribed by the City for the faithful performance of said Contract; and for the payment of all persons performing labor or furnishing materials in connection therewith; and shall in all other respects perform the agreement created by the acceptance of said Bid Proposal;

Then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the City may accept such Bid and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, this ___ day of _____ _____, 20_, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

PRINCIPAL	SURETY
Name: _____	_____.
Address: _____	_____.
By: _____	By: _____.
Title: _____	Title: _____.
	Attorney-in-Fact:
	_____ (SEAL)

NOTE: Surety Companies executing bonds must be authorized to transact business in the State of Colorado and be acceptable to the City.

BID PROPOSAL

TO: City of Arvada, Colorado (hereinafter called "CITY").

FROM:_____(hereinafter called "BIDDER"), organized and existing under the laws of the State of_____doing business as (a corporation), (a partnership), (an individual).

The Bidder, in compliance with your Advertisement for Bids, hereby proposes to perform all Work in strict accordance with the Contract Documents, for the construction of City of Arvada Project No. _____ entitled _____ _____ within the time set forth therein, and at the prices stated on the included Bid Schedule as totaled herein.

By submission of this Bid Proposal, each Bidder certifies, and in the case of a joint venture each party thereto certifies as to his/her own organization, that this Bid Proposal has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this Bid Proposal with any other Bidder or with any competitor.

Bidder acknowledges receipt of **Addendum Nos.** Initials:_____ _____ _____ _____

Bidder states that their:

Major Material Suppliers are:	Material They Will Supply
_____	_____
_____	_____
_____	_____

Major Subcontractors are:	Work They Will Perform
_____	_____
_____	_____
_____	_____

CONTRACT TIME AND LIQUIDATED DAMAGES: All work shall be completed, including clean-up, within **130** working days after the date to be specified in the Notice to Proceed. A Notice to Proceed is anticipated to be issued on or about 4/28/2026. The bidder shall agree to pay the owner the sum of $2,000 for each calendar day that the work exceeds the allotted contract time. Contract time may be adjusted by Change Order.

Total from included Bid Schedule: **TOTAL BID $**_____

SUBMITTED BY:

Company Name: _____

Contact Names: _____

Address: _____

Phone: (_____)_____Email(s): _____

The undersigned hereby affirms that:

- He/she is a duly authorized agent of the Contractor;
- He/she has read all Terms and Conditions and technical specifications made available in conjunction with this solicitation and fully accept and acknowledge this bid is consistent with the specifications and terms and conditions.
- The bid is in all respects fair, without outside collusion or otherwise illegal action.

By:_____ _____

Signature of Authorized Agent Date FEIN

_____ _____ _____

Typed/Printed Name of Agent Title of Agent Agent email

PAYMENT TERMS: The City standard is net thirty (30) days but every effort is made to meet net fifteen (15) days after the approved partial payment date when the contractor is satisfactorily performing the contract. The final 5% of total payment will be paid once the contract is completed satisfactorily, advertisement for final settlement is complete, and the project is accepted by the City. Payment is the date of the check mailing or date of the credit card transaction.

Use the Excel file uploaded to Bidnet to complete the Bid Schedule.

BID SCHEDULE

CSB 26-ENG-011
2026 Sanitary Sewer Open Cut Construction Services 26-SR-01

CONTRACTOR

PREPARED BY DATE

ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	UNIT PRICE	COST
	General				
1	Mobilization, Demobilization, Permits, Fees, Licenses, Administration	LS	1		
2	Traffic and Pedestrian Control	LS	1		
3	Sediment and Erosion Control	LS	1		
4	Utility Locate Potholing	LS	1		
5	Construction Survey	LS	1		
6	Owner Controlled Minor Contract Revisions	ALLOW	1	$180,000.00	$180,000.00
	GENERAL COST SUB-TOTAL				
	Area A (W 62nd Ave and Teller St)				
7	Remove Sanitary Sewer Cleanout	EA	1		
8	Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10'), Complete In Place	EA	1		
9	6" Asphalt Removal and Patching, Complete in Place	SY	11		
	AREA A SEWER COST SUB-TOTAL				
	Area B (W 62nd Ave and Newland St)				
10	Remove Sanitary Sewer Cleanout	EA	1		
11	Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10'), Complete In Place	EA	1		
12	6" Asphalt Removal and Patching, Complete in Place	SY	11		
13	Landscape Restoration	LS	1		
	AREA B SEWER COST SUB-TOTAL				
	Area C (Dudley Circle and W 68th Ave)				
14	Remove Sanitary Sewer Cleanout	EA	1		
15	Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10'), Complete In Place	EA	1		
16	6" Concrete Sidewalk Removal and Replacement	SY	10		
17	6" Asphalt Removal and Patching, Complete in Place	SY	11		
	AREA C SEWER COST SUB-TOTAL				
	Area D (W 59th Ave and Ralston Rd)				
18	Remove Sanitary Sewer Cleanout	EA	1		
19	Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10'), Complete In Place	EA	1		
20	6" Asphalt Removal and Patching, Complete in Place	SY	11		
	AREA D SEWER COST SUB-TOTAL				
	Area E (W 70th Ave and Pierce St)				
21	Remove Sanitary Sewer Cleanout	EA	1		
22	Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10'), Complete In Place	EA	1		
23	6" Asphalt Removal and Patching, Complete in Place	SY	11		
	AREA E SEWER COST SUB-TOTAL				
	Area F (W 79th Ave and Lamar St)				
24	Remove Sanitary Sewer Cleanout	EA	1		
25	Remove 6" VCP Sanitary Sewer Pipe	LF	10		
26	Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10'), Complete In Place	EA	1		
27	6" Asphalt Removal and Patching, Complete in Place	SY	20		
	AREA F SEWER COST SUB-TOTAL				
	Area G (W 78th Pl and Reed St)				
28	Temporary Bypass Pumping Sewer	LS	1		
29	Remove 12" CIPP Sanitary Sewer Pipe	LF	346		
30	Remove Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10')	EA	1		
31	Remove Sanitary Sewer Maintenance Hole - 4' Diameter (Depth > 10')	EA	2		
32	Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10'), Complete In Place	EA	1		
33	Sanitary Sewer Maintenance Hole - 4' Diameter (Depth > 10'), Complete In Place	EA	2		
34	12" SDR35 PVC, Complete in Place	LF	346		
35	Connect Sanitary Sewer Service	EA	3		
36	6" Asphalt Removal and Patching, Complete in Place	SY	450		
	AREA G SEWER COST SUB-TOTAL				

	Area H (Marshall St and W 55th Pl - Marshall St & Private Drive)				
37	Temporary Bypass Pumping Sewer	LS	1		
38	Remove Sanitary Sewer Cleanout	EA	1		
39	Remove 6" VCP Sanitary Sewer Pipe	LF	150		
40	Remove 6" PVC Sanitary Sewer Pipe	LF	59		
41	Remove 8" VCP Sanitary Sewer Pipe	LF	120		
42	Remove 8" SLIP Sanitary Sewer Pipe	LF	176		
43	Remove 8" CIPP Sanitary Sewer Pipe	LF	284		
44	Remove Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10')	EA	6		
45	Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10'), Complete In Place	EA	7		
46	Rehabilitate Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10')	EA	1		
47	Protective Lining of 4' Maintenance Hole	EA	3		
48	8" C900 PVC, Complete in Place	LF	338		
49	8" SDR35 PVC, Complete in Place	LF	451		
50	Connect Sanitary Sewer Service	EA	5		
51	6" SDR35 PVC Sanitary Sewer Service Line, Complete in Place	EA	10		
52	Concrete Curb and Gutter (Type IIB)	LF	130		
53	Sanitary Sewer Service Line Clean Out	EA	1		
54	6" Thick Concrete Sidewalk Removal and Replacement	SY	70		
55	10" Asphalt Removal and Patching, Complete in Place	SY	900		
56	Median Cover Material (Concrete)	SY	120		
57	Median Concrete Curb and Gutter (Type IIB)	LF	170		
58	Landscaping and Restoration	SY	145		
	AREA H SEWER COST SUB-TOTAL				
	Area H (Marshall St and W 55th Pl) 8" AC Waterline Replacement				
59	Remove and Dispose 6" AC Pipe	LF	250		
60	Remove and Dispose 8" AC Pipe	LF	50		
61	Remove Existing Fire Hydrant	EA	1		
62	8" C900/C909 PVC and fittings, Complete in Place	LF	380		
63	Fire Hydrant Assembly	EA	1		
64	Chlorination and Pressure Test	LS	1		
65	Connect to Existing 8" AC Waterline	EA	1		
66	Connect to Existing 8" PVC Waterline	EA	1		
67	Temporary Water Service to addresses 5530, 5540, and 5560	LS	1		
68	Water Service Tap Reconnection	EA	2		
69	Water Meter Pit	EA	1		
70	6" Asphalt Removal and Patching, Complete in Place	SY	730		
71	6" Thick Concrete Sidewalk Removal and Replacement	SY	7		
	AREA H WATERLINE COST SUB-TOTAL				
	Area I (W 62nd Ave. and Webster St.)				
72	Temporary Bypass Pumping Sewer	LS	1		
73	Native Landscaping & Restoration (Includes Seeding, Topsoil & Mulch)	SY	95		
74	Overhead Utility Pole Protection	LS	1		
75	Sanitary Sewer Maintenance Hole - 4' Diameter (Depth > 10'), Complete In Place	EA	1		
76	Protective Lining of 4' Maintenance Hole	EA	1		
77	6" SDR35 PVC, Complete in Place	EA	200		
78	8" C900 PVC and fittings, Complete in Place	LF	79		
79	Sanitary Sewer Service Line Clean Out	EA	1		
80	Connect Sanitary Sewer Service	EA	3		
81	6" Asphalt Removal and Patching, Complete in Place	SY	60		
82	Remove 6" VCP Sanitary Sewer Pipe	LF	79		
83	Remove Sanitary Sewer Cleanout	EA	1		
84	Abandon Sanitary Sewer (Plug)	EA	1		
85	Abandon Sanitary Sewer (CLSM Fill)	CY	312		
	AREA I SEWER COST SUB-TOTAL				
	TOTAL BASE BID				

TOTAL BASE BID WRITTEN

REQUIRED CONTRACTOR SUBMITTAL FORM

SUBMITTAL CHECKLIST:

Bid Proposals shall be submitted in the order listed below with each section clearly identified. **Missing information or required documents may result in submission being deemed non-responsive**.

- ☐ Submit completed Bid Bond, Bid Proposal, Bid Schedule, Required Contractor Submittal, and any other attachments requested. Please upload the Bid Schedule in an Excel format as well.
- ☐ Provide evidence that Contractor meets the Project Qualifications in Special Provisions, Section 1.01
- ☐ Provide a high-level project schedule, per Project Qualifications in Special Provisions, Section 1.01 c.
- ☐ Submit implementation timeline and warrantees, if applicable.
- ☐ Attach Contractor's Licensing, if applicable.
- ☐ Insurance – Checking this box accepts that the insurance requirements listed by the City are acceptable.
- ☐ Variations: Checking this box indicates that the contractor has variations to this solicitation. Identify all variations and exceptions to this CSB on a separate sheet/s of paper. If variations are not stated in the contractor's Offer, it shall be agreed that the contractor's Offer fully complies with all conditions identified in this Solicitation. For each variation listed, reference the applicable section of the solicitation document, the page number, and the variance. Submittal of a vendor contract is considered excessive in variations and may be cause for determining that the Bid is non-responsive and ineligible for award.

REFERENCES:

☐ Check here if Contractor's standard reference sheet is attached, otherwise, use the space below.

Name:_____ Contact Person: _____

Address:_____

Telephone No:_____ Email: _____

Describe type of work/service performed or items supplied: _____

_____

Name:_____ Contact Person: _____

Address:_____

Telephone No:_____ Email: _____

Describe type of work/service performed or items supplied: _____

_____

Name:_____ Contact Person: _____

Address: _____

Telephone No:_____ Email: _____

Describe type of work/service performed or items supplied: _____

_____

CONTRACT DOCUMENTS

The following pages contain documents used upon contract award. They are included here for reference and are subject to change.

PERFORMANCE AND PAYMENT BOND

Bond No._____

(Firm)_____

(Address)_____
(an Individual), (a Partnership), (a Corporation), hereinafter called Principal; and

(Firm)_____

(Address)_____
hereinafter called Surety, are held and firmly bound unto the City of Arvada, a Colorado municipal corporation, 8101 Ralston Road, Arvada, Colorado 80002, hereinafter called the City, in the penal sum of _____ , Dollars, _____ , in lawful money of the United States, for the payment of such sum will and truly to be made, we bind ourselves, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that the Principal entered into a certain Contract with the City, dated the _____ day of _____, 20_, a copy of which is hereto attached and made a part hereof, for the performance of City of Arvada Project No.'s _____, _____.

NOW THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions and agreements of said Contract during the original term thereof, and any extensions thereof which may be granted by the City, with or without Notice to the surety and during the life of the guaranty period, and if he shall satisfy all claims and demands incurred under such Contract, and shall fully indemnify and save harmless the City from all cost and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the City all outlay and expense which the City may incur in making good any default, and if he shall promptly make payment to all persons, firms, subcontractors and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such Contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, repairs on machinery, equipment and tools, consumed, rented or used in connection with the construction of such work, and all insurance premiums on said work, and for all labor, performed in such work whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the specifications accompanying the same shall in anyway affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the specifications.

PROVIDED, FURTHER, that no final settlement between City and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in three counterparts, each one of which shall be deemed an original, this the___day of_____, 20_.

IN PRESENCE OF:

PRINCIPAL_____

By_____

Address _____

(Corporate Seal)

OTHER PARTNERS

(Surety Seal)

SURETY_____

Attorney_____in_____Fact _____

Address_____

Note: If Contractor is Partnership, all partners should execute Bond.

Important: Surety Company must be authorized to transact business in the State of Colorado and be acceptable to the City.

NOTICE OF AWARD

Date

Company
Address
City, State Zip

RE: Project No. _____, _____

Dear Representative of_____:

The City of Arvada, Colorado (hereinafter called "City") has considered the Bid Proposals submitted for referenced work in response to its Advertisement for Bids dated_____and Information for Bidders.

You are hereby notified that your Bid Proposal has been accepted, for items and prices stated in the Bid Schedule, in the amount of $_____.

You are required to execute the Contract, the Insurance Certificates and a Performance and Payment Bond within seven (7) days from the date of this Notice to you.

The Performance and Payment Bond needs to be filled out, returned (one original must be returned to the City), and accompanied by the Power of Attorney from your surety company. Also, please make sure that the insurance certificate is in the minimum amounts set forth in the Contract Documents and the City of Arvada is named as an additional insured for the specific Project Number and Title. An Additional Insured endorsement certificate should also be attached.

If you fail to execute said Contract and furnish the necessary Insurance Certificates and Bond within the time allotted from this date, the City will be entitled to consider all your rights arising out of the City's acceptance of your Bid Proposal as abandoned and as a forfeiture of your Bid Bond. The City will be entitled to such other rights as may be granted bylaw.

You are required to return an acknowledged copy of this Notice of Award and enclosures to the Project Engineer.

CITY OF ARVADA, COLORADO

_____
City Engineer

BIDDER

Company

Receipt of above Notice of Award accompanied with a Performance and Payment Bond form and a copy of the Contract is hereby acknowledged.

This_____day of_____, 20___.

By:_____

Name: _____

Title:_____

NOTICE TO PROCEED

Date

Company
Address
City, State Zip

RE: Project No. _____, _____

Dear Representative of_____:

You are hereby notified to commence work on referenced Project, in accordance with the Contract dated _____

on or before_____, and you are to complete the Work, including cleanup within_____calendar days thereafter.

The date of completion of all Work is therefore_____.

CITY OF ARVADA, COLORADO

_____
City Engineer

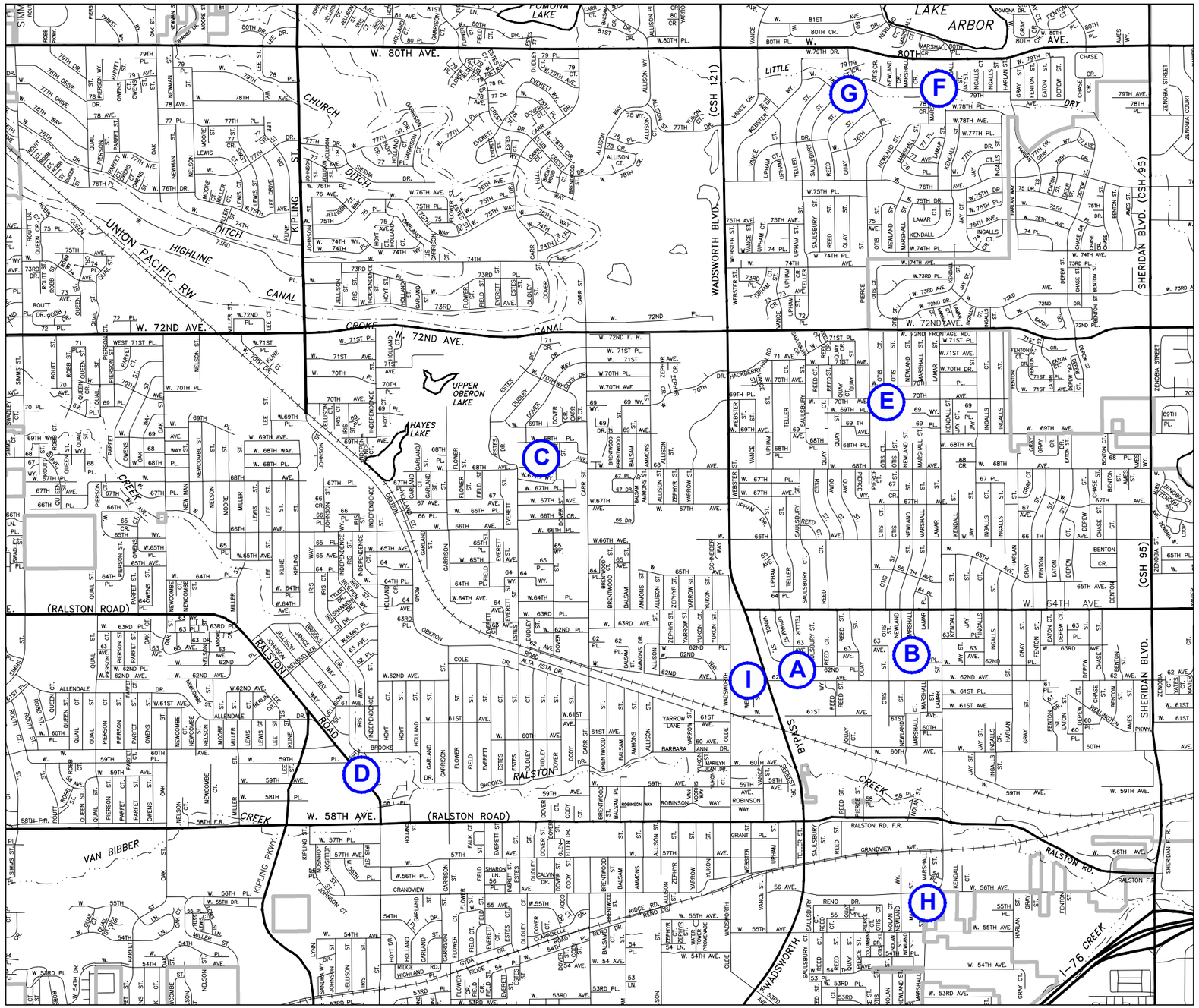
BIDDER

Receipt of this Notice to Proceed is hereby acknowledged this_____day of____, 20____.

Company

By: _____

Title: _____



CITY OF ARVADA

PROJECT 26SR01
2026 OPEN CUT SEWER IMPROVEMENTS

INDEX

KEY	DESCRIPTION	SHT.
	COVER SHEET	CS
	GENERAL NOTES	GN1 - 2
	EROSION CONTROL	EC 1-6
A	W 62ND AVE & TELLER ST	1
B	W 62ND AVE & NEWLAND ST	1
C	DUDLEY CIRCLE & W 68TH AVE	2
D	W 59TH AVE & RALSTON RD	2
E	W 70TH AVE & PIERCE ST	3
F	W 79TH AVE & LAMAR ST	3
G	W 78TH PL & REED ST	4
H	MARSHALL ST & W 55TH PL - MARSHALL ST & PRIVATE DRIVE	5-9
I	W 62ND AVE & WEBSTER ST	10

APPROVED:

City Engineer — Date: 2/4/2026 — Job Number: 26SR01

Review is for general compliance with the City of Arvada "Engineering Code of Standards and Specifications for the Design and Construction of Public Improvements", latest edition. Sole responsibility for completeness and/or accuracy of these Documents shall remain with the Registered Professional Engineer sealing these plans. The City does not accept liability for facilities designed by others.

LEGEND	
⋈	WATER VALVE
	FIRE HYDRANT
▷	REDUCER
⌋	PLUG
⋈⋈	BLOW OFF
Ⓜ	WATER METER
Ⓒ	CURB STOP
PRV	PRESSURE REDUCING VALVE ASSEMBLY
AV	AIR RELEASE & VACUUM VALVE
Ⓦ	WATER MANHOLE
◉	IRRIGATION SPRINKLER
▭	IRRIGATION SYSTEM BOX
Ⓢ	SANITARY MANHOLE
CO	CLEAN OUT
ST	STORM MANHOLE
▤	INLET
ST	TYPE R INLET
▷	FLARED END SECTION
IRR	IRRIGATION DITCH MANHOLE
Ⓞ	MISCELLANEOUS MANHOLE
Ⓣ	TELEPHONE VAULT
U	UTILITY PEDESTAL
⊕	UTILITY PULL BOX
○	POWER POLE
←	GUY WIRE
☼	LIGHT POLE
O_{SP}	SIGNAL POLE
O_{CP}	CATHODIC PROTECTION TEST STATION
△	MONITER WELL
◎	TEST HOLE
—o—	STREET SIGN
▨	MAILBOX
□	POST
⊕	SURVEY MONUMENT
△	SURVEY CONTROL POINT
◎	SURVEY MARKER

GENERAL NOTES:

1. THE TYPE, SIZE, LOCATION, AND NUMBER OF ALL KNOWN UNDERGROUND UTILITIES ARE APPROXIMATE WHEN SHOWN ON THE DRAWINGS UNLESS INDICATED AS TO TYPE OF SUE LEVEL. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY SIZE, HORIZONTAL, AND VERTICAL LOCATIONS OF ALL EXISTING FACILITIES ALONG THE ROUTE OF WORK PRIOR TO CONSTRUCTION AND NOTIFY THE CITY OF ANY DISCREPANCIES. IT IS ALSO THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ANY UTILITIES DURING CONSTRUCTION. FOR INFORMATION CONTACT: UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) – 1–800–922–1987. ANY DAMAGES TO UTILITIES CAUSED BY THE CONTRACTOR OR ANY SUBCONTRACTOR SHALL BE REPAIRED IN A TIMELY MANNER AT NO COST TO THE OWNER.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CONTRACT DOCUMENTS AS WELL AS THE CURRENT CITY OF ARVADA "ENGINEERING CODE OF STANDARDS AND SPECIFICATIONS".
3. ALL CONTRACTORS AND SUBCONTRACTORS SHALL BE LICENSED WITH THE CITY OF ARVADA PRIOR TO START OF CONSTRUCTION AND SHALL OBTAIN REQUIRED PERMITTING FROM THE ENGINEERING COUNTER AT CITY HALL.
4. ALL WORK WILL REQUIRE A CITY OF ARVADA ENGINEERING DIVISION CAPITAL IMPROVEMENT PERMIT PRIOR TO THE START OF CONSTRUCTION. ALL CONTRACTORS MUST OBTAIN A CAPITAL IMPROVEMENT PROJECT PERMIT PRIOR TO COMMENCING ANY CONSTRUCTION WORK.
5. ALL CONTRACTORS AND SUBCONTRACTORS SHALL HAVE A CURRENT PRINTED SET OF APPROVED DRAWINGS SIGNED BY THE CITY ENGINEER OR DESIGNEE AND A COPY OF THE CURRENT CITY OF ARVADA "ENGINEERING CODE OF STANDARDS AND SPECIFICATIONS", ON SITE AT ALL TIMES.
6. THE CITY OF ARVADA MUNICIPAL INSPECTOR SHALL BE NOTIFIED A MINIMUM OF 24 HOURS IN ADVANCE FOR EACH DAY THAT CREWS ARE WORKING BY SCHEDULING INSPECTIONS THROUGH THE CITY'S PERMITTING SYSTEM. FAILURE TO DO SO WILL RESULT IN A STOP WORK ORDER.
7. THE CONTRACTOR IS RESPONSIBLE FOR ALL PROJECT SAFETY INCLUDING, BUT NOT LIMITED TO, TRENCH EXCAVATION AND SHORING, TRAFFIC CONTROL, AND SECURITY.
8. CONTRACTOR SHALL OBTAIN A SITE DISTURBANCE PERMIT FROM THE CITY OF ARVADA PRIOR TO CLEARING, GRADING, OR EXCAVATING A SITE OVER 10,000 SQUARE FEET. ESTIMATED AREA OF DISTURBANCE FOR THIS PROJECT SITE WILL BE APPROXIMATELY 7,160 SQUARE FEET (0.17 ACRES).
9. THE CONTRACTOR SHALL OBTAIN A COLORADO STATE CONSTRUCTION DEWATERING DISCHARGE PERMIT FROM THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT FOR ALL AREAS WHERE DEWATERING IS REQUIRED FROM AN EXCAVATION AND WATER IS DISCHARGED INTO A STORM SEWER, CHANNEL, IRRIGATION DITCH OR ANY WATERS OF THE UNITED STATES. A COPY OF THE APPROVED PERMIT MUST BE SUBMITTED TO THE CITY OF ARVADA ENGINEERING DIVISION PRIOR TO THE START OF ANY DEWATERING. A COPY OF THE APPROVED PERMIT MUST ALSO BE AVAILABLE ON THE PROJECT SITE AT ALL TIMES DURING CONSTRUCTION.
10. ALL CURB RAMPS IMPACTED BY THE PROJECT SHALL COMPLY WITH THE LATEST CITY OF ARVADA AND ADA STANDARD. CONTRACTOR TO CHECK WITH THE CITY OF ARVADA ENGINEERING DIVISION TO VERIFY THE LATEST CURB RAMP STANDARD PRIOR TO CONSTRUCTION OF ANY RAMP.
11. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE CITY OF ARVADA ENGINEERING DIVISION. THE CITY RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO ITS "ENGINEERING CODE OF STANDARDS AND SPECIFICATIONS".
12. THE CONTRACTOR IS RESPONSIBLE FOR THE PREPARATION OF TRAFFIC CONTROL PLANS AND ITS SUBMITTAL SHALL BE SUBMITTED TO THE CITY OF ARVADA ENGINEERING DIVISION FOR ACCEPTANCE WITH THE CAPITAL IMPROVEMENTS PERMIT APPLICATION. A CAPITAL IMPROVEMENTS CONSTRUCTION PERMIT WILL NOT BE ISSUED WITHOUT AN APPROVED TRAFFIC CONTROL PLAN FOR TRAFFIC CONTROL ON EXISTING ROADS DURING CONSTRUCTION.
13. THE CONTRACTOR SHALL KEEP TRACK OF ALL CHANGES FROM THE APPROVED CONSTRUCTION DRAWINGS IN THE FORM OF REDLINES ON THE DRAWINGS. THESE REDLINES SHOULD BE MADE AVAILABLE TO THE CITY FOR REVIEW IN THE FIELD UPON REQUEST. REDLINES SHALL ALSO BE SUBMITTED TO THE CITY FOR REVIEW WITH EACH PAY APPLICATION. REDLINES SHALL INCLUDE INFORMATION OF ALL FITTINGS, SERVICES, AND PERTINENT ELEVATIONS.
14. ALL WATERLINE FITTINGS AND VALVES SHALL BE FIELD MARKED IMMEDIATELY AFTER BACKFILLING. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN FIELD MARKINGS UNTIL THE CONTRACTORS SURVEY TEAM RECORDS THE LOCATION OF EACH FITTING AND VALVE. IT SHALL BE EXPECTED THAT THE CONTRACTOR PROVIDE THE CITY TEAM WITH THE RECORD OF THE LOCATIONS.
15. PERMANENT SURVEY MONUMENTS, INCLUDING THE REPLACEMENT OF MONUMENTS, RANGE POINTS AND LOT PINS SHALL BE SET IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLES 51 AND 53 OF TITLE 38, COLORADO REVISED STATUTES, AND AS REQUIRED BY THE BYLAWS AND RULES OF PROCEDURE OF THE COLORADO STATE BOARD OF LICENSURE FOR ARCHITECTS, LANDSCAPE ARCHITECTS, PROFESSIONAL ENGINEERS AND PROFESSIONAL LAND SURVEYORS. RANGE POINTS SHALL BE PROTECTED BY THE INSTALLATION OF A SURVEY RANGE BOX PER DETAIL DRAWINGS.
16. THE CONTRACTOR SHALL USE EVERY REASONABLE PRECAUTION TO PREVENT THE DAMAGE OR DESTRUCTION OF ANY AND ALL SURVEY MONUMENTS ADJACENT TO OR ON THE CONSTRUCTION SITE. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL ALIQUOT CORNERS, PROPERTY, NGS, AND ARVADA SURVEY CONTROL MONUMENTATION AS PER SECTION 151.00 OF THE CITY OF ARVADA ENGINEERING CODE OF STANDARDS AND SPECIFICATIONS. ANY MONUMENT THAT MAY BE DISTURBED SHALL BE REFERENCED TO A MINIMUM OF TWO POINTS OUTSIDE THE LIMITS OF CONSTRUCTION AND REPLACED BY A COLORADO REGISTERED PROFESSIONAL LAND SURVEYOR. ALL MONUMENTS DISTURBED OR REMOVED BY THE CONTRACTOR, THROUGH NEGLIGENCE OR CARELESSNESS ON THEIR PART OR ON THE PART OF THEIR EMPLOYEES OR SUBCONTRACTORS, SHALL BE RESTORED PER SECTION 151.02 – SURVEY MONUMENTS OF THE CITY OF ARVADA ENGINEERING CODE OF STANDARDS AND SPECIFICATIONS. A MONUMENT RECORD SHALL BE TURNED INTO THE CITY IMMEDIATELY AFTER RESTORATION OF THE MONUMENT.

CONSTRUCTION LEGEND:

—— W ——	EXISTING WATER MAIN
—— SAN ——	SANITARY SEWER MAIN
—— SD ——	STORM DRAIN
—— SS ——	SANITARY SEWER SERIVCE

(APPROX. LOCATION, EXTRACTED FROM GIS DATA)

GENERAL ABBREVIATIONS:

FH – FIRE HYDRANT
D= – DEPTH
SD – STORM DRAIN
TELE–B – TELEPHONE BURIED
TELE–OH – TELEPHONE OVERHEAD
TEMP – TEMPORARY
CONC – CONCRETE
CIPP – CURED IN PLACE PIPE
T.O.P – TOP OF PIPE
PROP – PROPOSED
EXIT – EXIST

APPROVED:

City Engineer | Date: 2/4/2026 | Job Number: 26SR01

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NO.	REVISION	DATE	BY
1			
2			
3			
4			
5			

Public Works Department
Engineering Division
8101 Ralston Road
Arvada, Colorado 80002
Phone 720-898-7640

CITY OF ARVADA

PROJECT NO. 26-SR-01
OPEN CUT SEWER IMPROVEMENTS

GENERAL NOTES

ENGINEER
KS
CHECKED BY
CM
DESIGN BY
AS

SHT **GN1**

G:\PROJECTS\SEWER\26SR01-Open Cut Sewer Improvements\CAD\90% Set\Cover & Notes\26SR01 – Cover & Notes.dwg , Plot Date: 1/26/2026

STREET NOTES:

1. ALL TRENCH BACKFILL AND SUBGRADE PREPARATION SHALL BE TESTED TO ENSURE COMPLIANCE WITH CITY OF ARVADA STANDARDS AND SHALL BE TESTED AT CITY REQUIRED FREQUENCIES BY A CITY APPROVED PRIVATE SOILS TESTING FIRM. TEST RESULTS SHALL BE SUBMITTED TO, REVIEWED, AND APPROVED BY, THE CITY OF ARVADA ENGINEERING DIVISION PRIOR TO INSTALLING BASE COURSE, ASPHALT OR CONCRETE ON PREPARED SUBGRADE. ALL BASE COURSE DENSITY SHALL ALSO BE TESTED BY THE PRIVATE SOILS FIRM AT CITY REQUIRED FREQUENCIES TO ENSURE COMPLIANCE WITH CITY OF ARVADA REQUIREMENTS. BASE COURSE TEST RESULTS SHALL ALSO BE APPROVED BY THE CITY OF ARVADA ENGINEERING DIVISION PRIOR TO INSTALLING PAVEMENT. ALL CONCRETE AND ASPHALT PLACED SHALL BE TESTED IN ACCORDANCE WITH CITY OF ARVADA MINIMUM MATERIALS TESTING STANDARDS. TEST RESULTS SHALL BE REVIEWED AND APPROVED BY THE CITY OF ARVADA ENGINEERING DIVISION PRIOR TO INITIATION OF THE REQUIRED TWO-YEAR WARRANTY PERIOD

2. A GEOTECHNICAL INVESTIGATION WAS NOT COMPLETED AS A PART OF THIS PROJECT NOR HAS ANY ADJACENT OR PREVIOUS GEOTECHNICAL INVESTIGATIONS BEEN RELIED UPON BY THE ENGINEER OF RECORD IN COMPLETING THE DESIGN. ANY SUCH INFORMATION PROVIDED MAY NOT NECESSARILY BE RELIED UPON AS IT RELATES TO THE DESIGN THAT HAS BEEN COMPLETED.

3. CONTRACTOR SHALL PROTECT IN PLACE ALL EXISTING CURB, GUTTER, SIDEWALK, LANDSCAPING, PAVEMENT AND OTHER SITE IMPROVEMENTS TO REMAIN. ANY DAMAGE TO EXISTING IMPROVEMENTS OUTSIDE OF THE LIMITS OF CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR SOLE COST.

4. ALL CONCRETE CURB, GUTTER, SIDEWALK AND OTHER FLATWORK WITHIN THE CITY RIGHT OF WAY SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST CITY OF ARVADA "ENGINEERING CODE OF STANDARDS AND SPECIFICATIONS".

5. ALL FLATWORK CONCRETE SHALL BE MINIMUM 4000 PSI DESIGN STRENGTH REINFORCED WITH 1.5 LBS/CY FIBERMESH IN ACCORDANCE WITH THE CITY OF ARVADA "ENGINEERING CODE OF STANDARDS AND SPECIFICATIONS".

6. WHEN EXCAVATING IN CONCRETE OR ASPHALT AREAS, ALL NATIVE SOILS SHALL BE CONSIDERED NOT SUITABLE FOR TRENCH BACKFILL. NATIVE SOILS SHALL BE HAULED OFFSITE AND REPLACED WITH CDOT CLASS 1 STRUCTURAL FILL MATERIAL .

7. THE CONTRACTOR SHALL PROOF ROLL ALL SUBGRADE AND BASE COURSE IN A MANNER ACCEPTABLE TO THE CITY OF ARVADA IN ACCORDANCE WITH THE CITY OF ARVADA "ENGINEERING CODE OF STANDARDS AND SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF PUBLIC IMPROVEMENTS". PROOF ROLLING SHALL BE INSPECTED AND ACCEPTED BY THE CITY PRIOR TO INSTALLATION OF PAVEMENT AND/OR CONCRETE FLATWORK.

UTILITIES NOTES:

1. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED PARTIES, CITY OF ARVADA UTILITY AND ENGINEERING DIVISIONS, A MINIMUM OF 48 HOURS PRIOR TO ANY WATER OR SEWER SERVICE INTERRUPTION.

2. ALL UTILITIES CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE NOTES IN THE PLANS AND THE STANDARDS, SPECIFICATIONS, CODES AND ORDNANCES OF THE LOCAL GOVERNING AUTHORITIES. IN CASE OF CONFLICT, THE MORE STRINGENT CODE SHALL TAKE PRECEDENCE.

3. THE CONTRACTOR SHALL NOT OPERATE ANY CITY OF ARVADA VALVES. CONTRACTOR IS TO COORDINATE THE OPERATION OF ALL WATER VALVES, FIRE HYDRANTS, AND OTHER APPURTENANCES WITH THE CITY'S WATER OPERATIONS DIVISION THROUGH THE CITY'S MUNICIPAL INSPECTOR. ALL WATER VALVES ONCE CONNECTED TO THE WATER SYSTEM MUST BE KEPT ACCESSIBLE AT ALL TIMES.

4. UNLESS OTHERWISE NOTED, WATER MAINS SHALL BE INSTALLED AT A MINIMUM DEPTH OF 4 FEET TO TOP OF PIPE.

5. THE CONTRACTOR SHALL SCHEDULE ALL WATERLINE TIE INS AND TESTING WITH THE CITY'S MUNICIPAL INSPECTOR. THE UTILITIES DIVISION WILL NOT SHUT DOWN WATER MAINS FOR TIE-INS AFTER 11:00 A.M. IN ORDER FOR WATER TO BE TURNED BACK ON BY 3:00 P.M. CONTRACTOR MUST BE WITHIN 60 MINUTES OF CUTTING INTO THE WATER MAIN BASED ON THE JUDGMENT OF THE CITY'S MUNICIPAL S MUNICIPAL INSPECTOR AND/OR WATER UTILITY DIVISION PERSONNEL BEFORE EXISTING MAINS WILL BE ISOLATED. CONTRACTOR SHALL PROVIDE SUFFICIENT CUTS OR OPENINGS IN EXISTING PIPE TO ALLOW TIMELY DRAINAGE OF WATER FOR TIE-INS WHERE FIRE HYDRANTS OR BLOW OFFS ARE NOT AVAILABLE TO DRAIN THE LINE. SHOULD AN UNINTENDED SERVICE INTERRUPTION OCCUR AS A RESULT OF THE WORK, CONTRACTOR SHALL IMMEDIATELY NOTIFY ALL PARTIES NOT PREVIOUSLY NOTIFIED. THERE SHALL BE NO WATER SHUTDOWNS DISRUPTING WATER SERVICE FOR TIE-INS FRIDAY THRU SUNDAY UNLESS APPROVED BY THE PROJECT ENGINEER AND WATER OPERATIONS DUE TO SPECIAL CIRCUMSTANCES.

6. ALL FILLING, FLUSHING AND TESTING OF WATERLINES ON FRIDAYS REQUIRING WATER OPERATIONS STAFF SHALL BE SCHEDULED TO BE COMPLETED BY 11:00AM. DUE TO ARVADA'S WATER QUALITY LAB AVAILABILITY, BAC-T TESTING WILL BE AVAILABLE MONDAY THRU THURSDAY ONLY.

7. ALL FIRE HYDRANT LATERAL PIPE SHALL BE INSTALLED AS PER THE CURRENT CITY OF ARVADA STANDARDS AND SPECIFICATIONS.

8. ALL METALLIC FITTINGS SHALL BE WRAPPED WITH MINIMUM 8 MIL THICKNESS POLYETHYLENE ENCASEMENT AS PER THE CURRENT CITY OF ARVADA STANDARDS AND SPECIFICATIONS.

9. ALL NEW WATER MAINS SHALL BE INSTALLED WITH TRACER WIRE INSTALLED AS PER THE CURRENT CITY OF ARVADA STANDARDS AND SPECIFICATIONS. COPPER SERVICE LINES ARE EXCLUDED UNLESS OTHERWISE NOTED.

10. ANY NON-COPPER SERVICE LINES ENCOUNTERED DURING CONSTRUCTION SHALL BE REPLACED FROM THE METER TO THE MAIN WITH COPPER AND THE REPLACEMENT SHALL BE REPORTED TO THE CITY'S PROJECT ENGINEER AS PER THE CURRENT CITY OF ARVADA STANDARDS AND SPECIFICATIONS.

11. STORM, SANITARY AND WATER MAINTENANCE HOLE COVERS SHALL SAY "CITY OF ARVADA STORM, WATER OR SANITARY" AS PER THE CURRENT CITY OF ARVADA STANDARDS AND SPECIFICATIONS.

12. BLOW-OFFS, BOTH PERMANENT AND TEMPORARY, SHALL BE AS PER THE CURRENT CITY OF ARVADA STANDARDS AND SPECIFICATIONS.

13. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING HORIZONTAL AND VERTICAL LOCATIONS OF ALL CROSSING UTILITIES AND CONNECTION LOCATIONS PRIOR TO CONSTRUCTION.

14. ABANDONMENT OF CITY OF ARVADA UTILITIES SHALL BE PERFORMED AS PER THE CURRENT CITY OF ARVADA STANDARDS AND SPECIFICATIONS

15. CONTROLLED LOW-STRENGTH MATERIAL (CLSM) MIX DESIGNS USED FOR WATER LINE OR SEWER LINE ENCASEMENT SHALL BE PER THE CITY OF ARVADA'S STANDARDS AND SPECIFICATIONS.

16. CONTRACTOR TO NOTIFY ANY AFFECTED IRRIGATION/DITCH COMPANIES IN ACCORDANCE WITH THE APPROVED AGREEMENT PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES IN OR AROUND ANY IRRIGATION EASEMENTS OR IRRIGATION DITCHES.

EROSION CONTROL NOTES:

1. THE CITY OF ARVADA STORMWATER INSPECTOR MUST BE MET ON SITE AND PROVIDED WITH A STORMWATER MANAGEMENT PLAN AFTER INSTALLATION OF TEMPORARY BEST MANAGEMENT PRACTICES (BMPS), BUT BEFORE CONSTRUCTION OR GRADING BEGINS.

2. THERE SHALL BE NO EARTH-DISTURBING ACTIVITY OUTSIDE THE LIMITS DESIGNATED IN THE ACCEPTED PLANS.

3. ALL REQUIRED PERIMETER SILT AND CONSTRUCTION FENCING SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITY (STOCKPILING, STRIPPING, GRADING, ETC). ALL OTHER REQUIRED EROSION CONTROL MEASURES SHALL BE INSTALLED AT THE APPROPRIATE TIME IN THE CONSTRUCTION SEQUENCE AS INDICATED IN THE APPROVED PROJECT SCHEDULE, CONSTRUCTION PLANS, AND STORMWATER MANAGEMENT PLAN.

4. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING AND CONTROLLING ON-SITE EROSION INCLUDING KEEPING THE PROPERTY SUFFICIENTLY WATERED SO AS TO MINIMIZE WINDBLOWN SEDIMENT. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL EROSION CONTROL FACILITIES SHOWN HEREIN.

5. PRE-DISTURBANCE VEGETATION SHALL BE PROTECTED AND RETAINED WHEREVER POSSIBLE. REMOVAL OR DISTURBANCE OF EXISTING VEGETATION SHALL BE LIMITED TO THE AREA(S) REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATIONS, AND FOR THE SHORTEST PRACTICAL PERIOD OF TIME.

6. ALL SOILS EXPOSED DURING LAND DISTURBING ACTIVITY (STRIPPING, GRADING, UTILITY INSTALLATIONS, STOCKPILING, FILLING, ETC.) SHALL BE KEPT IN A ROUGHENED CONDITION BY RIPPING OR DISKING ALONG LAND CONTOURS UNTIL MULCH, VEGETATION, OR OTHER PERMANENT EROSION CONTROL BMPS ARE INSTALLED. NO DISTURBED AREAS, EXCEPT THOSE WITHIN THE PROJECT STREET RIGHTS-OF-WAY, SHALL REMAIN EXPOSED FOR MORE THAN THIRTY (30) DAYS BEFORE TEMPORARY OR PERMANENT EROSION CONTROL (E.G. SEED/MULCH, LANDSCAPING, ETC.) IS INSTALLED, UNLESS OTHERWISE APPROVED BY THE CITY OF ARVADA STORMWATER INSPECTOR.

7. IN ORDER TO MINIMIZE EROSION POTENTIAL, ALL TEMPORARY (STRUCTURAL) EROSION CONTROL MEASURES SHALL: BE INSPECTED AT A MINIMUM OF ONCE EVERY FOURTEEN (14) DAYS AND AFTER EACH SIGNIFICANT STORM EVENT AND REPAIRED OR RECONSTRUCTED AS NECESSARY IN ORDER TO ENSURE THE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. REMAIN IN PLACE UNTIL SUCH TIME AS ALL THE SURROUNDING DISTURBED AREAS ARE SUFFICIENTLY STABILIZED. THE CITY OF ARVADA STORMWATER INSPECTOR MUST BE NOTIFIED PRIOR TO REMOVAL. BE REMOVED WHEN THEY ARE NO LONGER FUNCTIONAL OR AFTER THE SITE HAS BEEN SUFFICIENTLY STABILIZED AS DETERMINED BY THE STORMWATER INSPECTOR. THE CITY OF ARVADA STORMWATER INSPECTOR MUST BE NOTIFIED PRIOR TO REMOVAL.

8. WHEN TEMPORARY EROSION CONTROL MEASURES ARE REMOVED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEAN UP AND REMOVAL OF ALL SEDIMENT AND DEBRIS FROM ALL DRAINAGE INFRASTRUCTURE AND OTHER PUBLIC FACILITIES.

9. THE CONTRACTOR SHALL IMMEDIATELY CLEAN UP ANY CONSTRUCTION MATERIALS INADVERTENTLY DEPOSITED ON EXISTING STREETS, SIDEWALKS, OR OTHER PUBLIC RIGHTS OF WAY, AND MAKE SURE STREETS AND WALKWAYS ARE CLEANED AT THE END OF EACH WORKING DAY.

10. ALL SOIL STOCKPILES SHALL NOT BE PLACED WITHIN ONE HUNDRED (100) FEET OF A DRAINAGEWAY, WHERE POSSIBLE, AND SHALL BE PROTECTED FROM SEDIMENT TRANSPORT BY APPROPRIATE EROSION CONTROL METHODS. ANY SOIL STOCKPILE THAT WILL BE DORMANT FOR OVER THIRTY (30) DAYS SHALL BE SEEDED.

11. THE STORMWATER VOLUME CAPACITY OF DETENTION PONDS WILL BE RESTORED AND STORM SEWER LINES WILL BE CLEANED UPON COMPLETION OF THE PROJECT AND BEFORE TURNING THE MAINTENANCE OVER TO THE PROPERTY OWNER OR HOMEOWNERS ASSOCIATION (HOA).

12. CITY ORDINANCE REQUIREMENTS MAKE IT UNLAWFUL TO DISCHARGE OR ALLOW THE DISCHARGE OF ANY POLLUTANT OR CONTAMINATED WATER FROM CONSTRUCTION SITES. POLLUTANTS INCLUDE, BUT ARE NOT LIMITED TO DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, OIL AND GAS PRODUCTS, LITTER, AND SANITARY WASTE. THE CONTRACTOR SHALL AT ALL TIMES TAKE WHATEVER MEASURES ARE NECESSARY TO ASSURE THE PROPER CONTAINMENT AND DISPOSAL OF POLLUTANTS ON THE SITE IN ACCORDANCE WITH ANY AND ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.

13. A DESIGNATED AREA SHALL BE PROVIDED ON SITE FOR CONCRETE TRUCK CHUTE WASHOUT. THE AREA SHALL BE CONSTRUCTED SO AS TO CONTAIN WASHOUT MATERIAL AND LOCATED AT LEAST FIFTY (50) FEET AWAY FROM ANY WATERWAY DURING CONSTRUCTION. UPON COMPLETION OF CONSTRUCTION ACTIVITIES THE CONCRETE WASHOUT MATERIAL WILL BE REMOVED AND PROPERLY DISPOSED OF PRIOR TO THE AREA BEING RESTORED.

14. MASONRY ACTIVITIES WILL BE CONTAINED WITH APPROPRIATE LOT-SPECIFIC BMPS, SUCH AS STOCKPILE PERIMETER CONTROL AND BERMED WASHOUT PITS. ALL WASTE PRODUCTS FROM MASONRY ACTIVITIES WILL BE REMOVED AND DISPOSED OF PROPERLY.

15. TO ENSURE THAT SEDIMENT DOES NOT MOVE OFF OF INDIVIDUAL LOTS SEDIMENT/EROSION CONTROL BMPS SHALL BE INSTALLED AND MAINTAINED AT ONE OR MORE OF THE FOLLOWING LOCATIONS UNTIL THE LOTS ARE LANDSCAPED.
BELOW ALL GUTTER DOWNSPOUTS.
OUT TO DRAINAGE SWALES.
ALONG LOT PERIMETER.
OTHER LOCATIONS, IF NEEDED.

16. A VEHICLE TRACKING PAD SHALL BE INSTALLED WHEREVER IT IS NECESSARY FOR CONSTRUCTION EQUIPMENT INCLUDING BUT NOT LIMITED TO PERSONAL VEHICLES EXITING EXISTING UNPAVED AREAS ONTO ROADWAYS. NO EARTHEN MATERIALS, I.E., STONE, DIRT, ETC., SHALL BE PLACED IN THE CURB & GUTTER OR ROADWAY AS A RAMP TO ACCESS TEMPORARY STOCKPILES, CONSTRUCTION MATERIALS AND/OR BUILDING SITES.

17. CONDITIONS IN THE FIELD MAY WARRANT EROSION CONTROL MEASURES IN ADDITION TO WHAT IS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL IMPLEMENT WHATEVER MEASURES ARE DETERMINED NECESSARY, AS DIRECTED BY THE CITY OF ARVADA.

APPROVED:

City Engineer | 2/4/2026 Date | 26SR01 Job Number

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Public Works Department
Engineering Division
8101 Ralston Road
Arvada, Colorado 80002
Phone 720-898-7640

CITY OF ARVADA

PROJECT NO. 26-SR-01
OPEN CUT SEWER IMPROVEMENTS

GENERAL NOTES

ENGINEER KS
CHECKED BY CM
DESIGN BY AS

SHT **GN2**

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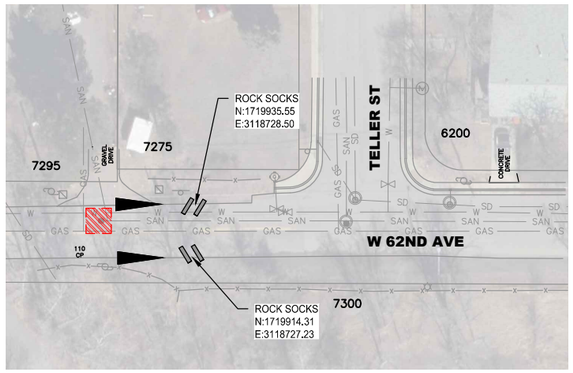
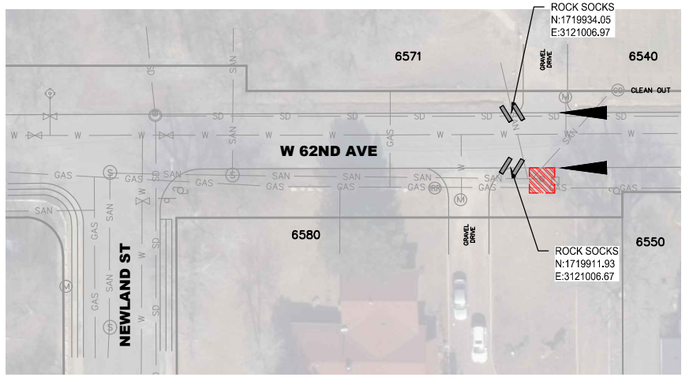
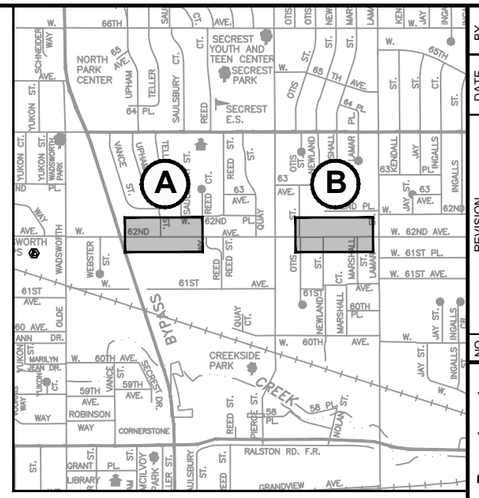


PLAN - AREA A
W 62ND AVE & TELLER ST



PLAN - AREA B
W 62ND AVE & NEWLAND ST



KEY MAP
SCALE: N.T.S.

NOTES:

1. STOCK PILES AND STAGING AREAS SHALL BE IDENTIFIED AND ANNOTATED BY THE CONTRACTOR ON ALL EROSION CONTROL PLANS.
2. PORTABLE TOILETS AND WASTE RECEPTACLES WILL BE PLACED AT CONTRACTORS DISCRETION AND ANNOTATED BY THE CONTRACTOR ON ALL EROSION CONTROL PLANS.

LEGEND

- FLOW ARROWS
- ROCK SOCKS
- LIMITS OF DISTURBANCE /CONSTRUCTION – TOTAL PROJECT ACRE = 0.17

0’ 30’ 60’ 120’

SCALE: 1”=60’

APPROVED:

City Engineer — Date: 2/4/2026 — Job Number: 26SR01

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Engineering Division
8101 Ralston Road
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Phone 720-898-7640

CITY OF ARVADA

PROJECT NO. 26-SR-01
OPEN CUT SEWER IMPROVEMENTS
W 62ND AVE & TELLER ST
W 62ND AVE & NEWLAND ST
EROSION CONTROL

ENGINEER KS
CHECKED BY CM
DESIGN BY AS

SHT **EC - 1**

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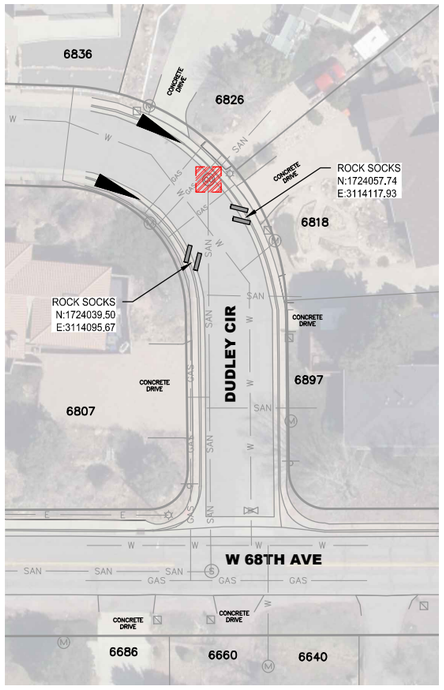
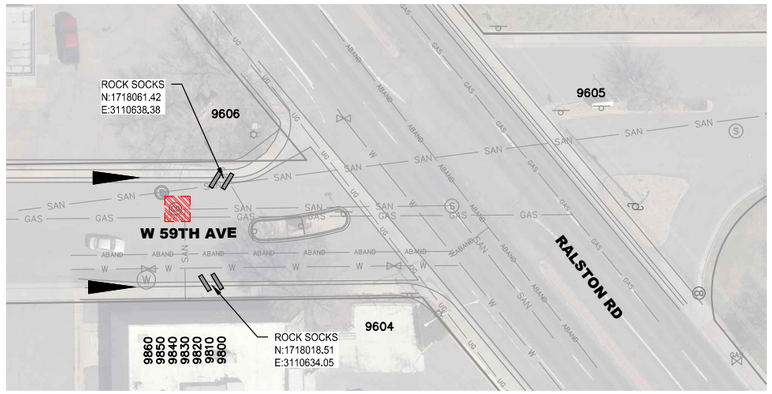
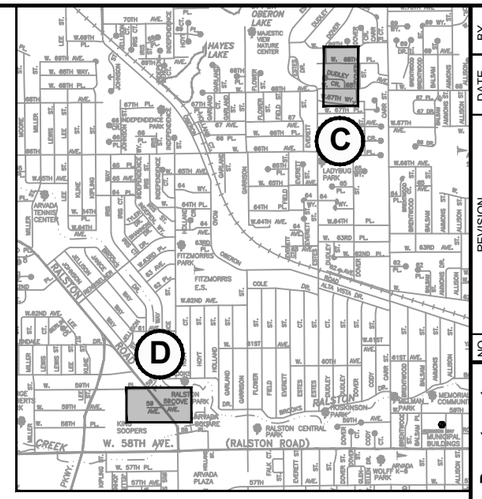


PLAN - AREA C
DUDLEY CIRCLE & W 68TH AVE



PLAN - AREA D
W 59TH AVE & RALSTON RD



KEY MAP
SCALE: N.T.S.

NOTES:

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2. PORTABLE TOILETS AND WASTE RECEPTACLES WILL BE PLACED AT CONTRACTORS DISCRETION AND ANNOTATED BY THE CONTRACTOR ON ALL EROSION CONTROL PLANS.

LEGEND

- FLOW ARROWS
- ROCK SOCKS
- LIMITS OF DISTURBANCE /CONSTRUCTION – TOTAL PROJECT ACRE = 0.17

0’ 30’ 60’ 120’
SCALE: 1”=60’

APPROVED:

City Engineer | Date: 2/4/2026 | Job Number: 26SR01

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Public Works Department
Engineering Division
8101 Ralston Road
Arvada, Colorado 80002
Phone 720-898-7640

CITY OF ARVADA

PROJECT NO. 26-SR-01
OPEN CUT SEWER IMPROVEMENTS
DUDLEY CIRCLE & W 68TH AVE
W 59TH AVE & RALSTON RD
EROSION CONTROL

ENGINEER
KS
CHECKED BY
CM
DESIGN BY
AS

SHT **EC - 2**

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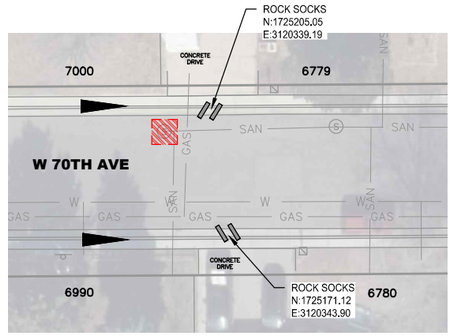
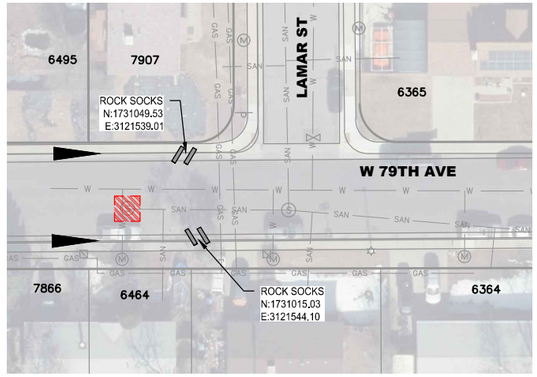
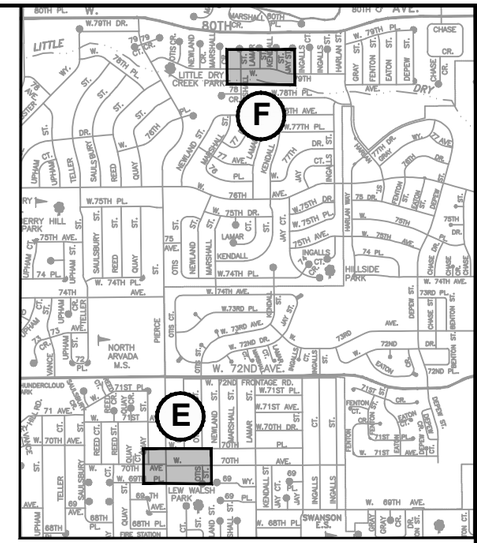


PLAN - AREA E
W 70TH AVE & PIERCE ST



PLAN - AREA F
W 79TH AVE & LAMAR ST



KEY MAP
SCALE: N.T.S.

NOTES:

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LEGEND

- FLOW ARROWS
- ROCK SOCKS
- LIMITS OF DISTURBANCE /CONSTRUCTION – TOTAL PROJECT ACRE = 0.17

0’ 30’ 60’ 120’

SCALE: 1”=60’

APPROVED:

City Engineer — Date: 2/4/2026 — Job Number: 26SR01

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Engineering Division
8101 Ralston Road
Arvada, Colorado 80002
Phone 720-898-7640

CITY OF ARVADA

PROJECT NO. 26-SR-01
OPEN CUT SEWER IMPROVEMENTS
W 70TH AVE & PIERCE ST
W 79TH AVE & LAMAR ST
EROSION CONTROL

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AS

SHT **EC - 3**

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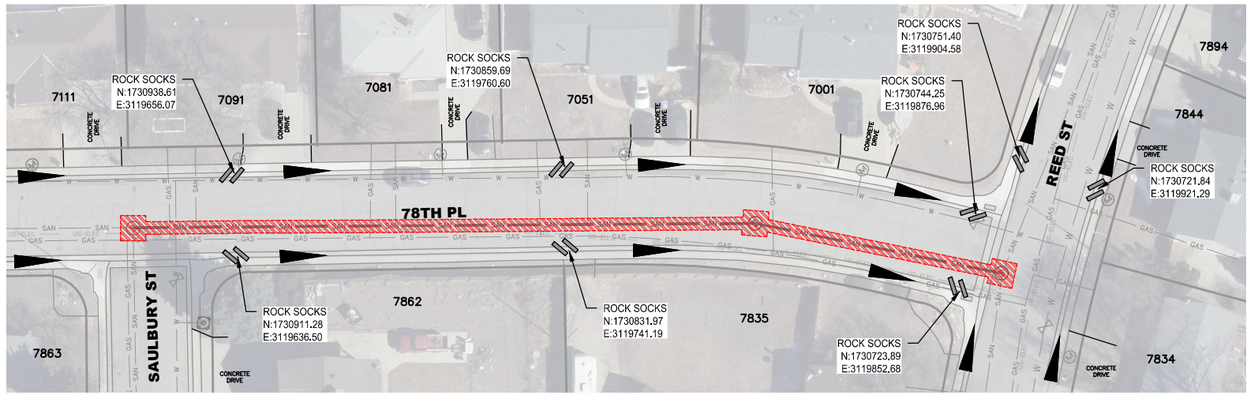
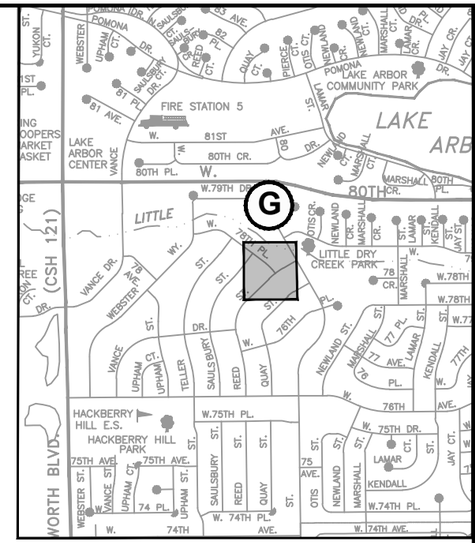


PLAN - AREA G
W 78TH PL & REED ST



KEY MAP
SCALE: N.T.S.

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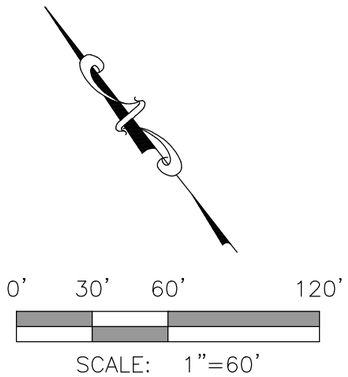
LEGEND

- FLOW ARROWS
- ROCK SOCKS
- LIMITS OF DISTURBANCE /CONSTRUCTION –TOTAL PROJECT ACRE = 0.17



APPROVED:

City Engineer — Date: 2/4/2026 — Job Number: 26SR01

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CITY OF ARVADA

PROJECT NO. 26-SR-01
OPEN CUT SEWER IMPROVEMENTS
W 79TH PL & REED ST
EROSION CONTROL

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DESIGN BY
AS

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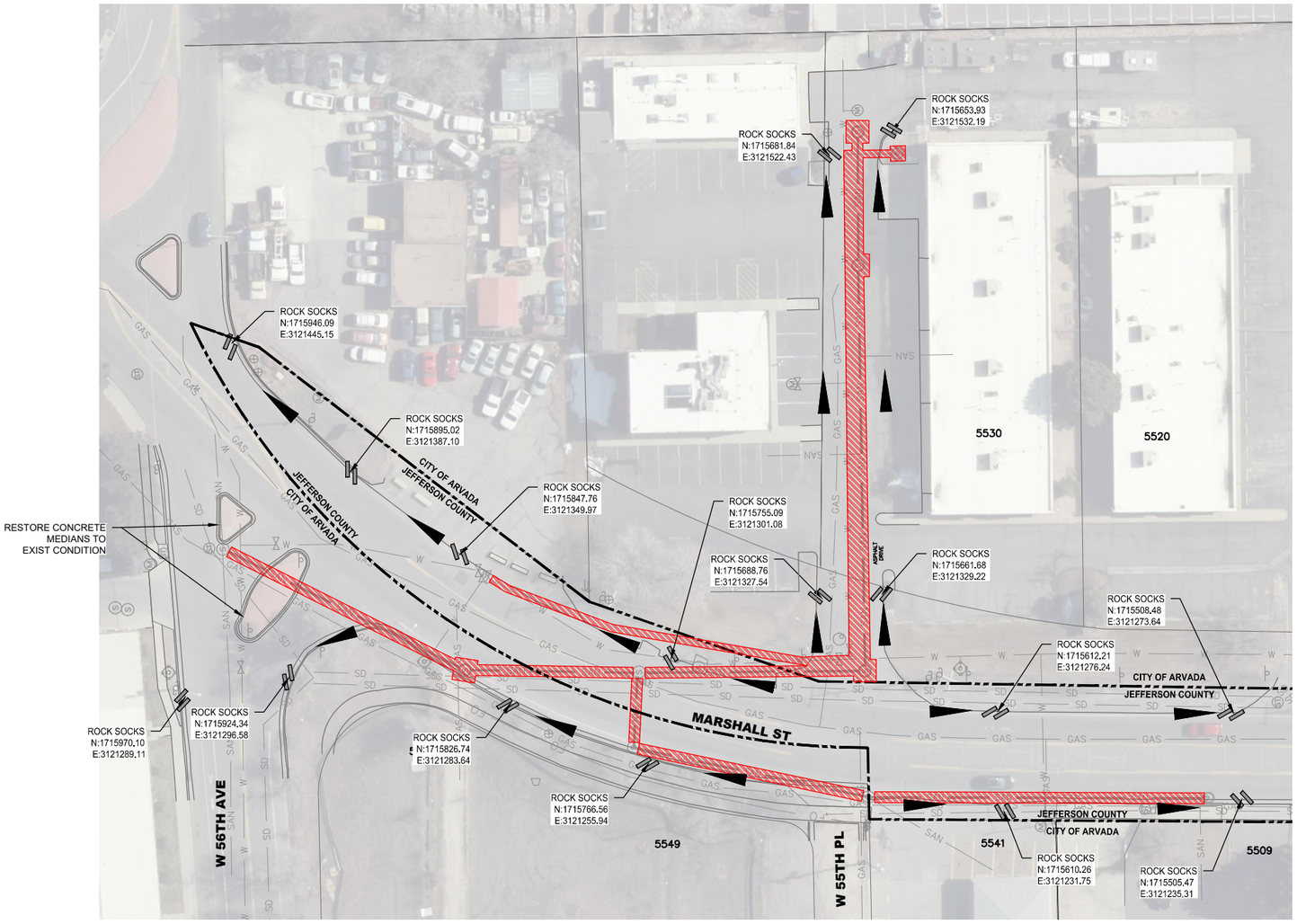
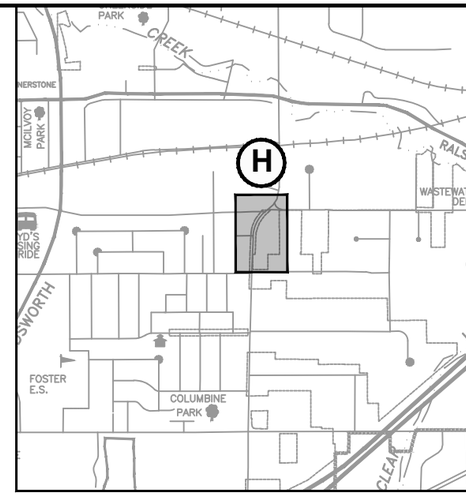


PLAN - AREA H
MARSHALL ST & W 55TH PL
MARSHALL ST & PRIVATE DR



KEY MAP
SCALE: N.T.S.

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LEGEND

- FLOW ARROWS
- ROCK SOCKS
- LIMITS OF DISTURBANCE /CONSTRUCTION –TOTAL PROJECT ACRE = 0.17

0’ 30’ 60’ 120’

SCALE: 1”=60’

APPROVED:

City Engineer — Date: 2/4/2026 — Job Number: 26SR01

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Engineering Division
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Arvada, Colorado 80002
Phone 720-898-7640

CITY OF ARVADA

PROJECT NO. 26-SR-01
OPEN CUT SEWER IMPROVEMENTS
MARSHALL ST & W 55TH PL
MARSHAL ST & PRIVATE DR
EROSION CONTROL

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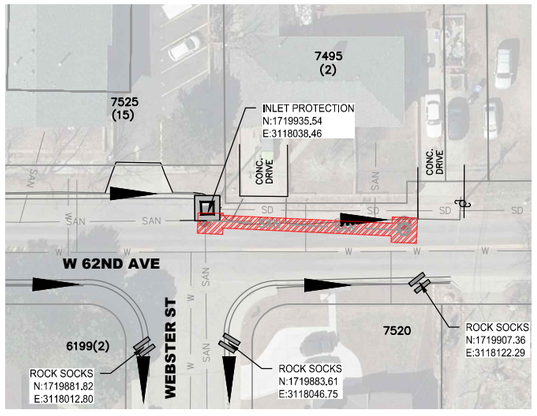
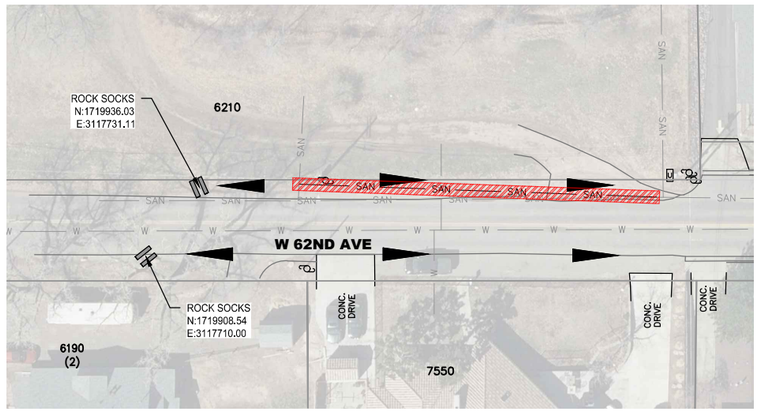
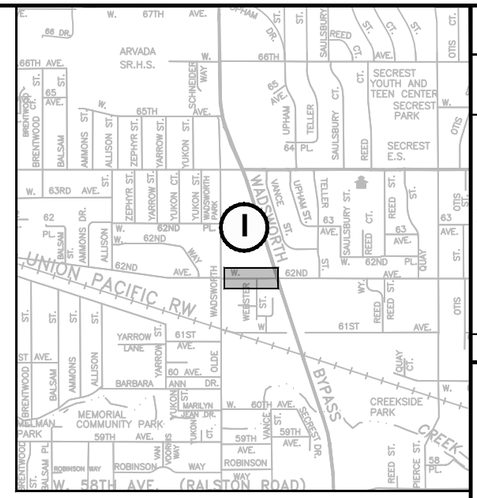


PLAN - AREA I
W 62ND AVE & WEBSTER ST



PLAN - AREA I
W 62ND AVE & WEBSTER ST



KEY MAP
SCALE: N.T.S.

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LEGEND

- FLOW ARROWS
- ROCK SOCKS
- LIMITS OF DISTURBANCE /CONSTRUCTION –TOTAL PROJECT ACRE = 0.17
- INLET PROTECTION

0’ 30’ 60’ 120’

SCALE: 1”=60’

APPROVED:

City Engineer | 2/4/2026 Date | 26SR01 Job Number

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Public Works Department
Engineering Division
8101 Ralston Road
Arvada, Colorado 80002
Phone 720-898-7640

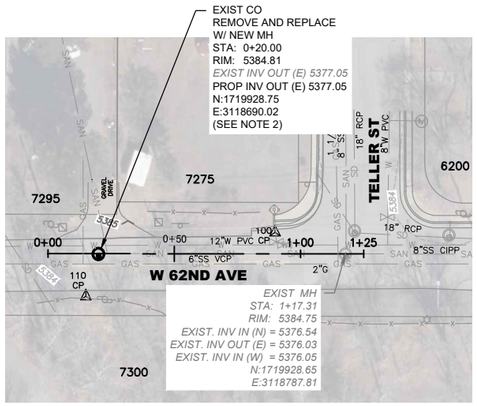
CITY OF ARVADA

PROJECT NO. 26-SR-01
OPEN CUT SEWER IMPROVEMENTS
W 62ND AVE & WEBSTER ST
EROSION CONTROL

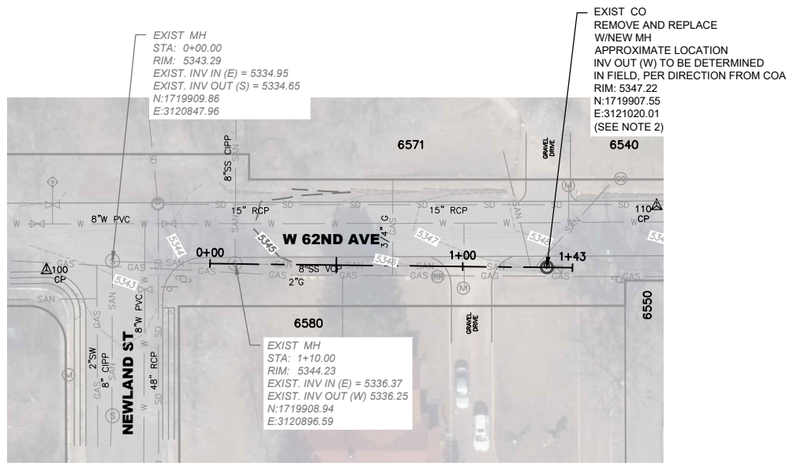
ENGINEER
KS
CHECKED BY
CM
DESIGN BY
AS

SHT **EC-6**

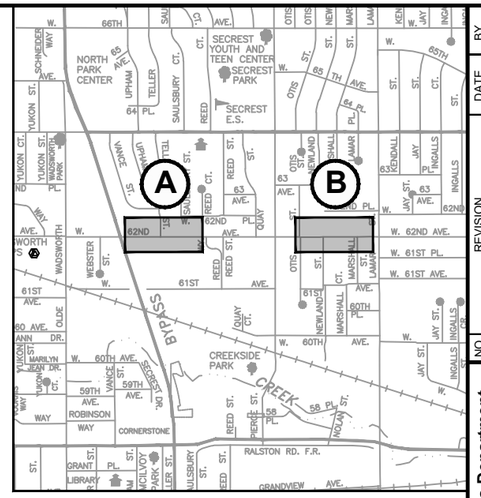
G:\PROJECTS\SEWER\26SR01-Open Cut Sewer Improvements\CAD\Erosion Control\1 - 62nd Ave. & Webster St.dwg, Plot Date: 1/30/2026



PLAN - AREA A
W 62ND AVE & TELLER ST



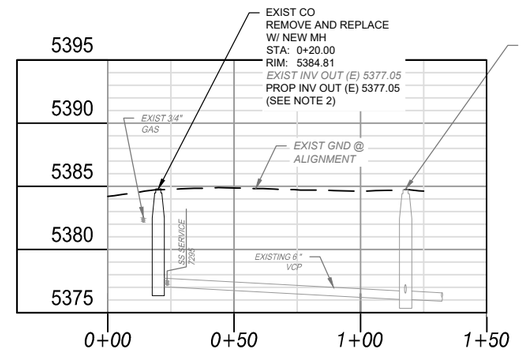
PLAN - AREA B
W 62ND AVE & NEWLAND ST



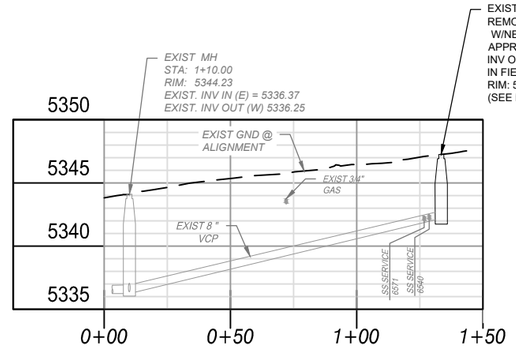
KEY MAP
SCALE: N.T.S.

NOTES:

1. ALL LOCATIONS AND DEPTHS OF UTILITIES SHALL BE FIELD VERIFIED.
2. PROTECT IN PLACE EXISTING SANITARY SEWER SERVICE LINES. ANY MANHOLE ADJUSTMENT TO BE DETERMINED IN THE FIELD PER DIRECTION FROM CITY OF ARVADA.



PROFILE - AREA A



PROFILE - AREA B

Survey Control Points
Colorado Central State Plane
NAVD88, Geoid 18
US Ft.

Point #	Northing	Easting	Elevation	Description
100	1719937.37	3118759.94	5384.60	CP
110	1719912.06	3118685.08	5384.92	CP

Survey Control Points
Colorado Central State Plane
NAVD88, Geoid 18
US Ft.

Point #	Northing	Easting	Elevation	Description
100	1719906.49	3102261.69	5542.44	CP
110	1719931.84	3102528.52	5549.10	CP

0' 30' 60' 120'

SCALE: 1"=60'

APPROVED:

City Engineer — Date: 2/4/2026 — Job Number: 26SR01

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NO.	REVISION	DATE	BY
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Public Works Department
Engineering Division
8101 Ralston Road
Arvada, Colorado 80002
Phone 720-898-7640

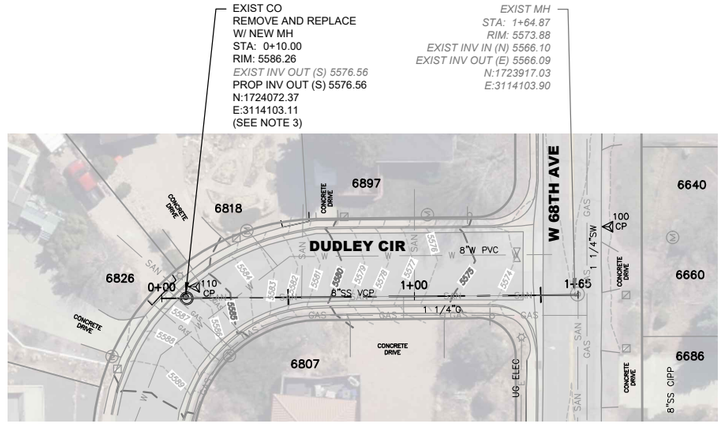
CITY OF ARVADA

PROJECT NO. 26-SR-01
OPEN CUT SEWER IMPROVEMENTS
W 62ND AVE & TELLER ST
W 62ND AVE & NEWLAND ST
PLAN & PROFILE

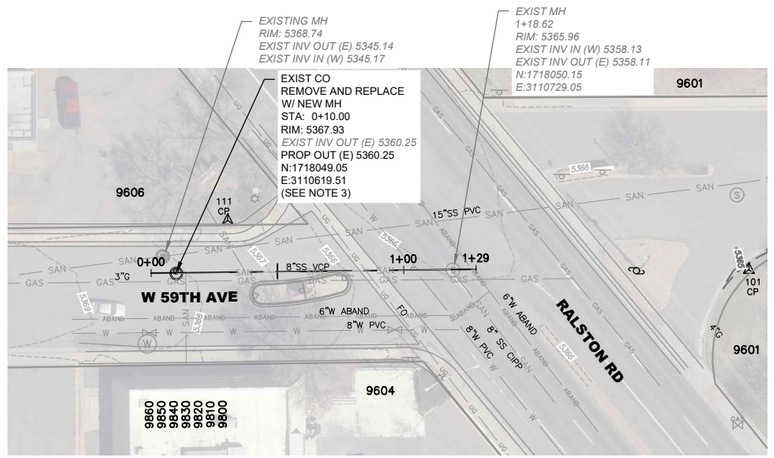
ENGINEER
KS
CHECKED BY
CM
DESIGN BY
AS

SHT 1

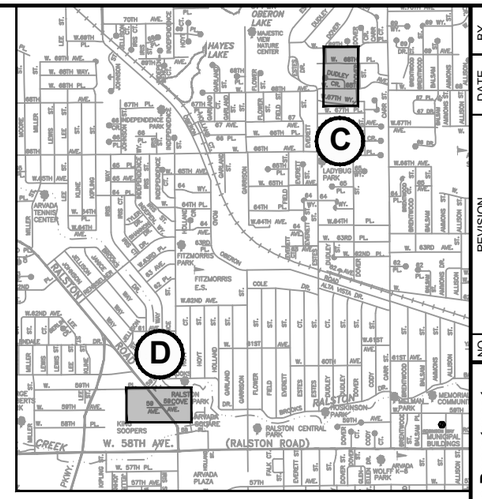
G:\PROJECTS\SEWER\26SR01-Open Cut Sewer Improvements\CAD\100% - Bid Set\AREA A & B\26SR01-SAN 7275 W 62nd.dwg - SAN 62nd & Newland.dwg , Plot Date: 2/3/2026



PLAN - AREA C
DUDLEY CIRCLE & W 68TH AVE



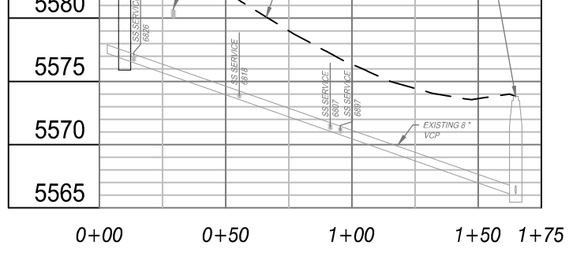
PLAN - AREA D
W 59TH AVE & RALSTON RD



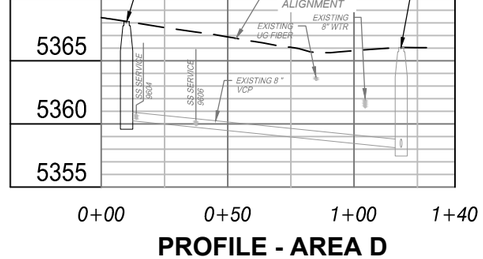
KEY MAP
SCALE: N.T.S.

NOTES:

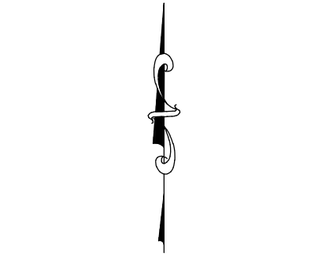
1. ALL LOCATIONS AND DEPTHS OF UTILITIES SHALL BE FIELD VERIFIED.
2. RECONNECT ALL SERVICE LINES TO NEW SANITARY SEWER MAIN.
3. PROTECT IN PLACE EXISTING SANITARY SEWER SERVICE LINES. ANY MANHOLE ADJUSTMENT TO BE DETERMINED IN THE FIELD PER DIRECTION FROM CITY OF ARVADA.



PROFILE - AREA C

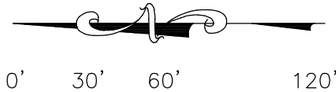


PROFILE - AREA D



0' 30' 60' 120'

SCALE: 1"=60'



0' 30' 60' 120'

SCALE: 1"=60'

Survey Control Points
Colorado Central State Plane
NAVD88, Geoid 18
US Ft.

Point #	Northing	Easting	Elevation	Description
100	1723904.78	3114130.90	5573.05	CP
110	1724068.39	3114107.14	5585.78	CP

Survey Control Points
Colorado Central State Plane
NAVD88, Geoid 18
US Ft.

Point #	Northing	Easting	Elevation	Description
101	1718050.26	3110846.11	5365.55	CP
111	1718069.77	3110639.89	5367.84	CP

APPROVED:

City Engineer — Date: 2/4/2026 — Job Number: 26SR01

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NO.	REVISION	DATE	BY
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Public Works Department
Engineering Division
8101 Ralston Road
Arvada, Colorado 80002
Phone 720-898-7640

CITY OF ARVADA

PROJECT NO. 26-SR-01
OPEN CUT SEWER IMPROVEMENTS
DUDLEY CIRCLE & W 68TH AVE
W 59TH AVE & RALSTON RD
PLAN & PROFILE

ENGINEER KS
CHECKED BY CM
DESIGN BY AS

SHT **2**

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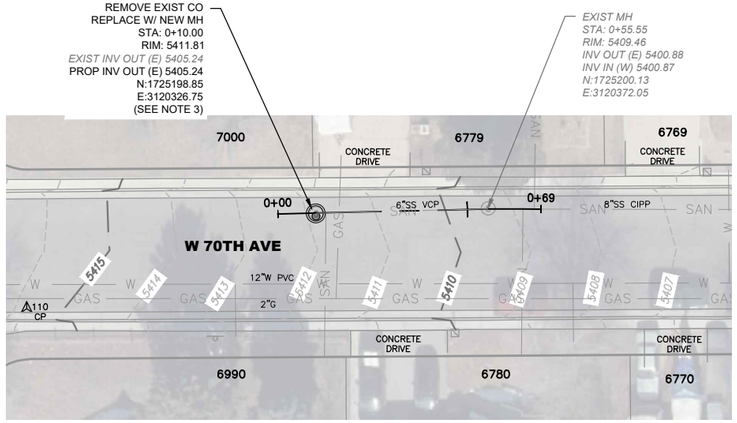
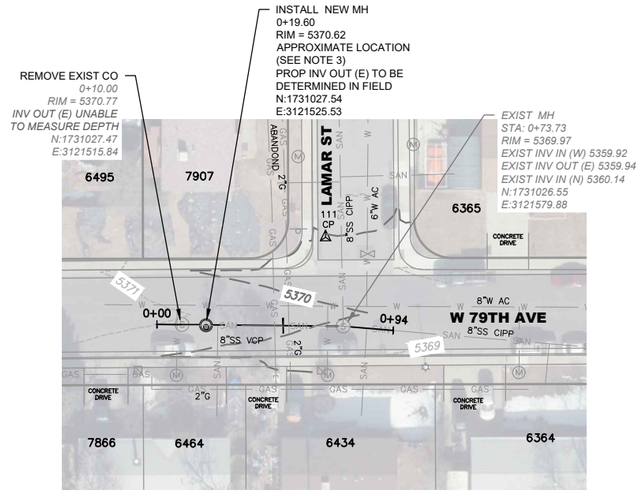
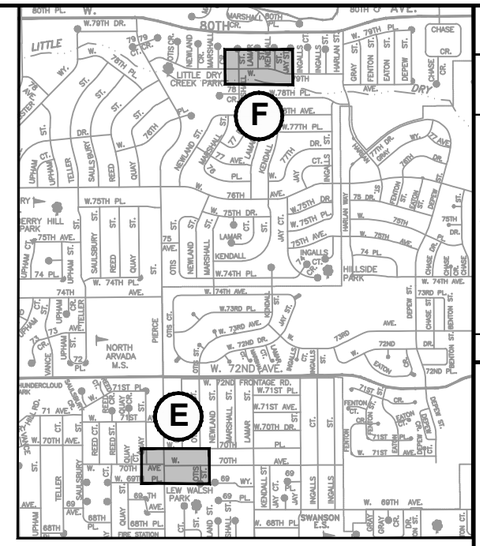


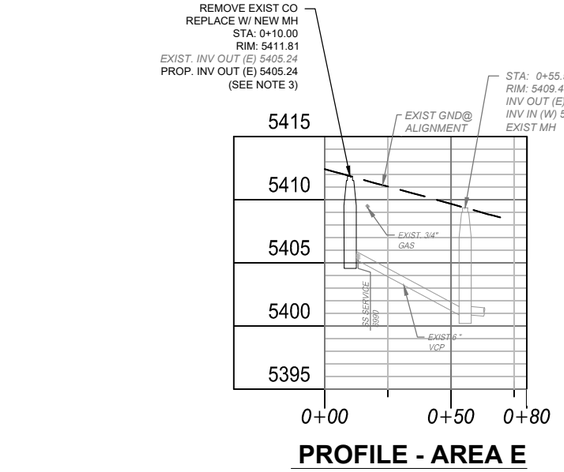
PLAN - AREA E
W 70TH AVE & PIERCE ST



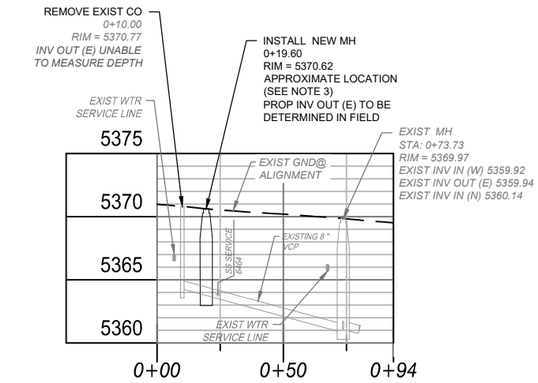
PLAN - AREA F
W 79TH AVE & LAMAR ST



KEY MAP
SCALE: N.T.S.



PROFILE - AREA E



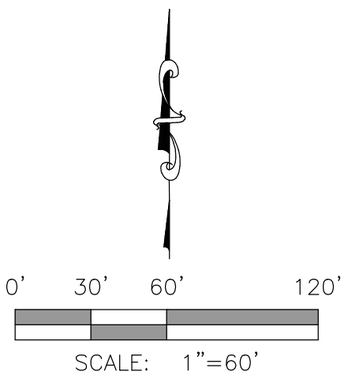
PROFILE - AREA F

Survey Control Points Colorado Central State Plane NAVD88, Geoid 18 US Ft.				
Point #	Northing	Easting	Elevation	Description
110	1725173.71	3120250.32	5415.58	CP

Survey Control Points Colorado Central State Plane NAVD88, Geoid 18 US Ft.				
Point #	Northing	Easting	Elevation	Description
111	1731062.13	3121572.68	5369.95	CP

NOTES:

1. ALL LOCATIONS AND DEPTHS OF UTILITIES SHALL BE FIELD VERIFIED.
2. PROTECT IN PLACE EXISTING SANITARY SEWER SERVICE LINES. ANY MANHOLE ADJUSTMENT TO BE DETERMINED IN THE FIELD PER DIRECTION FROM THE CITY OF ARVADA.
3. PROTECT IN PLACE EXISTING WATER SERVICE LINE. MANHOLE ADJUSTMENT TO BE DETERMINED IN FIELD PER DIRECTION FROM THE CITY OF ARVADA TO MAINTAIN A MINIMUM OFFSET OF 6 FEET FROM WATER SERVICE LINE. REMOVE ANY EXISTING 6 INCH VITRIFIED CLAY PIPE TO MAINTAIN OFFSET.



APPROVED:

City Engineer | Date: 2/4/2026 | Job Number: 26SR01

Review is for general compliance with the City of Arvada "Engineering Code of Standards and Specifications for the Design and Construction of Public Improvements", latest edition. Sole responsibility for completeness and/or accuracy of these Documents shall remain with the Registered Professional Engineer sealing these plans. The City does not accept liability for facilities designed by others.

NO.	REVISION	DATE	BY
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Public Works Department
Engineering Division
8101 Ralston Road
Arvada, Colorado 80002
Phone 720-898-7640

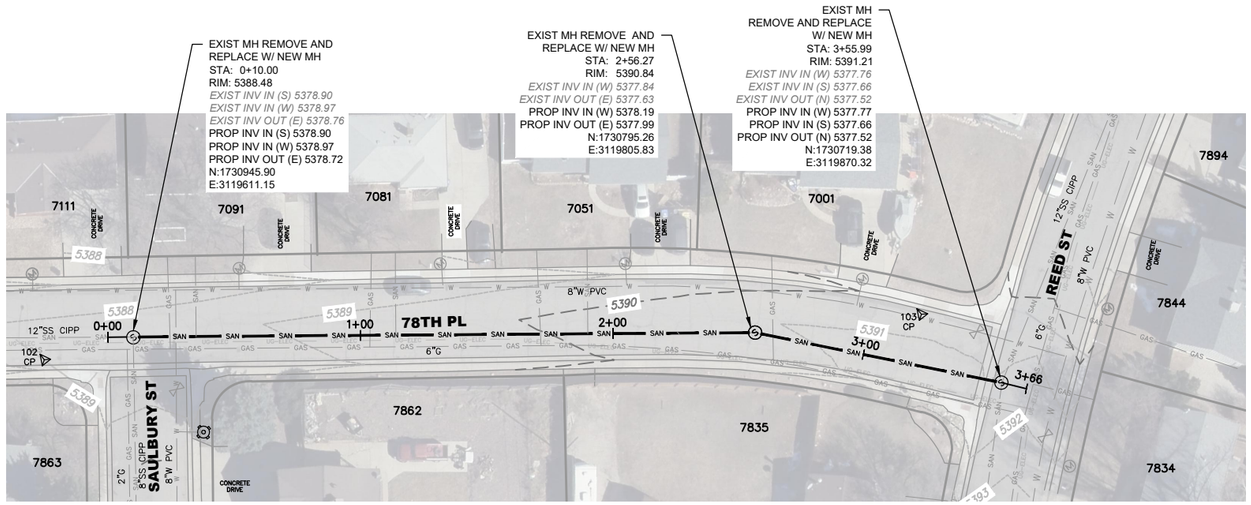
CITY OF ARVADA

PROJECT NO. 26-SR-01
OPEN CUT SEWER IMPROVEMENTS
W 70TH AVE & PIERCE ST
W 79TH AVE & LAMAR ST
PLAN & PROFILE

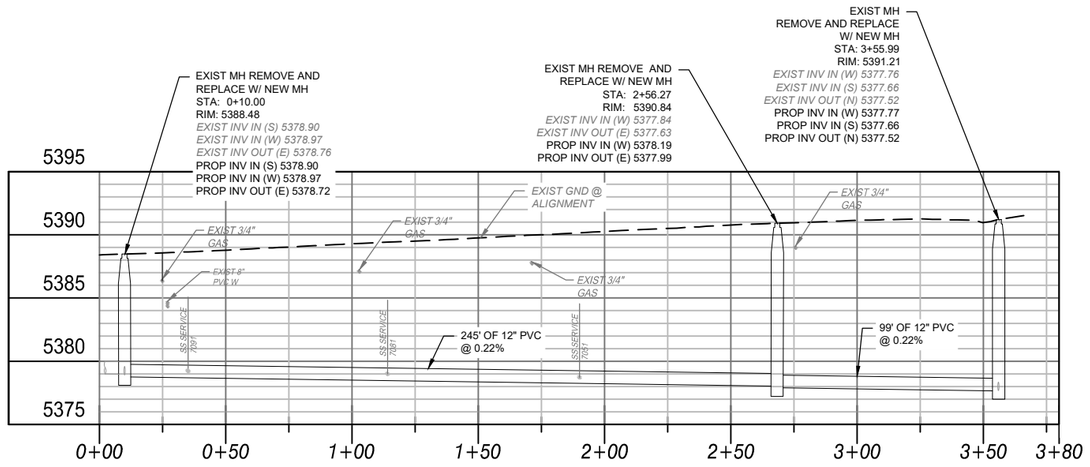
ENGINEER
KS
CHECKED BY
CM
DESIGN BY
AS

SHT **3**

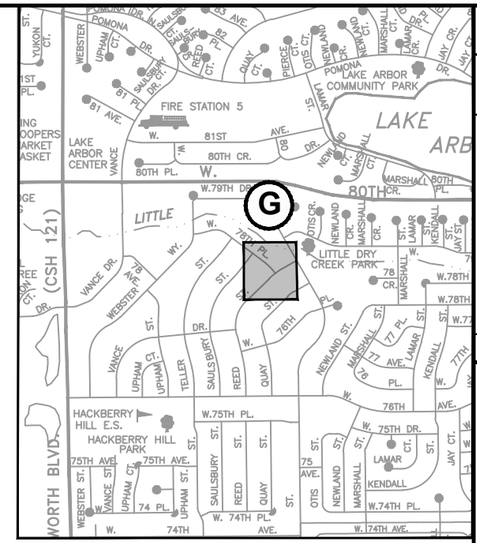
G:\PROJECTS\SEWER\26SR01-Open Cut Sewer Improvements\CAD\100% - Bid Set\AREA E & F\26SR01 - SAN 6779 W 70th Ave.dwg - W 79TH And Lamar St.dwg , Plot Date: 02/04/2026



PLAN - AREA G
W 78TH PL & REED ST



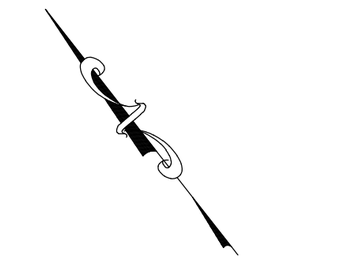
PROFILE - AREA G



KEY MAP
SCALE: N.T.S.

NOTES:

1. ALL LOCATIONS AND DEPTHS OF UTILITIES SHALL BE FIELD VERIFIED.
2. RECONNECT ALL SERVICE LINES TO NEW SANITARY SEWER MAIN.



0' 30' 60' 120'

SCALE: 1"=60'

Survey Control Points *Colorado Central State Plane* *NAVD88, Geoid 18* *US Ft.*				
Point #	*Northing*	*Easting*	*Elevation*	*Description*
102	*1730960.73*	*3119577.91*	*5388.29*	*CP*
103	*1730760.31*	*3119862.05*	*5390.53*	*CP*

APPROVED:

City Engineer — Date: 2/4/2026 — Job Number: 26SR01

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Public Works Department
Engineering Division
8101 Ralston Road
Arvada, Colorado 80002
Phone 720-898-7640

CITY OF ARVADA

PROJECT NO. 26-SR-01
OPEN CUT SEWER IMPROVEMENTS
W 79TH PL & REED ST
PLAN & PROFILE

ENGINEER
KS
CHECKED BY
CM
DESIGN BY
AS

SHT **4**

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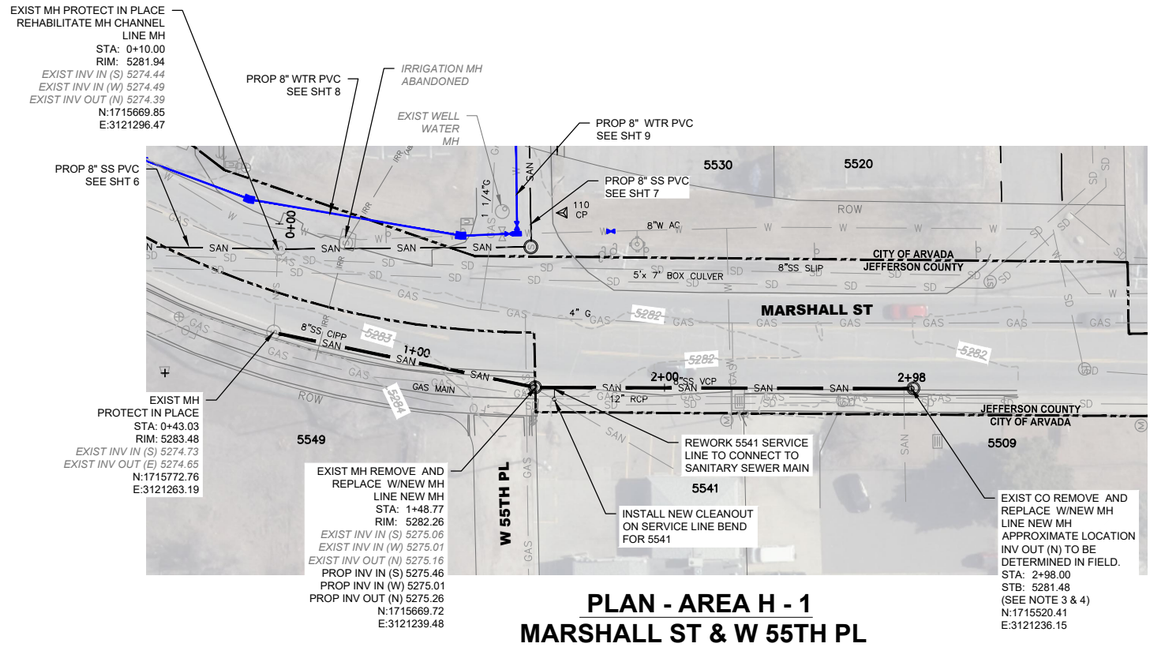
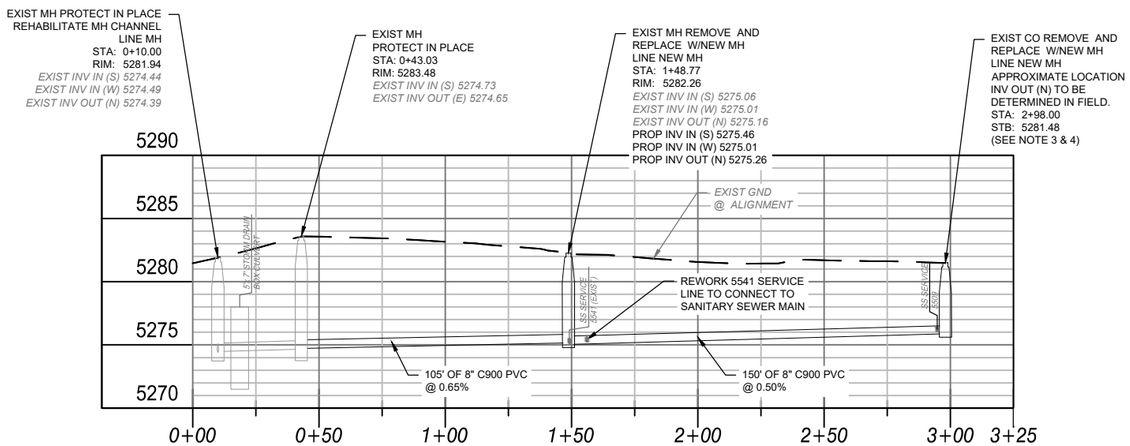
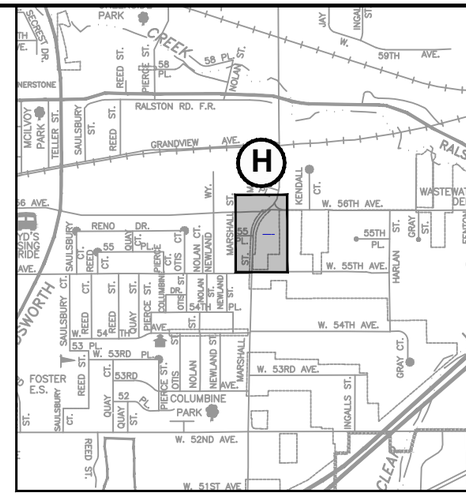


PLAN - AREA H - 1
MARSHALL ST & W 55TH PL
MARXHALL ST & PRIVATE DR



PROFILE - AREA H - 1



KEY MAP
SCALE: N.T.S.

NOTES:

1. ALL LOCATIONS AND DEPTHS OF UTILITIES SHALL BE FIELD VERIFIED.
2. RECONNECT ALL SERVICE LINES TO NEW SANITARY SEWER MAIN.
3. INVERT ELEVATION TO BE DETERMINED IN FIELD PER DIRECTION FROM THE CITY OF ARVADA TO MAINTAIN PIPE AT MINIMUM 0.5% GRADE.
4. PROTECT IN PLACE EXISTING SANITARY SEWER SERVICE LINES.

Survey Control Points
Colorado Central State Plane
NAVD88, Geoid 18
US Ft.

Point #	Northing	Easting	Elevation	Description
110	1715657.23	3122108.40	5281.49	CP

0' 30' 60' 120'

SCALE: 1"=60'

APPROVED:

City Engineer — Date: 2/4/2026 — Job Number: 26SR01

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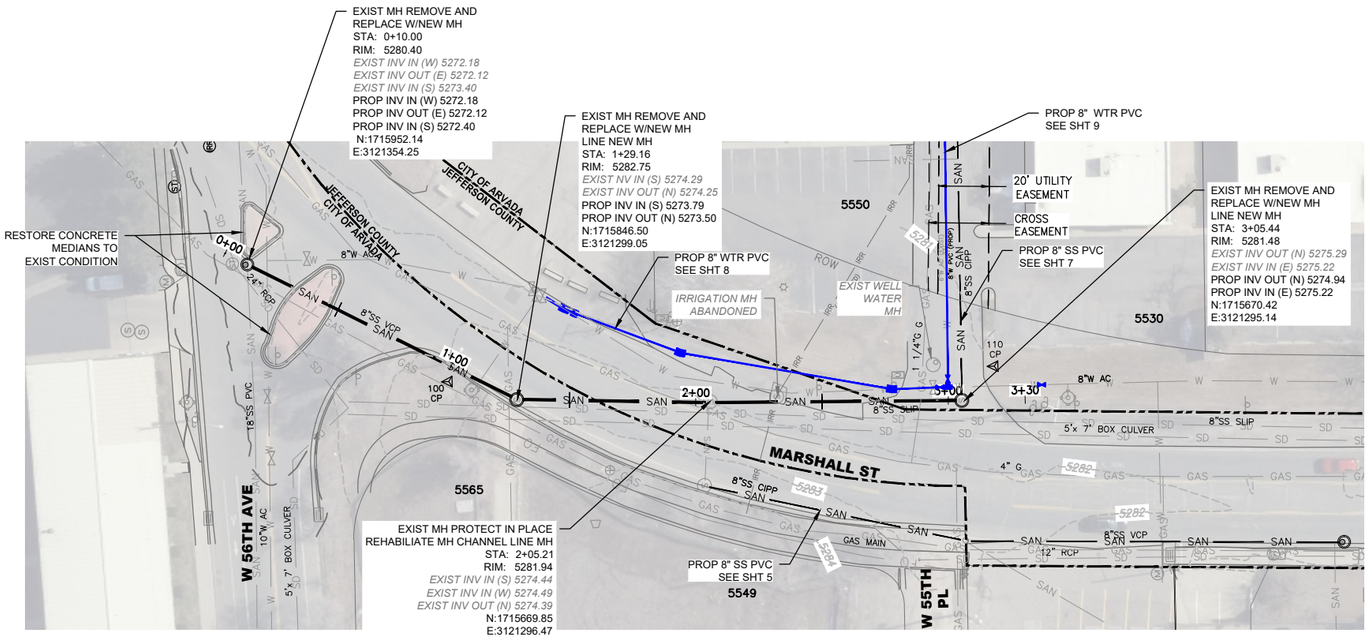
CITY OF ARVADA

PROJECT NO. 26-SR-01
OPEN CUT SEWER IMPROVEMENTS
MARSHALL ST & W 55TH PL
MARSHALL ST & PRIVATE DR
PLAN & PROFILE

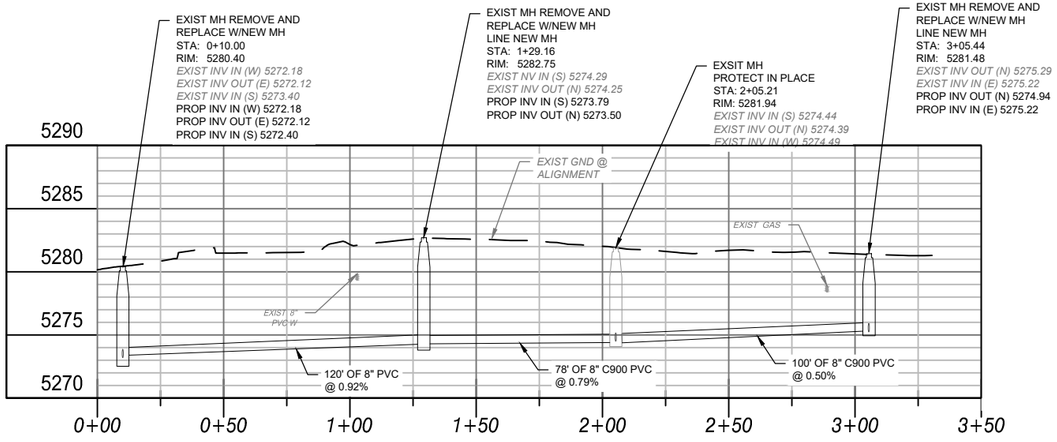
ENGINEER
KS
CHECKED BY
CM
DESIGN BY
AS

SHT **5**

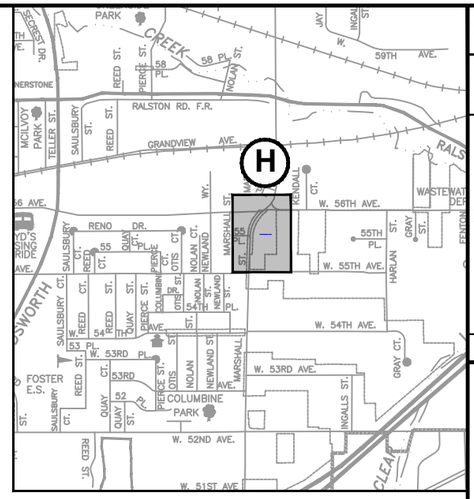
G:\PROJECTS\SEWER\26SR01-Open Cut Sewer Improvements\CAD\100% - Bid Set\AREA H\26SR01 - 56th & Marshal St.dwg , Plot Date: 2/3/2026



PLAN - AREA H - 2
MARSHALL ST & W 55TH PL
MARSHALL ST & PRIVATE DR



PROFILE - AREA H - 2



KEY MAP
SCALE: N.T.S.

NOTES:

1. ALL LOCATIONS AND DEPTHS OF UTILITIES SHALL BE FIELD VERIFIED.
2. RECONNECT ALL SERVICE LINES TO NEW SANITARY SEWER MAIN.

Survey Control Points
Colorado Central State Plane
NAVD88, Geoid 18
US Ft.

Point #	Northing	Easting	Elevation	Description
100	1715873.37	3121306.46	5282.65	CP
110	1715657.23	3122108.40	5281.49	CP

0' 30' 60' 120'

SCALE: 1"=60'

APPROVED:

City Engineer — Date: 2/4/2026 — Job Number: 26SR01

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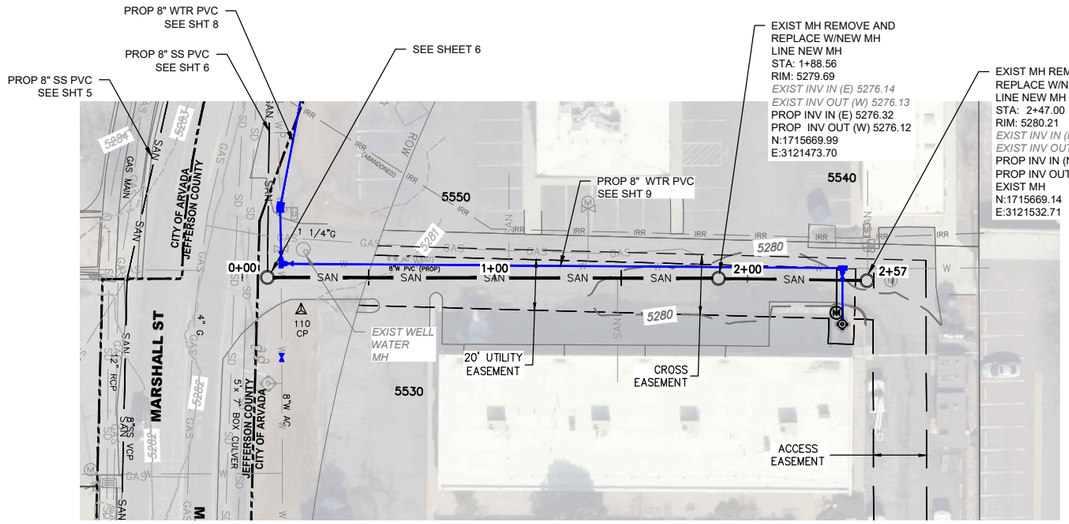
CITY OF ARVADA

PROJECT NO. 26-SR-01
OPEN CUT SEWER IMPROVEMENTS
MARSHALL ST & W 55TH PL
MARSHALL ST & PRIVATE DR
PLAN & PROFILE

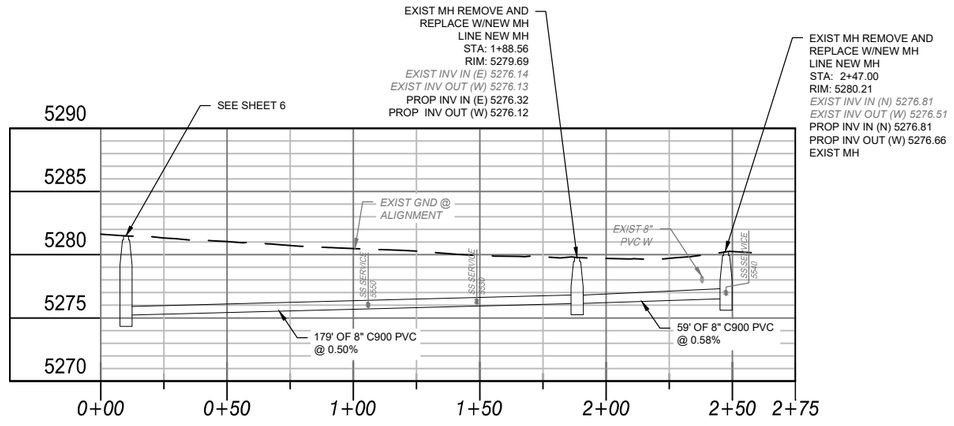
ENGINEER
KS
CHECKED BY
CM
DESIGN BY
AS

SHT **6**

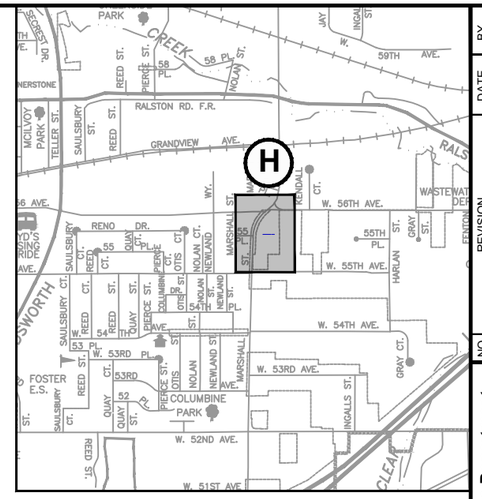
G:\PROJECTS\SEWER\26SR01-Open Cut Sewer Improvements\CAD\100% - Bid Set\AREA H\26SR01 - 56th & Marshal St.dwg , Plot Date: 1/30/2026



PLAN - AREA H - 3
MARSHALL ST & W 55TH PL
MARSHALL ST & PRIVATE DR



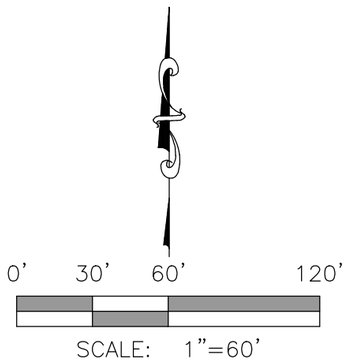
PROFILE - AREA H - 3



KEY MAP
SCALE: N.T.S.

NOTES:

1. ALL LOCATIONS AND DEPTHS OF UTILITIES SHALL BE FIELD VERIFIED.
2. RECONNECT ALL SERVICE LINES TO NEW SANITARY SEWER MAIN.
3. CONSTRUCTION AREA TO BE LIMITED TO EXISTING EASEMENTS AND/OR THOSE AGREED UPON BY THE CITY AND OWNER.



SCALE: 1"=60'

Survey Control Points
Colorado Central State Plane
NAVD88, Geoid 18
US Ft.

Point #	Northing	Easting	Elevation	Description
110	1715657.23	3122108.40	5281.49	CP

APPROVED:

City Engineer — Date: 2/4/2026 — Job Number: 26SR01

Review is for general compliance with the City of Arvada "Engineering Code of Standards and Specifications for the Design and Construction of Public Improvements", latest edition. Sole responsibility for completeness and/or accuracy of these Documents shall remain with the Registered Professional Engineer sealing these plans. The City does not accept liability for facilities designed by others.

NO.	REVISION	DATE	BY
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3			
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Public Works Department
Engineering Division
8101 Ralston Road
Arvada, Colorado 80002
Phone 720-898-7640

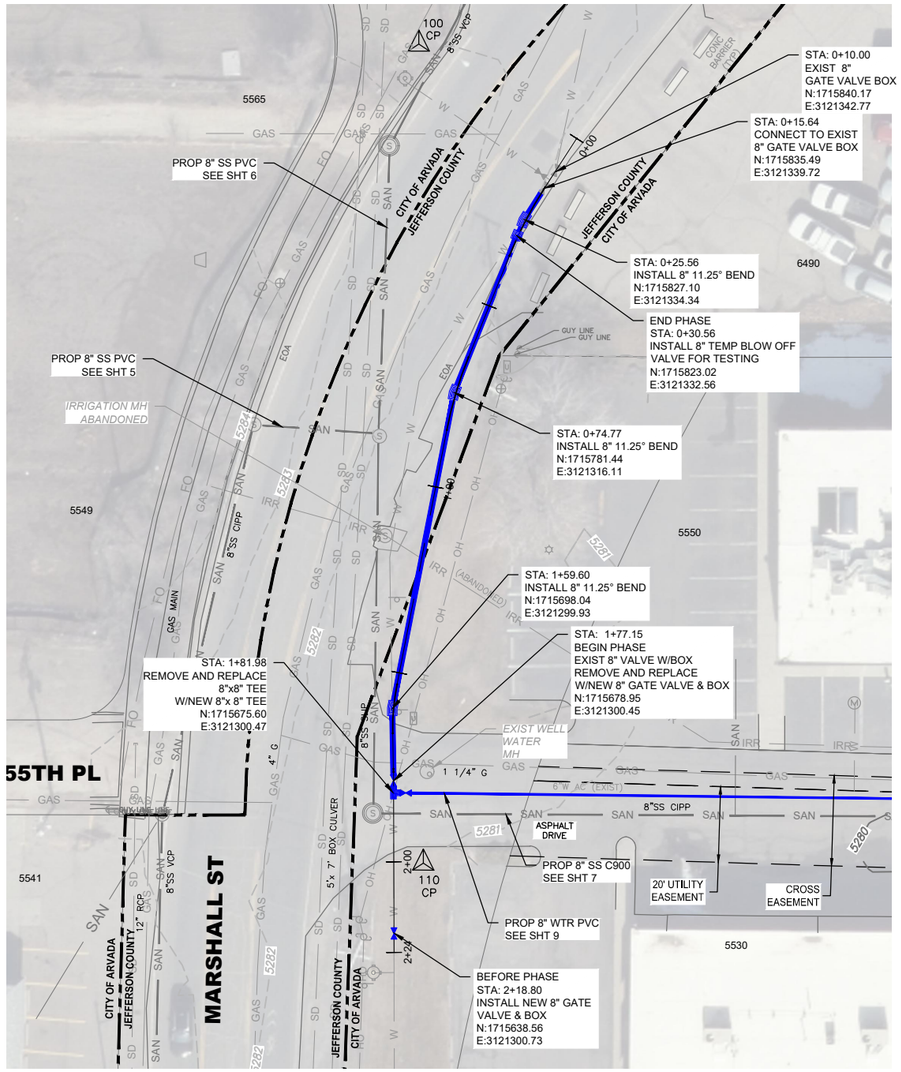
CITY OF ARVADA

PROJECT NO. 26-SR-01
OPEN CUT SEWER IMPROVEMENTS
MARSHALL ST & W 55TH PL
MARSHALL ST & PRIVATE DRIVE
PLAN & PROFILE

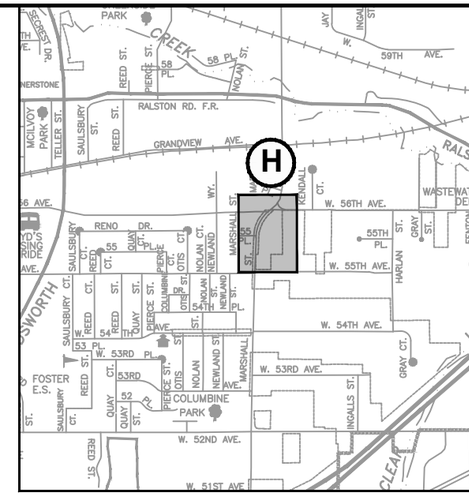
ENGINEER
KS
CHECKED BY
CM
DESIGN BY
AS

SHT 7

G:\PROJECTS\SEWER\26SR01-Open Cut Sewer Improvements\CAD\100% - Bid Set\AREA H\26SR01 - 56th & Marshal St.dwg , Plot Date: 1/30/2026



WATER MAIN PLAN
MARSHALL ST & W 55TH PL
MARSHALL & PRIVATE DR



KEY MAP
SCALE: N.T.S.

NOTES:

1. ALL LOCATIONS AND DEPTHS OF UTILITIES SHALL BE FIELD VERIFIED.
2. ENSURE PROPER SEPARATION FROM EXISTING UNDERGROUND UTILITIES AS LOCATED IN THE FIELD.
3. FROM STA 0+16.00 TO 1+59.60, EXISTING AC MAIN TO BE ABANDONED.
4. ENSURE PROTECTION AND SUPPORT FOR EXISTING UTILITY POLES.
5. FROM STA 0+15.00 TO 0+30.00, EXISTING AC TO BE REMOVED AND REPLACED WITH 8" PVC.
6. FROM STA 1+60.00 TO 2+37.72, EXISTING AC TO BE REMOVED AND REPLACED WITH 8" PVC.
7. TEMPORARY WATER SERVICE TO BE PROVIDED TO 5550, 5560 AND 5530.

Survey Control Points
Colorado Central State Plane
NAVD88, Geoid 18
US Ft.

Point #	Northing	Easting	Elevation	Description
100	1715873.37	3121306.46	5282.65	CP
110	1715657.23	3122108.40	5281.49	CP

0’ 20’ 40’ 80’
SCALE: 1”=40’

APPROVED:

City Engineer — Date: 2/4/2026 — Job Number: 26SR01

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Public Works Department
Engineering Division
8101 Ralston Road
Arvada, Colorado 80002
Phone 720-898-7640

CITY OF ARVADA

PROJECT NO. 26-SR-01
OPEN CUT SEWER IMPROVEMENTS
MARSHALL ST & W 55TH PL
MARSHALL ST & PRIVATE DR
PLAN

ENGINEER
KS
CHECKED BY
CM
DESIGN BY
AS

SHT **8**

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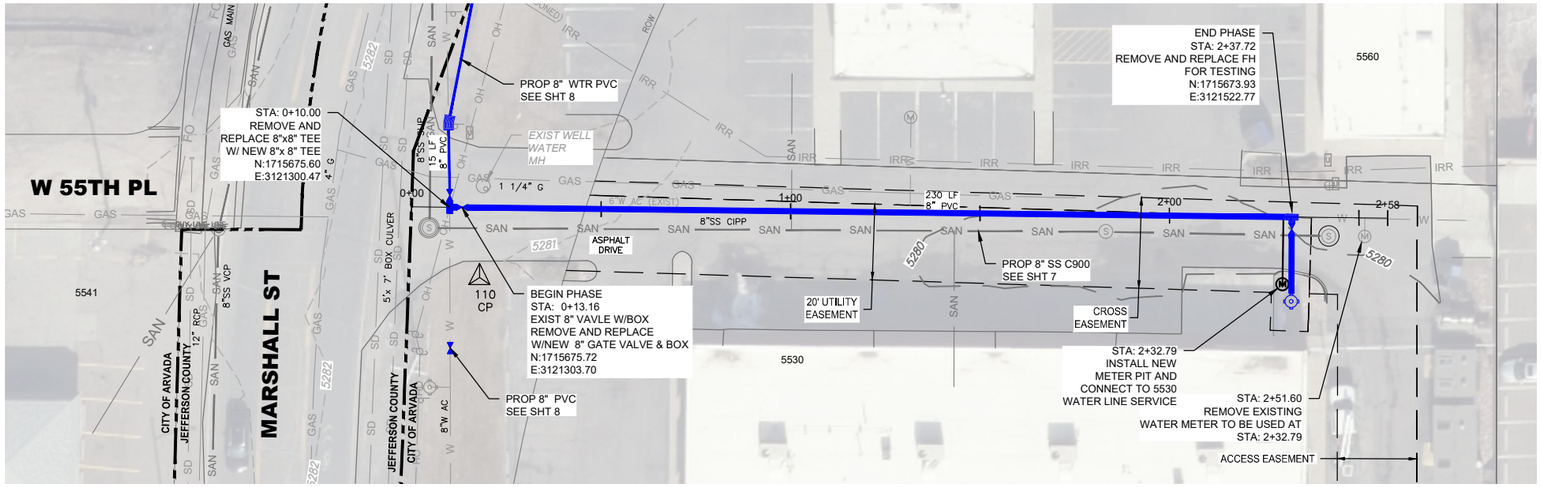
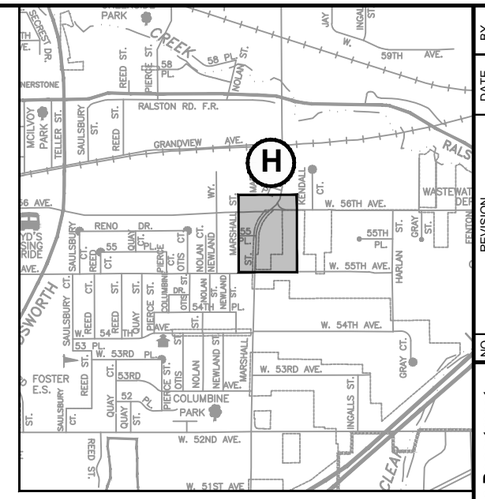


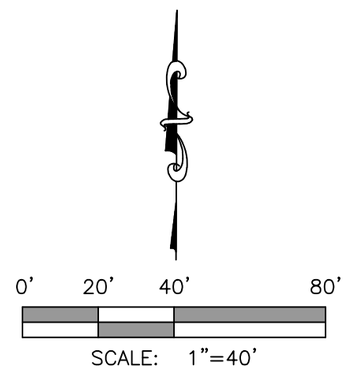
WATER MAIN PLAN
MARSHALL ST & W 55TH PL
MARSHALL ST & PRIVATE DR



KEY MAP
SCALE: N.T.S.

NOTES:

1. ALL LOCATIONS AND DEPTHS OF UTILITIES SHALL BE FIELD VERIFIED.
2. ENSURE PROPER SEPARATION FROM EXISTING UNDERGROUND UTILITIES AS LOCATED IN THE FIELD.
3. TEMPORARY WATER SERVICE TO BE PROVIDED TO 5550, 5560 AND 5530.
4. FROM STA 0+13.00 TO 2+37.00 WATERLINE SHALL BE CONSTRUCTED WITHIN EASEMENT AND/OR THOSE AGREED UPON BY THE CITY/CONTRACTOR AND OWNER.
5. EXISTING AC WATERLINE TO BE REMOVED AND REPLACED WITH 8 INCH PVC.



Survey Control Points
Colorado Central State Plane
NAVD88, Geoid 18
US Ft.

Point #	*Northing*	*Easting*	*Elevation*	*Description*
100	*1715873.37*	*3121306.46*	*5282.65*	*CP*
110	*1715657.23*	*3122108.40*	*5281.49*	*CP*

APPROVED:

City Engineer	Date	Job Number
	2/4/2026	26SR01

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Public Works Department
Engineering Division
8101 Ralston Road
Arvada, Colorado 80002
Phone 720-898-7640

CITY OF ARVADA

PROJECT NO. 26-SR-01
OPEN CUT SEWER IMPROVEMENTS
MARSHALL ST & W 55TH PL
MARSHALL ST & PRIVATE DR
PLAN

ENGINEER
KS
CHECKED BY
CM
DESIGN BY
AS

SHT **9**

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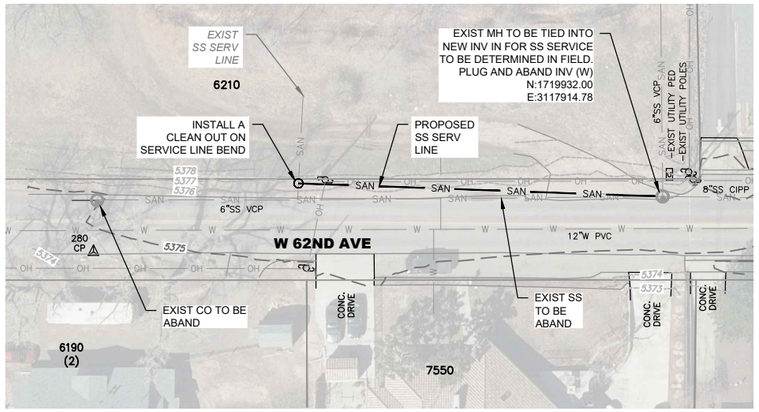
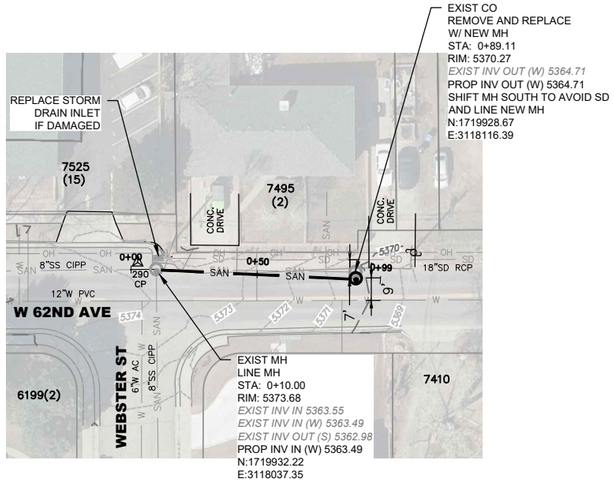
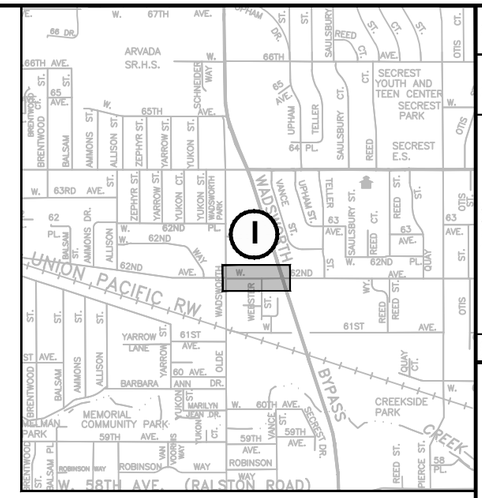


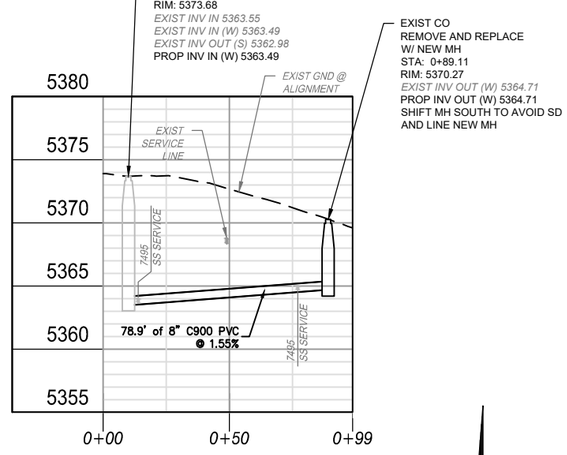
PLAN
W 62ND AVE & WEBSTER ST



PLAN
W 62ND AVE & WEBSTER ST



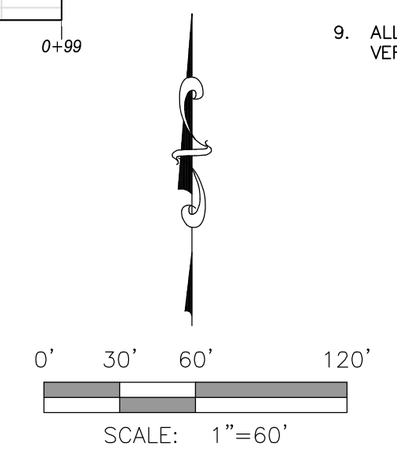
KEY MAP
SCALE: N.T.S.



PROFILE

Survey Control Points
Colorado Central State Plane
NAVD88, Geoid 18
US Ft.

Point #	Northing	Easting	Elevation	Description
280	1719910.080	3117689.460	5374.576	CP
290	1719934.921	3118029.030	5373.795	CP



SCALE: 1"=60'

NOTE:

1. STA: 0+10.00 ON PLAN 1, CONNECT TO EXISTING MAINTENANCE HOLE.
2. STA: 0+10.00 ON PLAN 1, REPLACE STORM DRAIN INLET IF DAMAGED.
3. STA: 0+10.00 TO 0+89.11 ON PLAN 1, USE PRESSURE PIPE C900.
4. STA: 0+89.11 ON PLAN 1, REPLACE CLEAN OUT WITH NEW MAINTENANCE HOLE. NEW MAINTENANCE WILL BE SHIFTED 2 FEET SOUTH FROM EXISTING CLEAN OUT TO ENSURE ADEQUATE SPACE FOR EXCAVATION NEAR STORM DRAIN.
5. STA 0+89.11 ON PLAN 1, NEW MAINTENANCE HOLE TO BE LINED.
6. PLAN 2, ENSURE PROTECTION AND SUPPORT FOR EXISTING UTILITY POLES.
7. PLAN 2, CONNECT EXISTING SANITARY SEWER SERVICE LINE TO EXISTING MAINTENANCE HOLE.
8. PLAN 2, ABANDON EXISTING CLEAN OUT AND SANITARY SEGMENT.
9. ALL LOCATIONS AND DEPTHS OF UTILITIES SHALL BE FIELD VERIFIED.

APPROVED:

City Engineer | Date: 2/4/2026 | Job Number: 26SR01

Review is for general compliance with the City of Arvada "Engineering Code of Standards and Specifications for the Design and Construction of Public Improvements", latest edition. Sole responsibility for completeness and/or accuracy of these Documents shall remain with the Registered Professional Engineer sealing these plans. The City does not accept liability for facilities designed by others.

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Public Works Department
Engineering Division
8101 Ralston Road
Arvada, Colorado 80002
Phone 720-898-7640

CITY OF ARVADA

PROJECT NO. 26-SR-01
OPEN CUT SEWER IMPROVEMENTS
W 62ND AVE & WEBSTER ST
PLAN & PROFILE

ENGINEER KS
CHECKED BY KB
DESIGN BY AS

SHT **10**

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CITY OF ARVADA
PURCHASING DIVISION
FACSIMILE: 720-898-7098 ▲ TDD: 720-898-7869
PHONE: 720-898-7099

COMPETITIVE SEALED BID- ADDENDUM No. 1

CSB #:	**26-ENG-011**
Title:	**2026 Sanitary Sewer Open Cut Construction Services 26-SR-01**
CSB Issued:	02/12/2026
Addendum #:	**1**
Today's Date:	3/3/2026
Bids Due By:	**03/12/2026 2:00 PM** MDT (NO CHANGE)
Questions Deadline:	02/25/2026 **2:00 PM** MDT (NO CHANGE) Questions are no longer being accepted

Solicitation and all related addenda and communications are available at WWW.BIDNETDIRECT.COM

The following answers to the questions received and clarifications are provided to be incorporated into the CSB #:26-ENG-011. All other information shall remain unchanged.

1. **Questions/Answers:**
   Q1: What is the warranty period for this project?
   A1: The warranty period for this project is 2 years, in accordance with the requirements of Section 224.00 of the Engineering Code of Standards and Specifications.

2. The following are clarifications to questions and topics that came up during the pre-bid meeting:
   a. Thickness of asphalt for patching: Asphalt patching thickness will be per the Minimum Pavement Sections table provided in Section 728.04.05 of the Engineering Code of Standards and Specifications.
   b. Will a dump site be provided by the City? The city will not provide a specified dump site for project waste. The contractor is responsible for disposal of materials.
   c. Communications with homeowners: The City will provide initial communication to homeowners within the work areas. For interruption of water or sewer service, the Contractor must hand deliver a notice to each affected customer 48 hours prior to performing the work in accordance with Section 421.04 and 146.00 of the Engineering Code of Standards and Specifications.
   d. Traffic control: Automated Flagger Assistance Devices (AFADs) are not allowed for temporary traffic control. Refer to Section 149.00 of the Engineering Code of Standards and Specifications for traffic control requirements.
   e. Native materials: Native materials will not be considered suitable for trench backfill. Reference section 2.19 of the Special Provisions in the CSB.

CITY OF ARVADA
PURCHASING DIVISION
FACSIMILE: 720-898-7098 ▲ TDD: 720-898-7869
PHONE: 720-898-7099

f. Testing requirements Materials testing and bacteriological testing will be provided by the City. The Contractor is responsible for disinfection, pressure testing, and flushing per Section 421.13 of the Engineering Code of Standards and Specifications. Contractor is responsible to perform sewer testing outlined in Section 524.00 - Testing and Inspection of the Engineering Code of Standards and Specifications. Vacuum testing for new manholes is not planned, but the City reserves the right to require a vacuum test should specific scenarios arise (Section 524.02).
g. Landscape restoration: Landscaping restoration requirements vary by location and are defined in each landscape restoration pay item in the CSB document.
h. Flow Rates for bypass pump: Reference sections 2.27.1 and 2.27.2 of the Special Provisions in the CSB for bypass pumping requirements.
i. Ground water: Significant groundwater is not anticipated to be encountered in excavations.
j. Geotech report: There is no project specific geotechnical report available.
k. Existing utilities are hard to determine on the provided drawings, can color coded ones be provided in an addendum? Drawings with color coded existing utility linework will not be provided.
l. Marshall St. curb and gutter to be replaced? Concrete curb and gutter that is disturbed in Area H (Marshall St) are to be replaced. Reference the bid schedule for the anticipated quantity.
m. Work hours: Reference section 2.07 of the Special Provisions in the CSB for work hour requirements.
n. Erosion control inspections: During construction, the site may be inspected by a Qualified Stormwater Inspector. Contractor will be responsible for ensuring safe access to the site for the inspections and for responding promptly to any corrective actions required by the inspector.
o. How are stockpiles and staging areas to be noted? Construction Material Stockpile requirements are defined in Section 2.20 of the Special Provisions in the CSB.

ATTACHMENTS:

- Pre-bid Meeting Agenda
- Pre-bid Meeting Attendees List

CITY OF ARVADA

Pre-Bid Meeting Agenda

2026 Sanitary Sewer Open Cut Construction Services 26-SR-01
COMPETITIVE SEALED BID #: 26-ENG-011

Date: February 19, 2026 – MANDATORY
Start Time: 11:00 AM MDT
Location: **Virtual Only**: Zoom: https://arvadacogov.zoom.us/j/86852955850?pwd=sFijacHOZ7psWbHoyBbS6yEgsyhbGq.1

Attendance:

Name:	Organization	Title
Katy Smith	Arvada	Utility Engineer
Dawn Krank	Arvada	Purchasing Manager

Contractors – Add your firm information in a chat box: firm name, contact name, email and phone number. Or, email this information to: dkrank@arvada.org.

1. **Purchasing**
   a. Questions – how to submit and get official answers
   b. Bid Submissions
      i. Bid bond - form
      ii. Signed Bid Proposal – form
      iii. Required Contractor Submittal - form
      iv. Bid Schedule – pdf & Excel format
      v. Project Qualifications – Reference Special Provisions Section 1
      vi. Submit on Bidnetdirect.com, allow enough time for uploads
   c. Variations and Insurance – Read the Terms and Conditions contained in the CSB
   d. Communications – The only person to contact concerning this project is the purchasing representative. Contact with any other City employee, department personnel, or project representatives regarding this solicitation is strictly prohibited and may result in disqualification.

2. **Solicitation Schedule**

Questions Due	**February 25, 2026 at 2:00 PM MDT**
Bids Due via BidNet	**March 12, 2026 at 2:00 PM MDT**
Estimated NTP	**April 27, 2026**

3. **Project Background**
   a. Capital Improvement Plan project
   b. Sanitary Sewer CO/MH remove and replace
   c. Replacing VCP, CIPP, SLIP, and PVC with new PVC (8” and 12”)
   d. Replacing 6” AC Waterline with 8” PVC
   e. Work needs to be done before the paving team

4. Project Scope

a. 9 sites total

i. 6 Sites (Areas A-F across the City)

- Remove COs and install new MHs
- Area E and F to be done by June 5, 2026

ii. W 78th Pl and Reed St (Area G)

- Replace 12” CIPP SAN with 12” PVC
- Correct slope
- To be done by July 1, 2026

iii. Marshall St and W 55th Pl (Area H)

- Replace 6” (VCP, PVC) and 8” (VCP, SLIP, CIPP) SAN with new 8” PVC SAN
- Remove and replace CO with new MH
- Correct slope
- Correct connection of service line to main (including CO)
- Replace AC water main with 8” PVC water main
    a. Temporary water service for three facilities
- To be done September 1, 2026

iv. W 62nd and Webster St (Area I)

- Reroute and correct service line connection to MH (including CO)
- Abandon SAN main
- Remove 6” VCP with 8” PVC SAN
- Remove CO and replace with new MH

5. Questions

PRE-BID MEETING ATTENDANCE SHEET

Bid # 26-ENG-011 - 2026 Sanitary Sewer Open Cut Construction Services 26-SR-01	**Meeting Date/Time: 02/19/2026 11:00 AM MST**
Facilitator: Katy Smith	**Place: Zoom: https://arvadacogov.zoom.us/j/84669851104?pwd=qppEbJAr1QOoOjMcr9Dkeal5r9aNOX.1** Phone: +1 719 359 4580

Company	Representative Name	Phone	E-Mail
RCD Construction Inc	Christal Kurth	970-756-1150	christalk@rcdconstructionco.com
RCD Construction Inc	Ryan Domson		ryan@rcdconstructionco.com
EDGE Contracting	Jude Kolb	305-395-9264	jkolb@edgecontracting.com
Brannan Construction	Krista Markle	303-356-0529	kmarkle@brannan1.com
BT Construction	Patrick Costello	720-830-3027	Patrick.costello@btconstruction.com
Western States Reclamation	Jen Renfrow	832-270-1983	jrenfrow@wsreclamation.com
American West Construction	Cary Neibauer	303-667-3848	Cneibauer@trustawc.com
Northern Colorado Constructors	Larry Moir	(720) 490-6721	LMM@ncconstructors.com
Diamond Contracting Corp	Chris Cole	303-319-3122	chriscole.dcc@gmail.com
SMH West	Scott Jones		Scott.jones@smhwest.com
DeFalco Construction	Marissa Calaway	(303)587-3370	Marissa@DeFalcoConstruction.com
NG Hydrovac	James McEwen	720-597-6286	j.mcewen@ngcompanies.com
NexCivil	Tom	720-237-2462	bids@nexcivil.com

Company	Representative Name	Phone	E-Mail
		720-281-8628	
		303-905-9720	

Exhibit B

AN AGREEMENT BY AND BETWEEN THE CITY OF ARVADA AND EDGE CONTRACTING, INC. FOR 2026 SANITARY SEWER OPEN CUT CONSTRUCTION SERVICES, PROJECT NO. 26-SR-01, IN AN AMOUNT NOT TO EXCEED $1,382,541.00

BID BOND

We, the undersigned **EDGE Contracting, Inc.** as Principal, and **Harco National Insurance Company** as Surety, are hereby held and firmly bound unto the City of Arvada, Colorado, in the penal sum of **Five Percent of the Total Amount Bid (5%) ----------** for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

THE CONDITION of this obligation is such that whereas the Principal has submitted to the City of Arvada, Colorado the accompanying Bid Proposal, and hereby made a part hereof to enter into a Contract Agreement for the construction of City of Arvada Project No. **26-SR-01, 2026 Sanitary Sewer Open Cut Construction Services**

WHEREAS, the City, as a condition for receiving said Bid Proposal, requires the Principal to deposit with the City a Bid Proposal Guaranty, equivalent to not less than 5 Percent of the amount of said Bid Proposal.

NOW THEREFORE,

(A) If said Bid Proposal shall be rejected; or in the alternate,

(B) If said Bid Proposal shall be accepted and the Principal shall execute and deliver a Contract Agreement (properly completed in accordance with said Bid Proposal) and shall furnish a Performance and Payment Bond upon the forms prescribed by the City for the faithful performance of said Contract; and for the payment of all persons performing labor or furnishing materials in connection therewith; and shall in all other respects perform the agreement created by the acceptance of said Bid Proposal;

Then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the City may accept such Bid and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, this **23rd** day of **February**, 20**26** and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

PRINCIPAL	SURETY
Name: **EDGE Contracting, Inc.**	**Harco National Insurance Company**
Address: **1453 Brickyard Road, Golden, CO 80403**	**4200 Six Forks Road, Suite 1400, Raleigh, NC 27609**
By: COLE D. CATTOOR	By: Ashlea McCaughey
Title: VICE PRESIDENT	Title: **Ashlea McCaughey, Attorney-in-Fact**
	Attorney-in-Fact: **Ashlea McCaughey** (SEAL)

HARCO NATIONAL INSURANCE COMPANY CORPORATE SEAL 1984 ILLINOIS

NOTE: Surety Companies executing bonds must be authorized to transact business in the State of Colorado and be acceptable to the City.

POWER OF ATTORNEY

Bond # **Bid Bond**

HARCO NATIONAL INSURANCE COMPANY
INTERNATIONAL FIDELITY INSURANCE COMPANY

Member companies of IAT Insurance Group, Headquartered: 4200 Six Forks Rd, Suite 1400, Raleigh, NC 27609

KNOW ALL MEN BY THESE PRESENTS: That **HARCO NATIONAL INSURANCE COMPANY**, a corporation organized and existing under the laws of the State of Illinois, and **INTERNATIONAL FIDELITY INSURANCE COMPANY**, a corporation organized and existing under the laws of the State of New Jersey, and having their principal offices located respectively in the cities of Rolling Meadows, Illinois and Newark, New Jersey, do hereby constitute and appoint

GRACE RASMUSSEN, ASHLEA MCCAUGHEY, LINDSEY MINUTILLO, ALISSA CAHALAN, CONNOR OBERG, TODD BENGFORD, MARK SWEIGART, DONALD E. APPLEBY, SARAH C. BROWN

Greenwood Village, CO

their true and lawful attorney(s)-in-fact to execute, seal and deliver for and on its behalf as surety, any and all bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof, which are or may be allowed, required or permitted by law, statute, rule, regulation, contract or otherwise, and the execution of such instrument(s) in pursuance of these presents, shall be as binding upon the said **HARCO NATIONAL INSURANCE COMPANY** and **INTERNATIONAL FIDELITY INSURANCE COMPANY**, as fully and amply, to all intents and purposes, as if the same had been duly executed and acknowledged by their regularly elected officers at their principal offices.

This Power of Attorney is executed, and may be revoked, pursuant to and by authority of the By-Laws of **HARCO NATIONAL INSURANCE COMPANY** and **INTERNATIONAL FIDELITY INSURANCE COMPANY** and is granted under and by authority of the following resolution adopted by the Board of Directors of **INTERNATIONAL FIDELITY INSURANCE COMPANY** at a meeting duly held on the 13th day of December, 2018 and by the Board of Directors of **HARCO NATIONAL INSURANCE COMPANY** at a meeting held on the 13th day of December, 2018.

"**RESOLVED**, that (1) the Chief Executive Officer, President, Executive Vice President, Senior Vice President, Vice President, or Secretary of the Corporation shall have the power to appoint, and to revoke the appointments of, Attorneys-in-Fact or agents with power and authority as defined or limited in their respective powers of attorney, and to execute on behalf of the Corporation and affix the Corporation's seal thereto, bonds, undertakings, recognizances, contracts of indemnity and other written obligations in the nature thereof or related thereto; and (2) any such Officers of the Corporation may appoint and revoke the appointments of joint-control custodians, agents for acceptance of process, and Attorneys-in-fact with authority to execute waivers and consents on behalf of the Corporation; and (3) the signature of any such Officer of the Corporation and the Corporation's seal may be affixed by facsimile to any power of attorney or certification given for the execution of any bond, undertaking, recognizance, contract of indemnity or other written obligation in the nature thereof or related thereto, such signature and seals when so used whether heretofore or hereafter, being hereby adopted by the Corporation as the original signature of such officer and the original seal of the Corporation, to be valid and binding upon the Corporation with the same force and effect as though manually affixed."

IN WITNESS WHEREOF, **HARCO NATIONAL INSURANCE COMPANY** and **INTERNATIONAL FIDELITY INSURANCE COMPANY** have each executed and attested these presents on this 31st day of December, 2023

INTERNATIONAL FIDELITY INSURANCE COMPANY CORPORATE SEAL 1904 NEW JERSEY

STATE OF NEW JERSEY
County of Essex

STATE OF ILLINOIS
County of Cook

HARCO NATIONAL INSURANCE COMPANY CORPORATE SEAL 1984 ILLINOIS

Michael F. Zurcher
Executive Vice President, Harco National Insurance Company
and International Fidelity Insurance Company

On this 31st day of December, 2023 , before me came the individual who executed the preceding instrument, to me personally known, and, being by me duly sworn, said he is the therein described and authorized officer of **HARCO NATIONAL INSURANCE COMPANY** and **INTERNATIONAL FIDELITY INSURANCE COMPANY**; that the seals affixed to said instrument are the Corporate Seals of said Companies; that the said Corporate Seals and his signature were duly affixed by order of the Boards of Directors of said Companies.

CATHY CRUZ NOTARY PUBLIC STATE OF NEW JERSEY

IN TESTIMONY WHEREOF, I have hereunto set my hand affixed my Official Seal, at the City of Newark, New Jersey the day and year first above written.

Cathy Cruz a Notary Public of New Jersey
My Commission Expires April 16, 2029

CERTIFICATION

I, the undersigned officer of **HARCO NATIONAL INSURANCE COMPANY** and **INTERNATIONAL FIDELITY INSURANCE COMPANY** do hereby certify that I have compared the foregoing copy of the Power of Attorney and affidavit, and the copy of the Sections of the By-Laws of said Companies as set forth in said Power of Attorney, with the originals on file in the home office of said companies, and that the same are correct transcripts thereof, and of the whole of the said originals, and that the said Power of Attorney has not been revoked and is now in full force and effect.

IN TESTIMONY WHEREOF, I have hereunto set my hand on this day, **February 23, 2026**

Irene Martins, Assistant Secretary

A02256 Holmes, Murphy & Associates, L

VER2 2/2019 e_POA

BID PROPOSAL

TO: City of Arvada, Colorado (hereinafter called "CITY").

FROM: EDGE Contracting, Inc. (hereinafter called "BIDDER"), organized and existing under the laws of the State of Colorado doing business as (a corporation), (a partnership), (an individual).

The Bidder, in compliance with your Advertisement for Bids, hereby proposes to perform all Work in strict accordance with the Contract Documents, for the construction of City of Arvada Project No. 26-SR-01 entitled 2026 Sanitary Sewer Open Cut Construction Services within the time set forth therein, and at the prices stated on the included Bid Schedule as totaled herein.

By submission of this Bid Proposal, each Bidder certifies, and in the case of a joint venture each party thereto certifies as to his/her own organization, that this Bid Proposal has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this Bid Proposal with any other Bidder or with any competitor.

Bidder acknowledges receipt of **Addendum Nos.** Initials: 1-CC

Bidder states that their:

Major Material Suppliers are:	Material They Will Supply
Ferguson Waterworks	Pipe Materials
Winwater	Pipe Materials
Amrize ACM Inc.	Aggregates

Major Subcontractors are:	Work They Will Perform
Colorado Pavement Solutions	Asphalt

CONTRACT TIME AND LIQUIDATED DAMAGES: All work shall be completed, including clean-up, within **130** working days after the date to be specified in the Notice to Proceed. A Notice to Proceed is anticipated to be issued on or about 4/28/2026. The bidder shall agree to pay the owner the sum of $2,000 for each calendar day that the work exceeds the allotted contract time. Contract time may be adjusted by Change Order.

Total from included Bid Schedule: **TOTAL BID $** 1,382,541.00

SUBMITTED BY:

Company Name: EDGE Contracting, Inc.

Contact Names: Jude Kolb

Address: 1453 Brickyard Road, Golden, CO 80403

Phone: (303) 339-1050 Email(s): jkolb@edgecontracting.com

The undersigned hereby affirms that:

- He/she is a duly authorized agent of the Contractor;
- He/she has read all Terms and Conditions and technical specifications made available in conjunction with this solicitation and fully accept and acknowledge this bid is consistent with the specifications and terms and conditions.
- The bid is in all respects fair, without outside collusion or otherwise illegal action.

By: _____ Signature of Authorized Agent | Date | 84-1600804 FEIN

Cole Cattoor Typed/Printed Name of Agent | Vice President Title of Agent | ccattoor@edgecontracting.com Agent email

PAYMENT TERMS: The City standard is net thirty (30) days but every effort is made to meet net fifteen (15) days after the approved partial payment date when the contractor is satisfactorily performing the contract. The final 5% of total payment will be paid once the contract is completed satisfactorily, advertisement for final settlement is complete, and the project is accepted by the City. Payment is the date of the check mailing or date of the credit card transaction.

BID SCHEDULE

CSB 26-ENG-011
2026 Sanitary Sewer Open Cut Construction Services 26-SR-01

CITY OF ARVADA

EDGE Contracting, Inc.
CONTRACTOR

PREPARED BY DATE

ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	UNIT PRICE	COST
	General				
1	Mobilization, Demobilization, Permits, Fees, Licenses, Administration	LS	1	$34,500.00	$34,500.00
2	Traffic and Pedestrian Control	LS	1	$115,000.00	$115,000.00
3	Sediment and Erosion Control	LS	1	$15,000.00	$15,000.00
4	Utility Locate Potholing	LS	1	$28,600.00	$28,600.00
5	Construction Survey	LS	1	$21,500.00	$21,500.00
6	Owner Controlled Minor Contract Revisions	ALLOW	1	$180,000.00	$180,000.00
	GENERAL COST SUB-TOTAL				**$394,600.00**
	Area A (W 62nd Ave and Teller St)				
7	Remove Sanitary Sewer Cleanout	EA	1	$1,500.00	$1,500.00
8	Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10'), Complete In Place	EA	1	$6,500.00	$6,500.00
9	6" Asphalt Removal and Patching, Complete in Place	SY	11	$260.00	$2,860.00
	AREA A SEWER COST SUB-TOTAL				**$10,860.00**
	Area B (W 62nd Ave and Newland St)				
10	Remove Sanitary Sewer Cleanout	EA	1	$1,500.00	$1,500.00
11	Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10'), Complete In Place	EA	1	$7,000.00	$7,000.00
12	6" Asphalt Removal and Patching, Complete in Place	SY	11	$260.00	$2,860.00
13	Landscape Restoration	LS	1	$2,500.00	$2,500.00
	AREA B SEWER COST SUB-TOTAL				**$13,860.00**
	Area C (Dudley Circle and W 68th Ave)				
14	Remove Sanitary Sewer Cleanout	EA	1	$1,500.00	$1,500.00
15	Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10'), Complete In Place	EA	1	$7,000.00	$7,000.00
16	6" Concrete Sidewalk Removal and Replacement	SY	10	$200.00	$2,000.00
17	6" Asphalt Removal and Patching, Complete in Place	SY	11	$260.00	$2,860.00
	AREA C SEWER COST SUB-TOTAL				**$13,360.00**
	Area D (W 59th Ave and Ralston Rd)				
18	Remove Sanitary Sewer Cleanout	EA	1	$1,500.00	$1,500.00
19	Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10'), Complete In Place	EA	1	$6,500.00	$6,500.00
20	6" Asphalt Removal and Patching, Complete in Place	SY	11	$260.00	$2,860.00
	AREA D SEWER COST SUB-TOTAL				**$10,860.00**
	Area E (W 70th Ave and Pierce St)				
21	Remove Sanitary Sewer Cleanout	EA	1	$1,500.00	$1,500.00
22	Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10'), Complete In Place	EA	1	$6,100.00	$6,100.00
23	6" Asphalt Removal and Patching, Complete in Place	SY	11	$260.00	$2,860.00
	AREA E SEWER COST SUB-TOTAL				**$10,460.00**
	Area F (W 79th Ave and Lamar St)				
24	Remove Sanitary Sewer Cleanout	EA	1	$3,200.00	$3,200.00
25	Remove 6" VCP Sanitary Sewer Pipe	LF	10	$290.00	$2,900.00
26	Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10'), Complete In Place	EA	1	$9,600.00	$9,600.00
27	6" Asphalt Removal and Patching, Complete in Place	SY	20	$300.00	$6,000.00
	AREA F SEWER COST SUB-TOTAL				**$21,700.00**
	Area G (W 78th Pl and Reed St)				
28	Temporary Bypass Pumping Sewer	LS	1	$40,000.00	$40,000.00
29	Remove 12" CIPP Sanitary Sewer Pipe	LF	346	$90.00	$31,140.00
30	Remove Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10')	EA	1	$2,400.00	$2,400.00
31	Remove Sanitary Sewer Maintenance Hole - 4' Diameter (Depth > 10')	EA	2	$2,300.00	$4,600.00
32	Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10'), Complete In Place	EA	1	$8,500.00	$8,500.00
33	Sanitary Sewer Maintenance Hole - 4' Diameter (Depth > 10'), Complete In Place	EA	2	$9,000.00	$18,000.00
34	12" SDR35 PVC, Complete in Place	LF	346	$80.00	$27,680.00
35	Connect Sanitary Sewer Service	EA	3	$1,600.00	$4,800.00
36	6" Asphalt Removal and Patching, Complete in Place	SY	450	$80.00	$36,000.00
	AREA G SEWER COST SUB-TOTAL				**$173,120.00**

	Area H (Marshall St and W 55th Pl - Marshall St & Private Drive)				
37	Temporary Bypass Pumping Sewer	LS	1	$16,000.00	$16,000.00
38	Remove Sanitary Sewer Cleanout	EA	1	$1,800.00	$1,800.00
39	Remove 6" VCP Sanitary Sewer Pipe	LF	150	$90.00	$13,500.00
40	Remove 6" PVC Sanitary Sewer Pipe	LF	59	$100.00	$5,900.00
41	Remove 8" VCP Sanitary Sewer Pipe	LF	120	$90.00	$10,800.00
42	Remove 8" SLIP Sanitary Sewer Pipe	LF	176	$90.00	$15,840.00
43	Remove 8" CIPP Sanitary Sewer Pipe	LF	284	$80.00	$22,720.00
44	Remove Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10')	EA	6	$2,100.00	$12,600.00
45	Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10'), Complete In Place	EA	7	$8,500.00	$59,500.00
46	Rehabilitate Sanitary Sewer Maintenance Hole - 4' Diameter (Depth < 10')	EA	1	$3,200.00	$3,200.00
47	Protective Lining of 4' Maintenance Hole	EA	3	$4,100.00	$12,300.00
48	8" C900 PVC, Complete in Place	LF	338	$91.50	$30,927.00
49	8" SDR35 PVC, Complete in Place	LF	451	$54.00	$24,354.00
50	Connect Sanitary Sewer Service	EA	5	$1,700.00	$8,500.00
51	6" SDR35 PVC Sanitary Sewer Service Line, Complete in Place	EA	10	$620.00	$6,200.00
52	Concrete Curb and Gutter (Type IIB)	LF	130	$100.00	$13,000.00
53	Sanitary Sewer Service Line Clean Out	EA	1	$1,900.00	$1,900.00
54	6" Thick Concrete Sidewalk Removal and Replacement	SY	70	$190.00	$13,300.00
55	10" Asphalt Removal and Patching, Complete in Place	SY	900	$160.00	$144,000.00
56	Median Cover Material (Concrete)	SY	120	$200.00	$24,000.00
57	Median Concrete Curb and Gutter (Type IIB)	LF	170	$90.00	$15,300.00
58	Landscaping and Restoration	SY	145	$27.00	$3,915.00
	AREA H SEWER COST SUB-TOTAL				**$459,556.00**
	Area H (Marshall St and W 55th Pl) 8" AC Waterline Replacement				
59	Remove and Dispose 6" AC Pipe	LF	250	$80.00	$20,000.00
60	Remove and Dispose 8" AC Pipe	LF	50	$90.00	$4,500.00
61	Remove Existing Fire Hydrant	EA	1	$4,600.00	$4,600.00
62	8" C900/C909 PVC and fittings, Complete in Place	LF	380	$150.00	$57,000.00
63	Fire Hydrant Assembly	EA	1	$11,400.00	$11,400.00
64	Chlorination and Pressure Test	LS	1	$1,100.00	$1,100.00
65	Connect to Existing 8" AC Waterline	EA	1	$5,600.00	$5,600.00
66	Connect to Existing 8" PVC Waterline	EA	1	$3,200.00	$3,200.00
67	Temporary Water Service to addresses 5530, 5540, and 5560	LS	1	$9,400.00	$9,400.00
68	Water Service Tap Reconnection	EA	2	$3,200.00	$6,400.00
69	Water Meter Pit	EA	1	$880.00	$880.00
70	6" Asphalt Removal and Patching, Complete in Place	SY	730	$78.00	$56,940.00
71	6" Thick Concrete Sidewalk Removal and Replacement	SY	7	$360.00	$2,520.00
	AREA H WATERLINE COST SUB-TOTAL				**$183,540.00**
	Area I (W 62nd Ave. and Webster St.)				
72	Temporary Bypass Pumping Sewer	LS	1	$20,000.00	$20,000.00
73	Native Landscaping & Restoration (Includes Seeding, Topsoil & Mulch)	SY	95	$25.00	$2,375.00
74	Overhead Utility Pole Protection	LS	1	$1,200.00	$1,200.00
75	Sanitary Sewer Maintenance Hole - 4' Diameter (Depth > 10'), Complete In Place	EA	1	$7,600.00	$7,600.00
76	Protective Lining of 4' Maintenance Hole	EA	1	$4,300.00	$4,300.00
77	6" SDR35 PVC, Complete in Place	EA	200	$80.00	$16,000.00
78	8" C900 PVC and fittings, Complete in Place	LF	79	$130.00	$10,270.00
79	Sanitary Sewer Service Line Clean Out	EA	1	$2,300.00	$2,300.00
80	Connect Sanitary Sewer Service	EA	3	$1,100.00	$3,300.00
81	6" Asphalt Removal and Patching, Complete in Place	SY	60	$130.00	$7,800.00
82	Remove 6" VCP Sanitary Sewer Pipe	LF	79	$100.00	$7,900.00
83	Remove Sanitary Sewer Cleanout	EA	1	$2,000.00	$2,000.00
84	Abandon Sanitary Sewer (Plug)	EA	1	$900.00	$900.00
85	Abandon Sanitary Sewer (CLSM Fill)	CY	312	$15.00	$4,680.00
	AREA I SEWER COST SUB-TOTAL				**$90,625.00**
	TOTAL BASE BID				**$1,382,541.00**

One million, three hundred eighty two thousand, five hundred forty one dollars and no cents

TOTAL BASE BID WRITTEN

B.I. 77. Assumed to be 200 Linear Feet

B.I. 85. Assumed to be 315 Linear Feet

REQUIRED CONTRACTOR SUBMITTAL FORM

SUBMITTAL CHECKLIST:

Bid Proposals shall be submitted in the order listed below with each section clearly identified. **Missing information or required documents may result in submission being deemed non-responsive.**

- ☑ Submit completed Bid Bond, Bid Proposal, Bid Schedule, Required Contractor Submittal, and any other attachments requested. Please upload the Bid Schedule in an Excel format as well.
- ☑ Provide evidence that Contractor meets the Project Qualifications in Special Provisions, Section 1.01
- ☑ Provide a high-level project schedule, per Project Qualifications in Special Provisions, Section 1.01 c.
- ☐ Submit implementation timeline and warrantees, if applicable. n/a
- ☐ Attach Contractor's Licensing, if applicable. n/a
- ☑ Insurance – Checking this box accepts that the insurance requirements listed by the City are acceptable.
- ☐ Variations: Checking this box indicates that the contractor has variations to this solicitation. Identify all variations and exceptions to this CSB on a separate sheet/s of paper. If variations are not stated in the contractor's Offer, it shall be agreed that the contractor's Offer fully complies with all conditions identified in this Solicitation. For each variation listed, reference the applicable section of the solicitation document, the page number, and the variance. Submittal of a vendor contract is considered excessive in variations and may be cause for determining that the Bid is non-responsive and ineligible for award. n/a

REFERENCES:

☐ Check here if Contractor's standard reference sheet is attached, otherwise, use the space below.

Name: Milender White Contact Person: Joseph Hill

Address: 12655 W. 54th Drive, Arvada, CO 80002

Telephone No: 303-216-0420 Email: jhill@milenderwhite.com

Describe type of work/service performed or items supplied: Site utilities, Water Main, Storm Sewer, Sanitary Sewer

Name: Holland Construction Contact Person: Sam Gibbs

Address: 600 S. Cherry Street, Ste 700, Glendale, CO 80246

Telephone No: 720-450-2767 Email: sgibbs@hollandpartnergroup.com

Describe type of work/service performed or items supplied: Site Utilities, Storm Sewer, Water Main, Sanitary Sewer

Name: Mile High Flood District Contact Person: Kurt Bauer

Address: 12575 W. Bayaud Ave, Lakewood, CO 80228

Telephone No: 303-455-6277 Email: kbauer@mhfd.org

Describe type of work/service performed or items supplied: Utility Improvements, Stream Improvements, Road Crossing Imp.

QUALIFICATIONS OF BIDDERS

MINES PARK STUDENT HOUSING
Client Name: Milender White
Client Contact: Joseph Hill, 303-216-0420
Contract Amount: $3,144,994.00

Project Description:
EDGE Contracting, Inc. delivered a comprehensive underground utility package for this $151 million sustainable residential village redevelopment. The project required high-level coordination between multiple critical infrastructure systems.

Water Main & Building Services:
Installation: 1,160 LF of 8" C900 PVC pressurized water main.
Building Connections: 9 – 2" water services for domestic supply and 9 – 6" firelines for life-safety suppression systems.
Quality Assurance: All pressurized systems passed strict hydrostatic testing and disinfection protocols prior to service.

Storm Sewer Systems:
Installation: 4,350 LF of HP ranging from 8" to 48" diameters.
Key Highlights: Successfully managed large-diameter trunk line placement with advanced structural integrity for high-capacity runoff.

Sanitary Sewer System:
Installation: 1,536 LF of 8" SDR 35 PVC gravity-fed sewer line.
Technical Achievement: Executed precision grade-setting at a consistent 10-foot depth, adhering to rigorous OSHA deep-excavation safety standards.

GREEN VALLEY RANCH SUBDIVISION – SITE UTILITY INFRASTRACTURE

Client Name: Holland Construction
Client Contact: Sam Gibbs, 720-450-2767
Contract Amount: $2,236,490.00

Project Description:
EDGE Contracting, Inc. executed a comprehensive wet utility package for this residential development, ensuring all infrastructure met Denver's engineering standards.

Storm Sewer Infrastructure:
Main Line Installation: 5,500 LF of 6" to 12" SDR Main and 2,485 LF of 12" to 36" RCP.
Structures: Installation of 23 manholes and 13 inlets to ensure efficient stormwater management and flood protection.

Water Main & Building Services:
Installation: 1,975 LF of 8" Water Main.
Building Connections: 9 comprehensive water services, each featuring a 2" domestic service and a 6" fireline for building life-safety systems.
Quality Control: All pressurized systems successfully passed hydrostatic testing and disinfection protocols.

Sanitary Sewer Infrastructure:
Installation: 1,235 LF of sanitary sewer main.
Structures: 10 manholes installed for system access and maintenance.
Technical Compliance: Adhered to precision grade-setting and gravity-flow requirements for a long-term reliability.

Strategic Project Impact:
By managing approximately 10,700 total linear feet of critical underground utilities, EDGE provided a unified build program that optimized site logistics for Holland. Our ability to coordinate large-scale storm drainage, deep sanitary lines, and essential building fire/domestic services ensured the development's foundation was delivered without utility conflicts or scheduling delays.

DRAINAGEWAY A-1 CULVERT REPLACEMENT

Client Name: Mile High Flood District
Client Contact: Kurt Bauer, 303-455-6277
Contract Amount: $2,781,137.50

Project Description:
Utility Improvements:
Remove and replace existing storm inlets
Remove 67' of existing 48" CMP
Abandon 165' of existing 48" CMP and flowfill
Install 243' of 72" RCP
Replace 10" clay sanitary sewer with 10" PVC sanitary sewer
Remove 14' of existing 6" CMP storm pipe
Stream Improvements:
Increase culvert crossing from 48" CMP to 72" RCP
Extend culvert approximately 25' to the southeast
Install a drop structure at the entrance of the culvert
Install outfall structure and energy dissipation
Channel grading and access improvements upstream of the culvert
Clear and grub channel downstream of culvert. Remove and stockpile existing riprap.
Protect existing ditch turnout. Install 12" Type M soil riprap
Road Crossing Improvements:
Remove and replace existing curb, gutter, and sidewalk along Garfield Avenue

JASON KOPP
Pipeline Project Manager | EDGE Contracting, Inc.

Professional Summary

Jason Kopp is a Pipeline Project Manager for EDGE Contracting, Inc., with over 17 years of experience in heavy civil construction focused on sanitary sewer, water, and storm utility infrastructure throughout Colorado's Front Range. Since joining EDGE in 2013, he has led estimating and management of complex underground pipeline installations, large-diameter sewer bypass operations, cast-in-place box culverts, precast drainage structures, and phased municipal reconstruction projects. Jason provides leadership from preconstruction through closeout, emphasizing constructability, sequencing, cost control, and agency coordination to ensure safe execution, schedule performance, and quality delivery.

Core Competencies

- Large-Diameter Sewer Installation & Bypass
- Water, Storm & Utility Reconstruction
- Open Cut Pipeline Construction
- CIP & Precast Box Culverts
- Phasing & Traffic Coordination
- Estimating & Budget Management
- Field & Subcontractor Oversight
- Risk Mitigation & Compliance

Experience

EDGE Contracting, Inc.
Estimator / Project Manager | 2013 – Present

- Manages underground pipeline projects from bid through completion.
- Plans and executes sanitary sewer bypass systems to maintain continuous service.
- Oversees storm sewer, water main, and sanitary installations in active corridors.
- Directs box culvert and drainage structure construction for roadway and flood control improvements.
- Coordinates with agencies including Boulder County, Jefferson County, and SEMSWA.
- Maintains schedule, budget, and quality control across all phases.

Representative Projects

- Mines Park Student Housing – Golden, CO | $3.6M
- Green Valley Subdivision – Aurora, CO | $2.4M
- Baranmor Reach 4–5 – Aurora, CO | $3.7M
- 83rd Street Reconstruction – Niwot, CO | $2.4M
- 72nd Ave & Raleigh St. Bridge – Westminster, CO | $2.3M
- Little Dry Creek Sewer – Westminster, CO | $1.8M
- Walnut Hills Outfall – Centennial, CO | $1.4M
- Dillon Road @ Rock Creek – Boulder County, CO | $1.2M
- Elk Creek Culvert Improvements – Jefferson County, CO | $884K

Education & Experience

B.S., Construction Management – Colorado State University
17+ Years – Heavy Civil Underground Utility Construction

Nicholas Ochs

Field Operations Manager

PROFESSIONAL SUMMARY

Field Operations Manager with 25 years of heavy civil and environmental construction experience, including 10+ years in project and operations management. Proven leader in field execution, logistics, scheduling, safety, and cost control for public-sector infrastructure and stormwater projects. Known for hands-on leadership, strong communication, and consistent delivery of safe, profitable projects.

CORE EXPERTISE

- Field Operations & Construction Execution
- CM/GC Collaboration & Constructability
- Scheduling, Staffing & Resource Coordination
- Budget Oversight & Cost Control
- Stormwater & Environmental Construction
- Safety Leadership & Compliance
- Workforce Training & Development

PROFESSIONAL EXPERIENCE

Project Manager / Operations Development
CEI | 2019 – 2024

- Led field operations from preconstruction through closeout on civil and environmental projects
- Coordinated crews, equipment, subcontractors, and schedules across multiple concurrent projects
- Managed cost control, forecasting, and field productivity to meet schedule and budget goals
- Supported estimating, value engineering, and constructability reviews
- Maintained strong communication with owners, inspectors, and stakeholders

Operations Manager (Progressed from Laborer)
Frontier Environmental Services | 2002 – 2019

- Advanced through field and management roles, gaining ground-up experience across all phases of construction
- Directed crews, foremen, and superintendents on environmental, stormwater, and infrastructure projects
- Implemented safety programs, training initiatives, and quality control procedures
- Mentored and developed field leadership personnel

EDUCATION

B.S. Construction Management
East Carolina University

SAFETY & TRAINING

OSHA 10 & 30 | Trench Safety / Competent Person | CDOT TECS
DOT HAZMAT Awareness | MSHA | CDL / Medical Card | First Aid / CPR

Industry Experience

- **25 Years** – Heavy Civil, Drainage & Underground Utilities

GARY BLISS

Field Operations Manager

Professional Summary

Gary Bliss is Field Operations Manager for EDGE Contracting, Inc. with more than 40 years of heavy civil construction experience. He provides direct leadership of field execution, workforce coordination, and equipment management, ensuring projects are built safely, efficiently, and in accordance with schedule and quality requirements. Mr. Bliss brings deep superintendent-level experience in drainage, excavation, concrete, and underground utilities, making him a key contributor to successful flood control and river restoration projects.

Core Competencies

- **Field Operations & Construction Execution**
- **Drainage, Excavation & Underground Utilities**
- **Equipment & Labor Resource Management**
- **Construction Sequencing & Means & Methods**
- **Schedule Support & Productivity Control**
- **Utility Coordination & Site Logistics**
- **Quality Control & Safety Coordination**

Relevant Experience

EDGE Contracting, Inc.
Field Operations Manager | 2006 – Present

- **Oversees all phases of field construction from planning through completion.**
- **Manages company-wide equipment fleets, labor forces, and field staffing.**
- **Works closely with project managers, superintendents, and owners to resolve field issues and maintain schedule.**
- **Supports constructability reviews and sequencing strategies for complex civil infrastructure projects, including flood control and drainage improvements.**

Previous Experience

- **General Superintendent / Project Superintendent – EDGE Contracting**
- **Project Foreman – Tarco Inc.**

Representative Project Experience

- **Westcreek Filing #1 & #2, Parker, CO – $4.6M**
- **Globeville / Utah Junction Outfall, Denver, CO – $4.1M**
- **Baranmor Ditch Improvements, Aurora, CO – $2.7M**
- **Kipling Underpass Trail Extension, Arvada, CO – $2.5M**
- **Ken Pratt Blvd Box Culvert, Longmont, CO – $2.4M**

Industry Experience

- **40 Years – Heavy Civil, Drainage & Underground Utilities**

Loren McNatt

Field Supervisor

Professional Summary

Loren McNatt is a Foreman / Supervisor for EDGE Contracting, Inc. with more than 30 years of experience in heavy civil construction, excavation, and underground utilities. He provides field leadership and oversight of construction crews, equipment operations, and daily production activities. Mr. McNatt has extensive experience in water, sewer, and storm drain installation, grading, erosion control, and restoration projects and works closely with project managers, engineers, and inspectors to ensure projects are completed safely, efficiently, and in accordance with project plans and specifications.

Core Competencies

- Field Supervision & Crew Leadership
- Underground Utilities (Water, Sewer, Storm Drain)
- Site Development & Excavation
- Erosion Control & Stream Restoration
- Equipment Coordination & Productivity
- Construction Sequencing & Field Operations
- Safety Compliance & Quality Control
- Owner, Engineer & Inspector Coordination

Relevant Experience

EDGE Contracting, Inc.

Foreman / Supervisor | May 2025 – Present
- Supervises field crews performing heavy civil excavation, drainage, and restoration work.
- Coordinates grading operations, underground utility installations, and erosion control measures.
- Manages equipment operations, crew productivity, and jobsite safety compliance.
- Works closely with project managers, engineers, and inspectors to maintain project schedule and quality standards.

Naranjo Civil Constructors

Foreman / Supervisor | 2024 – 2025
- Led field operations on the Cherry Creek Restoration Project.
- Managed bypass pumping operations and creek realignment work.
- Installed riffles and riprap erosion protection areas along the creek corridor.
- Coordinated with engineers, inspectors, suppliers, and field crews to maintain schedule and production.

Mortenson Construction

Civil Superintendent | 2022 – 2024
- Supervised commercial site development and civil construction projects.
- Managed field crews, equipment, and material coordination.
- Coordinated construction activities with owners, inspectors, and project management staff.
- Ensured compliance with safety requirements, construction sequencing, and project specifications.

Conifer Excavating

Civil Superintendent / Operator | 2020 – 2022
- Supervised excavation crews installing water, sewer, and storm drain utilities.
- Managed commercial site development and underground utility installations.

JBS Pipeline Construction

Foreman / Superintendent | 2016 – 2020
- Managed underground utility installation and pipeline construction projects.
- Responsible for scheduling, cost tracking, and field coordination.

CDH Trucking and Excavating

Superintendent/Operator | 2013-2015
- Managed underground utility installation and pipeline construction projects.
- Responsible for scheduling, cost tracking, and field coordination.

Hunt Consulting and Construction

Foreman/Operator | 2009-2013
- Managed underground utility installation and pipeline construction projects.
- Responsible for scheduling, cost tracking, and field coordination.

Fiore & Sons

Foreman/Operator | 2002-2008
- Managed underground utility, excavation and foundation installation and pipeline construction projects.
- Responsible for scheduling, cost tracking, and field coordination.

Representative Project Experience

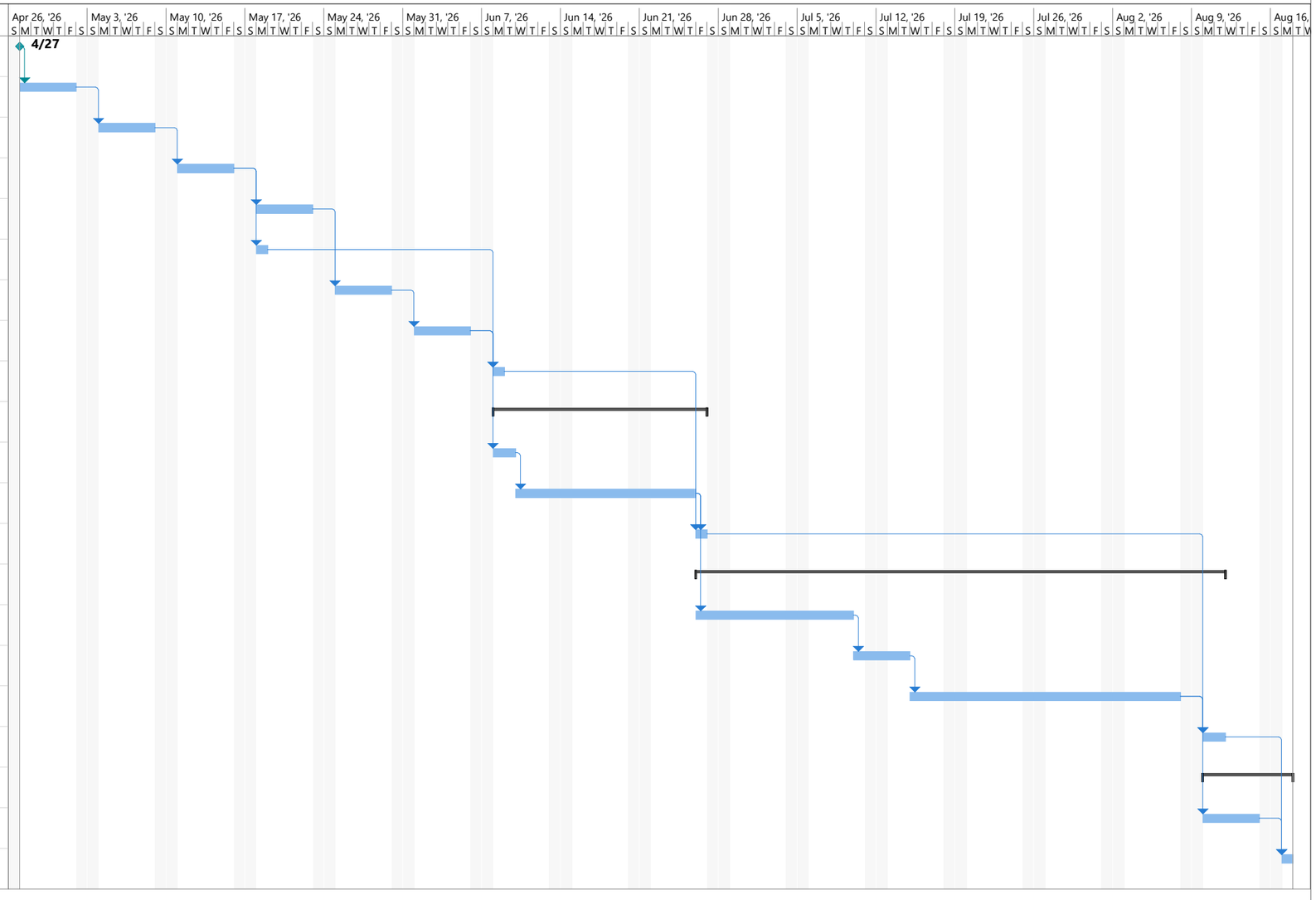
- Cherry Creek Restoration Project – Denver, CO
- Commercial Site Development Projects – Denver Metro Area
- Underground Utility Installation Projects – Colorado Front Range
- Pipeline Construction Projects – Commerce City, CO

Industry Experience

30+ Years – Heavy Civil, Utilities, and Site Development Construction

YORK STREET BRIDGE POST DECK ACTIVITIES

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1		NTP	0 days	4/27/26	4/27/26		
2		Area A- Install MH	5 days	4/27/26	5/1/26	1	
3		Area B- Install MH	5 days	5/4/26	5/8/26	2	
4		Area C- Install MH	5 days	5/11/26	5/15/26	3	
5		Area D- Install MH	5 days	5/18/26	5/22/26	4	
6		Asphalt Patch A-D	1 day	5/18/26	5/18/26	4	
7		Area E- Instlall MH	5 days	5/25/26	5/29/26	5	
8		Area F- Install MH	5 days	6/1/26	6/5/26	7	
9		Asphalt Patch E-F	1 day	6/8/26	6/8/26	6,8	
10		**Area G**	**15 days**	**6/8/26**	**6/26/26**		
11		ByPass Set-up	2 days	6/8/26	6/9/26	8	
12		Sewer Install	12 days	6/10/26	6/25/26	11	
13		Asphalt Patch	1 day	6/26/26	6/26/26	12,9	
14		**Area H Water & San**	**33 days**	**6/26/26**	**8/11/26**		
15		Water Install	10 days	6/26/26	7/9/26	12	
16		ByPass Set-up	3 days	7/10/26	7/14/26	15	
17		Sanitary Install	18 days	7/15/26	8/7/26	16	
18		Asphalt Patch	2 days	8/10/26	8/11/26	17,13	
19		**Area I**	**6 days**	**8/10/26**	**8/17/26**		
20		Sanitary Install	5 days	8/10/26	8/14/26	17	
21		Asphalt Patch	1 day	8/17/26	8/17/26	20,18	



ARVADA SANITARY SEWER OPEN CUT CONSTRUCTION SERVICES 26-SR-01

EDGE CONTRACTING

Project: 260311 Construction Sc
Date: 3/11/26

Task	Summary	Inactive Milestone	Duration-only	Start-only	External Milestone	Manual Progress
Split	Project Summary	Inactive Summary	Manual Summary Rollup	Finish-only	Deadline	
Milestone	Inactive Task	Manual Task	Manual Summary	External Tasks	Progress	

CITY OF ARVADA

REPORT TO CITY COUNCIL RESOLUTION

AGENDA ITEM 8.B.1.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: R26-032, A Resolution Authorizing an Agreement Between the City of Arvada and Axon Enterprise, Inc. for Goods and Services Related to Police Department Technology Improvements in an Amount not to Exceed $1,180,369.75 in the First Year (Presenter: Padraic Emerine, Senior Assistant City Attorney)

Report in Brief

"PRESENTER: Padraic Emerine, Senior Assistant City Attorney

The Arvada Police Department requests to partner with Axon Enterprise, Inc. to purchase a wide variety of public safety equipment and software such as body-worn cameras, CEW devices, dashcams, drones, recording and dictation software, evidence management software. The purchase also includes support, maintenance, and services related to the equipment and software.

The Arvada team recommends that the City Council approve R26-032, A Resolution Authorizing an Agreement Between the City of Arvada and Axon Enterprise, Inc. for Goods and Services Related to Police Department Technology Improvements in an Amount not to Exceed $1,180,369.75 in the First Year.

Financial Impact

The total cost to purchase the equipment and related services and software will cost $5,425,637.11 over a five-year period. The total cost of the first year of the agreement shall not exceed $1,180,369.76. The cost of any of the four, future renewal terms shall not exceed $1,061,316.84.

Background

Axon Enterprise, Inc is a technology company that provides specialized goods and services to entities engaged in public safety. The Arvada Police Department ("APD") currently utilizes equipment from Axon in a number of areas, most notably, its body-worn cameras, which are required to be worn under Colorado law. APD would now like to combine its existing Axon equipment, software, and services with the purchase of a variety of new equipment, software, and services into one agreement. Included within this agreement are the purchase of additional body-worn cameras, tasers, and drones along with the necessary software, data storage, support systems, and other hardware, software, and support required to use the equipment. This purchase will facilitate the creation of Arvada's Drone First Responder Program in conjunction with the creation of the Arvada Real Time Information Center ("ARTIC"), which will centralize the control of the equipment and data obtained therefrom into one location.

On October 24, 2025, the City of Arvada ("Arvada") issued a Request for Proposals to obtain the APD technology improvements discussed above. City staff selected Axon through the solicitation process. Prior to tonight's business meeting, the APD participated in a study session with the City Council to give insight and answer questions related to this purchase.

Discussion

By entering into this agreement and combining all purchased Axon equipment and services into one agreement, Arvada obtains significant cost-saving benefits and streamlines the agreement management process. While the total cost of this purchase is $5,425,637.11, the cost is spread out over a five-year period with the cost of the first year being $1,180.369.75. Should renewal occur for the remaining four years, the cost of each renewal term shall not exceed $1,061,316.84. These costs not only provide

certainty for APD's budget, but they also save APD an approximate savings of $660,730.56 per year or approximately $3,303,652.79 over the lifetime of the agreement.

Much of the equipment and related software and services purchased under this agreement are items that APD already uses and is required to use under Colorado law. Examples of this include: tasers, body worn cameras, evidence maintenance systems, and supporting software systems. This agreement also includes the purchase of additional equipment, software, and services that APD will use to create Arvada's Drone First Responder Program and the ARTIC. Arvada is making this purchase through a formal solicitation process prescribed the Purchasing Ordinance.

Public Contact

Posting of the City Council agenda and previous City Council Study Session

Commission Recommendation

N/A

Strategic Alignment

Strategic Result: Physical and Technology Systems; Strategic Goal 1: Identify and prioritize projects for modernizing our technology systems to provide effective service delivery.

Alternative Courses of Action

1. Approve R26-032, A Resolution Authorizing an Agreement Between the City of Arvada and Axon Enterprise, Inc. for Goods and Services Related to Police Department Technology Improvements in an Amount not to Exceed $1,180,369.75 in the First Year.

2. Decline R26-032, A Resolution Authorizing an Agreement Between the City of Arvada and Axon Enterprise, Inc. for Goods and Services Related to Police Department Technology Improvements in an Amount not to Exceed $1,180,369.75 in the First Year.

Recommendation for Action

The Arvada team recommends that the City Council approve R26-032, A Resolution Authorizing an Agreement Between the City of Arvada and Axon Enterprise, Inc. for Goods and Services Related to Police Department Technology Improvements in an Amount not to Exceed $1,180,369.75 in the First Year.

Suggested Motion:

I move that R26-032, A Resolution Authorizing an Agreement Between the City of Arvada and Axon Enterprise, Inc. for Goods and Services Related to Police Department Technology Improvements in an Amount not to Exceed $1,180,369.75 in the First Year, be (approved) (rejected).

Prepared by:
Padraic Emerine, Assistant City Attorney I

Reviewed by:

Approved by:

Padraic Emerine, Assistant City Attorney I	03/25/2026
Laura Hemler, Assistant City Attorney	04/01/2026
Edward Brady, Police Chief	04/03/2026
Rachel Morris, City Attorney	04/06/2026
Don Wick, City Manager	04/08/2026

Enclosure, exhibits & attachments required to support the report

RESOLUTION NO. R26-032

A RESOLUTION AUTHORIZING AN AGREEMENT BETWEEN THE CITY OF ARVADA AND AXON ENTERPRISE, INC. FOR GOODS AND SERVICES RELATED TO POLICE DEPARTMENT TECHNOLOGY IMPROVEMENTS IN AN AMOUNT NOT TO EXCEED $1,180,369.75 IN THE FIRST YEAR

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF ARVADA, COLORADO:

Section 1. The Mayor or Mayor Pro Tem is authorized to sign and the City Clerk to attest, in form approved by the City Attorney, an Agreement Between the City of Arvada and Axon Enterprise, Inc. for Goods and Services Related to Police Department Technology Improvements in an Amount Not to Exceed $1,180,369.75 in the First Year that is in substantially the same form as that attached hereto.

Section 2. This resolution shall be effective upon its approval by the City Council.

APPROVED AND ADOPTED this 21st day of April, 2026.

_____
Lauren Simpson, Mayor

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:
Rachel A. Morris, City Attorney

By: _____

AN AGREEMENT BETWEEN THE CITY OF ARVADA AND AXON ENTERPRISE, INC. FOR GOODS AND SERVICES RELATED TO POLICE DEPARTMENT TECHNOLOGY IMPROVEMENTS IN AN AMOUNT NOT TO EXCEED $1,180,369.75 IN THE FIRST YEAR

1. PARTIES. The Parties to this Agreement are the City of Arvada, a Colorado home rule municipal corporation, whose mailing address is 8101 Ralston Road, Arvada, CO 80002 ("Arvada," "City," or "Customer") and Axon Enterprise, Inc., an Arizona corporation whose principal place of business is located at 17800 N. 85th Street, Scottsdale, AZ 85255 ("Contractor"). The Parties may be referred to individually as a "Party" and collectively as the "Parties."

2. RECITALS AND PURPOSE.

2.1. Arvada requires a qualified entity to provide technology improvements for Arvada's Police Department as stated in the "Statement of Work" in **Exhibit A**.

2.2. On or about October 24, 2025, Arvada issued Request for Proposal 25-PD-072 – PD Technology Improvements seeking responses from qualified entities to provide goods and services as described in Sec. 2.1 ("the Work").

2.3. Contractor has extensive experience in law enforcement technology and related services. On or about November 20, 2025, Contractor submitted its response to Arvada's RFP 25-PD-072 ("Response").

2.4. Arvada has determined that Contractor has the requisite background, skill, expertise, and insurance to provide the requested goods and services and other related services, under the terms and conditions more fully set forth below.

2.5. Prior to issuing RFP 25-PD-072, Arvada contracted with Contractor for goods and services pursuant to individual quotes. Excluding any goods and services provided to the Arvada City Attorney's Office (e.g. Axon Justice), all quotes predating this Agreement are superseded by this Agreement.

2.6. Arvada and Contractor agree that Arvada contemplates using Contractor as a Contractor for the Work as described in the Contract Documents. However, Arvada and Contractor acknowledge and agree that Arvada may, at its sole discretion, use other Contractors to perform similar work, and that this Agreement in no way limits Arvada from hiring other contractors or constitutes a contract for exclusive services from Contractor.

3. CONTRACT DOCUMENTS, EXHIBITS, AND DEFINITIONS.

3.1. Contract Documents. The Contract Documents shall consist of this Agreement together with the following:

Exhibit A: Arvada's RFP 25-PD-072 – PD Technology Improvements including General Terms and Conditions and Insurance Requirements;

Exhibit B: Arvada's Addendum 1 to RFP 25-PD-072;

Exhibit C: Federal Bureau of Investigation Criminal Justice Information Services Security Addendum;

Exhibit D: Contractor's Response dated November 20, 2025; and

Exhibit E: Axon's Terms and & Conditions;

Exhibit F: Contractor's Quotes: Q-802163-46111BM issued March 30, 2026 and Q-832425-46111BM issued March 30, 2026.

Exhibit G: Axon's FUSUS SOW.

All exhibits referred to in this Agreement are attached hereto and are, by reference, incorporated herein for all purposes.

3.2. Interpretation of Contract Documents. In the event any matter, term, provision, or condition that is the subject of this Agreement requires clarification or is in dispute, or is the subject of a difference of opinion, then the terms of this Agreement shall control, and then the terms of **Exhibit A** and **Exhibit B** (read together), and then **Exhibit C** (as applicable), and then **Exhibit D**, and then **Exhibits F** and **G** (as applicable)**,** and then **Exhibit E** in that order.

3.2.1. In no event may any contradictory term or provision contained in **Exhibits D-G**, supersede the provisions of this Agreement or **Exhibits A-C**. Any such contradictory term or provision shall be null and void.

3.3. Definitions. The following terms shall be construed and interpreted as follows:

3.3.1. **Arvada Confidential Information** means any and all Arvada Records not subject to disclosure under CORA. Arvada Confidential Information shall include, but is not limited to, PII, PHI, CJI, and Arvada personnel records not subject to disclosure under CORA. Arvada Confidential Information shall not include information or data concerning individuals that is not deemed confidential but nevertheless belongs to Arvada, which has been communicated, furnished, or disclosed by Arvada to Contractor which (i) is subject to disclosure pursuant to CORA; (ii) is already known to Contractor without restrictions at the time of its disclosure to Contractor; (iii) is or subsequently becomes publicly available without breach of any obligation owed by Contractor to Arvada; (iv) is disclosed to Contractor, without confidentiality obligations, by a third party who has the right to disclose such information; or (v) was independently developed without reliance on any Arvada Confidential Information.

3.3.2. **Arvada Records** means any and all Arvada data, information, and records, regardless of physical form. This includes credentials issued to Arvada by Contractor, all records relating to Arvada's use of Contractor's services; as well as account credentials, including those issued by Arvada or Contractor, account information, and all records sent, received, or created by or for end users.

3.3.3. **Axon Device** has the meaning set forth in **Exhibit E**.

3.3.4. **CORA** means the Colorado Open Records Act at C.R.S. §§24-72-200.1 *et seq*.

3.3.5. **Criminal Justice Information (CJI)** means criminal justice information collected by criminal justice agencies needed for the performance of their authorized functions, including, without limitation, all information defined as criminal justice information by the U.S. Department of Justice, Federal Bureau of Investigation, Criminal Justice Information Services Security Policy, as amended and all Criminal Justice Records as defined under §24-72-302, C.R.S.

3.3.6. **Day** means a calendar unless defined otherwise.

3.3.7. **Deliverable** means the outcome to be achieved or output to be provided, in the form of a tangible object or software produced as a result of Contractor's Work that is intended to be delivered to Arvada by Contractor pursuant to **Exhibit A**.

3.3.8. **Incident** means any accidental or deliberate event that results in or constitutes an imminent threat of unauthorized access, loss, disclosure, modification, disruption, or destruction of any communications, network, or information resources of Arvada or Arvada Records. Incidents include, without limitation, (i) successful attempts to gain unauthorized access to an Arvada system or Arvada Records regardless of where such information is located; (ii) unwanted disruption or denial of service; (iii) the unauthorized use of an Arvada system for the processing or storage of data; or (iv) changes to an Arvada system hardware, firmware, or software characteristics without Arvada's knowledge, instruction, or consent.

3.3.9. **PHI** means any protected health information, including, without limitation any information whether oral or recorded in any form or medium: (i) that relates to the past, present, or future physical or mental condition of an individual; the provision of health care to an individual; or the past, present, or future payment for the provision of health care to an individual; and (ii) that identifies the individual or with respect to which there is a reasonable basis to believe the information can be used to identify the individual. PHI includes, but is not limited to, any information defined as Individually Identifiable Health Information by the federal Health Insurance Portability and Accountability Act.

3.3.10. **PII** means personally identifiable information including, without limitation, any information maintained by Arvada about an individual that can be used to distinguish or trace an individual's identity, such as name, social security number,

date and place of birth, mother's maiden name, or biometric records. PII includes, but is not limited to, all information defined as personally identifiable information in §§24-72-501 and 24-73-101, C.R.S.

3.3.11. **Software** means any software provided by Contractor within the Work. Software includes software installed on any device (e.g. CEW Device, bodycam, dashcam, etc.), software independently installed on a device not provided by Contractor and operated by Arvada (e.g. digital evidence storage, artificial intelligence dictation software, anti-drone software, etc.), and Axon Cloud Services or any on-prem software solutions defined in **Exhibit E**.

3.3.12. **Subcontractor** means any third party engaged by Contractor to perform any portion of the Work or fulfill any obligation under this Agreement. However, subcontractor does not include third-party providers of commercially available infrastructure, platform, hosting, cloud, network, or utility services (including without limitation Amazon Web Services (AWS), Microsoft Azure, Google Cloud Platform, or similar solutions) that provide general infrastructure services and do not directly perform or control the Work, or portions thereof, by Contractor.

3.3.13. **Work** means the goods, services, or deliverables provided by Contractor to Arvada as stated in Section 2.2 and further defined by any applicable statement of work or quote.

3.3.14. **Work product** means the tangible and intangible results of the Work, whether finished or unfinished, including drafts. Work Product includes, but is not limited to, documents, text, software, research, reports, proposals, specifications, plans, notes, studies, data, images, photographs, negatives, pictures, drawings, designs, models, surveys, maps, materials, ideas, concepts, know-how, and any other results of the Work. "Work Product" does not include any material that was developed prior to the Effective Date that is used, without modification, in the performance of the Work.

4. TERM AND TERMINATION.

4.1. Effective date. This Agreement will become effective and binding on both Parties upon its execution by Arvada.

4.2. Term. The term of the Agreement shall remain in effect for one year from Arvada's execution of the Agreement as described in Sec. 4.1. (the "Initial Term") unless otherwise agreed to in writing by the Parties, and subject to availability of funds.

4.2.1. Commencement of Work. Notwithstanding the term of this Agreement, the Parties anticipate Contractor will commence the implementation portion Work no later than March 31, 2026, with completion of the Work occurring no later than September 30, 2026, unless the Parties agree, in writing, to a different time frame.

4.2.1.1. Contractor will furnish all materials, supplies, tools, equipment,

labor, transportation, testing, training, support and other services necessary for the completion of the Work.

4.2.2. Termination.

4.2.2.1. For breach. A Party may terminate this Agreement for cause if it provides 30 days written notice of the breach to the other Party, and the breach remains uncured 30 days after written notice. If Arvada terminates this Agreement due to Axon's uncured breach, Axon will refund prepaid amounts on a prorated basis based on the effective date of termination.

4.2.2.2. For non-appropriation. If sufficient funds are not appropriated or otherwise legally available to pay the amounts due under this Agreement, Arvada may terminate this Agreement. Arvada will deliver notice of termination under this section as soon as reasonably practicable. Arvada may return Axon Devices to Axon within 30 days of termination pursuant to this section. Arvada may return Axon Devices to Axon within 30 days of termination.

4.2.2.3. For convenience. Notwithstanding the above, Arvada may terminate this Agreement as a whole, or any good(s) or service(s) contained herein, with or without cause upon 60 days written notice and in accordance with the provisions of this Agreement and **Exhibit A**.

4.2.2.3.1. Should Arvada terminate under this Section prior to the end of the then-current term, Arvada's rights immediately terminate. Arvada remains responsible for all fees incurred before the effective date of termination. Also, Axon will invoice Arvada for the difference between the manufacturer's suggested retail price ("MSRP") for any purchased Axon Devices and the amounts paid by Arvada towards those Axon Devices. MSRP is the standalone price of the individual Axon Device at the time of sale. For multiple Axon Devices that may be combined as a single offering on a Quote, MSRP is the standalone price of all individual components. If Arvada incurs additional costs under this subsection in excess of the amount stated in Section 5.1.1. for the applicable term, Arvada agrees to execute an amendment to increase the total amount of compensation. For clarity, Arvada does not incur these additional costs if Arvada terminates under Section 4.2.2.2 or 4.2.2.2 or elects not to renew the Agreement upon the conclusion of the then-current term pursuant to Section 4.4.

4.2.2.4. For change in law. As of the Effective Date, Arvada is not aware of any law preventing Arvada for entering into the Agreement. Following the Effective Date, if Arvada is prohibited from using any portion of the Work under any applicable law, as determined by Arvada's legal counsel,

Arvada may terminate this Agreement, or any specific good(s) or service(s) herein, upon written notice to Axon provided that:

4.2.2.4.1. Arvada first works with Axon to consider whether, in the opinion of Arvada's counsel, a modification of the Work or this Agreement would permit Arvada to lawfully use the Work without terminating the Agreement. If such modification is feasible, the Parties shall work in good faith to amend this Agreement, and Arvada may not terminate under Section 4.2.2.2 unless a subsequent change in the law, or a court's interpretation of the law, prohibits Arvada's use of the Work as determined by Arvada's legal counsel.

4.2.2.4.2. If Arvada, in the opinion of its legal counsel, can complete the current Term as of the date the change in law becomes effective without violating the new law, then Arvada cannot terminate under Section 4.2.2.2 and may instead submit a notice of non-renewal.

4.2.2.4.3. A determination that this Agreement should be terminated due to a change in law shall not be equivalent to a termination for convenience. In the event of such termination due to a change in law, Axon will refund prepaid amounts on a prorated basis based on the effective date of termination.

4.2.2.4.4. If Arvada terminates pursuant to this section, Arvada may return Axon Devices to Axon within 30 days of termination.

4.2.3. Effect of termination or expiration.

4.2.3.1. Data access following termination or expiration of this Agreement shall be as stated in **Exhibit E**, as it applies to the good(s) or service(s) subject to the termination or expiration.

4.2.3.2. Arvada shall uninstall or destroy any portions of the Work as set forth in **Exhibit E**.

4.2.3.3. The Parties agree that specific effects of termination as listed in **Exhibit E** may apply depending on which portion(s) of the Work is terminating or expiring.

4.2.3.4. Upon termination or expiration, Contractor shall, as directed by the Arvada, return all Arvada Records provided by the Arvada to Contractor, and the copies thereof, to the Arvada or destroy all such Arvada Records and certify to the Arvada that it has done so if Arvada cannot reasonably access the Arvada Records in Contractor's possession on its own. If any legal obligation imposed upon Contractor prevents it from returning or destroying all or part of the Arvada Records provided by the Arvada to Contractor, Contractor shall guarantee the confidentiality of all Arvada

Records provided by Arvada to Contractor and will not actively process such data anymore. Contractor shall not interrupt or obstruct Arvada's ability to access and retrieve Arvada Records stored by Contractor.

4.3. Force majeure. Any delays in or failure of performance by any party of its obligations under this Agreement shall be excused if such delays or failure are a result of acts of God, fires, floods, strikes, labor disputes, pandemics, accidents, regulations or orders of civil or military authorities, shortages of labor or materials, or other causes, similar or dissimilar, which are beyond the control of such party.

4.4. Renewal. This Agreement may be renewed by Arvada for no more than four consecutive one-year renewal terms (individually a "Renewal Term"). Renewals shall be automatic unless the Agreement is terminated.

5. COMPENSATION.

5.1. Payment. Arvada shall pay Contractor for the Work requested by Arvada and rendered by Contractor under this Agreement in an amount not to exceed $5,425,637.11 if all renewals occur under Section 4.4. The total compensation amount for the initial term and any renewal term is set forth in Section 5.1.1.

5.1.1. The total compensation amount for the Initial Term and any Renewal Term occurring under Section 4.4 shall be as follows:

Term	**Total payment amount for the Work shall not exceed:**
Initial Term	$1,180,369.75
First Renewal Term	$1,061,316.84
Second Renewal Term	$1,061,316.84
Third Renewal Term	$1,061,316.84
Fourth Renewal Term	$1,061,316.84

5.1.2. For the Initial Term, Contractor shall credit Arvada for any payments made for any good(s) or service(s) included in **Exhibit F** prior to the Effective Date. Contractor shall invoice Arvada for the amount stated in Section 5.1.1. for the Initial Term less any payments made prior to the effective date. Payment from Arvada will be due NET 30 days.

5.1.3. Should renewal occur, Contract shall invoice Arvada for the amount stated in Section 5.1.1. no later than 60 days prior to the date the renewal is to occur. Payment from Arvada will be due NET 30 days.

5.2. Additional Axon Payment Terms. Axon invoices for Axon Devices upon shipment, or on the date specified within the invoicing plan in the Quote. Payment is due

net 30 days from the invoice date. Axon invoices for Axon Cloud Services on an upfront annual basis prior to the beginning of the Subscription Term and upon the anniversary of the Subscription Term. Payment obligations are non-cancelable. Unless otherwise prohibited by law, Customer will pay interest on all past-due sums at the lower of one-and-a-half percent (1.5%) per month or the highest rate allowed by law. Customer will pay invoices without setoff, deduction, or withholding unless Arvada disputes the amount of the invoice. If Axon sends a past due account to collections, Customer is responsible for reasonable collection and attorneys' fees.

5.3. Other services or products. Arvada may, during the term of this Agreement, wish to purchase other related services or products identified and offered by Contractor, based upon the pricing/fee contained in Contract Documents. Arvada reserves the right to award these ancillary items to Contractor or another top-rated bidder based upon the negotiated scope of work and fee structure. This option, if exercised, in no way obligates Arvada to pursue additional services or products with Contractor.

6. SCOPE OF SERVICES. Contractor shall provide the Work, including the Deliverables, described in **Exhibits A, B, E,** and **G** and further defined in this Section 6. Should the Parties agree in writing to a change in the scope of services, a change in a deadline provided in the Contract Documents, or a change in the number of licenses for the Software, then the Parties will timely execute an amendment, which will address the amended scope of services, revisions to necessary start and end dates, any applicable deliverables and associated due dates, reporting requirements, documentation requirements, and any other matters that the Parties deem necessary.

6.1. Generally.

6.1.1. Contractor shall provide the Work in a professional and workmanlike manner and comply with any relevant industry best practices.

6.2. Access.

6.2.1. If Contractor will perform any portion of the Work at an Arvada location, Contractor shall follow Arvada's direction on obtaining access to the location and have any certifications necessary (e.g. CJIS Certification) to gain access to the location.

6.2.2. If Contractor will perform any portion of the Work remotely or may access Arvada's network, Contractor shall follow Arvada's direction on obtaining such access. Such direction may include Contractor performing the Work under the supervision of Arvada personnel if Arvada determines such supervision to be necessary. Contractor may only access Arvada's network as needed to perform the Work.

6.3. Physical Deliverables.

6.3.1. The physical Deliverables comprising the Work include Axon Devices (e.g. CEW devices, body cameras, dash cameras, etc. listed in **Exhibit A**) and any hardware or equipment necessary to provide these physical Deliverables. Consistent with the Scope of Work stated in **Exhibit A**, Contractor shall provide the products, configurations, specifications, support, and warranties as stated in the Contract Documents.

6.3.2. Contractor shall ensure that all physical Deliverables are warrantied and refreshed in accordance with the Contract Documents.

6.3.3. Contractor shall provide any documentation showing the technical specifications or any provided physical Deliverables.

6.4. Implementation.

6.4.1. Contractor and Arvada will establish the implementation schedule for the Work. Contractor shall provide all portions of the Work in accordance with that schedule.

6.4.2. Contractor will cooperate and assist with Arvada's implementation efforts as directed by Arvada.

6.4.3. Contractor will continue status meetings as requested by Arvada.

6.4.4. Contractor shall fully implement all Deliverables at Arvada's direction and in a manner reasonably satisfactory to Arvada. Full implementation includes installing physical Deliverables and ensuring they are functioning properly, installing or ensuring Arvada has access to (e.g. providing licenses to any cloud solution) the Software and that it is functioning properly, and completing any data migration from Arvada's existing solutions to the Deliverables or Software.

6.5. Software.

6.5.1. Any subscription included in the Work shall begin upon the Effective Date. All subscriptions will run concurrently with this Agreement. No subscription term may extend beyond the term of this Agreement.

6.5.2. Any language in an Axon privacy policy reserving to Axon the right to change the privacy policy without notice at any time is hereby amended to provide Customer with notice in writing pursuant to the Notice provision of the Agreement, of any material change to the policy no less than 30 days prior to the date such language takes effect. Axon warrants that any such privacy policy change will not materially reduce the level of protection afforded to Customer or its end users; nor will it enlarge the obligations or responsibilities of Arvada or its end users. Any such privacy policy shall apply to the extent it is not inconsistent with this Agreement.

6.5.3. Axon shall provide all software in accordance with any applicable service level agreement referenced in **Exhibit E**.

6.6. Training. Contractor shall provide any training included in the Work at times and in locations (to the extent the purchased training is to be provided remotely or onsite) acceptable to Arvada.

7. INFORMATION TECHNOLOGY PROVISIONS. Contractor shall provide the Work and protect Arvada Records in accordance with this Section. Provisions of this Section that refer to Contractor shall apply equally to any Subcontractor performing work in connection with this Agreement.

7.1. Data confidentiality. Contractor shall keep confidential, and cause all Subcontractors to keep confidential, all Arvada Records, unless those Arvada Records are publicly available or otherwise authorized to be disclosed under **Exhibit E**. Contractor shall not, without prior written approval of Arvada, use, publish, copy, disclose to any third party, or permit the use by any third party of any Arvada Records, except as otherwise stated in the Agreement, permitted by law, or approved in writing by Arvada. Contractor shall immediately forward any request or demand for Arvada Records or Confidential Information to the Project Owner listed in the Agreement. In the event the Agreement includes or requires Arvada to disclose to Contractor any PII, Contractor shall comply with the applicable requirements of C.R.S. §§24-73-101 *et seq.*, relating to third-party service providers.

7.2. Axon Cloud Services (as defined in **Exhibit E**).

7.2.1. Contractor shall maintain and support any cloud services included in the Work in accordance with the Axon Cloud Services Service Level Agreement included in **Exhibit E** and in a workmanlike manner exercising the degree of care customary in the industry for a provider of similar software or services.

7.2.2. Contractor and any Subcontractor shall implement security measures and practices as stated in Section 4 of the "Axon Cloud Services Terms of Use Appendix" included in **Exhibit E**. The Parties agree that Contractor's implementation of "commercially reasonable and appropriate measures to secure Customer Content accidental or unlawful loss, access, or disclosure" involves, at a minimum:

7.2.2.1. Providing sufficient physical and logistical protection for all hardware for the Work;

7.2.2.2. Maintaining sufficient network, system, physical, and application security for Contractor's technology involved with the Work, which includes, but is not limited to, network firewalls, intrusion detection (host and network), annual security testing, and improvements or enhancements;

7.2.2.3. Providing that security is not compromised by unauthorized access to workspaces, computers, networks, software, databases, or other physical or electronic environments involved with the Work; and

7.2.2.4. Complying with all State of Colorado and federal rules and regulations related to overall security, privacy, confidentiality, integrity, availability, and auditing.

7.3. Background checks. Contractor shall perform current background checks in a form reasonably acceptable to Arvada on all of its respective employees and agents performing services or having access to Arvada Confidential Information provided under the Agreement, including any Subcontractors or the employees of Subcontractors.

7.3.1. Upon request, Contractor will provide notice to Arvada's Project Owner(s) indicating that background checks have been performed. Such notice will inform Arvada of any action taken in response to such background checks, including any decision not to take action in response to negative information revealed by a background check.

7.4. Contractor shall not allow remote access to Arvada Records from outside the United States, including access by Contractor's employees or agents, without the prior express written consent of Arvada. Contractor shall communicate any request regarding non-U.S. access to Arvada Records to the Arvada Project Owner, who will consult with Arvada's Chief Information Security Officer. Arvada shall have sole discretion to grant or deny any such request.

7.5. Arvada retains the right to use the established operational services to access and retrieve Arvada Records stored on Contractor's infrastructure at its sole discretion and at any time during the term of this Agreement.

7.6. CJI. In addition to the compliance obligations imposed by other provisions of this Agreement, Contractor shall comply with the FBI Criminal Justice Information Service Security Addendum attached as **Exhibit C** as it applies to any Arvada Records qualifying as CJI.

7.7. Security assessments. Contractor shall allow Arvada reasonable access and shall provide Arvada with information reasonably required to assess Contractor's security compliance. Such access and information shall include: (i) The results of an annual SOC2 Type II audit including, at a minimum, the Trust Principles of Security, Confidentiality, and Availability or any relevant security standard, or a mutually agreed alternative audit recommended by Arvada; or (ii) the results of a performance of a security audit or penetration tests, as requested by Arvada.

7.8. Incident Notice and Remediation. If Contractor becomes aware of any Incident, Contractor shall notify Arvada immediately and cooperate with Arvada regarding recovery, remediation, and the necessity to involve law enforcement, as determined by Arvada. Unless Contractor can establish, in a manner satisfactory to Arvada, that Contractor and its Subcontractors are not the cause or source of the Incident, Contractor shall be responsible

for the cost of notifying each person or entity who may have been impacted by the Incident. After an Incident, Contractor shall take steps to reduce the risk of incurring a similar type of Incident in the future.

7.9. Audit rights. Contractor shall have the right, at any time during and throughout the term of the Agreement, but not more than once per calendar year, to request via written notice in accordance with the notice provisions of the Agreement that Arvada audit its use of and certify as to its compliance with any applicable license or use restrictions and limitations contained in the Agreement (an "Audit Request") and limited to the scope of this agreement. The Audit Request shall specify the time period to be covered by the audit, which shall not include any time periods covered by a previous audit. Arvada shall complete the audit and provide certification of its compliance to Contractor ("Audit Certification") within 120 days following Arvada's receipt of the Audit Request from Contractor.

7.9.1. If upon receipt of the Audit Certification, the Parties reasonably determine that: (i) the Arvada's use of licenses, use of software, use of programs, or any other use during the audit period exceeded the use restrictions and limitations contained in the Agreement ("Overuse") and (ii) Arvada would have been or is then required to purchase additional maintenance and/or services ("Maintenance"), Contractor shall provide written notice to Arvada in accordance with the notice provisions of the Agreement identifying any Overuse or required Maintenance and request that Arvada bring its use into compliance with such use restrictions and limitations within a reasonable period of time.

7.10. Warranty. In addition to any warranty provided in **Exhibit E**, Contractor warrants that the Software shall be free from any harmful or malicious code, including without limitation viruses, malware, spyware, ransomware, or other similar function designed to interfere with or damage the normal operation of Arvada's information technology resources. Contractor warrants the functionality and quality of the Software will not materially decrease during the term of the Agreement or any renewal term. Contractor also warrants that the Software does not infringe upon or violate any patent, copyright, trademark, trade secret, or any other proprietary right of any third party. In the event of such infringement, Contractor shall indemnify Arvada in accordance with Section 4.2 of the General Terms and Conditions noted as amended in this agreement below with Arvada its agents, representatives, and employees constituting the Indemnified Parties. In addition to indemnification, in the event of such infringement, Contractor shall:

7.10.1. Procure for Arvada the right to continue using the Software; or

7.10.2. At no additional cost to Arvada, replace or modify the Software so that it becomes non-infringing, but only if the modification or replacement does not adversely affect the specifications of the Work or its use by Arvada. If neither option is practical from Arvada's perspective, Contractor shall remove the Software from Arvada's equipment or location and shall issue a credit for the Software to Arvada, less reasonable depreciation. Thereafter, any Agreement and license involved shall be considered terminated.

8. TERMS AND CONDITIONS IN CONTRACT DOCUMENTS. Contractor affirms that it has read and is familiar with all of the Contract Documents including the General Terms and Conditions set forth in the City's solicitation or otherwise attached to this Agreement and agrees to be bound by those Terms and Conditions as modified by this Section, subject to the following modifications to the Terms and Conditions in **Exhibit A:** the City of Arvada RFP #25-PD-072 ("RFP Terms").

8.1. RFP Terms – Section 4 – Indemnification - Contractor shall indemnify, defend, and hold harmless Arvada, its employees, agents and assignees (the "Indemnified Parties"), against any and all costs, expenses, claims, damages, liabilities, court awards, and other amounts (including attorneys' fees and related costs) arising from or related to any negligence or willful misconduct by Contractor, or its employees, agents, Subcontractors, or assignees in connection with the Agreement.

8.2. RFP Terms – Section 4.2 – Intellectual Property - Contractor shall indemnify, save, and hold harmless the Indemnified Parties, against any and all costs, expenses, claims, damages, liabilities, and other amounts (including attorneys' fees and costs) incurred by the Indemnified Parties in relation to any claim that any Deliverable, Good or Service, software, or Work provided by Contractor under the Agreement (collectively, "IP Deliverables"), or the use thereof, infringes a patent, copyright, trademark, trade secret, or any other intellectual property right. Contractor's obligations shall not extend to the combination of any IP Deliverables provided by Contractor with any other product, system, or method, unless the other product, system, or method is (a) provided by Contractor or Contractor's subsidiaries or affiliates; or (b) specified by Contractor to work with the IP Deliverables; In addition, Contractor's IP indemnification obligations do not apply to claims based on (a) modification of products or services by Customer or a third-party not approved by Contractor; (d) use of products and services other than as permitted in this Agreement; or (e) use of products or services that is not the most current software release provided by Contractor.

8.3. RFP Terms – Section 20 – Prohibited Terms. This section is deleted in its entirety. Axon is unable to offer its customers uncapped liability, especially when selling weapons to our customers. Exhibit E, Axon's Terms and Conditions, liability cap in Section 7.5.2 to control.

8.4. RFP Terms – Section 24 - Ownership of Work Product. Ownership of any work product is limited to the work product created **solely and exclusively** for Arvada.

8.5. RFP Terms – Section 26 - Accessibility Compliance. Section 26 is subject to the indemnification and limits of liability in this Agreement to the extent permitted by law.

8.6. CJIS Security Addendum - Contractor, including any employee, representative, or personnel with access to CJI data or systems, agrees to execute and abide by the terms set forth in **Exhibit C** in the event Contractor receives access to, transmits, stores, or otherwise handles data covered by **Exhibit C**. Only Contractor's employees, representatives, or personnel with CJIS L3Certification are permitted to access any of Arvada's technology

containing CJI.

9. PERFORMANCE MEASURES. The performance measures for this Agreement shall be those proposed by Contractor in its Response and accepted by Arvada.

10. PROJECT OWNERS. Arvada designates Deputy Chief Todd Reeves as Arvada's Project Owner. Deputy Chief Reeves (treeves@arvada.org) will be Arvada's responsible staff member to provide direction to Contractor during the course of the Work. Arvada reserves the right to change the Project Owner(s) at its discretion and will promptly notify Contractor of any such change in writing. Contractor designates Brian Moutinhon (bmoutinho@axon.com), who will be Contractor's primary contact person during the course of this Agreement. Contractor may change the Project Owner(s) with Arvada's prior written approval.

11. INSURANCE. Contractor will be required to, at its own expense, keep in full force and effect during the term of the Agreement, and during the term of any extension or amendment of the Agreement, insurance reasonably sufficient to insure against the liability assumed by Contractor under the terms of the Contract Documents. Contractor's failure to secure and maintain sufficient insurance at any time during the pendency of this Agreement do not relieve Contractor of its obligations under this provision; Contractor's failure to fulfill the obligations of this section will make the Contractor the *per se* insurer.

12. NO LICENSE IN ARVADA LOGOS OR TRADEMARKS. Arvada does not grant Contractor any license to use its logos or trademarks in any sales promotion work, advertising, or any form of publicity.

13. INTEGRATION, AMENDMENT, AND SEVERABILITY. This Agreement represents the entire agreement between the Parties; there are no oral or collateral agreements or understandings. The Parties, by mutual agreement, may amend this Agreement at any time. Any amendments must be in writing and will be incorporated into and made a part of this Agreement. If any provision in this Agreement is held to be invalid or unenforceable, the remainder of this Agreement will be deemed severable, and as such, the remaining provisions will continue in full force and effect.

14. NOTICES. Any notice or notification required or permitted by the Agreement shall be in writing, in English, and may be sent to the other Party by certified or registered mail, or by electronic mail, addressed to the that Party's project owner at such street address or email address as are set forth below. Such notice or notification shall be deemed to have been given when deposited in the United States mail or, in the case of electronic mail, upon the sent date stamp contained in the electronic mail.

To Axon:

Axon Enterprise, Inc.
Attn: Legal
17800 N. 85th St.

To Arvada:

City of Arvada
Attn: City Attorney's Office
8101 Ralston Road

Scottsdale, AZ 85255	Arvada, CO 80002
legal@axon.com	rmorris@arvada.org

15. ADDITIONAL DOCUMENTS OR ACTION. The parties agree to execute any additional documents and to take any additional action that is necessary to carry out this Agreement.

16. BINDING AUTHORITY. Contractor represents and affirms that the signature page hereof accurately states the full legal name of Contractor (whether as a corporation, partnership, limited liability company, sole proprietorship, or other), contains all requisite signature(s) on behalf of Contractor, and in all other respects is effective to bind Contractor, in accordance with all applicable statutes, regulations, resolutions, rules, bylaws, agreements, or similar sources of authority or limitation. This Agreement may be executed in counterpart(s), each of which shall be deemed to be an original, and all of which, taken together, shall constitute one instrument.

17. NO THIRD-PARTY BENEFICIARIES. The Parties understand and agree that enforcement of the terms and conditions of this Agreement, and all rights of action relating to such enforcement, shall be strictly reserved to the Parties, and nothing contained in this Agreement shall give or allow any such claim or right of action to any other third party on this Agreement. It is the intention of the Parties that any person other than the Parties receiving services or benefits under this Agreement shall be deemed to be an incidental beneficiary only.

Remainder of page intentionally left blank.

DATED this_____day of_____, 2026.

CITY OF ARVADA, a Colorado home rule municipal corporation

_____

Lauren Simpson
Mayor
8101 Ralston Road
Arvada, CO 80002

ATTEST:

_____

City Clerk

APPROVED AS TO FORM:

Rachel A. Morris, City Attorney

By: _____

AXON ENTERPRISE, INC.

_____

Robert Driscoll
Deputy General Counsel
17800 N. 85th Street
Scottsdale, AZ 85255
bobby@axon.com

Exhibit A

AN AGREEMENT BETWEEN THE CITY OF ARVADA AND AXON ENTERPRISE, INC. FOR GOODS AND SERVICES RELATED TO POLICE DEPARTMENT TECHNOLOGY IMPROVEMENTS IN AN AMOUNT NOT TO EXCEED $1,180,369.75 IN THE FIRST YEAR

REQUEST FOR PROPOSAL

Proposal #:	**25-PD-072**
Title:	**PD Technology Improvements**
RFP Issued:	October 24, 2025
Question Deadline:	November 6, 2025, 2:00 PM MDT Questions must be submitted through BidnetDirect.com. Responses will be posted on Bidnet via addendum.
Proposals Due By:	**November 20, 2025 2:00 PM MDT** Electronic Submissions must be submitted online at BidNetDirect.com. This is the only valid source for postings regarding this solicitation. Late responses will not be considered for award.

For additional administrative information not related to the project contact: Dawn Krank dkrank@arvada.org
Contact with the requesting department may result in vendor disqualification.

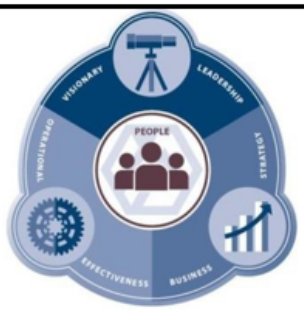
ARVADA'S VISION MISSION AND VALUES

VISION: We dream big and deliver.

MISSION: We are dedicated to delivering superior services to enhance the lives of everyone in our community.

VALUES:

Innovation – We excel in creativity, flexibility and the use of best practices while valuing diverse backgrounds, ideas and perspectives. **Passion** – We are a high performing, inclusive team inspiring each other to pursue excellence. **Opportunity** – We value our diversity, embrace possibilities, face challenges, persevere and take action to deliver quality results.



Documents included in this Request:

General Terms and Conditions	page 2-4
Special Terms and Conditions	page 4-6
Insurance Requirements	page 6
Administrative Information and Evaluation Criteria	page 6-8
Statement of Work	page 9-10
Required Vendor Submittal Form, Submittal Checklist	page 11-12
Performance Measures Form	page 13

GENERAL TERMS AND CONDITIONS

1. **NO MULTI-YEAR FISCAL OBLIGATION.** Financial obligations of Arvada payable after the current fiscal year are contingent on funds for that purpose being appropriated, budgeted, and otherwise made available by the City Council for Arvada. Arvada's obligations under the Agreement shall be from year to year only and shall not constitute a multiple-fiscal year direct or indirect debt or other financial obligation of Arvada within the meaning of Article X, Section 20 of the Colorado Constitution (TABOR).

2. **TAXES.** Arvada shall not be liable for the payment of any excise, sales, or use taxes. Arvada is exempt from federal excise taxes under I.R.C. Chapter 32 (26 U.S.C., Subtitle D, Ch. 32) and from State and local government sales and use taxes under §§39-26-704(1), *et seq.,* C.R.S. (Colorado Sales Tax Exemption Identification Number 98-01789). Contractor shall not invoice Arvada for any state, federal or local taxes. Upon written notification by Arvada, Contractor shall reimburse Arvada in a timely manner for any taxes erroneously paid by Arvada.

3. **NO INDEMNIFICATION BY ARVADA.** Arvada is prohibited under Article XI, Section 1 of the Colorado Constitution from indemnifying anyone. Despite any provision in any contract document to the contrary, Arvada does not indemnify Contractor or anyone else under the Agreement.

4. **INDEMNIFICATION OF ARVADA.** Contractor shall indemnify, defend, and hold harmless Arvada, its employees, agents and assignees (the "Indemnified Parties"), against any and all costs, expenses, claims, damages, liabilities, court awards, and other amounts (including attorneys' fees and related costs) arising from or related to any act or omission by Contractor, or its employees, agents, Subcontractors, or assignees in connection with the Agreement.
   4.1. **Confidential Information Indemnification.** Disclosure or use of Arvada Confidential Information by Contractor may be cause for legal action by third parties against Contractor, Arvada, or their respective agents. Contractor shall indemnify, defend, and hold harmless the Indemnified Parties, against any and all claims, damages, liabilities, losses, costs, expenses (including attorneys' fees and costs) incurred by Arvada in relation to any act or omission by Contractor, or its employees, agents, assigns, or subcontractors.
   4.2. **Intellectual Property Indemnification.** Contractor shall indemnify, save, and hold harmless the Indemnified Parties, against any and all costs, expenses, claims, damages, liabilities, and other amounts (including attorneys' fees and costs) incurred by the Indemnified Parties in relation to any claim that any Deliverable, Good or Service, software, or Work provided by Contractor under the Agreement (collectively, "IP Deliverables"), or the use thereof, infringes a patent, copyright, trademark, trade secret, or any other intellectual property right. Contractor's obligations shall not extend to the combination of any IP Deliverables provided by Contractor with any other product, system, or method, unless the other product, system, or method is (a) provided by Contractor or Contractor's subsidiaries or affiliates; (b) specified by Contractor to work with the IP Deliverables; (c) reasonably required in order to use the IP Deliverables in its intended manner and the infringement could not have been avoided by substituting another reasonably available product, system, or method capable of performing the same function; or (d) is reasonably expected to be used in combination with the IP Deliverables.

5. **GOVERNMENTAL IMMUNITY.** Liability for claims for injuries to persons or property arising from the negligence of Arvada, its departments, boards, commissions, committees, bureaus, offices, employees and officials shall be governed by the provisions of the Colorado Governmental Immunity Act, §§24-10-101, et seq., C.R.S. (CGIA). No term or condition of the Agreement shall be construed or interpreted as a waiver, express or implied, of any of the immunities, rights, benefits, protections, or other provisions contained in the CGIA.

6. **OPEN RECORD REQUESTS.** Arvada is obligated to comply with the Colorado Open Records Act (C.R.S. §§24-72-200.1 *et seq.*)(CORA), which may require Arvada to disclose all or a portion of communications relating to the Agreement, any transaction under the Agreement, and other related matters. Contractor has been advised to familiarize itself with CORA. Any confidentiality provisions in any contract documents are subject to the provisions of CORA.

7. **PROTECTION OF PERSONAL IDENTIFYING INFORMATION.** In the event the Agreement includes or requires Arvada to disclose to Contractor any Personal Identifying Information as defined in C.R.S. § 24-73-101, Contractor shall comply with the applicable requirements of C.R.S. §§ 24-73-101, et seq., relating to third-party service providers.

8. **NO THIRD PARTY BENEFICIARIES.** The Agreement does not and is not intended to confer any rights or remedies upon any person or entity other than Arvada and Contractor. Enforcement of the Agreement and all related rights and obligations are reserved solely to Arvada and Contractor. Any services or benefits which third parties receive as a result of the Agreement are incidental and do not create any rights for such third parties.

9. **ASSIGNMENT.** Contractor's rights and obligations under the Agreement are personal and may not be transferred or assigned without the prior, written consent of Arvada. Any attempt at assignment or transfer without such consent shall be void. Any assignment or transfer of Contractor's rights and obligations approved by Arvada shall be subject to the provisions of the Agreement. Any provision of an assignment that enlarges any duty, responsibility, or obligation of Arvada, or that limits, curtails, or diminishes any right or privilege of Arvada, without Arvada's express written consent, shall be void.

10. **BINDING EFFECT.** This Agreement shall inure to the benefit of, and be binding upon, the parties, their respective legal representatives, successors, heirs, and assigns.

11. **SURVIVAL.** Any provision of the Agreement that imposes an obligation on a party after the Agreement's termination or expiration shall survive the termination or expiration and shall be enforceable by the other party.

12. **SUBCONTRACTS.** Contractor shall not subcontract any of its responsibilities without Arvada's prior written approval, which will not be unreasonably withheld. Contractor shall submit to Arvada a copy of each such subcontract upon Arvada's request. All subcontracts Contractor enters into in connection with the Agreement shall comply with all applicable federal, state, and local laws and regulations, shall provide that they are governed by the laws of the State of Colorado, and shall be subject to all provisions of the Agreement. Contractor agrees it is fully responsible for subcontractors performing services under the Agreement. Contractor shall be Arvada's sole point of contact regarding the services, including with respect to payment.

13. **INDEPENDENT CONTRACTOR.** Contractor shall perform its duties under the Agreement as an independent contractor and not as an employee. Neither Contractor nor any agent or employee of Contractor shall be deemed to be an agent or employee of Arvada. Contractor shall not have authorization, express or implied, to bind Arvada to any agreement, liability, or understanding, except as expressly set forth herein. **Contractor and its employees and agents are not entitled to unemployment insurance or workers compensation benefits through Arvada and Arvada shall not pay for or otherwise provide such coverage for Contractor or any of its agents or employees. Contractor shall pay when due all applicable employment taxes and income taxes and local head taxes incurred pursuant to the Agreement. Contractor shall: (i) provide and keep in force workers' compensation and unemployment compensation insurance in the amounts required by law; (ii) provide proof thereof when requested by Arvada; and (iii) be solely responsible for its acts and those of its employees and agents.**

14. **LICENSES, PERMITS, AND OTHER AUTHORIZATIONS.** Contractor shall secure, prior to the effective date, and maintain at all times during the term of the Agreement, at its sole expense, all licenses, certifications, permits, and other authorizations required to perform its obligations under the Agreement, and shall ensure that all employees, agents and subcontractors secure and maintain at all times during the term of their employment, agency or subcontract, all license, certifications, permits and other authorizations required to perform their obligations in relation to the Agreement.

15. **STANDARD AND MANNER OF PERFORMANCE.** Contractor shall perform its obligations under the Agreement in accordance with the highest standards of care, skill, and diligence in Contractor's industry, trade, or profession.

16. **TIME OF THE ESSENCE.** Contractor acknowledges and agrees that time is of the essence for this Agreement and that it is an essential term of this Agreement that Contractor maintain a rate of progress in the Services that will result in completion of the Services in accordance with this Agreement. To that end, Contractor agrees to proceed with all due diligence to complete the Services in a timely manner in accordance with this Agreement, and further agrees that failure to complete any of the Services during the Term of this Agreement, or as may be more specifically set forth in an attachment, exhibit, or modification, shall be deemed a breach.

17. **WAIVER OF BREACH.** A waiver by any party to the Agreement of a breach of any Agreement term shall not operate or be construed as a waiver of any subsequent breach by either party.

18. **RIGHT TO TERMINATE.** Arvada shall have the right to terminate, without cause, the Agreement. Any such termination shall not be considered a breach of the Agreement or any extension. In the event Arvada terminates for convenience, Arvada will pay Contractor for requested work performed up until the time of termination, not to exceed the total amount of the contract price agreed upon by Arvada and Contractor.

19. **EXTERNAL TERMS AND CONDITIONS.** Notwithstanding anything to the contrary, Arvada shall not be subject to any provision included in any terms, conditions, or agreements appearing on Contractor's or a subcontractor's website or any provision incorporated into any click-through or online agreements related to the Work unless that provision is specifically referenced in the Agreement.

20. **PROHIBITED TERMS.** Any term included in the Agreement that requires Arvada to indemnify or hold Contractor harmless; requires Arvada to agree to binding arbitration; limits Contractor's liability for damages resulting from death, bodily injury, or damage to tangible property; or that conflicts with this provision in any way shall be void ab initio. Any term included in the Agreement that limits Contractor's liability that is not void under this section shall apply only in excess of any insurance to be maintained under the Agreement, and no insurance policy shall be interpreted as being subject to any limitations of liability of the Agreement.

21. **COMPLIANCE WITH ALL LAWS.** Contractor shall comply with all applicable federal, Colorado and Arvada laws, rules, regulations, policies and procedures in effect or hereafter established, including, without limitation, laws applicable to discrimination and unfair employment practices.

22. **BINDING ARBITRATION PROHIBITED.** Arvada does not agree to binding arbitration by any extra-judicial body or person. Any provision to the contrary shall be null and void.

23. **GOVERNING LAW AND VENUE.** Colorado law, rules, and regulations shall be applied in the interpretation, execution, and enforcement of the Agreement. Any provision included or incorporated herein by reference which conflicts with said laws, rules, and regulations shall be null and void. All suits or actions related to the Agreement shall be filed and proceedings held in the State of Colorado and exclusive venue shall be in Jefferson County.

24. **OWNERSHIP OF WORK PRODUCT.** The originals of all plans, reports, studies, data, or other materials or information relating to the Work that are produced by Contractor shall be delivered to and become the property of Arvada. Contractor may retain copies of any originals; however, no plans, reports, studies, data, or other materials or information relating to the Work shall be released to any person or entity without the prior written consent of Arvada. Nothing in this clause is intended to affect Contractor's right to use generic know-how learned in the course of providing services under the Agreement for the future benefit of Arvada or others.

25. **SOFTWARE PIRACY PROHIBITION.** Arvada or other public funds payable under the Agreement shall not be used for the acquisition, operation, or maintenance of computer software in violation of federal copyright laws or applicable licensing restrictions. Contractor hereby certifies and warrants that, during the term of the Agreement and any extensions, Contractor has and shall maintain in place appropriate systems and controls to prevent such improper use of public funds. If Arvada determines that Contractor is in violation of this provision, Arvada may exercise any remedy available at law or in equity or under the Agreement, including, without limitation, immediate termination of the Agreement and any remedy consistent with federal copyright laws or applicable licensing restrictions.

26. **ACCESSIBILITY COMPLIANCE.**

26.1 Arvada is obligated to comply with the Colorado Anti-Discrimination Act (C.R.S. §§24-34-300 et seq.)("CADA"), which requires all digital and online platform and content providers to comply with the minimum Accessibility Standards for Individuals with a Disability, adopted by the Colorado Office of Information Technology ("OIT") under C.R.S §24-85-103(2.5). Contractor has been advised to familiarize itself with CADA.

26.2 To the extent the Work or any of Contractor's services provided under the Agreement involves digital, technological components, including but not limited to software, websites, applications, digital documents (the "Material"), all Material shall comply with the OIT's currently adopted minimum Accessibility Standards for Individuals with a Disability at all times.

26.3 Contractor shall indemnify, save, and hold harmless Arvada, its employees, agents and assignees (the "Indemnified Parties") against any and all costs, expenses, claims, damages, liabilities, court awards and other amounts (including attorneys' fees and related costs) incurred by any of the Indemnified Parties in relationship to Contractor's failure to comply with Section (26.2) above.

26.4 Upon Arvada's request, Contractor shall certify to Arvada that its service(s) and digital documents are compliant with Section (26.2) above. Arvada may require Contractor's compliance to the OIT's currently adopted minimum standards of accessibility to be determined by a third party selected by Arvada to attest to Contractor's compliance.

SPECIAL TERMS AND CONDITIONS

1. **PRICES FIXED AND FIRM FOR THE TERM OF THE CONTRACT**
Prices proposed by the vendor shall remain fixed and firm during the term of the contract; however, the vendor may offer incentive discounts from the fixed price. This contract shall commence upon the date specified in the Contract or Purchase Order and shall remain in effect until such time as all items/services purchased in conjunction with this solicitation have been delivered and accepted by the City's authorized representative. It shall be understood and agreed that any warranty period which exceeds this term shall remain in full force for the duration of the warranty period.

2. **OPTION TO RENEW FOR SUBSEQUENT YEARS** The prices or discounts quoted in this Solicitation shall prevail for one year from the effective date of the contract, at which time the City shall have the option to renew the contract for 4 additional one year periods; provided that the vendor provided satisfactory performance during the contract period. Continuation of the contract beyond the initial period is a City prerogative and not a right of the vendor. Unless otherwise notified in writing, the option period shall become automatic at the end of the original period.

   During the option period, the City will consider an adjustment to the pricing structure. For consideration, the vendor must document that it was subject to a price adjustment by the product manufacturer or a direct wholesale supplier. Any price adjustments shall not exceed the amount being passed on.

3. CONTENTS OF OFFER

Vendors are required to submit offers with the following conditions:

a. Vendors shall make all investigations necessary to inform themselves of the facilities affected by the delivery of products and services required by the Solicitation.
b. Any official interpretation of the Solicitation may only be issued by an authorized agent of the City. The City shall not be responsible for other interpretations offered by employees not authorized.
c. The City shall issue Addenda if substantial changes are required which may impact the content and submission of Offers. A copy of such addenda will be publicly posted with the original RFP posting.
d. The apparent silence or omissions within this Solicitation regarding a detailed description of the materials or services shall be interpreted to mean that only the best commercial practices are to prevail and that only materials and workmanship of first quality are to be provided.

4. CLARIFICATION AND MODIFICATIONS

The contract resulting from this solicitation will be subject to the Solicitation materials, City Ordinance, State and Federal Statutes. When conflicts occur, the highest authority shall prevail. Vendors are required to indicate any variances to the terms, conditions, requirements and specifications of this Solicitation; no matter how slight. If variations are not stated in the vendor's Offer, it shall be agreed that the vendor's Offer fully complies with all conditions identified in this Solicitation.

5. ELIGIBILITY OF VENDORS: MUST BE ENGAGED IN SUPPLYING PRODUCTS OR SERVICES RENDERED

Offers will only be considered from firms which have been engaged in the business of manufacturing or distributing the goods and/or performing services described in this Solicitation. Vendors must be able to produce evidence that they have an established satisfactory record of performance for at least two (2) years and have sufficient finances and structure to ensure that they can satisfactorily execute the Contract requirements, as determined by authorities of the City. The City reserves the right, before awarding the contract, to require a vendor to submit evidence of its qualifications including, but not limited to, financial, technical and other qualifications, as well as past performance with the City, for consideration in making the award in the best interest of the City.

6. CONFIDENTIAL DOCUMENTS

Vendors may designate specific pages or sections within their submission as trade secret or confidential commercial information or as otherwise protected by law ("Confidential Information"). Documents and data that are considered Confidential Information shall be clearly marked as such and separated from the rest of the solicitation submission documents. Comingling is not acceptable. The City does not favor blanket assertions of Confidential Information. Please note that blanket assertions that merely classify and/or broadly claim information is confidential are insufficient as a matter of law. *See, International Brotherhood of Electrical Workers Local 68 v. Denver Metropolitan Major League Baseball Stadium District,* 880 P.2d 160 (Colo.App. 1994). Any information that will be included in any resulting contract cannot be considered Confidential. Under no circumstances may submission pricing information be considered Confidential. In the event a formal contract is entered into with the City and a portion of the Proposal/Response carries a designation indicating the Vendor believes it is Confidential Information, then the City agrees that it will use its best efforts to forward any request for the disclosure of the Confidential Information to the Vendor. By its submission of the Proposal/Response ,Vendor agrees to promptly respond to the request for disclosure with any objections and reasons therefor in accordance with the Colorado Open Records Act C.R.S. §§24-72-101 *et seq.* and any other applicable law. Further, Vendor agrees to assume the obligation to defend, hold harmless, and indemnify the City in any legal proceeding that arises from non-disclosure of documents or data pursuant to the Vendor's objection.

7. COOPERATIVE PURCHASING

The City of Arvada encourages and participates in cooperative purchasing endeavors undertaken by or on behalf of other governmental agencies including the Multiple Assembly of Procurement Officials and the Cooperative Educational Purchasing Council (CPEC).

We hereby request that any member of MAPO/CPEC be permitted to avail itself of this contract and purchase, as specified by the contract resulting from this RFP, at the contract prices established therein. Each governmental entity would establish its own contract, issue its own orders, be invoiced directly, make its own payments and issue its own exemption certificates as required. It is understood and agreed that the City of Arvada is not a legally binding party to any contractual agreement made between another governmental entity and the successful vendor as a result of this solicitation. The City shall not be liable for any costs or damages incurred by any other entity.

8. MODIFICATIONS TO EXISTING CONTRACT

Terms and conditions may be added, modified, and deleted upon mutual agreement between authorized agents of the City and the vendor provided that such terms and conditions remain within the scope and original intent of the Solicitation. Said terms and conditions may include, but are not limited to, additions or deletions of service levels and/or commodities, and increases or decreases in the time limits for an existing contract. Any and all modifications must be signed by authorized agents of the City and the vendor prior to the enactment of such modifications.

9. DELIVERY

Quoted prices and deliveries are to be FOB Destination freight prepaid and shall require inside delivery unless otherwise specified in the Special Conditions of this Solicitation. Title and risk of loss shall pass to the City upon inspection and acceptance by the City at its designated point of delivery; unless otherwise specified in the Special Conditions.

10. CONDITION OF MATERIALS AND PACKAGING

All materials and products supplied by the vendor in conjunction with this solicitation shall be new (unless otherwise specified in the Special Conditions), warranted, free from defects, and consistent with industry standards. The Solicitation price shall include commercial packaging. The materials and products shall be delivered to the City in excellent condition for inspection by City

representatives. If the product(s) is damaged or a number of items or components are missing during shipment, the vendor shall either replace the damaged items (if shipped by the vendor) or be responsible for filing, processing and collecting all damage claims (if shipped by a contractor of the shipper). In the event that any of the materials and products supplied to the City by the vendor are found to be defective or do not conform to the specifications, the City reserves the right to return the product to the vendor at no cost to the City; either as an exchange for suitable merchandise or for full credit.

INSURANCE REQUIREMENTS

The following listed insurance requirements shall be carried by the selected vendor for the entirety of the contract. Applicable requirements for this solicitation are identified by completed check boxes.

1. ☒ **Commercial General Liability**, written on an occurrence form, for limits not less than $1,000,000 for bodily injury and property damage for each occurrence and not less than $2,000,000 aggregate. Coverage shall include premises and operations liability, blanket contractual, broad form property damage, products and completed operations and personal injury endorsements.

2. ☒ **Workers' Compensation and Employers Liability** as required by statute. Employers Liability coverage is to be carried for a minimum limit of $1,000,000 each accident/disease and $2,000,000 aggregate.

3. ☒ **Automobile Liability** for limits not less than $1,000,000 combined single limit for bodily injury and property damage for each occurrence. Coverage shall include owned, non-owned and hired automobiles.

4. ☐ **Umbrella Liability** of $, following form to the Commercial General Liability.

5. ☐ **Builders Risk or Course of Construction** Purchased by contractor to cover physical damage to property in construction or rehab. Contractors will ensure that City and subcontractors will be covered as additional insureds, excluding their own machinery, tools and equipment.

6. ☐ **Professional Liability** Professional Liability insurance in an amount of not less than $1,000,000 per occurrence, covering the professional work contemplated under this proposal. The coverage shall have an extended reporting period of three (3) years following the date of substantial completion of the work for reporting of claims.

7. ☐ **Pollution Legal Liability Insurance** for limits not less than $1,000,000 per occurrence (or claims made) and not less than $1,000,000 aggregate for bodily Injury, personal Injury and property Damage.

8. ☒ **Privacy/Network/Cyber Liability Insurance f**or limits not less than $1,000,000 for any firm providing product or services associated with IT, software, communication, or network.

Additional Insurance Requirements:

- Contractor will be required to, at its own expense, keep in full force and effect during the term of the Agreement, and during the term of any extension or amendment of the Agreement, insurance reasonably sufficient to insure against the liability assumed by Contractor pursuant to the provisions of the solicitation sent by the City of Arvada or as determined by the City of Arvada Risk Manager.

- Issuance of a Purchase Order/Contract is contingent upon the receipt of the insurance documents. Work shall not commence before this requirement is met. If the vendor fails to submit the required insurance documents within fifteen (15) calendar days after notice to submit such policies is given to the vendor by a City representative, the vendor may be in default of the Award.

- Except for Workers Compensation, Employer's Liability insurance, Automobile Liability and Professional Liability insurance, the City of Arvada must be endorsed as an additional insured on a Certificate of Insurance.

- All coverage must be written with carriers holding a minimum A.M. Best rating of A-:VII, and authorized to do business in Colorado. Coverage shall be primary, and any insurance held by the City of Arvada is excess and non-contributory.

- The City, through its Risk Manager, reserves the right to require additional insurance coverage and other requirements.

ADMINISTRATIVE INFORMATION

1. PURPOSE - TO OBTAIN PROPOSALS

The purpose of this Solicitation is to provide qualified vendors with sufficient information regarding the City's needs in order to adequately prepare and submit a Proposal. Proposals must be received by the date and time established in this solicitation. Once the deadline has passed, Proposals will not be able to upload to the BidNet site. Proposals are proprietary working documents offered by prospective vendors and, as such, are not subject to public inspections until an official award is made.

2. PREPARATION AND SUBMISSION

Offers will be prepared as follow:

a. A blank shall be construed as "No Bid/not offered". Where there is a discrepancy between the unit price and the extension of prices, the unit price shall prevail.
b. Vendors will not knowingly participate in solicitations where there exists a conflict of interest with their firm and a member of City staff or their immediate family.
c. Solicitations and addenda are available at WWW.BIDNETDIRECT.COM. Registration is available to receive email notification of new solicitations, addenda and communications.
d. Vendors who qualify their Offers by requiring alternate contractual terms and conditions as a stipulation for contract award, must include such alternate terms and conditions in its Offer. The City reserves the right to declare the vendor's Offer as non-responsive if any of these alternate terms and conditions are in conflict with the City's terms and conditions, or its best interest.
e. Once Offers have been opened, the City shall not consider any subsequent submissions of alternate terms and conditions.

3. MODIFICATION OR WITHDRAWAL OF OFFERS

Modifications to Offers- Changes to the Offer after the submission deadline shall be allowed only when the vendor can show convincing evidence that an unintentional factual mistake was made. Modification requests must be made in writing. Any modification submitted to the City must have the vendor's name, address, Solicitation Number and title included.

Withdrawal of Offers- Offers may not be withdrawn after the deadline for the Solicitation for a period of ninety (90) calendar days. If an Offer is withdrawn by the vendor during this ninety (90) day period, the City may, at its option, suspend the vendor and may not accept any Offer from the vendor for a six (6) month period following the withdrawal.

4. REJECTION OF OFFERS

a. The City may reject an offer, in whole or in part, for reasons including, but not be limited to:
   i. The vendor misstates or conceals any material fact in its Proposal;
   ii. The vendor's Offer does not strictly conform to the law or requirements of the Solicitation;
   iii. The Offer expressly requires or implies a conditional award that conflicts with the method of award stipulated in the Special Conditions;
   iv. The Offer does not include documents which are required for submission with the Offer; or
   v. The Offer has not been executed by the vendor through an authorized signature.
b. The City may, at its sole and absolute discretion:
   i. Reject all or parts of Offers submitted by prospective vendors;
   ii. Re-advertise this Solicitation;
   iii. Postpone or cancel the Solicitation;
   iv. An Offer may not be accepted from, nor any contract be awarded to, any person or firm which
      (a) is in arrears to the City for any debt or Contract, or is a defaulter as surety for any obligation to the City.
      (b) has failed to perform faithfully any previous contract with the City, State or Federal governmental for a minimum period of one (1) year after this previous Contract was terminated for cause.
      (c) has pending litigation against the City on the date and time that the Solicitation is due.

5. BEST VALUE AGENCY

The City of Arvada is a best value agency. Best value means a technique in a competitive solicitation process which emphasizes value over price and permits the evaluation of criteria such as, but not limited to, qualifications, experience, and performance data to determine the best overall value to the city. It is solely incumbent on the staff of the City of Arvada to conduct due diligence to determine best value prior to award.

6. METHOD OF AWARD - BEST EVALUATIVE SCORE BASED ON WRITTEN PROPOSAL:

The selection process will consist of evaluation of qualified proposals received based on the criteria outlined in this RFP. Presentations may be requested to confirm or clarify the information contained in the proposal responses. It is the intent of the City to award a contract to the vendor(s) who receives the highest score from the City's RFP Evaluation Committee.

The Committee will score written Proposals by reviewing documentation submitted by the vendors. Evaluation will be based on the following criteria:

1) Firm capabilities and demonstrated experience
2) Scope of submission
3) Effective project approach and training plan
4) Effectiveness of implementation, or installation, plan
5) Interoperability with current systems and storage
6) Price/total cost of ownership to support best value for products and services provided
7) Performance Measures included in the proposal if a service over $15,000

Exceptions to specifications or terms and conditions may result in submission being deemed non-responsive.

7. PRESENTATIONS

A second phase MAY be incorporated, in which the Committee will invite a limited number of vendors who received high scores during phase one, to provide an oral presentation. The evaluative score from the oral presentations will determine the top rated vendor(s).

8. PROPOSAL FORMAT REQUIREMENTS

Written proposal should include the information in the format outlined below. Information should be concise, without extraneous content. Refrain from submitting generic marketing materials, alternate and unapproved agreements, and any other information not requested.

All information should be contained in one pdf file, with sections bookmarked. The file name should start with proposer's name, then the proposal number. Imbedded links for required information are NOT acceptable. All information that proposers want evaluated must be contained in the pdf file.

a. Cover & executive summary

b. Detail Firm's and assigned staff capabilities, experience, qualifications, licenses and certifications

c. Previous projects of similar size and scope, with references

d. Details of proposal – proposed products and services, implementation timeline, training plan, and project / project management approach as it applies to the Statement of Work

e. Technical specifications for hardware, software, and all products, include warranty information

f. Support of product documents and uptime performance for SaaS

g. Any supporting documents of EULA, privacy of data, and security documents, along with CJI compliance

h. Completed attached City submittal forms and all other forms or attachments specifically requested

i. Fee Schedule/Cost Proposal – provide a detailed cost breakdown for all proposed products and services outlined in the Statement of Work

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STATEMENT OF WORK

BACKGROUND AND OBJECTIVES

The City of Arvada (City) is the seventh largest city in Colorado, with a population of approximately 125,000 residents and over 45,000 households. Arvada provides a full range of municipal services, including police, water, sewer and stormwater, streets, recreation including parks, playing fields and sports facilities, golf courses, commercial and residential code enforcement, trash and recycling collection services, economic development, and planning and zoning. Arvada employs over 730 full-time employees and 300 seasonal employees.

The Arvada Police Department is comprised of 190 authorized sworn personnel and 63 professional staff. Our department deploys in a sector-based strategy, so officers are spread out among four buildings; headquarters and three community stations strategically placed within the 32 square mile city. The police department has various bureaus and units, including; Neighborhood Services Team, Criminal Investigations Bureau, Records, Police Service Technicians, Crime Analysis, Body Worn Camera Redaction and Records Management, Patrol (including a Traffic Unit, School Resource Officers, and Community Outreach Team), Civilian Accident Investigators, and the Administration Bureau.

As technology continues to evolve, the Arvada Police Department (Arvada PD) is dedicated to finding ways in which technology can be used to Arvada PD's benefit by increasing efficiency, decreasing the need for officers to be on the street, all the while improving public safety.

SUMMARY DESCRIPTION OF WORK TO BE PERFORMED

The Arvada Police Department is seeking proposals from qualified vendors to supply body cameras, CEW devices, dashcams for several traffic units, interview room recording software, digital evidence software, dictation software to assist with report writing, as well as software and equipment for a drone first responder program. The ideal vendor will install, maintain, and warranty all equipment and software. Proposals should include training on all devices and software.

DELIVERABLES AND SPECIFICATIONS OR PERFORMANCE STANDARDS

The vendor will provide the following devices and software with correlating requirements:

- CEW Device – 215 deployed CEW's must have multiple-cartridge capacity to tie into software for accurate reporting and evidence management
- Body cameras - 218 deployed body cameras with audio and video recording device that automatically uploads to a digital evidence management system
- Dashcams – Three (3) deployed devices with audio and video recording to be placed in several of the traffic units
- Interview room recording equipment - audio and video recording capabilities in seven (7) interview rooms
- Digital evidence storage - cloud storage that will keep all body camera, dash camera, and interview room software in one location. Must have capability to automatically download data from body cameras and dash cameras once equipment gets within range of a supporting building
- Artificial intelligence dictation software - a software with the ability to dictate a report from the body camera footage
- Drone for first responders - dispatched self-flying drones with the capability to live-stream a scene to a real time information center hub. Arvada PD will require five (5) drones in total
- Anti-Drone software - software that prohibits other personal drones from interfering with a scene where Arvada PD's drones will fly

SCHEDULE OR TIMELINE FOR PERFORMANCE

Installation and go-live for all equipment and software listed above by first quarter 2026.

VENDOR RESPONSIBILITIES

The vendor will supply all necessary equipment and software for all activities mentioned above. Additionally, the vendor will provide necessary training for Arvada PD staff to be able to use all equipment and software. Vendor will provide help desk services available for most days and hours given the 24/7/365 nature of policing and the hours in which the equipment will be used.

CITY RESPONSIBILITIES

The City will provide points of contact with expertise and knowledge of the relevant equipment, technology, and/or software.

ACCEPTANCE CRITERIA

The ideal vendor will have one system that integrates with all above-mentioned software and equipment.

PRICING &/OR PAYMENT

The City of Arvada will provide full payment upon satisfactory installation and roll out of each component of this proposal.

The rest of this page is intentionally left blank.

REQUIRED VENDOR SUBMITTAL FORM

SUBMITTED BY:

Company Name: _____

Contact Names: Sales/Customer Service _____

Address: _____

Phone: (_____) _____ Email(s): _____

The undersigned hereby affirms that:

- They are a duly authorized agent of the vendor;
- They have read all Terms and Conditions and technical specifications made available in conjunction with this solicitation and fully accepts and acknowledges this offer is consistent with the specifications and terms and conditions, unless specific variations have been clearly and expressly listed in the offer.
- The Offer is in all respects fair, without outside collusion or otherwise illegal action.

By:_____ _____ _____
Signature of Authorized Agent Date FEIN

_____ _____ _____
Typed/Printed Name of Agent Title of Agent Agent email

Type of Business: Corporation, State of Incorporation _____ Partnership (general)
Partnership (limited) Sole Proprietorship Limited Liability Company Other _____

Address of main business office, principal factory, or warehouse if different from above:

_____

Principal line of business: _____

Number of years in present business: _____

REFERENCES:

☐ Check here if Firm's standard reference sheet is attached, otherwise, use the space below.

Name: _____ Contact Person: _____

Address: _____

Telephone No: _____ Email: _____

Describe type of work/service performed or items supplied: _____

_____

Name: _____ Contact Person: _____

Address: _____

Telephone No: _____ Email: _____

Describe type of work/service performed or items supplied: _____

_____

References continued:

Name: _____ Contact Person: _____

Address: _____

Telephone No: _____ Email: _____

Describe type of work/service performed or items supplied: _____

_____

PAYMENT TERMS: If the vendor does not accept a percentage discount, the City standard is net thirty (30) days after the date that the City receives an accurate invoice and has accepted the product or service. Payment is the date of the check mailing or date of the credit card transaction.

Discount: ____% ____ Days, Net: 30___ Days, Accept Visa without additional fee? _____

SUBMITTAL CHECKLIST:

Proposals shall be submitted in the order listed below, unless otherwise directed in Administrative Information, with each section clearly identified. **Missing information or required documents may result in submission being deemed non-responsive.**

- ☐ Submit **one** pdf document, unless instructed to include Excel file of Bid Schedule, on-line at BidnetDirect.com (File Name: Company name – Solicitation number)
  - ☐ Cover & Executive Summary
  - ☐ Detail Firm's and employees' capabilities, experience, licensing, and certifications
  - ☐ Previous projects of similar size and scope, with references
  - ☐ Details of proposal – proposed products and services, implementation timeline, training plan, and project / project management approach as it applies to the Statement of Work
  - ☐ Technical specifications for hardware, software, and all products, include warranty information
  - ☐ Support of product documents and uptime performance for SaaS
  - ☐ Any supporting documents of EULA, privacy of data, and security documents, along with CJI compliance
  - ☐ Completed, signed Required Vendor Submittal Form, Performance Measures
  - ☐ Fee Schedule/Cost Proposal – provide a detailed cost breakdown for all proposed products and services outlined in the Statement of Work

CONFIRM:

- ☐ CONFIDENTIAL information, if any, MUST be stamped as such on each page and submitted separately.
- ☐ VARIATIONS: Checking this box indicates that the vendor has variations to this solicitation. Identify all variations and exceptions to this solicitation on a separate sheet/s of paper. If variations are not stated in the vendor's Offer, it shall be agreed that the vendor's Offer fully complies with all conditions identified in this Solicitation. For each variation listed, reference the applicable section of the solicitation document, the page number, and the variance. Submittal of a Vendor Contract is considered excessive in Variations and may be cause for determining that the Bid/Offer is non-responsive and ineligible for award.
- ☐ Insurance – Checking this box accepts that the insurance requirements listed by the City are acceptable unless listed as a variation.
- ☐ Initial to acknowledge receipt of Addenda, if any:

  #1 _____ #2 _____ #3 _____

VENDOR NAME:_____ **SOLICITATION #** _____

PERFORMANCE MEASURES FORM INSTRUCTIONS:

The City has incorporated Performance Management into its organizational culture. When vendors submit offers to the City in response to solicitations for ***Services*** (not associated with the primary purchase of goods, supplies, or software), they shall identify the methods and goals by which the City will monitor and report on the Vendor's performance providing those services to the City. Vendor's performance shall be documented as to (a) Price/Cost, (b) Punctuality/Responsiveness (c) Quality/Reliability, and (d) Sustainability/or Innovation.

1. Vendor will define 1-2 measures for (a) Price/Cost, (b) Punctuality/Responsiveness (c) Quality/Reliability, and (d) Sustainability/or Innovation, that follow S.M.A.R.T goals: Specific, Measurable, Achievable, Relevant, and Timely, per category.
2. The awarded vendor will be evaluated by the City per these defined metrics 2 months prior to contract renewal.
The department will review with the vendor any measures needing improvement.

SERVICES means: the furnishing of labor, time, effort, maintenance, etc., by a vendor/contractor/consultant, with an initial contract amount of more than $15,000.

(a) Price/Cost

Example Measure: Consultant will submit detailed invoices substantiating amounts requested.

1. _____
   _____
2. _____
   _____

(b) Punctuality/Responsiveness

Example Measure: Reporting of project status will occur monthly with the City and consultant's Project Manager.

1. _____
   _____
2. _____
   _____

(c) Quality/Reliability

Example Measure: Revisions are drafted within two weeks, and no more than 3 revisions prior to final draft.

1. _____
   _____
2. _____
   _____

(d) Sustainability and/or Innovation

Example Measure: Digital reports delivered to the City 95% of the time will to reduce the use of paper.

1. _____
   _____
2. _____
   _____

Performance measures will be queried for every year of the contract. Performance measures reporting will be considered when renewing or awarding a contract with a vendor.

Exhibit B

AN AGREEMENT BETWEEN THE CITY OF ARVADA AND AXON ENTERPRISE, INC. FOR GOODS AND SERVICES RELATED TO POLICE DEPARTMENT TECHNOLOGY IMPROVEMENTS IN AN AMOUNT NOT TO EXCEED $1,180,369.75 IN THE FIRST YEAR

CITY OF ARVADA

Addendum Description

Addendum 1 contains the answers to the questions received.

Notice Modifications

Notice Information	From Value	To Value
No entries		

Category Modifications

Added Categories
No Categories Added

Removed Categories
No Categories Removed

Added Documents[A]

Document	Size	Uploaded Date	Language
Q&A Document 1.pdf [pdf]	8 Kb	11/07/2025 03:08 PM MST	English

Questions & Answers - 1

Solicitation 25-PD-072 - PD Technology Improvements
Buying Organization City of Arvada

No	Question/Answer	Question Date
Q1	**Question: Implementation Timeline / Time Horizon** Can the City please clarify the anticipated implementation timeline or target completion date for the technology improvements outlined in RFP No. 25-PD-072? a. Specifically, is there a preferred go-live or deployment period following vendor selection, b. and are there any milestone dates (e.g., pilot, phased rollout, full implementation) that vendors should align with in their proposals? **Answer:** a. It is anticipated to begin implementation during the 1st quarter of 2026 with the anticipation of finalizing in the 3rd quarter of 2026 (can be negotiated during the contracting process). b. No milestones have been identified at this time and will be discussed during contracting due to best practice advice from vendor.	10/31/2025
Q2	**Question: Vendor Scope and Proposal Structure** a. Will the City of Arvada consider proposals from vendors providing individual components or specialized solutions within the overall technology suite—such as interview room recording systems, digital evidence management software, or dictation/report-writing software— b. or is the City seeking a single vendor capable of delivering an integrated, end-to-end solution that includes all components listed below? •Body cameras •Conducted Energy Weapons (CEWs) •Dashcams for traffic units •Interview room recording systems •Digital evidence management software •Dictation/report writing software •Drone first responder hardware, software, and support systems c. In other words, would a proposal offering a standalone solution (e.g., interview room recording software compatible with multiple digital evidence platforms) be considered for evaluation under this RFP, or should vendors only respond if proposing the full suite of technologies? **Answer:** a. Yes, individual component proposals will be considered and will reflect in scoring process of ease of integration with digital evidence storage. b. Integration is preferred, however not required if bridging or compatibility can be accomplished seamlessly by other means. c. This will reflect in the evaluation scoring to determine ease of operation and compatibility. it is essential that if different solutions exist that the manpower use does not increase with any significance to accomplish goals.	10/31/2025

No	Question/Answer	Question Date
Q3	**Question: Interview Room Site Visit Request** On page 9, under “Deliverables and Specifications or Performance Standards,” the RFP references: Interview room recording equipment – audio and video recording capabilities in seven (7) interview rooms. Regarding the interview rooms, would it be possible to schedule a site visit prior to November 6, 2025, to assess the seven (7) interview rooms, the observation room, and the server room for proper planning and compatibility evaluation? **Answer:** A site visit was not possible. Reference the Answer to Question 4, the rooms are described with required work for connectivity.	10/31/2025
Q4	**Question: Interview Room Construction and Cabling Details** To assist with installation planning and cable routing, can the City please provide detailed information on the seven (7) interview rooms, referenced under “Deliverables and Specifications or Performance Standards” on page 9 as well as the observation room, and the server room? Specifically, please include: •The surface area of the walls and ceilings in each of the seven interview rooms, the observation room, and the server room. •The construction materials used for the walls and ceilings, include whether they are composed of reinforced CMU, poured concrete, or drywall over metal studs, and whether they include acoustic, ballistic, or security reinforcement (e.g., steel mesh, soundproofing, or anti-tamper finishes). •The type of ceiling in each room (e.g., drop ceiling, plaster ceiling, or hard ceiling). •The distances and spatial relationships between each of the seven interview rooms, the observation room, and the server room. •The construction and materials of the walls and ceilings in the corridors or hallways connecting these rooms. This information will help evaluate the ease of cable routing, determine installation methods, and identify any potential structural limitations or modifications necessary to integrate recording, microphone, and network cabling systems. **Answer:** The rooms are made of drywall mostly with metal studs that have formed interior walls without fire resistant construction floor to ceiling. All rooms are pre-cabled to include power. Walls are standard 1/2 drywall. The rooms exist in four (4) different buildings within the City; four (4) of them are at the main headquarters at City Hall.	10/31/2025

No	Question/Answer	Question Date
Q5	**Question: Clarification on RFP #25-PD-072 – Partial Proposal Submission** Hi Dawn, I wanted to confirm whether the City would consider a response from a vendor who does not provide all of the services listed in the Statement of Work. Our company, Flock Safety, specializes in Drone as First Responder (DFR) solutions and believe our NDAA drone solution could be a strong fit for that portion of the project. a. Would the City be open to receiving a proposal focused specifically on the DFR component, b. or is the intent to award to a single vendor providing all listed technologies (body cameras, CEWs, dashcams, etc.) as one integrated package? Thank you for the clarification, we just want to make sure we're aligning our response appropriately before the submission deadline. Best regards, Will Nobles **Answer:** a. Yes consideration will be given to all proposals and integration ease to digital evidence storage will reflect in scoring. b. No, the goal is ease of integration and not making things more difficult for personnel to store, edit, audit, and redact during use.	11/04/2025
Q6	**Question: License Quantities** Other than the 190 licenses needed for officers, how many additional licenses will the agency require for system admins and records techs? **Answer:** Thirty (30) additional licenses will be needed for other personnel.	11/06/2025
Q7	**Question: Award Date** In order to provide an accurate implementation timeline and accommodate the agency's request for installations in Q1 2026, what date does the city intend to execute a contract by? **Answer:** The City anticipates that a contract will be completed in 90 days following selection of vendor with implementation being the start of process, not necessarily completion.	11/06/2025
Q8	**Question: Term Length** Would APD be open to seeing both a 5 and 10 year pricing proposal? **Answer:** Yes, the City is open to considering both a 5 and 10 year pricing proposal.	11/06/2025
Q9	**Question: CCTV Streams** RE: The real time information center component, how many external CCTV streams is APD looking to pull in? **Answer:** To begin with it would be 30-40 feeds being pulled. Arvada has over 300 cameras and would continue to build using these as well as public/private partnerships. In the end the City would prefer to not have limits on how many feeds but would limit to 50 overall at any given time.	11/06/2025

No	Question/Answer	Question Date
Q10	**Question: Counter drones** RE: Counter drone software, a. is the city looking for a Rapid Response Trailer (mobile, event-based coverage), b. or would a fixed-site sensor network be more aligned with your needs (continuous 24/7 monitoring for CUAS and DFR)? **Answer:** a. A Rapid Response Trailer is not currently a need, as we are limited by capacity of the City's I.T. Department. b. Yes, a fixed site sensor network is preferred.	11/06/2025
Q11	**Question: Data Migration** a. Would you require data migration if you switched to a new DEMS? b. How many TB of data? **Answer:** a. Data migration is not required, but preferred. b. It is believed to be estimated at 11 TB but looking at 20TB to account for unforeseen information. Amount would be investigated during contract negotiation.	11/06/2025
Q12	**Question: Installation** Does the City have a preferred installation vendor for In-Car Video and Interview Room Recording Systems? **Answer:** There is no preferred installation vendor for in-car video and interview room recording systems, as some of this technology is new to the City.	11/06/2025
Q13	**Question: Requested Technologies** Will the city accept bids that only meet certain requirements and not all as only one vendor can meet the energy requirements? **Answer:** Yes, refer to the Answers for Questions 2 and 5.	11/06/2025

Exhibit C

AN AGREEMENT BETWEEN THE CITY OF ARVADA AND AXON ENTERPRISE, INC. FOR GOODS AND SERVICES RELATED TO POLICE DEPARTMENT TECHNOLOGY IMPROVEMENTS IN AN AMOUNT NOT TO EXCEED $1,180,369.75 IN THE FIRST YEAR

FEDERAL BUREAU OF INVESTIGATION
CRIMINAL JUSTICE INFORMATION SERVICES
SECURITY ADDENDUM

The goal of this document is to augment the CJIS Security Policy to ensure adequate security is provided for criminal justice systems while (1) under the control or management of a private entity or (2) connectivity to FBI CJIS Systems has been provided to a private entity (contractor). Adequate security is defined in Office of Management and Budget Circular A-130 as "security commensurate with the risk and magnitude of harm resulting from the loss, misuse, or unauthorized access to or modification of information."

The intent of this Security Addendum is to require that the Contractor maintain a security program consistent with federal and state laws, regulations, and standards (including the CJIS Security Policy in effect when the contract is executed), as well as with policies and standards established by the Criminal Justice Information Services (CJIS) Advisory Policy Board (APB).

This Security Addendum identifies the duties and responsibilities with respect to the installation and maintenance of adequate internal controls within the contractual relationship so that the security and integrity of the FBI's information resources are not compromised. The security program shall include consideration of personnel security, site security, system security, and data security, and technical security.

The provisions of this Security Addendum apply to all personnel, systems, networks and support facilities supporting and/or acting on behalf of the government agency.

1.00 Definitions

1.01 Contracting Government Agency (CGA) – the government agency, whether a Criminal Justice Agency or a Noncriminal Justice Agency, which enters into an agreement with a private contractor subject to this Security Addendum.

1.02 Contractor – a private business, organization or individual which has entered into an agreement for the administration of criminal justice with a Criminal Justice Agency or a Noncriminal Justice Agency.

2.00 Responsibilities of the Contracting Government Agency.

2.01 The CGA will ensure that each Contractor employee receives a copy of the Security Addendum and the CJIS Security Policy and executes an acknowledgment of such receipt and the contents of the Security Addendum. The signed acknowledgments shall remain in the possession of the CGA and available for audit purposes. The acknowledgement may be signed by hand or via digital signature (see glossary for definition of digital signature).

3.00 Responsibilities of the Contractor.

3.01 The Contractor will maintain a security program consistent with federal and state laws, regulations, and standards (including the CJIS Security Policy in effect when the contract is executed and all subsequent versions), as well as with policies and standards established by the Criminal Justice Information Services (CJIS) Advisory Policy Board (APB).

4.00 Security Violations.

4.01 The CGA must report security violations to the CJIS Systems Officer (CSO) and the Director, FBI, along with indications of actions taken by the CGA and Contractor.

4.02 Security violations can justify termination of the appended agreement.

4.03 Upon notification, the FBI reserves the right to:

a. Investigate or decline to investigate any report of unauthorized use;

b. Suspend or terminate access and services, including telecommunications links. The FBI will provide the CSO with timely written notice of the suspension. Access and services will be reinstated only after satisfactory assurances have been provided to the FBI by the CGA and Contractor. Upon termination, the Contractor's records containing CHRI must be deleted or returned to the CGA.

5.00 Audit

5.01 The FBI is authorized to perform a final audit of the Contractor's systems after termination of the Security Addendum.

6.00 Scope and Authority

6.01 This Security Addendum does not confer, grant, or authorize any rights, privileges, or obligations on any persons other than the Contractor, CGA, CJA (where applicable), CSA, and FBI.

6.02 The following documents are incorporated by reference and made part of this agreement: (1) the Security Addendum; (2) the NCIC 2000 Operating Manual; (3) the CJIS Security Policy; and (4) Title 28, Code of Federal Regulations, Part 20. The parties are also subject to applicable federal and state laws and regulations.

6.03 The terms set forth in this document do not constitute the sole understanding by and between the parties hereto; rather they augment the provisions of the CJIS Security Policy to provide a minimum basis for the security of the system and contained information and it is understood that there may be terms and conditions of the appended Agreement which impose more stringent requirements upon the Contractor.

6.04 This Security Addendum may only be modified by the FBI, and may not be modified by the parties to the appended Agreement without the consent of the FBI.

6.05 All notices and correspondence shall be forwarded by First Class mail to:

Information Security Officer

Criminal Justice Information Services Division, FBI

1000 Custer Hollow Road

Clarksburg, West Virginia 26306

FEDERAL BUREAU OF INVESTIGATION
CRIMINAL JUSTICE INFORMATION SERVICES
SECURITY ADDENDUM

CERTIFICATION

I hereby certify that I am familiar with the contents of (1) the Security Addendum, including its legal authority and purpose; (2) the NCIC Operating Manual; (3) the CJIS Security Policy; and (4) Title 28, Code of Federal Regulations, Part 20, and agree to be bound by their provisions.

I recognize that criminal history record information and related data, by its very nature, is sensitive and has potential for great harm if misused. I acknowledge that access to criminal history record information and related data is therefore limited to the purpose(s) for which a government agency has entered into the contract incorporating this Security Addendum. I understand that misuse of the system by, among other things: accessing it without authorization; accessing it by exceeding authorization; accessing it for an improper purpose; using, disseminating or re-disseminating information received as a result of this contract for a purpose other than that envisioned by the contract, may subject me to administrative and criminal penalties. I understand that accessing the system for an appropriate purpose and then using, disseminating or re-disseminating the information received for another purpose other than execution of the contract also constitutes misuse. I further understand that the occurrence of misuse does not depend upon whether or not I receive additional compensation for such authorized activity. Such exposure for misuse includes, but is not limited to, suspension or loss of employment and prosecution for state and federal crimes.

_____ _____

Printed Name/Signature of Contractor Employee Date

_____ _____

Printed Name/Signature of Contractor Representative Date

_____

Organization and Title of Contractor Representative

Exhibit D

AN AGREEMENT BETWEEN THE CITY OF ARVADA AND AXON ENTERPRISE, INC. FOR GOODS AND SERVICES RELATED TO POLICE DEPARTMENT TECHNOLOGY IMPROVEMENTS IN AN AMOUNT NOT TO EXCEED $1,180,369.75 IN THE FIRST YEAR

PD TECHNOLOGY IMPROVEMENTS

ARVADA POLICE DEPARTMENT

RFP Number: 25-PD-072

Submitted By: Axon Enterprise, Inc.
Address: 17800 N 85th Street Scottsdale, AZ 85255
Phone: 800.978.2737
Fax: 480.991.0791

AXON

AXON ENTERPRISE, INC.
17800 NORTH 85TH STREET
SCOTTSDALE, AZ 85255

11/20/2025
Dawn Krank
Purchasing Manager
Arvada Police Department
8101 Ralston Rd
Arvada CO 80002

DEAR MS. KRANK:

RFP No. 25-PD-072 represents an important step in the Arvada Police Department's (Arvada PD) ongoing effort to modernize public safety technology and support personnel with dependable tools, efficient workflows, and real-time awareness across four operational sites. Axon appreciates the opportunity to support this effort and to build upon the systems Arvada PD currently operates.

Arvada PD is an existing Axon customer with active bundled programs that include OSP7+, Axon Fleet 3, and Axon Interview. This proposal builds on that foundation. Transitioning to OSP10 Premium offers a thoughtful modernization approach that supports hardware refresh cycles, promotes system consistency, and expands Arvada PD's capabilities without disrupting established workflows. Under this offering, the department is positioned to receive TASER 10 energy weapons, Axon Body 4 cameras and docks, integrated drone as first responder components, a full refresh of all interview room hardware, and a broader set of features designed to support efficient reporting, situational awareness, and evidence management.

To illustrate how all of these components support Arvada PD's operational objectives, the following table presents the core elements of the proposed solution and the direct value each brings to the department.

PROPOSED COMPONENT	BENEFIT TO ARVADA PD
TASER 10 Energy Weapon (215 devices)	Energy weapons with a 10-cartridge magazine that support 10 single-probe, individually aimed shots; supports automated data capture and evidence management in Axon's digital evidence management system.
Axon Body 4 (218 cameras)	Audio and video recording devices that can automatically upload to Axon's digital evidence management system; audio is transcribed to support AI-assisted report drafting.
Axon Fleet 3 (3 units)	In-car video systems with audio and video recording to be deployed in traffic units; supports centralized evidence upload.
Axon Interview (7 rooms)	Interview room recording systems with high-quality audio and video capture across multiple rooms; supports secure storage and timely review features.

Axon Evidence (Cloud-based DEMS)	Centralized digital evidence system that stores both first- and third-party data, with automatic ingestion from Axon devices when they return to a supporting building, connect to the network, or are placed in a docking station.
Draft One (AI dictation software)	AI-assisted first-draft report generation feature within the digital evidence system that uses transcribed body-worn camera audio to create initial report narratives, helping reduce documentation time while allowing officers to review and finalize content.
Skydio Drones and Docks (5 drones)	Fully autonomous drone and docking systems designed to support livestreaming and real-time situational awareness during evolving incidents; enables remote deployment to provide aerial visibility to a desired information center hub.
Dedrone Fixed Site (Anti-Drone Software)	Airspace awareness software designed to detect, track, and respond to unauthorized drone activity near active scenes, helping maintain safe operating conditions for public safety drone use.

Together, these components support a coordinated modernization of the systems Arvada PD already uses today, with added tools that help improve efficiency, enhance situational awareness, and support long-term lifecycle planning through the OSP10 Premium program. This proposal builds on Axon's direct experience working with Arvada PD, as well as our broader support of public safety agencies across Colorado and nationwide—informing how we approach technology deployment, training, and long-term operational support.

If you have any questions regarding our proposed offering, please contact either of the following team members.

Mr. Brian Moutinho
Strategic Account Executive
P: 916.806.2275
E: bmoutinho@axon.com

Ms. Julia Leibelshon
Sr. Proposal Manager
E: jleibelshon@axon.com
E: proposals@axon.com

Sincerely,

Deputy General Counsel
Robert E. Driscoll, Jr.

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY 1

2 FIRM CAPABILITIES, EXPERIENCE, LICENSING, AND CERTIFICATIONS 4

2.1 AXON'S CAPABILITIES RELEVANT TO ARVADA PD 4

2.2 TEAM QUALIFICATIONS 6

2.3 PREVIOUS PROJECTS WITH REFERENCES 10

3 DETAILED PROPOSAL 12

3.1 PROPOSED PRODUCTS AND SERVICES 12

3.2 IMPLEMENTATION APPROACH AND TIMELINE 24

3.3 TRAINING PLAN 27

3.4 PROJECT MANAGEMENT APPROACH 27

4 PRODUCT SUPPORT AND DOCUMENTS 29

4.1 UPTIME PERFORMANCE 29

4.2 SYSTEM HEALTH MONITORING 29

4.3 MAINTENANCE SCHEDULE AND PLATFORM RELIABILITY PRACTICES 30

4.4 CUSTOMER SUPPORT AVAILABILITY 30

4.5 RMA AND REPLACEMENT PROCESS 32

4.6 DOCUMENTATION AND PRODUCT GUIDES 32

5 SECURITY DOCUMENTS 33

6 TECHNICAL SPECIFICATIONS AND WARRANTY 34

6.1 WARRANTY INFORMATION 34

6.2 TECHNICAL SPECIFICATIONS 35

7 ARVADA PD RFP VENDOR FORMS 63

7.1 VENDOR SUBMITTAL FORM 64

7.2 PERFORMANCE MEASURES FORM 66

8 FEE SCHEDULE & COST BREAKDOWN 67

8.1 DETAILED COST BREAKDOWN 67

9 APPENDIX 71

AXON'S PROPOSED TERMS 72

AXON SECURITY DOCUMENTS 74

AXON

Our acceptance of this engagement is subject to completion of a formal agreement between both parties documenting the purchased products and services. Upon acceptance, the actual terms of our engagement will be documented in a separate writing to be signed by you and us. The information provided in this proposal is intended for informational purposes only and may not be copied, used, or modified, in whole or in part, for any purpose other than evaluation or as otherwise stated in the solicitation documents without Axon's written approval. All information and stats in this proposal are current as of January 1, 2025, unless otherwise noted.

1 EXECUTIVE SUMMARY

WHY AXON?

Axon offers a complete public safety modernization program for Arvada PD, integrated seamlessly end-to-end. This program will enhance Arvada PD's capabilities, reduce administrative burden, unify evidence management, and provide dependable training and support–meeting Arvada PD's modernization goals within one proven, scalable technology platform.

Arvada PD is continuing your commitment to deploying modern, integrated public safety technology by expanding upon the Axon systems you already use today. With active programs for OSP7+, Axon Fleet 3, and Axon Interview, the department has established strong digital evidence practices, connected workflows, and a reliable cloud-based foundation across four operational facilities.

RFP 25-PD-072 focuses on strengthening this environment with improved interoperability, reduced administrative workload, and expanded situational awareness. Axon's proposal meets these priorities through a coordinated modernization program that includes the OSP10 Premium bundle and upgrades to Arvada PD's existing Axon Fleet 3 and Axon Interview programs, along with new AI-assisted report drafting capabilities through Draft One.

A COHESIVE, DEPARTMENT-WIDE MODERNIZATION PROGRAM

Rather than deploying separate systems that create administrative and operational complexity, Arvada PD's proposed solution is designed as a unified ecosystem of public safety technology. Axon's Modernization Bundle addresses a different operational domain, connected through Axon Evidence and Axon Fusus. This approach keeps workflows consistent, eliminates multi-vendor troubleshooting, and allows all evidence–whether from TASER devices, body-worn cameras, patrol vehicles, interview rooms, drones, or airspace sensors–to flow into the same secure cloud environment.

This modernization provides new capabilities while preserving the user experience Arvada PD personnel are already accustomed to. It creates predictable lifecycle planning, expands situational awareness tools, and reduces the burden associated with siloed systems across four buildings.

ALIGNED TO BEST-VALUE EVALUATION CRITERIA

As mentioned in the RFP, Arvada PD is a best-value agency, evaluating not just price but also capabilities, project approach, interoperability, and long-term performance. Axon's single-vendor ecosystem directly supports these criteria by:

- Reducing lifecycle and operational costs associated with multi-vendor integrations
- Delivering a predictable, unified support model already proven successful
- Enhancing reliability through one technology roadmap
- Providing scalability for Arvada PD's growing population and infrastructure

By unifying devices, evidence, analytics, and aerial operations under one cloud-based platform, Axon enables Arvada PD to streamline operations, meet its modernization timeline, and ensure its officers and community benefit from connected, resilient public safety technology.

A COMPLETE SOLUTION FOR ARVADA PD'S MODERNIZATION

As a complete modernization program, Axon's proposed offering meets every aspect requested within the RFP's Statement of Work.

OSP10 PREMIUM	**UPGRADING ARVADA PD'S OFFICER-WORN TECHNOLOGY**
	OSP10 Premium is Axon's most comprehensive officer-worn technology and lifecycle program. For Arvada PD, it replaces the current OSP7+ plan with a fully refreshed suite of connected tools that work as one package. This includes new TASER 10 energy weapons, new Axon Body 4 cameras and docking systems, expanded VR training content to pair with your TASER 10s, and a broad set of cloud capabilities that help reduce administrative burden. OSP10 Premium also includes advanced tools such as Draft One for AI-assisted report drafting, Axon Investigate Pro for third-party video analysis, unlimited Axon Evidence storage, auto-tagging, Redaction Assistant, My90, and connected-device visibility within Axon Fusus. These capabilities help improve case-building, streamline documentation, and strengthen operational awareness.
AXON FLEET 3	**CONTINUING TO SUPPORT YOUR IN-CAR VIDEO PROGRAM**
	Arvada PD's in-car video program continues through ongoing support of your current Axon Fleet 3 deployment. This offering retains existing hardware and software configurations, with long-term coverage provided through a hardware refresh (TAP) and extended warranty protection. The program includes continued use of Dual-View and Interior cameras, and wireless upload to Axon Evidence, with multi-camera playback supported through integration with Axon Body 4.
AXON INTERVIEW	**REFRESHING ALL INTERVIEW ROOM INFRASTRUCTURE**
	A complete replacement of Arvada PD's existing interview room systems with updated hardware and software, to future-proof your interview rooms at seven locations, across four separate buildings. The Axon Interview replacement and update includes new cameras, microphones, touch-panel controls, automated metadata entry, and direct-to-cloud upload into Axon Evidence. As shown in the product card, Axon Interview provides encrypted recording, audit trails, and customizable room configurations to support both overt and covert interviews. This refresh removes aging infrastructure and standardizes workflows so investigators can access, review, and share recordings with improved efficiency.

DESIGNED FOR ARVADA PD'S DISTRIBUTED OPERATIONAL MODEL

Implementation is anticipated to begin in Q1 2026. Axon's deployment framework scales across multiple buildings and user groups, coordinating implementation of officer-worn technology, and installation of interview rooms and DFR hardware in distinct phases. Because Arvada PD already operates within the Axon Ecosystem, the transition to new hardware and upgraded software follows familiar workflows and aims to limit operational disruption.

SUSTAINED TRAINING, SUPPORT, AND LIFECYCLE CONTINUITY

The Axon Modernization Program includes training and long-term support tailored for 24-hour operations. This includes Axon Academy, live and virtual instruction, customer success engagement, continuous monitoring, and 24-hour technical assistance. Together, these resources help ensure reliable performance throughout the contract term and support Arvada PD's requirement for measurable vendor performance.

CONTINUING TO PARTNER WITH A TRUSTED AND EXPERIENCED TEAM

Axon values its long-standing working partnership with Arvada PD and the opportunity to continue supporting your efforts to modernize public safety technology. With nearly 30 years of experience and more than 21,000 agencies supported worldwide, Axon brings both scale and direct familiarity with Arvada's operational environment. Your current programs—including OSP7+, Axon Fleet 3, and Axon Interview—have already established a strong foundation of connected workflows and digital evidence practices.

This proposal builds on that foundation by delivering the next generation of officer-worn and situational awareness tools. These include new TASER 10 energy weapons, upgraded Axon Body 4 cameras and docking systems, AI-assisted report drafting through Draft One, livestream-enabled drone-first-response capabilities with Skydio, and persistent airspace awareness powered by Dedrone. Each of these additions is designed to expand Arvada PD's capabilities while supporting operational consistency across facilities. Our team's direct experience with your agency informs every aspect of this proposal—from technology design to training and support—and reflects a continued commitment to helping Arvada meet its long-term public safety goals.

2 FIRM CAPABILITIES, EXPERIENCE, LICENSING, AND CERTIFICATIONS

Arvada PD has successfully operated Axon technology programs for several years, including your current OSP7+, Axon Fleet 3, and Axon Interview systems. This existing partnership has given Arvada PD a strong foundation of connected workflows, reliable digital evidence practices, and a unified cloud-based environment across four facilities. The familiarity and operational efficiency already achieved through these systems allow Axon to support Arvada PD with continuity, stability, and a clear roadmap for modernization through the expansion and upgrades proposed in this RFP response.

Axon's solutions are deployed at scale across more than 21,000 public safety agencies worldwide, supported by approximately 4,000 employees dedicated to developing, deploying, training, and sustaining mission-critical systems. This includes programs in patrol, investigations, digital evidence, real-time operations, and aerial response.

2.1 AXON'S CAPABILITIES RELEVANT TO ARVADA PD

Arvada PD's modernization effort depends on proven, integrated technology rather than isolated tools. Every element of Axon's proposed solution operates within a single, unified environment. This approach matters because Arvada PD already relies on Axon platforms across its facilities. The proposed upgrades build on that foundation by extending the same workflows, evidence paths, and operational practices your personnel use today.

The following subsections detail Axon's track record, how our portfolio spans every category in the RFP, and how our security posture, lifecycle support, and ongoing product innovation reinforce long-term performance and reliability for Arvada PD.

EXPERIENCE PROVIDING INTEGRATED, MULTI-SOLUTION PROGRAMS

Axon designs and supports a unified platform that brings together TASER 10 energy weapons, Axon Body 4, Axon Fleet 3, Axon Interview, Axon Evidence, Draft One, and drone and counter-UAS components within one connected ecosystem.

Because Arvada PD already uses Axon systems, this integration is not abstract or theoretical. It is an extension of the workflows, evidence pathways, and operational practices your personnel rely on today. This directly aligns with Arvada PD's priorities of reducing administrative workload, strengthening interoperability, and implementing consistent processes across decentralized facilities.

PROVEN SUCCESSFUL DEPLOYMENTS

Axon's technology is widely deployed across public safety agencies worldwide, as reflected in the following usage metrics across our platforms and devices:

- 1,585,000+ cumulative active Axon Evidence subscribers
- 435,900,000+ GB of digital evidence stored
- 1,130,000+ TASER devices in stock or assigned globally
- 1,040,000+ body-worn cameras in stock or assigned

- 320,000+ in-car cameras and hubs in stock or assigned

These figures demonstrate Axon's long-term operational maturity and the reliability of our hardware and cloud systems at scale—not the size of any individual deployment.

EXPERIENCE SPANNING MULTIPLE SOLUTION DOMAINS

Axon's portfolio evolution demonstrates sustained expertise across the exact categories included in this RFP:

- **BODY-WORN CAMERAS** – Multiple generations since 2012, culminating in Axon Body 4, with advanced awareness features such as livestreaming and improved low-light performance.
- **IN-CAR VIDEO** – Continuous innovation since 2016, including Axon Fleet 3 with dual-view front cameras and rear interior cameras.
- **CEWS** – From early TASER energy weapon generations to the TASER 10 with a 10-probe magazine, 45-foot extended range, and integrated digital logging.
- **DIGITAL EVIDENCE MANAGEMENT** – Axon Evidence has operated at cloud scale since 2009 and now supports hundreds of millions of gigabytes of evidentiary data through continuous, customer-driven improvement.
- **INTERVIEW ROOM RECORDING** – Axon Interview has been deployed in more than 4,000 rooms globally, with both fixed and portable configurations.
- **DFR AND COUNTER-UAS** – Axon's partnership with Skydio and our acquisition of Dedrone support integrated airspace awareness, drone autonomy, and real-time operations.

SECURITY AND COMPLIANCE POSTURE

Axon maintains a comprehensive Information Security Program covering access control, security monitoring, vulnerability discovery, security configuration, data handling, physical access, and auditing. Axon Evidence adheres to CJIS requirements and incorporates industry standards and certifications (ISO 27001, ISO 27017, ISO 27018, ISO 27701, GDPR, and others).

COMMITMENT TO ONGOING INNOVATION

Axon continually advances its technology platform, drawing on direct customer feedback and real-world operational needs. Features such as AI-powered redaction, auto-transcription, and Draft One have already strengthened Arvada PD's digital evidence workflows, and ongoing enhancements are released regularly to reduce administrative burden, improve review times, and support more consistent, accurate reporting. This continued innovation ensures that the systems Arvada PD procures will remain aligned with evolving expectations and emerging operational requirements.

PROGRAM AND LIFECYCLE SUPPORT

Axon has experience delivering full-lifecycle support for agency deployments. Our team actively supports Arvada PD's current deployments through structured onboarding, training, 24-hour technical assistance, and routine firmware and software updates across all deployed product lines.

This lifecycle approach ensures that every system remains reliable and fully supported throughout its operational life. The same support model extends into the proposed modernization program, aligning with Arvada PD's requirements for long-term vendor performance, predictable refresh cycles, and sustained operational continuity.

2.2 TEAM QUALIFICATIONS

The following section outlines the relevant experience, qualifications, and role-specific details for Axon team members assigned to support Arvada PD's program. Each bio reflects the individual's current role, applicable certifications, and background in delivering public safety technology projects. Certifications are included where relevant based on the scope of the individual's responsibilities.

OUR EXPERIENCED TEAM

JUSTIN CROSBIE

//DEPLOYMENT MANAGER

Justin launched his career at Axon in 2024 as a Deployment Manager, where he leads the seamless implementation of Axon's hardware and software solutions for law enforcement agencies.

Before joining Axon, Justin spent 12 years in law enforcement across two major Texas cities. He was instrumental in driving technological advancements within his department, where he developed and led the technology unit, significantly contributing to the deployment and management of various Axon products.

Justin holds certifications in Magnet AXIOM and Cellebrite Mobile Forensics, specializing in digital forensics, including computer, mobile device, and cloud-based system analysis. He also possesses extensive expertise in computer networking and database systems.

He earned an M.S. in Disaster Preparedness and Emergency Management.

KIM VEGA

//MANAGER OF DEPLOYMENT OPERATIONS

Kim has worked as a manager of deployment operations since January 2025. In this role, she is responsible for scheduling on-site deployment activities and assigning Axon staff to deployment projects.

Kim has been with Axon since June 2024. Prior to her current role, she worked as a professional service coordinator for our Axon Fleet product line.

Prior to joining Axon, she worked as a judicial assistant with the Fifth District Juvenile Court in Utah for two years, where she managed juvenile delinquency and child welfare cases.

Additionally, she spent over 32 years at the Orange County District Attorney's Office in California, where she held a variety of roles, including business analyst, trainer/administrator for the body-worn camera program in axon evidence, and a staff development specialist. Kim's expertise spans process documentation, quality management, employee training, and technical support. She also served as a law office supervisor for the gang unit, providing comprehensive support to legal teams, managing caseloads, and supporting effective workflow and coordination across multiple agencies.

She has worked on notable deployments for:

- Huntsville Police Department, AL
- Alabama Law Enforcement Agency, AL

- Philadelphia Police Department, PA
- Boca Raton Police Department, FL
- Cary Police Department, NC

RICKY WRIGHT

//MANAGER, FIELD DEPLOYMENT ENGINEERING, AXON FLEET

Ricky has worked as the manager of Axon Fleet services since June 2021. In this role, he oversees assigned resources for on-site services, manages relationships and scheduling with third-party partners, and manages deployment timelines.

Ricky has been with Axon since October 2017. Prior to his current role, he worked as a solutions engineer, planning the project approach for Axon Fleet deployments and verifying that the deployment was technically sound.

Prior to joining Axon, he gained technical and managerial experience in a variety of roles including as the IT manager for Forsyth County Sheriff's Office, NC, as the IT manager and information technology specialist for Richard Childress Racing, and as a system administrator for Wake Forest University.

He has worked on notable projects for:

- Baton Rouge Police Department, LA
- Ft. Worth Police Department, TX
- Tennessee Highway Patrol
- U.S. Border Patrol
- York Regional Police Service, Canada
- Dyfed-Powys, United Kingdom
- Royal Bahamas Police Force

Ricky holds a Bachelor of Science in Business Administration from the University of North Carolina, Charlotte, a National Certified Government Chief Information Officer certificate from the University of North Carolina, Chapel Hill, and a Project Management Professional certificate from Cornell University. He is also a Certified Network Professional (CNP), a Cradlepoint Certified Network Associate (CNA), and is A+ certified.

ANDY MUELLER

//PROFESSIONAL SERVICES MANAGER

Andy has worked as a Professional Services Manager since October 2023. In this role, he helps agencies of all sizes deploy their Axon Fleet program by executing on-site deployment activities including installation and training.

Andy has 35 years of experience in the aftermarket 12-volt field, including 17 years completing emergency vehicle upfitting. He is a former Law Enforcement Officer and has worked alongside law enforcement in his other roles for more than 25 years.

He has worked on notable projects for:

- Palm Beach Police Department, FL
- Gilbert Police Department, AZ

- Champaign Police Department, IL

Andy holds an A.S. in Criminal Justice. He also holds a Criminal Justice Information Services (CJIS) Level 4 certification, is a Cradlepoint Certified Network Professional (CNP) and a Cradlepoint Certified Network Associate (CNA), and holds an Emergency Vehicle Technician (EVT) certificate.

EDDIE DEWITT

//SOLUTIONS ENGINEER

Eddie has worked as a Solutions Engineer since April 2023. In this role, he helps to plan the project approach for Axon Fleet deployments and verify that the deployment is technically sound.

Prior to joining Axon, Eddie worked in Courts and Law Enforcement Management Information Systems (CLEMIS) for nearly 10 years in a variety of roles involving server administration, including experience with NetMotion, Cradlepoint, and SIM management.

He has worked on notable projects for:

- Atlanta Police Department, GA
- Columbia Police Department, SC
- Albany Police Department, NY

Eddie holds an MBA with a minor in information technology from Walsh College. He also holds a Criminal Justice Information Services (CJIS) Level 4 certification and is a Cradlepoint Certified Network Associate (CNA).

TONY CORDERO

//TECHNICAL PROJECT MANAGER, INTERVIEW ROOM

Tony has worked as a technical project manager focusing on our Axon Interview solution since May 2024. In this role, he schedules and hosts pre-installation calls to discuss technical and logistical specifics of the installation, initiates shipping of the hardware, and schedules the installation. His region includes agencies along the east coast and portions of the Midwest.

Tony has been with Axon since April 2022. Prior to his current role, he was a technical services manager focused on Axon Interview and an Axon Interview contractor.

Prior to joining Axon, Tony gained technical knowledge as an audio/video event manager for Arizona State University and as a photographer at Straight 8 Custom Photography.

He has worked on notable projects for:

- Superior Police Department, WI
- Palm Beach County Sheriff's Office, FL
- Orange County Sheriff's Office, FL

Tony holds a Microsoft Networking Fundamentals certificate and an associate of Fine Arts.

LEE REES

//PROFESSIONAL SERVICES MANAGER, SUPERVISOR

Lee has worked as a professional services manager since February of 2022. In this role, he supervises professional services managers who are responsible for on-site deployment activities.

Lee has been with Axon since January 2018. Prior to his current role, he worked as a professional services manager from January 2018 to April 2019, a trial and evaluation professional services manager from April 2019 to January 2021, and a strategic deployment manager from January 2021 to February 2022.

Lee has an extensive law enforcement background, with 21 years as a sworn law enforcement officer. In that time, he held positions in law enforcement certification, firearm instruction, K9 handling, SWAT, evidence collection, motor operation, internal affairs, CALEA management, and first aid CPR instruction.

Lee has worked on notable projects for:

- New York State Police
- Metropolitan Transportation Authority, NY
- Orlando Police Department, FL
- Anne Arundel Police Department, MD

He holds a B.S. in Biology from the Virginia Military Institute and a Graduate Certificate in Local Government Management from Virginia Tech.

2.3 PREVIOUS PROJECTS WITH REFERENCES

Axon works with agencies nationwide and maintains an extensive network of references. To best reflect Arvada PD's operational context, we have selected Colorado departments for this proposal to provide the most relevant examples for evaluation. These agencies maintain technology portfolios similar to Arvada PD's needs, and their programs illustrate deployments comparable in scale and scope to the modernization effort outlined in this RFP.

Each reference represents a multi-technology deployment involving solutions equivalent to those proposed here; demonstrating Axon's ability to support modernized, interconnected workflows within similar operational and regulatory environments.

REFERENCE 1 — LAKEWOOD POLICE DEPARTMENT	
Division Chief Anita Koester 445 S. Allison Pkwy Lakewood, CO 80226 anikoe@lakewoodco.org 303-987-7138	**Technologies Provided:** Body-Worn Cameras, TASER Devices, Axon Evidence (DEMS), Skydio DFR, Draft One (AI Dictation Software), Fusus (RTCC) **Relevance to Arvada PD:** A multi-technology program combining cameras, CEWs, DEMS, and DFR which mirrors the integrated approach Arvada PD is seeking.
REFERENCE 2 – FORT COLLINS POLICE SERVICES	
Sgt. Bob Younger 2221 South Timberline Road Fort Collins, CO 80525 ryounger@fcgov.com 970-416-4228	**Technologies Provided:** Body-Worn Cameras, TASER Devices, Axon Evidence (DEMS), Skydio DFR, and Draft One (AI dictation software) **Relevance to Arvada PD:** A broad deployment that includes body-worn video, CEWs, DEMS, AI drafting, and DFR components, which demonstrates Axon's ability to support interconnected technologies across patrol and investigative workflows.
REFERENCE 3 – GREELEY POLICE DEPARTMENT	
Sgt. Greg Ryan 2875 10th Street Greeley, CO 80634 greg.ryan@greeleypd.com 970-351-5471	**Technologies Provided:** Body-Worn Cameras, TASER Devices, Axon Evidence (DEMS), Skydio DFR, Draft One (AI dictation software), and Fusus (RTCC) **Relevance to Arvada PD:** A Colorado agency with an operational environment requiring unified video, CEWs, real-time operations tools, and drone-first-response capabilities; which is directly comparable to the combined technology approach Arvada PD is pursuing.
REFERENCE 4 –DOUGLAS COUNTY SHERIFF'S OFFICE	
Anne Weekly | Support Services Manager, Technology Services |	**Technologies Provided**: Body-Worn Cameras, TASER Devices, Axon Evidence (DEMS), Axon Fleet 3

SOTAR Administrator aweekly@dcsheriff.net 303-814-7017	**Relevance to Arvada PD**: A Colorado deployment that integrates body-worn video, CEWs, DEMS, and in-car video, demonstrating Axon's ability to support unified evidence capture across both patrol and investigative functions—directly aligning with Arvada PD's goal of modernizing video capture and streamlining evidence workflows across all facilities.

Additionally, the First Judicial District is an existing Axon Attorney Premier customer, which creates a regional ecosystem of prosecutors and law enforcement partners using Axon's digital evidence platform end to end. Neighboring departments, including Jefferson County also operate Axon body-worn cameras, strengthening interoperability and streamlining case-sharing workflows across the jurisdictions that Arvada PD interacts with most frequently.

3 DETAILED PROPOSAL

This section outlines Axon's proposed solution for RFP 25-PD-072, presented as a coordinated modernization of the Axon systems Arvada PD already operates today. Building on the department's established program encompassing the Axon OSP7+, Axon Fleet 3, and Axon Interview solutions, the proposed solution provides three integrated Axon bundles that collectively strengthen officer safety, improve evidence management, expand situational awareness, and reduce administrative workload across all four of Arvada PD's facilities.

3.1 PROPOSED PRODUCTS AND SERVICES

Axon's proposed modernization program offers a cohesive, department-wide platform. Each bundle addresses a distinct operational domain while still connecting through Axon Evidence and Axon Fusus to ensure seamless workflows, consistent chain of custody, and centralized management.

OSP10 PREMIUM BUNDLE	This bundle modernizes Arvada PD's existing OSP7+ program and provides a fully refreshed suite of officer-worn technology, cloud capabilities, and lifecycle protections. Components include: ▸ TASER 10 devices and the full certification, training, and cartridge program ▸ Axon Body 4 cameras and updated docking stations ▸ Drone First Responder components, including Skydio drones and Dedrone airspace monitoring ▸ Draft One AI dictation and first-draft report writing software ▸ Axon Evidence as the centralized DEMS with unlimited Axon video storage ▸ Axon VR training content and immersive learning modules ▸ Includes a broad set of solutions and features designed to help reduce administrative burden through automation and improve workflows across documentation, case management, performance review, community engagement, and video analysis; these capabilities are included and can be configured over time to align with Arvada PD's operational priorities
AXON FLEET 3 SOLUTION	This offering retains the department's existing hardware and software configurations, with long-term coverage provided through a TAP refresh and extended warranty protection. The program includes continued use of existing Arvada PD in-car video systems. This continuation supports consistent in-vehicle operations across patrol units, helps maintain video reliability, and provides a clear path for long-term service and refresh planning while limiting operational disruption.

AXON INTERVIEW ROOM SOLUTION	This bundle provides a full replacement of Arvada PD's existing interview room infrastructure across seven rooms and four buildings. It includes high-definition cameras, microphones, touch-screen controls, metadata tagging, and secure automated upload directly into Axon Evidence. The Interview bundle offers consistent, defensible recording practices and aligns investigative workflows across all facilities.

THE AXON ECOSYSTEM

All components in the Axon Ecosystem connect the data collected from first- and third-party devices to Axon Evidence, providing a unified chain of custody, consistent workflows, and simplified management for personnel across four decentralized facilities.

DESIGNED TO REDUCE ADMINISTRATIVE BURDEN

Instead of managing separate platforms and processes, Axon provides a streamlined environment that reduces operational friction:

- Automatic ingestion of all evidence types into one cloud system
- Consistent workflows for patrol, investigations, records, and command staff
- No manual movement of files between buildings
- Unified login and role-based permissions for all software
- Centralized case-building tools, metadata, and audit trails

- Built-in automations for redaction, transcription, and incident documentation

This approach reflects Arvada PD's stated preference for solutions that do not increase workload when multiple systems meet.

INTEROPERABILITY ACROSS ALL DEVICES AND WORKFLOWS

Axon's system components communicate natively with one another, enabling:

- Signal-based auto-activation between TASER 10, Body 4, and Fleet 3 devices
- Interview recordings automatically uploaded to Axon Evidence
- Axon Fleet 3 and Axon Body 4 livestreams accessible in Axon Fusus
- DFR livestream and location data integrated into the same interface
- Draft One pulling transcripts directly from Axon's system for report writing
- Dedrone airspace alerts displayed alongside real-time field activity

This interoperability strengthens officer safety, accelerates reporting, and ensures evidence consistency regardless of capture source.

CONSISTENT WORKFLOW ACROSS FOUR SEPARATE BUILDINGS

Because all evidence routes to the cloud rather than to local servers, Axon supports Arvada PD's decentralized operations by:

- Making evidence available from any building immediately
- Removing the need to physically move drives or discs
- Standardizing workflows for patrol, detectives, and records staff
- Allowing supervisors to manage incidents remotely in real time

This consistency is particularly valuable for Arvada PD's four-station operating model and helps ensure that personnel have the same tools and workflows no matter where they are assigned.

3.1.1 OSP10 PREMIUM BUNDLE

OSP10 Premium provides Arvada PD with an all-inclusive modernization of its officer-worn technology, cloud evidence environment, training programs, and real-time awareness capabilities. The bundle replaces the department's current OSP7+ deployment with updated hardware, expanded software features, and predictable lifecycle refresh coverage, all designed to reduce administrative workload and maintain consistent workflows across all four facilities. The components below describe the full scope of what Arvada PD receives within this unified program.

3.1.1.1 TASER 10 AND COMPREHENSIVE CEW PROGRAM

TASER 10 replaces Arvada PD's existing TASER 7 units and provides significantly improved range, accuracy, and multi-shot capability. As part of OSP10 Premium, the CEW program includes not just the devices themselves, but the full ecosystem needed for operational readiness, training compliance, and cartridge coverage.

All CEW activations automatically log into Axon Evidence, eliminating manual data entry and strengthening reporting accuracy.

Included with this OSP10 bundled component:

- TASER 10 device and handle
- Battery pack and warranty
- Holster
- Dock & Core (1:75 ratio)
- Dock & Core warranty (years 1–5 and 6–10)
- TASER Evidence.com license
- Live duty cartridges (upfront and out-year supply)
- Live Duty Cartridge Replacement Program
- Live training magazines
- Inert training magazines
- HALT cartridges (upfront and out-year)
- HALT Suit (1:50)
- HALT magazines (4 per suit)
- HALT professional target & frame (1:75)
- TREND research/evaluation program
- Master Instructor course vouchers
- TASER Instructor course vouchers
- Axon Academy access + Training On Demand

OPERATIONAL BENEFITS FOR ARVADA PD

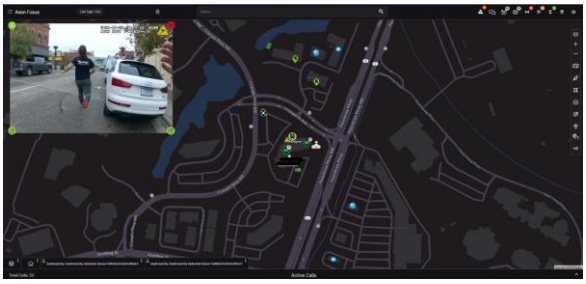
- **STRONGER DE-ESCALATION AND SAFETY CAPABILITIES** – TASER 10's multi-shot design and increased range give officers more control and more opportunities to safely resolve incidents without transitioning to higher levels of force.
- **ACCURATE, AUTOMATED DOCUMENTATION** – Automatic logging reduces administrative workload while maintaining a clear, defensible record that supports internal review, public transparency, and legal processes.
- **UNIFIED EVIDENCE CAPTURE** – TASER 10 prompts camera activation across Axon Body 4 and Axon Fleet 3, allowing investigators and supervisors to review synchronized video and event logs in one place.
- **CONSISTENT WORKFLOWS ACROSS FOUR BUILDINGS** – Whether TASER events occur in the field or require follow-up at a different facility, evidence is automatically centralized in Axon Evidence for immediate access by authorized personnel.
- **STREAMLINED REPORTING THROUGH DRAFT ONE** – Because audio and video from the incident pair with TASER logs in Axon Evidence, officers benefit from clearer, more complete inputs for Draft One's AI-generated narrative drafts.
- **SEAMLESS VR INTEGRATION FOR TRAINING** – TASER 10 is integrated into Axon VR through realistic replica controllers and scenario-based modules, supporting safe, skills-based training that mirrors field deployment.

3.1.1.2 AXON BODY 4 CAMERAS AND DOCKING INFRASTRUCTURE

The bundle provides a complete refresh of Arvada PD's body-worn camera program. Axon Body 4 improves recording quality, low-light performance, and audio clarity, while docking station upgrades ensure efficient upload and device management.

Lifecycle management is built in through TAP refreshes, and real-time connectivity enables location visibility, alerts, and livestreaming within Fusus when authorized.

1. Programmable Button 1
2. Programmable Button 2
3. Volume Up
4. Select
5. Volume Down
6. Power
7. Event



Included with this OSP10 bundled component:

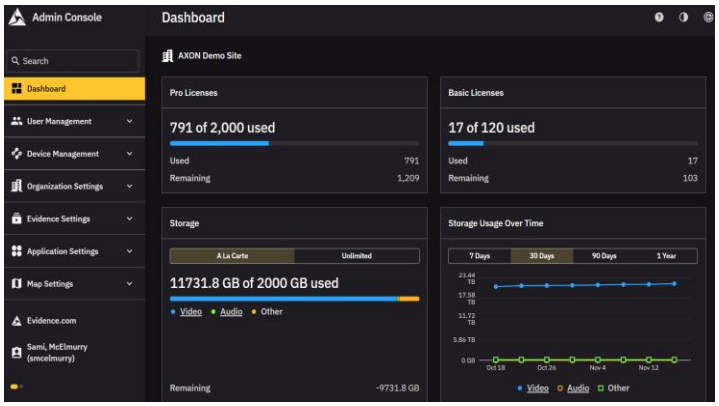
- Axon Body 4 cameras
- Axon docking stations (new hardware)
- Technology Assurance Plan (hardware refreshes)
- Full camera and dock warranty
- Signal Sidearm auto-activation sensor
- Device Connectivity services (location, alerts, livestream support for Fusus mapping)
- Automated upload via LTE, Wi-Fi, or docking station
- Centralized health monitoring via Axon Evidence admin tools

OPERATIONAL BENEFITS FOR ARVADA PD

- **CONSISTENT EVIDENCE CAPTURE ACROSS ALL UNITS** – Axon Body 4 supports patrol, traffic, and investigative workflows with high-quality video and audio that capture the full context of incidents.
- **IMMEDIATE EVIDENCE AVAILABILITY ACROSS FOUR FACILITIES** – Because uploads go directly to Axon Evidence, video is available right away to supervisors, detectives, and records staff, regardless of where it was captured.
- **STREAMLINED REPORTING WITH DRAFT ONE** – Audio captured by Axon Body 4 enables Draft One to generate more accurate first-draft narratives, reducing officer time spent on documentation.
- **LOWER ADMINISTRATIVE BURDEN** – Automated activation, upload, and tagging reduce manual steps and create predictable, consistent workflows for officers across the department.
- **UNIFIED TRAINING AND ADOPTION** – Because Axon Body 4 workflows align with the rest of the Axon ecosystem, training is consistent and scalable across all user groups.
- **ENHANCED OFFICER SAFETY** – Real-time location and optional livestreaming give supervisors greater visibility during high-risk encounters and improve situational understanding.

3.1.1.3 AXON EVIDENCE CENTRALIZED CLOUD DEMS

Axon Evidence remains the cornerstone of Arvada PD's digital ecosystem. The OSP10 Premium bundle elevates this by providing unlimited storage for Axon-sourced video, enhanced search and review capabilities, automated metadata ingestion, and expanded tools for analysis, redaction, and case building.



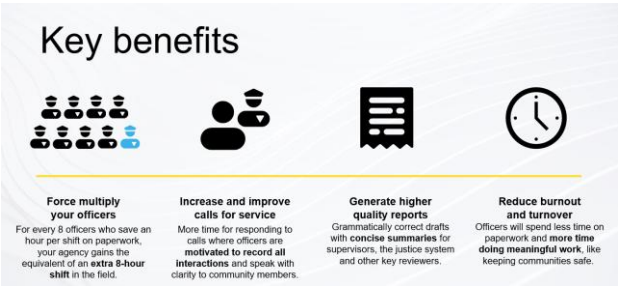
All evidence from TASER 10, Axon Body 4, Fleet 3, interview rooms, drones, and Dedrone sensors funnels into this unified environment.

Included with this OSP10 bundled component:

- Axon Evidence PRO licenses
- Unlimited Axon-sourced video storage
- Third-party video storage allowance
- Third-party video playback for CCTV and external formats
- Axon Investigate Pro licenses and training (per sworn thresholds)
- Auto-Tagging with CAD/RMS integration
- Redaction Assistant
- Channel Services (1 integration)
- Axon Standards (use-of-force and IA reporting)
- Community Request portal for public submissions
- Admin dashboards for device health, upload monitoring, and retention controls

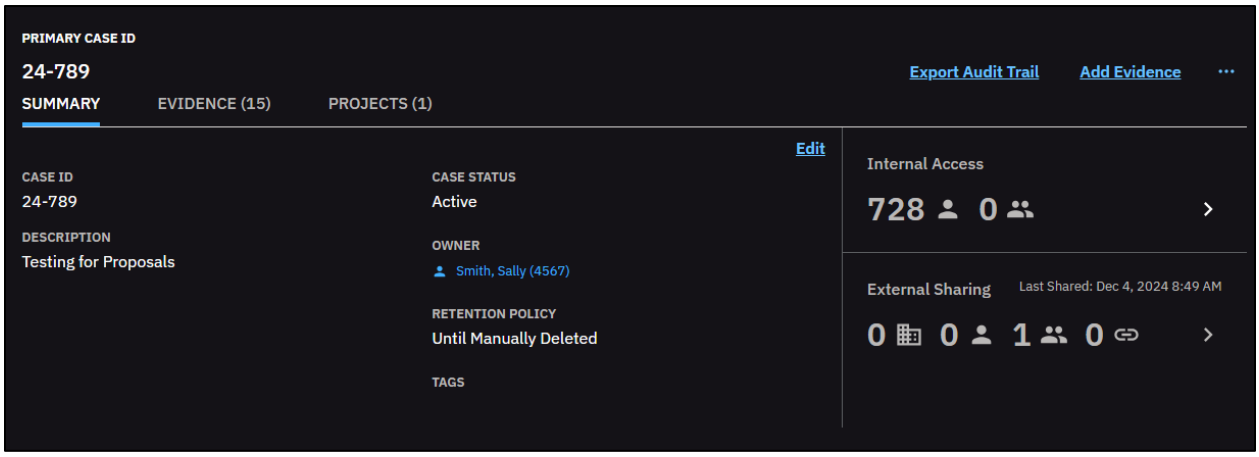
OPERATIONAL BENEFITS FOR ARVADA PD

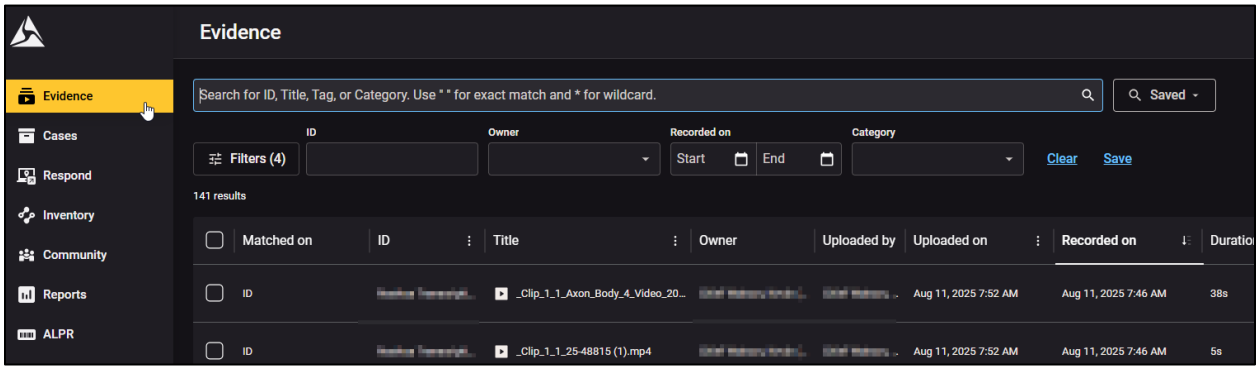
- **INTEGRATED AI ASSISTED DICTATION (DRAFT ONE):** Draft One uses BWC audio, transcripts, and officer context to generate structured first-draft narratives. This reduces report-writing time and improves consistency across incidents. Because Arvada PD already operates Axon Evidence, Draft One fits naturally into existing workflows without introducing new administrative steps.



- **CONSISTENT EVIDENCE MANAGEMENT ACROSS FOUR FACILITIES** – All evidence, regardless of where it was captured, becomes immediately available in one system. This supports collaboration across districts and eliminates the need to physically move media between buildings.

- **REDUCED ADMINISTRATIVE BURDEN** – Automatic upload, metadata application, and retention enforcement reduce manual tasks for officers, detectives, and records personnel.
- **UNIFIED WORKFLOWS AND TRAINING** – Because all Axon systems rely on Axon Evidence as the central hub, training is streamlined, and personnel learn a single method for managing evidence.
- **INCREASED TRANSPARENCY AND LEGAL READINESS** – Built-in audit trails and chain-of-custody tracking support internal accountability and prepare the department for public records requests, discovery, and court proceedings.
- **ADVANCED SEARCH AND PLAYBACK TOOLS** – Users can search across all evidence using filters such as date, officer name, incident number, location, or custom metadata. Built-in playback tools allow users to review, annotate, and create markers without external software.
- **IMPROVED CASE PREPARATION AND REVIEW** – Investigators and prosecutors benefit from complete, well-organized case files that compile body-worn video, in-car footage, interview recordings, CEW logs, drone footage, and airspace alerts.





3.1.1.4 DRONE FIRST RESPONDER (DFR) COMPONENTS

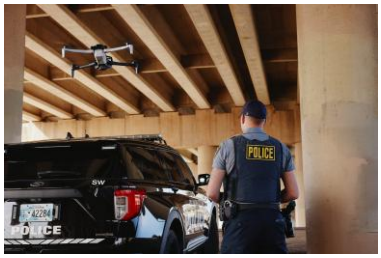
Arvada PD receives integrated DFR capabilities through Skydio aircraft, docking systems, and associated licensing. These tools enable rapid aerial awareness for developing events, providing video feeds that synchronize with Axon Evidence and display in Fusus for supervisors.

Included with this OSP10 bundled component:

- Skydio X10 drones (3 per bundle specification)
- Skydio Docks for X10 (3 units)
- DFR Dock Pro kit
- Axon Air Pilot License
- Real-time visibility via Fusus mapping

OPERATIONAL BENEFITS FOR ARVADA PD

The DFR components included in OSP10 Premium provide Arvada PD with a connected aerial-response capability that enhances situational awareness, operational coordination, and investigative workflows. Together, these tools deliver the following capabilities and benefits:



- **RAPID AUTONOMOUS DEPLOYMENT** – Skydio X10 drones launch remotely from the Skydio Dock in seconds, giving Arvada PD immediate aerial visibility during active incidents. This helps supervisors and responding officers understand scene conditions before arrival, improving response strategy and officer safety.
- **ENHANCED SCENE SAFETY AND OFFICER SUPPORT** – By giving supervisors aerial visibility prior to officer arrival, the DFR program supports safer tactical approaches, improves resource allocation, and allows supervisors to issue clearer guidance during ongoing incidents.
- **HIGH-RESOLUTION, ALL-CONDITIONS VISIBILITY** – The Skydio X10's multi-camera array, thermal imaging, NightSense zero-light navigation, and AI-based obstacle avoidance allow Arvada PD to gather actionable intelligence during complex or low-light incidents, searches, perimeter operations, and high-risk calls.
- **UNIFIED REAL-TIME SITUATIONAL AWARENESS VIA AXON FUSUS** – Live drone video streams appear in Fusus alongside Axon Body 4, Axon Fleet 3, and fixed-site camera feeds. This gives command staff a consolidated operational picture, enabling quicker and more informed decision-making across dynamic or multi-unit incidents.
- **CONSISTENT WORKFLOWS ACROSS ALL FACILITIES** – Because DFR footage flows directly into Axon Evidence and Fusus, Arvada PD benefits from unified workflows regardless of which building receives the call, ensuring consistent access, review, and case-building processes.

3.1.1.5 DEDRONE AIRSPACE AWARENESS COMPONENTS

As part of the OSP10 Premium Bundle, Arvada PD receives Dedrone airspace awareness capabilities that enhance the safety, visibility, and effectiveness of Drone First Responder (DFR) operations. These components provide automated detection, classification, and tracking of unauthorized or unknown aircraft within operational airspace.

By pairing Dedrone's monitoring tools with Skydio X10 deployments and Fusus-based situational awareness, Arvada PD can maintain a safer airspace environment during drone missions and better coordinate incident response across its four operational facilities.

Included with this OSP10 bundled component:

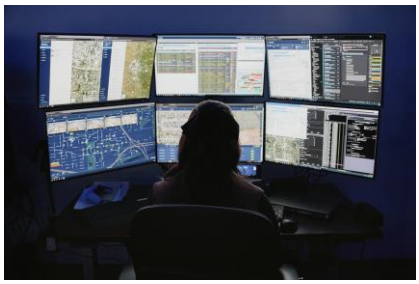
- DedroneTracker.AI
- DedroneBeyond long-range radar
- Fixed-site sensor allotments (based on sworn counts)
- Integrated evidence flow into Axon Evidence

OPERATIONAL BENEFITS FOR ARVADA PD

The capabilities below describe the combined functional and operational value of these tools for Arvada PD.

- **AUTOMATED DETECTION OF UNAUTHORIZED OR UNKNOWN DRONES** – Dedrone's RF, radar, and sensor technologies identify cooperative (ADS-B) and non-cooperative aircraft in real time. This protects DFR flights by alerting operators to any nearby aircraft that may pose operational or safety risks.
- **ENHANCED BVLOS AWARENESS FOR DFR MISSIONS** – DedroneBeyond delivers long-range radar coverage to support safer Beyond Visual Line of Sight (BVLOS) operations. This allows Skydio X10 drones to operate at extended distances while maintaining awareness of surrounding airspace activity, even when no human observer is present.
- **AIRSPACE MONITORING DISPLAYED WITHIN OPERATIONAL WORKFLOWS** – When used alongside Fusus and Skydio Remote Ops, Dedrone's airspace overlays and alerts contribute to a fuller operational picture, enabling supervisors to track ground and aerial activity at once. This is particularly valuable for rapidly evolving incidents, perimeter operations, or calls requiring overhead support.
- **PROTECTION OF INCIDENT SCENES AND CRITICAL INFRASTRUCTURE** – By detecting unauthorized drones, Dedrone helps Arvada PD maintain the integrity of active scenes—such as critical incidents, vehicle pursuits, or large public gatherings—reducing the risk of interference, surveillance, or hazardous overflight.
- **AUTOMATIC UPLOAD OF AIRSPACE DATA INTO AXON EVIDENCE** – Airspace alerts, detections, and related data can be stored within Axon Evidence, allowing investigators to review, document, and preserve information about airspace activity surrounding incidents. This strengthens case documentation and supports investigative transparency.
- **CONSISTENT AIRSPACE COVERAGE FOR A DISTRIBUTED AGENCY** – With multiple facilities and decentralized operations, Arvada PD benefits from a system that provides consistent, automated airspace awareness across the city. Fixed-site sensor allotments ensure flexible placement in areas where airspace visibility is most critical.

3.1.1.6 CONNECTED REAL-TIME AWARENESS VIA FUSUS



Fusus replaces traditional real-time platforms by providing a unified operational picture that integrates locations, livestreams, alerts, and drone feeds from Axon Body 4, Fleet 3, and DFR components. This gives Arvada PD shared situational awareness across distributed facilities without introducing separate command tools.

Included with this OSP10 bundled component:

- Fusus Basic or Fusus Plus (depending on bundle)
- Real-time BWC and Fleet livestreaming
- Device location mapping
- CAD-based triggers
- Alerts and status notifications
- Drone livestream integration
- Supervisor visibility tools

OPERATIONAL BENEFIT FOR ARVADA PD

Fusus enhances Arvada PD's modernized ecosystem by centralizing data from officer-worn devices, in-car systems, and aerial assets. These connected features support both field operations and remote oversight, providing critical insights exactly when they are needed.

- **UNIFIED OPERATIONAL PICTURE ACROSS ALL AXON DEVICES** – Axon Fusus integrates livestreams and telemetry from Axon Body 4, Axon Fleet 3, and DFR components into a consolidated map-based interface. Supervisors can view multiple feeds at once, track personnel locations, and understand incident conditions without switching between platforms.
- **REAL-TIME LIVESTREAMING FOR CRITICAL DECISION-MAKING** – Authorized users can view live BWC and Fleet 3 video during ongoing events, enabling informed, timely support for officers in the field. Combined with drone livestreams, Fusus offers multi-angle situational awareness for complex or rapidly evolving scenes.
- **CAD-DRIVEN AUTOMATION AND ALERTING** – Axon Fusus processes CAD triggers and status changes to automatically notify supervisors of escalating events, priority calls, or officer safety indicators. This automation increases awareness without adding steps for frontline officers.
- **ACCURATE LOCATION VISIBILITY AND RESOURCE TRACKING** – Device location mapping provides live positional awareness for field units and responding officers. This supports better coordination during pursuits, searches, tactical operations, and major incident responses.
- **SEAMLESS INTEGRATION WITH DFR OPERATIONS** – Drone livestreams can be viewed alongside ground-level feeds, giving supervisors and command staff a complete aerial and ground-based picture of unfolding incidents. This improves tactical planning, perimeter decisions, and officer safety.
- **CONSISTENT USE ACROSS FOUR FACILITIES** – Because Axon Fusus is cloud-based and device-integrated, Arvada PD personnel across all four facilities can access live information without relying on separate systems. The unified interface simplifies training and reduces operational overhead.

3.1.2 AXON FLEET 3 SOLUTION

Because Arvada PD already operates Fleet 3 across its patrol vehicles, this offering is designed to sustain and enhance the system rather than replace it. The Axon Fleet 3 option ensures system reliability over the full contract term, maintains all current services, and delivers a planned hardware refresh at the end of the agreement to prepare the solution for its next lifecycle.

This approach reduces operational disruption, preserves familiar workflows for officers and investigators, and ensures that Fleet 3 remains fully supported within Arvada PD's unified cloud environment.

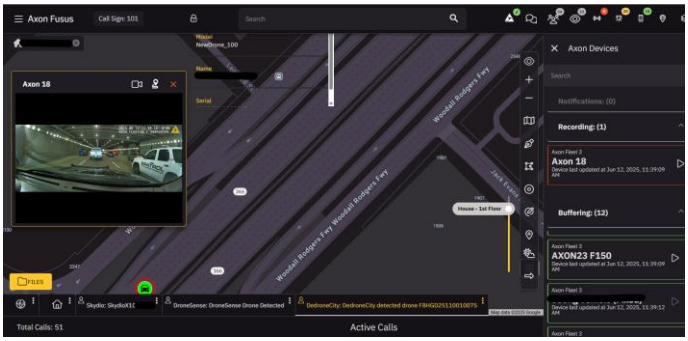
CONTINUATION OF EXISTING FLEET 3 HARDWARE AND SERVICES

Arvada PD will retain all existing Axon Fleet 3 hardware and continue using the full suite of in-car video services already deployed in patrol vehicles. This approach preserves operational continuity, eliminates unnecessary vehicle downtime, and maintains the workflows officers and investigators are already trained on.

All current configurations, metadata mappings, activation triggers, and policy settings remain unchanged. Axon Fleet 3 will continue to operate seamlessly with Axon Evidence, Axon Body 4, and Fusus, ensuring consistent case-building and real-time awareness across patrol operations.

Included with this component:

- Continued use of all existing Axon Fleet 3 system hardware components installed in vehicles
- Retention of all current configurations, metadata structures, and activation settings
- No impact to vehicle availability or operational schedules
- Continued wireless LTE and Wi-Fi upload into Axon Evidence
- Continued automatic activation with Axon Body 4
- Continued multi-cam playback and incident association in Axon Evidence
- Continued support for in-car video review, tagging, and metadata entry
- Continued access to Axon Fleet Dashboard and mobile review tools



LIFECYCLE WARRANTY COVERAGE AND END-OF-TERM TAP REFRESH

Arvada PD's existing Fleet 3 hardware will remain fully supported throughout the duration of the new contract through comprehensive warranty coverage. All in-car cameras, Fleet Hubs, and

associated components are covered for repair or replacement, ensuring predictable support costs and minimal downtime.

At the end of the contract term, the Technology Assurance Plan (TAP) provides a full Fleet 3 camera refresh, aligning the program with Axon's latest hardware generation and preparing the department for its next lifecycle period. This combined approach delivers long-term stability, protects Arvada PD's current investment, and ensures the in-car program remains reliable and operationally ready.

Included with this component:

- Extended warranty for all existing Fleet 3 cameras
- Extended warranty for Fleet Hubs and in-car hardware
- Warranty coverage for cables, accessories, sensors, and related components
- Fast RMA turnaround for supported hardware
- Full Fleet 3 camera refresh at the end of the contract
- Hardware upgrade aligned with the latest Fleet generation available at refresh
- Consistent lifecycle management across all in-car systems

WHY THIS FLEET 3 OFFERING MATTERS FOR ARVADA PD

This solution ensures that Arvada PD's current Fleet 3 deployment remains durable, supported, and fully integrated with the department's upgraded OSP10 Premium Bundle and Interview Room solution. Rather than replacing hardware prematurely, the program maximizes the value of existing investments while providing the warranty coverage, service continuity, and planned hardware refresh needed for long-term operational stability.

3.1.3 AXON INTERVIEW ROOM SOLUTION

The proposed Axon Interview Room solution modernizes Arvada PD's existing interview recording capabilities across four facilities. This replaces all existing recording hardware with high-definition cameras, microphones, secure storage components, and simplified start/stop controls to ensure consistent, defensible evidence capture. Each room is configured to support a unified workflow and direct-to-cloud upload into Axon Evidence, eliminating the need for DVDs or manual file transfers.

INTERVIEW ROOM SYSTEM COMPONENTS

Arvada PD will receive a complete set of recording and infrastructure components for each interview room to ensure reliable, consistent capture of audio and video evidence across the different locations. The system is built around secure, networked hardware that is optimized for law enforcement interview environments.

Included components in Axon Interview Room Bundle:

- High-definition interview room cameras
- High-fidelity microphones
- Camera enclosures
- Touch-panel controls and software for start/stop workflows

- Power-over-Ethernet (POE) network switches
- Recording server infrastructure for local redundancy
- Event-marking buttons for quick annotation
- Secure cabling and installation components
- Integration with Axon Evidence for automatic upload and metadata management

These components together establish a reliable, centrally managed interview environment across all seven rooms.

OPERATIONAL BENEFITS FOR ARVADA PD

- **CONSISTENT WORKFLOWS ACROSS ALL INTERVIEW ROOMS** – Standardized controls, metadata entry, and recording procedures reduce training needs and ensure predictable, repeatable performance across all four facilities.
- **IMMEDIATE AVAILABILITY OF INTERVIEW RECORDINGS** – Recordings are automatically uploaded and organized in Axon Evidence, eliminating physical media, manual transfer steps, and delays in getting files to detectives or prosecutors.
- **IMPROVED EVIDENTIARY INTEGRITY** – Automatic hashing, audit trails, and centralized storage ensure that recordings are fully protected, trackable, and ready for discovery or court review.
- **REDUCED ADMINISTRATIVE WORKLOAD** – Automated upload, metadata capture, and retention enforcement minimize manual tasks for detectives, investigators, and records personnel.
- **ENHANCED INVESTIGATIVE COLLABORATION** – Secure livestream access and Instant Playback enable supervisors and prosecutors to monitor interviews in real time or review key moments without disrupting the interview process.
- **UNIFIED DIGITAL EVIDENCE WORKFLOWS** – Because Axon Interview integrates directly with Axon Evidence, personnel maintain a single, familiar process for handling interview footage, body-worn video, Fleet 3 recordings, drone footage, and airspace alerts.

3.2 IMPLEMENTATION APPROACH AND TIMELINE

The following initial implementation plan reflects Arvada PD's clarified expectations as outlined in the RFP and subsequent Q&A responses.

Arvada PD has indicated that implementation is anticipated to begin in the first quarter of 2026. Detailed milestones, sequencing, and installation planning will be developed collaboratively during the contracting process. Therefore, rather than pre-defining a fixed deployment plan, this response outlines our standard implementation model and project approach, which is designed to be tailored with Arvada PD based on site readiness, internal coordination needs, and operational priorities. Final implementation and training plans will be developed in collaboration with Arvada PD to align with project phases, staffing, and operational priorities

Implementation will proceed through the following general phases:

- **PHASE 1: PROJECT INITIATION** – Assign project team, confirm points of contact, and launch a shared project tracker

- **PHASE 2: SITE SCOPING AND TECHNICAL PLANNING** – Perform structured planning for systems that require additional site preparation, configuration, or coordination with Arvada PD's departments. Solutions that follow a more standardized deployment path will be scheduled for delivery and training based on Arvada PD's availability
- **PHASE 3: DELIVERY AND INSTALLATION** – Deploy all equipment and complete system installation at designated locations
- **PHASE 4: TRAINING AND OPERATIONAL READINESS** – Deliver training in live, virtual, and on-demand formats per Arvada PD's preference
- **PHASE 5: GO-LIVE AND STABILIZATION** – Activate systems, monitor performance, and transition to long-term support

Detailed timelines, dependencies, and internal sequencing will be defined during planning sessions with Arvada PD following contract execution.

EFFECTIVENESS OF IMPLEMENTATION/INSTALLATION PLAN

Axon's implementation model supports deployment of multiple systems across varied locations and operational environments. All technologies referenced in the RFP will be deployed under a coordinated plan developed in partnership with Arvada PD.

Because the final Statement of Work will be developed in collaboration with Arvada PD following contract award, detailed installation planning will occur during early project phases. This aligns with Arvada PD's stated intent to define installation scope, sequencing, and milestones collaboratively.

Installation planning and execution will include the following components:

- **COLLABORATIVE SITE PLANNING** – Axon will work with Arvada PD's stakeholders to confirm infrastructure readiness, physical access, and deployment locations
- **SEQUENCED SCHEDULING** – Installations will be scheduled based on Arvada PD's availability and infrastructure status, allowing progress across systems even if one area requires additional preparation
- **PLATFORM-BASED CONFIGURATION** – All systems will connect to Axon Evidence for storage, access, and permissions management
- **VALIDATION AND FUNCTION TESTING** – Devices will be tested for connectivity and upload functionality prior to operational use
- **FLEXIBLE EXECUTION MODEL** – Axon's deployment structure allows for adjustments based on building access, technical dependencies, or stakeholder input without requiring changes to the overall deployment timeline

Arvada PD will have an opportunity to review and approve final installation plans before physical deployment begins. This approach ensures that systems are implemented in accordance with Arvada PD's policies, resource availability, and site conditions.

ANTICIPATED TIMELINE

Axon will begin implementation in coordination with Arvada PD during the first quarter of 2026. This includes project planning, site coordination, and initial delivery of hardware and software components.

A detailed schedule, including sequencing of installation, training, and system activation, will be finalized during the project planning phase during contract discussions. Deployment activities

will follow a phased structure that supports parallel progress across systems and workstreams, based on Arvada PD's readiness.

The overall deployment window remains:

- **START OF IMPLEMENTATION** – Q1 2026
- **FINAL GO-LIVE AND CLOSEOUT** – Q3 2026

This schedule allows adequate time for project planning, technical assessments, hardware delivery, installation, training, and post-deployment stabilization.

VENDOR RESPONSIBILITIES

Axon will provide all products, software, and services associated with the technologies included in Arvada PD's scope of work. This includes delivery, planning, installation coordination, system configuration, training, and post-deployment support.

As part of this engagement, Axon will:

- Deliver all proposed equipment and software
- Coordinate with Arvada PD to develop and finalize the Statement of Work
- Assign a project team to manage deployment and serve as the primary point of contact for planning, delivery, and training
- Conduct technical and site planning for installation and activation
- Support installation and system configuration activities, either directly or in coordination with Arvada PD-approved resources
- Provide training for all systems and user roles, using live, virtual, and on-demand formats as needed
- Transition the account to long-term Customer Success support following go-live
- Provide access to Axon's Technical Support team, available 24/7 for product-related questions, troubleshooting, or warranty coordination

All services will be delivered in alignment with the project schedule developed in collaboration with Arvada PD following contract award.

ARVADA PD'S RESPONSIBILITIES

Arvada PD will serve as a planning and coordination partner throughout the implementation. Arvada PD participation during the planning and deployment phases is essential to confirm access, support decision-making, and ensure that systems are configured in alignment with operational goals.

As part of this process, Arvada PD is expected to:

- Designate points of contact for each relevant area, including IT, facilities, training, and operational leadership
- Participate in planning meetings and scheduling discussions to support the development of the Statement of Work
- Provide site access for installation and walkthroughs, as applicable
- Review and confirm configuration preferences, such as permissions, retention policies, and evidence workflows
- Assist with user scheduling for training sessions, including coordination of internal trainers if applicable

- Communicate internal priorities or constraints that may impact installation timing or deployment sequencing

Axon will support Arvada PD throughout each phase and will adapt the deployment plan based on input provided during planning and implementation.

ACCEPTANCE CRITERIA

As previously mentioned, Axon is proposing a connected ecosystem of first-party and supported third-party technologies designed to meet the operational needs outlined by Arvada PD of Arvada. This includes equipment, software, and services that work together to support field operations, evidence capture, and centralized management.

All systems—whether developed by Axon or supported through integration—are connected through a unified workflow, delivered by a single vendor and supported through established partnerships.

3.3 TRAINING PLAN

Axon provides training for all systems and roles included in the awarded scope of work. Training content, format, and delivery will be finalized in coordination with Arvada PD during the planning phase to ensure alignment with operational priorities, user roles, and internal capacity.

Training is delivered using a blended model, with options that may include:

- On-site instruction for designated systems and user groups
- Virtual sessions for administrative setup, policy workflows, and technical roles
- Train-the-trainer sessions to support internal scaling and future onboarding
- Axon Academy access for all users, providing 24/7 self-paced learning, certifications, and role-specific modules

The type and extent of training delivered may vary depending on the products and services included in the final contract. Axon will work with Arvada PD to determine which training formats are most effective and appropriate for each system.

Ongoing training support is available post-deployment through our Customer Success team and Axon Academy, including refresher content, new feature updates, and additional guided sessions if requested.

3.4 PROJECT MANAGEMENT APPROACH

Axon uses a structured, scalable approach to manage projects that involve multiple product lines, deployment sites, and stakeholders. Our method emphasizes alignment, flexibility, and clear ownership across all phases of the project.

Each deployment is led by a dedicated project team responsible for coordinating all planning, scheduling, installation, training, and system activation activities. The project team will work directly with assigned Arvada PD's contacts to ensure progress is transparent, timelines are tracked, and site-specific constraints are accounted for.

Axon's project management approach includes:

- **KICKOFF AND PLANNING** – Establish project scope, confirm Arvada PD's points of contact, and launch a shared tracker for milestones, documentation, and scheduling

- **COLLABORATIVE TIMELINE DEVELOPMENT** – Work with Arvada PD to define the order and timing of deployment activities across systems and locations. This structure ensures that project milestones reflect Arvada PD's operational readiness and internal priorities
- **ROLE-BASED COORDINATION** – Align with internal stakeholders across IT, facilities, training, and command to confirm technical readiness and system access
- **PROGRESS TRACKING AND CHECKPOINTS** – Use of a centralized project tracker and weekly check-ins to monitor progress, flag risks, and adjust timelines when needed
- **QUALITY ASSURANCE AND TRANSITION PLANNING** – Validate system setup, confirm training outcomes, and transition the project to long-term support once operational goals are met

This model supports a predictable rollout while allowing for adjustments based on Arvada PD's availability, infrastructure timelines, or policy development. Any site-specific requirements (e.g. vehicle access, interview rooms, or network infrastructure) will be addressed during the early planning phase to maintain project momentum.

4 PRODUCT SUPPORT AND DOCUMENTS

Axon's platform is designed to provide stable, predictable performance across the Axon Evidence digital environment. The following information outlines Axon's approach to SaaS uptime, monitoring, maintenance, device health oversight, and the customer support framework available to Arvada PD throughout the lifecycle of the proposed technologies.

4.1 UPTIME PERFORMANCE

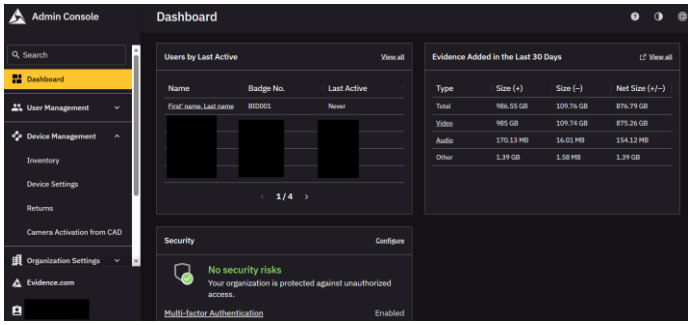
Axon confidently offers a minimum of 99.9% uptime for Axon Cloud Services. Apart from scheduled downtime, scheduled maintenance, and emergency maintenance, we will use commercially reasonable efforts to make Axon Cloud Services available 99.9% of the time, seven days per week, on a 24-hour basis.

Axon Cloud Services operate on a globally distributed, redundant architecture that supports high availability for mission-critical workflows. The environment maintains industry-standard uptime performance backed by continuous monitoring, load balancing, and resilience safeguards. Systems are supported by 24/7 operational oversight to ensure that evidence upload, retrieval, search, redaction, sharing, and real-time operations remain accessible whenever personnel need them.

Axon publishes real-time platform status through **status.axon.com**, where Arvada PD can view current system health, scheduled maintenance events, and historical uptime information for all major services.

4.2 SYSTEM HEALTH MONITORING

Arvada PD will have access to a comprehensive set of administrative tools that provide real-time visibility into device and system performance across all deployed products.



Administrative dashboards in Axon Evidence and Axon Respond enable supervisors and technical staff to:

- View camera, Fleet, TASER device, and sensor connectivity status
- Track upload queues, retention workflows, and storage utilization
- Monitor device assignment, pairing, and compliance with configured policies
- Identify units requiring attention, including overdue uploads, battery issues, or sync failures
- Manage permissions, roles, and access controls for supervisors, investigations, records, and command staff

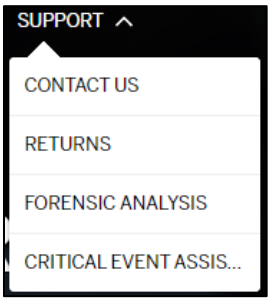
4.3 MAINTENANCE SCHEDULE AND PLATFORM RELIABILITY PRACTICES

Axon plans and executes maintenance in a way that avoids operational disruption. Scheduled updates and maintenance windows are announced through Axon's customer communication channels and status page, giving Arvada PD advance notice of any service activities. Updates typically focus on performance optimizations, security enhancements, new feature deployments, and stability improvements to support long-term platform integrity.

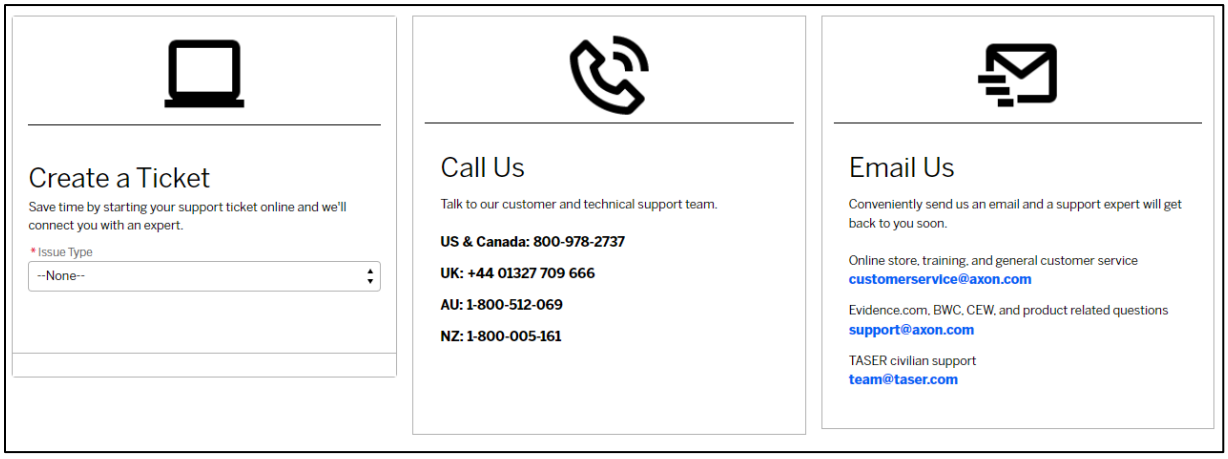
Firmware, application updates, and cloud service enhancements are delivered through Axon's standard release process. This ensures that all connected devices—body cameras, Fleet hardware, interview room systems, Axon DFR components, and Dedrone airspace sensors—remain current with the latest fixes and capability improvements without requiring manual intervention by Arvada PD personnel.

4.4 CUSTOMER SUPPORT AVAILABILITY

Axon Customer Support is available 24 hours a day, seven days a week, every day of the year. Arvada PD has access to an experienced technical support team trained across all Axon product lines, including cloud services, devices, interview rooms, real-time operations, and Draft One. Support may be contacted by phone, email, or through a service ticket from within Axon Evidence.



Choosing the **Contact Us** option brings users to a page where they can access Axon's support resources. From this page, users can create a case to be submitted to Axon's technical support team and can even attach files, such as a screenshot of an error. The phone numbers for technical support—U.S., Canada, and other international options—are displayed if phone communication is preferred.



All support inquiries generate a unique case number to ensure full visibility across the troubleshooting process. Customers receive updates as cases progress, and service-level responsiveness aligns with the severity of the issue and its operational impact.

TIERED SUPPORT STRUCTURE

The following describes the type of support provided by tier, based on the nature and criticality of the issue:

/ TIER 1 TECHNICAL SUPPORT

- Basic product troubleshooting on Axon system components
- Frequently asked questions (FAQs)
- Product navigation
- Feature clarification
- Assistance with RMA questions

/ TIER 2 TECHNICAL SUPPORT

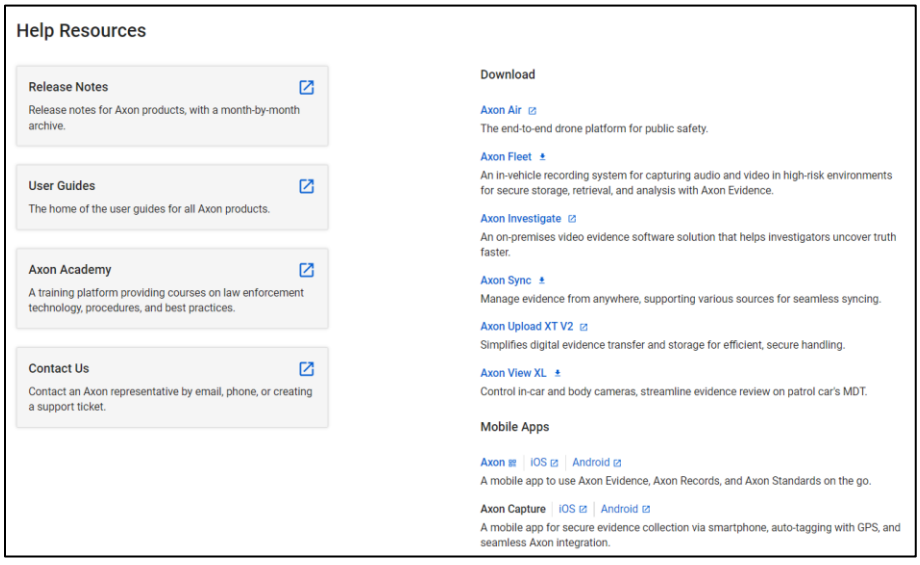
- Advanced product troubleshooting
- Advanced Axon Evidence configuration
- Any issues escalated from Tier 1 support

/ TIER 3 ENGINEERING SUPPORT

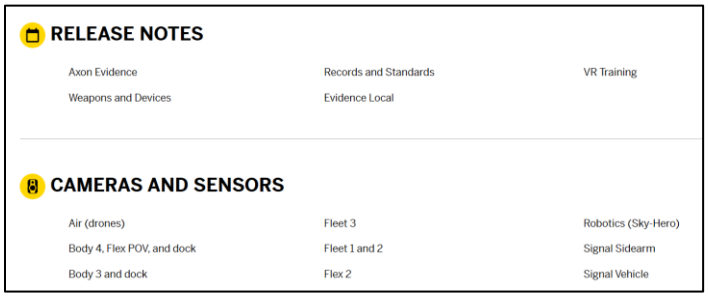
- Critical problems or recurring problems rendering the product inoperable or requiring workarounds, bug fixes, testing, and/or simulation
- Senior customer support engineers with expertise in Windows server administration, computer networking, and cloud solutions; they play an instrumental role in supporting critical and escalated issues

SELF-SERVICE RESOURCES

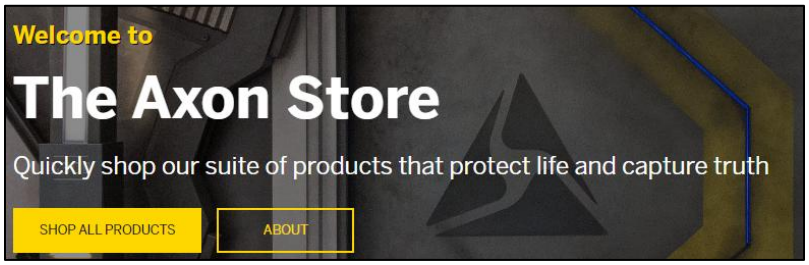
For ease, users can also access technical support assistance, user guides, release notes, application downloads, and mobile app downloads while logged in to Axon Evidence. Clicking on the links will either redirect users to the associated MyAxon page or will begin downloading the software, depending on the selection.



Arvada PD will also have access to **MyAxon**, Axon's self-service support portal that provides product guides, release notes, configuration instructions, FAQs, and training materials.



The **My Agency** section displays information and features related to your agency within MyAxon. This includes registered users, the ability to submit new and view past Axon technical support cases, order status, and training voucher credits. Only authorized agency administrators are granted access to certain features, including submitting tax exemption forms, user management, case management, training management, and online store order management.



The **Shop** header in MyAxon takes registered users to The Axon Store. There, they can browse Axon products, select quick order options, or request a bundled quote from their account executive. And, with the option to email a quote, users can easily gather budget information to present to agency leaders for purchasing requests. Authorized users can also access the live chat feature for assistance with orders and view your assigned Axon account executive team members.

These resources give supervisors and administrators a quick way to resolve questions without waiting for live support.

4.5 RMA AND REPLACEMENT PROCESS

The RMA process is streamlined so Arvada PD can request replacement hardware when devices fall under warranty or the Technology Assurance Plan. Support staff issue pre-paid return labels, process device evaluations, and provide timely shipment of replacement units. For cameras, Fleet hardware, and other connected devices, replacement timelines are designed to minimize downtime and maintain operational continuity across all buildings.

4.6 DOCUMENTATION AND PRODUCT GUIDES

All product documentation, including user manuals, quick-start guides, release notes, device specifications, configuration guides, and governance materials, is consolidated within MyAxon and available for authorized personnel. Documentation is organized by device type and workflow, enabling Arvada PD to locate relevant materials for body-worn cameras, TASER devices, Fleet systems, interview rooms, real-time operations, Draft One, and DFR hardware.

5 SECURITY DOCUMENTS

As an existing participant in the Axon Ecosystem, Arvada PD already benefits from the security and compliance practices that underpin Axon's digital evidence and operational technology solutions. This proposal maintains those protections across the proposed upgrades and new components, including integrated third-party technologies. Axon applies consistent, high-assurance standards across our own solutions and holds our trusted technology partners—such as Skydio and others—to similar security, privacy, and compliance expectations.

The following sections summarize Axon's commitments and practices in the areas of End User Licensing, Data Privacy, Solution Security and Certifications, and CJIS Compliance.

EULA

Axon's End User License Agreement (EULA) and Master Services and Purchasing Agreement (MSPA) are included in the appendix. These documents define the terms of use, data ownership, licensing scope, and responsibilities for both Axon and our customers. This has been included within Section 9: Appendices.

DATA PRIVACY

Axon applies strong data protection practices across all hosting environments. Customer data is encrypted at rest using AES-256 and in transit using TLS 1.2 or higher. Encryption keys are securely managed using platform-integrated key services. Customers control access through role-based permissions, SSO, and multi-factor authentication.

SOLUTION SECURITY AND CERTIFICATIONS

Axon solutions follow a shared responsibility model to clearly define roles between the infrastructure provider, Axon, and the customer. Axon actively manages application-layer security, including identity and access management, vulnerability testing, 24/7 monitoring, and incident response. Hosting infrastructure and Axon-managed solutions maintain compliance with industry standards such as:

- CJIS
- ISO 27001, 27017, 27018, 27701
- SOC 2 Type II and SOC 3

Audit documentation is available via Axon's Trust Center.

Supporting security documentation is included within Section 9: Appendices.

CJIS COMPLIANCE

Axon is committed to meeting the FBI's CJIS Security Policy across all cloud environments. This includes contractual alignment with CJIS requirements and regular third-party audits to validate adherence. Compliance documentation is available upon request.

6 TECHNICAL SPECIFICATIONS AND WARRANTY

This section provides detailed technical specifications for all Axon systems proposed in response to RFP 25-PD-072. To support clear evaluation, specifications are organized by system category and presented in a consistent format across all hardware and software components.

This section also includes a summary of Axon's standard warranty coverage for the proposed equipment and software. Complete, binding warranty terms are contained within the Axon Master Services and Purchasing Agreement (MSPA), included in the Appendix.

Together, these technical specifications and warranty provisions reflect Axon's commitment to supplying reliable, secure, and interoperable technologies that meet Arvada PD's operational, evidentiary, and long-term sustainment requirements.

In the 6.1 Warranty Information section, you will find warranty details followed by technical specifications for the following systems offered:

- **CEW** – TASER 10 Energy Weapon
- **BWC** – Axon Body 4
- **DASH CAMS** – Axon Fleet 3
- **INTERVIEW** – Axon Interview
- **DRONE COMPONENTS** – Skydio and Dedrone cUAS

6.1 WARRANTY INFORMATION

The Master Services and Purchasing Agreement (MSPA) outlines the warranty terms for both hardware and software products provided by Axon.

HARDWARE

For hardware products, Axon provides a limited warranty that covers defects in workmanship and materials for one year from the date of receipt. This includes Axon-manufactured devices. Axon-manufactured accessories are covered for ninety days from the date of receipt.

Non-Axon manufactured accessories are covered under the manufacturer's warranty.

Extended warranties are also available, which run from the expiration of the one-year hardware warranty through the extended warranty term.

AXON FLEET WARRANTY DETAILS

Axon offers a four-year extended warranty on Axon Fleet hardware. For packages that include TAP—five years after the start of the Axon Fleet subscription—Axon will provide the customer with a new Axon Fleet system that is the same or like product, at Axon's sole discretion.

INTERVIEW ROOM WARRANTY DETAILS

Installation services for the interview room's proposed hardware and an extended warranty are both included in Axon's pricing proposal for the five-year term. This warranty will cover repair and/or replacement of defective parts that are purchased, including cameras, microphones, servers, display terminals, POE switches, and other applicable items procured on behalf of the

customer. This warranty will include next-business-day express shipping of replacement parts; however, onsite installation of replacement parts is not included.

TECHNOLOGY ASSURANCE PLAN

BWC TAP: The Axon Technology Assurance Plan (TAP) covers Axon BWC cameras via an extended warranty for the five-year contract term. This includes spare cameras and two camera refreshes. BWC camera refreshes occur twice in the contract term, at the two-and-a-half and five-year marks, free of charge.

Fleet TAP: The Axon Technology Assurance Plan (TAP) covers Axon Fleet cameras via an extended warranty. This includes spare cameras and one camera refresh—after the five-year mark. Fleet camera refreshes occur once in the contract term, at five-year mark, free of charge.

Please see the Axon Master Services and Purchasing Agreement that outlines the full terms and conditions of the standard manufacturer warranty, extended warranty, and Technology Assurance Plan.

SOFTWARE

Unlike physical hardware, software and cloud-based services are continuously evolving and operate in a wide range of technical environments. As such, traditional product warranties—such as guarantees of hardware performance or defect-free operation—do not apply to software. This is standard in software-as-a-service (SaaS) contracts.

Axon provides software and Axon Cloud Services on an "AS IS" basis without any warranty of any kind, either express or implied. Axon disclaims any warranties or responsibility for data corruption or errors before data is uploaded to Axon Cloud Services. However, Axon does indemnify customers against claims that Axon Cloud Services or other Axon software infringes or misappropriates a third party's intellectual property rights.

SOFTWARE UPGRADES AND UPDATES

Note that the latest product updates are included as part of your investment in Axon Cloud Services. These updates are included in the cost of the software license and are delivered throughout the year.

Please note that additional product features, enhancements, or upgrades Axon advertises as distinct, separate add-on products or applications may not be included.

6.2 TECHNICAL SPECIFICATIONS

In this section, you will find the technical specifications for the following systems offered:

- **CEW** – TASER 10 Energy Weapon
- **BWC** – Axon Body 4
- **DASH CAMS** – Axon Fleet 3
- **INTERVIEW** – Axon Interview

TASER 10 Energy Weapon Specifications

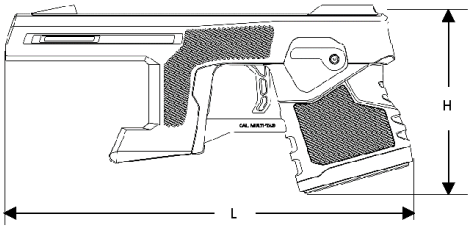
TASER 10 Energy Weapon Models[1]	Model No.	SKU No.	Handle Color	LASER Classification	LASER Color
TASER 10 Energy Weapon	TS1025	100391	Yellow W/Black Rubberized Grip	Class 2	Green
TASER 10 Energy Weapon	TS1024	100390	Yellow W/Black Rubberized Grip	Class 3R	Green

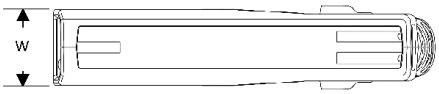
Features Include

- Multiple shot (10 shots) energy weapon
- Individually targeted probes allow for accurate aiming and the possibility of creating spread over the entire useful range of the device by deploying one cartridge with each trigger pull
- Housing: High-impact polymer construction
- High efficiency lumen LED in flashlight Mode (210 lumen) with Warning Alert up to 1,000 lumen (strobing)
- LASER sight Class 3R Green (default) or Class 2 Green available
- Any Probe Connect with Spread Optimizer will energize up to 4 connected probes for optimal connection to induce neuromuscular incapacitation
- Color Central Information Display (CID): Displays mission-critical data such as remaining battery energy, burst time, operating mode, and errors
- Weapon logs record information from a variety of sensors; data can be downloaded using the TASER Weapons Dock and accessed via Axon Evidence (Evidence.com) services
- Onboard self-diagnostic and system status monitoring and reporting
- Ambidextrous user controls, including on/off, warning alert, trigger, functional test mode, magazine insertion/removal, and battery replacement
- The output cycle can be stopped at any time by shifting the selector switch to the down (SAFE) position
- Can be agency-configured, so the energy weapon's output cycle stops at 5 seconds and the weapon will emit an audible alert for the last 2 seconds of the output cycle
- Compatible with Axon TASER 10 Cartridges only
- Compatible with Axon Signal technology.
- Mode specific side light illumination provides situational awareness as well as helping to identify appropriate weapon
- Sound Output for Warning Alert, Arming Weapon, as well as Connection Alert
- Easy removal and reinsertion of magazine allows for quick replacement of deployed cartridges
- White dot back-up iron sights allows for quick acquisition of target
- Holster sensing enables tracking of un-holstering and re-holstering events
- Ruggedized construction for IP67 ingress protection

[1] Additional items available. Please contact Axon sales and customer service for more information.

Mechanical Specifications





Parameter	Test Condition	Min	Typ	Max	Unit
(L) Length	Without battery or cartridge		7.45 (189.1)		in (mm)
(H) Height	Without battery or cartridge		3.46 (87.9)		
(W) Width	Without battery or cartridge		1.58 (40.2)		
Weight	Without battery or cartridge		0.65 (0.29)		lb (kg)
Trigger Pull Force[2]		2.4	2.8	3.2	lbf
Drop Test	MIL-STD 810H, Method 516.8, Procedure IV		5 (1.5)		ft (m)

Electrical Output Characteristics

Parameter	Test Condition	Min	Typ	Max	Unit
Delivered Parameters[3,4]					
Pulse Charge[5]	300 Ω to 2000 Ω	52	70	95	µC (microcoulomb)
Pulse Rate[6,7]	1 Load – 1 Connection	21	22	23	Pulses Per Second (PPS) into each load
	1 Load – 2+ Connections	43	44	45	
	2 Loads – 1 Connection in each	21	22	23	
	2 Loads – 2+ Connections in each	32	33	34	
	3 Loads – 1+ Connection in each	21	22	23	
Aggregate current[8]	22 PPS into 300 Ω to 2000 Ω	0.00114	0.00154	0.00209	A (amperes)
Energy Per Pulse	600 Ω	0.032	0.054	0.088	J (joules)
Output Power	22 PPS into 600 Ω	0.70	1.18	1.95	W (watts)
Loaded Voltage	600 Ω	653	768	883	V (volts)

[2] Trigger pull force may vary with temperature.

[3] A "delivered" parameter represents electrical current delivered from the TASER energy weapon to a completed circuit. Specifications derived from discharge into resistive loads.

[4] All specifications are based on the use of 45' (13.7 m) cartridges connecting to the load.

[5] Based on the average of 8 successive pulses delivered into the load after Charge Metering stabilization.

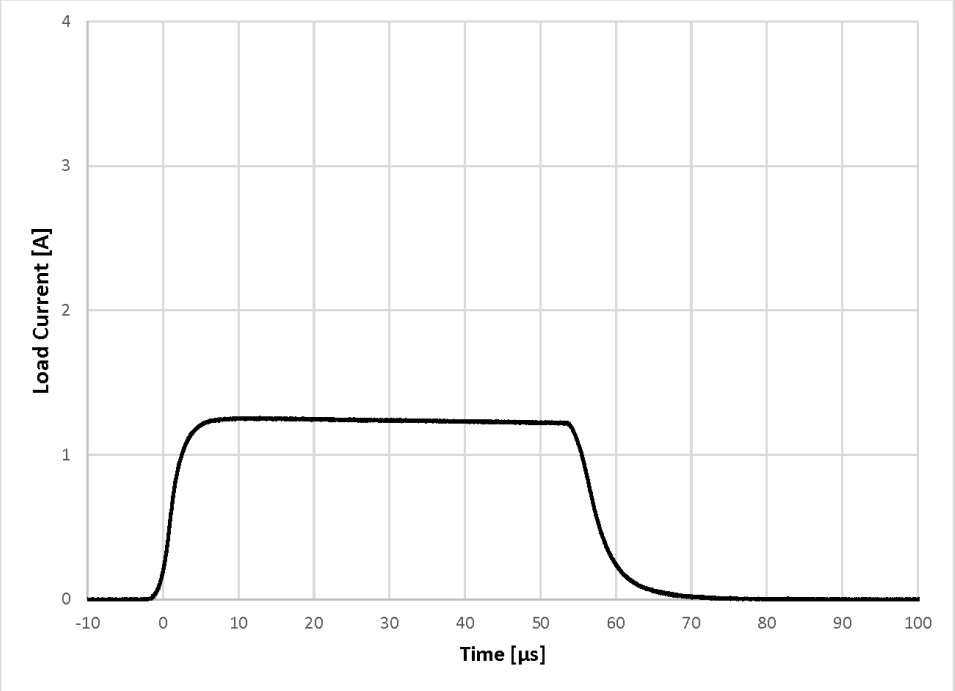
[6] Pulse rate may vary over operating temperature and battery conditions.

[7] A connection is defined as 2 cartridges making an electrical connection, each into the same load.

[8] Aggregate current is the flow of charge over one second (in amperes).

Parameter	Test Condition	Min	Typ	Max	Unit
Pulse Duration[9]	600 Ω	44	64	74	µs (microseconds)

Electrical Output Waveform[10]



Flashlight, LASER, and Side Light Characteristics

Parameter	Test Condition	Min	Typ	Max	Unit
Flashlight Luminous Output[11]	Safety in up (ARMED) Position		210		lm (lumens)
	Safety Tap Up[12]		1000		
Green LASER Power Output[13]	Class 2		0.85	0.99	mW (milliwatts)
	Class 3R		4	4.99	

[9] Non-inductive resistor. Duration measured from 100 mA to 100 mA.

[10] Waveform graph represents an output pulse into a 600 Ω non-inductive resistor.

[11] Flashlight output may vary with operating temperature, battery charge, environmental factors, and other conditions.

[12] Flashlight will strobe when the safety switch is placed into the tap up position with less than 2 cartridges deployed, depending on agency-configured settings.

[13] LASER output power may reduce depending on operating temperature.

Parameter	Test Condition	Min	Typ	Max	Unit
Blue Side Lights Output		450		495	nm (wavelength)
Red Side Lights Output		606		636	nm (wavelength)
Yellow Side Lights Output		570		610	nm (wavelength)

Environmental Specifications and Product Life

Parameter	Test Condition	Min	Typ	Max	Unit
Operating Temperature[14,15]	MIL-STD-810H Method 501.7.	−20 −4		50 122	°C °F
Storage Temperature[15]		−20 −4		50 122	°C °F
Water Ingress[16]	IEC 60529 IP67	Pass			
Dust Ingress[16]		Pass			
Operating Relative Humidity	MIL-STD-810H Method 507.6 Procedure II Aggravated Cycle		95%		Percent
Product Useful Life[17]			5		Years

Sound Pressure Level (SPL)

Parameter	Test Condition	Min	Typ	Max	Unit
Audible Alerts	4" (10 cm)		96		dBA (decibel)
Cartridge Discharge	4" (10 cm)		100		

Electrostatic Discharge (ESD) Ratings

Parameter	Test Condition	Value	Unit
V_{ESD} Electrostatic Discharge[18,19]	Contact	±4	kV (kilo volt)
	Air	±8	

Patent: www.axon.com/patents

[14] Unless otherwise specified, all specifications are valid over operating temperature range.

[15] Operating or storage outside of specified temperature range may cause improper operation or damage to the energy weapon and its accessories.

[16] Valid only with ten TASER 10 cartridges loaded in the magazine and the magazine and battery pack inserted in a TASER 10 energy weapon.

[17] Recommended useful life.

[18] IEC EN 61000-4-2 (Electrostatic Discharge Immunity Test).

[19] ESD rating is applicable to all parts of the system: energy weapon handle, cartridge, and battery pack.

AXON BODY 4 CAMERA SPECS

MODEL	MODEL NUMBERS	COLOR
Axon Body 4 Camera	AX1037, AX1038	Black

OPERATING RANGES

Operating temperature	-4–122° F (-20–50° C)
Storage temperature	-4–95° F (-20–35° C)[1]
Charging temperature	41–95° F (5–35° C)
Humidity	95% non-condensing
SAR[2], AX1037	3.546 W/kg extremity, 1.354 W/kg body-worn
SAR[2], AX1038	3.657 W/kg extremity, 0.682 W/kg body-worn

HARDWARE

Battery	4300 mAh rechargeable Li-Ion polymer
Storage	128 GB non-removable eMMC
Encryption	XTS-AES-256 full disk encryption
Battery runtime	13 hours 720P, with full LTE and Bluetooth connectivity, and four hours of recording[3,4]

VIDEO STORAGE CAPACITY

Resolution	File size/hour	Storage Capacity
480p (854 x 480)	0.97 GB	103 hours
720P (1280 x 720), default	1.87 GB	54 hours
1080P (1920 x 1080)	4.57 GB	22 hours
1440P (2560 x 1440)	9.08 GB	11 hours

CONNECTIVITY

LTE CAT 6

- AX1037 bands: 2, 4, 5, 7, 12, 13, 14, 25, 26, 30, 66
- AX1038 bands: 1, 2, 3, 4, 5, 7, 8, 20, 28 (FDD) and 40 (TDD)

Bluetooth 5.0
Wi-Fi 802.11a/b/g/n/ac at 5 and 2.4 GHz
USB 3.0, Type-C receptacle
Near field communication (NFC) tag, data matrix
GNSS constellations: GPS, GLONASS, and Galileo
Support for A-GPS (XTRA), Wi-Fi, and cell tower positioning

VIDEO SETTINGS

Frame rate	Up to 30 frames per second
Aspect ratio	16:9 and 4:3
Format and encoding	MPEG-4, H.264 compression
Field of view	160° or 120º diagonal

HARDWARE RATINGS

Drop	6 ft (1.8 m) MIL-STD-810G
IP rating	IEC 60529 IP68 (6 dust, 8 water; max depth 3 m up to 30 minutes), IPX4 (water splash)
Salt fog	MIL-STD-810H

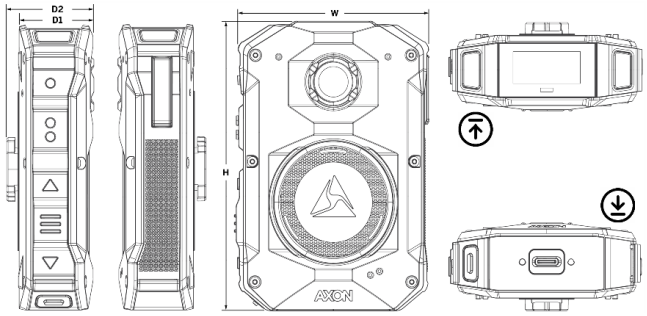
FEATURES

- Full color audio/visual camera
- Event button to start and stop recording
- Pre-event buffer of 0–120 seconds, configurable in increments
- LCD screen indicates battery remaining, recording status, and mute/stealth state. When docked, shows number of videos on the device when uploading and when it's receiving software updates.
- Operation LED on top of camera for camera status
- Four digital microphones record in high-quality dual channel stereo
- Haptic notification: vibration feedback along with tones
- Low-light capability, less than 0.1 lux
- Automatic motion blur correction
- Upload speed throttling
- Various mounting options
- Embedded GPS, accelerometer, and gyroscope provides user location when recording, real-time alerts, and notifications
- Livestream audio/video capability
- Date/time watermark can be embedded on video
- Compatible with Axon Signal technology
- Dedicated Watch Me button to start a recording and send a request to Axon Respond that the user wants to be livestreamed
- Voice communications capability allows livestream viewers to communicate to cameras using Axon Respond+
- Compatible with Axon Device Manager, Axon View mobile apps, and Axon ViewXL for Windows
- End recording confirmation feature to prevent recordings from ending accidentally

DIMENSIONS AND WEIGHT

Depth 1 (D1)	1.05" (2.7 cm)
Depth 2 (D2)	1.21" (3.1 cm)
Width (W)	2.65" (6.7 cm)
Height (H)	3.95" (10.1 cm)
Weight	7.76 oz (220 g)

[1] Device integrity may be affected if stored for more than 30 days at the high temperature. Long-term storage should be in a climate-controlled environment. [2] Specific Absorption Rate. [3] Rechargeable lithium-ion polymer batteries have a limited lifespan. With age, batteries will gradually lose their capacity to hold a charge. This loss of capacity (aging) is irreversible. As the battery loses capacity, the length of time it will power your device (run-time) decreases. [4] Temperature, other ambient conditions, and usage can affect battery life.



For detailed operating instructions and video walk-throughs, scan the QR code or go to **https://my.axon.com/s/axon-body-4**.

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AXON

AXON BODY 4 CAMERA DOCK SPECS

MODEL	MODEL NUMBER	COLOR
Body 4 Dock	AX1040 (1-bay), AX1039 (8-bay)	Black

OPERATING RANGES

Operating temperature	32–122 °F (0–50 °C)
Humidity	85% non-condensing

INPUT POWER

DC voltage	12–16 V
DC current max	1-bay: 1.5 A 8-bay: 8 A
DC power max	1-bay: 18 W 8-bay: 120 W

OUTPUT POWER (per port)

DC voltage	4.5–5.5 V
DC current max	2 A
DC power max	10 W

BARREL POWER CONNECTOR

Inner diameter	0.08" (2.1 mm)
Outer diameter	0.22" (5.5 mm)
Length	0.39" (10 mm)
Positive	Inside

FEATURES

- Supports one or eight Axon Body 4 cameras[1]
- Triad LED on camera indicates device status when docked in a bay; status also appears on camera display and web-based status screens
- Updates cameras and uploads files to Axon Evidence (network connection required)

NETWORK SETUP

Axon Body 4 cameras establish a direct encrypted communications channel to Axon Evidence through the Axon Body 4 Dock, which acts as an ethernet adapter, unmanaged network switch, and charger. Axon Body 4 Docks use a 10/100/1000 Mbps RJ45 port; for best performance, connect to a gigabit-capable network.

MAC ADDRESS

Each Axon Body 4 dock bay has its own MAC address, which is printed on the dock. When registering a dock using the NFC scan method in Axon Device Manager (ADM), the MAC address appears on the inventory page for the dock in Axon Evidence.

PORTS REQUIRED

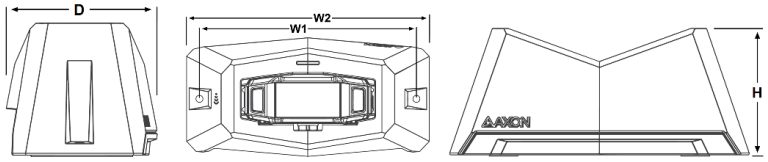
An Axon Body 4 camera requires the following outbound ports:

- Port 443 (TCP) – Open for outgoing traffic to Axon Evidence
- Port 80 – Open for time synchronization

DIMENSIONS AND WEIGHT

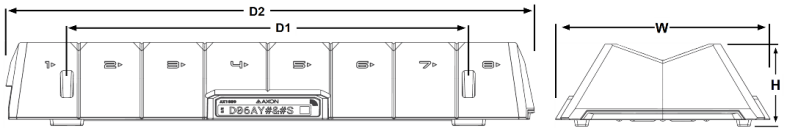
1-Bay

Depth (D)	2.56 in. (65 mm)
Width (W1)	4.65 in. (118 mm)
Width (W2)	5.21 in. (132 mm)
Height (H)[2]	2.22 in. (56 mm)
Weight	8.8 oz (249.5 g)



8-Bay

Depth (D1)	12.0 in. (305 mm)
Depth (D2)	15.9 in. (404 mm)
Width (W)	6.8 in. (173 mm)
Height (H)[3]	2.64 in. (67 mm)
Weight	3.1 lb (1383.5 g)



Device integrity may be affected if stored for more than 30 days at high temperatures. Long-term storage should be in a climate-controlled environment. To prevent damage to the battery, a camera will stop charging at battery temperatures above 113 °F (45 °C) and resume charging automatically once it has cooled to below this temperature.

Required AC service specifications for provided external AC-DC power supply are 100–240 VAC, 50–60 Hz, 0.48 A minimum (1-bay) and 100–240 VAC, 47–63 Hz, 1.6 A minimum (8-bay).

[1] Compatible only with Axon Body 4 cameras. [2] Height is 4.9 in. (125 mm) with Body 4 inserted. [3] Height is 5.1 in. (130 mm) with Body 4 inserted.

For detailed operating instructions and video walk-throughs, scan the QR code or go to **https://my.axon.com/s/axon-body-4**.

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AXON

AXON FLEET 3 SPECS

MODEL	MODEL NUMBER	COLOR
Axon Fleet 3 Dual-View Camera	AX1031	Black

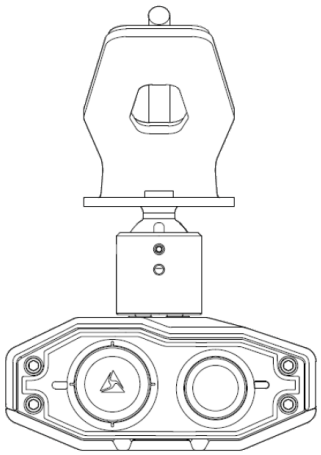
OVERVIEW

The Axon Fleet 3 solution is a purpose-built in-vehicle recording system for capturing audio and video, supplemented by artificial intelligence designed for use in critical environments encountered by law enforcement, corrections, emergency medical services (EMS), and security activities. The Axon Fleet 3 system records events for secure storage, retrieval, and analysis using Axon Evidence services. Recorded events and even livestreams transfer securely to Axon Evidence over LTE/5G or Wi-Fi.

This document provides specification and feature information for the following Axon Fleet 3 system components:

- Dual-View Camera
- Interior camera
- Fleet Hub
- Mobile Data Computer (MDC)

The Axon Fleet 3 system interfaces with the Fleet Hub through the vehicle's MDC. Refer to the Axon Fleet 3 System Requirements for information on MDC requirements and recommendations.



VIDEO PARAMETERS

Camera	Format	Aspect Ratio	Pixels (x,y)	GB/hr	Hrs on Fleet Hub, 240 GB*	Hrs on Fleet Hub, 1.8 TB*
Dual-View or Interior	High HD 1080p	5:2 Panoramic	2240, 900	4.9	42	345
	HD 720p†		1344, 540	2.4	87	706
	SD 480p		896, 360	1.0	210	1694
	High HD 1080p	16:9	1920, 1080	4.9	42	345
	HD 720p		1280, 720	2.4	87	706
	SD 480p		854, 480	1.0	210	1694
Interior only	High HD 1080p	4:3	1400, 1050	3.9	53	434
	HD 720p‡		1024, 768	1.9	110	891
	SD 480p		640, 480	0.7	300	2420

* Approximate hours without Video Recall; subtract 10% with Video Recall; some space reserved for system files. † Dual-view default setting. ‡ Interior default setting.

Fleet Hub storage example: A vehicle has one Dual-View (DV) Camera at HD 720p 16:9 and one interior camera (IC) at HD 720p 4:3. The GB/hr is 4.3 (2.4 DV + 1.9 IC). Without Video Recall enabled, the 240 GB and 1.8 TB Fleet Hubs can store 48 (87+110/4.1) and 399 (706+891/4.1) hours of video, respectively.

For detailed operating instructions and video walk-throughs, scan the QR code or go to **https://my.axon.com/s/axon-fleet3**.

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AXON

AXON FLEET 3 SPECS

MODEL	MODEL NUMBER	COLOR
Axon Fleet 3 Dual-View Camera	AX1031	Black

SPECIFICATIONS

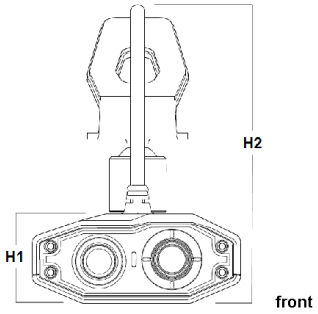
Construction	Aluminum body with polycarbonate plastic sunshield
Field of view	Primary 160°, ALPR 60°
Video	MPEG4; H.264 codec
Video resolution	1080P / 720P / 480P at 30 frames per second
Aspect ratio	16:9 and 5:2 panoramic
Operating temperature range	-22–149 °F (-30–65 °C)
Storage temperature range	-40–221 °F (-40–105 °C)
IP code	IEC 60529 IP54

FEATURES

Full-time service	Can continuously stream video and audio to the Fleet Hub and perform license plate recognition on systems enabled with the optional Automated License Plate Reader (ALPR) service
ALPR	3+ lanes of coverage out to 50 feet (15.2 meters)
Mount	Windshield mount provides full 360° articulation
Low light capability	0.1 lux
Zoom	12x digital, 3.0x optical
Microphones	Three integrated mics for audio recording inside the vehicle at a 48 kHz sample rate with AAC encoding. Mic processing includes Nokia OZO Audio Focus and Audio Windscreen technology to improve speech intelligibility and reduce unwanted environmental noise.
Connectivity	Connects to Fleet Hub
Activation	Recording activation with physical button, Dashboard application, or Axon Signal

DIMENSIONS AND WEIGHT

Length (L)	5.24 in. (133 mm)
Width (W)	3.46 in. (88 mm)
Height (H1)	1.50 in. (38 mm)
Height (H2)	4.65 in. (118 mm)
Weight	14.5 oz (411 g)
Weight with mount	17.4 oz (494 g)



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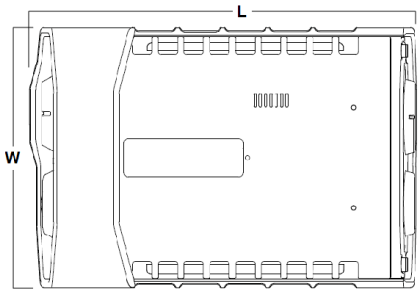

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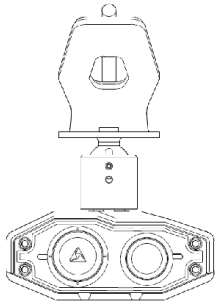
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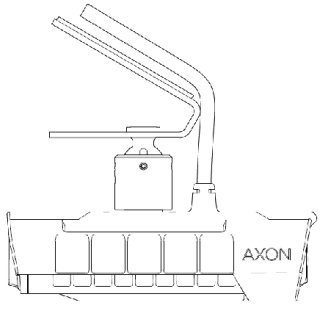


side

Axon Enterprise, Inc.

AXON FLEET 3 SPECS

MODEL	MODEL NUMBER	COLOR
Axon Fleet 3 Interior Camera	AX1032	Black

SPECIFICATIONS

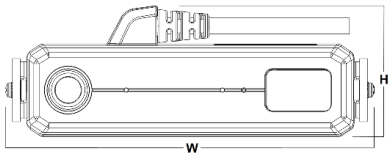
Construction	Aluminum body
Field of view	160°, for view from below knee to above head
Video	MPEG4; H.264 codec
Video resolution	See Video Parameters on page 1; all recordings are at 30 frames per second
Aspect ratio	4:3, 5:2, or 16:9
Operating temperature range	-22–149 °F (-30–65 °C)
Storage temperature range	-40–221 °F (-40–105 °C)
IP code	IEC 60529 IP54

FEATURES

Full-time service	Can continuously stream video and audio to the Fleet Hub
Mount	Adjustable angle mount
Low light capability	0.1 lux, 0 lux with infrared (IR) illumination, monochrome image in darkness
Microphones	Two integrated mics for audio recording inside the vehicle at a 48 kHz sample rate with AAC encoding. Mic processing includes Nokia OZO Audio Focus and Audio Windscreen technology to improve speech intelligibility and reduce unwanted environmental noise.
Connectivity	Connects to Fleet Hub
Activation	Recording activation with physical button, Dashboard application, or Axon Signal

DIMENSIONS AND WEIGHT

Width (W)	3.46 in. (88.2 mm)
Height (H)	1.93 in. (49 mm)
Depth (D)	1.22 in. (31 mm)
Weight	8.3 oz (235 g)



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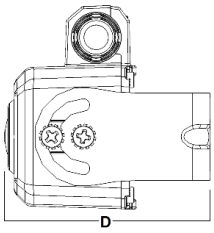


side

Axon Enterprise, Inc.

AXON FLEET 3 SPECS

MODEL	MODEL NUMBER	COLOR
Axon Fleet Hub	AX1033	Black

SPECIFICATIONS

Construction	Aluminum housing and end caps; polycarbonate plastic fan housing
Power required	11–19 VDC
Power consumed	Approximately 11 W for hub, 21.5 W for typical two-camera system. Each additional camera: Dual-View 6.5 W, Interior 4.6 W. <1 mA at 12 VDC when off
Operating temperature	-40–185 °F (-40–85 °C)
Storage temperature	-40–194 °F (-40–90 °C)
IP code	IEC 60529 IP50
Wi-Fi	802.11ax (Wi-Fi 6)
Shortrange wireless	5.0
Storage	240 GB or 1.8 TB SSD with AES256 CBC ESSIV SHA256 encryption

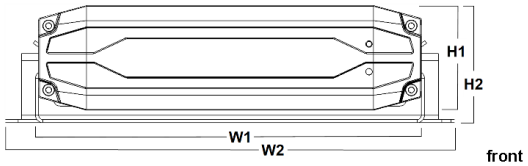
FEATURES

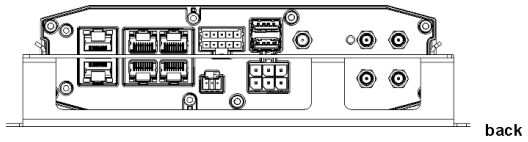
- Securely records and stores all evidence from connected cameras and microphones
- 5 – 1000BASE-T ports for cameras and microphones
- 1 – 1000BASE-T port for router connection
- 10 discrete 12 V inputs for Axon Signal triggers
- Compatible with Axon Signal technology
- Global Navigation Satellite Systems (GNSS): GPS, GLONASS, Galileo, QZSS, SBAS constellations with 3D inertial dead reckoning and long-term orbits
- Embedded GPS, accelerometer, and gyroscope provides user location when recording, real-time alerts, and notifications
- Optional video recall for up to 24 hours of continuous recording per camera (7 days with 1.8 TB storage)
- Radar support
  - Stalker: DSR, DSR2X, Dual SL, Patrol
  - Kustom Signals: Raptor RP1, Golden Eagle II, Eagle III

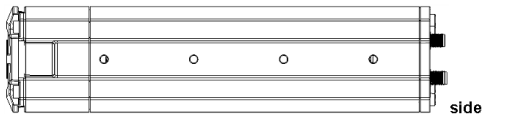
DIMENSIONS AND WEIGHT

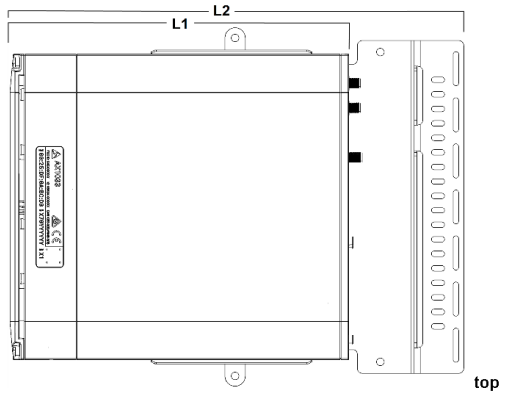
Length (L1)	8.15 in. (207 mm)
Width (W1)	7.05 in. (179 mm)
Height (H1)	1.93 in. (49 mm)
Weight	62.4 oz (1769 g)

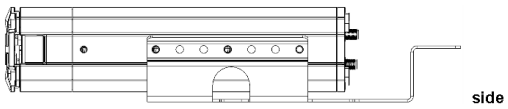
With bracket:	
Length (L2)	12.50 in (318 mm)
Width (W2)	8.30 in. (210 mm)
Height (H2)	2.40 in. (60 mm)











Axon Enterprise, Inc.

AXIS P3265-LV Dome Camera

Camera

Image sensor
1/2.8" progressive scan RGB CMOS

Lens
Varifocal, 3.4–8.9 mm, F1.8
Horizontal field of view: 100°-36°
Vertical field of view: 53°-20°
Minimum focus distance: 50 cm (20 in)
IR corrected, remote zoom and focus, P-Iris control

Day and night
Automatically removable infrared-cut filter

Minimum illumination
With Forensic WDR and Lightfinder 2.0:
Color: 0.1 lux at 50 IRE, F1.8
B/W: 0 lux at 50 IRE, F1.8

Shutter speed
1/66500 s to 2 s

Camera adjustment
Pan ±180°, tilt ±75°, rotation ±175°

System on chip (SoC)

Model
ARTPEC-8

Memory
1024 MB RAM, 8192 MB Flash

Compute capabilities
Deep learning processing unit (DLPU)

Video

Video compression
H.264 (MPEG-4 Part 10/AVC) Baseline, Main, and High Profiles
H.265 (MPEG-H Part 2/HEVC) Main Profile
Motion JPEG

Resolution
1920x1080 to 160x90

Frame rate
With WDR: 25/30 fps with power line frequency 50/60 Hz
Without WDR: 50/60 fps with power line frequency 50/60 Hz

Video streaming
Multiple, individually configurable streams in H.264, H.265, and Motion JPEG
Axis Zipstream technology in H.264 and H.265
Controllable frame rate and bandwidth
VBR/ABR/MBR H.264/H.265
Low latency mode
Video streaming indicator

Multi-view streaming
Up to 2 individually cropped out view areas in full frame rate

Image settings
Saturation, contrast, brightness, sharpness, Forensic WDR: up to 120 dB depending on scene, white balance, day/night threshold, local contrast, tone mapping, exposure mode, exposure zones, defogging, barrel distortion correction, compression, rotation: 0°, 90°, 180°, 270° including Corridor Format, mirroring, dynamic text and image overlay, privacy masks, polygon privacy mask

Pan/Tilt/Zoom
Digital PTZ, preset positions

Audio

Audio streaming
Two-way, full duplex

Audio encoding
24bit LPCM, AAC-LC 8/16/32/44.1/48 kHz, G.711 PCM 8 kHz, G.726 ADPCM 8 kHz, Opus 8/16/48 kHz
Configurable bit rate

Audio input/output
External microphone input, line input, digital input with ring power, line output, automatic gain control

Network

Network protocols
IPv4, IPv6 USGv6, ICMPv4/ICMPv6, HTTP, HTTPS[1], HTTP/2, TLS[1], QoS Layer 3 DiffServ, FTP, SFTP, CIFS/SMB, SMTP, mDNS (Bonjour), UPnP®, SNMP v1/v2c/v3 (MIB-II), DNS/DNSv6, DDNS, NTP, PTP, NTS, RTSP, RTCP, RTP, SRTP/RTSPS, TCP, UDP, IGMPv1/v2/v3, DHCPv4/v6, ARP, SSH, SIP, LLDP, CDP, MQTT v3.1.1, Secure syslog (RFC 3164/5424, UDP/TCP/TLS), Link-Local address (ZeroConf)

System integration

Application Programming Interface
Open API for software integration, including VAPIX® and AXIS Camera Application Platform; specifications at *axis.com*
One-click cloud connection
ONVIF® Profile G, ONVIF® Profile M, ONVIF® Profile S, and ONVIF® Profile T, specification at *onvif.org*
Support for Session Initiation Protocol (SIP) for integration with Voice over IP (VoIP) systems, peer to peer or integrated with SIP/PBX.

Video management systems
Compatible with AXIS Camera Station Edge, AXIS Camera Station Pro, AXIS Camera Station 5, and video management software from Axis' partners available at *axis.com/vms*.

Onscreen controls
Day/night shift
Defogging
Wide dynamic range
Video streaming indicator
IR illumination

Event conditions
Analytics, external input, supervised external input, virtual inputs through API
Audio: audio clip playing, audio clip currently playing
Call: state, state change
Device status: above operating temperature, above or below operating temperature, below operating temperature, within operating temperature, IP address removed, new IP address, network lost, system ready, ring power overcurrent protection, live stream active
Digital audio: digital signal contains Axis metadata, digital signal has invalid sample rate, digital signal missing, digital signal okay
Edge storage: recording ongoing, storage disruption, storage health issues detected
I/O: digital input, manual trigger, virtual input
MQTT: subcribe
Scheduled and recurring: schedule
Video: average bitrate degradation, day-night mode, live stream open, tampering

Event actions
Overlay text, external output activation, play audio clip, zoom preset, day/night mode, flash status LED, use lights, set defog mode, set WDR mode
Calls: end SIP call, make SIP call, answer call
I/O: toggle I/O once, toggle I/O while the rule is active
MQTT: publish
Notification: email, HTTP, HTTPS, TCP, and SNMP trap
Pre- and post-alarm video or image buffering for recording or upload
Record video: SD card and network share
Upload of images or video clips: FTP, SFTP, HTTP, HTTPS, network share, and email

Built-in installation aids
Remote zoom and focus, straighten image, pixel counter, level grid

Analytics

Applications
Included
AXIS Object Analytics, AXIS Scene Metadata, AXIS Image Health Analytics, AXIS Live Privacy Shield[2]
AXIS Video Motion Detection, active tampering alarm, audio detection
Supported
AXIS Camera Application Platform enabling installation of third-party applications, see *axis.com/acap*

1. *This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (openssl.org), and cryptographic software written by Eric Young (eay@cryptsoft.com).*
2. *Available for download*

AXIS Object Analytics
Object classes: humans, vehicles (types: cars, buses, trucks, bikes, other)
Scenarios: line crossing, object in area, crossline counting, occupancy in area
Up to 10 scenarios
Other features: triggered objects visualized with trajectories, color-coded bounding boxes and tables
Polygon include/exclude areas
Perspective configuration
ONVIF Motion Alarm event

AXIS Image Health Analytics
Detection settings:
Tampering: blocked image, redirected image
Image degradation: blurred image, underexposed image
Other features: sensitivity, validation period

AXIS Scene Metadata
Object data: Classes: humans, faces, vehicles (types: cars, buses, trucks, bikes), license plates
Other attributes: Vehicle color, upper/lower clothing color, confidence, position

Approvals

EMC
EN 55035, EN 55032 Class A, EN 50121-4, EN 61000-3-2, EN 61000-3-3, EN 61000-6-1, EN 61000-6-2
Australia/New Zealand: RCM AS/NZS CISPR 32 Class A
Canada: ICES-3(A)/NMB-3(A)
Japan: VCCI Class A
Korea: KC KN35, KC KN32 Class A
USA: FCC Part 15 Subpart B Class A
Railway: IEC 62236-4

Safety
CAN/CSA C22.2 No. 62368-1, IEC/EN/UL 62368-1, IEC/EN 62471, IS 13252

Environment
IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-78
IEC/EN 60529 IP52, IEC/EN 62262 IK10

Network
NIST SP500-267

Cybersecurity
ETSI EN 303 645, BSI IT Security Label, FIPS-140

Cybersecurity

Edge security
Software: Signed OS, brute force delay protection, digest authentication and OAuth 2.0 RFC6749 Client Credential Flow/OpenID Authorization Code Flow for centralized ADFS account management, password protection, Axis Cryptographic Module (FIPS 140-2 level 1), AES-XTS-Plain64 256bit SD card encryption
Hardware: Axis Edge Vault cybersecurity platform Secure element (CC EAL 6+), system-on-chip security (TEE), Axis device ID, secure keystore, signed video, secure boot, encrypted filesystem (AES-XTS-Plain64 256bit)

Network security
IEEE 802.1X (EAP-TLS, PEAP-MSCHAPv2)[3], IEEE 802.1AE (MACsec PSK/EAP-TLS), IEEE 802.1AR, HTTPS/HSTS[3], TLS v1.2/v1.3[3], Network Time Security (NTS), X.509 Certificate PKI, host-based firewall

Documentation
AXIS OS Hardening Guide
Axis Vulnerability Management Policy
Axis Security Development Model
AXIS OS Software Bill of Material (SBOM)
To download documents, go to *axis.com/support/cybersecurity/resources*
To read more about Axis cybersecurity support, go to *axis.com/cybersecurity*

General

Casing
IP52- and IK10-rated
Polycarbonate hard coated dome
Polycarbonate casing
Color: white NCS S 1002-B
For repainting instructions, go to the product's support page. For information about the impact on warranty, go to *axis.com/warranty-implication-when-repainting*.

Mounting
Mounting bracket with junction box holes (double-gang, single-gang, and 4" octagon) and for wall or ceiling mount
¼"-20 UNC tripod screw thread

Sustainability
PVC free, BFR/CFR free, 30.2% recycled plastics

3. *This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (openssl.org), and cryptographic software written by Eric Young (eay@cryptsoft.com).*

Power
Power over Ethernet (PoE) IEEE 802.3af/802.3at Type 1 Class 3
Typical 4.8 W, max 8.9 W

Connectors
RJ45 10BASE-T/100BASE-TX PoE
I/O: 4-pin 2.5 mm (0.098 in) terminal block for 1 supervised digital input and 1 digital output (12 V DC output, max. load 25 mA)
Audio: 4-pin 2.5 mm (0.098 in) terminal block for audio in and out

IR illumination
OptimizedIR with power-efficient, long-life 850 nm IR LEDs
Range of reach 40 m (130 ft) or more depending on the scene

Storage
Support for microSD/microSDHC/microSDXC card
Support for SD card encryption (AES-XTS-Plain64 256bit)
Recording to network-attached storage (NAS)
For SD card and NAS recommendations see *axis.com*

Operating conditions
0 °C to 50 °C (32 °F to 122 °F)
Humidity 10–85% RH (non-condensing)

Storage conditions
-40 °C to 65 °C (-40 °F to 149 °F)
Humidity 5–95% RH (non-condensing)

Dimensions
Height: 103 mm (4.06 in)
ø 149 mm (5.87 in)

Weight
650 g (1.4 lb)

Included accessories
Installation guide, Windows® decoder 1-user license, drill template, RESISTORX® T20 L-key, terminal block connectors, cable gaskets, connector guard

Optional accessories
AXIS TP3201 Recessed Mount, AXIS TP3202 Recessed Mount, AXIS T94K01D Pendant Kit, AXIS Dome Intrusion Switch C, AXIS T8355 Digital Microphone 3.5 mm, AXIS TP3901 Microphone Kit, AXIS ACI Conduit Adapters, smoked dome, black casing
For more accessories, see *axis.com*

Languages
English, German, French, Spanish, Italian, Russian, Simplified Chinese, Japanese, Korean, Portuguese, Polish, Traditional Chinese, Dutch, Czech, Swedish, Finnish, Turkish, Thai, Vietnamese

Warranty
5-year warranty, see *axis.com/warranty*

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AXIS F9111-R Mk II Main Unit

System on chip (SoC)

Model
ARTPEC-8

Memory
4096 MB RAM, 8192 MB Flash

Compute capabilities
Deep learning processing unit (DLPU)

Video

Video compression
H.264 (MPEG-4 Part 10/AVC) Baseline, Main and High Profiles
H.265 (MPEG-H Part 2/HEVC) Main Profile
Motion JPEG

Resolution
Up to 3840x2160 8Mp[1]
Up to 2592x1944 5Mp[1]
Up to 1920x1080 HDTV 2Mp[1]

Frame rate
Up to 180/175 fps (60/50 Hz) in all resolutions[2]

Video streaming
Multiple, individually configurable streams in H.264, H.265 and Motion JPG
Axis Zipstream technology in H.264 and H.265
Controllable frame rate and bandwidth
VBR/ABR/MBR H.264/H.265
Low latency mode
Video streaming indicator

Signal-to-noise ratio
>55 dB

Image settings
Contrast, brightness, sharpness, white balance, tone mapping, exposure mode, exposure zones, compression, rotation: 0°, 90°, 180°, 270° including corridor format, mirroring, dynamic text and image overlay, privacy masks, polygon privacy mask

Audio

Audio streaming
One-way (simplex)

Audio input
2x Input for external unbalanced microphone
Digital input, optional 12 V ring power
Unbalanced line input

Audio encoding
24bit LPCM, AAC-LC 8/16/32/48 kHz, G.711 PCM 8 kHz, G.726 ADPCM 8 kHz, Opus 8/16/48 kHz
Configurable bitrate

Network

Network protocols
IPv4, IPv6 USGv6, ICMPv4/ICMPv6, HTTP, HTTPS[3], HTTP/2, TLS[3], QoS Layer 3 DiffServ, FTP, SFTP, CIFS/SMB, SMTP, mDNS (Bonjour), UPnP®, SNMP v1/v2c/v3 (MIB-II), DNS/DNSv6, DDNS, NTP, PTP, NTS, RTSP, RTP, SRTP/RTSPS, TCP, UDP, IGMPv1/v2/v3, RTCP, ICMP, DHCPv4/v6, ARP, SSH, LLDP, CDP, MQTT v3.1.1, Secure syslog (RFC 3164/5424, UDP/TCP/TLS), Link-Local address (ZeroConf)

System integration

Application Programming Interface
Open API for software integration, including VAPIX®, metadata and AXIS Camera Application Platform (ACAP); specifications at *axis.com/developer-community*.
One-click cloud connection
ONVIF® Profile G, ONVIF® Profile M, ONVIF® Profile S, and ONVIF® Profile T, specifications at *onvif.org*

Video management systems
Compatible with AXIS Camera Station Edge, AXIS Camera Station Pro, AXIS Camera Station 5, and video management software from Axis' partners available at *axis.com/vms*.

Onscreen controls
Privacy masks

1. *Resolution varies depending on the sensor unit used.*
2. *For main units and sensor units capture mode specifications, see capture mode table.*
3. *This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (openssl.org), and cryptographic software written by Eric Young (eay@cryptsoft.com).*

Event conditions
Application
Audio: audio detection
Device status: above/below/within operating temperature, IP address blocked, IP address removed, live stream active, network lost, new IP address, system ready, ring power overcurrent protection, shock detected
Digital audio: digital signal contains Axis metadata, digital signal has invalid sample rate, digital signal missing, digital signal okay
Edge storage: recording ongoing, storage disruption, storage health issues detected
I/O: digital input, manual trigger, virtual input
MQTT: MQTT Client connected, stateless
Scheduled and recurring: pulse, schedule
Video: average bitrate degradation, tampering, video source connected

Event actions
I/O: toggle I/O once, toggle I/O while the rule is active
LEDs: flash status LED, flash status LED while the rule is active
MQTT: publish
Notification: HTTP, HTTPS, TCP and email
Overlay text
Recordings: SD card and network share
Security: erase configuration
SNMP traps: send, send while the rule is active
Images or video clips: FTP, SFTP, HTTP, HTTPS, network share and email
WDR mode

Analytics

Applications
Included
AXIS Object Analytics, AXIS Scene Metadata, AXIS Audio Analytics, AXIS Video Motion Detection, AXIS Sensor Metrics Dashboard:
Modbus over serial: Protocol: Modbus RTU, Port mode: RS485 2-wire
Modbus over IP: Protocol: Modbus TCP, Port mode: Ethernet on switch
Supported
AXIS Perimeter Defender, AXIS People Counter
Support for AXIS Camera Application Platform enabling installation of third-party applications, see *axis.com/acap*

AXIS Object Analytics
Object classes: humans, vehicles (types: cars, buses, trucks, bikes, other)
Scenarios: line crossing, object in area, time in area, crossline counting, occupancy in area, tailgating detection, PPE monitoring[BETA], motion in area, motion line crossing
Single channel: up to 10 scenarios
Multi channel: up to 8 scenarios
Other features: triggered objects visualized with trajectories, color-coded bounding boxes and tables
Polygon include/exclude areas
Perspective configuration
ONVIF Motion Alarm event

AXIS Audio Analytics
Features: adaptive audio detection, audio classification
Audio classes: scream, shout, glass break
Event metadata: audio detections, classifications

AXIS Scene Metadata
Object classes: humans, faces, vehicles (types: cars, buses, trucks, bikes), license plates
Object attributes: vehicle color, upper/lower clothing color, confidence, position

Approvals

Product markings
FCC, UL/cUL, CE, KC, VCCI

EMC
CISPR 32 Class A, CISPR 35, EN 55035,
EN 55032 Class A, EN 50130-4, EN 50121-4,
EN 61000-6-1, EN 61000-6-2, ECE R10 rev.06 (E-mark)
Australia/New Zealand: RCM AS/NZS CISPR 32 Class A
Canada: ICES(A)/NMB(A)
Japan: VCCI Class A
Korea: KS C 9835, KS C 9832 Class A
USA: FCC Part 15 Subpart B Class A
Railway: IEC 62236-4

Safety
CAN/CSA C22.2 No. 62368-1 ed. 3,
IEC/EN/UL 62368-1 ed. 3, RCM AS/NZS 62368.1:2022,
UN ECE R118

Environment
IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-14,
IEC 60068-2-27, IEC 60068-2-64, IEC/EN 60529 IP3X,
IEC 60721-3-5 Class 5M3, IEC/EN 61373 Category 1 Class B, NEMA TS 2 (2.2.7-2.2.9)

Network
IPv6 USGv6, NIST SP500-267

Cybersecurity
ETSI EN 303 645, BSI IT Security Label, FIPS 140

Cybersecurity

Edge security
Software: Signed OS, brute force delay protection, digest authentication and OAuth 2.0 RFC6749 Client Credential Flow/OpenID Authorization Code Flow for centralized ADFS account management, password protection, Axis Cryptographic Module (FIPS 140-2 level 1)
Hardware: Axis Edge Vault cybersecurity platform
Secure keystore: TPM 2.0 (CC EAL4+, FIPS 140-2 Level 2), secure element (CC EAL 6+), system-on-chip security (TEE)
Axis device ID, signed video, secure boot, encrypted filesystem (AES-XTS-Plain64 256bit)

Network security
IEEE 802.1X (EAP-TLS, PEAP-MSCHAPv2)[4], IEEE 802.1AE (MACsec PSK/EAP-TLS), IEEE 802.1AR, HTTPS/HSTS[4], TLS v1.2/v1.3[4], Network Time Security (NTS), X.509 Certificate PKI, host-based firewall

Documentation
AXIS OS Hardening Guide
Axis Vulnerability Management Policy
Axis Security Development Model
AXIS OS Software Bill of Material (SBOM)
To download documents, go to *axis.com/support/cybersecurity/resources*
To read more about Axis cybersecurity support, go to *axis.com/cybersecurity*

General

Casing
IP3X-rated
Aluminum casing
Color: black NCS S 9000-N

Power
Power over Ethernet (PoE) IEEE 802.3af/802.3at Type 2 Class 4
10–48 VDC, typical 8.6 W, max 25.5 W

Connectors
Network: RJ45 10BASE-T/100BASE-TX/1000BASE-T PoE
FAKRA: 1x for sensor unit
I/O: 6-pin terminal block for 4x configurable I/Os (12 V DC output), max load 50 mA
Audio: 2x 3.5 mm mic/line in
Serial communication: 2-pin terminal block RS485
Power: 3-pin terminal block for 10-48 V DC input
Data transfer: 1x USB 2.0 Type A, max load 500 mA, supported USB class: Vendor specific

Storage
Support for microSD/microSDHC/microSDXC card
Support for SD card encryption (AES-XTS-Plain64 256bit)
Recording to network-attached storage (NAS)
For SD card and NAS recommendations see *axis.com*

Operating conditions
Temperature: -40° C to 60 °C (-40 °F to 140 °F)
Maximum temperature according to NEMA TS 2 (2.2.7): 74 °C (165 °F)
Humidity: 10–95% RH (non-condensing)

Storage conditions
Temperature: -40 °C to 65 °C (-40 °F to 149 °F)
Humidity: 5–95% RH (non-condensing)

Dimensions
For the overall product dimensions, see the dimension drawing in this datasheet.

Weight
675 g (1.5 lb)

Required hardware
AXIS TU6007-E Cable, AXIS TU6004-E Cable, AXIS TU6005 Plenum Cable, AXIS F21 Sensor Unit, AXIS F41 Sensor Unit, AXIS F7225-RE Pinhole Sensor

Box content
Main unit, installation guide

Optional accessories
TU6001 Connector 3-pin, Connector A 2-pin, TU6009 Connector 6-PIN, TF9902 Surface Mount
AXIS Surveillance Cards
For more accessories, go to *axis.com/products/axis-f9111-r-mk-ii-main-unit#accessories*

4. *This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (openssl.org), and cryptographic software written by Eric Young (eay@cryptsoft.com).*

System tools
AXIS Site Designer, AXIS Device Manager, product selector, accessory selector, lens calculator
Available at *axis.com*

Languages
English, German, French, Spanish, Italian, Russian, Simplified Chinese, Japanese, Korean, Portuguese, Polish, Traditional Chinese, Dutch, Czech, Swedish, Finnish, Turkish, Thai, Vietnamese

Warranty
5-year warranty, see *axis.com/warranty*

Part numbers
Available at *axis.com/products/axis-f9111-r-mk-ii-main-unit#part-numbers*

Sustainability

Substance control
PVC free, BFR/CFR free in accordance with JEDEC/ECA Standard JS709
RoHS in accordance with EU RoHS Directive 2011/65/EU and 2015/863, and standard EN IEC 63000:2018
REACH in accordance with (EC) No 1907/2006. For SCIP UUID, see *echa.europa.eu*

Materials
Renewable carbon-based plastic content: 18% (recycled)
Screened for conflict minerals in accordance with OECD guidelines
To read more about sustainability at Axis, go to *axis.com/about-axis/sustainability*

Environmental responsibility
axis.com/environmental-responsibility
Axis Communications is a signatory of the UN Global Compact, read more at *unglobalcompact.org*

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D-ML/D-V-ML

MICROPHONES

INSTALLATION AND OPERATING INSTRUCTIONS

DESCRIPTION

Louroe Model D-ML and D-V-ML are omni-directional, mic level low impedance, electret condenser microphones. They can pick up normal sounds approximately 15' away if mounted to a wall, or within a 30' circle if ceiling mounted. The microphone is mounted to the back of a single gang stainless face plate. Verifact D-V-ML is designed for correctional facilities, or areas where vandalism is a concern. It contains the identical electronics as the Model D-ML Microphone but is mounted to a 16 gauge stainless steel face plate. Microphone opening is a hooded audio port for providing protection to the microphone. Tamper proof screws are included with the D-V-ML.

Both models come with pre-made 20' cable with stereo plug for direct connect to the audio input of the IP camera.

Both Models D-ML and D-V-ML fit into a standard single gang electrical box (not supplied).

D-ML
Microphone

D-V-ML
Microphone
Vandal Resistant

SPECIFICATIONS

Sensitivity	-45 dB/pa
Frequency response	50 Hz to 8 kHz
Output Impedence	1kΩ
Current drain	0.8mA
Supply voltage	1.8Vdc to 4.5Vdc
Backbox	Single gang electrical box (not included)
Dimensions (faceplate)	2 ¾" W x 4 ½" H
Weight Shipping Weight	D-ML 6.5 oz D-V-ML 8 oz 1 lb

MECHANICAL INSTALLATION

D-ML and D-V-ML are designed to be installed in a single gang electrical box for flush or surface mounting to a wall or ceiling. It should be positioned 3 to 6 ft. from the area of desired coverage. Ceiling heights in excess of 10 ft. should be avoided.

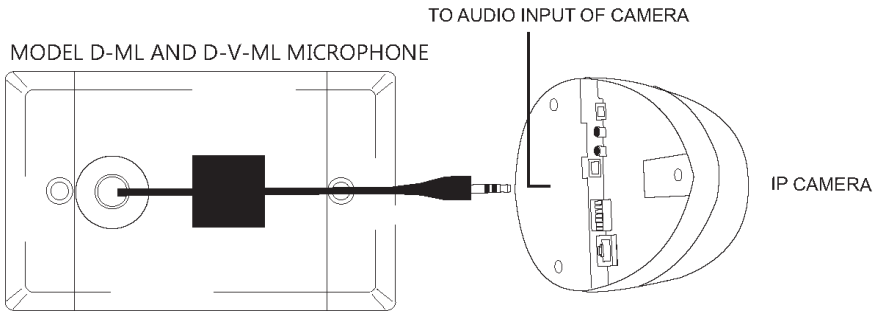
MICROPHONE CONNECTION

D-ML and D-V-ML Microphones connect directly to an IP camera with Mic Level audio input. Using the 20' pre-made cable, connect the end with a 3.5mm stereo plug to the input of the IP camera.

CAMERA SETUP

Different IP cameras has its own audio setup configurations. First, the **camera must be configured to have MIC Level audio input.** The audio gain has to be set so the sound at the speaker is not distorted. It might be also be necessary to adjust the gain of audio at the computer to get good undistorted audio.

Louroe Mic Level microphones have been tested on popular IP cameras that are in the market.



MANUFACTURED IN THE USA

IMPORTANT NOTICE

When this equipment is used as part of an audio monitoring system, the law requires that the public be given notice of AUDIO MONITORING ON THE PREMISES. A decal notice is included with each microphone shipped.

Federal Law References:
Federal Regulations, US Code, Title 18. Crime and Criminal Procedure, Sec 2510.

WARRANTY

LOUROE ELECTRONICS® warrants that at the time of shipment products manufactured by LOUROE ELECTRONICS® to be free of defects in material and workmanship. Should a defect appear within one year (12 months) from date of shipment, LOUROE ELECTRONICS will, at its sole discretion, repair or replace the defective equipment. This equipment shall not be accepted for repair or return without prior notification by LOUROE ELECTRONICS®.

This warranty does not extend to any Louroe product that has been subjected to improper or incorrect installation, misuse, accident, or in violation of installation instructions provided by LOUROE ELECTRONICS®.

Returned shipments to LOUROE ELECTRONICS® shall be at customer's expense. LOUROE ELECTRONICS® will return the equipment prepaid via best way.

LOUROE ELECTRONICS® 6955 VALJEAN AVENUE, VAN NUYS, CA 91406 TEL (818) 994-6498 FAX (818)994-6458
website: www.louroe.com e-mail: sales@louroe.com

D_ML/D-V_ML_inst_12/14

LOUROE ELECTRONICS®
6955 VALJEAN AVE, VAN NUYS, CA 91406
PH: (818)994-6498 / FAX: (818)994-6458
techsupport@louroe.com / www.louroe.com

D-ML/D-V-ML

MICROPHONES

INSTALLATION AND OPERATING INSTRUCTIONS

DESCRIPTION

Louroe Model D-ML and D-V-ML are omni-directional, mic level low impedance, electret condenser microphones. They can pick up normal sounds approximately 15' away if mounted to a wall, or within a 30' circle if ceiling mounted. The microphone is mounted to the back of a single gang stainless face plate. Verifact D-V-ML is designed for correctional facilities, or areas where vandalism is a concern. It contains the identical electronics as the Model D-ML Microphone but is mounted to a 16 gauge stainless steel face plate. Microphone opening is a hooded audio port for providing protection to the microphone. Tamper proof screws are included with the D-V-ML.

Both models come with pre-made 20' cable with stereo plug for direct connect to the audio input of the IP camera.

Both Models D-ML and D-V-ML fit into a standard single gang electrical box (not supplied).

D-ML
Microphone

D-V-ML
Microphone
Vandal Resistant

SPECIFICATIONS

Sensitivity	-45 dB/pa
Frequency response	50 Hz to 8 kHz
Output Impedence	1kΩ
Current drain	0.8mA
Supply voltage	1.8Vdc to 4.5Vdc
Backbox	Single gang electrical box (not included)
Dimensions (faceplate)	2 ¾" W x 4 ½" H
Weight Shipping Weight	D-ML 6.5 oz D-V-ML 8 oz 1 lb

MECHANICAL INSTALLATION

D-ML and D-V-ML are designed to be installed in a single gang electrical box for flush or surface mounting to a wall or ceiling. It should be positioned 3 to 6 ft. from the area of desired coverage. Ceiling heights in excess of 10 ft. should be avoided.

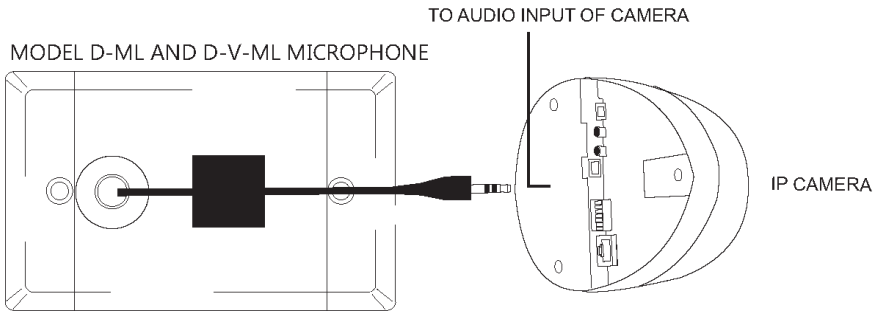
MICROPHONE CONNECTION

D-ML and D-V-ML Microphones connect directly to an IP camera with Mic Level audio input. Using the 20' pre-made cable, connect the end with a 3.5mm stereo plug to the input of the IP camera.

CAMERA SETUP

Different IP cameras has its own audio setup configurations. First, the **camera must be configured to have MIC Level audio input.** The audio gain has to be set so the sound at the speaker is not distorted. It might be also be necessary to adjust the gain of audio at the computer to get good undistorted audio.

Louroe Mic Level microphones have been tested on popular IP cameras that are in the market.



MANUFACTURED IN THE USA

IMPORTANT NOTICE

When this equipment is used as part of an audio monitoring system, the law requires that the public be given notice of AUDIO MONITORING ON THE PREMISES. A decal notice is included with each microphone shipped.

Federal Law References:
Federal Regulations, US Code, Title 18. Crime and Criminal Procedure, Sec 2510.

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D_ML/D-V_ML_inst_12/14

POS Terminals

EVO TP6

With a sleek yet robust design, the EVO TP6 is the perfect enterprise-grade POS solution. The EVO TP6 features a 15" TruFlat projected capacitive touchscreen, a range of Intel CPUs, cable free accessories and a versatile dual hinge design.

Resilient Touch Display
The EVO TP6 features a 15" LCD screen with TruFlat projected capacitive (PCAP) multi-touch technology built to take the rigors of heavy use.

Versatile Platform
A dual hinge design allows for efficient shipping and almost unlimited tilt angels. Built-in VESA mounting extends the versatility of the platform to any wall mount installation.

Fan-less Design
A fan-less design provides a sleek, clean look and silent operation. No vent openings mean better protection from dust and water reaching an IP54 ingress protection rating.

Efficient High Performance CPUs
With support for Intel CPUs ranging from the efficient J1900 to the powerful Core i5, the EVO TP6 is sure to fit any application

POS Terminals

EVO TP6

MODEL	EVO-TP6D-F	EVO-TP6D-P	EVO-TP6D-3	EVO-TP6D-5	EVO-TP6W-3
Processor	Intel Celeron J1900	Intel Pentium 4405U	Intel Core i3-6100U	Intel Core i5-6200U	Intel Core i3-6100U
Bezel	TruFlat Zero Bezel				
Chip Set	Processor Integrated				
System Memory	1 x DDR3L SO-DIMM 4GB - 8GB				1 x DDR3L SO-DIMM 8GB
Hard Drive	2.5" 64-500GB SSD or 2.5" 500GB HDD				
LCD Display	15" (381mm) TFT LCD				18.5" (470mm) TFT LCD
Resolution	1024x768				1920x1080
Touch	PCAP, 10 Point Multi-Touch				
Brightness	300 nits	350 nits			
Graphic Engine	Intel HD Graphics DX11 and OCL1.1	Intel HD Graphics DX12 and OCL4.2			
TPM	N/A	2.0			
Electrical	65W/19V	90W/19V			
Supported OS	Win 7 Pro (x32/x64), POSReady 7(x32/x64), Win 10 IoT(x32/x64)	Win 8.1 Embedded (x64),Win 8.1 Pro (x64), Win 10 IoT (x64), Win 10 Pro (x64)			

PORTS	EVO-TP6D-F	EVO-TP6D-P	EVO-TP6D-3	EVO-TP6D-5	EVO-TP6W-3
USB	4 x USB 2.0 / 1 x USB 3.0	2 x USB 2.0 Type A / 4 x USB 3.0			
Serial	3 x RJ45 with 0V/5V/12V power				
LAN	1 x RJ45				
WLAN (Optional)	Dual Band 802.11 a/b/g/n/ac 2.4GHz/5GHz				N/A
Cash Drawer Port	1 x RJ11 (12V/24V)				
VGA	1 x DB15				

PHYSICAL	
Housing	Die Cast Aluminum
Weight	EVO- TP6D 13.2lbs, EVO-TP6W 9.6lbs
Dimensions (WxDxH)	EVO- TP6D - 14.2" x 8" x 10.9" EVO-TP6W - 18.1" x 8" x 11.4"
Tilt	Dual Hinge
Housing Color	Black
Wall Mount	100mm VESA (75mm or 100mm with base)

OPTIONAL ACCESSORIES	
3 Track MSR	EVO-MR6
Fingerprint Reader	EVO-BR6
2 Line Customer Display	EVO-RD6-LCM
10.1" LCD Customer Display	EVO-RD6-LCD10

ENVIRONMENTAL	
Operating Temperature	32°F - 95°F (0°C - 35°C)
Humidity	20% - 80% RH non-condensing
Certifications	FCC Class B, CE, LVD, NOM
IP Rating	IP54 (Front)
Viewing Angle	Horizontal: 140°, Vertical 130°

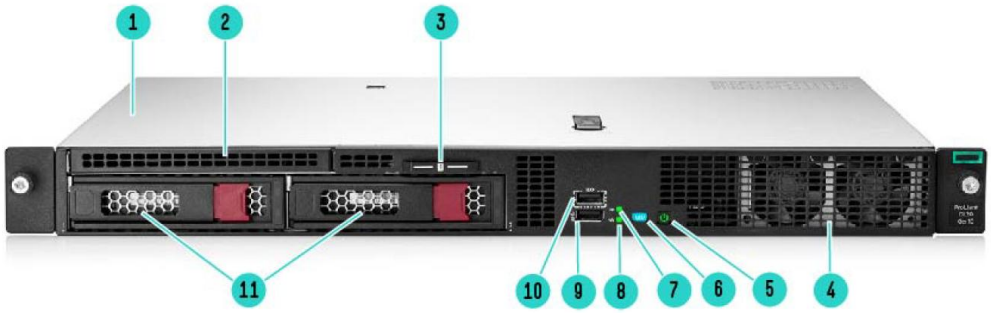
WARRANTY EXTENSION AND UPGRADES	
ZWE-TPC	2-Year Warranty Extension
ZOE-TPC3	*Next Business Day Protection
ZOE-TPC5	*2-Year Warranty Extension + Next Business Day Protection

*Available in USA and Canada.

Overview

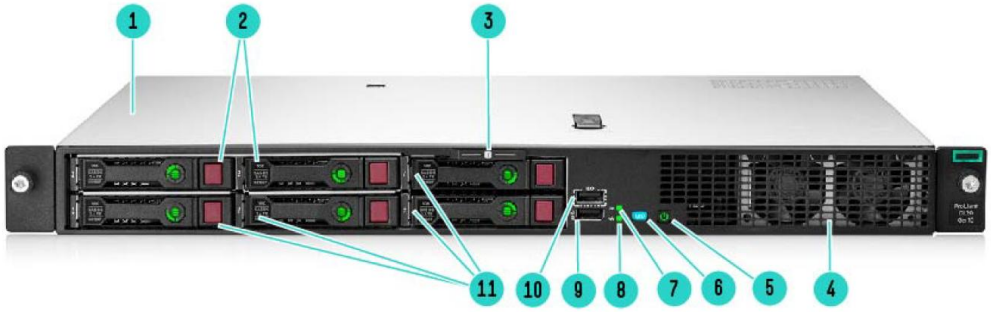
HPE ProLiant DL20 Gen10 Server

The dense and compact HPE ProLiant DL20 Gen10 Server powered by Intel® Xeon® E Processor, Pentium and Core i3 processors provides a unique blend of enterprise class capabilities & value. It offers outstanding configuration flexibility to cater to a wide variety of business requirements at an affordable price point. Deploy this dense platform for diverse workloads in space constrained environments and maintain it with ease by automating the most essential server lifecycle management tasks with HPE iLO 5.



2 LFF Front View

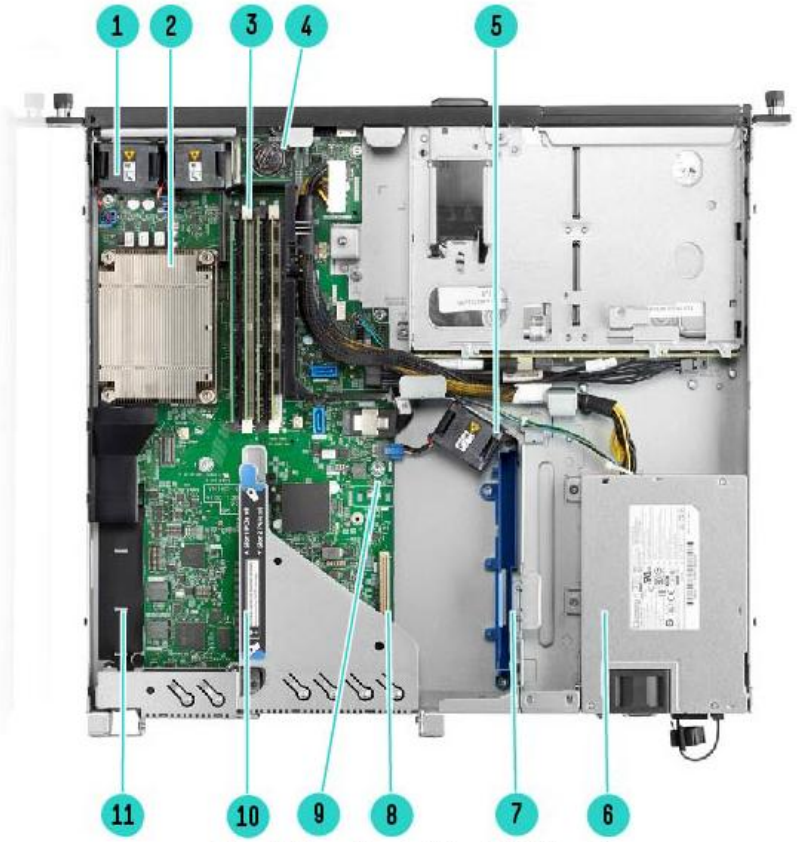
1. Access Panel
2. Optical drive bay
3. Serial number/iLO information pull tab
4. Front Fan Assembly
5. System Power LED
6. UID LED
7. Health LED
8. NIC Status LED
9. USB 3.0 Port
10. iLO Service Port (USB)
11. Two-bay LFF hot-plug drive bays



4 (+2) SFF Front View

1. Access Panel
2. 2 SFF hot plug drive bays (optional)
3. Serial number/iLO information pull tab
4. Front Fan Assembly
5. System Power LED
6. UID LED
7. Health LED
8. NIC Status LED
9. USB 3.0 Port
10. iLO Service Port (USB)
11. 4 SFF hot plug drive bays

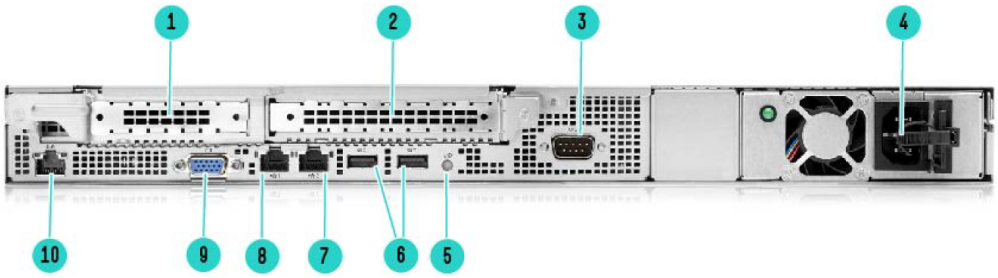
Overview



Internal View - Standard for all DL20 Gen10

1. Fan cage shown with 2 fans
2. Processor shown with heat sink
3. Four DDR4 DIMM Slots
4. System Battery
5. Central fan assembly (3rd fan)
6. Power Supply (1x290W)
7. Optional Smart Storage Battery
8. Modular Smart Array connector
9. Optional TPM 2.0
10. PCIe Riser
11. Option: Dedicated iLO/M.2 SSD

Overview



Rear View – Standard for all DL20 Gen10

1. Slot 1 PCIe 3.0
2. Slot 2 PCIe 3.0
3. Option: Serial Port
4. 290W Non hotplug Power Supply
5. UID LED
6. Two USB 3.0 Ports
7. NIC Port (1Gb)
8. NIC port (1Gb) /iLo port
9. VGA port
10. Option: Dedicated iLO Management Port

What's New

- Supports latest Intel® Xeon® E-2200 processors up to 8 cores and 9th Gen Core™ i3 and Pentium® G processors and 2666MHz UDIMM with support for Intel® Software Guard Extensions. Intel® SGX is an architecture extension designed to increase the security of application code and data.
- HPE 361i 1Gb 2-Port network adapter on models with Intel Xeon E-2200, i3-9300 and G5420Storage
- Enhancements in the form of increased capacity of up to 6 SFF drives & M.2 SSDs for boot
- Dedicated iLO Management Port as an option kit for faster and more secure data transmission
- More choice of Power Supplies with 500W 94% efficiency and 800W 48VDC 96% efficiency Flex Slot Redundant Power Supplies
- Warranty increased from 1yr to 3yrs (parts, labor & Onsite support)

Platform Information

Form Factor

1U rack

Chassis Types

- 4 SFF with options supporting: +2 SFF
- 2 LFF Hot Plug
- 2 LFF Non Hot Plug

System Fans

Includes 3 standard single rotor non-hot plug and non-redundant fans

NOTE: This applies for all three chassis: 2LFF NHP, 2LFF HP and 4SFF HP

7 ARVADA PD RFP VENDOR FORMS

The following required Arvada PD vendor forms have been completed, signed and included below:

- Vendor Submittal Form
- Performance Measures Form

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REQUIRED VENDOR SUBMITTAL FORM

SUBMITTED BY:

Company Name: Axon Enterprise, Inc.

Contact Names: Sales/Customer Service Brian Moutinho, Key Account Executive

Address: 17800 N. 85th Street, Scottsdale, AZ 85255

Phone: (800) 978-2737 Email(s): contracts@axon.com

The undersigned hereby affirms that:

- They are a duly authorized agent of the vendor;
- They have read all Terms and Conditions and technical specifications made available in conjunction with this solicitation and fully accepts and acknowledges this offer is consistent with the specifications and terms and conditions, unless specific variations have been clearly and expressly listed in the offer.
- The Offer is in all respects fair, without outside collusion or otherwise illegal action.

By: _____	11/05/2025	86-0741227
Signature of Authorized Agent	Date	FEIN
Robert Driscoll	Deputy General Counsel	contracts@axon.com
Typed/Printed Name of Agent	Title of Agent	Agent email

Type of Business: Corporation, State of Incorporation Delaware Partnership (general) Partnership (limited) Sole Proprietorship Limited Liability Company Other _____

Address of main business office, principal factory, or warehouse if different from above:
17800 N. 85th Street, Scottsdale, AZ 85255

Principal line of business: Axon Enterprise, Inc. is principally engaged in public-safety technology.

Number of years in present business: 32

REFERENCES:

☐ Check here if Firm's standard reference sheet is attached, otherwise, use the space below.

Name: LAKEWOOD, CO POLICE DEPARTMENT Contact Person: Division Chief Anita Koester

Address: 445 S. Allison Pkwy Lakewood, CO 80226

Telephone No: 303-987-7138 Email: anikoe@lakewoodco.org

Describe type of work/service performed or items supplied: Body-Worn Cameras, TASER Devices, Axon Evidence (DEMS), Skydio DFR, Draft One (AI Dictation Software), Fusus (RTCC)

Name: FORT COLLINS, CO POLICE SERVICES Contact Person: Sgt. Bob Younger

Address: 2221 South Timberline Road Fort Collins, CO 80525

Telephone No: 970-416-4228 Email: ryounger@fcgov.com

Describe type of work/service performed or items supplied: Body-Worn Cameras, TASER Devices, Axon Evidence (DEMS), Skydio DFR, and Draft One (AI dictation software)

References continued:

Name: GREELEY, CO POLICE DEPARTMENT Contact Person: Sgt. Greg Ryan

Address: 2875 10th Street Greeley, CO 80634

Telephone No: 970-351-5471 Email: greg.ryan@greeleypd.com

Describe type of work/service performed or items supplied: Body-Worn Cameras, TASER Devices, Axon Evidence (DEMS), Skydio DFR, Draft One (AI dictation software), and Fusus (RTCC)

PAYMENT TERMS: If the vendor does not accept a percentage discount, the City standard is net thirty (30) days after the date that the City receives an accurate invoice and has accepted the product or service. Payment is the date of the check mailing or date of the credit card transaction.

Discount: 0 % ____ Days, Net: 30 Days, Accept Visa without additional fee? Yes

SUBMITTAL CHECKLIST:

Proposals shall be submitted in the order listed below, unless otherwise directed in Administrative Information, with each section clearly identified. **Missing information or required documents may result in submission being deemed non-responsive.**

- [X] Submit **one** pdf document, unless instructed to include Excel file of Bid Schedule, on-line at BidnetDirect.com (File Name: Company name – Solicitation number)
  - [X] Cover & Executive Summary
  - [X] Detail Firm's and employees' capabilities, experience, licensing, and certifications
  - [X] Previous projects of similar size and scope, with references
  - [X] Details of proposal – proposed products and services, implementation timeline, training plan, and project / project management approach as it applies to the Statement of Work
  - [X] Technical specifications for hardware, software, and all products, include warranty information
  - [X] Support of product documents and uptime performance for SaaS
  - [X] Any supporting documents of EULA, privacy of data, and security documents, along with CJI compliance
  - [X] Completed, signed Required Vendor Submittal Form, Performance Measures
  - [X] Fee Schedule/Cost Proposal – provide a detailed cost breakdown for all proposed products and services outlined in the Statement of Work

CONFIRM:

- [ ] CONFIDENTIAL information, if any, MUST be stamped as such on each page and submitted separately.
- [X] VARIATIONS: Checking this box indicates that the vendor has variations to this solicitation. Identify all variations and exceptions to this solicitation on a separate sheet/s of paper. If variations are not stated in the vendor's Offer, it shall be agreed that the vendor's Offer fully complies with all conditions identified in this Solicitation. For each variation listed, reference the applicable section of the solicitation document, the page number, and the variance. Submittal of a Vendor Contract is considered excessive in Variations and may be cause for determining that the Bid/Offer is non-responsive and ineligible for award.
- [X] Insurance – Checking this box accepts that the insurance requirements listed by the City are acceptable unless listed as a variation.
- [X] Initial to acknowledge receipt of Addenda, if any:

  #1 RD #2 _____ #3 _____

PERFORMANCE MEASURES FORM INSTRUCTIONS:

The City has incorporated Performance Management into its organizational culture. When vendors submit offers to the City in response to solicitations for ***Services*** (not associated with the primary purchase of goods, supplies, or software), they shall identify the methods and goals by which the City will monitor and report on the Vendor's performance providing those services to the City. Vendor's performance shall be documented as to (a) Price/Cost, (b) Punctuality/Responsiveness (c) Quality/Reliability, and (d) Sustainability/or Innovation.

1. Vendor will define 1-2 measures for (a) Price/Cost, (b) Punctuality/Responsiveness (c) Quality/Reliability, and (d) Sustainability/or Innovation, that follow S.M.A.R.T goals: Specific, Measurable, Achievable, Relevant, and Timely, per category.
2. The awarded vendor will be evaluated by the City per these defined metrics 2 months prior to contract renewal. The department will review with the vendor any measures needing improvement.

SERVICES means: the furnishing of labor, time, effort, maintenance, etc., by a vendor/contractor/consultant, with an initial contract amount of more than $15,000.

(a) Price/Cost

Example Measure: Consultant will submit detailed invoices substantiating amounts requested.

1. Axon can hold the pricing provided in the contract for the full five years as long as the option to renew is automatic unless APD opts out prior to renewal.
2. Axon shall ensure that all invoices are "net 30" from invoice date, without withholding or deduction, as required by the MSPA.

(b) Punctuality/Responsiveness

Example Measure: Reporting of project status will occur monthly with the City and consultant's Project Manager.

1. Tier 1 issues (including critical business functionality being down, material impact on the customer's business, or non-existent workarounds) have a target response time of less than one hour and a resolution time of less than 24 hours.
2. The Axon Evidence Device Return Service provides Customers with the ability to manage return merchandise authorization (RMA) requests within Axon Evidence.com.Axon aims to have replacement devices shipped to the Customer within 48 hours from receipt of the faulty device (excluding weekends or public holidays).

(c) Quality/Reliability

Example Measure: Revisions are drafted within two weeks, and no more than 3 revisions prior to final draft.

1. Axon shall maintain a minimum uptime of 99.9% for Axon Cloud Services (excluding scheduled maintenance) for the Term of the contract.
2. Axon manufactured devices are warranted for at least one year (or as otherwise specified) from Customer receipt; and Axon will either repair or replace defective devices within the warranty term per MSPA terms.

(d) Sustainability and/or Innovation

Example Measure: Digital reports delivered to the City 95% of the time will to reduce the use of paper.

1. Axon will deliver 100% of documentation, reports, and training materials in digital format unless otherwise required, reducing paper consumption and supporting environmentally sustainable practices.
2. Axon will provide the City with updates on new product innovations, including emerging capabilities such as enhanced automation, AI-assisted review tools, and real-time operational integrations, enabling continuous improvement and modernization of City public safety workflows.

Performance measures will be queried for every year of the contract. Performance measures reporting will be considered when renewing or awarding a contract with a vendor.

8 FEE SCHEDULE & COST BREAKDOWN

To support Arvada PD's request for both five-year and ten-year pricing, our proposal includes two complete cost options. Each quote packages the full technology modernization program that is all encompassing with the deliverables requested by the Arvada PD RFP.

Each quote presented will deliver the same foundational solution sets; the difference is the contract term, associated warranty durations, and long-term cost efficiency built into the ten-year structure; with specific details below for each quote.

8.1 DETAILED COST BREAKDOWN

	5 YEAR QUOTE	10 YEAR QUOTE
CONTRACT LENGTH AND REFRESHES		
Program Length	60 Months	120 Months
BILLING SCHEDULE		
Year 1	$1,210,092.93	$1,210,092.94
Year 2	$1,210,092.93	$1,210,092.93
Year 3	$1,210,092.93	$1,210,092.93
Year 4	$1,210,092.93	$1,210,092.93
Year 5	$1,210,092.93	$1,210,092.93
Year 6	N/A	$1,360,080.79
Year 7	N/A	$1,360,080.79
Year 8	N/A	$1,360,080.79
Year 9	N/A	$1,360,080.79
Year 10	N/A	$1,360,080.79
SAVINGS OVERVIEW		
Est. Savings Per Year	$791,603.68	$839,002.83
Total Savings Offered	$3,958,018.42	$8,390,028.26
TOTAL		
Total Program Cost	**$6,050,464.65**	**$12,850,868.61**

NOTE: Axon is offering two additional commercial considerations tied to the contracting period:

- Early-Execution Incentive – 5-Year Option: An additional **$250,000 discount** will be applied if the agreement is executed in calendar year 2025.
- Early-Execution Incentive – 10-Year Option: An enhanced **$500,000 discount** will be applied if the agreement is executed in calendar year 2025.

Axon can customize the annual payment schedule for either option to align with Arvada PD's budgeting needs, including flat annual payments or a modest stepped structure. Our team will provide flexibility on how you would like the payments structured.

PROGRAM DELIVERABLES

Arvada PD's modernization program is built around three interlocking solutions. Together they create a connected ecosystem linking officer safety, real-time operations, DFR capability, digital evidence, fleet video, and interview modernization.

Arvada PD can expect the following deliverables provided as part of this bundled offering:

HARDWARE DELIVERABLES

OSP Premium Bundle Hardware

- CEW Hardware:
  - TASER 10 Handles
  - TASER 10 Live Cartridges
  - TASER 10 Training Cartridges
  - TASER Docking Station
  - HALT Suit
- VR System Hardware
  - VR Headset
  - VR Tablet
  - VR Controller
- BWC Hardware:
  - Axon Body 4 Cameras
  - BWC Mounts
  - Docking Stations
- DFR: Aerial Drones Hardware
  - Skydio X10 Drones
  - Skydio X10 Docks
  - Skydio Parachutes
- DFR: Anti-Drone Hardware
  - (8) RF-360 Sensors
  - (1) RF-560 Sensors

Interview Room Hardware

- Axis Covert Cameras (2 per room)
- HD Microphones (2 per room)
- Touchpanels (1 per room)
- Redundancy Servers – Lite
- Redundancy Servers - Pro

Axon Fleet 3 Dash Cam Hardware

- Our offer maintains the current Fleet 3 equipment currently installed within the vehicles

SOFTWARE DELIVERABLES

OSP Premium Bundle Software

- Axon Evidence Pro User Licenses
- Axon Air License Pilot Data
- Axon Air Dronesense UAS
- Axon Air DFR Command for OSP
- My90 License
- Axon Records OSP License
- TASER Data Science

Interview Room Software

- Axon Interview Client Software
- Axon Interview Streaming License

Axon Fleet 3 Dash Cam Software

- Axon Evidence Fleet Vehicle License

- Axon Fusus License Pro+
- Axon Fusus Additional CCTV Streams
- Dedrone Beyond Long Range Radar
- DedroneTracker.AI Hosted
- DedroneTracker.AI C2 Online
- TASER Evidence.com License
- Axon VR User Access – Full VR
- Axon BWC Device Connectivity License
- Redaction Assistant Licenses
- Axon Community Request
- Axon Standards
- Axon Performance
- Auto-Tagging Licenses
- Unlimited Data Storage
- Third Party Unlimited Data Storage
- AI Report Writing Software (Draft One)
- Axon Investigate Third Party Video Support

SERVICES DELIVERABLES

OSP Premium Bundle Services

- Community Link / Pro PSO Setup
- Auto Transcribe Unlimited Service
- Axon Investigate – Training
- TASER – On Demand Certification
- Axon Air Skydio Regulatory Support (OSP)
- Axon Fusus PSO SW Implementation
- Axon Dedrone Install Services
- Axon Air Professional Implementation
- Axon Air Skydio Waiver Application
- Axon Air Skydio In-Person Training
- Axon Air Skydio Maintenance & Repair for X10 Dock
- Axon Air Skydio Embedded Technical Services
- TASER 2 Day Instructor Course

Interview Room Services

- Installation Standard Services

Axon Fleet 3 Dash Cam Services

- Our offer maintains the current Fleet 3 equipment currently installed within the vehicles

WARRANTY DELIVERABLES

OSP Premium Bundle Warranty

- CEW Hardware:
  - TASER 10 Extended Warranty
  - TASER 10 Battery Pack Ext Warranty
  - TASER 10 Dock Extended Warranty
- VR System Hardware
  - VR Headset Extended Warranty
  - VR Tablet Extended Warranty
  - VR Controller Extended Warranty
- BWC Hardware:
  - Axon Body 4 Extended Warranty
  - Docking Stations Extended Warranty
  - Axon Signal Extended Warranty
- DFR: Aerial Drones Hardware
  - Skydio Care for X10 Cellular 5G + VT300
- DFR: Anti-Drone Hardware
  - Dedrone Beyond Long Range Extended Warranty

Interview Room Warranty

- Axon Interview Room 5 Year Warranty

Axon Fleet 3 Dash Cam Warranty

- Axon Fleet 3 Extended Warranty – 2 Camera Kit
- Cradlepoint Router Transferred Warranty

APPENDIX

17800 N 85TH STREET
SCOTTSDALE, ARIZONA 85255

AXON.COM

City of Arvada ("**Customer**")

Re: PD Technology Improvements, RFP Proposal #: 25-PD-072

Dear Purchasing Officer:
Please find below exceptions from Axon Enterprise, Inc. ("Axon" or "we") to the RFP. Axon's proposal is contingent upon these exceptions. Axon is open to further discussions regarding requested changes and reserves the right to negotiate the terms of the terms and conditions attached to the solicitation. Any capitalized terms used but not defined in this letter shall have the meanings associated with such terms in the RFP.

1. **Addition of Axon's Terms and Conditions**. Axon respectfully request that we incorporate the Master Services and Purchasing Agreement ("MSPA") located at: https://www.axon.com/sales-terms-and-conditions as a supplement and subordinate to the Customer's terms.

2. **Section 4 Indemnification of Arvada**. Axon respectfully requests that our indemnification obligations are based on Axon's negligence or willful misconduct. This includes the deletion of Section 4.1. Axon considers a breach of contract action to be a sufficient for any damages due to our breach of the contract.

   Contractor shall indemnify, defend, and hold harmless Arvada, its employees, agents and assignees (the "Indemnified Parties"), against any and all costs, expenses, claims, damages, liabilities, court awards, and other amounts (including attorneys' fees and related costs) arising from or related to any negligence or willful misconduct ~~act or omission~~ by Contractor, or its employees, agents, Subcontractors, or assignees in connection with the Agreement.

3. **Section 4.2 Intellectual Property Indemnification**. Axon is happy to provide intellectual property indemnification with the below changes:

   Intellectual Property Indemnification. Contractor shall indemnify, save, and hold harmless the Indemnified Parties, against any and all costs, expenses, claims, damages, liabilities, and other amounts (including attorneys' fees and costs) incurred by the Indemnified Parties in relation to any claim that any Deliverable, Good or Service, software, or Work provided by Contractor under the Agreement (collectively, "IP Deliverables"), or the use thereof, infringes a patent, copyright, trademark, trade secret, or any other intellectual property right. Contractor's obligations shall not extend to the combination of any IP Deliverables provided by Contractor with any other product, system, or method, unless the other product, system, or method is (a) provided by Contractor or Contractor's subsidiaries or affiliates; or (b) specified by Contractor to work with the IP Deliverables~~; (c) reasonably required in order to use the IP Deliverables in its intended manner and the infringement could not have been avoided by substituting another reasonably available product, system, or method capable of performing the same function; or (d) is reasonably expected to be used in combination with the IP Deliverables~~.

17800 N 85TH STREET
SCOTTSDALE, ARIZONA 85255

AXON.COM

In addition, Contractor's IP indemnification obligations do not apply to claims based on (a) modification of products or services by Customer or a third-party not approved by Contractor; (d) use of products and services other than as permitted in this Agreement; or (e) use of products or services that is not the most current software release provided by Contractor.

4. **Section 20. Prohibited Terms**. Axon respectfully requests that this section is deleted in its entirety. Unfortunately, Axon is unable to offer its customers uncapped liability, especially when selling weapons to our customers.

5. **Section 24. Ownership of Work Product**. Axon respectfully requests that the ownership of any work product is limited to the work product created solely and exclusively for Customer.

   The originals of all plans, reports, studies, data, or other materials or information relating to the Work that are produced by Contractor solely and exclusively for Arvada, shall be delivered to and become the property of Arvada. Contractor may retain copies of any originals; however, no plans, reports, studies, data, or other materials or information relating to the Work solely and exclusively created for Arvada, shall be released to any person or entity without the prior written consent of Arvada. Nothing in this clause is intended to affect Contractor's right to use generic know-how learned in the course of providing services under the Agreement for the future benefit of Arvada or others.

6. **Section 26. Accessibility Compliance**. Axon respectfully requests the indemnification obligation in Section 26.3 is deleted in its entirety. Axon considers a breach of contract claim to be sufficient to address any damages incurred by Customer.

7. **Special Terms and Conditions Section 2. Option to Renew for Subsequent Years.** Axon can hold the pricing provided in the contract for the full five years as long as the option to renew is automatic unless Customer opts out prior to renewal.

8. **Special Terms and Conditions Section 7 Cooperative Purchasing.** Axon is not interested in participating in a cooperative purchasing contract at this time.

Respectfully,

Joshua Campbell
Sr. Corporate Counsel
Axon Enterprise, Inc.

COALFIRE CERT

CERTIFICATE NUMBER:
2024-030601

CERTIFICATE OF REGISTRATION

IT Service Management System – ISO/IEC 20000-1:2018

Coalfire Certification, Inc. certifies that the following organization operates an IT Service Management System (IT SMS) that conforms to the requirements of ISO/IEC 20000-1:2018 per the scope and boundaries statement detailed below:

COMPANY:	Axon Enterprise, Inc.	ADDRESS:	17800 North 85th Street Scottsdale, AZ 85255 United States

Scope:

The certificate scope comprises the Service Management System (SMS) for the Axon Cloud Services (Axon Evidence, Axon Records, Axon Respond, Axon Performance, Axon Standards, Draft One, VR, Axon Fusus) and the internal processes that support these offerings: Axon Cloud Services Environment, Configuration Management, Service Availability, and Issue Resolution services. The SMS does not rely on internal suppliers and does not have any customers acting as a supplier. Relevant computing environments include: AU - Southeast Asia; LA - South America; CA - Canada; EU - European Union; EU – Germany; EUR - European Union; UK - United Kingdom; US - United States; US - United States (Federal Region); ENT - Global.

The organizational scope includes the Engineering (Product Support, Developers), Customer Support, Information Security, and Information Technology teams developing and maintaining the SMS. Teams are organized under Axon Enterprise, Inc. and the following direct or indirectly wholly owned subsidiaries: Axon Public Safety Australia Pty Ltd, Axon Public Safety Canada Inc., Axon Public Safety UK Limited, Axon Public Safety Germany SE, Axon Public Safety India Pvt Ltd, Axon Enterprise Italia, S.R.L., Axon Public Safety B.V., Axon Public Safety Finland Oy, Axon Enterprise France SAS, Axon Public Safety Hong Kong, Limited, Axon Public Safety Spain S.L.U., Axon Public Safety Southeast Asia LLC, and TASER Holland B.V.

Original Registration Date:
March 6, 2024

Certificate Issuance Date:
November 10, 2025

Expiration Date:
March 6, 2027

ON BEHALF OF COALFIRE CERTIFICATION, INC.

Booker Young, VP of Global Assurance

COALFIRE ISO 20000-1 CERTIFIED CERT

ANAB ANSI National Accreditation Board ACCREDITED ISO/IEC 17021-1 MANAGEMENT SYSTEMS CERTIFICATION BODY

This certificate relates to the IT Service Management System, and not to the products or services of the certified organization. The certification reference number, the mark of the certification body and/or the accreditation mark may not be shown on products or stated in documents regarding products or services. Promotional material, advertisements or other documents showing or referring to this certificate, the trademark of the certification body, or the accreditation mark, must comply with the intention of the certificate.

12735 Morris Road, Suite 250 | Alpharetta, GA 30004 | United States | CoalfireCertification.com

Address:	Key Processes and Activities:
Central Office 17800 North 85th Street Scottsdale, AZ 85255 United States	• Axon Evidence • Axon Records • Axon Respond • Axon Performance • Axon Standards • Draft One • VR • Axon Fusus
Satellite Office #1 1100 Olive Way #1300 Seattle, WA 98101 United States	• Axon Evidence • Axon Records • Axon Respond • Axon Performance • Axon Standards • Draft One • VR • Axon Fusus

COALFIRE CERT

CERTIFICATE NUMBER:
2020-071101

CERTIFICATE OF REGISTRATION

Information Security Management System – ISO/IEC 27001:2022

Coalfire Certification, Inc. certifies that the following organization operates an Information Security Management System (ISMS) that conforms to the requirements of ISO/IEC 27001:2022 per the scope and boundaries statement detailed below:

COMPANY:	Axon Enterprise, Inc.	ADDRESS:	17800 North 85th Street Scottsdale, AZ 85255 United States

Scope:

The certificate scope comprises the Information Security Management System (ISMS) and Privacy Information Management System (PIMS) for the Axon Cloud Services (Axon Evidence, Axon Records, Axon Respond, Axon Performance, Axon Standards, Draft One) computing environments, including maintenance of Axon manufactured hardware when implemented within customers' Axon Cloud Services tenant: AU - Southeast Asia; LA - South America; CA - Canada; EU - European Union; EUR - European Union; UK - United Kingdom; US - United States; US - United States (Federal Region); ENT - Global.

The organizational scope includes the Engineering (Production Support, Developers), Customer Support, Information Security, and Information Technology teams developing and maintaining the ISMS and PIMS. Teams are organized under Axon Enterprise, Inc. and the following direct or indirectly wholly owned subsidiaries: Axon Public Safety Australia Pty Ltd, Axon Public Safety Canada Inc., Axon Public Safety UK Limited, Axon Public Safety Germany SE, Axon Public Safety India Pvt Ltd, Axon Enterprise Italia, S.R.L., Axon Public Safety B.V., Axon Public Safety Finland Oy, Axon Enterprise France SAS, Axon Public Safety Hong Kong, Limited, Axon Public Safety Spain S.L.U., Axon Public Safety Southeast Asia LLC, and TASER Holland B.V. The ISMS and PIMS are limited to the controls and supporting justifications described within the organization's Statement of Applicability, which further extends to the Processor and Controller objectives within ISO/IEC 27701:2019 and the additional controls detailed within ISO/IEC 27017:2015, ISO/IEC 27018:2019, and the Cloud Security Alliance (CSA) Cloud Controls Matrix (version 4.0).

STATEMENT OF APPLICABILITY:

VERSION: 12.1

DATE: July 27, 2024

Original Registration Date:
November 20, 2015

Certificate Issuance Date:
October 21, 2024

Expiration Date:
October 21, 2027

ON BEHALF OF COALFIRE CERTIFICATION, INC.

Booker Young, VP of Global Assurance

COALFIRE ISO 27001 CERTIFIED CERT

ANAB ANSI National Accreditation Board ACCREDITED ISO/IEC 17021-1 MANAGEMENT SYSTEMS CERTIFICATION BODY

This certificate relates to the Information Security Management System, and not to the products or services of the certified organization. The certification reference number, the mark of the certification body and/or the accreditation mark may not be shown on products or stated in documents regarding products or services. Promotional material, advertisements or other documents showing or referring to this certificate, the trademark of the certification body, or the accreditation mark, must comply with the intention of the certificate.

12735 Morris Road, Suite 250 | Alpharetta, GA 30004 | United States | CoalfireCertification.com

Address:	Key Processes and Activities:
Central Office 17800 North 85th Street Scottsdale, AZ 85255 United States	• Operational control and authority for the management system • Business operations • Background checks • Desktop engineering • Customer success and support • Contract administration and negotiation • Sales operations • Facilities and property management
Satellite Office #1 Metropolitan Park West Tower 1100 Olive Way #1300 Seattle, WA 98101 United States	• Policy and procedure reviews • Cloud engineering services • System development • Application security • Site reliability engineering • Product management • Analysis of statutory and regulatory requirements
Satellite Office #2 Keizergracht 440 Amsterdam 1016 GD Netherlands	• Cloud engineering services • System development • Application security • Site reliability engineering • Product management
Satellite Office #3 Office 5, 55 Brisbane Street Sydney, NSW 2010 Australia	• Cloud engineering services • System development • Application security • Site reliability engineering • Product management
Satellite Office #4 Etown Central 11 Doan Van Bo Street, Ward 13, District 4 Ho Chi Minh City Vietnam	• Cloud engineering services • System development • Application security • Site reliability engineering • Product management

Satellite Office #5 20 St. Dunstan's Hill London EC3R 8HL United Kingdom	• Cloud engineering services • System development • Application security • Site reliability engineering • Product management
Satellite Office #6 225 E Pinnacle Peak Road, Suite 160 Phoenix, AZ 85024 United States	• Device Distribution Center • Returned Merchandise Processes
Satellite Office #7 2100 S Martin Street Atlanta, GA 30344 United States	• Device Distribution Center • Returned Merchandise Processes
Satellite Office #8 Siemenstrabe 13b Dietzenbach 63128 Germany	• Device Distribution Center • Returned Merchandise Processes
Satellite Office #9 14 Sopwith Way Daventry NN11 8PB United Kingdom	• Device Distribution Center • Returned Merchandise Processes

Satellite Office #10 7 Trevi Crescent Melbourne, VIC 3043 Australia	• Device Distribution Center • Returned Merchandise Processes

COALFIRE CERT

CERTIFICATE NUMBER:
2020-071101

CERTIFICATE OF REGISTRATION

Information Security Management System – ISO/IEC 27001:2022

Coalfire Certification, Inc. certifies that the following organization operates an Information Security Management System (ISMS) that conforms to the requirements of ISO/IEC 27001:2022 per the scope and boundaries statement detailed below:

COMPANY:	Axon Enterprise, Inc.	ADDRESS:	17800 North 85th Street Scottsdale, AZ 85255 United States

Scope:

The certificate scope comprises the Information Security Management System (ISMS) and Privacy Information Management System (PIMS) for the Axon Cloud Services (Axon Evidence, Axon Records, Axon Respond, Axon Performance, Axon Standards, Draft One, VR, Axon Fusus) computing environments, including maintenance of Axon manufactured hardware when implemented within customers' Axon Cloud Services tenant: AU - Southeast Asia; LA - South America; CA - Canada; EU - European Union; EU – Germany; EUR – European Union; UK - United Kingdom; US - United States; US - United States (Federal Region); ENT - Global.

The organizational scope includes the Engineering (Product Support, Developers), Customer Support, Information Security, and Information Technology teams developing and maintaining the ISMS and PIMS. Teams are organized under Axon Enterprise, Inc. and the following direct or indirectly wholly owned subsidiaries: Axon Public Safety Australia Pty Ltd, Axon Public Safety Canada Inc., Axon Public Safety UK Limited, Axon Public Safety Germany SE, Axon Public Safety India Pvt Ltd, Axon Enterprise Italia, S.R.L., Axon Public Safety B.V., Axon Public Safety Finland Oy, Axon Enterprise France SAS, Axon Public Safety Hong Kong, Limited, Axon Public Safety Spain S.L.U., Axon Public Safety Southeast Asia LLC, and TASER Holland B.V. The ISMS and PIMS are limited to the controls and supporting justifications described within the organization's Statement of Applicability, which further extends to the Processor and Controller objectives within ISO/IEC 27701:2019 and the additional controls detailed within ISO/IEC 27017:2015, ISO/IEC 27018:2019, and the Cloud Security Alliance (CSA) Cloud Controls Matrix (version 4.0).

STATEMENT OF APPLICABILITY:

VERSION: 13.0

DATE: May 21, 2025

Original Registration Date:
November 20, 2015

Certificate Issuance Date:
November 7, 2025

Expiration Date:
October 21, 2027

ON BEHALF OF COALFIRE CERTIFICATION, INC.

Booker Young, VP of Global Assurance

COALFIRE ISO 27001 CERTIFIED CERT

ANAB ANSI National Accreditation Board ACCREDITED ISO/IEC 17021-1 MANAGEMENT SYSTEMS CERTIFICATION BODY

This certificate relates to the Information Security Management System, and not to the products or services of the certified organization. The certification reference number, the mark of the certification body and/or the accreditation mark may not be shown on products or stated in documents regarding products or services. Promotional material, advertisements or other documents showing or referring to this certificate, the trademark of the certification body, or the accreditation mark, must comply with the intention of the certificate.

12735 Morris Road, Suite 250 | Alpharetta, GA 30004 | United States | CoalfireCertification.com

COALFIRE
ISO 27001 CERTIFIED CERT

Address:	Key Processes and Activities:
Central Office 17800 North 85th Street Scottsdale, AZ 85255 United States	• Operational control and authority for the management system • Business operations • Background checks • Desktop engineering • Customer success and support • Contract administration and negotiation • Sales operations • Facilities and property management
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Satellite Office #3 Office 5, 55 Brisbane Street Sydney, NSW 2010 Australia	• Cloud engineering services • System development • Application security • Site reliability engineering • Product management
Satellite Office #4 Etown Central 11 Doan Van Bo Street, Ward 13, District 4 Ho Chi Minh City Vietnam	• Cloud engineering services • System development • Application security • Site reliability engineering • Product management

Satellite Office #5 20 St. Dunstan's Hill London EC3R 8HL United Kingdom	• Cloud engineering services • System development • Application security • Site reliability engineering • Product management
Satellite Office #6 225 E Pinnacle Peak Road, Suite 160 Phoenix, AZ 85024 United States	• Device Distribution Center • Returned Merchandise Processes
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Satellite Office #9 14 Sopwith Way Daventry NN11 8PB United Kingdom	• Device Distribution Center • Returned Merchandise Processes

Satellite Office #10 7 Trevi Crescent Melbourne, VIC 3043 Australia	• Device Distribution Center • Returned Merchandise Processes

CAPTURE TRUTH

ACCELERATE JUSTICE

PROTECT LIFE

AXON

Exhibit E

AN AGREEMENT BETWEEN THE CITY OF ARVADA AND AXON ENTERPRISE, INC. FOR GOODS AND SERVICES RELATED TO POLICE DEPARTMENT TECHNOLOGY IMPROVEMENTS IN AN AMOUNT NOT TO EXCEED $1,180,369.75 IN THE FIRST YEAR

Exhibit E: This Master Services and Purchasing Agreement ("**Agreement**") is between Axon Enterprise, Inc. ("**Axon**"), and the Customer listed below or, if no Customer is listed below, the customer on the Quote (as defined below) ("**Customer**"). This Agreement is effective as of the later of the (a) last signature date on this Agreement or (b) date of acceptance of the Quote ("**Effective Date**"). Axon and Customer are each a "**Party**" and collectively "**Parties**".

The terms contained in this **Exhibit E** supplement the terms set forth in An Agreement Between the City of Arvada and Axon Enterprise, Inc. for Goods and Services Related to Police Department Technology Improvements in an Amount Not to Exceed $5,425,637.11 (the "Arvada/Axon Agreement") and apply to Arvada's purchase and use of the Axon Devices and Services detailed in **Exhibit F** or any future Quote added to the Agreement through written amendment. In the event of a conflict between the Agreement and this **Exhibit E**, the terms of the Agreement shall control. The Parties agree as follows:

1. **Definitions.**

   1.1. "**Axon Cloud Services**" means Axon's web services, but excludes third-party applications, hardware warranties, and my.evidence.com.

   1.2. "**Axon Device**" means all hardware provided by Axon under this Agreement. Axon-manufactured Devices are a subset of Axon Devices.

   1.3. "**Quote**" means an offer to sell and is only valid for devices and services on the offer at the specified prices. Any inconsistent or supplemental terms within Customer's purchase order in response to a Quote will be void and the terms of the Agreement will apply. Changes in the deployment estimated ship date may change charges in the Quote. Shipping dates are estimates only. Axon is not responsible for typographical errors in any Quote by Axon, and Axon reserves the right to cancel any orders resulting from such errors. Any Quotes requested by Arvada and agreed to by Contractor shall be added to the Agreement through a written amendment.

   1.4. "**Services**" means all services provided by Axon under this Agreement, including software, Axon Cloud Services, and professional services.

2. **Term.**

   2.1. To the extent they occur during an active term of the Agreement, All subscription plans begin on the date stated in the Quote. Each subscription term ends upon completion of the subscription stated in the Quote ("**Subscription Term**") or the termination of the Arvada/Axon Agreement, whichever occurs first.

   2.2. Upon completion of the Subscription Term, the Subscription Term may renew upon mutual written amendment to the Agreement for a mutually agreeable term ("**Renewal Term**") that does not exceed the Initial Term or a Renewal Term granted under the Agreement. For purchase of TASER 7 or TASER 10 as a standalone, Axon may increase pricing to its then-current list pricing for any Renewal Term upon Arvada's agreement and written amendment to the Agreement. New devices and services may require additional terms. Axon will not authorize new services until the Parties execute a written amendment to the Agreement.

3. Reserved.

4. **Reserved.**

5. **Shipping.** Axon may make partial shipments and ship Axon Devices from multiple locations. All shipments are FOB destination . Title and risk of loss pass to Customer upon Arvada's acceptance and delivery of the Axon Device. Customer is responsible for any shipping charges in the Quote.

6. **Returns.** All sales are final. Axon does not allow refunds or exchanges, except warranty returns or as provided by state or federal law.

7. **Warranty.**

   7.1. **Limited Warranty.** Axon warrants that Axon-manufactured Devices, except for TASER devices covered under the TASER Appendix, are free from defects in workmanship and materials for one (1) year from the date of Customer's receipt, except Signal Sidearm which Axon warrants for thirty (30) months from Customer's receipt and Axon-manufactured accessories, which Axon warrants for ninety (90) days from Customer's receipt, respectively, from the date of Customer's receipt. Extended warranties run from the expiration of the one- (1-) year hardware warranty through the extended warranty term purchased.

   7.2. **Disclaimer. All software and Axon Cloud Services are provided "AS IS," without any warranty of any kind, either express or implied, including without limitation the implied warranties of merchantability, fitness for a particular purpose and non-infringement. Axon Devices and Services that are not manufactured, published or performed by Axon ("Third-Party Products") are not covered by Axon's warranty and are only subject to the warranties of the third-party provider or manufacturer. If Customer purchases Axon Loki, Customer acknowledges the Loki device is designed for operation in enclosed,**

controlled environments and must be used in compliance with all applicable laws and safety guidelines. Operation in open or unapproved areas may result in signal interference, loss of control, or damage, and Axon assumes no liability for improper use, including any resulting harm or regulatory violations.

7.3. **Claims.** If Axon receives a valid warranty claim for an Axon-manufactured Device during the warranty term, Axon's sole responsibility is to timely repair or replace the Axon-manufactured Device with the same or like Axon-manufactured Device, at Axon's option. A replacement Axon-manufactured Device will be new or like new. Axon will warrant the replacement Axon-manufactured Device for the longer of (a) the remaining warranty of the original Axon-manufactured Device or (b) ninety (90) days from the date of repair or replacement.

7.3.1. If Customer exchanges an Axon Device or part, the replacement item becomes Customer's property, and the replaced item becomes Axon's property. Before delivering an Axon-manufactured Device for service, Customer must upload Axon-manufactured Device data to Axon Evidence or download it and retain a copy. Axon is not responsible for any loss of software, data, or other information contained in storage media or any part of the Axon-manufactured Device sent to Axon for service.

7.4. **Spare Axon Devices.** At Axon's reasonable discretion, Axon may provide Customer a predetermined number of spare Axon Devices as detailed in the Quote ("**Spare Axon Devices**"). Spare Axon Devices are intended to replace broken or non-functioning units while Customer submits the broken or non-functioning units, through Axon's warranty return process. Axon will repair or replace the unit with a replacement Axon Device. Title and risk of loss for all Spare Axon Devices shall pass to Customer in accordance with shipping terms of this Agreement. Axon assumes no liability or obligation in the event Customer does not utilize Spare Axon Devices for the intended purpose.

7.5. **Limitations.** Axon's warranty excludes damage related to: (a) failure to follow Axon Device use instructions; (b) Axon Devices used with equipment not manufactured or recommended by Axon; (c) abuse, misuse, or intentional damage to Axon Device; (d) force majeure; (e) Axon Devices repaired or modified by persons other than Axon without Axon's written permission; or (f) Axon Devices with a defaced or removed serial number. Axon's warranty will be void if Customer resells Axon Devices.

7.5.1. **To the extent permitted by law, the above warranties and remedies are exclusive. Axon disclaims all other warranties, remedies, and conditions, whether oral, written, statutory, or implied. If statutory or implied warranties cannot be lawfully disclaimed, then such warranties are limited to the duration of the warranty described above and by the provisions in this Agreement. Customer confirms and agrees that, in deciding whether to sign this Agreement, Customer has not relied on any statement or representation by Axon or anyone acting on behalf of Axon related to the subject matter of this Agreement that is not in this Agreement.**

7.5.2. **Neither Party's cumulative liability to any party for any loss or damage resulting from any claim, demand, or action arising out of or relating to this Agreement will not exceed the purchase price paid to Axon for the Axon Device, or if for Services, three times the amount paid for such Services over the twelve (12) months preceding the claim. Neither Party will be liable for special, indirect, incidental, punitive or consequential damages, however caused, whether for breach of warranty or contract, negligence, strict liability, tort or any other legal theory.**

7.6. **Online Support Platforms.** Use of Axon's online support platforms (e.g., Axon Academy and MyAxon) is governed by the Axon Online Support Platforms Terms of Use Appendix available at www.axon.com/sales-terms-and-conditions to the extent such terms and conditions are not inconsistent with the Agreement.

7.7. **Third-Party Hardware, Software and Services.** Use of hardware, software, or services other than those provided by Axon is governed by the terms, if any, entered into between Customer and the respective third-party provider, including, without limitation, the terms applicable to such software or services located at www.axon.com/sales-terms-and-conditions, if any. Prepared by Axon is considered a third-party product and can be found on the website above under the General heading

7.8. **Applicability to insurance.** The cap on liability in Section 7.5.2 applies in excess of insurance minimums maintained under the Arvada/Axon Agreement, and no insurance policy shall be interpreted as being subject to any limitations of liability of the Arvada/Axon Agreement.

8. **Free Trial.**

8.1. **Trial Period and License.** At any time during the Term, Customer and Axon may elect to enter a free trial of Axon Devices and Services new to the Customer for a designated period ("**Trial Period**") as described in a quote issued ("**Trial Quote**") and added to the Agreement through amendment. During the Trial Period, Axon grants Customer a nonexclusive, terminable, non-transferable, license to use new Axon Devices and Services provided for trial to the Customer ("**Trial Products**"). Trial Products may include Axon beta software or firmware

which additional terms may be required and included within the Trial Quote. Axon may limit the number of Trial Products Customer receives within the Trial Quote. Axon may supply refurbished Trial Products. ALL FREE TRIAL PRODUCTS INCLUDING, WITHOUT LIMITATION, AXON CLOUD SERVICES, ARE PROVIDED "AS IS" AND TO THE EXTENT NOT PROHIBITED BY LAW, AXON DISCLAIMS ALL LIABILITY REGARDLESS OF THE CLAIM.

8.2. **Trial Quote Termination.** Upon at least 10 business days' prior written notice to Axon at any time prior to the end of the Trial Period, Customer may as its sole option, terminate the free Trial Period and underlying Trial Quote associated with the Trial Products for convenience. Customer's rights to the Trial Products will immediately terminate at the end of the Trial Period, and Customer will return any Trial Products hardware to Axon within 10 days after the effective date of such termination or at the end of the Trial Period, excluding used CEW cartridges. If any individual component of the Trial Products is not returned, Axon will invoice Customer the MSRP of the unreturned items. Customer agrees to pay the invoice along with any applicable taxes and shipping. Customer will return the Trial Products to Axon in good working condition, minus normal wear and tear. Axon may charge Customer if there is damage beyond normal wear and tear. Any Customer Content shall be stored and returned pursuant to the Axon Cloud Services Terms of Use Appendix

9. **Statement of Work.** Certain Axon Devices and Services, including, but not limited to, Axon Interview Room, Axon Channel Services, Axon Justice Implementation, FUSUS, and Axon Fleet, may require a Statement of Work that details Axon's Service deliverables ("**SOW**"). In the event Axon provides an SOW to Customer, Axon is only responsible for the performance of Services described in the SOW. Additional services outside of the SOW, Quote, or this Agreement are out of scope. The Parties must document scope changes in a written and signed amendment. Changes may require an equitable adjustment in fees or schedule. Any applicable SOW is incorporated into this Agreement by reference.

10. **Axon Device Warnings.** See www.axon.com/legal for the most current Axon Device warnings.

11. **Design Changes.** Axon may make design or feature changes to any Axon Device or Service without notifying Customer or making the same change to Axon Devices and Services previously purchased by Customer.

12. **Combined Offerings.** Some offerings in a Quote combine existing and pre-released Axon Devices or Services. Some offerings may not be available at the time of Customer's purchase. Axon will not provide a refund, credit, or additional discount beyond what is in the Quote due to delay of availability or Customer's choice not to utilize any portion of a combined offering.

13. **Reserved.**

14. **IP Rights.** Axon owns and reserves all right, title, and interest in Axon-manufactured Devices and Services and suggestions to Axon, including all related intellectual property rights. Customer will not cause any Axon proprietary rights to be violated.

15. **Reserved.**

16. **Customer Responsibilities.** Customer is responsible for (a) Customer's use of Axon Devices; (b) Customer or a Customer-authorized user's breach of this Agreement or violation of applicable law; (c) disputes between Customer and a third-party over Customer's use of Axon Devices; (d) secure and sustainable destruction and disposal of Axon Devices at Customer's cost; and (e) any regulatory violations or fines, as a result of improper destruction or disposal of Axon Devices directly related to Customer's actions in regards to the Axon Devices.

17. **Termination.**

17.1. **Effect of Termination**. MSRP terms noted in the Arvada/Axon Agreement.

18. **Confidentiality.** "**Confidential Information**" means nonpublic information designated as confidential or, given the nature of the information or circumstances surrounding disclosure, should reasonably be understood to be confidential. Each Party will take reasonable measures to avoid disclosure, dissemination, or unauthorized use of the other Party's Confidential Information. Unless required by law, neither Party will disclose the other Party's Confidential Information during the Term and for five (5) years thereafter. If Customer receives a public records request to disclose Axon Confidential Information, to the extent allowed by law, Customer will provide notice to Axon before disclosure. Axon may publicly announce information related to this Agreement with Arvada's consent, which will not be unreasonable withheld.

19. **General.**

19.1. **Reserved.**

19.2. **Reserved.**

19.3. **Reserved.**

19.4. **Non-Discrimination.** Neither Party nor its employees will discriminate against any person based on race; religion; creed; color; sex; gender identity and expression; pregnancy; childbirth; breastfeeding; medical conditions related to pregnancy, childbirth, or breastfeeding; sexual orientation; marital status; age; national origin; ancestry; genetic information; disability; veteran status; or any class protected by local, state, or federal law.

19.5. **Compliance with Laws.** Each Party will comply with all applicable federal, state, and local laws, including without limitation, import and export control laws and regulations as well as firearm regulations and the Gun Control Act of 1968. Customer acknowledges that Axon Devices and Services are subject to U.S. and international export control laws, including the U.S. Export Administration Regulations (EAR) and International Traffic in Arms Regulations (ITAR). Customer represents and warrants that neither it nor any End User is a "Restricted Person," meaning any individual or entity that (1) is subject to U.S. sanctions or trade restrictions, (2) appears on any U.S. government restricted party list, (3) engages in prohibited weapons proliferation activities, or (4) is owned or controlled by, or acting on behalf of, such persons or entities. Customer must promptly notify Axon of any change in status, and Axon may terminate this Agreement if Customer or any End User becomes a Restricted Person or violates export laws.

19.6. **Assignment.** Neither Party may assign this Agreement without the other Party's prior written consent. Axon may assign this Agreement, its rights, or obligations without consent: (a) to an affiliate or subsidiary; or (b) for purposes of financing, merger, acquisition, corporate reorganization, or sale of all or substantially all its assets. This Agreement is binding upon the Parties respective successors and assigns. Any provision of an assignment that enlarges any duty, responsibility, or obligation of Arvada, or that limits, curtails, or diminishes any right or privilege of Arvada, without Arvada's express written consent, shall be void.

19.7. **Reserved.**

19.8. **Reserved.**

19.9. **Survival.** In addition to any terms surviving under Section 11 of Exhibit A to the Agreement, the following sections will survive termination: Payment, Warranty, Axon Device Warnings, Indemnification, IP Rights, Customer Responsibilities and any other Sections detailed in the survival sections of the Appendices.

19.10. **Reserved.**

19.11. **Reserved.**

Axon Cloud Services Terms of Use Appendix

1. **Definitions.**

   1.1. "**Data Controller**" means the natural or legal person, public authority, or any other body which alone or jointly with others determines the purposes and means of the processing of Personal Data.

   1.2. "**Data Processor**" means a natural or legal person, public authority or any other body which processes Personal Data on behalf of the Data Controller.

   1.3. "**Customer Content**" is data uploaded into, ingested by, or created in Axon Cloud Services within Customer's tenant, including media or multimedia uploaded into Axon Cloud Services by Customer. Customer Content includes Evidence but excludes Non-Content Data. Customer Content includes Arvada Records as defined in the Agreement.

   1.4. "**Evidence**" is media or multimedia uploaded into Axon Evidence as 'evidence' by Customer. Evidence is a subset of Customer Content.

   1.5. "**End User**" means the natural person subject to Customer's authorized license grant who ultimately uses the Cloud Services as provided under this Agreement. End Users must adhere to the terms of use and are subject to any usage restrictions or limitations specified in this Agreement.

   1.6. "**Non-Content Data**" is data, configuration, and usage information about Customer's Axon Cloud Services tenant, Axon Devices and client software, and users that is transmitted or generated when using Axon Devices. Non-Content Data includes data about users captured during account management and customer support activities. Non-Content Data does not include Customer Content.

   1.7. "**Personal Data**" means any information relating to an identified or identifiable natural person. An identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person.

   1.8. "**Provided Data**" means de-identified, de-personalized, data derived from Customer's TASER energy weapon deployment reports, related TASER energy weapon logs, body-worn camera footage, and incident reports.

   1.9. "**Subprocessor**" means any third party engaged by the Data Processor to assist in data processing activities that the Data Processor is carrying out on behalf of the Data Controller.

   1.10. "**Transformed Data**" means the Provided Data used for the purpose of quantitative evaluation of the performance and effectiveness of TASER energy weapons in the field across a variety of circumstances.

2. **Access.** Upon Axon granting Customer a subscription to Axon Cloud Services, Customer may access and use Axon Cloud Services to store and manage Customer Content. Customer may not exceed the total number of End Users specified in the Quote. Axon Air requires an Axon Evidence subscription for each drone operator. For Axon Evidence access granted solely for TASER, Customer may access and use Axon Evidence only to store and manage TASER CEW data ("TASER Data") and Customer may not upload non-TASER Data to Axon Evidence.

3. **Customer Owns Customer Content.** Customer controls and owns all rights, title, and interest in Customer Content. Except as outlined herein, Axon obtains no interest in Customer Content, and Customer Content is not Axon's business records. Customer is solely responsible for uploading, sharing, managing, and deleting Customer Content. Axon will only have access to Customer Content for the limited purposes set forth herein. Customer agrees to allow Axon access to Customer Content to (a) perform troubleshooting, maintenance, or diagnostic screenings; and (b) enforce this Agreement or policies governing use of the Axon products.

4. **Security.** Axon will implement commercially reasonable and appropriate measures to secure Customer Content against accidental or unlawful loss, access or disclosure. Axon will maintain a comprehensive information security program to protect Axon Cloud Services and Customer Content including logical, physical access, vulnerability, risk, and configuration management; incident monitoring and response; encryption of uploaded digital evidence; security education; and data protection. Axon agrees to the Federal Bureau of Investigation Criminal Justice Information Services Security Addendum for its digital evidence or records management systems.

5. **Customer Responsibilities.** Customer is responsible for (a) ensuring Customer owns Customer Content or has the necessary rights to use Customer Content (b) ensuring no Customer Content or Customer End User's use of Customer Content or Axon Cloud Services violates this Agreement or applicable laws; (c) maintaining necessary computer equipment and Internet connections for use of Axon Cloud Services and (d) verify the accuracy of any auto generated or AI-generated reports. If Customer becomes aware of any violation of this Agreement by an End User, Customer will immediately terminate that End User's access to Axon Cloud Services.

   5.1. Customer will also reasonably maintain the security of End User usernames and passwords and security and access by end users to Customer Content. Customer is responsible for ensuring the configuration and utilization of Axon Cloud Services meet applicable Customer regulation and standards. Customer may not sell, transfer, or sublicense access to any other entity or person. If Customer provides access to unauthorized third-parties, Axon may assess additional fees along with suspending Customer's access. Customer shall contact Axon immediately if an unauthorized party may be using Customer's account or Customer Content, or if account information is lost or stolen.

   5.2. To the extent Customer uses the Axon Cloud Services to interact with YouTube®, such use may be governed by the YouTube Terms of Service, available at https://www.youtube.com/static?template=terms.

6. **Privacy.** Customer's use of Axon Cloud Services is subject to the Axon Cloud Services Privacy Policy, a current version of which is available at https://www.axon.com/legal/cloud-services-privacy-policy. Customer agrees to allow Axon access to Non-Content Data from Customer to (a) perform troubleshooting, maintenance, or diagnostic screenings; (b) provide, develop, improve, and support current and future Axon products and related services; and (c) enforce this Agreement or policies governing the use of Axon products.

7. **Axon Body Wi-Fi Positioning**. Axon Body cameras may offer a feature to enhance location services where GPS/GNSS signals may not be available, for instance, within buildings or underground. Customer administrators can manage their choice to use this service within the administrative features of Axon Cloud Services. If Customer chooses to use this service, Axon must also enable the usage of the feature for Customer's Axon Cloud Services tenant. Customer will not see this option with Axon Cloud Services unless Axon has enabled Wi-Fi Positioning for Customer's Axon Cloud Services tenant.

8. **Storage.** For Axon Unlimited Device Storage subscriptions, Customer may store unlimited data in Customer's Axon Evidence account only if the Axon Device data is shared to Customer through Axon Evidence from a partner agency using Axon Evidence, or the data originates from Axon Capture or an Axon Device. Axon may charge Customer additional fees for exceeding purchased storage amounts. Axon may place Customer Content that Customer has not viewed or accessed for six (6) months into archival storage. Customer Content in archival storage will not have immediate availability and may take up to twenty-four (24) hours to access.

   8.1. **Third-Party Unlimited Storage.** For Third-Party Unlimited Storage the following restrictions apply: (i) it may only be used in conjunction with a valid Axon Evidence user license; (ii) is limited to data of the law enforcement Customer that purchased the Third-Party Unlimited Storage and the Axon Evidence End User; (iii) Customer is prohibited from storing data for other customers or law enforcement agencies; and (iv) Customer may only upload and store data that is directly related to (1) the investigation of, or the prosecution or defense of a crime, (2) common law enforcement activities, or (3) any Customer Content created by Axon Devices or Axon Evidence.

   8.2. **Location of Storage.** Axon may transfer Customer Content to third-party subcontractors for storage to fulfill Axon's obligations under the Agreement. Axon will determine the locations of data centers for storage of Customer Content. If Customer is located in the United States, Canada, or Australia, Axon will ensure all Customer Content stored in Axon Cloud Services remains in the country where Customer is located. Ownership of Customer Content remains with Customer.

9. **Suspension.** Axon may temporarily suspend Customer's or any End User's right to access or use any portion or all of Axon Cloud Services immediately upon notice, if Customer or End User's use of or registration for Axon Cloud Services may (a) pose a security risk to Axon Cloud Services or any third-party; (b) adversely impact Axon Cloud Services, the systems, or content of any other customer; (c) subject Axon, Axon's affiliates, or any third-party to liability; or (d) be fraudulent. Customer remains responsible for all fees incurred through suspension. Axon will not delete Customer Content because of suspension, except as specified in this Agreement.

10. **Axon Cloud Services Warranty.** Axon disclaims any warranties or responsibility for data corruption or errors before Customer uploads data to Axon Cloud Services Service Offerings will be subject to the Axon Cloud Services Service Level Agreement current version of which is available at https://www.axon.com/products/axon-evidence/sla.

11. **Roles of the Parties.** To the extent that Customer is the Data Controller of Personal Data, Axon is its Data Processor. To the extent that Customer is a Data Processor of Personal Data, Axon is its Subprocessor. Notwithstanding the foregoing, to the extent any usage data (including query logs and metadata) and/or operations data (including billing and support data) in connection with Customer's use of the Services (collectively "Usage and Operations Data") is considered Personal Data, Axon is an independent Data Controller and shall Process such data in accordance with the Agreement and applicable data protection laws to develop, improve, support, and operate its products and services. For the avoidance of doubt, Axon will not disclose any Usage and Operations Data that includes confidential information with a third party except (a) in accordance with the relevant confidentiality provisions in the Agreement, or (b) to the extent the Usage and Operations Data is, in accordance with applicable data protection laws, anonymized, de-identified, and/or aggregated such that it can no longer directly or indirectly identify Customer or any particular individual.

12. **TASER Data Science Program.** Axon will provide a quantitative evaluation on the performance and effectiveness of TASER energy weapons in the field across a variety of circumstances.

    12.1. If Customer purchases the TASER Data Science Program, Customer grants Axon, its affiliates, and assignees an irrevocable, perpetual, fully paid, royalty-free, and worldwide right and license to use Provided Data solely for the purposes of this Agreement and to create Transformed Data. Customer shall own all rights and title to Provided Data. Axon shall own all rights and title to Transformed Data and any derivatives of Transformed Data.

    12.2. Axon grants to Customer an irrevocable, perpetual, fully paid, royalty-free, license to use to TASER Data Science report provided to Customer for its own internal purposes. The Data Science report is provided "as is" and without any warranty of any kind.

    12.3. In the event Customer seeks Axon's deletion of Provided Data, it may submit a request to privacy@axon.com. Where reasonably capable of doing so, Axon will implement the request but at a minimum will not continue to collect Provided Data from Customer.

13. **Axon Records.** The following terms apply to Axon Records. Customers may purchase Axon Records either as part of an OSP 7 or OSP 10 plan or individually through a Quote.

    13.1. Axon Record subscription begins on the later of the (1) start date of the Quote, or (2) the date Axon provisions Axon Records to Customer. The Axon Records Subscription Term will end upon the completion of the Axon Records Subscription as documented in the Quote, or if purchased as part of an OSP 7 or OSP 10 plan, upon completion of the OSP 7 or OSP 10 Term ("Axon Records Subscription Term"). In no event shall the Axon Records Subscription Term exceed the term of the Arvada/Axon Agreement following the 90 Termination window outlined in Section 17.

    13.2. An "Update" is a generally available release of Axon Records that Axon makes available from time to time. An "Upgrade" includes (i) new versions of Axon Records that enhance features and functionality, as solely determined by Axon; and/or (ii) new versions of Axon Records that provide additional features or perform additional functions. Upgrades exclude new products that Axon introduces and markets as distinct products or applications. During the Customer's Axon Records Subscription Term Axon will provide Update and Upgrade releases to the Customer on an if-and-when available basis.

    13.3. New or additional Axon products and applications, as well as any Axon professional services needed to configure Axon Records, are not included as part of the Axon Records Subscription.

    13.4. End Users of Axon Records may upload files to entities (incidents, reports, cases, etc.) in Axon Records with no limit to the number of files and amount of storage. Notwithstanding the foregoing, Axon may limit usage should the Customer exceed an average rate of one-hundred (100) GB per user per year of uploaded files. Axon will not bill for overages.

14. **FUSUS.** If Customer purchases a subscription to FUSUS, the following terms apply:

    14.1. **License and Storage.** The specific license number(s) and associated data storage terms for FUSUS subscription and Axon Devices shall be set forth in the applicable Quote provided by Axon.

    14.2. **Third party Components.** Customer is responsible for use of any internet access devices and/or all third-party hardware, software, services, telecommunication services (including Internet connectivity), or other items used by Customer to access the service ("Third-Party Components"). Third-Party Components are the sole and exclusive responsibility of Customer, and Axon has no responsibility for such Third-party Components and how they function with FUSUS cloud services, or Customer relationships with such third

parties. Customer agrees to at all times comply with the lawful terms and conditions of agreements with such third parties. Axon does not represent or warrant that the FUSUS cloud services and the Customer Content are compatible with any specific third-party hardware or software or any other Third-Party Components. Customer is responsible for providing and maintaining an operating environment as reasonably necessary to accommodate and access the FUSUS cloud services.

14.3. **Data Privacy.** Axon may collect, use, transfer, disclose and otherwise process Customer Content in the context of facilitating communication of data with Customer through their use of FUSUS cloud services FUSUS app (iOS or Android interface), complying with legal requirements, monitoring the Customer's use of FUSUS systems for purposes consistent with the Agreement, and undertaking data analytics.

14.4. **Hardware Allowance.** If Customer purchases a hardware allowance, Customer may select hardware up to the value if the allowance. Axon does not provide refunds for unused portions of the allowance.

14.5. **SSO.** As requested by Arvada, Axon shall ensure that SSO integration is available and uses industry standard SAML.

15. **Axon Community Request Storage**. If Community Request is included as part of Customer's Quote or combined offering, Customer may store an unlimited amount of data submitted through the public portal ("Portal Content"), within Customer's Axon Evidence instance. The post-termination provisions outlined in the Axon Cloud Services Terms of Use Appendix also apply to Portal Content.

16. **Performance Auto-Tagging Data**. If Axon Performance is included in Customer's Quote or a combined offering, Axon will store call for service data from Customer's CAD or RMS in order to provide services and features of Axon Performance to Customer. Axon Cloud Services Restrictions. Customer and Customer End Users (including employees, contractors, agents, officers, volunteers, and directors), may not, or may not attempt to:

16.1. copy, modify, tamper with, repair, or create derivative works of any part of Axon Cloud Services;

16.2. reverse engineer, disassemble, or decompile Axon Cloud Services or apply any process to derive any source code included in Axon Cloud Services, or allow others to do the same;

16.3. access or use Axon Cloud Services with the intent to gain unauthorized access, avoid incurring fees or exceeding usage limits or quotas;

16.4. use trade secret information contained in Axon Cloud Services, except as expressly permitted in this Agreement;

16.5. access Axon Cloud Services to build a competitive device or service or copy any features, functions, or graphics of Axon Cloud Services;

16.6. remove, alter, or obscure any confidentiality or proprietary rights notices (including copyright and trademark notices) of Axon's or Axon's licensors on or within Axon Cloud Services; or

16.7. use Axon Cloud Services to store or transmit infringing, libelous, or other unlawful or tortious material; material in violation of third-party privacy rights; or malicious code.

17. **After Termination.** Axon will not delete Customer Content for ninety (90) days following termination. Axon Cloud Services will not be functional during these ninety (90) days other than the ability to retrieve Customer Content in an unmodified format. Customer will not incur additional fees if Customer downloads Customer Content from Axon Cloud Services during this time. Axon has no obligation to maintain or provide Customer Content after these ninety (90) days and will thereafter, unless legally prohibited, delete all Customer Content. Upon request, Axon will provide written proof that Axon successfully deleted and fully removed all Customer Content from Axon Cloud Services.

18. **Post-Termination Assistance.** Axon will provide Customer with the same post-termination data retrieval assistance that Axon generally makes available to all customers. Requests for Axon to provide additional assistance in downloading or transferring Customer Content, including requests for Axon's data egress service, will result in additional fees and Axon will not warrant or guarantee data integrity or readability in the external system. If Customer elects assistance under this section, the Parties must either amend the Agreement to include the services or execute a separate agreement.

19. U.S. Government Rights. If Customer is a U.S. Federal department or using Axon Cloud Services on behalf of a U.S. Federal department, Axon Cloud Services is provided as a "commercial item," "commercial computer software," "commercial computer software documentation," and "technical data", as defined in the Federal

Acquisition Regulation and Defense Federal Acquisition Regulation Supplement. If Customer is using Axon Cloud Services on behalf of the U.S. Government and these terms fail to meet the U.S. Government's needs or are inconsistent in any respect with federal law, Customer will immediately discontinue use of Axon Cloud Services.

20. **Survival.** Upon any termination of the Agreement, the following sections in this Appendix will survive: Customer Owns Customer Content, Privacy, Storage, Axon Cloud Services Warranty, Customer Responsibilities and Axon Cloud Services Restrictions.

AI Technology Appendix

This AI Technology Appendix shall only apply to Customers who license Axon Cloud Services in a Quote that specifically utilizes AI Technology. Unless explicitly defined otherwise, capitalized terms used in this Appendix have the same meaning as those in the Agreement.

1. **Definitions.**
   1.1. **AI Technology.** Refers to artificial intelligence functionalities embedded in Axon's Cloud Services, which may include: (a) Enhanced Evidence Management; (b) AI-powered redaction tools; (c) Large Language Model-based tools (e.g., "Draft One" "Policy Chat"); (d) Predictive Analytics for operational insights; or (e) Natural Language Processing (NLP) for text and speech analysis.

   1.2. **Model Drift.** The degradation of AI model performance due to changes in input data or external conditions, requiring retraining or updates.

   1.3. **Bias Mitigation.** Strategies and techniques used to identify, measure, and minimize bias in AI Technology.

2. **Integration.** Axon AI Technology is intended to improve public safety, streamline operations, and ensure data accuracy. The AI functionalities will only be used as described in the Agreement or applicable documentation.

3. **Data Use.** Axon acts as a Data Processor for AI Technology. All inquiries submitted are processed solely to provide accurate responses based on Customer Content submitted. Customer remains the Data Controller of all Customer Content. Axon and Axon's subprocessors do not train their models on Customer Content. Customers who elect to participate in Axon's ACEIP program can enter into custom agreements to assist in product development efforts like AI model training. Even in those cases, Axon operates carefully on redacted data and not on Customer Content.

4. **Automatic Data Collection.** AI Technology may automatically collect Non-Content Data about user interactions with the service and their devices to enhance the functionality and security of the system. The details collected include, but are not limited to, the following:
   4.1. **User Engagement and Activity Metrics.** AI Technology may track key engagement statistics, including Daily Active Users (DAUs), Weekly Active Users (WAUs), and Monthly Active Users (MAUs). Additional metrics include new user activations, repeat usage rates, total queries submitted, follow-up query volume, session lengths, retention rates, and user satisfaction ratings (e.g., thumbs up/down feedback).

   4.2. **Sales and Adoption Tracking.** Axon monitors the number of licenses and agencies purchasing the service, including those in trial phases, fully deploying the service, and conversion rates from trials to paid subscriptions.

   4.3. **End User inputs.** Axon may process de-identified end-user inputs to the AI Technology, excluding Customer Content or any data that directly or indirectly identifies individuals.

5. **Axon Responsibilities.**
   5.1. **Ethical AI Development.** Axon shall: (a) Follow its responsible innovation framework; (b) Engage with the Ethics and Equity Advisory Council (EEAC) for feedback; (c) Conduct testing to minimize bias and ensure reliability; and (d) Implement Bias Mitigation techniques in model development and deployment.

   5.2. **Security Program.** Axon will maintain a comprehensive information security program, including logical and physical access, vulnerability, risk, and configuration management; incident monitoring and response; encryption of digital evidence; and security education.

   5.3. **Transparency.** Axon will provide documentation describing AI functionalities and their intended use and disclose any material limitations, risks, or Model Drift incidents.

   5.4. **Incident Response.** Axon will promptly address and rectify anomalies in AI functionalities, as outlined in its incident management procedures.

   5.5. **Compliance.** Axon will ensure compliance with applicable laws, regulations, and standards, including but not limited to the EU AI Act, NIST AI standards, and ISO/IEC 27001.

6. **Customer Responsibilities**.

6.1. **Ownership of Customer Content.** Customer controls and owns all rights, title, and interest in Customer Content. Axon obtains no interest in Customer Content and will only access Customer Content for limited purposes as outlined in the Agreement.

6.2. **Use of AI Technologies.** Customer must: (a) review AI-generated outputs to ensure accuracy and appropriateness; (b) maintain control over Customer Content shared with AI Technologies (c) comply with applicable laws when using Axon AI Technology and Axon Services; (d) monitor for potential issues with AI outputs, including false positives or negatives; (e) reserved; and (f) provide timely feedback on Axon AI Technology performance**.**

6.3. **Restrictions.** AI Technology is not designed for emergencies, and in such cases, users should contact appropriate emergency services directly. Axon disclaims liability for queries containing prohibited content, such as hate, sexual material, or violence, and reserves the right to restrict such usage.

7. **Policy Chat**. This section outlines the specific terms and conditions related to the use of Policy Chat by the Customer. By utilizing Policy Chat, the Customer agrees to comply with the following provisions:

7.1. **License and Content Restrictions.** Any uploads beyond 5,000 pages may be limited by Axon. It is the Customer's responsibility to manage uploads to ensure system efficiency and compliance with these terms.

7.2. **Data Processing.** Inquiries submitted to Policy Chat are processed solely to provide accurate responses based on existing policy documents provided by the Customer. The Customer remains the Data Controller of all policy content, and Axon's role is strictly limited to facilitating access to this information through Policy Chat.

7.3. **Policy Chat Restrictions.** The information provided by Policy Chat is for informational purposes only and is based on the policy documents uploaded by the Customer. Axon does not guarantee the accuracy, completeness, or timeliness of the information, and disclaims all liability for any reliance placed on such information. Policy Chat is not a substitute for official policy documents, legal advice, or comprehensive training. Users should consult their supervisors, legal advisors, or official sources for the most accurate and up-to-date policy guidance. Changes to policies may not be reflected immediately, and it is the Customer's responsibility to ensure data integrity by uploading the most current documents and removing outdated versions.

8. **Draft One.** Specifically for Customers who utilize Draft One, Axon may impose usage restrictions if a single user generates more than three hundred (300) reports per month for two or more consecutive months.

9. **Brief One.** Brief One includes automatic summarization of all products that can be transcribed. If Customer subscribes to Brief One, Customer may utilize Brief One with no limit on the number of pieces of evidence or cases. Notwithstanding the foregoing, Axon may limit evidence and case summaries for cases with over one thousand (1000) pieces of evidence or after three hundred (300) cases per End User per month for two (2) consecutive months in a row.

10. **Auto-Transcribe.** This section outlines licensing terms for Customer's subscription of Auto-Transcribe:

10.1. **A-La-Carte Minutes.** Upon Axon granting Customer a set number of minutes, Customer may utilize Axon Auto-Transcribe, subject to the number of minutes allowed on the Quote. Customers cannot roll over unused minutes to future Auto-Transcribe terms. Axon may charge Customer additional fees for exceeding the number of purchased minutes. Axon Auto-Transcribe minutes expire one year after being provisioned to Customer by Axon.

10.2. **Axon Unlimited Transcribe.** Upon Axon granting Customer an Unlimited Transcribe subscription to Axon Auto-Transcribe, Customer may utilize Axon Auto-Transcribe with no limit on the number of minutes. Unlimited Transcribe includes automatic transcription of all Axon BWC and Axon Capture footage. With regard to Axon Interview Room, Axon Fleet, Axon Community Request, or third-party transcription, transcription must be requested on demand. Notwithstanding the foregoing, Axon may limit usage after 5,000 minutes per user per month for multiple months in a row. Axon will not bill for overages.

Reserved

Professional Services Appendix

If any of the Professional Services specified below are included on the Quote, this Appendix applies.

1. **Utilization of Services.** Customer must use professional services as outlined in the Quote and this Appendix within six (6) months of the Effective Date.

2. **Axon Full Service (Axon Full Service).** Axon Full Service includes advance remote project planning and configuration support and up to four (4) consecutive days of on-site service and a professional services manager to work with Customer to assess Customer's deployment and determine which on-site services are appropriate. If Customer requires more than four (4) consecutive on-site days, Customer must purchase additional days. Axon Full-Service options include:

System set up and configuration • Instructor-led setup of Axon View on smartphones (if applicable) • Configure categories and custom roles based on Customer need • Register cameras to Customer domain • Troubleshoot IT issues with Axon Evidence and Axon Dock ("**Dock**") access • One on-site session included
Dock configuration • Work with Customer to decide the ideal location of Docks and set configurations on Dock • Authenticate Dock with Axon Evidence using admin credentials from Customer • On-site assistance, not to include physical mounting of docks
Best practice implementation planning session • Provide considerations for the establishment of video policy and system operations best practices based on Axon's observations with other customers • Discuss the importance of entering metadata in the field for organization purposes and other best practices for digital data management • Provide referrals of other customers using the Axon camera devices and Axon Evidence • Recommend rollout plan based on review of shift schedules
System Admin and troubleshooting training sessions Step-by-step explanation and assistance for Customer's configuration of security, roles & permissions, categories & retention, and other specific settings for Axon Evidence.
Axon instructor training (Train the Trainer) Training for Customer's in-house instructors who can support Customer's Axon camera and Axon Evidence training needs after Axon has fulfilled its contractual on-site obligations.
Evidence sharing training Tailored workflow instruction for Investigative Units on sharing cases and evidence with local prosecuting agencies.
Users go-live training and support sessions • Assistance with device set up and configuration • Training on device use, Axon Evidence, and Evidence Sync
Implementation document packet Axon Evidence administrator guides, camera implementation guides, network setup guide, sample policies, and categories & roles guide.
Post go-live review

3. **Body-Worn Camera Starter Service (Axon Starter).** Axon Starter includes advance remote project planning and configuration support and one (1) day of on-site Services and a professional services manager to work closely with Customer to assess Customer's deployment and determine which Services are appropriate. If Customer requires more than one (1) day of on-site Services, Customer must purchase additional on-site Services. The Axon Starter options include:

System set up and configuration (Remote Support) • Instructor-led setup of Axon View on smartphones (if applicable) • Configure categories & custom roles based on Customer need

• Troubleshoot IT issues with Axon Evidence and Dock access
Dock configuration • Work with Customer to decide the ideal location of Dock setup and set configurations on Dock • Authenticate Dock with Axon Evidence using "Administrator" credentials from Customer • Does not include physical mounting of docks
Axon instructor training (Train the Trainer) Training for Customer's in-house instructors who can support Customer's Axon camera and Axon Evidence training needs after Axon's has fulfilled its contracted on-site obligations
User go-live training and support sessions • Assistance with device set up and configuration • Training on device use, Axon Evidence, and Evidence Sync
Implementation document packet Axon Evidence administrator guides, camera implementation guides, network setup guide, sample policies, and categories & roles guide

4. **Body-Worn Camera Virtual 1-Day Service (Axon Virtual).** Axon Virtual includes all items in the BWC Starter Service Package, except one (1) day of on-site services.

5. **CEW Services Packages.** CEW Services Packages are detailed below:

System set up and configuration • Configure Axon Evidence categories & custom roles based on Customer need. • Troubleshoot IT issues with Axon Evidence. • Register users and assign roles in Axon Evidence. • **For the CEW Full-Service Package**: On-site assistance included • **For the CEW Starter Package**: Virtual assistance included
Dedicated Project Manager Assignment of specific Axon representative for all aspects of planning the rollout (Project Manager). Ideally, Project Manager will be assigned to Customer 4–6 weeks before rollout.
Best practice implementation planning session to include: • Provide considerations for the establishment of CEW policy and system operations best practices based on Axon's observations with other customers. • Discuss the importance of entering metadata and best practices for digital data management. • Provide referrals to other customers using TASER CEWs and Axon Evidence. • **For the CEW Full-Service Package:** On-site assistance included. • **For the CEW Starter Package:** Virtual assistance included.
System Admin and troubleshooting training sessions On-site sessions providing a step-by-step explanation and assistance for Customer's configuration of security, roles & permissions, categories & retention, and other specific settings for Axon Evidence.
Axon Evidence Instructor T raining • Provide training on the Axon Evidence to educate instructors who can support Customer's subsequent Axon Evidence training needs. • **For the CEW Full-Service Package:** Training for up to 3 individuals at Customer's facility • **For the CEW Starter Package:** Training for up to 1 individual virtually
TASER CEW inspection and device assignment Axon's on-site professional services team will perform functions check on all new TASER CEW Smart weapons and assign them to a user on Axon Evidence.
Post go-live review **For the CEW Full-Service Package**: On-site assistance included. **For the CEW Starter Package**: Virtual assistance included.

6. **Smart Weapon Transition Service.** The Smart Weapon Transition Service includes:

Archival of CEW Firing Logs Axon's on-site professional services team will upload CEW firing logs to Axon Evidence from all TASER CEW Smart Weapons that Customer is replacing with newer Smart Weapon models.

Return of Old Weapons Axon's on-site professional service team will ship all old weapons back to Axon's headquarters. Axon will provide Customer with a Certificate of Destruction.

*Note: CEW Full-Service packages for TASER 7 or TASER 10 include Smart Weapon Transition Service instead of 1-Day Device Specific Instructor Course.

7. **VR Services Package.** VR Service includes advance remote project planning and configuration support and one (1) day of on-site service and a professional services manager to work with Customer to assess Customer's deployment and determine which Services are appropriate. The VR Service training options include:

System set up and configuration (Remote Support) • Instructor-led setup of Axon VR headset content • Configure Customer settings based on Customer need • Troubleshoot IT issues with Axon VR headset
Axon instructor training (Train the Trainer) Training for up to five (5) Customer in-house instructors who can support Customer's Axon VR CET and SIM training needs after Axon has fulfilled its contracted on-site obligations.
Classroom and practical training sessions Step-by-step explanation and assistance for Customer's configuration of Axon VR CET and SIM functionality, basic operation, and best practices.

8. **Axon Air, On-Site Training.** Axon Air, On-Site training includes advance remote project planning and configuration support and one (1) day of on-site Services and a professional services manager to work closely with Customer to assess Customer's deployment and determine which Services are appropriate. If Customer requires more than one (1) day of on-site Services, Customer must purchase additional on-site Services. The Axon Air, On-Site training options include:

System set up and configuration (Remote Support) • Instructor-led setup of Axon Air App (ASDS) • Configure Customer settings based on Customer need • Configure drone controller • Troubleshoot IT issues with Axon Evidence
Axon instructor training (Train the Trainer) Training for Customer's in-house instructors who can support Customer's Axon Air and Axon Evidence training needs after Axon's has fulfilled its contracted on-site obligations
Classroom and practical training sessions Step-by-step explanation and assistance for Customer's configuration of Axon Respond+ livestreaming functionality, basic operation, and best practices

9. **Axon Air, Virtual Training.** Axon Air, Virtual training includes all items in the Axon Air, On-Site Training Package, except the practical training session, with the Axon Instructor training for up to four hours virtually.

10. **Signal Sidearm Installation Service.**

    a. **Purchases of 50 SSA units or more:** Axon will provide one (1) day of on-site service and one professional services manager and will provide train the trainer instruction, with direct assistance on the first of each unique holster/mounting type. Customer is responsible for providing a suitable work/training area.

    b. **Purchases of less than 50 SSA units:** Axon will provide a 1-hour virtual instruction session on the basics of installation and device calibration.

11. **Axon Justice Implementation.** Axon Justice Implementation includes advanced remote project planning, configuration support, and training. Axon Justice Implementation includes:

System set up and configuration • Axon performs discovery to understand and document the Agency's needs. • Axon collaborates with the Client to configure workflows, permissions, and privileges within Axon Evidence based on the Client's needs. • Axon will facilitate a workflow discussion with the core admin team.

Disclosures • Axon enables the Client to share digital evidence to the defense through the following methods as determined by Client and Axon: 1. Public Defender Case Sharing 2. Disclosure Portal 3. Download Links
Training • Agency Trainers. Axon works with the Agency to identify the Agency trainers receiving instruction on the product. Axon provides a training guide that outlines the covered topics, intended audience, facility needs, and duration of the training. Axon will schedule a cadence of remote training sessions as needed, which are not to exceed three (3) 2-hour training sessions for Agency staff. Each session can accommodate up to 20 users and will train them in full system functionality. Training sessions provided by Axon are conducted on consecutive weekdays (Tuesday-Thursday) during normal business hours (9am-6pm with an hour break in between sessions). After the initial training, is responsible for any future training. Axon provides all training materials for successful training. • Partner Agencies: Axon will provide Train the Trainer training to the Agency so that it is equipped to train and support their partner agencies. Ensuring the partner agencies are trained to follow the ingestion method is the Agency's responsibility.
Go-Live Plan • Axon works in partnership with the Agency to build, coordinate, and execute a Go-Live plan to ensure successful system acceptance. Axon coordinates the Go-Live event.
Implementation document packet • Axon Evidence administrator guides, camera implementation guides, network setup guide, sample policies, and categories & roles guide
Post go-live review

12. **Out of Scope Services.** Axon is only responsible to perform the professional services described in the Quote, this Appendix, the Agreement, and any applicable SOW. Any additional professional services are out of scope. The Parties must document scope changes in a written and signed change order. Changes may require an equitable adjustment in the charges or schedule.

13. **Delivery of Services.** Axon personnel will work Monday through Friday, 8:30 a.m. to 5:30 p.m., except holidays. Axon will perform all on-site tasks over a consecutive timeframe. Axon will not charge Customer travel time by Axon personnel to Customer premises or meal expenses as work hours.

14. **Access Computer Systems to Perform Services.** Customer authorizes Axon to access relevant Customer computers and networks, solely for performing the Services. Axon will work to identify as soon as reasonably practicable resources and information Axon expects to use and will provide an initial itemized list to Customer. Customer is responsible for and assumes the risk of any problems, delays, losses, claims, or expenses resulting from the content, accuracy, completeness, and consistency of all data, materials, and information supplied by Customer.

15. **Site Preparation.** Axon will provide a hardcopy or digital copy of current user documentation for the Axon Devices ("**User Documentation**"). User Documentation will include all required environmental specifications for the professional services and Axon Devices to operate per the Axon Device User Documentation. Before installation of Axon Devices (whether performed by Customer or Axon), Customer must prepare the location(s) where Axon Devices are to be installed ("**Installation Site**") per the environmental specifications in the Axon Device User Documentation. Following installation, Customer must maintain the Installation Site per the environmental specifications. If Axon modifies Axon Device User Documentation for any Axon Devices under this Agreement, Axon will provide the update to Customer when Axon generally releases it.

    15.1 Additional Trainings. If the Customer purchases a training voucher, Customer must use the voucher within one (1) year of issuance, or the voucher will be void. The voucher has no cash value. Customer cannot exchange it for another device or service. Unless stated in the Quote, the voucher does not include travel expenses and will be Customer responsibility.

16. **Acceptance.** When Axon completes professional services, Axon will present an acceptance form ("**Acceptance Form**") to Customer. Customer will sign the Acceptance Form acknowledging completion if Customer reasonably believes Axon completed the professional services in substantial conformance with the Agreement. If Customer

reasonably believes Axon did not complete the professional services in substantial conformance with the Agreement, Customer must notify Axon in writing of the specific reasons for rejection within seven (14) calendar days from delivery of the Acceptance Form. Axon will address the issues and re-present the Acceptance Form for signature. If Axon does not receive the signed Acceptance Form or written notification of reasons for rejection within seven (14) calendar days of delivery of the Acceptance Form, the professional services will be deemed accepted by Customer.

17. **Customer Network.** For work performed by Axon transiting or making use of Customer's network, Customer is solely responsible for maintenance and functionality of the network. In no event will Axon be liable for loss, damage, or corruption of Customer's network from any cause unless the loss, damage, or corruption of Customer's network is directly caused by Axon's misconduct or gross negligence.

Technology Assurance Plan Appendix

If Technology Assurance Plan ("**TAP**") or a combined offering including TAP is on the Quote, this appendix applies.

1. **Officer Safety Plan.** If Customer purchases an Officer Safety Plan ("**OSP**"), Customer will receive the deliverables detailed in the Quote. Customer must accept delivery of the TASER CEW and accessories as soon as available from Axon

2. **OSP 7 or OSP 10 Term.** OSP 7 or OSP 10 begins on the date specified in the Quote ("**OSP Term**").

3. **TAP Refresh.** If Customer has no outstanding payment obligations and purchased TAP, Axon will provide Customer a new Axon Device ("**Device Refresh**") as scheduled in the Quote. If Customer purchased TAP, Axon will provide a Device Refresh that is the same or like Axon Device, at Axon's option. Axon makes no guarantee the Device Refresh will utilize the same accessories or Axon Dock.

4. **Dedrone Refresh**. Under the Dedrone Refresh Program ("Program"), you will receive replacement hardware for each covered product purchased under the Program. The replacement hardware will be the same model as, or a comparable model to, the original. The Program does not require Axon to provide next-generation or upgraded versions. You are not required to return the original hardware upon receipt of the replacement.

5. **TAP Dock Refresh.** If Customer has no outstanding payment obligations and purchased TAP, Axon will provide Customer a new Axon Dock, if required for an Axon Device, as scheduled in the Quote ("**Dock Refresh**"). Accessories associated with any Dock Refreshes are subject to change at Axon discretion. Dock Refreshes will only include a new Axon Dock Bay configuration unless a new Axon Dock core is required for Axon Device compatibility. If Customer originally purchased a single-bay Axon Dock, the Dock Refresh will be a single-bay Axon Dock model that is the same or like Axon Device, at Axon's option. If Customer originally purchased a multi-bay Axon Dock, the Dock Refresh will be a multi-bay Axon Dock that is the same or like Axon Device, at Axon's option.

6. **Refresh Delay.** Axon may ship the Axon Device and Dock Refreshes as scheduled in the Quote without prior confirmation from Customer unless the Parties agree in writing otherwise at least ninety (90) days in advance. Axon may ship the final Axon Device and Dock Refreshes as scheduled in the Quote sixty (60) days before the end of the Subscription Term without prior confirmation from Customer.

7. **Upgrade Change.** If Customer wants to upgrade Axon Device models from the current Axon Device to an upgraded Axon Device, Customer must pay the price difference between the MSRP for the current Axon Device and the MSRP for the upgraded Axon Device. If the model Customer desires has an MSRP less than the MSRP of the offered Axon Device Refreshes or Dock Refresh, Axon will not provide a refund. The MSRP is the MSRP in effect at the time of the upgrade. For Dedrone devices Axon does not guarantee that next-gen products will be available at the time of refresh.

8. **Return of Original Axon Device.** Except for any Dedrone devices, within thirty (30) days of receiving a Deviceor Dock Refresh, Customer must return the original Axon Devices to Axon or destroy the Axon Devices and provide a certificate of destruction to Axon including serial numbers for the destroyed Axon Devices. If Customer does not return or destroy the Axon Devices, Axon will deactivate the serial numbers for the Axon Devices received by Customer. For Dedrone hardware, the Customer has no obligation to return or destroy the hardware under the TAP program.

9. **Termination.** If TAP or OSP terminates or expires:

   9.1. TAP and OSP coverage terminate as of the date of termination and no refunds will be given.

   9.2. Axon will not and has no obligation to provide the Upgrade Models.

   9.3 Customer must make any missed payments due to the termination before Customer may purchase any future TAP or OSP.

TASER Device Appendix

This TASER Device Appendix applies to Customer's TASER 7, TASER 10, OSP 7, OSP 10, OSP Plus, OSP 7 Plus Premium OSP 10 Plus Premium and the TASER component of any TASER mounted drones purchased from Axon, if applicable.

1. **Duty Cartridge Replenishment Plan.** If the Quote includes "**Duty Cartridge Replenishment Plan**", Customer must purchase the plan for each CEW user. A CEW user includes officers that use a CEW in the line of duty and those that only use a CEW for training. Customer may not resell cartridges received. Axon will only replace cartridges used in the line of duty.

2. **Training.** If the Quote includes a TASER On Demand Certification subscription, Customer will have on-demand access to TASER Instructor and TASER Master Instructor courses only for the duration of the TASER Subscription Term. Axon will issue a maximum of ten (10) TASER Instructor vouchers and ten (10) TASER Master Instructor vouchers for every one thousand TASER Subscriptions purchased. Customer shall utilize vouchers to register for TASER courses at their discretion; however, Customer may incur a fee for cancellations less than 10 business days prior to a course date or failure to appear to a registered course. The voucher has no cash value. Customer cannot exchange voucher for any other Device or Service. Any unused vouchers at the end of the Term will be forfeited. A voucher does not include any travel or other expenses that might be incurred related to attending a course.

3. **Limited Warranty.**

   3.1. **"Deployment**" means use of the TASER weapon resulting in the discharge of the conducted energy weapon ("**CEW**") cartridge probe. For TASER 10 each probe discharged is consider one Deployment and for TASER 7 the dual probe discharged is considered one Deployment.

   3.2. **Single User Warranty.** If the TASER Device is assigned and used by a single user, Axon warrants that Axon-manufactured TASER Device is free from defects in workmanship and materials for the earlier of: one (1) year from the date of Customer's receipt or 100.

   3.3. **Pooled User Warranty.** If the TASER Device is assigned and used by multiple users, Axon warrants that Axon-manufactured TASER Device is free from defects in workmanship and materials for the earlier of: one (1) year from the date of Customer's receipt or, 100 Deployments.

   3.4. **Training User Devices.** If the TASER Device is used for training, Axon warrants that Axon-manufactured TASER Device is free from defects in workmanship and materials for the earlier of: one (1) year from the date of Customer's receipt or 100 Deployments.

   3.5. **TASER 10L Devices.** If the TASER Device is a TASER 10L (TASER 10 Light) as defined in the Quote, Axon warrants that the TASER Device is free from defects in workmanship and materials for the earlier of one (1) year from the date of Customer's receipt or 100 Deployments.

   3.6. **CEW Cartridges.** Used CEW cartridges are deemed to have operated properly.

   3.7. **Remaining Terms.** The remaining Warranty terms of the Agreement including Disclaimer, Claims, Spare Axon Devices and Limitations shall apply to this TASER Device Appendix.

   3.8. **Registration.** Prior to use of the TASER Device, Customer must register each TASER Device in TASER Device Axon Evidence tenancy as a single user, pooled or training device. Failure to properly register the TASER Device prior to its use may void the warranty at Axon's sole discretion.

4. **Extended Warranty.** If the Quote includes an extended warranty, the extended warranty coverage period begins upon the expiration of the Limited Warranty and continues for the period defined in the Quote. Each additional year of warranty purchased will be in accordance with the applicable Limited Warranty category above. The maximum warranty period that may be purchased for an individual TASER Device will be the earlier of five (5) years or 500 Deployments, this includes the Limited Warranty. Limited Warranty. Reduced Life TASER 10L device has a maximum warranty that may be purchased will be the earlier of two (2) years or 200 including the Limited Warranty.

5. **Upgrade Change.** If Customer wants to upgrade TASER Device from the current TASER Device to an upgraded Axon TASER Device that was not available at the time the parties entered into the original Quote, Customer must pay the price difference between the MSRP for the current TASER Device and the MSRP for the upgraded TASER Device. If the model Customer desires has an MSRP less than the MSRP of the offered new TASER Device, Axon will not provide a refund. The MSRP is the MSRP in effect at the time of the upgrade.

6. **Trade-in.** If the Quote contains a discount on CEW-related line items and that discount is contingent upon the trade-

in of hardware, Customer must return used hardware and accessories associated with the discount ("**Trade-In Units**") to Axon within the below prescribed timeline. Customer must ship batteries via ground shipping. Axon will provide Customer with a pre-paid shipping label for the return of the Trade-In Units. If Axon does not receive Trade-In Units within the timeframe below, Axon will invoice Customer the value of the trade-in credit. Customer may not destroy Trade-In Units and receive a trade-in credit.

Customer Size	**Days to Return from Start Date of TASER 10 Subscription**
Less than 100 officers	60 days
100 to 499 officers	90 days
500+ officers	180 days

7. **Customer Warranty.** If Customer is located in the US, Customer warrants and acknowledges that TASER 10 is classified as a firearm and is being acquired for official Customer use pursuant to a law enforcement agency transfer under the Gun Control Act of 1968.
8. **Purchase Order.** To comply with applicable laws and regulations, Customer must provide a purchase order to Axon prior to shipment of TASER 10.
9. **Apollo Grant (US only).** If Customer has received an Apollo Grant from Axon, Customer must pay all fees in the Quote prior to upgrading to any new TASER Device offered by Axon.
10. **Termination**. If payment for TASER Device is more than thirty (30) days past due, Axon may terminate Customer's TASER Device plan by notifying Customer. Upon termination for any reason, then as of the date of termination:

    10.1. TASER Device extended warranties and access to Training Content will terminate. No refunds will be given.

    10.2. Customer will be responsible for payment of any missed payments due to the termination before being allowed to purchase any future TASER Device plan.

    10.3. Axon will invoice Customer the remaining MSRP for TASER Devices received before termination. If terminating for non-appropriation, Axon will not invoice Customer if Customer returns the TASER Device, rechargeable battery, holster, dock, core, training suits, and unused cartridges to Axon within thirty (30) days of the date of termination.

Axon Auto-Tagging Appendix

If Auto-Tagging is included on the Quote, this Appendix applies.

1. **Scope.** Axon Auto-Tagging consists of the development of a module to allow Axon Evidence to interact with Customer's Computer-Aided Dispatch ("**CAD**") or Records Management Systems ("**RMS**"). This allows End Users to auto-populate Axon video meta-data with a case ID, category, and location-based on data maintained in Customer's CAD or RMS.

2. **Support.** For thirty (30) days after completing Auto-Tagging Services, Axon will provide up to five (5) hours of remote support at no additional charge. Axon will provide free support due to a change in Axon Evidence, if Customer maintains an Axon Evidence and Auto-Tagging subscription. Axon will not provide support if a change is required because Customer changes its CAD or RMS.

3. **Changes.** Axon is only responsible to perform the Services in this Appendix for Auto-Tagging and any applicable SOW. Any additional Services are out of scope. The Parties must document scope changes in a written and signed change order. Changes may require an equitable adjustment in fees or schedule.

4. **Customer Responsibilities.** Axon's performance of Auto-Tagging Services requires Customer to:

   4.1. Make available relevant systems, including Customer's current CAD or RMS, for assessment by Axon (including remote access if possible);

   4.2. Make required modifications, upgrades or alterations to Customer's hardware, facilities, systems and networks related to Axon's performance of Auto-Tagging Services;

   4.3. Provide access to the premises where Axon is performing Auto-Tagging Services, subject to Customer safety and security restrictions, and allow Axon to enter and exit the premises with laptops and materials needed to perform Auto-Tagging Services;

   4.4. Provide all infrastructure and software information (TCP/IP addresses, node names, network configuration) necessary for Axon to provide Auto-Tagging Services;

   4.5. Promptly install and implement any software updates provided by Axon;

   4.6. Ensure that all appropriate data backups are performed;

   4.7. Provide assistance, participation, and approvals in testing Auto-Tagging Services;

   4.8. Provide Axon with remote access to Customer's Axon Evidence account when required;

   4.9. Notify Axon of any network or machine maintenance that may impact the performance of the module at Customer; and

   4.10. Ensure reasonable availability of knowledgeable staff and personnel to provide timely, accurate, complete, and up-to-date documentation and information to Axon.

5. **Access to Systems.** Customer authorizes Axon to access Customer's relevant computers, network systems, and CAD or RMS solely for performing Auto-Tagging Services. Axon will work diligently to identify the resources and information Axon expects to use and will provide an initial list to Customer. Customer is responsible for and assumes the risk of any problems, delays, losses, claims, or expenses resulting from the content, accuracy, completeness, and consistency of all data, materials, and information supplied by Customer.

Axon ALPR Appendix

If Axon Fleet 2, Axon Fleet 3, or any future generation of Axon Fleet (collectively, "**Axon Fleet**") or Axon Outpost or Axon Lightpost (collectively all "ALPR Products") is included on the Quote, this Appendix applies.

2. **Customer Responsibilities.**

   2.1. Customer must ensure its infrastructure and vehicles adhere to the minimum requirements to operate Axon ALPR Products as established by Axon during the qualifier call and on-site assessment at Customer and in any technical qualifying questions. If Customer's representations are inaccurate, the Quote is subject to change.

   2.2. Customer is responsible for providing a suitable work area for Axon or Axon third-party providers to install Axon ALPR Products into Customer vehicles and/or at designated installation location(s).s Customer is responsible for making available all vehicles for which installation services were purchased and preparing all installation sites, during the agreed upon onsite installation dates, Failure to make vehicles available or prepare installation sites may require an equitable adjustment in fees or schedule

3. **Third-party Installer.** Axon will not be liable for the failure of Axon Fleet, Axon Outpost, or Axon Lightpost hardware to operate per specifications if such failure results from installation not performed by, or as directed by Axon.

4. **Axon Fleet Specific Terms.**

   4.1. **Cradlepoint.** If Customer purchases Cradlepoint hardware, software, or services, Customer will comply with Cradlepoint's end user license agreement. The term of the Cradlepoint license may differ from the Axon Evidence Subscription. If Customer requires Cradlepoint support, Customer will contact Cradlepoint directly. By accepting a Quote including Cradlepoint products, Customer designates and authorizes Axon as its partner of record for purposes of Cradlepoint product renewals, support coordination, and other relevant functions. This designation applies to all Cradlepoint products acquired by Customer during the Subscription Term of the applicable Quote whether directly from Cradlepoint, through Axon, or through any third-party vendor or distributor. Axon shall have no liability to Customer or any third party arising out of or relating to Axon's acts or omissions as the Partner of Record. Customer has the right to opt out of this authorization at any time by providing prior written notification to both Axon and Cradlepoint. Upon such notification, the designation will be removed. This authorization remains effective until formally removed in accordance with this section or as otherwise agreed between the parties in the Agreement.

   4.2. **Axon Vehicle Software License.** Axon grants Customer a non-exclusive, royalty-free, worldwide, perpetual license to use ViewXL or Dashboard (collectively, "Axon Vehicle Software".) "Use" means storing, loading, installing, or executing Axon Vehicle Software solely for data communication with Axon Devices. The Axon Vehicle Software term begins upon the start of the Axon Evidence Subscription

   4.3. **Restrictions.** Customer may not: (a) modify, alter, tamper with, repair, or create derivative works of Axon Vehicle Software; (b) reverse engineer, disassemble, or decompile Axon Vehicle Software, apply any process to derive the source code of Axon Vehicle Software, or allow others to do so; (c) access or use Axon Vehicle Software to avoid incurring fees or exceeding usage limits; (d) copy Axon Vehicle Software in whole or part; (e) use trade secret information contained in Axon Vehicle Software; (f) resell, rent, loan or sublicense Axon Vehicle Software; (g) access Axon Vehicle Software to build a competitive device or service or copy any features, functions or graphics of Axon Vehicle Software; or (h) remove, alter or obscure any confidentiality or proprietary rights notices (including copyright and trademark notices) of Axon or Axon's licensors on or within Axon Vehicle Software.

5. **Axon Outpost Specific Terms.**

   5.1. **Outpost License and Permits**. Customers will obtain, maintain all legally required permits, authorizations, and/or licensing in order to place, maintain, and/or remove the Axon Outpost device at the installation location including licenses or permits for fixed installation of poles. If mutually agreed by the parties, Axon or an Axon authorized subcontractor may assist with obtaining the necessary local, state, or Federal approvals before installing Axon Outpost.

   5.2. **Installation.** Customer will adhere to the installation requirements as agreed in the Outpost SOW.

   5.3. **Vandalism or Motor Vehicle Accident Warranty**. If Customer purchases the Vandalism and Accident warranty, Axon will provide up to two (2) replacements per warranty purchased if your Outpost is damaged due to vandalism or a motor vehicle accident. Axon will make a commercially reasonable effort to provide new

installation free of charge, but installation may require additional cost. Axon does not provide refunds or credits if the warranty is not used during the Term of the Quote.

6. **Axon Lightpost Specific Terms.**

6.1. **Ubicquia.** If Customer purchases Lightpost hardware and installation services, any warranties for the hardware are provided exclusively by the third-party manufacturer Ubicquia. All hardware-related support or warranty claims must be directed to the respective third-party provider. Axon is not responsible for servicing or replacing hardware. Axon will provide and support software components in accordance with the applicable Quote.

6.2. **Installation.** Installation of Axon Lightpost equipment will be performed by a third-party service provider authorized by Axon. Axon does not directly perform installation services.

6.3. **Power.** Customer agrees to supply a power source, in compliance with Lightpost requirements, at each site where a Lightpost device is installed. The power must be available on a 24-hour, 7 days per week (24/7) basis.

7. **Wireless Offload Server**

7.1 **License Grant.** Axon grants Customer a non-exclusive, royalty-free, worldwide, perpetual license to use Wireless Offload Server ("**WOS**"). "Use" means storing, loading, installing, or executing WOS solely for data communication with Axon Devices for the number of licenses purchased. The WOS term begins upon the start of the Axon Evidence Subscription.

7.2 **Restrictions.** Customer may not: (a) modify, alter, tamper with, repair, or create derivative works of WOS; (b) reverse engineer, disassemble, or decompile WOS, apply any process to derive the source code of WOS, or allow others to do so; (c) access or use WOS to avoid incurring fees or exceeding usage limits; (d) copy WOS in whole or part; (e) use trade secret information contained in WOS; (f) resell, rent, loan or sublicense WOS; (g) access WOS to build a competitive device or service or copy any features, functions or graphics of WOS; or (h) remove, alter or obscure any confidentiality or proprietary rights notices (including copyright and trademark notices) of Axon or Axon's licensors on or within WOS.

7.3 **Updates.** If Customer purchases WOS maintenance, Axon will make updates and error corrections to WOS ("**WOS Updates**") available electronically via the Internet or media as determined by Axon. Customer is responsible for establishing and maintaining adequate Internet access to receive WOS Updates and maintaining computer equipment necessary for use of WOS. The Quote will detail the maintenance term.

7.4 **WOS Support.** Upon request by Axon, Customer will provide Axon with access to Customer's store and forward servers solely for troubleshooting and maintenance.

8. **Acceptance Checklist.** If Axon provides Services to Customer pursuant to any statement of work in connection with Axon ALPR Products, within seven (7) days of the date on which Customer retrieves Customer's vehicle(s) from the Axon installer or Axon Outpost or Axon Lightpost installation is complete, said ALPR Products having been installed and configured with tested and fully and properly operational hardware and software identified above, Customer will receive a Professional Services Acceptance Checklist to submit to Axon indicating acceptance or denial of said deliverables. In the event Customer does not respond to the Professional Services Acceptance Checklist within seven (7) business days, the installation of the ALPR Products and services shall be deemed accepted.

Axon Respond Appendix

This Axon Respond Appendix applies to Axon Respond, Axon Respond Device Plus, and Device Connectivity if any are included on the Quote.

1. **Axon Respond Subscription Term.** If Customer purchases Axon Respond as part of a combined offering on a Quote, the Axon Respond subscription begins on the later of the (1) start date of that offering within the Quote, or (2) date Axon provisions Axon Respond to Customer. If Customer purchases Axon Respond as a standalone, the Axon Respond subscription begins the later of the (1) date Axon provisions Axon Respond to Customer, or (2) first day of the month following the Effective Date. The Axon Respond subscription term will end upon the completion of the Axon Evidence Subscription associated with Axon Respond.

2. **Scope of Axon Respond.** The scope of Axon Respond is to assist Customer with real-time situational awareness during critical incidents to improve officer safety, effectiveness, and awareness. In the event Customer uses Axon Respond outside this scope, Axon may initiate good-faith discussions with Customer on upgrading Customer's Axon Respond to better meet Customer's needs.

3. **Axon Body LTE Requirements.** Axon Respond is only available and usable with an LTE enabled body-worn camera. Axon is not liable if Customer utilizes the LTE device outside of the coverage area or if the LTE carrier is unavailable. LTE coverage is available in the United States including U.S. territories, Additional verification will be required for use in select international regions. Axon may utilize a carrier of Axon's choice to provide LTE service. Axon may change LTE carriers during the Term without Customer's consent.

4. **Axon Fleet LTE Requirements.** Axon Respond is only available and usable with a Fleet 3 system configured with LTE modem and service. Customer is responsible for providing LTE service for the modem. Coverage and availability of LTE service is subject to Customer's LTE carrier.

5. **Axon Respond Service Limitations.** Customer acknowledges that LTE service is made available only within the operating range of the networks. Service may be temporarily refused, interrupted, or limited because of: (a) facilities limitations; (b) transmission limitations caused by atmospheric, terrain, other natural or artificial conditions adversely affecting transmission, weak batteries, system overcapacity, movement outside a service area or gaps in coverage in a service area, and other causes reasonably outside of the carrier's control such as intentional or negligent acts of third parties that damage or impair the network or disrupt service; or (c) equipment modifications, upgrades, relocations, repairs, and other similar activities necessary for the proper or improved operation of service.

   5.1. With regard to Axon Body, Partner networks are made available as-is and the carrier makes no warranties or representations as to the availability or quality of roaming service provided by carrier partners, and the carrier will not be liable in any capacity for any errors, outages, or failures of carrier partner networks. Customer expressly understands and agrees that it has no contractual relationship whatsoever with the underlying wireless service provider or its affiliates or contractors and Customer is not a third-party beneficiary of any agreement between Axon and the underlying carrier.

6. **Termination.** Upon termination of this Agreement, or if Customer stops paying for Axon Respond or combined offerings that include Axon Respond, Axon will end Axon Respond services, including any Axon-provided LTE service.

Axon Virtual Reality Content Terms of Use Appendix

If Virtual Reality is included on the Quote, this Appendix applies.

1. **Term.** The Quote will detail the products and license duration, as applicable, of the goods, services, and software, and contents thereof, provided by Axon to Customer related to virtual reality (collectively, "**Virtual Reality Media**").

2. **Headsets.** Customer may purchase additional virtual reality headsets from Axon. In the event Customer decides to purchase additional virtual reality headsets for use with Virtual Reality Media, Customer must purchase those headsets from Axon.

3. **License Restrictions.** All licenses will immediately terminate if Customer does not comply with any term of this Agreement. If Customer utilizes more users than stated in this Agreement, Customer must purchase additional Virtual Reality Media licenses from Axon. Customer may not use Virtual Reality Media for any purpose other than as expressly permitted by this Agreement. Customer may not:

   3.1. modify, tamper with, repair, or otherwise create derivative works of Virtual Reality Media;

   3.2. reverse engineer, disassemble, or decompile Virtual Reality Media or apply any process to derive the source code of Virtual Reality Media, or allow others to do the same;

   3.3. copy Virtual Reality Media in whole or part, except as expressly permitted in this Agreement;

   3.4. use trade secret information contained in Virtual Reality Media;

   3.5. resell, rent, loan or sublicense Virtual Reality Media;

   3.6. access Virtual Reality Media to build a competitive device or service or copy any features, functions, or graphics of Virtual Reality Media; or

   3.7. remove, alter, or obscure any confidentiality or proprietary rights notices (including copyright and trademark notices) of Axon or Axon's licensors on or within Virtual Reality Media or any copies of Virtual Reality Media.

4. **Privacy.** Customer's use of the Virtual Reality Media is subject to the Axon Virtual Reality Privacy Policy, a current version of which is available at https://www.axon.com/axonvrprivacypolicy.

5. **Termination.** Axon may terminate Customer's license immediately for Customer's failure to comply with any of the terms in this Agreement.

Axon Application Programming Interface Appendix

This Appendix applies if Axon's API Services or a subscription to Axon Cloud Services are included on the Quote.

1. **Definitions.**

   1.1. "**API Client**" means the software that acts as the interface between Customer's computer and the server, which is already developed or to be developed by Customer.

   1.2. "**API Interface**" means software implemented by Customer to configure Customer's independent API Client Software to operate in conjunction with the API Service for Customer's authorized Use.

   1.3. "**Axon Evidence Partner API, API or Axon API**" (collectively "**API Service**") means Axon's API which provides a programmatic means to access data in Customer's Axon Evidence account or integrate Customer's Axon Evidence account with other systems.

   1.4. "**Use**" means any operation on Customer's data enabled by the supported API functionality.

2. **Purpose and License.**

   2.1. Customer may use API Service and data made available through API Service, in connection with an API Client developed by Customer. Axon may monitor Customer's use of API Service to ensure quality, improve Axon devices and services, and verify compliance with this Agreement. Customer agrees to not interfere with such monitoring or obscure from Axon Customer's use of API Service. Customer will not use API Service for commercial use.

   2.2. Axon grants Customer a non-exclusive, non-transferable, non-sublicensable, worldwide, revocable right and license during the Term to use API Service, solely for Customer's Use in connection with Customer's API Client.

   2.3. Axon reserves the right to set limitations on Customer's use of the API Service, such as a quota on operations, to ensure stability and availability of Axon's API. Axon will use reasonable efforts to accommodate use beyond the designated limits.

3. **Configuration.** Customer will work independently to configure Customer's API Client with API Service for Customer's applicable Use. Customer will be required to provide certain information (such as identification or contact details) as part of the registration. Registration information provided to Axon must be accurate. Customer will inform Axon promptly of any updates. Upon Customer's registration, Axon will provide documentation outlining API Service information.

4. **Customer Responsibilities.** When using API Service, Customer and its End Users shall not:

   4.1. use API Service in any way other than as expressly permitted under this Agreement;

   4.2. use in any way that results in, or could result in, any security breach to Axon;

   4.3. perform an action with the intent of introducing any virus, worm, defect, Trojan horse, malware, or any item of a destructive nature to Axon Devices and Services;

   4.4. interfere with, modify, disrupt or disable features or functionality of API Service or the servers or networks providing API Service;

   4.5. reverse engineer, decompile, disassemble, or translate or attempt to extract the source code from API Service or any related software;

   4.6. create an API Interface that functions substantially the same as API Service and offer it for use by third parties;

   4.7. provide use of API Service on a service bureau, rental or managed services basis or permit other individuals or entities to create links to API Service;

   4.8. frame or mirror API Service on any other server, or wireless or Internet-based device;

   4.9. make available to a third-party, any token, key, password or other login credentials to API Service;

   4.10. take any action or inaction resulting in illegal, unauthorized or improper purposes; or

   4.11. disclose Axon's API manual except to those employees within the City of Arvada.

5. **API Content.** All content related to API Service, other than Customer Content or Customer's API Client content, is considered Axon's API Content, including:

5.1. the design, structure and naming of API Service fields in all responses and requests;

5.2. the resources available within API Service for which Customer takes actions on, such as evidence, cases, users, or reports;

5.3. the structure of and relationship of API Service resources; and

5.4. the design of API Service, in any part or as a whole.

6. **Prohibitions on API Content.** Neither Customer nor its End Users will use API content returned from the API Interface to:

6.1. scrape, build databases, or otherwise create permanent copies of such content, or keep cached copies longer than permitted by the cache header;

6.2. copy, translate, modify, create a derivative work of, sell, lease, lend, convey, distribute, publicly display, or sublicense to any third-party;

6.3. misrepresent the source or ownership; or

6.4. remove, alter, or obscure any confidentiality or proprietary rights notices (including copyright and trademark notices).

7. **API Updates.** Axon may update or modify the API Service from time to time ("**API Update**"). Customer is required to implement and use the most current version of API Service and to make any applicable changes to Customer's API Client required as a result of such API Update. API Updates may adversely affect how Customer's API Client access or communicate with API Service or the API Interface. Each API Client must contain means for Customer to update API Client to the most current version of API Service. Axon will provide support for one (1) year following the release of an API Update for all depreciated API Service versions.

Axon Investigate Appendix

If the Quote includes Axon's On Prem Video Suite known as Axon Investigate or Third-Party Video Support License, the following appendix shall apply.

1. **License Grant.** Subject to the terms and conditions specified below and upon payment of the applicable fees set forth in the Quote, Axon grants to Customer a nonexclusive, nontransferable license to install, use, and display the Axon Investigate software ("**Software**") solely for its own internal use only and for no other purpose, for the duration of subscription term set forth in the Quote. This Agreement does not grant Customer any right to enhancements or updates, but if such are made available to Customer and obtained by Customer, they shall become part of the Software and governed by the terms of this Agreement.

2. **Third-Party Licenses.** Axon licenses several third-party codecs and applications that are integrated into the Software. Users with an active support contract with Axon are granted access to these additional features. By accepting this agreement, Customer agrees to and understands that an active support contract is required for all of the following features: DNxHD output formats, decoding files via the "fast indexing" method, proprietary file metadata, telephone and email support, and all future updates to the software. If Customer terminates the annual support contract with Axon, the features listed above will be disabled within the Software. It is recommended that users remain on an active support contract to maintain the full functionality of the Software.

3. **Restrictions on Use.** Customer may not permit any other person to use the Software unless such use is in accordance with the terms of this Agreement. Customer may not modify, translate, reverse engineer, reverse compile, decompile, disassemble or create derivative works with respect to the Software, except to the extent applicable laws specifically prohibit such restrictions. Customer may not rent, lease, sublicense, grant a security interest in or otherwise transfer Customer's rights to or to use the Software. Any rights not granted are reserved to Axon.

4. **Title.** Axon and its licensors shall have sole and exclusive ownership of all right, title, and interest in and to the Software and all changes, modifications, and enhancements thereof (including ownership of all trade secrets and copyrights pertaining thereto), regardless of the form or media in which the original or copies may exist, subject only to the rights and privileges expressly granted by Axon. This Agreement does not provide Customer with title or ownership of the Software, but only a right of limited use.

5. **Copies.** The Software is copyrighted under the laws of the United States and international treaty provisions. Customer may not copy the Software except for backup or archival purposes, and all such copies shall contain all Axon's notices regarding proprietary rights as contained in the Software as originally provided to Customer. If Customer receives one copy electronically and another copy on media, the copy on media may be used only for archival purposes and this license does not authorize Customer to use the copy of media on an additional server.

6. **Actions Required Upon Termination.** Upon termination of the license associated with this Agreement, Customer agrees to destroy all copies of the Software and other text and/or graphical documentation, whether in electronic or printed format, that describe the features, functions and operation of the Software that are provided by Axon to Customer ("**Software Documentation**") or return such copies to Axon. Regarding any copies of media containing regular backups of Customer's computer or computer system, Customer agrees not to access such media for the purpose of recovering the Software or online Software Documentation.

7. **Export Controls.** None of the Software, Software Documentation or underlying information may be downloaded or otherwise exported, directly or indirectly, without the prior written consent, if required, of the office of Export Administration of the United States, Department of Commerce, nor to any country to which the U.S. has embargoed goods, to any person on the U.S. Treasury Department's list of Specially Designated Nations, or the U.S. Department of Commerce's Table of Denials.

8. **U.S. Government Restricted Rights.** The Software and Software Documentation are Commercial Computer Software provided with Restricted Rights under Federal Acquisition Regulations and Customer supplements to them. Use, duplication or disclosure by the U.S. Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFAR 255.227-7013 et. Seq. or 252.211-7015, or subparagraphs (a) through (d) of the Commercial Computer Software Restricted Rights at FAR 52.227-19, as applicable, or similar clauses in the NASA FAR Supplement. Contractor/manufacturer is Axon Enterprise, Inc., 17800 North 85th Street, Scottsdale, Arizona 85255.

My90 Terms of Use Appendix

1. Definitions.

1.1. "**My90**" means Axon's proprietary platform and methodology to obtain and analyze feedback, and other related offerings, including, without limitation, interactions between My90 and Axon products.

1.2. "**Recipient Contact Information**" means contact information, as applicable, including phone number or email address (if available) of the individual whom Customer would like to obtain feedback.

1.3. "**Customer Data**" means

1.3.1. "My90 Customer Content" which means data, including Recipient Contact Information, provided to My90 directly by Customer or at their direction, or by permitting My90 to access or connect to an information system or similar technology. My90 Customer Content does not include My90 Non-Content Data.

1.3.2. "My90 Non-Content Data" which means data, configuration, and usage information about Customer's My90 tenant, and client software, users, and survey recipients that is Processed (as defined in Section 1.6 of this Appendix) when using My90 or responding to a My90 Survey. My90 Non-Content Data includes data about users and survey recipients captured during account management and customer support activities. My90 Non-Content Data does not include My90 Customer Content.

1.3.3. "Survey Response" which means survey recipients' response to My90 Survey.

1.4. "**My90 Data**" means

1.4.1. "My90 Survey" which means surveys, material(s) or content(s) made available by Axon to Customer and survey recipients within My90.

1.4.2. "Aggregated Survey Response" which means Survey Response that has been de-identified and aggregated or transformed so that it is no longer reasonably capable of being associated with, or could reasonably be linked directly or indirectly to, a particular individual.

1.5. "**Personal Data**" means any information relating to an identified or identifiable natural person. An identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural, or social identity of that natural person.

1.6. "**Processing**" means any operation or set of operations which is performed on data or on sets of data, whether or not by automated means, such as collection, recording, organization, structuring, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, restriction, erasure, or destruction.

1.7. "**Sensitive Personal Data**" means Personal Data that reveals an individual's health, racial or ethnic origin, sexual orientation, disability, religious or philosophical beliefs, or trade union membership.

2. **Access.** Upon Axon granting Customer a subscription to My90, Customer may access and use My90 to store and manage My90 Customer Content, and applicable My90 Surveys and Aggregated Survey Responses. This Appendix is subject to the Terms and Conditions of the Agreement or in the event you and Axon have entered into a prior agreement to govern all future purchases, that agreement shall govern.

3. **IP address.** Axon will not store survey respondents' IP address.

4. **Customer Owns My90 Customer Content.** Customer controls or owns all rights, titles, and interests in My90 Customer Content. Except as outlined herein, Axon obtains no interest in My90 Customer Content, and My90 Customer Content is not Axon's business records. Except as set forth in this Agreement, Customer is responsible for uploading, sharing, managing, and deleting My90 Customer Content. Axon will only have access to My90 Customer Content for the limited purposes set forth herein. Customer agrees to allow Axon access to My90 Customer Content to (a) perform troubleshooting, maintenance, or diagnostic screenings; and (b) enforce this Agreement or policies governing use of My90 and other Axon products.

5. **Details of the Processing.** The nature and purpose of the Processing under this Appendix are further specified in Schedule 1 Details of the Processing, to this Appendix.

6. **Security.** Axon will implement commercially reasonable and appropriate measures to secure Customer Data against accidental or unlawful loss, access, or disclosure. Axon will maintain a comprehensive information security program to protect Customer Data including logical, physical access, vulnerability, risk, and configuration management; incident monitoring and response; security education; and data protection. As to My90, Axon will not treat Customer Data in accordance with FBI CJIS Security Policy requirements and does not agree to the CJIS Security Addendum for this engagement or any other security or privacy related commitments that have been established between Axon and Customer, such as ISO 27001 certification or SOC 2 Reporting.

7. **Privacy.** Customer use of My90 is subject to the My90 Privacy Policy, a current version of which is available at https://www.axon.com/legal/my90privacypolicy. Customer agrees to allow Axon access to My90 Non-Content Data from Customer to (a) perform troubleshooting, maintenance, or diagnostic screenings; (b) provide, develop, improve, and support current and future Axon products including My90 and related services; and (c) enforce this Agreement or policies governing the use of My90 or other Axon products.

8. **Location of Storage.** Axon may transfer Customer Data to third-party subcontractors for Processing. Axon will determine the locations for Processing of Customer Data. For all Customers, Axon will Process and store Customer Data within the country in which Customer is located. Ownership of My90 Customer Content remains with Customer.

9. **Required Disclosures.** Axon will not disclose Customer Data that Customer shares with Axon except as compelled by a court or administrative body or required by any law or regulation. Axon will notify Customer if any disclosure request is received for Customer Data so Customer may file an objection with the court or administrative body, unless prohibited by law.

10. **Data Sharing.** Axon may share data only with entities that control or are controlled by or under common control of Axon, and as described below:

    10.1. Axon may share Customer Data with third parties it employs to perform tasks on Axon's behalf to provide products or services to Customer.

    10.2. Axon may share Aggregated Survey Response with third parties, such as other Axon customers, local city agencies, private companies, or members of the public that are seeking a way to collect analysis on general policing and community trends. Aggregated Survey Response will not be reasonably capable of being associated with or reasonably linked directly or indirectly to a particular individual.

11. **License and Intellectual Property.** Customer grants Axon, its affiliates, and assignees the irrevocable, perpetual, fully paid, royalty-free, and worldwide right and license to use Customer Data for internal use including but not limited to analysis and creation of derivatives. Axon may not release Customer Data to any third party under this right that is not aggregated and de-identified. Customer acknowledges that Customer will have no intellectual property right in any media, good or service developed or improved by Axon. Customer acknowledges that Axon may make any lawful use of My90 Data and any derivative of Customer Data including, without limitation, the right to monetize, redistribute, make modification of, and make derivatives of the surveys, survey responses and associated data, and Customer will have no intellectual property right in any good, service, media, or other product that uses My90 Data.

12. **Customer Use of Aggregated Survey Response.** Axon will make available to Customer Aggregated Survey Response and rights to use for any Customer purpose.

13. **Data Subject Rights.** Taking into account the nature of the Processing, Axon shall assist Customer by appropriate technical and organizational measures, insofar as this is reasonable, for the fulfilment of Customer's obligation to respond to a Data Subject Request regarding any Personal Data contained within My90 Customer Content. If in regard to My90 Customer Content, Axon receives a Data Subject Request from Customer's data subject to exercise one or more of its rights under applicable Data Protection Law, Axon will redirect the data subject within seventy-two (72) hours, to make its request directly to Customer. Customer will be responsible for responding to any such request.

14. **Assistance with Requests Related to My90 Customer Content.** With regard to the processing of My90 Customer Content, Axon shall, if not prohibited by applicable law, notify Customer without delay after receipt, if Axon: (a) receives a request for information from the Supervisory Authority or any other competent authority regarding My90 Customer Content; (b) receives a complaint or request from a third party regarding the obligations of Customer or Axon under applicable Data Protection Law; or (c) receives any other communication which directly or indirectly pertains to My90 Customer Content or the Processing or protection of My90 Customer Content. Axon shall not respond to such requests, complaints, or communications, unless Customer has given Axon written

instructions to that effect or if such is required under a statutory provision. In the latter case, prior to responding to the request, Axon shall notify Customer of the relevant statutory provision and Axon shall limit its response to what is necessary to comply with the request.

15. **Axon Evidence Partner Sharing.** If Axon Evidence partner sharing is used to share My90 Customer Content, Customer will manage the data sharing partnership with Axon and access to allow only for authorized data sharing with Axon. Customer acknowledges that any applicable audit trail on the original source data will not include activities and processing performed against the instances, copies or clips that has been shared with Axon. Customer also acknowledges that the retention policy from the original source data is not applied to any data shared with Axon. Except as provided herein, data shared with Axon may be retained indefinitely by Axon.
16. **Data Retention.** Phone numbers provided to Axon directly by Customer or at their direction, or by permitting My90 to access or connect to an information system or similar technology will be retained for twenty-four (24) hours. Axon will not delete Aggregated Survey Response for four (4) years following termination of this Agreement. There will be no functionality of My90 during these four (4) years other than the ability to submit a request to retrieve Aggregated Survey Response. Axon has no obligation to maintain or provide Aggregated Survey Response after these four years and may thereafter, unless legally prohibited, delete all Aggregated Survey Response.
17. **Termination.** Termination of an My90 Agreement will not result in the removal or modification of previously shared My90 Customer Content or the potential monetization of Survey Response and Aggregated Survey Response.
18. **Managing Data Shared.** Customer is responsible for:
    18.1. Ensuring My90 Customer Content is appropriate for use in My90. This includes, prior to sharing: (a) applying any and all required redactions, clipping, removal of metadata, logs, etc. and (b) coordination with applicable public disclosure officers and related legal teams;
    18.2. Ensuring that only My90 Customer Content that is authorized to be shared for the purposes outlined is shared with Axon. Customer will periodically monitor or audit this shared data;
    18.3. Using an appropriately secure data transfer mechanism to provide My90 Customer Content to Axon;
    18.4. Immediately notify Axon if My90 Customer Content that is not authorized for sharing has been shared. Axon may not be able to immediately retrieve or locate all instances, copies or clips of My90 Customer Content in the event Customer requests to un-share previously shared My90 Customer Content;
19. **Prior to enrollment in My90.** Prior to enrolling in My90, Customer will:
    19.1. determine how to use My90 in accordance with applicable laws and regulations including but not limited to consents, use of info or other legal considerations;
    19.2. develop a set of default qualification criteria of what My90 Customer Content may be shared with Axon; and
    19.3. assign responsibilities for managing what My90 Customer Content is shared with Axon and educate users on what data may or not be shared with Axon.
20. **Customer Responsibilities.** Customer is responsible for:
    20.1. ensuring no My90 Customer Content or Customer End User's use of My90 Customer Content or My90 violates this Agreement or applicable laws;
    20.2. providing, and will continue to provide, all notices and has obtained, and will continue to obtain, all consents and rights necessary under applicable laws for Axon to process Customer Data in accordance with this Agreement; and
    20.3. maintaining necessary computer equipment and Internet connections for use of My90. If Customer becomes aware of any violation of this Agreement by an End User, Customer will immediately terminate that End User's access to My90. Customer will also maintain the security of End User's usernames and passwords and security and access by End Users to My90 Customer Content. Customer is responsible for ensuring the configuration and utilization of My90 meets applicable Customer regulations and standards. Customer may not sell, transfer, or sublicense access to any other entity or person. Customer shall contact Axon immediately if an unauthorized party may be using Customer's account or My90 Customer Content or if account information is lost or stolen.

21. **Suspension.** Axon may temporarily suspend Customer's or any End User's right to access or use any portion or all of My90 immediately upon notice, if Customer or End User's use of or registration for My90 may (a) pose a security risk to Axon products including My90, or any third-party; (b) adversely impact My90, the systems, or content of any other customer; (c) subject Axon, Axon's affiliates, or any third-party to liability; or (d) be fraudulent. Customer remains responsible for all fees, if applicable, incurred through suspension. Axon will not delete My90 Customer Content or Aggregated Survey Response because of suspension, except as specified in this Agreement.

22. **My90 Restrictions.** Customer and Customer End Users, may not, or may not attempt to:

    22.1. copy, modify, tamper with, repair, or create derivative works of any part of My90;

    22.2. reverse engineer, disassemble, or decompile My90 or apply any process to derive any source code included in My90, or allow others to do the same;

    22.3. access or use My90 with the intent to gain unauthorized access, avoid incurring fees or exceeding usage limits or quotas;

    22.4. use trade secret information contained in My90, except as expressly permitted in this Agreement;

    22.5. access My90 to build a competitive product or service or copy any features, functions, or graphics of My90;

    22.6. remove, alter, or obscure any confidentiality or proprietary rights notices (including copyright and trademark notices) of Axon's or Axon's licensors on or within My90; or

    22.7. use My90 to store or transmit infringing, libelous, or other unlawful or tortious material; to store or transmit material in violation of third-party privacy rights; or to store or transmit malicious code.

Schedule 1- Details of the Processing

1. **Nature and Purpose of the Processing.** To help Customer obtain feedback from individuals, such as members of their community, staff, or officers. Features of My90 may include:

   1.1. Survey Tool where Customer may create, distribute, and analyze feedback from individuals it designates. Customer may designate members of the community, staff or officers from whom they would like to obtain feedback;

   1.2. Creation of custom forms for surveys. Customer may select questions from a list of pre-drafted questions or create their own;

   1.3. Distribution of survey via multiple distribution channels such as text message;

   1.4. Ability to access and analyze Survey Response. Axon may also provide Customer Aggregated Survey Responses which contain analysis and insights from the Survey Response;

   1.5. Direct integration into information systems including Computer Aided Dispatch ("**CAD**"). This will enable Customer to share contact information easily and quickly with Axon of any individuals from whom it wishes to obtain feedback, enabling Axon to communicate directly with these individuals;

   1.6. Data Dashboard Beta Test ("**Data Dashboard**") where Survey Response and Aggregated Survey Response will be displayed for Customer use. Customer will be able to analyze, interpret, and share results of the Survey Response. My90 may provide beta versions of the Data Dashboard that are specifically designed for Customer to test before they are publicly available;

   1.7. Survey Responses will be aggregated and de-identified and may be subsequently distributed and disclosed through various mediums to: (1) Customer; (2) other Axon Customers; (3) private companies; and (4) members of the public. The purpose of disclosure is to provide ongoing insights and comparisons on general policing and community trends. Prior to disclosing this information, Axon will ensure that the Survey Response has been de-identified and aggregated or transformed so that it is no longer reasonably capable of being associated with, or could reasonably be linked directly or indirectly to a particular individual; and

   1.8. Provide services and materials to engage Customer stakeholders, market the partnership to the public, and facilitate training.

Dedrone Product Appendix

If the Quote includes Dedrone Hardware, Dedrone Software, and/or Airspace Security as a Service (collectively, "Dedrone Products"), this Dedrone Product Appendix shall apply.

1. **Definitions.**

1.1 **"Dedrone Data"** means data that Axon maintains regarding a wide variety of drone models and manufacturers in the marketplace ("DedroneDNA", formerly "DroneDNA"), as well as usability information that Axon collects regarding the performance of the Dedrone Software and Dedrone Hardware, aggregate or de-identified Collected Data compiled or used by Axon in accordance with Section 4.2, and any other information that Axon makes available to Customer by means of the Dedrone Software

1.2 **"Dedrone Hardware**" means the Axon drone detection hardware sensor or mitigation products set forth on a Quote and does not include any Third-Party Hardware.

1.3 **"Sensor"** means a radio frequency, video, radar or other hardware sensor for drone detection purchased by Customer from Axon or obtained from any third-party vendor.

1.4 **"Dedrone Software**" means (i) Axon's proprietary drone-tracking software, known as DedroneTracker (formerly DroneTracker), whether deployed on-premise or hosted by Axon as a cloud-based solution, (ii) Axon's video analytics software (currently known as Analytics Server), and/or (iii) software and/or firmware deployed or installed on the Dedrone Hardware or available for download and installation onto Customer's Third-Party Hardware.

1.5 **"Third-Party Hardware"** means hardware products owned by Customer or purchased by Customer from third parties that are used by Customer in conjunction with the Software.

2. **Customer License.**

2.1 **Software License.** Subject to the terms of this Agreement, Axon grants Customer a royalty-free, nonexclusive, nontransferable, worldwide right during each Quote Term to use the Dedrone Software, including the Dedrone Data and Collected Data, subject to the terms of the Agreement and this Appendix (the "License"). Customer must purchase a License to the Software for each unit of Dedrone Hardware and/or Third-Party Hardware using Dedrone Software. Accordingly, Customer may only use the Software quantity and type of Hardware and/or Third-Party Hardware units specified on the applicable Quote. If Customer purchases additional Licenses during a current Term, the Term of the new License(s) will be pro-rated to terminate at the end of the then-current License Term. Use of the Dedrone Software is subject to the terms of the Agreement between the parties

2.2 **Restrictions.** Customer will not: (i) use (or allow a third party to use) the Dedrone Products in order to monitor the availability, security, performance, or functionality of the Dedrone Products, or for any other benchmarking or competitive purposes; (ii) market, sublicense, resell, lease, loan, transfer, or otherwise commercially exploit the Dedrone Products; (iii) modify, create derivative works, decompile, reverse engineer, attempt to gain access to the source code, or copy the Dedrone Products or any of their components; (iv) use the Dedrone Products to conduct any fraudulent, malicious, or illegal activities; or (v) use the Dedrone Products in contravention of any applicable laws or regulations (each of (i) through (v), a ("Prohibited Use").

3. **Customer Obligations.**

3.1 **Compliance.** Customer will use the Dedrone Products only in accordance with applicable specifications (the "Specifications") and in compliance with all applicable laws, including all applicable export laws and regulations of the United States or any other country. Customer acknowledges that due to the nascent nature of drone detection and mitigation technologies applicable laws and regulations may be changing or emerging over time, and agrees that it is Customer's responsibility to keep itself aware and remain compliant with the current laws and regulations that may apply, including but not limited to those that may apply to advanced features available at Customer's option in the Dedrone Software. Customer will ensure that none of the Dedrone Products are directly or indirectly exported, re-exported, or used to provide services in violation of such export laws and regulations. Axon reserves the right to suspend use of any Dedrone Products operating in violation of such laws, following written notice to Customer. If Customer uses a radio jammer, or any other controlled device, in connection with the Dedrone Software, Customer represents to Axon that it is authorized to do so by the relevant authorities, that it will do so only in accordance with such authorization, and it will provide supporting documentation regarding such authorization upon request. Customer may be required to obtain legal

authorization before any purchase or use of hardware sold by third parties. Axon shall not be liable if any government export authorization is delayed, denied, revoked, restricted or not renewed, nor shall any such delay, denial, revocation, restriction or non-renewal shall not constitute a breach of the Agreement by Axon.

3.2 **Computing Environment.** Customer is responsible for the maintenance and security of its own network and computing environment that it uses to host and/or access the Dedrone Products and for ensuring that any Third-Party Hardware meets the necessary specifications for use with the Dedrone Software.

4. **Data Protection.**

4.1 **Data.** If Customer licenses Dedrone Software, as part of its operation, the Dedrone Software may collect and send to servers owned, operated or controlled by Axon data or other information regarding Customer's use of the Dedrone Software, which may include (i) information generated by each Sensor deployed by Customer, including information related to the date, time, and duration of the detection of the drone, as well as the locations of the detected drones and remote controls and of the Sensor itself (collectively, "Sensor Data"), and (ii) video recording of the detected drones, including flight path ("Video Data") (Sensor Data and Video Data are collectively referred to as "Collected Data").

4.2 **Use of Collected Data.** Axon has the right to use Collected Data for any purpose, including: (i) improving any Dedrone Product; (ii) analyzing any Dedrone Product or the performance of any Dedrone Product; or (iii) compiling or using aggregate or de-identified Collected Data with other customers, or government and law enforcement entities, with or without compensation. Customer acknowledges that Axon may learn from the performance or use of any Dedrone Product, and Axon shall have the sole right to exploit any modification, enhancement or improvement of any Dedrone Product resulting from such learning.

4.3 **User Data.** To the extent Axon uses User login information, including name, email, username, and password (collectively, "User Data") for any purpose other than to provide services to the Customer, such User Data will be deidentified and anonymized, and will not be identified as having come from Customer, except that Axon may disclose User Data where Axon, in good faith, believes that the law or legal process (such as a court order, search warrant or subpoena) requires Axon to do so.

4.4 **Security.** Axon maintains industry standard physical, technical, and administrative safeguards (the "Security Measures") to protect Collected Data.

4.5 **No Access.** Except for User Data, Axon does not (and will not) collect, process, store, or otherwise have access to any personal information, about End Users or users of Customer's products or services.

5. **Ownership.**

5.1 **Axon Property.** Axon owns and retains all rights, title, and interest in and to the Dedrone Data, Collected Data, the Dedrone Software, and all intellectual property embodied in the Dedrone Hardware, if the Dedrone Hardware is provided by Axon. Except for the limited license granted to Customer in Section 2.1, Axon does not by means of this Agreement or otherwise transfer or license any rights in the Dedrone Products to Customer, whether by implication, estoppel or otherwise. To the maximum extent permitted by applicable law Customer will take no action inconsistent with Axon intellectual property rights in the Dedrone Products or any Dedrone Data.

5.2 **Customer Property.** Customer owns and retains all right, title, and interest in and to the User Data and does not by means of this Agreement or otherwise transfer any rights in the User Data to Axon, except for the limited rights set forth in Section 4.3.

6. **Government Restricted Rights.** To the extent that Customer is an agency or instrumentality of the U.S. government, the parties agree that the Dedrone Software and documentation are commercial computer software and commercial computer software documentation, respectively, and Customer's rights therein are as specified in this License, per FAR 12.212 and DFARS 227.7202-3, as applicable, or in the case of NASA, subject to NFS 1852.22.

7. **Updates.** The Dedrone Software may include functionality that allows it to automatically download updates that may be made available by Axon. Customer consents to the installation of such functionality.

Exhibit F

AN AGREEMENT BETWEEN THE CITY OF ARVADA AND AXON ENTERPRISE, INC. FOR GOODS AND SERVICES RELATED TO POLICE DEPARTMENT TECHNOLOGY IMPROVEMENTS IN AN AMOUNT NOT TO EXCEED $1,180,369.75 IN THE FIRST YEAR

Axon Enterprise, Inc.
17800 N 85th St
Scottsdale, Arizona 85255
United States
VAT: 86-0741227
Domestic:(800) 978-2737
International: +1.800.978.2737

Q-802163-46111BM

Issued: 03/30/2026

Quote Expiration: 04/27/2026

Estimated Contract Start Date: 06/01/2026

Account Number: 110160

Payment Terms: N30

Mode of Delivery: AUTO-GND

Credit/Debit Amount: $0.00

SHIP TO	BILL TO
Arvada Police Dept.- CO 7800 W 62ND AVE ARVADA, CO 80004-5617 USA	Arvada Police Dept.- CO 8101 Ralston Rd Arvada CO 80002-2439 USA Email:

SALES REPRESENTATIVE	PRIMARY CONTACT
Brian Moutinho Phone: +1 9168062275 Email: bmoutinho@axon.com Fax:	Jason Ammon Phone: (303) 419-8845 Email: jammon@arvada.org Fax: (720) 898-6801

Quote Summary

Program Length	60 Months
TOTAL COST	$5,425,637.11
ESTIMATED TOTAL W/ TAX	$5,425,637.11

Discount Summary

Average Savings Per Year	$660,729.01
TOTAL SAVINGS	$3,303,645.05

Payment Summary

Date	Subtotal	Tax	Total
May 2026	$1,180,369.75	$0.00	$1,180,369.75
May 2027	$1,061,316.84	$0.00	$1,061,316.84
May 2028	$1,061,316.84	$0.00	$1,061,316.84
May 2029	$1,061,316.84	$0.00	$1,061,316.84
May 2030	$1,061,316.84	$0.00	$1,061,316.84
Total	**$5,425,637.11**	**$0.00**	**$5,425,637.11**

Quote Unbundled Price:	**$8,919,255.69**
Quote List Price:	**$6,917,734.89**
Quote Subtotal:	**$5,425,637.11**

Pricing

All deliverables are detailed in Delivery Schedules section lower in proposal

Item	Description	Qty	Term	Unbundled	List Price	Net Price	Subtotal	Tax	Total
Program									
100553	TRANSFER BALANCE - SOFTWARE AND SERVICES	1			$1.00	($7,334.97)	($7,334.97)	$0.00	($7,334.97)
100552	TRANSFER BALANCE - GOODS	1			$1.00	$178,310.80	$178,310.80	$0.00	$178,310.80
BWCamMBDTAP	Body Worn Camera Multi-Bay Dock TAP Bundle	4	60	$72.74	$62.52	$62.52	$15,004.80	$0.00	$15,004.80
BWCamSBDTAP	Body Worn Camera Single-Bay Dock TAP Bundle	31	60	$12.11	$10.48	$10.48	$19,492.80	$0.00	$19,492.80
Fleet3B+TAPRe	Fleet 3 Basic + TAP Renewal	3	60	$119.88	$139.74	$115.83	$20,849.40	$0.00	$20,849.40
M00035	BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	205	60	$541.71	$379.14	$323.75	$3,982,125.00	$0.00	$3,982,125.00
A la Carte Hardware									
74056	AXON INTERVIEW - TOUCH PANEL WALL MOUNT	8			$64.00	$64.00	$512.00	$0.00	$512.00
102002	AXON AIR - SKYDIO DUAL CHARGER X10 230W WALL ADAPTER	1			$559.00	$559.00	$559.00	$0.00	$559.00
101237	AXON AIR - SKYDIO BATTERY (150W) FOR X10	5			$369.00	$369.00	$1,845.00	$0.00	$1,845.00
50294	AXON INTERVIEW - SERVER - LITE	1			$2,934.00	$2,934.00	$2,934.00	$0.00	$2,934.00
50295	AXON INTERVIEW - SERVER - PRO	1			$5,413.00	$5,413.00	$5,413.00	$0.00	$5,413.00
74116	AXON INTERVIEW - COVERT ENCLOSURE	16			$110.00	$110.00	$1,760.00	$0.00	$1,760.00
50118	AXON INTERVIEW - MIC - WIRED (STANDARD MIC)	16			$209.00	$209.00	$3,344.00	$0.00	$3,344.00
50114	AXON INTERVIEW - CAMERA - COVERT SENSOR	16			$356.00	$356.00	$5,696.00	$0.00	$5,696.00
50218	AXON INTERVIEW - CAMERA - COVERT MAIN UNIT	16			$700.00	$700.00	$11,200.00	$0.00	$11,200.00
50322	AXON INTERVIEW - TOUCH PANEL PRO	8			$2,532.00	$2,532.00	$20,256.00	$0.00	$20,256.00
H00002	AB4 Multi Bay Dock Bundle	2			$1,638.90	$1,638.90	$3,277.80	$0.00	$3,277.80
A00007	BUNDLE - AXON DFR PATROL	1	60		$54,833.67	$1,869.37	$112,162.20	$0.00	$112,162.20
H00003	AB4 1-Bay Dock Bundle	31			$229.00	$0.00	$0.00	$0.00	$0.00
H00002	AB4 Multi Bay Dock Bundle	32			$3,233.90	$143.59	$4,594.80	$0.00	$4,594.80
H00001	AB4 Camera Bundle	218			$1,798.00	$0.00	$0.00	$0.00	$0.00
A la Carte Software									
50045	AXON EVIDENCE - STORAGE - INTERVIEW ROOM UNLIMITED	16	60		$111.75	$0.00	$0.00	$0.00	$0.00
85760	AXON AUTO-TRANSCRIBE - UNLIMITED SERVICE	187	60		$22.57	$0.00	$0.00	$0.00	$0.00
102656	AXON AIR - AXON EVIDENCE UNLIMITED DATA STORAGE PER DRONE	1	60		$38.19	$38.19	$2,291.40	$0.00	$2,291.40
50043	AXON INTERVIEW - STREAMING SERVER MAINTENANCE - PER SERVER	2	60		$32.98	$32.98	$3,957.60	$0.00	$3,957.60
102639	AXON AIR - SKYDIO CONNECT FUSION+ FOR X10	1	60		$86.79	$86.79	$5,207.40	$0.00	$5,207.40
102656	AXON AIR - AXON EVIDENCE UNLIMITED DATA STORAGE PER DRONE	3	60		$38.19	$38.19	$6,874.20	$0.00	$6,874.20
50039	AXON INTERVIEW - CLIENT SOFTWARE - MAINT. PER TOUCH PANEL	8	60		$28.21	$28.21	$13,540.80	$0.00	$13,540.80
100580	AXON AIR - DRONESENSE UAS (CLASS 2)	1	60		$241.67	$241.67	$14,500.20	$0.00	$14,500.20
100579	AXON AIR - DRONESENSE UAS (CLASS 1)	3	60		$141.67	$141.67	$25,500.60	$0.00	$25,500.60
101283	AXON RECORDS - DRAFT ONE - AI-ASSISTED REPORT WRITING	187	60		$70.52	$60.02	$673,450.58	$0.00	$673,450.58
ProLicense	Pro License Bundle	20	60		$48.82	$0.00	$0.00	$0.00	$0.00
A la Carte Services									

85149	AXON TASER - 2 DAY PRODUCT SPECIFIC INSTRUCTOR COURSE	1		$6,786.00	$6,786.00	$6,786.00	$0.00	$6,786.00
102527	AXON AIR - SKYDIO PARACHUTE PLAN FOR X10	1	60	$141.04	$141.04	$8,462.40	$0.00	$8,462.40
85144	AXON BODY - PSO - STARTER	1		$10,000.00	$10,000.00	$10,000.00	$0.00	$10,000.00
101498	AXON AIR - SKYDIO - IN-PERSON TRAINING - DOCK FOR X10	1		$11,000.00	$11,000.00	$11,000.00	$0.00	$11,000.00
101267	AXON VR - PSO - FULL INSTALLATION	1		$12,000.00	$12,036.88	$12,036.88	$0.00	$12,036.88
102527	AXON AIR - SKYDIO PARACHUTE PLAN FOR X10	3	60	$141.04	$141.04	$25,387.20	$0.00	$25,387.20
85170	AXON INTERVIEW - INSTALLATION - STANDARD (PER ROOM)	8		$5,000.00	$5,000.00	$40,000.00	$0.00	$40,000.00
101499	AXON AIR - SKYDIO X10 DOCK COMMISSIONING	2		$35,250.00	$35,250.00	$70,500.00	$0.00	$70,500.00
102528	AXON AIR - SKYDIO X10 CONSUMABLES PLAN FOR DOCK OPS	3	60	$406.85	$406.85	$73,233.00	$0.00	$73,233.00
A la Carte Warranties								
73390	AXON FLEET - CRADLEPOINT ROUTER TRANSFERRED WARRANTY	2	24	$0.00	$0.00	$0.00	$0.00	$0.00
73390	AXON FLEET - CRADLEPOINT ROUTER TRANSFERRED WARRANTY	2	41	$0.00	$0.00	$0.00	$0.00	$0.00
80379	AXON SIGNAL - EXT WARRANTY - SIGNAL UNIT	1	38	$1.31	$1.31	$49.78	$0.00	$49.78
80379	AXON SIGNAL - EXT WARRANTY - SIGNAL UNIT	2	24	$1.28	$1.28	$61.44	$0.00	$61.44
101648	AXON INTERVIEW - EXT WARRANTY - 5 YEARS	8		$464.00	$464.00	$3,712.00	$0.00	$3,712.00
101648	AXON INTERVIEW - EXT WARRANTY - 5 YEARS	8		$464.00	$464.00	$3,712.00	$0.00	$3,712.00
102286	AXON AIR - SKYDIO CARE FOR X10 - DOCK OPS W/ THERMAL, 2.5 YR	3		$5,400.00	$5,400.00	$16,200.00	$0.00	$16,200.00
102367	AXON AIR - SKYDIO CARE X10 SAFE VEH - DOCKOPS THRM 2.5YR	3		$5,724.00	$5,724.00	$17,172.00	$0.00	$17,172.00
Total						**$5,425,637.11**	**$0.00**	**$5,425,637.11**

Delivery Schedule

Hardware

Bundle	Item	Description	QTY	Shipping Location	Estimated Delivery Date
AB4 1-Bay Dock Bundle	100201	AXON BODY 4 - DOCK - SINGLE BAY	31	1	05/01/2026
AB4 1-Bay Dock Bundle	71104	AXON - DOCK/DATAPORT POWERCORD - NORTH AMERICA	31	1	05/01/2026
AB4 Camera Bundle	100147	AXON BODY 4 - CAMERA - NA US FIRST RESPONDER BLK RAPIDLOCK	9	1	05/01/2026
AB4 Camera Bundle	100147	AXON BODY 4 - CAMERA - NA US FIRST RESPONDER BLK RAPIDLOCK	209	1	05/01/2026
AB4 Camera Bundle	100466	AXON BODY 4 - CABLE - USB-C TO USB-C	240	1	05/01/2026
AB4 Camera Bundle	100775	AXON BODY 4 - MAGNETIC DISCONNECT CABLE	240	1	05/01/2026
AB4 Camera Bundle	74028	AXON BODY - MOUNT - WING CLIP RAPIDLOCK	240	1	05/01/2026
AB4 Multi Bay Dock Bundle	100206	AXON BODY 4 - 8 BAY DOCK	2	1	05/01/2026
AB4 Multi Bay Dock Bundle	100206	AXON BODY 4 - 8 BAY DOCK	2	1	05/01/2026
AB4 Multi Bay Dock Bundle	100206	AXON BODY 4 - 8 BAY DOCK	30	1	05/01/2026
AB4 Multi Bay Dock Bundle	70033	AXON - DOCK WALL MOUNT - BRACKET ASSY	32	1	05/01/2026
AB4 Multi Bay Dock Bundle	70033	AXON - DOCK WALL MOUNT - BRACKET ASSY	2	1	05/01/2026
AB4 Multi Bay Dock Bundle	71019	AXON BODY - DOCK POWERCORD - NORTH AMERICA	32	1	05/01/2026
AB4 Multi Bay Dock Bundle	71019	AXON BODY - DOCK POWERCORD - NORTH AMERICA	2	1	05/01/2026
BUNDLE - AXON DFR PATROL	101738	AXON AIR - SKYDIO X10 PATROL HW KIT	1	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100126	AXON VR - TACTICAL BAG	9	1	05/01/2026

Hardware

Bundle	Item	Description	QTY	Shipping Location	Estimated Delivery Date
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100390	AXON TASER 10 - HANDLE - YELLOW CLASS 3R	205	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100390	AXON TASER 10 - HANDLE - YELLOW CLASS 3R	6	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100394	AXON TASER 10 - MAGAZINE - HALT TRAINING BLUE	16	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100396	AXON TASER 10 - MAGAZINE - INERT RED	8	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100399	AXON TASER 10 - CARTRIDGE - LIVE	4100	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100400	AXON TASER 10 - CARTRIDGE - HALT	2050	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100401	AXON TASER 10 - CARTRIDGE - INERT	30	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100591	AXON TASER - CLEANING KIT	4	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100616	AXON TASER 10 - HOLSTER - BLACKHAWK - RH	170	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100617	AXON TASER 10 - HOLSTER - BLACKHAWK - LH	35	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100623	ENHANCED HOOK-AND-LOOP TRAINING (HALT) SUIT (V2)	4	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100748	AXON VR - CONTROLLER - TASER 10	9	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100832	AXON VR - CONTROLLER - HANDGUN VR19H	9	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101122	AXON VR - HOLSTER - T10 SAFARILAND GRAY - RH	5	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101123	AXON VR - HOLSTER - T10 SAFARILAND GRAY - LH	4	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101294	AXON VR - TABLET	9	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101300	AXON VR - TABLET CASE	9	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101455	AXON TASER 10 - REPLACEMENT TOOL KIT - INTERPOSER BUCKET	4	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101456	AXON TASER 10 - REPLACEMENT INTERPOSER BUCKET	4	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101747	AXON AIR - SKYDIO DOCK-BASED DFR FOR OSP HW KIT	1	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101755	AXON TASER 10 - MAGAZINE - LIVE DUTY BLACK V2	205	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101755	AXON TASER 10 - MAGAZINE - LIVE DUTY BLACK V2	6	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101757	AXON TASER 10 - MAGAZINE - LIVE TRAINING PURPLE V2	9	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101886	SIGNAL SENSOR	205	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101889	AXON SIGNAL - BATTERY - CR2032	205	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	20018	AXON TASER - BATTERY PACK - TACTICAL	41	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	20018	AXON TASER - BATTERY PACK - TACTICAL	6	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	20018	AXON TASER - BATTERY PACK - TACTICAL	205	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	70033	AXON - DOCK WALL MOUNT - BRACKET ASSY	2	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	71019	AXON BODY - DOCK POWERCORD - NORTH AMERICA	2	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	74200	AXON TASER - DOCK - SIX BAY PLUS CORE	2	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	80087	AXON TASER - TARGET - CONDUCTIVE PROFESSIONAL RUGGEDIZED	3	1	05/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	80090	AXON TASER - TARGET FRAME - PROFESSIONAL 27.5 IN X 75 IN	3	1	05/01/2026
A la Carte	101237	AXON AIR - SKYDIO BATTERY (150W) FOR X10	5	1	05/01/2026
A la Carte	102002	AXON AIR - SKYDIO DUAL CHARGER X10 230W WALL ADAPTER	1	1	05/01/2026
A la Carte	50114	AXON INTERVIEW - CAMERA - COVERT SENSOR	16	1	07/01/2026
A la Carte	50118	AXON INTERVIEW - MIC - WIRED (STANDARD MIC)	16	1	07/01/2026
A la Carte	50218	AXON INTERVIEW - CAMERA - COVERT MAIN UNIT	16	1	07/01/2026
A la Carte	50294	AXON INTERVIEW - SERVER - LITE	1	1	07/01/2026
A la Carte	50295	AXON INTERVIEW - SERVER - PRO	1	1	07/01/2026
A la Carte	50322	AXON INTERVIEW - TOUCH PANEL PRO	8	1	07/01/2026
A la Carte	74056	AXON INTERVIEW - TOUCH PANEL WALL MOUNT	8	1	07/01/2026
A la Carte	74116	AXON INTERVIEW - COVERT ENCLOSURE	16	1	07/01/2026
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100399	AXON TASER 10 - CARTRIDGE - LIVE	620	1	05/01/2027
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100400	AXON TASER 10 - CARTRIDGE - HALT	1640	1	05/01/2027
Body Worn Camera Multi-Bay Dock TAP Bundle	73689	AXON BODY - TAP REFRESH 1 - DOCK MULTI BAY	4	1	10/01/2027
Body Worn Camera Single-Bay Dock TAP Bundle	73313	AXON BODY - TAP REFRESH 1 - DOCK SINGLE BAY	31	1	10/01/2027
BUNDLE - AXON DFR PATROL	101737	AXON AIR - SKYDIO SAFE PATROL KIT HW REFRESH	1	1	10/01/2027
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	73309	AXON BODY - TAP REFRESH 1 - CAMERA	209	1	10/01/2027

Hardware

Bundle	Item	Description	QTY	Shipping Location	Estimated Delivery Date
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	73689	AXON BODY - TAP REFRESH 1 - DOCK MULTI BAY	26	1	10/01/2027
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100399	AXON TASER 10 - CARTRIDGE - LIVE	610	1	05/01/2028
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100400	AXON TASER 10 - CARTRIDGE - HALT	1640	1	05/01/2028
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100210	AXON VR - TAP REFRESH 1 - TABLET	9	1	11/01/2028
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101009	AXON VR - TAP REFRESH 1 - HANDGUN CONTROLLER	9	1	11/01/2028
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101012	AXON VR - TAP REFRESH 1 - TASER CONTROLLER	9	1	11/01/2028
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	20373	AXON VR - TAP REFRESH 1 - HEADSET	9	1	11/01/2028
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100399	AXON TASER 10 - CARTRIDGE - LIVE	620	1	05/01/2029
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100400	AXON TASER 10 - CARTRIDGE - HALT	1640	1	05/01/2029
Body Worn Camera Multi-Bay Dock TAP Bundle	73688	AXON BODY - TAP REFRESH 2 - DOCK MULTI BAY	4	1	04/01/2030
Body Worn Camera Single-Bay Dock TAP Bundle	73314	AXON BODY - TAP REFRESH 2 - DOCK SINGLE BAY	31	1	04/01/2030
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	73310	AXON BODY - TAP REFRESH 2 - CAMERA	209	1	04/01/2030
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	73688	AXON BODY - TAP REFRESH 2 - DOCK MULTI BAY	26	1	04/01/2030
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100399	AXON TASER 10 - CARTRIDGE - LIVE	610	1	05/01/2030
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100400	AXON TASER 10 - CARTRIDGE - HALT	1640	1	05/01/2030
Fleet 3 Basic + TAP Renewal	72040	AXON FLEET - TAP REFRESH 1 - 2 CAMERA KIT	3	1	05/01/2031

Software

Bundle	Item	Description	QTY	Estimated Start Date	Estimated End Date
BUNDLE - AXON DFR PATROL	100551	AXON AIR - DRONESENSE CLOUDSTREAM FOR SKYDIO	1	06/01/2026	05/31/2031
BUNDLE - AXON DFR PATROL	101199	AXON AIR - SKYDIO DFR COMMAND	1	06/01/2026	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100165	AXON EVIDENCE - STORAGE - THIRD PARTY UNLIMITED	205	06/01/2026	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100590	AXON MY90 - LICENSE	205	06/01/2026	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100801	AXON RECORDS - OSP LICENSE	205	06/01/2026	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101180	AXON TASER - DATA SCIENCE PROGRAM	205	06/01/2026	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101706	AXON FUSUS - LICENSE - PRO+ USER	205	06/01/2026	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101711	AXON FUSUS - LICENSE - ADDITIONAL CCTV STREAMS	225	06/01/2026	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101878	AXON AIR - SKYDIO - MAINTENANCE AND REPAIR FOR OSP X10 DOCK	1	06/01/2026	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101879	AXON AIR - SKYDIO DFR COMMAND FOR OSP	1	06/01/2026	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	20248	AXON TASER - EVIDENCE.COM LICENSE	2	06/01/2026	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	20248	AXON TASER - EVIDENCE.COM LICENSE	205	06/01/2026	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	20370	AXON VR - USER ACCESS - FULL VR	205	06/01/2026	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	73449	AXON BODY - LEGACY LICENSE - CONNECTED CAMERA	205	06/01/2026	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	73478	AXON EVIDENCE - REDACTION ASSISTANT USER LICENSE	205	06/01/2026	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	73618	AXON COMMUNITY REQUEST	205	06/01/2026	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	73638	AXON STANDARDS - LICENSE	205	06/01/2026	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	73682	AXON EVIDENCE - AUTO TAGGING LICENSE	205	06/01/2026	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	73686	AXON EVIDENCE - STORAGE - UNLIMITED (AXON DEVICE)	205	06/01/2026	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	73739	AXON PERFORMANCE - LICENSE	205	06/01/2026	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	73746	AXON EVIDENCE - ECOM LICENSE - PRO	205	06/01/2026	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	73746	AXON EVIDENCE - ECOM LICENSE - PRO	2	06/01/2026	05/31/2031
Fleet 3 Basic + TAP Renewal	80400	AXON EVIDENCE - FLEET VEHICLE LICENSE	3	06/01/2026	05/31/2031
Fleet 3 Basic + TAP Renewal	80410	AXON EVIDENCE - STORAGE - FLEET 1 CAMERA UNLIMITED	6	06/01/2026	05/31/2031
Pro License Bundle	73683	AXON EVIDENCE - STORAGE - 10GB A LA CARTE	60	06/01/2026	05/31/2031
Pro License Bundle	73746	AXON EVIDENCE - ECOM LICENSE - PRO	20	06/01/2026	05/31/2031
A la Carte	100579	AXON AIR - DRONESENSE UAS (CLASS 1)	3	06/01/2026	05/31/2031
A la Carte	100580	AXON AIR - DRONESENSE UAS (CLASS 2)	1	06/01/2026	05/31/2031
A la Carte	101283	AXON RECORDS - DRAFT ONE - AI-ASSISTED REPORT WRITING	187	06/01/2026	05/31/2031
A la Carte	102639	AXON AIR - SKYDIO CONNECT FUSION+ FOR X10	1	06/01/2026	05/31/2031

Software

Bundle	Item	Description	QTY	Estimated Start Date	Estimated End Date
A la Carte	102656	AXON AIR - AXON EVIDENCE UNLIMITED DATA STORAGE PER DRONE	1	06/01/2026	05/31/2031
A la Carte	102656	AXON AIR - AXON EVIDENCE UNLIMITED DATA STORAGE PER DRONE	3	06/01/2026	05/31/2031
A la Carte	50039	AXON INTERVIEW - CLIENT SOFTWARE - MAINT. PER TOUCH PANEL	8	06/01/2026	05/31/2031
A la Carte	50043	AXON INTERVIEW - STREAMING SERVER MAINTENANCE - PER SERVER	2	06/01/2026	05/31/2031
A la Carte	50045	AXON EVIDENCE - STORAGE - INTERVIEW ROOM UNLIMITED	16	06/01/2026	05/31/2031
A la Carte	85760	AXON AUTO-TRANSCRIBE - UNLIMITED SERVICE	187	06/01/2026	05/31/2031

Services

Bundle	Item	Description	QTY
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100105	COMMUNITY LINK/PRO PSO SETUP	1
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100751	AXON TASER 10 - REPLACEMENT ACCESS PROGRAM - DUTY CARTRIDGE	205
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101184	AXON INVESTIGATE - TRAINING - OPERATOR AND EXAMINER	13
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101193	AXON TASER - ON DEMAND CERTIFICATION	205
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101743	AXON AIR - SKYDIO REGULATORY SUPPORT - AXON OSP	1
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101781	AXON FUSUS - PSO - SW IMPLEMENTATION - PRO+	1
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	11642	AXON INVESTIGATE - THIRD PARTY VIDEO SUPPORT	205
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	12021	AXON AIR - PROFESSIONAL IMPLEMENTATION	1
A la Carte	101267	AXON VR - PSO - FULL INSTALLATION	1
A la Carte	101498	AXON AIR - SKYDIO - IN-PERSON TRAINING - DOCK FOR X10	1
A la Carte	101499	AXON AIR - SKYDIO X10 DOCK COMMISSIONING	2
A la Carte	102527	AXON AIR - SKYDIO PARACHUTE PLAN FOR X10	3
A la Carte	102527	AXON AIR - SKYDIO PARACHUTE PLAN FOR X10	1
A la Carte	102528	AXON AIR - SKYDIO X10 CONSUMABLES PLAN FOR DOCK OPS	3
A la Carte	85144	AXON BODY - PSO - STARTER	1
A la Carte	85149	AXON TASER - 2 DAY PRODUCT SPECIFIC INSTRUCTOR COURSE	1
A la Carte	85170	AXON INTERVIEW - INSTALLATION - STANDARD (PER ROOM)	8

Warranties

Bundle	Item	Description	QTY	Estimated Start Date	Estimated End Date
BUNDLE - AXON DFR PATROL	101508	AXON AIR - SKYDIO - CARE FOR X10 CELLULAR 5G + VT300-Z 3YR	1		
A la Carte	101648	AXON INTERVIEW - EXT WARRANTY - 5 YEARS	8		
A la Carte	101648	AXON INTERVIEW - EXT WARRANTY - 5 YEARS	8		
A la Carte	102286	AXON AIR - SKYDIO CARE FOR X10 - DOCK OPS W/ THERMAL, 2.5 YR	3		
A la Carte	102367	AXON AIR - SKYDIO CARE X10 SAFE VEH - DOCKOPS THRM 2.5YR	3		
A la Carte	73390	AXON FLEET - CRADLEPOINT ROUTER TRANSFERRED WARRANTY	2	06/01/2026	10/31/2029
A la Carte	73390	AXON FLEET - CRADLEPOINT ROUTER TRANSFERRED WARRANTY	2	06/01/2026	05/31/2028
A la Carte	80379	AXON SIGNAL - EXT WARRANTY - SIGNAL UNIT	1	06/01/2026	07/31/2029
A la Carte	80379	AXON SIGNAL - EXT WARRANTY - SIGNAL UNIT	2	06/01/2026	05/31/2028
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100213	AXON VR - EXT WARRANTY - TABLET	9	05/01/2027	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100704	AXON TASER 10 - EXT WARRANTY - HANDLE	205	05/01/2027	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	100704	AXON TASER 10 - EXT WARRANTY - HANDLE	6	05/01/2027	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101007	AXON VR - EXT WARRANTY - TASER CONTROLLER	9	05/01/2027	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	101008	AXON VR - EXT WARRANTY - HANDGUN CONTROLLER	9	05/01/2027	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	80374	AXON TASER - EXT WARRANTY - BATTERY PACK T7/T10	6	05/01/2027	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	80374	AXON TASER - EXT WARRANTY - BATTERY PACK T7/T10	41	05/01/2027	05/31/2031

Warranties

Bundle	Item	Description	QTY	Estimated Start Date	Estimated End Date
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	80374	AXON TASER - EXT WARRANTY - BATTERY PACK T7/T10	205	05/01/2027	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	80396	AXON TASER - EXT WARRANTY - DOCK SIX BAY T7/T10	2	05/01/2027	05/31/2031
Body Worn Camera Multi-Bay Dock TAP Bundle	80465	AXON BODY - TAP WARRANTY - MULTI BAY DOCK	4	06/01/2027	05/31/2031
Body Worn Camera Single-Bay Dock TAP Bundle	80466	AXON BODY - TAP WARRANTY - SINGLE BAY DOCK	31	06/01/2027	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	80464	AXON BODY - TAP WARRANTY - CAMERA	6	06/01/2027	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	80464	AXON BODY - TAP WARRANTY - CAMERA	205	06/01/2027	05/31/2031
BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	80465	AXON BODY - TAP WARRANTY - MULTI BAY DOCK	26	06/01/2027	05/31/2031
Fleet 3 Basic + TAP Renewal	80495	AXON FLEET 3 - EXT WARRANTY - 2 CAMERA KIT	3	06/01/2027	05/31/2031

Shipping Locations

Location Number	Street	City	State	Zip	Country
1	7800 W 62ND AVE	ARVADA	CO	80004-5617	USA
1	7800 W 62ND AVE	ARVADA	CO	80004-5617	USA

Payment Details

May 2026

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Transfer Value	100552	TRANSFER BALANCE - GOODS	1	$178,310.80	$0.00	$178,310.80
Transfer Value	100553	TRANSFER BALANCE - SOFTWARE AND SERVICES	1	($7,334.97)	$0.00	($7,334.97)
Year 1	100579	AXON AIR - DRONESENSE UAS (CLASS 1)	3	$4,753.65	$0.00	$4,753.65
Year 1	100580	AXON AIR - DRONESENSE UAS (CLASS 2)	1	$2,703.03	$0.00	$2,703.03
Year 1	101237	AXON AIR - SKYDIO BATTERY (150W) FOR X10	5	$343.93	$0.00	$343.93
Year 1	101267	AXON VR - PSO - FULL INSTALLATION	1	$12,036.88	$0.00	$12,036.88
Year 1	101283	AXON RECORDS - DRAFT ONE - AI-ASSISTED REPORT WRITING	187	$125,540.17	$0.00	$125,540.17
Year 1	101498	AXON AIR - SKYDIO - IN-PERSON TRAINING - DOCK FOR X10	1	$2,050.55	$0.00	$2,050.55
Year 1	101499	AXON AIR - SKYDIO X10 DOCK COMMISSIONING	2	$13,142.14	$0.00	$13,142.14
Year 1	101648	AXON INTERVIEW - EXT WARRANTY - 5 YEARS	8	$691.97	$0.00	$691.97
Year 1	101648	AXON INTERVIEW - EXT WARRANTY - 5 YEARS	8	$691.97	$0.00	$691.97
Year 1	102002	AXON AIR - SKYDIO DUAL CHARGER X10 230W WALL ADAPTER	1	$104.21	$0.00	$104.21
Year 1	102286	AXON AIR - SKYDIO CARE FOR X10 - DOCK OPS W/ THERMAL, 2.5 YR	3	$3,019.90	$0.00	$3,019.90
Year 1	102367	AXON AIR - SKYDIO CARE X10 SAFE VEH - DOCKOPS THRM 2.5YR	3	$3,201.09	$0.00	$3,201.09
Year 1	102527	AXON AIR - SKYDIO PARACHUTE PLAN FOR X10	1	$1,577.50	$0.00	$1,577.50
Year 1	102527	AXON AIR - SKYDIO PARACHUTE PLAN FOR X10	3	$4,732.51	$0.00	$4,732.51
Year 1	102528	AXON AIR - SKYDIO X10 CONSUMABLES PLAN FOR DOCK OPS	3	$13,651.61	$0.00	$13,651.61
Year 1	102639	AXON AIR - SKYDIO CONNECT FUSION+ FOR X10	1	$970.73	$0.00	$970.73
Year 1	102656	AXON AIR - AXON EVIDENCE UNLIMITED DATA STORAGE PER DRONE	3	$1,281.44	$0.00	$1,281.44
Year 1	102656	AXON AIR - AXON EVIDENCE UNLIMITED DATA STORAGE PER DRONE	1	$427.15	$0.00	$427.15
Year 1	50039	AXON INTERVIEW - CLIENT SOFTWARE - MAINT. PER TOUCH PANEL	8	$2,524.19	$0.00	$2,524.19
Year 1	50043	AXON INTERVIEW - STREAMING SERVER MAINTENANCE - PER SERVER	2	$737.75	$0.00	$737.75
Year 1	50045	AXON EVIDENCE - STORAGE - INTERVIEW ROOM UNLIMITED	16	$0.00	$0.00	$0.00
Year 1	50114	AXON INTERVIEW - CAMERA - COVERT SENSOR	16	$1,061.81	$0.00	$1,061.81
Year 1	50118	AXON INTERVIEW - MIC - WIRED (STANDARD MIC)	16	$623.37	$0.00	$623.37
Year 1	50218	AXON INTERVIEW - CAMERA - COVERT MAIN UNIT	16	$2,087.83	$0.00	$2,087.83
Year 1	50294	AXON INTERVIEW - SERVER - LITE	1	$546.94	$0.00	$546.94
Year 1	50295	AXON INTERVIEW - SERVER - PRO	1	$1,009.06	$0.00	$1,009.06
Year 1	50322	AXON INTERVIEW - TOUCH PANEL PRO	8	$3,775.99	$0.00	$3,775.99
Year 1	73390	AXON FLEET - CRADLEPOINT ROUTER TRANSFERRED WARRANTY	2	$0.00	$0.00	$0.00
Year 1	73390	AXON FLEET - CRADLEPOINT ROUTER TRANSFERRED WARRANTY	2	$0.00	$0.00	$0.00
Year 1	74056	AXON INTERVIEW - TOUCH PANEL WALL MOUNT	8	$95.44	$0.00	$95.44
Year 1	74116	AXON INTERVIEW - COVERT ENCLOSURE	16	$328.09	$0.00	$328.09
Year 1	80379	AXON SIGNAL - EXT WARRANTY - SIGNAL UNIT	2	$11.45	$0.00	$11.45
Year 1	80379	AXON SIGNAL - EXT WARRANTY - SIGNAL UNIT	1	$9.28	$0.00	$9.28
Year 1	85144	AXON BODY - PSO - STARTER	1	$10,000.00	$0.00	$10,000.00
Year 1	85149	AXON TASER - 2 DAY PRODUCT SPECIFIC INSTRUCTOR COURSE	1	$6,786.00	$0.00	$6,786.00
Year 1	85170	AXON INTERVIEW - INSTALLATION - STANDARD (PER ROOM)	8	$7,456.53	$0.00	$7,456.53
Year 1	85760	AXON AUTO-TRANSCRIBE - UNLIMITED SERVICE	187	$0.00	$0.00	$0.00
Year 1	A00007	BUNDLE - AXON DFR PATROL	1	$20,908.52	$0.00	$20,908.52
Year 1	BWCamMBDTAP	Body Worn Camera Multi-Bay Dock TAP Bundle	4	$2,797.10	$0.00	$2,797.10

May 2026

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Year 1	BWCamSBDTAP	Body Worn Camera Single-Bay Dock TAP Bundle	31	$3,633.72	$0.00	$3,633.72
Year 1	Fleet3B+TAPRe	Fleet 3 Basic + TAP Renewal	3	$3,886.60	$0.00	$3,886.60
Year 1	H00001	AB4 Camera Bundle	218	$0.00	$0.00	$0.00
Year 1	H00002	AB4 Multi Bay Dock Bundle	2	$3,277.80	$0.00	$3,277.80
Year 1	H00002	AB4 Multi Bay Dock Bundle	32	$4,594.80	$0.00	$4,594.80
Year 1	H00003	AB4 1-Bay Dock Bundle	31	$0.00	$0.00	$0.00
Year 1	M00035	BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	205	$742,321.22	$0.00	$742,321.22
Year 1	ProLicense	Pro License Bundle	20	$0.00	$0.00	$0.00
Invoice Upon Fulfillment	A00007	BUNDLE - AXON DFR PATROL	1	$0.00	$0.00	$0.00
Total				**$1,180,369.75**	**$0.00**	**$1,180,369.75**

Jun 2026

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Invoice Upon Fulfillment	BWCamMBDTAP	Body Worn Camera Multi-Bay Dock TAP Bundle	4	$0.00	$0.00	$0.00
Invoice Upon Fulfillment	M00035	BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	205	$0.00	$0.00	$0.00
Total				**$0.00**	**$0.00**	**$0.00**

May 2027

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Year 2	100579	AXON AIR - DRONESENSE UAS (CLASS 1)	3	$5,186.74	$0.00	$5,186.74
Year 2	100580	AXON AIR - DRONESENSE UAS (CLASS 2)	1	$2,949.29	$0.00	$2,949.29
Year 2	101237	AXON AIR - SKYDIO BATTERY (150W) FOR X10	5	$375.27	$0.00	$375.27
Year 2	101283	AXON RECORDS - DRAFT ONE - AI-ASSISTED REPORT WRITING	187	$136,977.58	$0.00	$136,977.58
Year 2	101498	AXON AIR - SKYDIO - IN-PERSON TRAINING - DOCK FOR X10	1	$2,237.36	$0.00	$2,237.36
Year 2	101499	AXON AIR - SKYDIO X10 DOCK COMMISSIONING	2	$14,339.46	$0.00	$14,339.46
Year 2	101648	AXON INTERVIEW - EXT WARRANTY - 5 YEARS	8	$755.01	$0.00	$755.01
Year 2	101648	AXON INTERVIEW - EXT WARRANTY - 5 YEARS	8	$755.01	$0.00	$755.01
Year 2	102002	AXON AIR - SKYDIO DUAL CHARGER X10 230W WALL ADAPTER	1	$113.70	$0.00	$113.70
Year 2	102286	AXON AIR - SKYDIO CARE FOR X10 - DOCK OPS W/ THERMAL, 2.5 YR	3	$3,295.03	$0.00	$3,295.03
Year 2	102367	AXON AIR - SKYDIO CARE X10 SAFE VEH - DOCKOPS THRM 2.5YR	3	$3,492.73	$0.00	$3,492.73
Year 2	102527	AXON AIR - SKYDIO PARACHUTE PLAN FOR X10	3	$5,163.67	$0.00	$5,163.67
Year 2	102527	AXON AIR - SKYDIO PARACHUTE PLAN FOR X10	1	$1,721.22	$0.00	$1,721.22
Year 2	102528	AXON AIR - SKYDIO X10 CONSUMABLES PLAN FOR DOCK OPS	3	$14,895.35	$0.00	$14,895.35
Year 2	102639	AXON AIR - SKYDIO CONNECT FUSION+ FOR X10	1	$1,059.17	$0.00	$1,059.17
Year 2	102656	AXON AIR - AXON EVIDENCE UNLIMITED DATA STORAGE PER DRONE	3	$1,398.19	$0.00	$1,398.19
Year 2	102656	AXON AIR - AXON EVIDENCE UNLIMITED DATA STORAGE PER DRONE	1	$466.06	$0.00	$466.06
Year 2	50039	AXON INTERVIEW - CLIENT SOFTWARE - MAINT. PER TOUCH PANEL	8	$2,754.15	$0.00	$2,754.15
Year 2	50043	AXON INTERVIEW - STREAMING SERVER MAINTENANCE - PER SERVER	2	$804.96	$0.00	$804.96
Year 2	50045	AXON EVIDENCE - STORAGE - INTERVIEW ROOM UNLIMITED	16	$0.00	$0.00	$0.00
Year 2	50114	AXON INTERVIEW - CAMERA - COVERT SENSOR	16	$1,158.55	$0.00	$1,158.55
Year 2	50118	AXON INTERVIEW - MIC - WIRED (STANDARD MIC)	16	$680.16	$0.00	$680.16
Year 2	50218	AXON INTERVIEW - CAMERA - COVERT MAIN UNIT	16	$2,278.04	$0.00	$2,278.04
Year 2	50294	AXON INTERVIEW - SERVER - LITE	1	$596.77	$0.00	$596.77
Year 2	50295	AXON INTERVIEW - SERVER - PRO	1	$1,100.99	$0.00	$1,100.99
Year 2	50322	AXON INTERVIEW - TOUCH PANEL PRO	8	$4,120.00	$0.00	$4,120.00
Year 2	73390	AXON FLEET - CRADLEPOINT ROUTER TRANSFERRED WARRANTY	2	$0.00	$0.00	$0.00
Year 2	73390	AXON FLEET - CRADLEPOINT ROUTER TRANSFERRED WARRANTY	2	$0.00	$0.00	$0.00
Year 2	74056	AXON INTERVIEW - TOUCH PANEL WALL MOUNT	8	$104.14	$0.00	$104.14
Year 2	74116	AXON INTERVIEW - COVERT ENCLOSURE	16	$357.98	$0.00	$357.98
Year 2	80379	AXON SIGNAL - EXT WARRANTY - SIGNAL UNIT	1	$10.13	$0.00	$10.13
Year 2	80379	AXON SIGNAL - EXT WARRANTY - SIGNAL UNIT	2	$12.50	$0.00	$12.50

May 2027

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Year 2	85170	AXON INTERVIEW - INSTALLATION - STANDARD (PER ROOM)	8	$8,135.87	$0.00	$8,135.87
Year 2	85760	AXON AUTO-TRANSCRIBE - UNLIMITED SERVICE	187	$0.00	$0.00	$0.00
Year 2	A00007	BUNDLE - AXON DFR PATROL	1	$22,813.41	$0.00	$22,813.41
Year 2	BWCamMBDTAP	Body Worn Camera Multi-Bay Dock TAP Bundle	4	$3,051.93	$0.00	$3,051.93
Year 2	BWCamSBDTAP	Body Worn Camera Single-Bay Dock TAP Bundle	31	$3,964.77	$0.00	$3,964.77
Year 2	Fleet3B+TAPRe	Fleet 3 Basic + TAP Renewal	3	$4,240.71	$0.00	$4,240.71
Year 2	M00035	BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	205	$809,950.94	$0.00	$809,950.94
Year 2	ProLicense	Pro License Bundle	20	$0.00	$0.00	$0.00
Total				**$1,061,316.84**	**$0.00**	**$1,061,316.84**

May 2028

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Year 3	100579	AXON AIR - DRONESENSE UAS (CLASS 1)	3	$5,186.74	$0.00	$5,186.74
Year 3	100580	AXON AIR - DRONESENSE UAS (CLASS 2)	1	$2,949.29	$0.00	$2,949.29
Year 3	101237	AXON AIR - SKYDIO BATTERY (150W) FOR X10	5	$375.27	$0.00	$375.27
Year 3	101283	AXON RECORDS - DRAFT ONE - AI-ASSISTED REPORT WRITING	187	$136,977.58	$0.00	$136,977.58
Year 3	101498	AXON AIR - SKYDIO - IN-PERSON TRAINING - DOCK FOR X10	1	$2,237.36	$0.00	$2,237.36
Year 3	101499	AXON AIR - SKYDIO X10 DOCK COMMISSIONING	2	$14,339.46	$0.00	$14,339.46
Year 3	101648	AXON INTERVIEW - EXT WARRANTY - 5 YEARS	8	$755.01	$0.00	$755.01
Year 3	101648	AXON INTERVIEW - EXT WARRANTY - 5 YEARS	8	$755.01	$0.00	$755.01
Year 3	102002	AXON AIR - SKYDIO DUAL CHARGER X10 230W WALL ADAPTER	1	$113.70	$0.00	$113.70
Year 3	102286	AXON AIR - SKYDIO CARE FOR X10 - DOCK OPS W/ THERMAL, 2.5 YR	3	$3,295.03	$0.00	$3,295.03
Year 3	102367	AXON AIR - SKYDIO CARE X10 SAFE VEH - DOCKOPS THRM 2.5YR	3	$3,492.73	$0.00	$3,492.73
Year 3	102527	AXON AIR - SKYDIO PARACHUTE PLAN FOR X10	1	$1,721.22	$0.00	$1,721.22
Year 3	102527	AXON AIR - SKYDIO PARACHUTE PLAN FOR X10	3	$5,163.67	$0.00	$5,163.67
Year 3	102528	AXON AIR - SKYDIO X10 CONSUMABLES PLAN FOR DOCK OPS	3	$14,895.35	$0.00	$14,895.35
Year 3	102639	AXON AIR - SKYDIO CONNECT FUSION+ FOR X10	1	$1,059.17	$0.00	$1,059.17
Year 3	102656	AXON AIR - AXON EVIDENCE UNLIMITED DATA STORAGE PER DRONE	3	$1,398.19	$0.00	$1,398.19
Year 3	102656	AXON AIR - AXON EVIDENCE UNLIMITED DATA STORAGE PER DRONE	1	$466.06	$0.00	$466.06
Year 3	50039	AXON INTERVIEW - CLIENT SOFTWARE - MAINT. PER TOUCH PANEL	8	$2,754.15	$0.00	$2,754.15
Year 3	50043	AXON INTERVIEW - STREAMING SERVER MAINTENANCE - PER SERVER	2	$804.96	$0.00	$804.96
Year 3	50045	AXON EVIDENCE - STORAGE - INTERVIEW ROOM UNLIMITED	16	$0.00	$0.00	$0.00
Year 3	50114	AXON INTERVIEW - CAMERA - COVERT SENSOR	16	$1,158.55	$0.00	$1,158.55
Year 3	50118	AXON INTERVIEW - MIC - WIRED (STANDARD MIC)	16	$680.16	$0.00	$680.16
Year 3	50218	AXON INTERVIEW - CAMERA - COVERT MAIN UNIT	16	$2,278.04	$0.00	$2,278.04
Year 3	50294	AXON INTERVIEW - SERVER - LITE	1	$596.77	$0.00	$596.77
Year 3	50295	AXON INTERVIEW - SERVER - PRO	1	$1,100.99	$0.00	$1,100.99
Year 3	50322	AXON INTERVIEW - TOUCH PANEL PRO	8	$4,120.00	$0.00	$4,120.00
Year 3	73390	AXON FLEET - CRADLEPOINT ROUTER TRANSFERRED WARRANTY	2	$0.00	$0.00	$0.00
Year 3	73390	AXON FLEET - CRADLEPOINT ROUTER TRANSFERRED WARRANTY	2	$0.00	$0.00	$0.00
Year 3	74056	AXON INTERVIEW - TOUCH PANEL WALL MOUNT	8	$104.14	$0.00	$104.14
Year 3	74116	AXON INTERVIEW - COVERT ENCLOSURE	16	$357.98	$0.00	$357.98
Year 3	80379	AXON SIGNAL - EXT WARRANTY - SIGNAL UNIT	2	$12.50	$0.00	$12.50
Year 3	80379	AXON SIGNAL - EXT WARRANTY - SIGNAL UNIT	1	$10.13	$0.00	$10.13
Year 3	85170	AXON INTERVIEW - INSTALLATION - STANDARD (PER ROOM)	8	$8,135.87	$0.00	$8,135.87
Year 3	85760	AXON AUTO-TRANSCRIBE - UNLIMITED SERVICE	187	$0.00	$0.00	$0.00
Year 3	A00007	BUNDLE - AXON DFR PATROL	1	$22,813.41	$0.00	$22,813.41
Year 3	BWCamMBDTAP	Body Worn Camera Multi-Bay Dock TAP Bundle	4	$3,051.93	$0.00	$3,051.93
Year 3	BWCamSBDTAP	Body Worn Camera Single-Bay Dock TAP Bundle	31	$3,964.77	$0.00	$3,964.77
Year 3	Fleet3B+TAPRe	Fleet 3 Basic + TAP Renewal	3	$4,240.71	$0.00	$4,240.71
Year 3	M00035	BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	205	$809,950.94	$0.00	$809,950.94
Year 3	ProLicense	Pro License Bundle	20	$0.00	$0.00	$0.00

May 2028

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Total				**$1,061,316.84**	**$0.00**	**$1,061,316.84**

May 2029

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Year 4	100579	AXON AIR - DRONESENSE UAS (CLASS 1)	3	$5,186.74	$0.00	$5,186.74
Year 4	100580	AXON AIR - DRONESENSE UAS (CLASS 2)	1	$2,949.29	$0.00	$2,949.29
Year 4	101237	AXON AIR - SKYDIO BATTERY (150W) FOR X10	5	$375.27	$0.00	$375.27
Year 4	101283	AXON RECORDS - DRAFT ONE - AI-ASSISTED REPORT WRITING	187	$136,977.58	$0.00	$136,977.58
Year 4	101498	AXON AIR - SKYDIO - IN-PERSON TRAINING - DOCK FOR X10	1	$2,237.36	$0.00	$2,237.36
Year 4	101499	AXON AIR - SKYDIO X10 DOCK COMMISSIONING	2	$14,339.46	$0.00	$14,339.46
Year 4	101648	AXON INTERVIEW - EXT WARRANTY - 5 YEARS	8	$755.01	$0.00	$755.01
Year 4	101648	AXON INTERVIEW - EXT WARRANTY - 5 YEARS	8	$755.01	$0.00	$755.01
Year 4	102002	AXON AIR - SKYDIO DUAL CHARGER X10 230W WALL ADAPTER	1	$113.70	$0.00	$113.70
Year 4	102286	AXON AIR - SKYDIO CARE FOR X10 - DOCK OPS W/ THERMAL, 2.5 YR	3	$3,295.03	$0.00	$3,295.03
Year 4	102367	AXON AIR - SKYDIO CARE X10 SAFE VEH - DOCKOPS THRM 2.5YR	3	$3,492.73	$0.00	$3,492.73
Year 4	102527	AXON AIR - SKYDIO PARACHUTE PLAN FOR X10	3	$5,163.67	$0.00	$5,163.67
Year 4	102527	AXON AIR - SKYDIO PARACHUTE PLAN FOR X10	1	$1,721.22	$0.00	$1,721.22
Year 4	102528	AXON AIR - SKYDIO X10 CONSUMABLES PLAN FOR DOCK OPS	3	$14,895.35	$0.00	$14,895.35
Year 4	102639	AXON AIR - SKYDIO CONNECT FUSION+ FOR X10	1	$1,059.17	$0.00	$1,059.17
Year 4	102656	AXON AIR - AXON EVIDENCE UNLIMITED DATA STORAGE PER DRONE	1	$466.06	$0.00	$466.06
Year 4	102656	AXON AIR - AXON EVIDENCE UNLIMITED DATA STORAGE PER DRONE	3	$1,398.19	$0.00	$1,398.19
Year 4	50039	AXON INTERVIEW - CLIENT SOFTWARE - MAINT. PER TOUCH PANEL	8	$2,754.15	$0.00	$2,754.15
Year 4	50043	AXON INTERVIEW - STREAMING SERVER MAINTENANCE - PER SERVER	2	$804.96	$0.00	$804.96
Year 4	50045	AXON EVIDENCE - STORAGE - INTERVIEW ROOM UNLIMITED	16	$0.00	$0.00	$0.00
Year 4	50114	AXON INTERVIEW - CAMERA - COVERT SENSOR	16	$1,158.55	$0.00	$1,158.55
Year 4	50118	AXON INTERVIEW - MIC - WIRED (STANDARD MIC)	16	$680.16	$0.00	$680.16
Year 4	50218	AXON INTERVIEW - CAMERA - COVERT MAIN UNIT	16	$2,278.04	$0.00	$2,278.04
Year 4	50294	AXON INTERVIEW - SERVER - LITE	1	$596.77	$0.00	$596.77
Year 4	50295	AXON INTERVIEW - SERVER - PRO	1	$1,100.99	$0.00	$1,100.99
Year 4	50322	AXON INTERVIEW - TOUCH PANEL PRO	8	$4,120.00	$0.00	$4,120.00
Year 4	73390	AXON FLEET - CRADLEPOINT ROUTER TRANSFERRED WARRANTY	2	$0.00	$0.00	$0.00
Year 4	73390	AXON FLEET - CRADLEPOINT ROUTER TRANSFERRED WARRANTY	2	$0.00	$0.00	$0.00
Year 4	74056	AXON INTERVIEW - TOUCH PANEL WALL MOUNT	8	$104.14	$0.00	$104.14
Year 4	74116	AXON INTERVIEW - COVERT ENCLOSURE	16	$357.98	$0.00	$357.98
Year 4	80379	AXON SIGNAL - EXT WARRANTY - SIGNAL UNIT	2	$12.50	$0.00	$12.50
Year 4	80379	AXON SIGNAL - EXT WARRANTY - SIGNAL UNIT	1	$10.13	$0.00	$10.13
Year 4	85170	AXON INTERVIEW - INSTALLATION - STANDARD (PER ROOM)	8	$8,135.87	$0.00	$8,135.87
Year 4	85760	AXON AUTO-TRANSCRIBE - UNLIMITED SERVICE	187	$0.00	$0.00	$0.00
Year 4	A00007	BUNDLE - AXON DFR PATROL	1	$22,813.41	$0.00	$22,813.41
Year 4	BWCamMBDTAP	Body Worn Camera Multi-Bay Dock TAP Bundle	4	$3,051.93	$0.00	$3,051.93
Year 4	BWCamSBDTAP	Body Worn Camera Single-Bay Dock TAP Bundle	31	$3,964.77	$0.00	$3,964.77
Year 4	Fleet3B+TAPRe	Fleet 3 Basic + TAP Renewal	3	$4,240.71	$0.00	$4,240.71
Year 4	M00035	BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	205	$809,950.94	$0.00	$809,950.94
Year 4	ProLicense	Pro License Bundle	20	$0.00	$0.00	$0.00
Total				**$1,061,316.84**	**$0.00**	**$1,061,316.84**

May 2030

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Year 5	100579	AXON AIR - DRONESENSE UAS (CLASS 1)	3	$5,186.74	$0.00	$5,186.74
Year 5	100580	AXON AIR - DRONESENSE UAS (CLASS 2)	1	$2,949.29	$0.00	$2,949.29
Year 5	101237	AXON AIR - SKYDIO BATTERY (150W) FOR X10	5	$375.27	$0.00	$375.27

May 2030						
Invoice Plan	**Item**	**Description**	**Qty**	**Subtotal**	**Tax**	**Total**
Year 5	101283	AXON RECORDS - DRAFT ONE - AI-ASSISTED REPORT WRITING	187	$136,977.58	$0.00	$136,977.58
Year 5	101498	AXON AIR - SKYDIO - IN-PERSON TRAINING - DOCK FOR X10	1	$2,237.36	$0.00	$2,237.36
Year 5	101499	AXON AIR - SKYDIO X10 DOCK COMMISSIONING	2	$14,339.46	$0.00	$14,339.46
Year 5	101648	AXON INTERVIEW - EXT WARRANTY - 5 YEARS	8	$755.01	$0.00	$755.01
Year 5	101648	AXON INTERVIEW - EXT WARRANTY - 5 YEARS	8	$755.01	$0.00	$755.01
Year 5	102002	AXON AIR - SKYDIO DUAL CHARGER X10 230W WALL ADAPTER	1	$113.70	$0.00	$113.70
Year 5	102286	AXON AIR - SKYDIO CARE FOR X10 - DOCK OPS W/ THERMAL, 2.5 YR	3	$3,295.03	$0.00	$3,295.03
Year 5	102367	AXON AIR - SKYDIO CARE X10 SAFE VEH - DOCKOPS THRM 2.5YR	3	$3,492.73	$0.00	$3,492.73
Year 5	102527	AXON AIR - SKYDIO PARACHUTE PLAN FOR X10	1	$1,721.22	$0.00	$1,721.22
Year 5	102527	AXON AIR - SKYDIO PARACHUTE PLAN FOR X10	3	$5,163.67	$0.00	$5,163.67
Year 5	102528	AXON AIR - SKYDIO X10 CONSUMABLES PLAN FOR DOCK OPS	3	$14,895.35	$0.00	$14,895.35
Year 5	102639	AXON AIR - SKYDIO CONNECT FUSION+ FOR X10	1	$1,059.17	$0.00	$1,059.17
Year 5	102656	AXON AIR - AXON EVIDENCE UNLIMITED DATA STORAGE PER DRONE	3	$1,398.19	$0.00	$1,398.19
Year 5	102656	AXON AIR - AXON EVIDENCE UNLIMITED DATA STORAGE PER DRONE	1	$466.06	$0.00	$466.06
Year 5	50039	AXON INTERVIEW - CLIENT SOFTWARE - MAINT. PER TOUCH PANEL	8	$2,754.15	$0.00	$2,754.15
Year 5	50043	AXON INTERVIEW - STREAMING SERVER MAINTENANCE - PER SERVER	2	$804.96	$0.00	$804.96
Year 5	50045	AXON EVIDENCE - STORAGE - INTERVIEW ROOM UNLIMITED	16	$0.00	$0.00	$0.00
Year 5	50114	AXON INTERVIEW - CAMERA - COVERT SENSOR	16	$1,158.55	$0.00	$1,158.55
Year 5	50118	AXON INTERVIEW - MIC - WIRED (STANDARD MIC)	16	$680.16	$0.00	$680.16
Year 5	50218	AXON INTERVIEW - CAMERA - COVERT MAIN UNIT	16	$2,278.04	$0.00	$2,278.04
Year 5	50294	AXON INTERVIEW - SERVER - LITE	1	$596.77	$0.00	$596.77
Year 5	50295	AXON INTERVIEW - SERVER - PRO	1	$1,100.99	$0.00	$1,100.99
Year 5	50322	AXON INTERVIEW - TOUCH PANEL PRO	8	$4,120.00	$0.00	$4,120.00
Year 5	73390	AXON FLEET - CRADLEPOINT ROUTER TRANSFERRED WARRANTY	2	$0.00	$0.00	$0.00
Year 5	73390	AXON FLEET - CRADLEPOINT ROUTER TRANSFERRED WARRANTY	2	$0.00	$0.00	$0.00
Year 5	74056	AXON INTERVIEW - TOUCH PANEL WALL MOUNT	8	$104.14	$0.00	$104.14
Year 5	74116	AXON INTERVIEW - COVERT ENCLOSURE	16	$357.98	$0.00	$357.98
Year 5	80379	AXON SIGNAL - EXT WARRANTY - SIGNAL UNIT	1	$10.13	$0.00	$10.13
Year 5	80379	AXON SIGNAL - EXT WARRANTY - SIGNAL UNIT	2	$12.50	$0.00	$12.50
Year 5	85170	AXON INTERVIEW - INSTALLATION - STANDARD (PER ROOM)	8	$8,135.87	$0.00	$8,135.87
Year 5	85760	AXON AUTO-TRANSCRIBE - UNLIMITED SERVICE	187	$0.00	$0.00	$0.00
Year 5	A00007	BUNDLE - AXON DFR PATROL	1	$22,813.41	$0.00	$22,813.41
Year 5	BWCamMBDTAP	Body Worn Camera Multi-Bay Dock TAP Bundle	4	$3,051.93	$0.00	$3,051.93
Year 5	BWCamSBDTAP	Body Worn Camera Single-Bay Dock TAP Bundle	31	$3,964.77	$0.00	$3,964.77
Year 5	Fleet3B+TAPRe	Fleet 3 Basic + TAP Renewal	3	$4,240.71	$0.00	$4,240.71
Year 5	M00035	BUNDLE - OFFICER SAFETY PLAN 10 PREMIUM	205	$809,950.94	$0.00	$809,950.94
Year 5	ProLicense	Pro License Bundle	20	$0.00	$0.00	$0.00
Total				**$1,061,316.84**	**$0.00**	**$1,061,316.84**

Tax is estimated based on rates applicable at date of quote and subject to change at time of invoicing. If a tax exemption certificate should be applied, please submit prior to invoicing.

Standard Terms and Conditions

Axon Enterprise Inc. Sales Terms and Conditions

Axon Master Services and Purchasing Agreement:

This Quote is limited to and conditional upon your acceptance of the provisions set forth in RFP 25-PD-072, related Exhibits and Attachments, including but not limited to the Arvada/Axon Agreement and Exhibit E Axon's Terms & Conditions, agreed to coterminously.

Acceptance of Terms:

Any purchase order issued in response to this Quote is subject solely to the above referenced terms and conditions. By signing below, you represent that you are lawfully able to enter into contracts. If you are signing on behalf of an entity (including but not limited to the company, municipality, or government agency for whom you work), you represent to Axon that you have legal authority to bind that entity. If you do not have this authority, please do not sign this Quote.

Exceptions to Standard Terms and Conditions

Agency has existing contract(s) originated via Quote(s):
Q-327553, Q-367607, Q-393714, Q-399363, Q-427906, Q-470404, Q-584713, Q-588774, Q-616310, Q-635606, Q-734302,

Agency is terminating those contracts effective 6/1/2026. Any changes in this date will result in modification of the program value which may result in additional fees or credits due to or from Axon.

The parties agree that Axon is applying a Transfer Balance of $170,975.83

100% discounted body-worn camera and docking station hardware contained in this quote reflects a TAP replacement for hardware purchased under existing quotes aforementioned above. All TAP obligations from this contract will be considered fulfilled upon execution of this quote.

Any credits contained in this quote are contingent upon payment in full of the following amounts:

Pending Billing - Q-327553 - 2/1/2026 - $22,366.20

Rewrite Estimates
Estimated Amounts and Contract Terminations. Any amounts stated as due under existing or terminated contracts — including contract transfer balances carried forward to new or pending contracts — are estimates based on payments received as of the calculation date. These estimates may be adjusted if new contracts are not executed on the anticipated dates or if expected payments are not made provided the amount does not exceed any applicable amount under the Arvada/Axon Agreement.

Refresh Shipment Timing
Technology Assurance Plan (TAP) Refresh Prior to Renewal. For Customers with expiring agreements that include TAP refresh rights, Axon may, in its discretion, ship refresh hardware under the existing contract while renewal or replacement agreements are in progress. Any such shipments will be deemed made under the terms of the existing contract until the new contract is fully executed, after which any applicable updates, fees, or adjustments will apply.

Shipment Timing
Shipment Variance. Estimated shipment dates are provided for planning purposes only and are not guarantees. Axon may ship hardware before or after the estimated shipment date, and failure to meet an estimated shipment date will not, by itself, constitute a breach, provided Axon uses commercially reasonable efforts to meet estimated shipment dates.

Signature

Date Signed

3/30/2026

Axon Enterprise, Inc.
17800 N 85th St
Scottsdale, Arizona 85255
United States
VAT: 86-0741227
Domestic:(800) 978-2737
International: +1.800.978.2737

Q-832425-46111BM

Issued: 03/30/2026

Quote Expiration: 04/30/2026

Estimated Contract Start Date: 07/01/2026

Account Number: 110160

Payment Terms: N30

Mode of Delivery: AUTO-GND

Credit/Debit Amount: $0.00

SHIP TO	BILL TO
Arvada Police Dept.- CO 7800 W 62ND AVE ARVADA, CO 80004-5617 USA	Arvada Police Dept.- CO 8101 Ralston Rd Arvada CO 80002-2439 USA Email:

SALES REPRESENTATIVE	PRIMARY CONTACT
Nick Butier Phone: Email: nbutier@axon.com Fax:	Jason Ammon Phone: (303) 419-8845 Email: jammon@arvada.org Fax: (720) 898-6801

Quote Summary

Program Length	60 Months
TOTAL COST	$0.00
ESTIMATED TOTAL W/ TAX	$0.00

Discount Summary

Average Savings Per Year	$188,591.36
TOTAL SAVINGS	$942,956.80

Payment Summary

Date	Subtotal	Tax	Total
Total	0	0	0

Quote Unbundled Price:	**$942,956.80**
Quote List Price:	**$942,956.80**
Quote Subtotal:	**$0.00**

Pricing

All deliverables are detailed in Delivery Schedules section lower in proposal

Item	Description	Qty	Term	Unbundled	List Price	Net Price	Subtotal	Tax	Total
A la Carte Hardware									
103052	AXON DEDRONE EOM RF SENSOR PLACE HOLDER	7			$10,000.00	$0.00	$0.00	$0.00	$0.00
102381	AXON DEDRONE RF-560 (1039 ATT US)	7			$30,000.00	$0.00	$0.00	$0.00	$0.00
A la Carte Software									
102212	AXON DEDRONE - DEDRONE TRACKER AI SOFTWARE C2 ONLINE	1	60		$1,356.16	$0.00	$0.00	$0.00	$0.00
102205	AXON DEDRONE - DEDRONETRACKER.AI RF SOFTWARE HOSTED	14	60		$678.08	$0.00	$0.00	$0.00	$0.00
A la Carte Services									
75014	AXON SIGNAL - PSO - INSTALLATION SERVICE ONSITE	4			$3,000.00	$0.00	$0.00	$0.00	$0.00
A la Carte Warranties									
101424	AXON FUSUS - CORE - EXTENDED WARRANTY	1	49		$0.00	$0.00	$0.00	$0.00	$0.00
Total							**$0.00**	**$0.00**	**$0.00**

Delivery Schedule

Hardware

Bundle	Item	Description	QTY	Shipping Location	Estimated Delivery Date
A la Carte	102381	AXON DEDRONE RF-560 (1039 ATT US)	7	1	06/01/2026
A la Carte	103052	AXON DEDRONE EOM RF SENSOR PLACE HOLDER	7	1	06/01/2026

Software

Bundle	Item	Description	QTY	Estimated Start Date	Estimated End Date
A la Carte	102205	AXON DEDRONE - DEDRONETRACKER.AI RF SOFTWARE HOSTED	14	07/01/2026	06/30/2031
A la Carte	102212	AXON DEDRONE - DEDRONE TRACKER AI SOFTWARE C2 ONLINE	1	07/01/2026	06/30/2031

Services

Bundle	Item	Description	QTY
A la Carte	75014	AXON SIGNAL - PSO - INSTALLATION SERVICE ONSITE	4

Warranties

Bundle	Item	Description	QTY	Estimated Start Date	Estimated End Date

Warranties

Bundle	Item	Description	QTY	Estimated Start Date	Estimated End Date
A la Carte	101424	AXON FUSUS - CORE - EXTENDED WARRANTY	1	06/01/2027	06/30/2031

Shipping Locations

Location Number	Street	City	State	Zip	Country
1	7800 W 62ND AVE	ARVADA	CO	80004-5617	USA

Payment Details

Jun 2026

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Annual Payment 1	101424	AXON FUSUS - CORE - EXTENDED WARRANTY	1	$0.00	$0.00	$0.00
Annual Payment 1	102205	AXON DEDRONE - DEDRONETRACKER.AI RF SOFTWARE HOSTED	14	$0.00	$0.00	$0.00
Annual Payment 1	102212	AXON DEDRONE - DEDRONE TRACKER AI SOFTWARE C2 ONLINE	1	$0.00	$0.00	$0.00
Annual Payment 1	102381	AXON DEDRONE RF-560 (1039 ATT US)	7	$0.00	$0.00	$0.00
Annual Payment 1	103052	AXON DEDRONE EOM RF SENSOR PLACE HOLDER	7	$0.00	$0.00	$0.00
Annual Payment 1	75014	AXON SIGNAL - PSO - INSTALLATION SERVICE ONSITE	4	$0.00	$0.00	$0.00
Total				**$0.00**	**$0.00**	**$0.00**

Jun 2027

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Annual Payment 2	101424	AXON FUSUS - CORE - EXTENDED WARRANTY	1	$0.00	$0.00	$0.00
Annual Payment 2	102205	AXON DEDRONE - DEDRONETRACKER.AI RF SOFTWARE HOSTED	14	$0.00	$0.00	$0.00
Annual Payment 2	102212	AXON DEDRONE - DEDRONE TRACKER AI SOFTWARE C2 ONLINE	1	$0.00	$0.00	$0.00
Annual Payment 2	102381	AXON DEDRONE RF-560 (1039 ATT US)	7	$0.00	$0.00	$0.00
Annual Payment 2	103052	AXON DEDRONE EOM RF SENSOR PLACE HOLDER	7	$0.00	$0.00	$0.00
Annual Payment 2	75014	AXON SIGNAL - PSO - INSTALLATION SERVICE ONSITE	4	$0.00	$0.00	$0.00
Total				**$0.00**	**$0.00**	**$0.00**

Jun 2028

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Annual Payment 3	101424	AXON FUSUS - CORE - EXTENDED WARRANTY	1	$0.00	$0.00	$0.00
Annual Payment 3	102205	AXON DEDRONE - DEDRONETRACKER.AI RF SOFTWARE HOSTED	14	$0.00	$0.00	$0.00
Annual Payment 3	102212	AXON DEDRONE - DEDRONE TRACKER AI SOFTWARE C2 ONLINE	1	$0.00	$0.00	$0.00
Annual Payment 3	102381	AXON DEDRONE RF-560 (1039 ATT US)	7	$0.00	$0.00	$0.00
Annual Payment 3	103052	AXON DEDRONE EOM RF SENSOR PLACE HOLDER	7	$0.00	$0.00	$0.00
Annual Payment 3	75014	AXON SIGNAL - PSO - INSTALLATION SERVICE ONSITE	4	$0.00	$0.00	$0.00
Total				**$0.00**	**$0.00**	**$0.00**

Jun 2029

Invoice Plan	Item	Description	Qty	Subtotal	Tax	Total
Annual Payment 4	101424	AXON FUSUS - CORE - EXTENDED WARRANTY	1	$0.00	$0.00	$0.00
Annual Payment 4	102205	AXON DEDRONE - DEDRONETRACKER.AI RF SOFTWARE HOSTED	14	$0.00	$0.00	$0.00
Annual Payment 4	102212	AXON DEDRONE - DEDRONE TRACKER AI SOFTWARE C2 ONLINE	1	$0.00	$0.00	$0.00
Annual Payment 4	102381	AXON DEDRONE RF-560 (1039 ATT US)	7	$0.00	$0.00	$0.00
Annual Payment 4	103052	AXON DEDRONE EOM RF SENSOR PLACE HOLDER	7	$0.00	$0.00	$0.00
Annual Payment 4	75014	AXON SIGNAL - PSO - INSTALLATION SERVICE ONSITE	4	$0.00	$0.00	$0.00
Total				**$0.00**	**$0.00**	**$0.00**

Jun 2030						
Invoice Plan	**Item**	**Description**	**Qty**	**Subtotal**	**Tax**	**Total**
Annual Payment 5	101424	AXON FUSUS - CORE - EXTENDED WARRANTY	1	$0.00	$0.00	$0.00
Annual Payment 5	102205	AXON DEDRONE - DEDRONETRACKER.AI RF SOFTWARE HOSTED	14	$0.00	$0.00	$0.00
Annual Payment 5	102212	AXON DEDRONE - DEDRONE TRACKER AI SOFTWARE C2 ONLINE	1	$0.00	$0.00	$0.00
Annual Payment 5	102381	AXON DEDRONE RF-560 (1039 ATT US)	7	$0.00	$0.00	$0.00
Annual Payment 5	103052	AXON DEDRONE EOM RF SENSOR PLACE HOLDER	7	$0.00	$0.00	$0.00
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Total				**$0.00**	**$0.00**	**$0.00**

Tax is estimated based on rates applicable at date of quote and subject to change at time of invoicing. If a tax exemption certificate should be applied, please submit prior to invoicing.

Standard Terms and Conditions

Axon Enterprise Inc. Sales Terms and Conditions

Axon Master Services and Purchasing Agreement:

This Quote is limited to and conditional upon your acceptance of the provisions set forth in RFP 25-PD-072, related Exhibits and Attachments, including but not limited to the Arvada/Axon Agreement and Exhibit E Axon's Terms & Conditions, agreed to coterminously.

Acceptance of Terms:

Any purchase order issued in response to this Quote is subject solely to the above referenced terms and conditions. By signing below, you represent that you are lawfully able to enter into contracts. If you are signing on behalf of an entity (including but not limited to the company, municipality, or government agency for whom you work), you represent to Axon that you have legal authority to bind that entity. If you do not have this authority, please do not sign this Quote.

Exceptions to Standard Terms and Conditions

Rewrite Estimates

Estimated Amounts and Contract Terminations. Any amounts stated as due under existing or terminated contracts — including contract transfer balances carried forward to new or pending contracts — are estimates based on payments received as of the calculation date. These estimates may be adjusted if new contracts are not executed on the anticipated dates or if expected payments are not made provided the amount does not exceed any applicable amount under the Arvada/Axon Agreement.

Refresh Shipment Timing

Technology Assurance Plan (TAP) Refresh Prior to Renewal. For Customers with expiring agreements that include TAP refresh rights, Axon may, in its discretion, ship refresh hardware under the existing contract while renewal or replacement agreements are in progress. Any such shipments will be deemed made under the terms of the existing contract until the new contract is fully executed, after which any applicable updates, fees, or adjustments will apply.

Shipment Timing

Shipment Variance. Estimated shipment dates are provided for planning purposes only and are not guarantees. Axon may ship hardware before or after the estimated shipment date, and failure to meet an estimated shipment date will not, by itself, constitute a breach, provided Axon uses commercially reasonable efforts to meet estimated shipment dates.

Signature

Date Signed

3/30/2026

Exhibit G

AN AGREEMENT BETWEEN THE CITY OF ARVADA AND AXON ENTERPRISE, INC. FOR GOODS AND SERVICES RELATED TO POLICE DEPARTMENT TECHNOLOGY IMPROVEMENTS IN AN AMOUNT NOT TO EXCEED $1,180,369.75 IN THE FIRST YEAR

Axon Fusus SOW – Arvada Police Department

Submitted By:

Axon Enterprise, Inc. (Axon)

17800 North 85th Street

Scottsdale, AZ 85255

1.0 PROJECT OVERVIEW ..... ERROR! NO BOOKMARK NAME GIVEN.

1.1 DEFINITIONS ..... **ERROR! NO BOOKMARK NAME GIVEN.**

2.0 SCOPE OF WORK ..... ERROR! NO BOOKMARK NAME GIVEN.

2.1 FUSUS PLATFORM ..... **ERROR! NO BOOKMARK NAME GIVEN.**
2.2 VIDEO INTEGRATION ..... **ERROR! NO BOOKMARK NAME GIVEN.**
2.3 SYSTEM INTEGRATIONS ..... **ERROR! NO BOOKMARK NAME GIVEN.**
2.4 COMMUNITY ENGAGEMENT ..... **ERROR! NO BOOKMARK NAME GIVEN.**
2.5 OUT-OF-SCOPE ACTIVITIES ..... **ERROR! NO BOOKMARK NAME GIVEN.**
2.6 PROJECT CHANGE ORDER (PCO) PROCESS ..... **ERROR! NO BOOKMARK NAME GIVEN.**

3.0 IMPLEMENTATION APPROACH ..... ERROR! NO BOOKMARK NAME GIVEN.

3.1 EXECUTION AND DEPLOYMENT ..... **ERROR! NO BOOKMARK NAME GIVEN.**
3.2 ACCEPTANCE CRITERIA ..... **ERROR! NO BOOKMARK NAME GIVEN.**

4.0 IMPLEMENTATION TEAM ..... ERROR! NO BOOKMARK NAME GIVEN.

4.1 AXON TEAM ..... **ERROR! NO BOOKMARK NAME GIVEN.**
4.2 AGENCY TEAM ..... **ERROR! NO BOOKMARK NAME GIVEN.**
4.3 CUSTOMER EXPECTATIONS ..... **ERROR! NO BOOKMARK NAME GIVEN.**

5.0 TECHNICAL SUPPORT ..... ERROR! NO BOOKMARK NAME GIVEN.

TERMS AND CONDITIONS ..... ERROR! NO BOOKMARK NAME GIVEN.

ATTACHMENT A – PROJECT CHANGE ORDER ..... ERROR! NO BOOKMARK NAME GIVEN.

ATTACHMENT B – MILESTONE COMPLETION REPORT (MCR). ERROR! NO BOOKMARK NAME GIVEN.

ATTACHMENT C – FUSUS QUALIFIER SUMMARY – ARVADA POLICE DEPARTMENT ..... ERROR! NO BOOKMARK NAME GIVEN.

This Statement of Work outlines the services that Axon will perform for the City of Arvada for the Arvada Police Department. The objective of this project is to successfully deploy and implement the selected Axon Modules, included in the agency's Axon Fusus package, to enhance operational efficiency, improve data management, and support the agency's public safety initiatives.

1.0 PROJECT OVERVIEW

1.1 DEFINITIONS

TERM	DEFINITION
PARTIES	
Agency, Customer, You	Refers to the agency or organization that is engaging Axon to provide the services and solutions outlined herein. The Customer is responsible for providing access, information, and the support necessary for the successful execution of the project. Hereafter, the standard term Agency refers to the City of Arvada through the Arvada Police Department.
End-Users	Specific Agency groups that will use the system.
Professional Services Organization, PSO	The dedicated Axon team partnering with public safety agencies to ensure the successful implementation, integration, and adoption of Axon's technology solutions. PSO provides guidance, project management, technical services, and training to help agencies maximize the value of their Axon products and achieve their operational goals.
We, Us, Axon	Referring to the vendor "Axon" who is responsible for the implementation of the software outlined within the SOW.
Fusus	Referring to the Fusus product line.
SYSTEMS	
Axon Systems	Software solutions and Agency specific integrations developed by Axon.
Product	The software solutions being implemented as part of this SOW.
Production Environment	The production environment is the live, operational setting where software, systems, or services are fully deployed and used by end users. It is the final stage in the development lifecycle, where real-time data is processed, and performance, reliability, and security are critical.
Service Portal	An online portal provided by Axon where issues identified are entered and triaged.
PROJECT & MILESTONES	
Project	Scope of this SOW as defined by the work to be completed described herein.

Project Change Order (PCO)	A formal document used to modify the original terms, scope, timeline, or cost of a project as outlined in this Statement of Work (SOW). It is mutually agreed upon by both parties and ensures that any changes to the project are documented, approved, and implemented in an organized and controlled manner. An example of this documentation can be found as Attachment A to the SOW. Any PCO must be added to the Arvada/Axon Agreement through a written amendment.
Milestone	Event that constitutes completion of work as listed in Attachment B.
Milestone Completion Report	The formal document verifying the completion of a specific project milestone as defined in the Statement of Work (SOW). It is submitted by Axonand must be reviewed and approved by the Customer to confirm that the agreed-upon deliverables or outcomes for that milestone have been successfully achieved. An example of this report can be found as Attachment B.
ACCEPTANCE	
Technical Blocker	Issue impacting 50% or more users within the platform.
Customer-Dependent Delays	If required customer documentation is not provided, installations may be unable to proceed. In these cases, progress depends on customer input rather than technical readiness, which may result in shifts to the deployment timeline and delivery milestones. Delays can also affect the availability of assigned project resources. Team members may be reallocated or have limited flexibility to resume work immediately once the required inputs are received, potentially impacting related activities or commitments.
Integration Acceptance Testing	Scheduled events for testing each integration point and associated functionality in collaboration with Agency and Agency's vendors.
Functional Acceptance Testing	Testing the functionality of the system as configured for Agency.

2.1 FUSUS PLATFORM

2.0 SCOPE OF WORK

Fusus is a map-based real-time operations platform incorporating myriad Agency and Non-Agency owned assets into a single pane of glass to optimize incident response and investigation. The following is included in the Agency's Fusus package:

2.1.a Platform Provisioning - The Agency's Fusus platform environment will be provisioned with user authentication integrated through Evidence.com, enabling unified user management and core access permissions within Evidence.com, while supporting additional role-based groups and permissions in Fusus to align with operational needs and ensure appropriate access to real-time tools and features.

2.1.b Axon Devices – Enable access to real-time locations, real-time alerts, and livestreaming in Fusus from any connected Axon device (may require hardware-specific connectivity or livestreaming license), including Axon Body cameras, Fleet 3, and Axon Air drones or counter-drones.

2.1.c Floor Plans – Support the placement of up to 50 floor plans within the Fusus map. The PSO team will provide guidance and training to enable the Agency to independently upload, edit, and position floor plan images using the platform's self-service capabilities to support increased situational awareness for internal and external video streams.

2.1.d FususOPS™ Mobile Application – Enable access to the FususOPS™ app for iOS or Android. FususOPS ™ allows authenticated users to view live camera feeds, receive alerts, and access agency-configured data, including geolocation information, to support situational awareness and incident response. No separate activation is required to utilize these features; customers must only download and install the application on a supported device. No separate configuration or deployment activities are required.

2.2 VIDEO INTEGRATION

Fusus is offering the following plan based on the video stream counts, network requirements, and AI usage outlined in the Fusus Qualifier Summary (Attachment C).

2.2.a Camera Streams – Axon will implement direct IP connection-based camera streams in accordance with the configurations defined in Attachment C and the accompanying quote – up to 5000 total streams. Streams will be configured for live view and tactical recordings.

- ❑ Axon will implement the number of camera streams and locations as outlined in Attachment C. These streams will be ingested from agency-owned assets and, where applicable, from external entities such as other government agencies.
- ❑ Axon will implement up to 3 separate camera networks as part of the total project scope. The video integration effort assumes standard configuration and access to required technical resources for each network. Materially distinct system architectures within a single network, or environments requiring extended coordination with third-party entities may

require additional effort. Any such work outside the stated assumptions will be addressed through a mutually agreed project change order and may impact project timeline.

- ❑ Agency to provide camera geo-location information and Axon will support map placement of all available cameras, up to a maximum of 5000 during the implementation period. If no geo-location information is available, Axon will provide training to Agency how to perform camera placement and orientation within Fusus.

2.2.b AI Camera Streams – Axon will implement AI camera streams in accordance with the configurations defined in Attachment C and the accompanying quote. The Agency is responsible for identifying which streams should be configured for AI object detection. The actual number of AI streams available is contingent upon stream characteristics and hardware capabilities, as not all CORES support AI analytics. Supported AI functionality may vary by configuration type, including crowd detection, or object intrusion zone detection.

2.2.c Remote Configuration of Fusus Core(s) – Axon will provide a trusted sites list to be implemented by the Customer networking team which will allow the Fusus Core Video devices to communicate to our cloud environments for self-management and video streaming.

- ❑ Axon will provide remote support for the installation and setup of Fusus Core hardware devices as outlined in Attachment C.

2.2.d Integration of video feeds – Axon supports direct integration of IP cameras with Fusus Core Devices using industry-standard RTSP and ONVIF protocols. IP cameras may be connected to Fusus Core Devices through (i) on-core device discovery using a user interface wizard, (ii) user-performed web-based configuration within the Fusus platform, or (iii) engagement with Axon Professional Services for configuration via supported bulk-upload tools.

2.3 SYSTEM INTEGRATIONS

In addition to Axon first party solutions, Fusus also integrates with third party (3P) solutions to create a connected operational experience that supports real-time situational awareness and informed decision-making. Fusus supports 3P integrations with designated partners under the Works With Axon (WWA) construct, extending the ecosystem through compatible and supported connections. These integrations are designed to enable shared experiences across platforms and are dependent on vendor capabilities, customer licensing, and technical readiness.

As part of this implementation, Axon PSO will support the standard integrations identified and agreed upon in Attachment C. Any self-service integrations configured or managed by the Agency without Axon PSO involvement are excluded from the scope of this implementation.

2.3.a Computer-Aided Dispatch (CAD) – Fusus integrates your active calls for service into a single pane of glass, map-based platform to quickly identify and populate live stream video from multiple data sources (mutual-aid, Axon Body and Fleet, and Axon Air if connected) for improved situational awareness, coordination of resources, and monitoring of incidents in real-time.

Axon will integrate with the Agency's CAD as outlined in Section 5.2 of Attachment C.

2.3.b. CAD Integration Methodology – Fusus CAD integration includes deployment of fully managed on-premise equipment, connecting to a local production or replication database with a read-only SQL user accessing custom tables or views for obtaining incident number, incident type, incident priority, incident status, address, latitude, longitude, caller name, caller phone, assigned units, received time, dispatched time, arrival time, and narrative (optional) OR an existing third-party API integration.

2.4 COMMUNITY ENGAGEMENT

Fusus provides support to implement the Agency's Connect program, enabling the integration and visibility of community cameras within the Fusus platform. A dedicated Connect Program Coordinator will provide remote implementation guidance and program support throughout the deployment. Attachment C details the onsite services included in your package for the installation and configuration of Fusus Core hardware at designated local donor sites.

2.4.a Fusus Registry – Fusus Registry saves time and enables investigations by creating a map of all the public and private security cameras in a location. When an incident occurs, investigators can use the Fusus Registry to easily locate and reach out to all the camera owners in the vicinity to request video footage. Axon will create and configure a camera registry website for the Agency to share with the community with Agency provided logo, background image, and memorandum of understanding.

2.4.b Fusus Connect Microsite – Development of an Agency specific website landing page to assist with building camera registration and integration of community video assets.

2.4.c Community Engagement Materials – Provision of Agency-branded marketing materials and templates designed for community engagement. These resources will be supplied to the Agency for distribution within the community, ensuring a consistent and professional presentation of the Community Connect Program and enhancing public awareness and participation. Aggregate spend for printed marketing materials is limited to $1,000.

2.5 OUT-OF-SCOPE ACTIVITIES

Unless expressly stated in this Statement of Work (including Attachment C), the following services are excluded from scope and require a mutually executed Project Change Order (PCO) prior to execution.

Axon Professional Services does not provide design, installation, remediation, or ongoing support of Agency infrastructure. This includes, but is not limited to, network design or upgrades, power, cabling, rack installation, firewall changes, camera hardware installation or relocation, and remediation of infrastructure deficiencies identified during deployment.

All agency owned hardware installation is assumed to be performed by the Agency unless explicitly identified otherwise. Axon will provide remote configuration and implementation support only for agency-owned Fusus Core hardware, encoders, and integrations expressly included in this SOW.

Video encoders, camera streams, AI analytics, and Core configurations are limited to the quantities, models, and capabilities defined in Attachment C. Expansion beyond defined limits, support for unsupported hardware, or changes driven by evolving operational use cases are excluded.

Integration support is limited to the standard integrations explicitly identified and agreed upon in Attachment C. Custom, non-standard, additional, or future integrations; integration enhancements; or expanded third-party coordination are excluded.

Training is limited to standard enablement associated with the implemented solution. Advanced, role-based, refresher, or ongoing training programs are excluded from the implementation.

This SOW does not include data governance, records retention definition, compliance consulting, ongoing system administration, monitoring, or post-go-live operational support beyond standard product support.

Any services not expressly defined herein shall be considered out of scope and governed through the Project Change Order process.

2.6 PROJECT CHANGE ORDER (PCO) PROCESS

2.6.a. Purpose: The purpose of the Project Change Order (PCO) process is to ensure that any requested changes are clearly understood, documented, and agreed upon by both the customer and the project team. This process helps maintain alignment on updated requirements or desired changes, as well as on any associated trade-offs related to scope, timeline, cost, or resources.

2.6.b. Project Change Order (PCO) Summary Process: When a customer requests a change to an active project, the Project Leader will prepare a Project Change Order (PCO) outlining the proposed update. The Project Leader then presents the PCO to the Fusus Change Review Board for review.

During the review, key stakeholders align on whether the change can be delivered and discuss any impacts or trade-offs related to scope, timeline, or resources. Once alignment is reached, the Project Leader will determine the next step based on the nature of the change.

If no additional cost is required, the Project Leader will return the PCO to the customer to review the change, obtain formal approval, and work with Arvada to execute a written amendment to the Arvada/Axon Agreement. If the change has cost implications, the Project Leader will work with Sales to develop pricing, then the Sales Leader will present the updated proposal to the customer for review, approval, and addition to the Arvada/Axon Agreement via written amendment.

The change is implemented only after customer agreement is confirmed by written amendment.

At Axon Fusus, our focus is on deploying efficiently so customers can begin realizing value in their day-to-day operations as quickly as possible. Our project teams combine real-world law enforcement experience with deep software deployment expertise to support practical, outcome-focused implementations.

3.0 IMPLEMENTATION APPROAH

Successful deployment is a shared effort. We work in close partnership with the Agency and, where applicable, the Agency's IT team and 3P vendors to ensure timely decisions, system access, and coordination throughout the project.

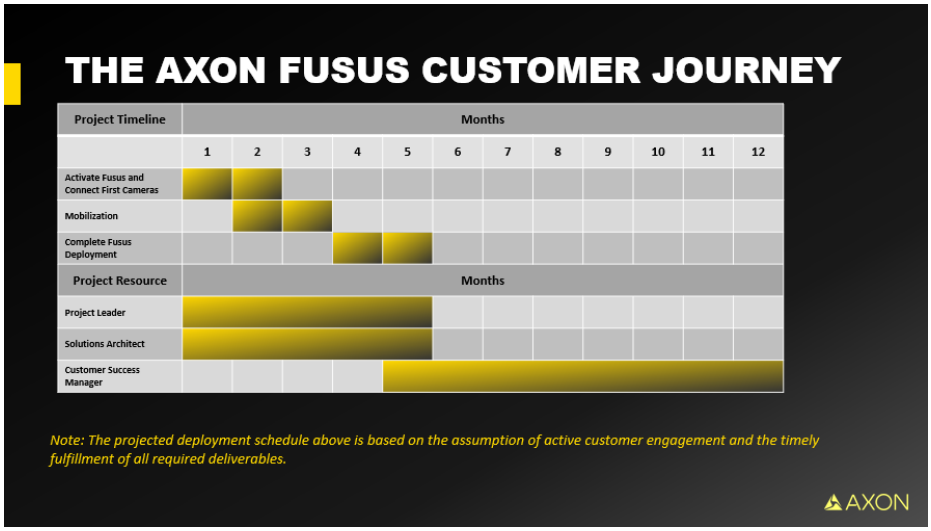
Axon project leaders are responsible for guiding execution and maintaining clear visibility into project status. Axon will use its Project Management Information System to transparently communicate project status, risks, actions, and deliverables, providing the Agency with real-time visibility into project progress throughout the deployment. During implementation, Axon works with the Agency to confirm progress aligns with agreed-upon objectives and to address issues promptly.

This approach provides structure and accountability while remaining flexible enough to support the Agency's operational needs and priorities.

3.1 EXECUTION AND DEPLOYMENT

3.1.a Axon will execute the deployment using a phased approach designed to accelerate time-to-value while supporting a complete and scalable implementation. Each phase includes clear entry and exit criteria to ensure alignment, readiness, and predictable execution. To support an efficient and well-coordinated deployment, the Agency will work with Axon to compile and share key information needed for planning and execution.

Delivery timelines are based on the mutual commitment of both parties to meet agreed-upon responsibilities and response timeframes. Under these assumptions, the anticipated deployment duration is approximately 150 days. Delays in providing required information, access, approvals, or technical readiness may require corresponding adjustments to the project schedule.



3.1.b Phase 1 – Activate Fusus and Connect First Cameras

3.1.b.1. Objective: Establish core Fusus functionality quickly and demonstrate early operational value.

3.1.b.2. Entry Criteria: Completed Qualifier

3.1.b.3. Axon will:

- Activate the Agency's Fusus system
- Introduce and configure the Community Connect program
- Connect the Agency's Axon devices (1P Integrations)
- Connect up to 100 CCTV video streams
- Deliver focused training for initial users

3.1.b.4. Exit Criteria:

- Completion of agreed upon Phase 1 deliverables
- Signed Phase 1 Milestone Completion Report (MCR)

3.1.c. Phase 1.5 – Mobilization

3.1.c.1. Objective: Prepare the Agency and supporting stakeholders for full deployment completion.

3.1.c.2. Entry Criteria: Executed Phase 1 MCR

3.1.c.3. Agency responsibilities include:

- Provide required documentation and technical inputs
- Secure internal approvals and authorizations
- Finalize operating procedures and readiness artifacts
- Coordinate with IT and third-party providers as needed

3.1.c.4. Exit Criteria:

- Required documentation and readiness artifacts provided and accepted
- Alignment across Agency, IT, and Axon teams on Phase 2 execution
- Finalized/ Signed Statement of Work (SOW)

3.1.d. Phase 2 – Complete Fusus Deployment

3.1.d.1. Objective: Expand and optimize the Fusus deployment in accordance with the signed Statement of Work.

3.1.d.2. Entry Criteria: Signed Statement of Work & receipt of required documentation necessary to complete Phase 2 deliverables

3.1.d.3. Axon will:

- Complete CAD integration, where applicable
- Deploy remaining core streams across the jurisdiction
- Launch a public-facing Community Connect program
- Complete remaining third-party integrations
- Deliver broader Agency training

3.1.d.4.Exit Criteria:

- Completion of Phase 2 deliverables as defined in the SOW
- Signed Final Milestone Completion Report (MCR)
- Transition to Customer Success and Support

3.1.e Test – Axon will collaborate with the Agency to develop and refine an agreed upon Acceptance Test Plan (ATP). The joint project teams will conduct functional, interface, integration, and Final Acceptance Testing. Test phases and details will be finalized during the deployment process.

In addition to Functional Testing, Acceptance Testing may include the following:

- ❑ Test Plan and Test Script Development
- ❑ Integration Testing
- ❑ Final Acceptance Testing

3.1.f Training – Axon's training approach is designed to support effective system adoption while providing the Agency with flexibility in how and when training is completed. Training is primarily delivered through e-learning to allow users to build familiarity with Fusus functionality at their own pace and revisit materials as needed.

Training is provided through Axon Academy and virtual sessions led by Axon project leaders and is delivered at key points throughout the deployment to align with system readiness and operational use. In addition, Axon offers a bi-weekly *Mission Ready* webinar, which brings together agencies nationwide to share best practices and learn from real-world use cases. These sessions are led by Axon's Adoption and Enablement team and focus on the operationalization of Fusus in day-to-day environments.

This blended approach provides consistent foundational training while supporting ongoing learning and knowledge sharing across the Fusus user community.

3.1.f.1 Phase 1 Training Objective

Equip the core project team with essential skills in system navigation, user management, and basic platform usage to establish a strong foundational understanding of the platform.

Phase 1 Course-to-Objective & Module Mapping

Phase 1 Course	Primary Objective Alignment	Modules Covered	Audience
User Management	Enable the core team to administer and maintain users effectively	• System Orientation (admin perspective) • User account creation and maintenance • Role, permission, and profile assignment	Core Group
User Essentials	Build confidence in daily platform use and basic support capabilities	• System Orientation (end-user perspective) • Basic navigation and core features • Common troubleshooting • Best practices for self-sufficiency	Core Group

Module Coverage Summary (Phase 1)

- **System Orientation:** Covered across both courses to ensure the core team understands platform navigation and foundational functionality from both administrative and user perspectives.
- **User Management:** Fully addressed through the User Management course, focusing on administrative responsibilities and governance.
- **Basic User Training:** Delivered through User Essentials, emphasizing functional usage, issue resolution, and readiness to support other users.

Phase 1 Training Outcome

Upon completion of Phase 1, core team members are prepared to:

- Confidently navigate the platform
- Manage users, roles, and access
- Support basic user needs prior to broader rollout

3.1.f.2 Phase 2 Training Objective

Advance the core team and designated champions from foundational knowledge to operational proficiency by developing administrative capability, deeper system understanding, and effective use of advanced operational tools.

Phase 2 Courses

Phase 2 Course	Primary Objective	Key Focus Areas	Audience
Fusus Administration	Enable the core team to administer, configure, and maintain the platform at an operational level	• System configuration and settings • Platform governance and administration • Ongoing system maintenance and oversight	Core Group
User Essentials	Prepare champions to confidently use the platform and support end users	• Day-to-day system usage • Basic navigation and core features • Basic troubleshooting and user support	Champions
Advanced Operational Tools (AOT)	Equip advanced users to leverage higher-level tools to support operational use cases	• Advanced tools • Integrations and interactions	Core Group & Champions

Module Coverage Summary (Phase 2)

- **Administrative Proficiency:** Delivered through *Fusus Administration*, enabling the core team to manage system-level configurations and ensure platform stability.
- **User Enablement & Scale:** Achieved by extending *User Essentials* to Champions, creating a broader internal support network.
- **Operational Maturity:** Driven by *Advanced Operational Tools*, allowing both core team members and champions to apply the advanced tools to their daily operations

Phase 2 Training Outcome

At the completion of Phase 2, agency staff are prepared to:

- Operate confidently as system administrators and advanced users
- Champions are empowered to support adoption and frontline users

- ❑ The organization is prepared to transition into post-deployment enablement, including webinars, and regional training

3.1.g Go-Live – After completing all project phases, Axon and the Agency will agree on a go-live date.

3.2 ACCEPTANCE CRITERIA

3.2.a. The following table outlines the deployment scope aligned to the Agency's current operational needs for their Fusus subscription. This scope defines deployment completion for Phase 2 while allowing flexibility to expand functionality over time as requirements evolve.

3.2.b Deployment Scope & Phase 2 Completion Criteria

Deployment Component	Included Scope	Notes / Assumptions
Integrations	Axon will implement the integrations outlined in the Attachment C – Fusus Qualifier Summary document.	This assumes the 3P vendor(s) provides the access and support necessary to enable integration(s).
Floor Plans	Up to **50 floor plans** completed by Axon PSO during the project implementation	Additional floor plans beyond this quantity may be completed using self-service functionality.
Camera Placement & Orientation	Placement and orientation of up to two-thirds (2/3) of the total number of camera streams purchased, not to exceed 5,000 cameras	Agency to provide camera maps or latitude/longitude location data. Additional placements may be completed using self-service functionality.
Axon Core Installations	Fusus Core installation will be conducted primarily via remote configuration, with on-site support provided only if specifically included in scope.	On-site hardware installation is excluded unless requested by the Agency and covered through purchase of the applicable hardware implementation SKU.
Training	**Standard virtual training** delivered via Axon Academy and Axon project leaders	Additional training offerings may be purchased if required.

3.2.c. Phase 2 Exit Criteria – Deployment Completion

Upon meeting the conditions outlined below, the system shall be considered operational, Phase 2 complete, and the deployment transitioned to steady-state operations.

- ❑ All Phase 2 deliverables outlined in the signed Statement of Work have been completed
- ❑ The agreed-upon number of integrations, floor plans, camera placements, and core installations (as defined above) are implemented

- ❑ Standard training has been delivered
- ❑ Transition to Customer Success and Support has occurred

3.2.d. Sustainment, Future Expansion & Flexibility

Fusus is designed to support ongoing growth and evolving operational needs. Additional integrations, camera streams, floor plans, core installations, and training may be added post-deployment through future Statements of Work or add-on services added to the Arvada/Axon Agreement by amendment. This approach allows the Agency to expand capabilities over time without disrupting existing operations or redefining deployment completion.

[redacted]

Axon's project team will include an executive sponsor, a project leader, a solution architect, a project coordinator and a customer success manager.

4.0 IMPLEMENTATION TEAM

4.1 AXON TEAM

- Executive Sponsor: Oversees implementation and reports progress to Axon executives.
- Project Leader: The Project Leader is responsible for driving the successful execution of the Fusus deployment from kickoff through go-live and transition to steady-state operations. This role provides end-to-end coordination across Axon teams and the Agency, ensuring the deployment remains on schedule, aligned with agreed-upon objectives, and delivered in accordance with the Statement of Work. This individual's responsibilities include:
  - Develop and manage the deployment and go-live project plan, ensuring adherence to timelines and escalation of schedule risks or issues.
  - Lead day-to-day execution of the deployment, ensuring milestones, timelines, and deliverables are met
  - Maintain clear communication and expectations with Agency stakeholders and internal Axon teams
  - Coordinate and support system configuration activities, including integrations and environment setup
  - Lead discussions related to scope alignment, trade-offs, and change requests
  - Monitor project risks, issues, and dependencies, and drive timely resolution
  - Support quality assurance, testing, and troubleshooting of the Fusus environment
  - Manage user setup, permissions, and delivery of virtual training as needed
  - Serve as the primary point of coordination throughout the deployment lifecycle
  - Facilitate transition to Customer Success and Technical Support following go-live
- Solution Architect: Technical lead on the project and responsible for the development and execution of technical initiatives. This individual's responsibilities include:
  - Technical validation of SOW scope and timeline estimates.
  - Refine the requirements and approach for all integrations
  - Agency liaison to troubleshoot with product and tech support.

- Ensure Axon tech support has all needed project information.

- Connect Program Coordinator: Axon-dedicated point of contact responsible for collaborating with the Customer to design, implement, and promote a community safety initiative, fostering mutually beneficial partnerships within the private sector. Drives the sustainable growth and scalability of the Connect program, an enduring component of the Fusus experience, equipping the Agency to independently manage and expand the initiative across its jurisdiction. This individual's responsibilities include:
  - Collaborate with the Agency to define and implement a tailored community safety initiative, ensuring alignment with Agency priorities, optimizing available resources, and addressing operational requirements to guarantee long-term effectiveness and scalability.
  - Serve as the primary liaison between the Agency and private sector partners, facilitating the seamless integration of compatible camera systems into the Fusus instance.
  - Oversee the deployment of third-party resources, coordinating with tech support to ensure the successful installation and configuration of core devices at private sector locations.
  - Guide the Agency in the creation of a customized, Agency-branded microsite to drive program participation and community engagement.
  - Partner with internal Axon teams to develop and execute targeted promotional strategies designed to engage the community and accelerate program adoption.
  - Educate the Agency on industry best practices, providing the tools, resources, and knowledge required to independently manage, scale, and sustain the program with long-term success.

- Customer Success Manager – Serve as the Agency's advocate and champion post-implementation assisting with any ongoing strategic needs.

4.2 AGENCY TEAM

- Agency Appointed Project Lead
  - Serve as the primary agency point of contact for the duration of the project.
  - Coordinate internal agency resources and stakeholders.
  - Participate in project meetings and provide consolidated agency feedback and decisions.
  - Support adherence to the project timeline, including escalation of risks or schedule impacts.
  - Facilitate approvals, documentation review, and milestone sign-off.

- Video and Network Administrator
  - Provide access to and oversight of relevant video infrastructure and network environments.
  - Support network configuration, firewall changes, and bandwidth validation as required.
  - Assist with system integration, connectivity testing, and troubleshooting.
  - Confirm technical readiness prior to deployment and go-live.
- CAD and AVL Administrator
  - Provide access to CAD and/or AVL systems as required for integration.
  - Support data mapping, configuration validation, and interface testing.
  - Coordinate with internal or third-party vendors supporting CAD/AVL systems.
  - Participate in testing and validation of system functionality prior to go-live.
- Fusus Connect Program Lead
  - Oversee agency participation in the Fusus Connect Program.
  - Coordinate camera registration, partner onboarding, and community engagement efforts.
  - Ensure alignment with agency policies and operational objectives.
  - Serve as the primary liaison for program-related decisions and approvals.
- Training Point of Contact (POC)
  - Coordinate training logistics, including scheduling, facilities (if applicable), and attendee communication.
  - Identify required attendees and ensure participation in scheduled sessions.
  - Support distribution of training materials and post-training follow-up.
  - Collect and provide consolidated feedback regarding training delivery and effectiveness.
- IT Program Lead
  - Provide executive-level oversight of technical implementation activities.
  - Ensure alignment with agency IT standards, security policies, and governance requirements.
  - Facilitate cross-functional coordination between IT, public safety, and operational stakeholders.
  - Review and approve technical architecture, integration approach, and security configurations.
  - Support resolution and escalation of technical risks, dependencies, or resource constraints impacting deployment.

4.3 CUSTOMER EXPECTATIONS

Successful implementation requires the Customer's active participation in the deployment process and commitment of the necessary resources. Customer responsibilities include:

- Provide accurate and complete business, technical, and operational requirements.
- Define and confirm project success criteria.
- Ensure internal readiness, including availability of personnel, systems, facilities, and infrastructure required for deployment.
- Participate in scheduled status meetings and escalation discussions, as needed.
- Provide access to facilities, systems, networks, data, and personnel required to support configuration and integration activities.
- Supply accurate and complete data for configuration, testing, and integration.
- Participate in user acceptance testing (UAT) and validation activities, including formal acceptance of deliverables.
- Ensure relevant personnel attend required training sessions, as applicable.

The Customer acknowledges that fulfillment of these responsibilities in accordance with the agreed project schedule is critical to maintaining deployment timelines. Delays in providing required information, access, approvals, or participation may result in adjustments to the project schedule, deliverables, and associated costs.

[redacted]

5.0 TECHNICAL SUPPORT

Axon has a full customer support division; live phone support is available 24 hours a day, seven days a week. For technical or Customer Support assistance, you may contact a customer service representative at 844.226.9226 (option 2), or via email at helpdesk@Fusus.com. Online, email -based support and remote-location troubleshooting are included on an ongoing basis as part of your investment in the Axon Ecosystem.

Upon project completion, the Project Leader will lead a formal handoff to the Customer Success Manager (CSM) with the Customer present. This ensures all stakeholders are aligned on the project's current state and establishes a clear plan for ongoing support and success.

[redacted]

This SOW is governed by An Agreement Between the City of Arvada and Axon Enterprise, Inc. for Goods and Services Related to Police Department Technology Improvements in an Amount Not to Exceed $5,425,637.11 (the "Arvada/Axon Agreement") executed by the Parties.

TERMS AND CONDITIONS

AXON:	CUSTOMER:
Axon Enterprise, Inc.	City of Arvada for the Arvada Police Department
By: _____	By: _____
Name: _____	Name: _____
Title: _____	Title: _____
Date: _____	Date: _____

The purpose of the Project Change Order (PCO) process is to ensure that any requested changes are clearly understood, documented, and agreed upon by both the customer and the project team. This process helps maintain alignment on updated requirements or desired changes, as well as on any associated trade-offs related to scope, timeline, cost, or resources.

ATTACHMENT A – PROJECT CHANGE ORDER

Date:
Description of change to Axon product or service:
Change Order Details:

AXON:

Axon Enterprise, Inc.

By: _____

Name: _____

Title: _____

Date: _____

CUSTOMER:

City of Arvada for the Arvada Police Department

By: _____

Name: _____

Title: _____

Date: _____

[redacted]

ATTACHMENT B – MILESTONE COMPLETION REPORT (MCR)

By signing for the items in this Milestone Completion Report, I agree that Axon's Professional Services Organization has reached the following milestone(s) for the project agreed upon in the SOW between Axon and the City of Arvada for the Arvada Police Department:

- ❑ User Acceptance Testing (UAT) 1
- ❑ Activation Complete
- ❑ User Acceptance Testing (UAT) 2
- ❑ Fusus Deployment Complete

Date services were completed on:

_____ day of _____ , 20 ___

Today's date: _____

Agency name: _____

Signature: _____

Printed name: _____

Title: _____

Email: _____

[redacted]

ATTACHMENT C – FUSUS QUALIFIER SUMMARY – ARVADA POLICE DEPARTMENT

This document outlines the agency-specific requirements and expectations for the Fusus implementation at Arvada Police Department. It serves as a foundational reference for scoping, solution alignment, and execution planning. The details captured herein reflect the agency's current technology environment, intended use of Fusus capabilities, integration needs, and deployment considerations. However, as of its effective date, the Arvada/Axon Agreement primarily contemplates Phase 1 – Video Integration as set forth below. When the Parties agree to begin Work under Phase 2 or pursue any Work not contemplated by the Arvada/Axon Agreement as of the Effective Date, the Parties agree to execute a written amendment to the Arvada/Axon Agreement to expand on this Attachment C. This Qualifier ensures that all stakeholders have a clear, shared understanding of the operational and technical context prior to formalizing the Statement of Work.

1. Basic Agency Information

a. Customer State: Colorado
a. Current Axon Technology: Yes- AB4 + Fleet
b. Current Respond Status: Yes- Respond+
c. Agency Tier: Not Specified

2. Fusus Subscription Overview

a. Package Level: Fusus PRO+
b. Fusus Licenses (PUPM): Not Specified
c. Streams Included with Tier: 225
d. Streams Added A La Carte: 0
e. Total Streams Purchased: 225

3. Phase 1 – Video Integration

a. Agency-Controlled Networks:
    - Facilities Network: Victor Unified VMS
    - Streets Network: Genetec
b. Agency-Sponsored Donor Sites: Not Specified

4. Phase 2 – Video Integration

a. Agency-Controlled Networks:
    a. Facilities Network (Remaining): Victor Unified VMS
b. Additional Controlled Networks: Not Specified
c. The Facilities Network and Additional Controlled Networks may be defined by the Parties through written amendment to the Arvada/Axon Agreement.

5. Technology Stack & Integration Expectations

1. Mutual Aid Agencies: Unknown for now
2. Computer-Aided Dispatch (CAD):
   a. Vendor: Central Square OneSolution
   b. Deployment: Regional - JeffComm 911
3. Automatic Vehicle Location (AVL):
   a. Provider: Only Axon Fleet3
4. Expected ALPR Integrations:
   a. Fleet3 LPR
5. Expected Drone Integrations:
   a. AxonAIR
6. Standard Integrations Expected:
   a. Not Specified
7. Additional Promised Integrations:
   a. Not Specified
8. Any information “not specified” in this section as of the Effective Date of the Arvada/Agreement may be specified through a future written amendment.

AXON_ENTERPRISE_

CITY OF ARVADA

REPORT TO CITY COUNCIL RESOLUTION

AGENDA ITEM 8.B.2.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: R26-009, A Resolution Repealing the Current City Council Rules of Procedures Governing Meetings and Adopting City Council Bylaws (Presenter: Rachel Morris, City Attorney) (Continued from February 3, 2026) (TO BE CONTINUED TO MAY 5, 2026)

Report in Brief

Presenter: Rachel Morris, City Attorney

The City Council previously considered and provided guidance concerning revisions to the proposed Bylaws at a public hearing on February 3, 2026. In order to give the City team time to complete these revisions, and in order to give the public additional time to provide comments on the Bylaws, City Council continued the agenda item to the City Council meeting on April 21, 2026.

There are a number of items on the agenda for April 21, 2026 that are of significant importance to the Arvada community and will require focused and lengthy consideration by Council. To allow appropriate time and focus for Council's consideration of the Bylaws and for public comment, the City team is proposing continuing the public hearing on this item to May 5, 2026.

The Arvada team recommends that the City Council continue R26-009, A Resolution Repealing the Current City Council Rules of Procedures Governing Meetings and Adopting City Council Bylaws to the City Council meeting to be held on May 5, 2026.

Financial Impact

N/A

Background

See the Report in Brief and Discussion sections of this report.

Discussion

The Council Bylaws were brought forward for Council's consideration at a public hearing on February 3, 2026. At the public hearing, Council provided the City team with guidance on a number of sections of the proposed Bylaws. Council then moved to continue the public hearing to April 21, 2026, so that the City team could implement Council's guidance into a final version of the Bylaws to be approved by Council, and so that members of the public would have an additional opportunity to comment on the final version of the Bylaws to be approved.

Unbeknownst to the City team during the prior public hearing, the agenda for April 21, 2026 City Council meeting has become quite lengthy and includes matters which will likely take several hours for City Council to consider.

At the last public hearing on February 3, 2026, many members of the community appeared to provide public comment on the draft Bylaws. Since these Bylaws have generated greater than average interest to the community, the City team wants to ensure that there is plenty of time for members of the public to appear and comment on the final version of the Bylaws. Out of respect for everyone's time, we are asking to continue this item to May 5, 2026 so that Council and members of the public have plenty of time to continue to discuss and debate any issues raised by the final version of the Bylaws. Since Council had previously set

this public hearing on the record, a motion to continue this matter to May 5, 2026 is required to maintain the transparency of the Bylaws adoption process.

Public Contact

A study session on this topic was held on December 9, 2025; Posting of the City Council Agenda. City Council also held the first portion of the public hearing for this resolution on February 3, 2026.

Commission Recommendation

N/A

Strategic Alignment

Arvada depends on a well-managed, fiscally responsible, and transparent City government.

Alternative Courses of Action

NA

Recommendation for Action

The Arvada team recommends that the City Council continue R26-009, A Resolution Repealing the Current City Council Rules of Procedures Governing Meetings and Adopting City Council Bylaws to the City Council meeting to be held on May 5, 2026.

Suggested Motion:

I move that R26-009, A Resolution Repealing the Current City Council Rules of Procedures Governing Meetings and Adopting City Council Bylaws be continued to May 5, 2026.

Prepared by:
Toni Riebschlager, Law Office Administrator

Reviewed by:

Approved by:

Rachel Morris, City Attorney	04/06/2026
Allison Scheck, Deputy City Manager	04/06/2026
Linda Haley, Deputy City Manager	04/07/2026
Don Wick, City Manager	04/08/2026

Enclosure, exhibits & attachments required to support the report

RESOLUTION NO. R26-009

A RESOLUTION REPEALING THE CURRENT CITY COUNCIL RULES OF PROCEDURES GOVERNING MEETINGS AND ADOPTING CITY COUNCIL BYLAWS

WHEREAS, the City Council has had in place for many years Rules of Procedures Governing Meetings; and

WHEREAS, the City Council finds that organizations should review existing policies, procedures, and rules on a regular basis to ensure they conform to current and best practices; and

WHEREAS, the Rules of Procedures Governing Meetings have not been reviewed in their entirety for a considerable period of time; and

WHEREAS, the City Council recently undertook a review of the Rules of Procedure Governing Meetings, which revealed that the Rules should be repealed and that the Council should adopt City Council Bylaws instead; and

WHEREAS, adopting the City Council Bylaws will enhance the City's ability to conduct its business more efficiently, fairly, and transparently.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF ARVADA, COLORADO:

Section 1. The City Council hereby repeals the current City Council Rules of Procedure and all amendments thereto and adopts the City Council Bylaws in substantially the same form as those attached hereto.

Section 2. The City Council Policy Manual remains unchanged.

Section 3. This resolution shall be effective upon its approval by the City Council.

APPROVED AND ADOPTED this ____ day of _____, 2026.

_____
Lauren Simpson, Mayor

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:
Rachel A. Morris, City Attorney

By: _____

CITY OF ARVADA

REPORT TO CITY COUNCIL ORDINANCE FIRST READING

AGENDA ITEM 8.C.1.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: CB26-016, An Ordinance Repealing, Retitling, and Reenacting Chapter 94, Article II, Construction and Repair of Sidewalks, etc., of the Arvada City Code (Public Hearing to be set for May 5, 2026 at 6:15 p.m.) (Presenter: Chris Lisberg, Assistant City Engineer)

Report in Brief

"PRESENTER: Chris Lisberg, Assistant City Engineer"

Updates to Chapter 94, Article II of the Arvada City Code are proposed to establish an application-based financial assistance framework for eligible single-family residential properties in advance of the May 2026 launch of the Sidewalk Repair Assistance Program. Under the proposed program, applicants at or below 80% of current Denver Metro HUD income limits would be eligible for 100% financial assistance, while applicants above that threshold would be eligible for 50% financial assistance.

The Arvada team recommends that the City Council approve CB26-016, An Ordinance Repealing, Retitling, and Reenacting Chapter 94, Article II, Construction and Repair of Sidewalks, etc., of the Arvada City Code.

Financial Impact

Funding for the program will be provided by the Pavement Management Program budget. The program team is recommending an initial budget of $300,000 annually, which will be reevaluated annually through the city's budget process.

Background

Since the 1980s, the City has maintained what was known as the “50/50 Program” for sidewalks (Sec. 94-36, Cost Sharing and Completing the Work), which served as an incentive to support code enforcement of sidewalk repairs. The 50/50 Program was discontinued in 2022 to examine its effective use and how to address ADA requirements. Through the City Council New Business Request process, along with Council workshops held in August 2024 and October 2025, the program’s goals, structure, and financial approach were further refined and finalized in preparation for implementation in May 2026, pending approval of this ordinance update.

Discussion

The primary revisions to Chapter 94, Article II of the Arvada City Code include:

1. Replacing the previous 50/50 cost-sharing provision with an application-based financial assistance program for eligible single-family residential properties.
2. Establishing financial assistance tiers under which eligible households at or below 80% of current Denver Metro HUD income limits may receive 100% financial assistance, while eligible households above 80% of current Denver Metro HUD income limits may receive 50% financial assistance.
3. Establishing application eligibility criteria, including legal property ownership, single-family residential land use, location of the sidewalk within City right-of-way or accessible by easement, and sidewalk condition below the City’s minimum acceptable condition.

4. Adding Section 94-35, Notice of Completion and Payment, to clarify that when work is completed by or under the direction of the City, the property owner will receive notice of completion, the amount due, and the applicable payment requirements and timeline.

The proposed ordinance revisions update Chapter 94, Article II to align the City Code with the Sidewalk Repair Assistance Program while preserving the City's existing enforcement, notice, hearing, assessment, and installment payment framework.

Public Contact

Posting of the City Council agenda.

Commission Recommendation

N/A

Strategic Alignment

This work aligns with the Infrastructure Work System Services INF4: Innovates safe, accessible, and efficient connections to modes of transportation, including transit, streets, sidewalks and bikeways.

Alternative Courses of Action

N/A

Recommendation for Action

The Arvada team recommends that City Council order and publish in full CB26-016, An Ordinance Repealing, Retitling, and Reenacting Chapter 94, Article II, Construction and Repair of Sidewalks, etc., of the Arvada City Code with a public Hearing to be set for May 5, 2026 at 6:15 p.m.

Suggested Motion:

I move that CB26-016, An Ordinance Repealing, Retitling, and Reenacting Chapter 94, Article II, Construction and Repair of Sidewalks, etc., of the Arvada City Code, be (approved on first reading, ordered published in full, and a public hearing set for May 5, 2026, at 6:15 p.m.) (rejected).

Prepared by:
Tammy Hedlund, Legal Specialist

Reviewed by:

Approved by:

Claudia Vaughan, City Engineer	03/17/2026
Jacqueline Rhoades, Director of Infrastructure	03/19/2026
Bryan Archer, Chief Financial Officer	03/19/2026
Tammy Hedlund, Legal Specialist	03/19/2026
Zachary Woolweaver, Assistant City Attorney I	03/19/2026

Rachel Morris, City Attorney	03/19/2026
Allison Scheck, Deputy City Manager	03/19/2026
Don Wick, City Manager	03/26/2026

Enclosure, exhibits & attachments required to support the report

COUNCIL BILL NO. 26-016
ORDINANCE NO. _____

AN ORDINANCE REPEALING, RETITLING, AND REENACTING CHAPTER 94, ARTICLE II, CONSTRUCTION AND REPAIR OF SIDEWALKS, ETC., OF THE ARVADA CITY CODE

WHEREAS, the City of Arvada has the authority under C.R.S. § 31-15-103, and otherwise under its authority as a Home Rule city to establish ordinances, regulations, and procedures that protect life and property; and

WHEREAS, the City Council finds it is important for the City to frequently review, update, and correct language in its code of ordinances; and

WHEREAS, the following article is being repealed, retitled, and reenacted to reestablish the Sidewalk Repair Assistance Program, as well as provide additional clarity and concision throughout the article.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ARVADA, COLORADO:

Section 1. Article II of Chapter 94, Construction and Repair of Sidewalks, ETC., of the Arvada City Code is hereby repealed, retitled, and reenacted in its entirety to read as follows:

"Article II. Construction and Repair of Curbs, Gutters, and Sidewalks.

Sec. 94-31. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

City engineer means the city engineer or designee thereof.

City manager means the city manager or designee thereof.

Denver Metro HUD home income limits means the current home income limits measured by area medium income ranges published annually by the United States Department of Housing and Urban Development (HUD).

Property owner means the legal owner(s) of property within Arvada.

Sec. 94-32. Duty to maintain, repair, and reconstruct.

Every property owner must reconstruct, repair, and maintain in good order all curbs, gutters, and sidewalks on their property.

Sec. 94-32. Official grade.

(a) *As required by the city engineer.* Except as otherwise provided, all curbs, gutters, and sidewalks constructed, reconstructed, or repaired within the city shall be located and built upon the most current official grade the city has adopted at the place where the construction, reconstruction, or repair is to be done. If any curb, gutter, or sidewalk constructed, reconstructed, or repaired within the city is not laid and built upon the official grade, the property owner must, upon notice from the city engineer reconstruct the curb, gutter, or sidewalk to conform to the official grade within five days of such notice.

Exception. The city engineer, in their sole discretion, may order or permit a curb, gutter, or sidewalk to be reconstructed or repaired at the grade upon which it was formerly constructed and built if it would not be practical or just or would not make for uniformity to have it reconstructed or repaired upon or according to the official grade the city has adopted.

Sec. 94-33. Notice to reconstruct or repair.

(a) *Required.* The city manager serve a written notice to reconstruct or repair upon a property owner, or the property owner's agent, when the curb, gutter, or sidewalk on the property is in need of reconstruction or repair. Service of notice may be completed by registered or certified United States mail, or personal delivery of the notice.

(b) *Contents of notice.* Any notice served under the provisions of this section must contain the following information:

(1) A specific description of the work to be done;

(2) The plans and specifications to be followed or the place where they may be obtained;

(3) The time within which such required reconstruction or repair must be completed; and

(4) Directions for a property owner to access and file a hearing request form if they wish to contest a notice issued under the provisions of this section.

(c) *Hearing.* A property owner who wishes to contest a notice issued under this section may do so by filing a hearing request form at any time within ten days of the date of service of the notice. The hearing shall be conducted by the city manager and shall follow the procedures set forth in chapter 2 of this code.

(d) *Effect of non-compliance.* If a property owner fails to comply with a notice served in accordance with the terms of section 94-33, or fails to comply with an order of the city manager following a hearing within the time specified therein, then the work described in such notice may be done by the city, under the direction of the director of infrastructure, in accordance with the procedures established in this article.

Sec. 94-34. Financial assistance.

(a) *Available.* The city may provide financial assistance to offset the costs a property owner may incur related to reconstruction or replacement of a sidewalk. Only properties containing single family homes will be eligible for financial assistance. To ensure the most efficient use of funds, each property owner who applies for financial assistance will be separated into two tiers of assistance based on aggregate annual household income.

(1) An applicant with an aggregate household income equal to or below the 80% threshold of the current applicable Denver Metro HUD income limits will be eligible for financial assistance equal to 100% of the total cost of the project.

(2) An applicant with an aggregate household income exceeding 80% of the current applicable Denver Metro HUD income limits will be eligible for financial assistance equal to 50% of the total cost of the project.

(b) *Criteria.* Residential property owners seeking reconstruction or repair of a sidewalk on their property are eligible to apply for financial assistance from the city. The application for financial assistance will be available on the city's website. The city engineer will evaluate each application to ensure the applicant meets the following criteria:

(1) The applicant is the legal owner of the property;

(2) The property is classified as a single family residence;

(3) The sidewalk in question is within the city's right-of-way or access thereto has been previously granted to the city by an easement; and

(4) The condition of the sidewalk is deteriorated beyond the minimum acceptable condition as shown on the city's website.

(c) *City engineer's review.* Following the city engineer's review of each application, the property owner will be notified about the status of their application. If accepted, the city will coordinate with the property owner regarding scheduling, and the work will be managed by the city engineer. In addition to the criteria listed above, the city engineer will also consider planned major capital maintenance projects as defined by chapter 2 of this code. If, within two years of submission of the application, the property owner's sidewalk would be reconstructed as a part of a planned major capital maintenance project, the city will deny the application and will reconstruct the sidewalk during the project at no cost to the property owner.

Sec. 94-35. Notice of completion and payment.

(a) *Required.* Whenever any reconstruction or repair is done by or under the direction of the city, either under section 94-33 or pursuant to an accepted application for financial assistance under section 94-34, the city manager may cause a written notice of completion and payment to be served upon the

property owner, or the agent of the owner. Service of the notice may be completed by registered or certified United States mail, or personal delivery of the notice.

(b) *Contents of notice.* Any notice served under the provisions of this section must contain the following information:

(1) The date that the work on the sidewalk, curb, or gutter was completed;

(2) The total cost of the project assessed against the property owner, subject to financial aid granted under section 94-36, if applicable;

(3) The property owner's right to secure the entire balance of the assessment by a promissory note and pay in up to twelve substantially equal, interest free monthly installment payments, with the first payment due thirty days after the date of completion;

(4) If a property owner elects to pay in installment payments, the property owner may repay the entire balance of the promissory note at any time. Failure to pay any installment when due will cause the whole unpaid balance of the promissory note to become due and payable immediately at the option of the city; and

(5) If the property owner does not pay the city the entire balance of the assessment, the city may seek a lien against the property pursuant to chapter 59 of this code.

Sec. 94-36. Agent of property owner.

Nothing in this article precludes an agent of a property owner, including a property owners' association or homeowners' association to which implicated property is bound under its covenants and agreements, from acting on behalf of a property owner, but the fulfillment of duties and obligations incurred under this article is the responsibility of the property owner.

Sec. 94-37. Violations and penalties.

It shall be unlawful for any property owner to fail, neglect, or refuse to comply with the requirements of any such notice to reconstruct or repair served upon or in accordance with the provisions of this chapter, within the time specified therein, and each day's neglect or refusal to comply with the terms of said notice shall constitute a separate offense. Each offense will be punishable by a fine, not to exceed the limits established in section 1-5 of the Arvada City Code.

Secs. 94-38—94-60. Reserved."

Section 2**.** Severability. Should any provision of this ordinance be declared by a court to be unconstitutional or invalid, such decision shall not affect the validity of the ordinance as a whole, or any part thereof, other than the part so declared unconstitutional or invalid. The City Council declares

it would have adopted this ordinance and each part or parts hereof irrespective of the fact that any one part or parts be declared unconstitutional or invalid.

Section 3. This Ordinance shall be effective five days after publication following final passage.

INTRODUCED, READ, AND ORDERED PUBLISHED this 21st day of April, 2026.

PASSED, ADOPTED AND APPROVED this ____ day of _____, 2026.

_____
Lauren Simpson, Mayor

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:
Rachel A. Morris, City Attorney

BY: _____

Publication Dates: April 23, 2026
_____

REDLINE/~~STRIKETHROUGH VERSION~~

FOR INFORMATION ONLY -- NOT PART OF THE ORDINANCE

Underlined indicates new material
~~Strikethrough~~ indicates deleted material

Article II. Construction and Repair of Curbs, Gutters, and Sidewalks.

Sec. 94-31. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

City engineer means the city engineer or designee thereof.

City manager means the city manager or designee thereof.

Denver Metro HUD home income limits means the current home income limits measured by area medium income ranges published annually by the United States Department of Housing and Urban Development (HUD).

Property owner means the legal owner(s) of property within Arvada.

Sec. 94-~~-~~32. Duty to maintain, repair, and reconstruct.

~~(a)It shall be the duty of every owner of~~Every property ~~located within the city to repair~~owner must reconstruct, repair, and maintain in good order all curbs, ~~gutter~~gutters, and sidewalks on~~, abutting or adjacent to the~~ their property~~.(~~.

Sec. 94-32. Official grade.

(a) *As required by the city engineer.* Except as otherwise provided, all curbs, gutters, and sidewalks constructed, reconstructed, or repaired within the city shall be located and built upon the most current official grade the city has adopted at the place where the construction, reconstruction, or repair is to be done. If any curb, gutter, or sidewalk constructed, reconstructed, or repaired within the city is not laid and built upon the official grade, the property owner must, upon notice from the city engineer reconstruct the curb, gutter, or sidewalk to conform to the official grade within five days of such notice.

Exception. The city engineer, in their sole discretion, may order or permit a curb, gutter, or sidewalk to be reconstructed or repaired at the grade upon which it was formerly constructed and built if it would not be practical or just or would not make for uniformity to have it reconstructed or repaired upon or according to the official grade the city has adopted.

Sec. 94-33. Notice to reconstruct or repair.

(a) *Required.* The city manager serve a written notice to reconstruct or repair upon a property owner, or the property owner's agent, when the curb, gutter, or sidewalk on the property is in need of reconstruction or repair. Service of notice may be completed by registered or certified United States mail, or personal delivery of the notice.

(b) *Contents of notice.* Any notice served under the provisions of this section must contain the following information:

(1) A specific description of the work to be done;

(2) The plans and specifications to be followed or the place where they may be obtained;

(3) The time within which such required reconstruction or repair must be completed; and

(4) Directions for a property owner to access and file a hearing request form if they wish to contest a notice issued under the provisions of this section.

(c) *Hearing.* A property owner who wishes to contest a notice issued under this section may do so by filing a hearing request form at any time within ten days of the date of service of the notice. The hearing shall be conducted by the city manager and shall follow the procedures set forth in chapter 2 of this code.

(d) *Effect of non-compliance.* If a property owner fails to comply with a notice served in accordance with the terms of section 94-33, or fails to comply with an order of the city manager following a hearing within the time specified therein, then the work described in such notice may be done by the city, under the direction of the director of infrastructure, in accordance with the procedures established in this article.

Sec. 94-34. Financial assistance.

(a) *Available.* The city may provide financial assistance to offset the costs a property owner may incur related to reconstruction or replacement of a sidewalk. Only properties containing single family homes will be eligible for financial assistance. To ensure the most efficient use of funds, each property owner who applies for financial assistance will be separated into two tiers of assistance based on aggregate annual household income.

(1) An applicant with an aggregate household income equal to or below the 80% threshold of the current applicable Denver Metro HUD income limits will be eligible for financial assistance equal to 100% of the total cost of the project.

(2) An applicant with an aggregate household income exceeding 80% of the current applicable Denver Metro HUD income limits will be eligible for financial assistance equal to 50% of the total cost of the project.

(b) *Criteria.* Residential property owners seeking reconstruction or repair of a sidewalk on their property are eligible to apply for financial assistance from the city. The application for financial assistance will be available on the city's website. The city engineer will evaluate each application to ensure the applicant meets the following criteria:

(1) The applicant is the legal owner of the property;

(2) The property is classified as a single family residence;

(3) The sidewalk in question is within the city's right-of-way or access thereto has been previously granted to the city by an easement; and

(4) The condition of the sidewalk is deteriorated beyond the minimum acceptable condition as shown on the city's website.

(c) *City engineer's review.* Following the city engineer's review of each application, the property owner will be notified about the status of their application. If accepted, the city will coordinate with the property owner regarding scheduling, and the work will be managed by the city engineer. In addition to the criteria listed above, the city engineer will also consider planned major capital maintenance projects as defined by chapter 2 of this code. If, within two years of submission of the application, the property owner's sidewalk would be reconstructed as a part of a planned major capital maintenance project, the city will deny the application and will reconstruct the sidewalk during the project at no cost to the property owner.

Sec. 94-35. Notice of completion and payment.

(a) *Required.* Whenever any reconstruction or repair is done by or under the direction of the city, either under section 94-33 or pursuant to an accepted application for financial assistance under section 94-34, the city manager may cause a written notice of completion and payment to be served upon the property owner, or the agent of the owner. Service of the notice may be completed by registered or certified United States mail, or personal delivery of the notice.

(b) *Contents of notice.* Any notice served under the provisions of this section must contain the following information:

(1) The date that the work on the sidewalk, curb, or gutter was completed;

(2) The total cost of the project assessed against the property owner, subject to financial aid granted under section 94-36, if applicable;

(3) The property owner's right to secure the entire balance of the assessment by a promissory note and pay in up to twelve substantially equal, interest free monthly installment payments, with the first payment due thirty days after the date of completion;

(4) If a property owner elects to pay in installment payments, the property owner may repay the entire balance of the promissory note at any time. Failure to pay any installment when due will cause the whole unpaid balance of the promissory note to become due and payable immediately at the option of the city; and

(5) If the property owner does not pay the city the entire balance of the assessment, the city may seek a lien against the property pursuant to chapter 59 of this code.

Sec. 94-36. Agent of property owner.

Nothing in this article precludes an agent of a property owner, including a property owners' association or homeowners' association to which implicated property is bound under its covenants and agreements, from acting on behalf of a property owner, but the fulfillment of duties and obligations incurred under this article is the responsibility of the property owner.

Sec. 94-37. Violations and penalties.

It ~~is~~shall be unlawful for any property owner to fail, neglect, or refuse to comply with the requirements of any such notice to reconstruct or repair served upon or in accordance with the provisions of this chapter, within the time specified therein, and each day's neglect ~~and~~or refusal to comply with the terms of said notice shall constitute a separate offense. Each offense will be punishable by a fine, not to exceed the limits established in section 1-5 of the Arvada City Code.

Secs. 94-38—94-60. Reserved."

CITY OF ARVADA

REPORT TO CITY COUNCIL

AGENDA ITEM 9.A.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: Appointments to Boards and Commissions

Report in Brief

City Council will make appointments and reappointments to various boards and commissions as set out below:

Arts and Culture Commission -

I move to **Appoint** Emily Murgia to a 4-year term ending April 30, 2030.

I move to **Reappoint** Sarah Kolb and Tory Fink to a 4-year term ending April 30, 2030.

Arvada Festivals Commission –

I move to **Appoint** Mollie Maistelman, Graham Becker, Uriel Balanson, Emilia Taylor, and Tracey Conway to 3-year terms ending April 30, 2029.

I move to **Appoint** Lorraine Doo, Amanda Finkelstein, Sarah Moffatt, and Tiffany Blayney-Blair to 2-year terms ending April 30, 2028.

I move to **Appoint** Emily Bournia to a 1-year term ending April 30, 2027.

I move to **Reappoint** Larkin Rau and Rachel Ulrich to 3-year terms ending April 30, 2029.

Arvada Urban Renewal Authority -

Motion by Mayor Simpson: I move to **Reappoint** Eli Feret for a 5-year term ending April 30, 2031.

Motion by_____: I move to ratify Mayor Simpson's reappointment of Eli Feret for a 5-year term ending April 30, 2031.

Building Code Advisory Board -

I move to **Appoint** Bob Loveridge, Radoslaw Wakulik and Ross Seymour to 3-year terms ending April 30, 2029.

I move to **Reappoint** Bill Dekam to a 3-year term ending April 30, 2029.

Design Review Advisory Committee –

I move to **Reappoint** Fong Lee to a 3-year term ending April 30, 2029.

Housing Advisory Committee –

I move to **Reappoint** Patrick Noonan, Tim Rogers, and Harrison Wilterdink to 4-year terms ending April 30, 2030.

Human Services Advisory Committee-

I move to **Appoint** Kayla Hermann to a 3-year term ending April 30, 2029.

I move to **Reappoint** Laura Andes, William Morgenstern, and Allison Harmon to 3-year terms ending April 30, 2029.

Park Advisory Committee –

I move to **Reappoint** Greg Miller, Karen Miller, Stephanie Redding, and John Casillas to 3-years term ending April 30, 2029.

Planning Commission-

I move to **Appoint** Derek Hammer to a 4-year term ending April 30, 2030.

I move to **Reappoint** Andrew Gay and Miriam McGilvray to 4-year terms ending April 30, 2030.

Sustainability Advisory Committee –

I move to **Appoint** Suzie Post and Riley Reid to 3-year terms ending April 30, 2029.

I move to **Appoint** Ed Talbot to a 2-year term ending April 30, 2028.

I move to **Appoint** Malea Fajardo to a 3-year non-voting term ending April 30, 2029.

I move to **Reappoint** Dar-Long Chang and Laurel Mattrey to 3-year terms ending April 30, 2029.

Transportation Committee –

I move to **Appoint** Matt Gaskins, Matthew Shaffer, and Ray Amoruso to 3-year terms ending April 30, 2029.

I move to **Reappoint** Mary Keilhauer and Nicholas Frazee to a 3-year term ending April 30, 2029.

Prepared by:
Chris Koch, CCO Admin

Reviewed by:
Toni Riebschlager, Law Office Administrator 03/30/2026
Megan McCall, Assistant City Attorney II 03/31/2026

Approved by:

Rachel Morris, City Attorney	04/02/2026
Linda Haley, Deputy City Manager	04/03/2026
Don Wick, City Manager	04/08/2026

Enclosure, exhibits & attachments required to support the report

CITY OF ARVADA

REPORT TO CITY COUNCIL PUBLIC HEARING

AGENDA ITEM 10.A.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: CB26-015, An Ordinance Authorizing an Additional Appropriation for Fiscal Year 2026 (Ordinance No. 4931) (Presenter: Bryan Archer, CFO)

Report in Brief

Presenter: Bryan Archer, CFO

The appropriation for the expenditure of funds from the 2025 budget lapsed on December 31, 2025. At the end of 2025, there were several projects/programs that had been approved, although not yet completed. In order to complete these projects, funds that were designated for these projects will now need to be carried over from the 2025 budget to the 2026 budget. These items total $96,688,802. The majority of these carryovers are from the Enterprise Funds for ongoing Capital Improvement Projects.

Additionally, there are several items that need to be added to the 2026 budget due to changes since the presentation of the 2026 budget. The majority of these items are also capital in nature. These items total $22,618,473.

Finally, during the 2026 budget process, City team members identified a group of one-time items, that if there were additional funds available at the end of 2025, would be presented for approval. These items total $1,145,000.

The Arvada team recommends that the City Council approve CB25-015, an Ordinance Authorizing an Additional Appropriation for Fiscal Year 2026.

Financial Impact

The overall increase in the 2026 appropriation is $120,452,275, consisting of $96,688,802 of carryover items, $22,618,473 in new items and $1,145,000 in one-time items. Sufficient revenues or available fund balance exist to cover each of the new proposed budget items. These budget items, if approved, will be incorporated into the 2026-2034 ten-year financial plan.

Background

CARRYOVERS
GENERAL FUND
Organizational Service and Effectiveness
City Manager's Office
Funds were budgeted in 2025 for the lighting project and not completed. The City Manager's office is requesting to carryover $65,325 to 2026 to complete this project.

Funds were budgeted in 2025 for THE Program and not completed. The City Manager's office is requesting to carryover $56,958 to 2026 for this program.

Funds were budgeted in 2025 for legislative consultants and not completed. The City Manager's office is requesting to carryover $35,000 to 2026 for this program.

Funds were budgeted in 2025 for a printer and not purchased. The City Manager's office is requesting to carryover $38,000 to

2026 for this purchase.

Funds were budgeted in 2025 for a City brand refresh project and not completed. The City Manager's office is requesting to carryover $30,000 to 2026 to complete this project.

Funds were budgeted in 2025 for bandwidth for the Emergency Management Program and not completed. The City Manager's office is requesting to carryover $17,500 to 2026 for this program.

Funds were budgeted in 2025 for the 2025 Jeffco election and not used. The City Manager's office is requesting to carryover $68,482 to 2026 for the Jeffco election.

City Attorney
Funds were budgeted in 2025 for outside counsel cases which were not completed. The City Attorney's office is requesting to carryover $77,389 to 2026 for these cases.

Funds were incorrectly deducted from the General Fund due to a new program in Risk Management, this is a request to correct this error adding $60,000 to the General Fund budget and deducting this from the Risk Management Fund.

Human Resourses
Funds were budgeted in 2025 for Workday training and not completed. The Human Resources Department is requesting to carryover $194,455 to 2026 for complete this training.

Funds were budgeted in 2025 for the job architecture project and not completed. The Human Resources Department is requesting to carryover $100,900 to 2026 to complete this project.

Information Technology
Funds were budgeted in 2025 for the workstation replacement project and not completed. The Information Technology Department is requesting to carryover $454,343 to 2026 to complete this project.

Funds were budgeted in 2025 for various projects including updating of cell phones, redundant bandwidth, and replacement of analog phone lines and not completed. The Information Technology Department is requesting to carryover $257,160 to 2026 to complete these projects.

Finance
Funds were budgeted in 2025 for an additional contribution to the Arvada Center. The Finance Department is requesting to carryover $812,000 to 2026 for this contribution.

Safe Community
Municipal Court
Funds were budgeted in 2025 for personnel bonuses due to the paperless court project. The Municipal Court is requesting to carryover $16,000 to 2026 for this project.

Funds were budgeted in 2025 for Full Court upgrade project and not completed. The Municipal Court is requesting to carryover $7,000 to 2026 for this project.

Community and Economic Development
Funds were budgeted in 2025 for a building code adoption project not completed. Community and Economic Development is requesting to carryover $27,442 to 2026 to complete this project.

Funds were budgeted in 2025 for the comprehensive plan update project not completed. Community and Economic Development is requesting to carryover $739,353 to 2026 to complete this project.

Funds were budgeted in 2025 for Sustainability project not completed. The Community and Economic Development is requesting to carryover $120,000 to 2026 to complete this project.

Infrastructure
Public Works
Funds were budgeted in 2025 for the ADA Accessibility project not completed. Public Works is requesting to carryover $18,000 to 2026 to complete this project.

Funds were budgeted in 2025 for a mobility project and not completed. Public Works is requesting to carryover $46,772 to 2026 to complete this work.

PAVEMENT MANAGEMENT FUND
Funds were budgeted in 2025 for maintenance materials but not received. Public Works is requesting to carryover $150,00 to 2026 to complete this purchase.

Funds were budgeted in 2025 for concrete replacement and not completed. Public Works is requesting to carryover $1,571,641 to 2026 to complete this work.

PARKS FUND
Funds were budgeted in 2025 for various projects not completed including Long Lake Park baseball fields, and new soccer goals for the Long Lake synthetics project. Parks is requesting to carryover $201,947 to 2026 to complete these projects.

Funds were budgeted in 2025 for projects at Majestic View Nature Center including pest control and an HVAC project not completed. Parks is requesting to carryover $78,000 to 2026 to complete these projects.

Funds were budgeted in 2025 for equipment and supplies but not received. Parks is requesting to carryover $22,592 to 2026 to complete these purchases.

POLICE TAX INCREMENT .25 FUND
Funds were budgeted in 2025 for the PD efficiency study and office furniture and not completed. The Police Department is requesting to carryover $88,000 to 2026 to complete this project and purchase.

WATER FUND
Funds were budgeted in 2025 for various capital projects including water line replacement and bond funded projects and not completed. The Water team is requesting to carryover $62,460,881 to 2026 to complete these projects.

WASTEWATER FUND
Funds were budgeted in 2025 for Wastewater capital projects and not completed. The Wastewater team is requesting to carryover $24,303,557 to 2026 to complete these projects.

STORMWATER FUND
Funds were budgeted in 2025 for Stormwater capital projects and not completed. The Stormwater team is requesting to carryover $1,087,475 to 2026 to complete these projects.

VEHICLES FUND
Funds were budgeted in 2025 for the AV technology project and not completed. The vehicles team is requesting to carryover $123,412 to 2026 to complete this project.

TECHNOLOGY FUND
Funds were budgeted in 2025 for the computer replacement project and not completed. Information Technology is requesting to carryover $735,555 to 2026 to complete this project.

Funds were budgeted in 2025 for the MARC Core project and not completed. Information Technology is requesting to carryover $140,000 to 2026 to complete this project.

Funds were budgeted in 2025 for the CIS replacement project and not completed. Information Technology is requesting to

carryover $179,000 to 2026 to complete this project.

Funds were budgeted in 2025 for license renewals and equipment purchases not completed. Information Technology is requesting to carryover $1,734,625 to 2026 to complete these purchases.

Funds were budgeted in 2025 for HR systems project and not completed. Information Technology is requesting to carryover $50,000 to 2026 to complete this project.

CAPITAL PROJECTS FUND
Funds were budgeted in 2025 for the AFON project and not completed. The team is requesting to carryover $27,871 to 2026 to complete this project.

RISK MANAGEMENT FUND
Funds were budgeted in 2025 for the claims not paid. The Risk Management team is requesting to carryover $262,130 to 2026 for these claims.

AMERICAN RESCUE PLAN
Funds were budgeted in 2025 for items related to American Rescue Plan funding and not spent. The team is requesting to carryover $10,346 to 2026 to complete this work.

POLICE SEIZURE FUND
Funds were budgeted in 2025 for equipment purchases and not completed. Police Department is requesting to carryover $214,691 to 2026 to complete these purchases.

NEW REQUESTS
General Fund
An increase of $375,597 is requested for items not in the original 2026 budget, including moving the Print Shop Fund to the General Fund, final pay plan adjustments made to the pay plan structure after the 2026 budget was created, and a body-worn camera budget which was not included in the original 2026 budget. This is being funded by reserves located in the fund balance.

An increase of $5,000 is needed for training for the PD Records Management Sharing Consortium. This is funded by reimbursements from other entities.

An increase of $36,000 is needed for internet bandwidth. This is funded by a transfer from the Technology Fund.

An increase of $100,000 is needed for a new records storage area which will be offset by future savings.

An increase of $30,000 is needed for the Wellness program. This is funded by reimbursement from UMR.

Parks Fund
An increase of $4,948 is requested for items not in the original 2026 budget, including moving the Print Shop Fund to the General Fund, final pay plan adjustments made to the pay plan structure after the 2026 budget was created, and benefits for the Majestic View Nature Center which was not included in the original 2026 budget due to hire date and benefits not being budgeted at that time. These items are funded by the fund balance and additional revenue.

An increase of $3,000 is requested for the first quarter 2026 safety and culture award. This is funded by a transfer from the Risk Management Fund.

An increase of $200,000 is requested for the VCN master plan. This is funded by a transfer from the Conservation Trust Fund.

Police Tax Increment .21 Fund
An increase of $78,710 is requested for items not in the original 2026 budget, including final pay plan adjustments made to the pay plan structure after the 2026 budget was created. These items are funded by the fund balance.

An increase of $2,000 is requested for the first quarter 2026 safety and culture award. This is funded by a transfer from the Risk Management Fund.

An increase of $16,223 is requested for Police Sargent's office furniture. This is being funded from the fund balance.

An increase of $31,899 is requested for uniforms, equipment, armor and helmets. This is being funded from the fund balance.

An increase of $42,950 is requested for the Historical Book project. This is funded from the fund balance.

An increase of $159,647 is requested for training. This is being funded from the fund balance.

Police Tax Increment .25 Fund
An increase of $45,459 is requested for items not in the original 2026 budget, including the final pay plan adjustments made to the pay plan structure after the 2026 budget was created. These items are funded by the fund balance.

Water Fund
An increase of $9,742 is requested for items not in the original 2026 budget, including the final pay plan adjustments made to the pay plan structure after the 2026 budget was created. These items are funded by the fund balance.

An increase of $1,500 is requested for the first quarter 2026 safety and culture award. This is funded by a transfer from the Risk Management Fund.

An increase of $89,524 for financial consultants. This is being funded by the fund balance.

An increase of $72,900 is requested for a 16" PRV Cavitation. This is being funded by the fund balance.

Wastewater Fund
An increase of $5,115 is requested for items not in the original 2026 budget, including the final pay plan adjustments made to the pay plan structure after the 2026 budget was created. These items are funded by the fund balance.

Golf Fund
An increase of $30,136 is requested for items not in the original 2026 budget, including the final pay plan adjustments made to the pay plan structure after the 2026 budget was created. These items are funded by the fund balance.

Vehicles Fund
An increase of $5,222,388 is requested for the purchase of vehicles. This is funded from contributions from various funds. The revenues were added during the 2026 budget process but the expense appropriation was not.

An increase of $200,000 is requested for the purchase of a loader. This is being funded by General Fund one-time funds.

Technology Fund
An increase of $52,437 is requested for items not in the original 2026 budget, including the move of the Copier ISF program to the Technology Fund and move of internet bandwidth to the General Fund. These items are funded by the fund balance and contributions from other funds.

An increase of $412,088 for Workday post-production support. This is being transferred from the ERP project.

Capital Project Fund
An increase of $3,500,000 for the Arvada Aquatic Center project. This is funded from Jefferson County Schools.

The Water fund provides revenue to CIP fund for irrigation improvements. In the early 1990's, a "3 cents per thousand gallons" calculation was created and collected by the Water fund. The amount collected in 2025 was $326,500. The team requests to appropriate these funds in 2026 for future park irrigation projects.

Each year as part of new construction, Park development fees are collected. These fees are accumulated throughout the year in the CIP fund to fund new park construction. The amount collected in 2025 was $4,076,415. The team requests to appropriate these funds in 2026 for future park projects along with tree replacements.

Each year as part of new construction, Lands Dedicated fees are collected. These fees are accumulated throughout the year in the CIP fund to fund new park construction. The amount collected in 2025 was $970,219. The team requests to appropriate these funds in 2026 for future parks projects.

Each year, the City collects Adams County Transportation Tax revenue. This revenue is accumulated in the CIP to fund new traffic projects in Adams County. The amount collected in 2025 was $255,016. The team requests to appropriate these funds in 2026 for future traffic projects.

Each year, the City collects Adams County Open Space Tax revenue. This revenue is accumulated in the CIP to fund new parks projects in Adams County. The amount collected in 2025 was $55,780. The team requests to appropriate these funds in 2026 for future park projects.

Each year, the City receives a Public Education and Government (PEG) fee from cable franchising companies. The amount collected in 2025 was $46,351. The team requests to appropriate these funds in 2026 for eligible PEG purchases.

Each year interest is received in the Capital Improvement Projects Fund. The amount collected in 2025 was $2,334,471. The team requests to appropriate these funds in 2026 so they can be used for eligible capital projects.

An increase of $23,455 is being requested for tree replacements. This is being funded by the Wastewater fund.

Each year, the City receives Traffic Impact Fees. The amount collected in 2025 was $8,145. The team requests to appropriate these funds in 2026 for eligible projects.

An increase of $50,000 is being requested for the AEDA office expansion. This is being funded by one-time funds from the General Fund.

An increase of $1,000,000 is being requested for upgrades to Council Chambers. This is being funded by one-time funds from the General Fund and PEG Fess.

An increase of $200,000 is being requested for the HR consulting resources. This is being funded by one-time funds from the General Fund.

An increase of $320,000 is being requested for the paid parking program. This is being funded by one-time funds from the General Fund.

An increase of $79,367 for additional 98-101 sales tax funding in 2025. This is being requested for 2026 projects.

An increase of $1,393 is requested for items not in the original 2026 budget, including the final pay plan adjustments made to the pay plan structure after the 2026 budget was created. These items are funded by the fund balance.

Construction Fund
Each year interest is received in the Construction Fund. The amount collected in 2025 was $1,490,198. The team requests to appropriate these funds in 2026.

Community Development Fund
An increase of $250,000 is being requested for the Foothills Regional Housing project. This is being funded from one-time funds from the General Fund.

Conservation Trust Fund

An increase of $200,000 is being requested for the VCN Master Plan project. This is being funded from the fund balance.

American Rescue Plan Fund
An increase of $203,900 is being received in interest income in this fund. The team is requesting this be added to fund 2026 projects that are eligible.

ONE-TIME REQUESTS
A number of one-time requests were presented during the 2026 budget process as items that the Arvada team would like to fund if there were savings in the General Fund budget at the end of 2025. The table below shows these items. Our team proposes to fund all of these items in 2026 as part of this budget ordinance.

Item	
AEDA office expansion	$50,000
Loader for Parks	$200,000
Foothills Regional Housing	$250,000
Lights for the Police Honor Garden	$15,000
Sign Shops Printer	$60,000
HR consulting resources	$200,000
Emergency Operations Center Items	$50,000
Paid parking program	$320,000
	$1,145,000

Discussion

The recommended action will authorize the expenditure of resources that aligns to the City Council's direction. A total of $96,688,802 of the requests as described are funded as carryover of unspent resources approved as part of the 2025 operating and capital budget. A total of $22,618,473 is funded by additional revenues, transfers from other funds, or reserves within the various funds within our fully balanced ten-year financial models. Finally, there are one-time requests totaling $1,145,000 that are funded by a combination of unspent 2025 appropriations and additional 2025 revenue over budgeted estimates.

If approved by the City Council, total appropriations for 2026 will be $503,185,452 as presented in the Carryover Summary attachment included with this agenda item.

Public Contact

Posting of the City Council Agenda.

Commission Recommendation

N/A

Strategic Alignment

The proposed action aligns with the Organizational and Service Effectiveness worksystem within the City Council Strategic Plan by authorizing resources that will be administered by the Finance Department in accordance with applicable City Code and financial policies. Other worksystems that will be served through the recommended action include Safe Community, Infrastructure, Community and Economic Development and Vibrant Community and Neighborhoods.

Alternative Courses of Action

N/A

Recommendation for Action

The Arvada team recommends that the City Council approve CB26-015, An Ordinance Authorizing an Additional Appropriation for Fiscal Year 2026.

Suggested Motion:

I move that CB26-015, An Ordinance Authorizing an Additional Appropriation for Fiscal Year 2026, be (approved on final reading, numbered 4931 and ordered published by title only) (rejected).

Prepared by:
Chris Koch, CCO Admin

Reviewed by:

Approved by:

Jenna Belec, Executive Assistant	03/30/2026
Bryan Archer, Chief Financial Officer	03/31/2026
Gail Walker, Legal Specialist-Contracts	03/31/2026
Zachary Woolweaver, Assistant City Attorney I	04/01/2026
Rachel Morris, City Attorney	04/06/2026
Linda Haley, Deputy City Manager	04/06/2026
Don Wick, City Manager	04/08/2026

Enclosure, exhibits & attachments required to support the report

COUNCIL BILL NO. 26-015
ORDINANCE NO. 4931

AN ORDINANCE AUTHORIZING AN ADDITIONAL APPROPRIATION
FOR FISCAL YEAR 2026

WHEREAS, the City Council of the City of Arvada adopted Ordinance No. 4881 (Council Bill No. 24-015), which authorized the annual appropriation for Fiscal Year 2026; and

WHEREAS, Section 10.8(a) of the Arvada Home Rule Charter provides that City Council may make additional appropriations by Ordinance during the fiscal year for unanticipated expenditures required of the City; and

WHEREAS, the City Council of the City of Arvada finds that an additional appropriation is necessary in order for the City to meet unanticipated expenditures; and

WHEREAS, the City Council of the City of Arvada further finds that such additional expenditures and budgeted expenses do not exceed budgeted revenues and reserves for Fiscal Year 2026.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ARVADA, COLORADO:

Section 1. The following sums of money as may be needed or deemed necessary to defray the expenses and liabilities of the City of Arvada are hereby appropriated for Fiscal Year 2026.

City of Arvada Final Appropriation		
Fund	Total Additional Appropriation	Revised Budget
General Fund	$ 4,938,676	$ 149,054,702
Grants Fund	$ 200,000	$ 2,011,588
Pavement Management Fund	$ 1,721,641	$ 25,573,591
Community Development	$ 250,000	$ 1,438,683
Arvada Housing	$ -	$ 9,206,746
ARPA	$ 214,246	$ 214,246
Parks Fund	$ 510,487	$ 16,740,115
Police Seizure Fund	$ 214,691	$ 247,814
Police Tax Increment .21	$ 331,429	$ 8,094,443
Police Tax Increment .25	$ 133,459	$ 9,013,471
COP Debt Service	$ -	$ 1,974,628

Debt Service	$	-	$	5,804,032
Capital Projects Fund	$	13,274,983	$	22,330,914
Construction Fund	$	1,490,198	$	1,490,198
Water Fund	$	62,634,547	$	143,351,436
Wastewater Fund	$	24,308,672	$	55,592,175
Golf Course Fund	$	30,136	$	10,746,256
Stormwater Fund	$	1,087,475	$	5,301,904
Solid Waste Fund	$	-	$	4,847,211
Insurance Fund	$	262,130	$	4,531,854
Computers	$	3,303,705	$	11,143,973
Print Shop	$	-	$	389,918
Vehicles	$	5,545,800	$	11,424,053
Buildings	$	-	$	2,661,501
Total Appropriation	**$**	**120,452,275**	**$**	**503,185,452**

Section 2. This Ordinance shall take effect five days after publication following final passage.

INTRODUCED, READ, AND ORDERED PUBLISHED this 7th day of April, 2026.

PASSED, ADOPTED, AND APPROVED this 21st day of April, 2026.

_____
Lauren Simpson, Mayor

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:
Rachel A. Morris, City Attorney

By: _____

Publication Dates: April 9, 2026
April 23, 2026

Fund	Original Budget	Carry over	One-time	New Requests
General Fund	$ 144,116,026	$ 3,247,079	$ 1,145,000	$ 546,597
Grants Fund	1,811,588	-	-	200,000
Pavement Management Fund	23,851,950	1,721,641	-	-
Community Development	1,188,683	-	-	250,000
Arvada Housing	9,206,746	-	-	-
ARPA	-	10,346	-	203,900
Parks Fund	16,229,628	302,539	-	207,948
Police Seizure Fund	33,123	214,691	-	-
Police Tax Increment .21	7,763,014	-	-	331,429
Police Tax Increment .25	8,880,012	88,000	-	45,459
COP Debt Service	1,974,628	-	-	-
Debt Service	5,804,032	-	-	-
Capital Projects Fund	9,055,931	27,871	-	13,247,112
Construction Fund	-	-	-	1,490,198
Water Fund	80,716,889	62,460,881	-	173,666
Wastewater Fund	31,283,503	24,303,557	-	5,115
Golf Course Fund	10,716,120	-	-	30,136
Stormwater Fund	4,214,429	1,087,475	-	-
Solid Waste Fund	4,847,211	-	-	-
Insurance Fund	4,269,724	262,130	-	-
Computers	7,840,268	2,839,180	-	464,525
Print Shop	389,918	-	-	-
Vehicles	5,878,253	123,412	-	5,422,388
Buildings	2,661,501	-	-	-
Total	**$ 382,733,177**	**$ 96,688,802**	**$ 1,145,000**	**$ 22,618,473**

Revised Budget	Total Increase
$ 149,054,702	$ 4,938,676
2,011,588	$ 200,000
25,573,591	$ 1,721,641
1,438,683	$ 250,000
9,206,746	$ -
214,246	$ 214,246
16,740,115	$ 510,487
247,814	$ 214,691
8,094,443	$ 331,429
9,013,471	$ 133,459
1,974,628	$ -
5,804,032	$ -
22,330,914	$ 13,274,983
1,490,198	$ 1,490,198
143,351,436	$ 62,634,547
55,592,175	$ 24,308,672
10,746,256	$ 30,136
5,301,904	$ 1,087,475
4,847,211	$ -
4,531,854	$ 262,130
11,143,973	$ 3,303,705
389,918	$ -
11,424,053	$ 5,545,800
2,661,501	$ -
$ 503,185,452	$ 120,452,275

CITY OF ARVADA

REPORT TO CITY COUNCIL

AGENDA ITEM 10.B.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: PROJECT: Annexation and Zoning for Martinez Annexation No. 1 & 2, a 1.17 acre parcel of land approximately located at 5044 Carr St.

Report in Brief

There are three ordinances for this project that require separate votes. All information about the requests is attached to item 8.C.2.

Prepared by:
Chris Koch, CCO Admin

Reviewed by:

Approved by:

Enclosure, exhibits & attachments required to support the report

City of Arvada
Community and Economic Development Department
PUBLIC HEARING STAFF REPORT

Martinez Annexation No. 1 and No.2
Annexation and Rezoning
DA2024-0068

NATURE OF REQUEST

This 0.88 acre property is currently served by a failing well. In order to obtain water, the owner is requesting to annex into the City of Arvada. The total annexation area including a portion of the adjacent streets will be 1.17 acres. As such the proposed zoning designation is R-6 (Residential 6) for medium-high density residential which would allow up to 6 dwelling units per acre. No subdivision is currently proposed and any future subdivision will need to be processed as a separate administrative application at a later date.

LOCATION AND HISTORY

The property is located at the southeast corner of W. 51st Avenue and Carr Street and is more specifically located at 5044 Carr Street.

NEIGHBORHOOD MEETING

Division 8-2-2 of the Land Development Code (LDC) requires that at least one neighborhood meeting be held for projects that require public hearings before the Planning Commission and City Council.

The required neighborhood meeting for this project took place on December 13, 2023. The applicant, staff, and three neighbors were in attendance. The applicant explained that the intent of the annexation was to obtain water service. Neighbors inquired about the proposed construction activities associated with the water connection and how that may impact the neighborhood. They also expressed concern with the proposed zoning designation as it would allow up to six units per acre on the site. Staff explained that in order to achieve that density, a future development application would be required and that it would need to address all development aspects of the LDC. As such, neighbors would receive notice of any future development applications and would be allowed to provide further input at that time. No new development is currently proposed for this site.

The applicant prepared a summary of the meeting, which is attached.

PUBLIC NOTIFICATION

Division 8-2-4 of the Land Development Code requires public notification for all public hearings as follows:

Written Notice: At least 15 days prior to all public hearings, written notice must be mailed to all property owners within 1000 feet of the subject property and to all homeowners associations and neighborhood associations with a known interest in the subject property. The applicant will provide an affidavit of mailing verifying this requirement has been met prior to the public hearing.

Posted Notice: At least 15 days prior to all public hearings, signs notifying the public of the hearing must be posted on the subject property. The applicant will provide a posting log verifying that this requirement has been met prior to the public hearing.

Published Notice: At least 15 days prior to all public hearings, notice of the hearing must be published in a newspaper of general circulation in the City. The required notice has been published.

DEVELOPMENT REVIEW TIMELINE

The project was submitted on August 5, 2024 and went through three rounds of review.

ALIGNMENT WITH CITY COUNCIL STRATEGIC PLAN

The project is consistent with the City Council Strategic Plan principles for the Community and Economic Development work system.

ZONING AND LAND USE

This residential property is currently served by a failing well. In order to obtain water, the owner is requesting to annex into the City of Arvada. The total annexation area including a portion of the adjacent streets will be 1.17 acres. As such the proposed zoning designation is R-6 (Residential 6) for medium-high density residential which would allow up to 6 dwelling units per acre. No subdivision is currently proposed and any future subdivision will need to be processed as a separate administrative application at a later date. The Arvada Comprehensive Plan designates this site as Suburban Residential which allows for a variety of residential unit types. The subject property is currently zoned R-2 in unincorporated Jefferson County and is proposed for R6 under Arvada's LDC.

Surrounding properties are zoned and utilized as follows:

Direction	Zoning	Actual Use
North	R-2 Unincorporated Jefferson County and R-13 in Arvada	Arvada's current jurisdictional boundary is approximately 140 feet north of this site. An open space trail corridor borders that boundary with R-13 zoning farther north.
South	R-2 Unincorporated Jefferson County	Immediately south of this site is an early learning preschool
All others	R-2 Unincorporated Jefferson County	The site is surrounded by a variety of single family lot sizes in Jefferson County

PROJECT ANALYSIS

Annexation
Due to the contiguity requirements of State Statutes, annexation of this property will need to occur as a serial annexation in two phases. Martinez Annexation No. 1 will annex a triangle portion of Carr Street. This will then provide adequate contiguity for Martinez Annexation No. 2 to include the remaining portion of Carr Street (adjacent to the property), the right-of-way for W. 51st Avenue (adjacent to this site) and all the private land associated with 5044 Carr Street.

Compliance with the Comprehensive Plan
The Comprehensive Plan designation for the property is Suburban which allows for a variety of residential uses and as such, the existing home is in compliance with the Suburban designation.

Compliance with Other Applicable Plans
No other plans apply to this site.

Setbacks
With the proposed R6 designation, any future development would follow the applicable LDC designation in the housing palette. Under the urban classification for single family homes, the minimum street setback is 15 feet, the side setbacks are five feet and the rear setbacks are ten feet. The existing single family home meets the minimum 15 foot setback on Carr Street. However, the existing garage adjacent to W. 51st Avenue is approximately five feet from the right-of-way and would be allowed as a non-conforming structure. The existing home is well below the maximum 60% lot coverage.

Building Height
The R6 zone district has a maximum building height of 35 feet. The existing one story single family home is far below the maximum allowed height.

Parks and School Dedication
This site lies within the Jefferson County R-1 School District. The LDC requires park and school dedication in conjunction with development projects. Should development occur in the future, park and school dedication requirements will need to be met at that time.

Open Space
Per the LDC, a minimum of 20% of the site should remain as open space/landscaping. The current site configuration has a 1,593 square foot home on the 0.88 acre property, which leaves approximately 95% of the site as open space.

Building Design
The existing home is a single story structure with a detached garage and one additional accessory building. Jefferson County records show that the home was built in 1929. No redevelopment is planned at this time so the existing structures will remain on site.

Circulation and Connectivity
The site has direct access to W. 51st Avenue and Carr Street which are included in the annexation request. Any future development will address any needed road improvements at that time.

Grading and Drainage
The existing site is relatively flat. With no proposed development at this time, grading and drainage will be evaluated in greater detail with any future improvements.

Utility Services
Water service is the primary purpose of this annexation request. As noted above, the site is currently served by a failing well. While not located within any water district or service area, City of Arvada water lines are located in the adjacent streets and have the potential to serve this property. Since the water mains are existing, construction activities will be limited to that needed to install the service line connection.

Police and Fire Protection
Arvada will provide police protection to this site and Arvada Fire will provide fire protection services.

LAND DEVELOPMENT CODE APPROVAL CRITERIA

It is the responsibility of the applicant to justify the requested land use application. The Planning Commission should make a recommendation to the City Council based on its findings regarding the approval criteria shown in the table(s) below and upon testimony heard during the public hearing as it applied to the criteria.

Staff performed an analysis of the proposal, based on the approval criteria listed in Chapter 8 of the Land Development Code, and presents the following findings:

Div. 8-3-3 Annexation and Disconnection Approval Criteria	Finding	Rationale
1. The annexation is in accord with the Comprehensive Plan and the best interests of the City would be served by annexation of such property.	Complies	The existing single family home and the proposed R6 zoning designation is in compliance with the Suburban designation of the Comprehensive Plan.
2. The property is capable of being integrated into the City and developed in compliance with all applicable provisions of this Code and the Arvada City Code.	Complies	The site is capable of being integrated into the City and all future development applications will comply with code requirements.
3. At the time any development of the area proposed to be annexed is completed, there will be capacity to adequately serve residents of such area with all necessary utilities, facilities and public services.	Complies	Water and Sewer services are intended for residents of Arvada and these annexations will allow Arvada to continue to serve its residents rather than outside entities.

Div. 8-3-4 Zoning and Rezoning Approval Criteria	Finding	Rationale
1. The rezoning is consistent with the Arvada Comprehensive Plan, or an adopted sub-area plan, corridor plan, or urban renewal plan, or reflects conditions that have changed since the adoption of the Comprehensive Plan.	Complies	The proposed R6 zoning designation is in compliance with the Suburban designation of the Comprehensive Plan.
2. The intended land use is consistent with the stated intent of the proposed zoning district.	Complies	Single family homes are an allowed land use within the R6 zone district.
3. Facilities and services (including sewage and waste disposal, water, gas, electricity, police and fire protection, and roads and transportation, as applicable) will, prior to development, be available to serve the subject property while maintaining adequate levels of service to existing development.	Complies	Arvada already has existing water mains in the adjacent streets and will be able to serve this property similar to other lots in the surrounding area.
4. The intended land use for which the rezoning is sought will not result in significant adverse impacts upon the natural environment, including air, water, noise, stormwater management, wildlife, and vegetation, or such impacts will be substantially mitigated.	Complies	The existing land use is not intended to change in the immediate future. Should future development occur, potential impacts will be evaluated at that time.
5. The rezoning is consistent with the character of existing or planned development on adjacent properties and in the surrounding area or neighborhood, or measures will be taken to substantially buffer or otherwise substantially mitigate any negative impacts.	Complies	The proposed R6 zoning designation is consistent with the variety of residential uses in the area including the R-2 areas in unincorporated Jefferson County and the R13 areas within the City.

STAFF RECOMMENDATION

Based upon project analysis and review of the Land Development Code approval criteria, staff recommends approval of the project.

If the Planning Commission finds that a recommendation to approve the Martinez Annexations No. 1 and No. 2 and the R6 Rezoning are supported by the approval criteria, then staff recommends that the following conditions be made part of the approval:

1. Park and school dedication requirements will need to be met with any future site development.

2. The water easement will need to be fully executed prior to connecting to City water.

The Planning Commission may recommend denial of the request(s) if it cannot make affirmative findings of the approval criteria stated above.

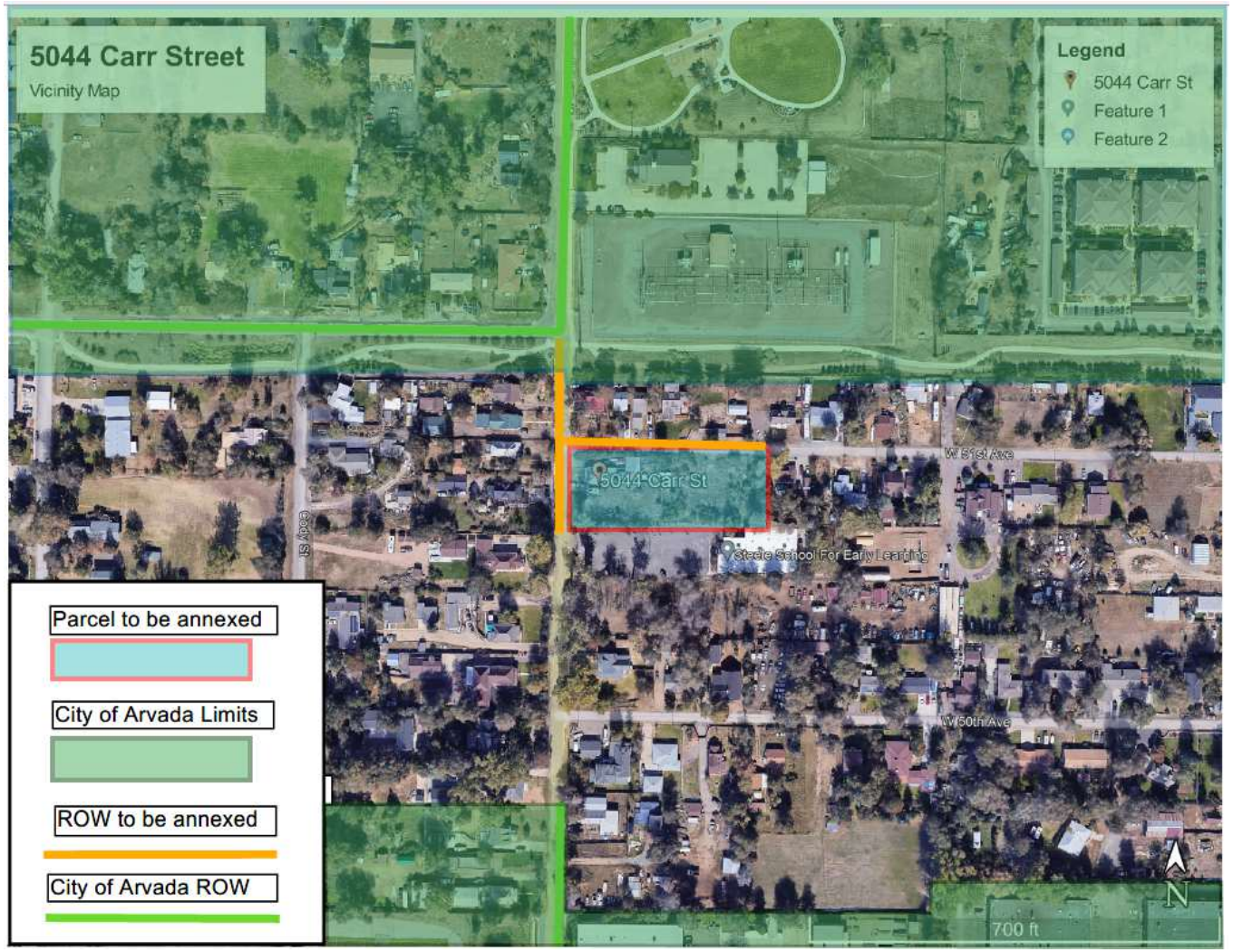
Martinez Annexation

CITY OF ARVADA

PLANNING COMMISSION HEARING

JULY 2, 2025

5044 Carr Street Vicinity Map



Martinez Annexation

Property: 5044 Carr Street

WHAT: Petition to annex the Property into the City of Arvada

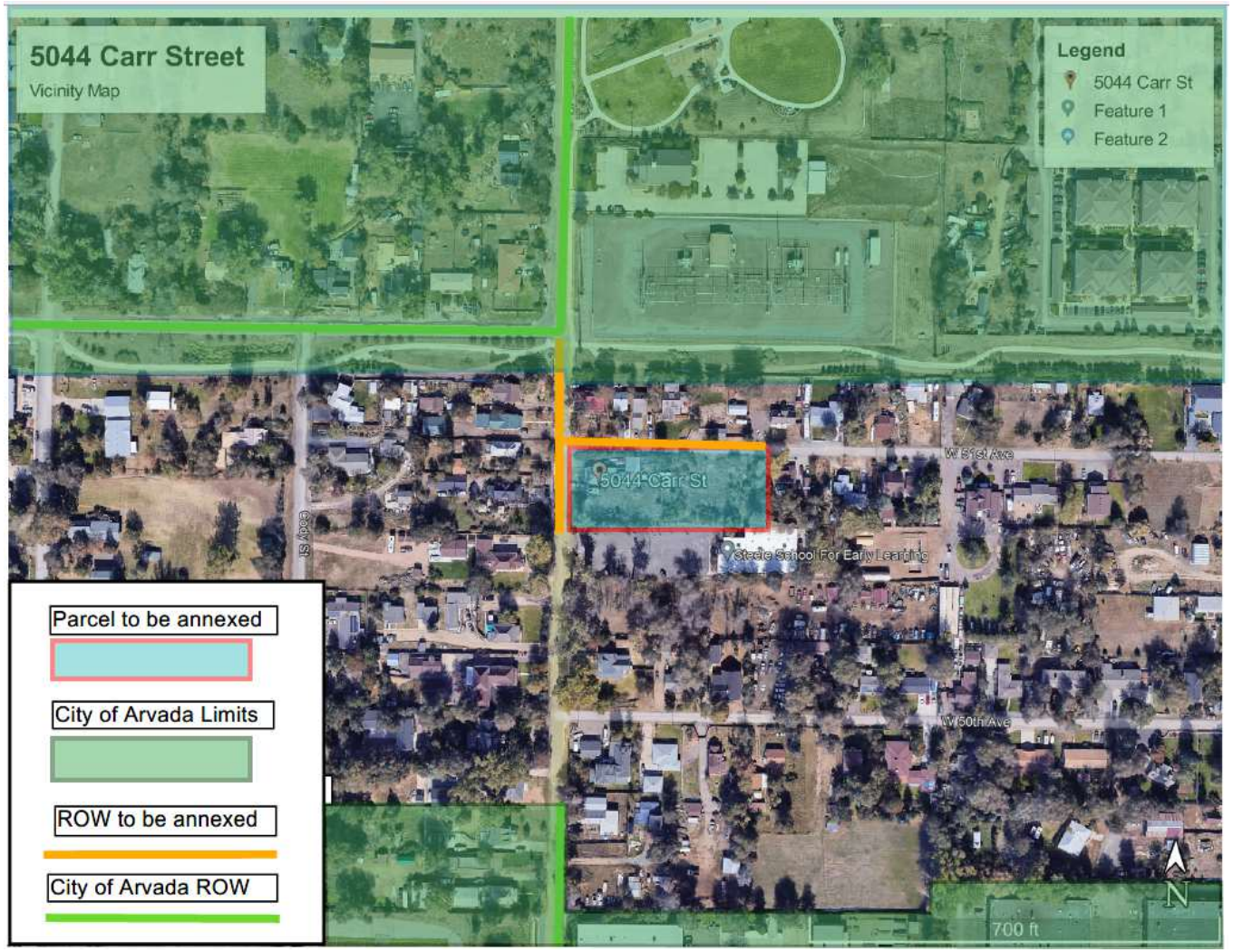
WHY: To allow the Property access to reliable water from the City of Arvada's water system

Use and Zoning

The Property is currently zoned as R-2 (Residential) under Jefferson County regulations. Upon annexation, the Property is expected to be zoned to the City's equivalent zoning, R-6 (Residential).

There will be no development of the Property except the new water lines. This Annexation Petition is only for annexation and does not include other development proposals such as subdivision, which would require additional approvals from the City.

5044 Carr Street Vicinity Map



Martinez – Summary of Neighborhood Meeting
Martinez Annexation Petition
PA2023-0115

A neighborhood meeting for the Martinez Annexation was held on December 13, 2023, at the Arvada Public Library. Notices of the Neighborhood Meeting, which included a vicinity map of the project attached, were mailed out to all property owners within 1,000 feet of the site on November 28, 2023.

The December 13 Neighborhood Meeting was attended by Orlando Martinez (the Applicant and property owner), as well as three members of his development team (Elizabeth Woodward, Katherine Struthers, and Chad Cox); Linda Hoover, Senior Planner with the City of Arvada; and three members of the public.

To begin the meeting, Mrs. Woodward provided an overview of the project and explained that the driving reason behind the annexation petition is that Mr. Martinez's property, located at 5044 Carr Street (the "Property") needs a reliable water source. She explained that the Property has a single well, which has been unreliable. There is no water district currently serving the Property, and the City no longer offers out-of-boundary service. So, to obtain water service for the Property, Mr. Martinez must annex into the City.

Several questions from the meeting attendees focused on concerns related to construction in and around W. 51st and Carr Street. One attendee wanted to know if the streets would be widened as a result of the annexation and noted that W. 51st is particularly narrow. Mrs. Woodward explained that there is no widening contemplated in connection with the annexation. Mrs. Hoover added that if Mr. Martinez wanted to pursue subdivision at any point in the future, it may become necessary to widen the streets, but any subdivision application would require a separate review process.

The attendees also wanted to know what construction would be necessary to physically connect the Property to the City's existing water pipelines. Mrs. Hoover and Mr. Cox explained that there are already water pipes under the roads adjacent to the Property and that some construction would be required to connect the Property to those existing lines. Mrs. Hoover and Mr. Cox explained that there will be advance notice of any construction scheduled and that they will work to minimize disruptions to neighbors during that process.

Mrs. Hoover also explained that Mr. Martinez would have to pay a fee to connect to the City's existing water lines; Mr. Cox elaborated that all construction costs would be borne by Mr. Martinez as well.

The attendees also had questions regarding the zoning designation of the Property. Mrs. Woodward explained that the Property is currently zoned as "R2" under Jefferson County's zoning code and that the Property would need to be rezoned to the City's "R6" designation. Mrs. Hoover added that R6 is the City's closest equivalent to R2; she also noted that the R6 designation does not serve as a determination or a guarantee that the City would allow six units to be built at the Property.

The attendees had questions about the overall process, and Mrs. Hoover explained the City's typical 4-to-6-month timeline for processing annexation applications, from the date of submittal through the review and finally a hearing. Mrs. Hoover reiterated that any subdivision application would be a separate review process and advised the group that it will be possible to track the status of the application online through the City's website.

Overall, the primary concerns of the attendees can loosely be grouped into two subjects: (1) subdivision and the density of any future development on the property, and (2) the cost and impacts associated with connecting the Property to the City's existing water lines. As to the first subject, because Mr. Martinez is not seeking subdivision at this time, no further action is needed to address this concern. As to the second, Mr. Martinez's development team addressed the attendees' concerns by explaining that Mr. Martinez would be responsible for the costs associated with the connection process and that Mr. Martinez's development team would work with the City to minimize any construction-related impacts to the neighboring properties. No further changes to the Annexation Petition are necessary to address these items.

CED Boards and Commission <cedboardsandcommission@arvada.org>

Opposition to Martinez Annexation No. 1 and No. 2 – Case DA2024-0068

1 message

[redacted] Wed, Jun 18, 202[redacted]:00 PM
[redacted]ISSION@arvada.org" <CEDBOARDSANDCOMMISSION@arvada.org> [redacted]
[redacted] "lhoover@arvada.org" <lhoover@arvada.org>

To: Community and Economic Development Department
Re: Opposition to Martinez Annexation No. 1 and No. 2 – Case DA2024-0068
Date: 6/18/2025

Dear Members of the Arvada Planning Commission,

I am writing to formally oppose the proposed Martinez Annexation No. 1 and No. 2 (Case No. DA2024-0068), along with the associated request to rezone the property at 5044 Carr Street to R-6 (Residential 6) for medium-high density development.

This 0.88-acre parcel, currently without water service, is a distressed property that has long required attention and rehabilitation. However, fast-tracking annexation and rezoning for dense development is not a responsible or community-minded solution. This approach would have negative consequences for the surrounding area and sets an unfavorable precedent.

When I personally contacted the owner about renting the property, he stated that his primary intention was to sell to a developer and discussed how many units could be built on the parcel. When I expressed interest in purchasing it myself, he quoted a price that, in my opinion, was excessive. These comments suggested that maximizing the land's development potential was his primary goal. This reinforces the concern that this proposal is developer-driven—not community-focused.

Furthermore, our streets already suffer from reckless driving and speeding. Adding additional housing density without any traffic mitigation will only make this growing safety issue worse.

Key Reasons for Opposition:

- **The Property's Distressed Status Warrants Restoration, Not Overdevelopment**
  This lot has lacked basic infrastructure and upkeep. Allowing high-density development on a distressed parcel sends the message that disrepair is rewarded with aggressive upzoning—rather than encouraging property owners to improve within existing zoning standards. The community deserves revitalization, not intensification.

- **Density Incompatible with Neighborhood Character**
  Rezoning to R-6 for up to 6 units per acre is completely out of character with the surrounding Suburban Residential area. This would introduce crowding, alter the aesthetic of the neighborhood, and disrupt the cohesion and quiet enjoyment current residents have come to expect.

- **Traffic and Safety Risks**
  Increased density brings significantly more vehicle traffic to Carr Street and nearby roads, which are not designed for this volume. This raises safety concerns for pedestrians, children, and cyclists, and will likely degrade overall quality of life.

- **Lack of Infrastructure Support**
  This property currently lacks water access—highlighting that even the basic infrastructure is not in place. Bringing dense development to an area without foundational services puts a burden on city resources and residents alike.

- **Environmental Strain**
  With ongoing drought conditions and finite water resources, it is irresponsible to approve additional demand without a compelling and sustainable infrastructure plan.

- **Risk of Precedent for Spot Zoning and Density Creep**
  Approval of this project will open the door to similar proposals seeking to exploit distressed properties for high-density conversions. This undermines the Arvada Comprehensive Plan and long-term community stability.

Final Thought:

Distressed properties should be rehabilitated in a way that complements the existing community—not exploited as a gateway to density that only benefits developers. I urge the Commission to reject this annexation and rezoning proposal and preserve the suburban residential vision intended for this area.

Respectfully,
Paul Thomas

[redacted]

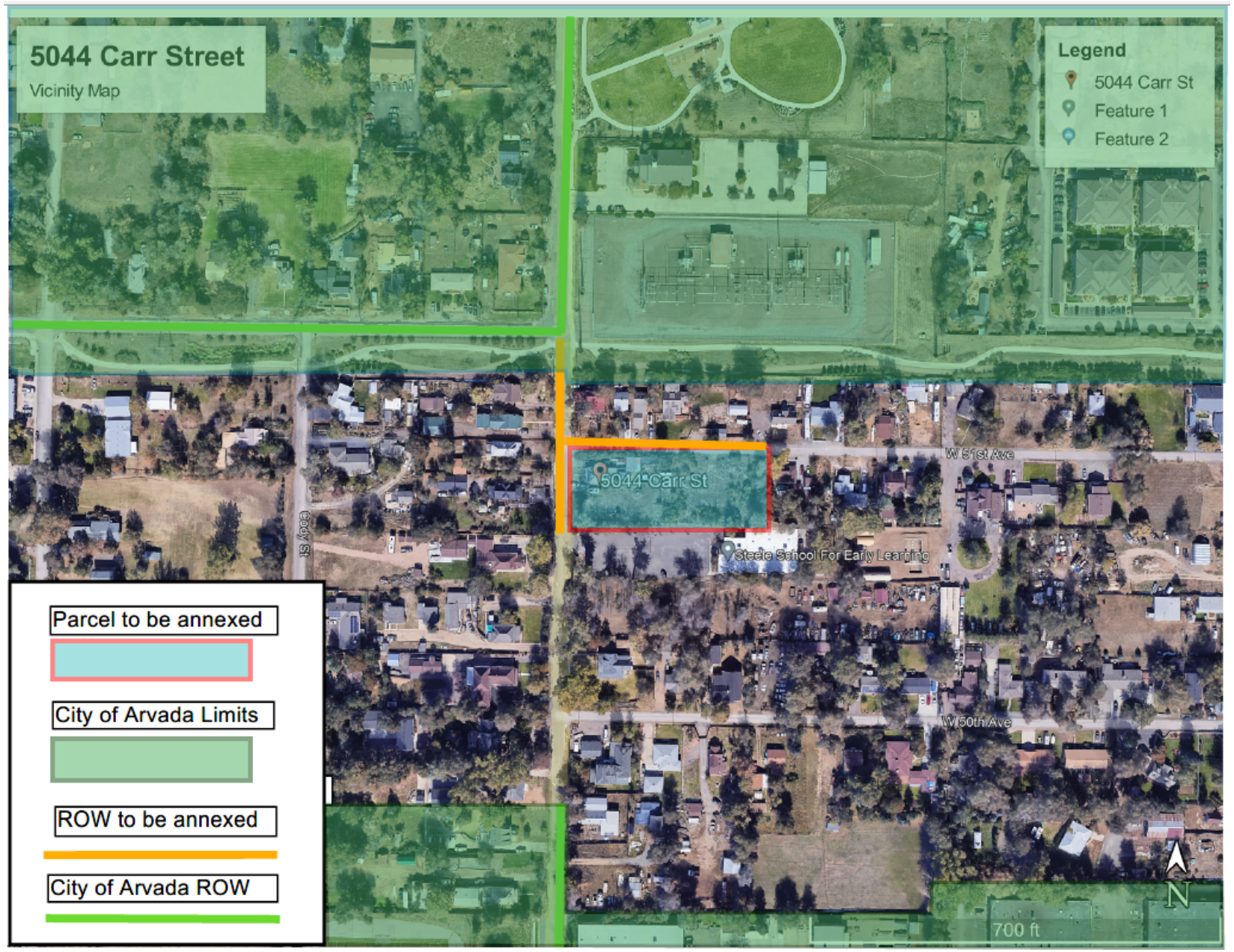
Martinez Annexation

CITY OF ARVADA

CITY COUNCIL HEARING

APRIL 21, 2026

5044 Carr Street Vicinity Map



Martinez Annexation

Property: 5044 Carr Street

WHAT: Petition to annex the Property into the City of Arvada

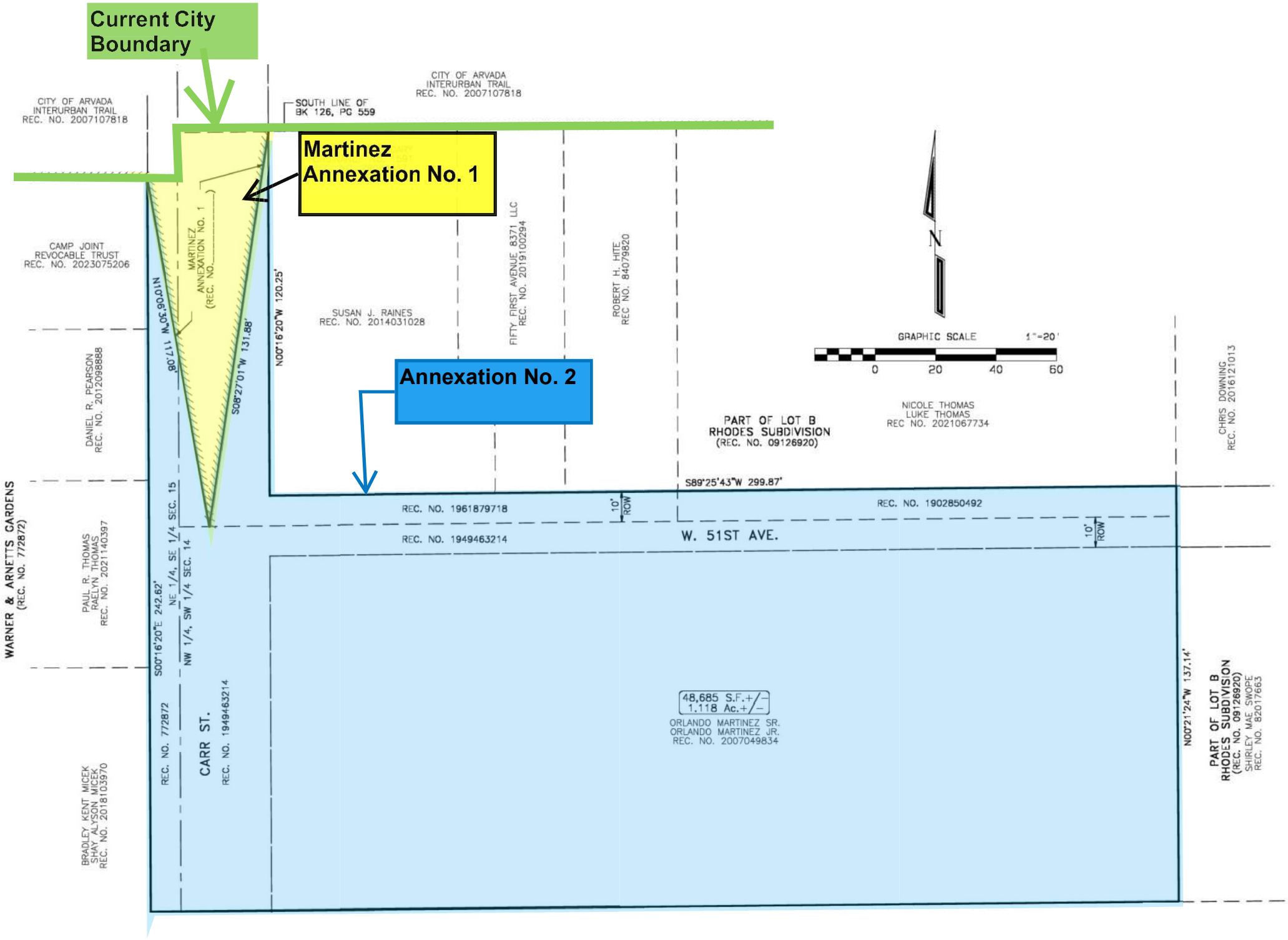
WHY: To allow the Property access to reliable water from the City of Arvada's water system

Use and Zoning

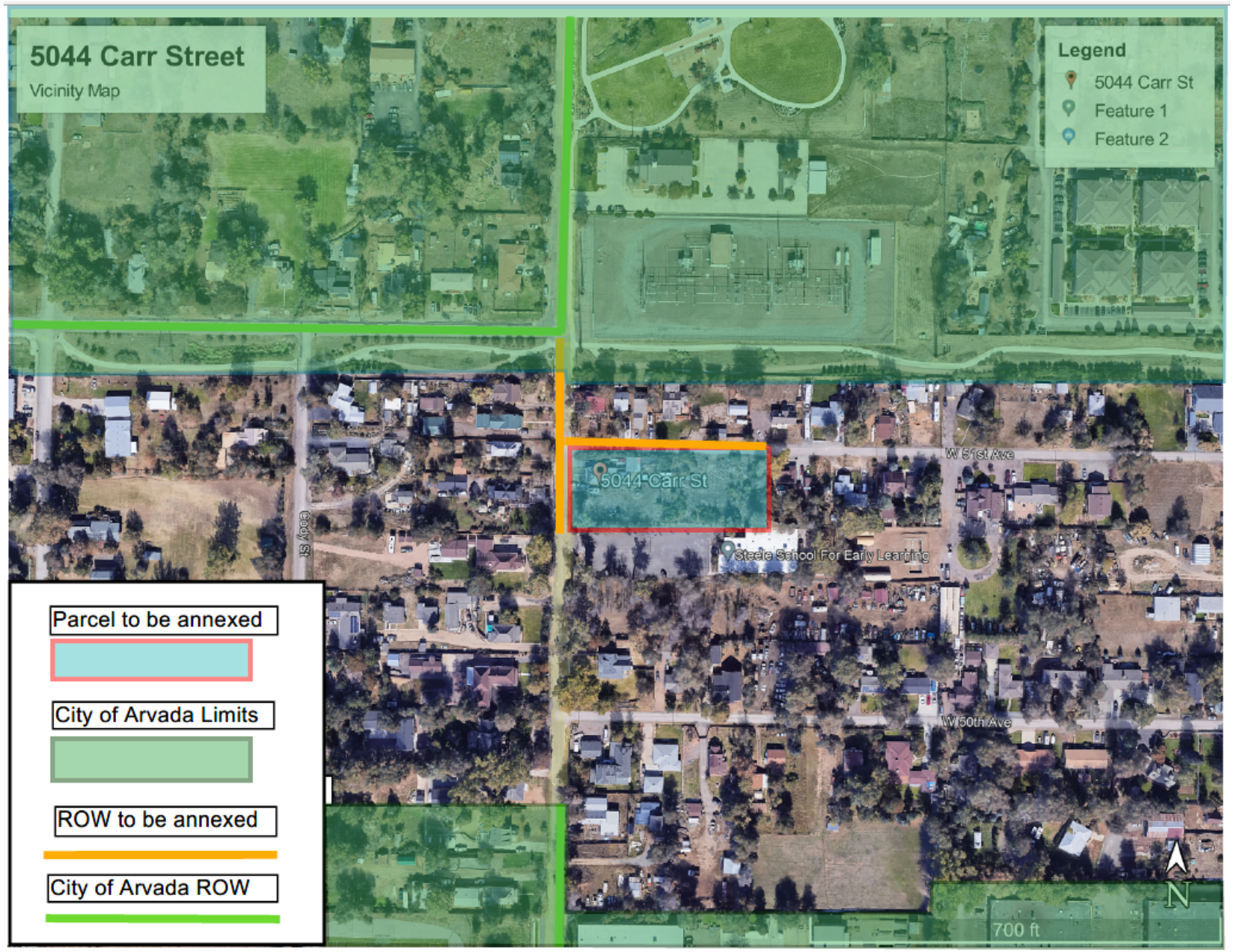
The Property is currently zoned as R-2 (Residential) under Jefferson County regulations. Upon annexation, the Property is expected to be zoned to the City's equivalent zoning, R-6 (Residential).

There will be no development of the Property except the new water lines. This Annexation Petition is only for annexation and does not include other development proposals such as subdivision, which would require additional approvals from the City.

Serial Annexation for Contiguity Requirements


Current City Boundary
Martinez Annexation No. 1
Annexation No. 2
CITY OF ARVADA INTERURBAN TRAIL REC. NO. 2007107818
SOUTH LINE OF BK 126, PG 559
CAMP JOINT REVOCABLE TRUST REC. NO. 2023075206
MARTINEZ ANNEXATION NO. 1 (REC. NO.
N10°06'30"W 117.08'
S08°27'01"W 131.88'
N00°16'20"W 120.25'
SUSAN J. RAINES REC. NO. 2014031028
FIFTY FIRST AVENUE 8371 LLC REC. NO. 2019100294
ROBERT H. HITE REC NO. 84079820
N
GRAPHIC SCALE 1"=20'
0 20 40 60
NICOLE THOMAS LUKE THOMAS REC NO. 2021067734
CHRIS DOWNING REC. NO. 2016121013
PART OF LOT B RHODES SUBDIVISION (REC. NO. 09126920)
S89°25'43"W 299.87'
DANIEL R. PEARSON REC. NO. 2012098888
WARNER & ARNETTS GARDENS (REC. NO. 772872)
PAUL R. THOMAS RAELYN THOMAS REC. NO. 2021140397
REC. NO. 1961879718
10' ROW
REC. NO. 1902850492
REC. NO. 1949463214
W. 51ST AVE.
10' ROW
S00°16'20"E 242.62'
NE 1/4, SE 1/4 SEC. 15
NW 1/4, SW 1/4 SEC. 14
REC. NO. 772872
CARR ST.
REC. NO. 1949463214
48,685 S.F.+/-
1.118 Ac.+/-
ORLANDO MARTINEZ SR.
ORLANDO MARTINEZ JR.
REC. NO. 2007049834
N00°21'24"W 137.14'
PART OF LOT B RHODES SUBDIVISION (REC. NO. 09126920)
SHIRLEY MAE SWOPE REC. NO. 82017663
BRADLEY KENT MICEK SHAY ALYSON MICEK REC. NO. 201810370

5044 Carr Street Vicinity Map



CITY OF ARVADA

REPORT TO CITY COUNCIL RESOLUTION

AGENDA ITEM 10.B.1.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: R26-033, A Resolution Setting Forth Certain Findings of Fact and Conclusions as to the Annexation of Certain Land into the City of Arvada, Colorado, Martinez Annexation No. 1 and No. 2 from Jefferson County R-2 to City of Arvada R6 (Residential, 6), a 1.17 Acre Parcel of Land Approximately Located at 5044 Carr St., and Amending the Official Zoning Maps of the City of Arvada, Colorado (Presenter: Rob Smetana, Planning Manager)

Report in Brief

PRESENTER:Rob Smetana

This resolution is in the nature of a technical housekeeping measure, intended to ensure compliance with the "Municipal Annexation Act," Section 31-12-101 et seq. Section 31-12-110 of the Act states that "upon completion of the hearing [i.e., the public hearing on annexation], the governing body of the annexing municipality, by resolution, shall set forth its findings of fact and its conclusions based thereon with reference to the following matters: [those set forth in the attached resolution]." Section 31-12-111 goes on to state that, after the resolution (assuming the resolution determines that the requirements of Section 31-12-104 and 31-12-105 have been met, no election is required, etc.), the governing body may thereupon annex the area by ordinance.

The requirements of Sections 31-12-104 and 31-12-105, as referenced in the resolution (and as asserted in the Petition for Annexation), are technical requirements of eligibility for annexation (e.g., 1/6 contiguity, etc.). Meeting those requirements does not mandate annexation of a given property, thus, in annexation proceedings, Council has the prerogative to adopt such a resolution (finding compliance with the technical requirements of Sections 31-12-104 and 31-12-105) and then reject the companion annexation ordinance (if, for example, it finds that such annexation is not in the best interests of the City).

The Arvada team recommends that City Council approves R26-033, A Resolution Setting Forth Certain Findings of Fact and Conclusions as to the Annexation of Certain Land into the City of Arvada, Colorado, Martinez Annexation No. 1 and No. 2 from Jefferson County R-2 to City of Arvada R6 (Residential, 6), a 1.17 Acre Parcel of Land Approximately Located at 5044 Carr St., and Amending the Official Zoning Maps of the City of Arvada, Colorado.

Financial Impact

N/A

Background

N/A

Discussion

N/A

Public Contact

Posting of the City Council agenda.

SUBJECT: R26-033, A Resolution Setting Forth Certain Findings of Fact and Conclusions as to the Annexation of Certain Land into the City of Arvada, Colorado, Martinez Annexation No. 1 and No. 2 from Jefferson County R-2 to City of Arvada R6 (Residential, 6), a 1.17 Acre Parcel of Land Approximately Located at 5044 Carr St., and Amending the Official Zoning Maps of the City of Arvada, Colorado (Presenter: Rob Smetana, Planning Manager)	**PAGE:** 2 **ITEM:** 10.B.1.

Commission Recommendation

N/A

Strategic Alignment

N/A

Alternative Courses of Action

N/A

Recommendation for Action

R26-033, A Resolution Setting Forth Certain Findings of Fact and Conclusions as to the Annexation of Certain Land into the City of Arvada, Colorado, Martinez Annexation No. 1 and No. 2 from Jefferson County R-2 to City of Arvada R6 (Residential, 6), a 1.17 Acre Parcel of Land Approximately Located at 5044 Carr St., and Amending the Official Zoning Maps of the City of Arvada, Colorado.

Suggested Motion:

I move that R26-033, A Resolution Setting Forth Certain Findings of Fact and Conclusions as to the Annexation of Certain Land into the City of Arvada, Colorado, Martinez Annexation No. 1 and No. 2 from Jefferson County R-2 to City of Arvada R6 (Residential, 6), a 1.17 Acre Parcel of Land Approximately Located at 5044 Carr St., and Amending the Official Zoning Maps of the City of Arvada, Colorado, be (approved) (rejected).

Prepared by:
Josie Suk, Development Systems and Administrative Manager

Reviewed by:

Approved by:

Rob Smetana, Planning Manager	04/01/2026
Jessica Garner, Director of Community and Economic Development	04/02/2026
Gail Walker, Legal Specialist-Contracts	04/02/2026
Kelsy Sargent, Assistant City Attorney	04/03/2026
Rachel Morris, City Attorney	04/07/2026
Allison Scheck, Deputy City Manager	04/09/2026
Don Wick, City Manager	04/09/2026

Enclosure, exhibits & attachments required to support the report

RESOLUTION NO. R26-033

A RESOLUTION SETTING FORTH CERTAIN FINDINGS OF FACT AND CONCLUSIONS AS TO THE ANNEXATION OF CERTAIN LAND INTO THE CITY OF ARVADA, COLORADO, MARTINEZ ANNEXATION NO. 1 AND NO. 2, FROM JEFFERSON COUNTY R-2 TO CITY OF ARVADA R6 (RESIDENTIAL, 6), A 1.17 ACRE PARCEL OF LAND APPROXIMATELY LOCATED AT 5044 CARR ST., AND AMENDING THE OFFICIAL ZONING MAPS OF THE CITY OF ARVADA, COLORADO

WHEREAS, the City Council of Arvada, Colorado has found a petition for the annexation of the hereinafter described parcel of land to be in substantial compliance with the requirements of §31-12-107(1) C.R.S.; and

WHEREAS, the City Clerk has provided notice of public hearing on the proposed annexation by publication once per week for four successive weeks and by registered mail to the Clerk of the Board of County Commissioners, the county Attorney, the school district, and to any special district having territory in the area to be annexed; and

WHEREAS, the City Council has completed a public hearing to determine if the proposed annexation complies with Article II, Section 30 of the Colorado Constitution and §§31-12-104 and 31-12-105 C.R.S., to establish eligibility for annexation.

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF ARVADA, COLORADO:

Section 1. The City Council of the City of Arvada, State of Colorado, having examined the filings and the Petition for Annexation for certain real property, 5044 Carr St., Arvada, Colorado, more fully described in said Petition and having held a public hearing thereon, make the following findings pursuant to Colorado State law:

1. That not less than one-sixth of the perimeter of the area proposed to be annexed is contiguous with the existing boundaries of the City; and therefore, because of such contiguity, a community interest exists between the territory proposed to be annexed and the City.

2. That the area proposed to be annexed is urban or will be urbanized in the near future.

3. That the area proposed to be annexed is integrated or is capable of being integrated in the City.

4. That no land held in identical ownership has been divided or included without written consent of the owner thereof.

5. That no annexation proceedings have been commenced by another municipality.

6. That the annexation will not result in the detachment of area from a school district.

7. That the annexation will not result in the extension of a municipal boundary more than three miles.

8. That the City has in place a plan for said three mile area.

9. That in establishing the boundaries of the area to be annexed the entire width of any street or alley is included within the area annexed.

10. That an election is not required under §31-12-107(2) C.R.S.

11. That no additional terms or conditions are imposed which require an election under §31-12-107(2) C.R.S.

Section 2. The City Council of the City of Arvada, State of Colorado, having examined the filings and the Petition for Annexation for certain real property, 5044 Carr Street, Arvada, Colorado, more fully described in said Petition and having held a public hearing thereon, make the additional following findings pursuant to Arvada's Land Development Code:

1. That the annexation is in accord with the Comprehensive Plan and the best interest of the City would be served by annexation of the subject property.

2. That the subject property is capable of being integrated into the City and developed in compliance with all applicable provisions of this Code, the Arvada City Code, and the terms of an annexation agreement.

3. That at the time any development of the subject property is completed, there will be capacity to adequately serve residents of such area with all necessary utilities, facilities, and public services.

Section 3. This resolution shall be effective upon its approval by the City Council.

APPROVED AND ADOPTED this 21st day of April, 2026.

_____
Lauren Simpson, Mayor

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:
Rachel A. Morris, City Attorney

By: _____

CITY OF ARVADA

REPORT TO CITY COUNCIL PUBLIC HEARING

AGENDA ITEM 10.B.2.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: CB26-009, An Ordinance Annexing Certain Land into the City of Arvada, Martinez Annexation No. 1, a 0.06 Acre Parcel of Land Approximately Located at 5044 Carr Street, in the City of Arvada, County of Jefferson, State of Colorado (Ordinance No. 4925) (Presenter: Rob Smetana, Planning Manager)

Report in Brief

This 0.88 acre property is currently served by a failing well. In order to obtain water, the owner is requesting to annex into the City of Arvada. The total annexation area including a portion of the adjacent streets will be 1.17 acres. As such the proposed zoning designation is R-6 (Residential 6) for medium-high density residential which would allow up to 6 dwelling units per acre. No subdivision is currently proposed and any future subdivision will need to be processed as a separate administrative application at a later date.

The Arvada team recommends that CB26-009, An Ordinance Annexing Certain Land into the City of Arvada, Martinez Annexation No. 1, a 0.06 Acre Parcel of Land Approximately Located at 5044 Carr Street, in the City of Arvada, County of Jefferson, State of Colorado be approved.

Financial Impact

There is no fiscal impact to the city.

Background

This residential property is currently served by a failing well. In order to obtain water, the owner is requesting to annex into the City of Arvada. The total annexation area including Martinez Annexation No. 1 (0.06 acres) and Martinez Annexation No. 2 (1.11 acres) which also includes a portion of the adjacent streets, will be 1.17 acres. As such, the proposed zoning designation is R-6 (Residential 6) for medium-high density residential, which would allow up to 6 dwelling units per acre. In order to meet contiguity requirements, a serial annexation is required. Martinez Annexation No. 1 includes a small triangular portion of Carr Street. Martinez Annexation No. 2, includes the remainder of Carr Street that is adjacent to this property, all the private property associated with 5044 Carr Street and a portion of W. 51st Avenue that is also adjacent to this property. The Arvada Comprehensive Plan designates this site as Suburban Residential, which allows for a variety of residential unit types, including the existing single-family residential use. No new development is currently proposed for this site and any future development will need to be processed as a separate administrative application at a later date.

Discussion

Div. 8-3-3 Annexation and Disconnection Approval Criteria	Finding	Rationale
1. The annexation is in accord with the Comprehensive Plan and the best interests of the City would be served by annexation of such property.	Complies	The existing single family home and the proposed R6 zoning designation is in compliance with the Suburban designation of the Comprehensive Plan.

2. The property is capable of being integrated into the City and developed in compliance with all applicable provisions of this Code and the Arvada City Code.	Complies	The site is capable of being integrated into the City and all future development applications will comply with code requirements.
3. At the time any development of the area proposed to be annexed is completed, there will be capacity to adequately serve residents of such area with all necessary utilities, facilities and public services.	Complies	Water and Sewer services are intended for residents of Arvada and these annexations will allow Arvada to continue to serve its residents rather than outside entities.

Public Contact

The required neighborhood meeting took place on December 13, 2023. The applicant, staff, and three neighbors were in attendance. Neighbors inquired about the proposed construction activities associated with the water connection and how that may impact the neighborhood. They also expressed concern with the proposed zoning designation as it would allow up to six units per acre on the site. Staff explained that in order to achieve that density, a future development application would be required and that it would need to address all development aspects of the LDC. As such, neighbors would receive notice of any future development applications and would be allowed to provide further input at that time.

Commission Recommendation

On July 2, 2025, the Planning Commission voted (7 to 0) to recommend (approval) to the City Council.

Strategic Alignment

The project is consistent with the City Council Strategic Plan principles for the Community and Economic Development work system.

Alternative Courses of Action

N/A

Recommendation for Action

The Arvada Team recommends that the City Council Approve CB26-009, An Ordinance Annexing Certain Land into the City of Arvada, Martinez Annexation No. 1, a 0.06 Acre Parcel of Land Approximately Located at 5044 Carr Street, in the City of Arvada, County of Jefferson, State of Colorado subject to the conditions stated in the Staff Report on Page 5.

Suggested Motion:

I move that CB26-009, An Ordinance Annexing Certain Land into the City of Arvada, Martinez Annexation No. 1, a 0.060 Acre Parcel of Land Approximately Located at 5044 Carr Street, in the City of Arvada, County of Jefferson, State of Colorado, be (approved on final reading, numbered 4925 and ordered published by title only) (rejected).

Prepared by:
Heidi Van Gieson, Administrative Specialist

Reviewed by:

Approved by:

Josie Suk, Development Systems and Administrative Manager	03/30/2026
Kelsy Sargent, Assistant City Attorney	03/31/2026
Rob Smetana, Planning Manager	03/31/2026
Jessica Garner, Director of Community and Economic Development	04/01/2026
Gail Walker, Legal Specialist-Contracts	04/01/2026
Kelsy Sargent, Assistant City Attorney	04/01/2026
Rachel Morris, City Attorney	04/07/2026
Allison Scheck, Deputy City Manager	04/09/2026
Don Wick, City Manager	04/09/2026

Enclosure, exhibits & attachments required to support the report

COUNCIL BILL NO. 26-009
ORDINANCE NO. 4925

AN ORDINANCE ANNEXING CERTAIN LAND INTO THE CITY OF ARVADA, MARTINEZ ANNEXATION NO. 1, A 0.06 ACRE PARCEL OF LAND APPROXIMATELY LOCATED AT 5044 CARR STREET, IN THE CITY OF ARVADA, COUNTY OF JEFFERSON, STATE OF COLORADO

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ARVADA, COLORADO:

Section 1. The City Council of the City of Arvada, State of Colorado, having examined the filings and the annexation map for certain real property more fully described in said map finds as follows:

1. That a petition for annexation, together with four copies of the annexation map as required by law, was filed with the City by the owners of over fifty percent of the area of the territory hereinafter described, exclusive of public streets and alleys, and comprising more than fifty percent of the landowners of the property to be annexed.

2. That the City, by resolution at a properly noticed meeting accepted said petition and found and determined that the applicable parts of the Municipal Annexation Act of 1965, as amended, and Section 30 of Article II of the Colorado Constitution have been met and further determined that an election was not required under the Act and that no additional terms and conditions were imposed upon said annexation.

3. That the area proposed to be annexed meets the applicable requirements of Sections 31-12-104 and 31-12-105, C.R.S., and is therefore eligible for annexation to the City of Arvada.

Section 2. The following described real property, situated in the County of Jefferson, State of Colorado, be and the same hereby is annexed to the City of Arvada, to wit:

A PARCEL OF LAND LOCATED IN THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 14, AND THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 15, TOWNSHIP 3 SOUTH, RANGE 69 WEST OF THE 6TH P.M., COUNTY OF JEFFERSON, STATE OF COLORADO

More particularly described in the attached Exhibit A.

Section 3. The Mayor is hereby authorized to execute, the City Clerk to attest, in form approved by the City Attorney, an Annexation Agreement pertaining to the property owned by the Petitioners.

Section 4. The Clerk of the City shall perform all statutory duties to complete said annexation.

Section 5. This Ordinance shall be effective five days after publication following final passage

INTRODUCED, READ, AND ORDERED PUBLISHED this 24th day of March, 2026.

PASSED, ADOPTED, AND APPROVED this 21st day of April, 2026.

_____
Lauren Simpson, Mayor

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:
Rachel A. Morris, City Attorney

By: _____

Publication Dates: March 26, 2026
April 23, 2026

Exhibit A

AN ORDINANCE ANNEXING CERTAIN LAND INTO THE CITY OF ARVADA, MARTINEZ ANNEXATION NO. 1, A 0.06 ACRE PARCEL OF LAND APPROXIMATELY LOCATED AT 5044 CARR STREET, IN THE CITY OF ARVADA, COUNTY OF JEFFERSON, STATE OF COLORADO

EXHIBIT A

Legal Description of Property to be Annexed

A PARCEL OF LAND LOCATED IN THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 14, AND THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 15, TOWNSHIP 3 SOUTH, RANGE 69 WEST OF THE 6TH P.M., COUNTY OF JEFFERSON, STATE OF COLORADO, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14; THENCE NORTH 00°16'20" WEST, COINCIDENT WITH THE WEST LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14, A DISTANCE OF 329.44 FEET; THENCE SOUTH 89°25'33" WEST, A DISTANCE OF 10.00 FEET TO THE WEST RIGHT-OF-WAY LINE OF CARR STREET; THENCE NORTH 00°16'20" WEST, A DISTANCE OF 242.62 FEET TO THE NORTHEAST CORNER OF LOT 13, AS SHOWN ON THE PLAT OF WARNER & ARNETTS GARDENS RECORDED APRIL 27, 1907 AS RECEPTION NO. 772872 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO ALSO BEING THE SOUTH LINE OF THE EXISTING MUNICIPAL BOUNDARY OF THE CITY OF ARVADA AS DESCRIBED IN ORDINANCE NO. 1591 RECORDED SEPTEMBER 27, 1979 AS RECEPTION NO. 79088347 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO, AND THE TRUE POINT OF BEGINNING;

THENCE NORTH 89°43'40" EAST, COINCIDENT WITH THE EASTERLY EXTENSION OF THE NORTH LINE OF SAID LOT 13, AND THE SOUTH LINE OF SAID MUNICIPAL BOUNDARY, A DISTANCE OF 10.00 FEET TO THE WEST LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14; THENCE NORTH 00°16'20" WEST, COINCIDENT WITH SAID WEST LINE, AND THE SOUTH LINE OF SAID MUNICIPAL BOUNDARY, A DISTANCE OF 15.00 FEET TO THE SOUTH LINE OF THAT PARCEL OF LAND DESCRIBED IN DEED RECORDED OCTOBER 23, 1903 IN BOOK 126 AT PAGE 559 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO; THENCE NORTH 89°43'40" EAST, COINCIDENT WITH SAID SOUTH LINE, AND THE SOUTH LINE OF SAID MUNICIPAL BOUNDARY, A DISTANCE OF 30.00 FEET TO THE EAST RIGHT-OF-WAY LINE OF CARR STREET; THENCE SOUTH 08°27'01" WEST, DEPARTING SAID MUNICIPAL BOUNDARY, A DISTANCE OF 131.88 FEET; THENCE NORTH 10°06'30" WEST, A DISTANCE OF 117.08 FEET TO THE TRUE POINT OF BEGINNING.

PETITION FOR ANNEXATION

NAME OF ANNEXATION: ***Martinez Annexation No. 1***

APPROXIMATE LOCATION: ***5044 Carr St***

PETITION FOR ANNEXATION OF UNINCORPORATED
TERRITORY IN THE COUNTY OF ***JEFFERSON***
STATE OF COLORADO, TO THE CITY OF ARVADA,
STATE OF COLORADO

TO THE MAYOR AND THE CITY COUNCIL OF THE CITY OF ARVADA, COLORADO:

The undersigned in accordance with the Municipal Annexation Act of 1965, Chapter 31, Article 12, C.R.S. 1973, as amended, hereby petitions the City Council of the City of Arvada for annexation to the City of Arvada of the following described unincorporated territory located in the County of Jefferson, State of Colorado, to wit:

LEGAL DESCRIPTION (See Exhibit A)

In support of the said Petition, your Petitioners allege that:

1. It is desirable and necessary that the above-described territory be annexed to the City of Arvada.
2. No less than one-sixth of the perimeter of the area proposed to be annexed is contiguous with the City of Arvada.
3. A community of interest exists between the territory proposed to be annexed and the City of Arvada.
4. The territory proposed to be annexed is urban or will be urbanized in the future.
5. The territory proposed to be annexed is integrated or is capable of being integrated with the City of Arvada.
6. No land held in identical ownership, whether consisting of one tract or parcel of real estate or two or more contiguous tracts or parcels of real estate:

a. is divided into separate parts or parcels without the written consent of the landowner or landowners thereof.

b. comprising twenty acres or more which, together with the buildings and improvements situated thereon, has an assessed value in excess of two-hundred thousand dollars for an ad valorem tax purpose for the year preceding the annexation is included within the territory proposed to be annexed, without the written consent of the landowner or landowners thereof.

7. No annexation proceedings have been commenced by another municipality for the annexation of part or all of the area proposed herein to be annexed to Arvada.

8. Annexation of the territory proposed to be annexed will not result in detachment of area from any school district and the attachment of the same to another school district.

9. Annexation of the area proposed to be annexed will not have the effect of extending the City of Arvada's municipal boundary more than three miles in any direction from any point of such municipal boundary in any one year.

10. No portion of a platted street or alley lies within the boundaries of the area proposed to be annexed, unless the entire width of said street or alley has been included within the boundaries of the area to be annexed.

11. The Signers of the Petition comprise more than fifty percent of the landowners in the area to be annexed and are the landowners of more than fifty percent of the territory included in the area proposed to be annexed, excluding public streets and alleys and any land owned by the annexing municipality.

12. All other requirements of Section 31-12-104 and 31-12-105, C.R.S., exist or have been met.

13. The mailing address of the Signer, the legal description of the land owned by such signer, and the date of signing of such signature are all shown on this Petition.

14. Attached to this Petition is the Affidavit of Circulator of this Petition that the signature hereon is the signature of the person whose name it purports to be.

[Signature Pages to Follow]

Your Petitioners further request that the City of Arvada approve the annexation of the area proposed to be annexed.

Owner's Signature: _____

Name: Lesley Dahl Kemper

Title: Chair

Owner's Name: County of Jefferson

Address: 100 Jefferson Pkwy Golden CO 80419

Date of signing: _____

AFFIDAVIT OF CIRCULATOR

STATE OF COLORADO)

) ss.

COUNTY OF Jefferson)

Nick Nelson, being duly sworn, upon oath, deposes and states:

1. That the affiant circulated the Petition for Annexation for the purpose of obtaining the signature(s) of the above Petitioner(s).

2. That each signature thereon is the signature of the person whose name it purports to be.

Circulator

NOTARY CERTIFICATE

STATE OF COLORADO)

) ss.

COUNTY OF Jefferson)

Subscribed and sworn to before me this 17th day of June, 2025.

(SEAL)

Witness my hand and seal: Nicole

My commission expires:

NICOLE KATHERINE ALBER
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID# 20164005333
MY COMMISSION EXPIRES 11/21/2028

EXHIBIT A

Legal Description of Property to be Annexed

A PARCEL OF LAND LOCATED IN THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 14, AND THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 15, TOWNSHIP 3 SOUTH, RANGE 69 WEST OF THE 6TH P.M., COUNTY OF JEFFERSON, STATE OF COLORADO, DESCRIBED AS FOLLOWS:

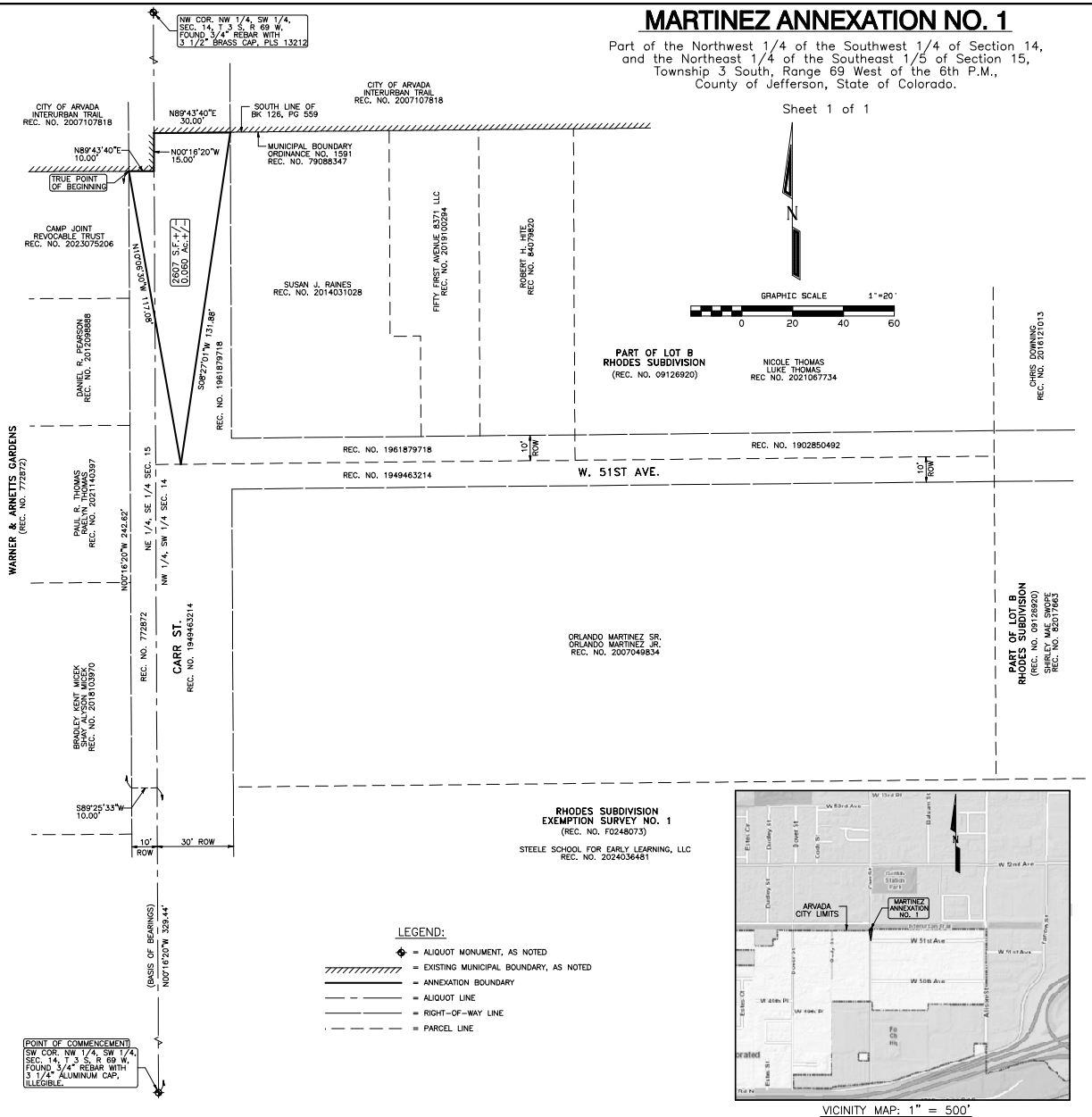
COMMENCING AT THE SOUTHWEST CORNER OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14; THENCE NORTH 00°16'20" WEST, COINCIDENT WITH THE WEST LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14, A DISTANCE OF 329.44 FEET; THENCE SOUTH 89°25'33" WEST, A DISTANCE OF 10.00 FEET TO THE WEST RIGHT-OF-WAY LINE OF CARR STREET; THENCE NORTH 00°16'20" WEST, A DISTANCE OF 242.62 FEET TO THE NORTHEAST CORNER OF LOT 13, AS SHOWN ON THE PLAT OF WARNER & ARNETTS GARDENS RECORDED APRIL 27, 1907 AS RECEPTION NO. 772872 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO ALSO BEING THE SOUTH LINE OF THE EXISTING MUNICIPAL BOUNDARY OF THE CITY OF ARVADA AS DESCRIBED IN ORDINANCE NO. 1591 RECORDED SEPTEMBER 27, 1979 AS RECEPTION NO. 79088347 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO, AND THE TRUE POINT OF BEGINNING;

THENCE NORTH 89°43'40" EAST, COINCIDENT WITH THE EASTERLY EXTENSION OF THE NORTH LINE OF SAID LOT 13, AND THE SOUTH LINE OF SAID MUNICIPAL BOUNDARY, A DISTANCE OF 10.00 FEET TO THE WEST LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14; THENCE NORTH 00°16'20" WEST, COINCIDENT WITH SAID WEST LINE, AND THE SOUTH LINE OF SAID MUNICIPAL BOUNDARY, A DISTANCE OF 15.00 FEET TO THE SOUTH LINE OF THAT PARCEL OF LAND DESCRIBED IN DEED RECORDED OCTOBER 23, 1903 IN BOOK 126 AT PAGE 559 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO; THENCE NORTH 89°43'40" EAST, COINCIDENT WITH SAID SOUTH LINE, AND THE SOUTH LINE OF SAID MUNICIPAL BOUNDARY, A DISTANCE OF 30.00 FEET TO THE EAST RIGHT-OF-WAY LINE OF CARR STREET; THENCE SOUTH 08°27'01" WEST, DEPARTING SAID MUNICIPAL BOUNDARY, A DISTANCE OF 131.88 FEET; THENCE NORTH 10°06'30" WEST, A DISTANCE OF 117.08 FEET TO THE TRUE POINT OF BEGINNING.

MARTINEZ ANNEXATION NO. 1

Part of the Northwest 1/4 of the Southwest 1/4 of Section 14, and the Northeast 1/4 of the Southeast 1/5 of Section 15, Township 3 South, Range 69 West of the 6th P.M., County of Jefferson, State of Colorado.

Sheet 1 of 1



LEGEND:

- = ALIQUOT MONUMENT, AS NOTED
- = EXISTING MUNICIPAL BOUNDARY, AS NOTED
- = ANNEXATION BOUNDARY
- = ALIQUOT LINE
- = RIGHT-OF-WAY LINE
- = PARCEL LINE

VICINITY MAP: 1" = 500'

PROPERTY DESCRIPTION:

A PARCEL OF LAND LOCATED IN THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 14, AND THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 15, TOWNSHIP 3 SOUTH, RANGE 69 WEST OF THE 6TH P.M., COUNTY OF JEFFERSON, STATE OF COLORADO, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14; THENCE NORTH 00°16'20" WEST, COINCIDENT WITH THE WEST LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14, A DISTANCE OF 329.44 FEET; THENCE SOUTH 89°25'33" WEST, A DISTANCE OF 10.00 FEET TO THE WEST RIGHT-OF-WAY LINE OF CARR STREET; THENCE NORTH 00°16'20" WEST, A DISTANCE OF 242.62 FEET TO THE NORTHEAST CORNER OF LOT 13, AS SHOWN ON THE PLAT OF WARNER & ARNETTS GARDENS RECORDED APRIL 27, 1907 AS RECEPTION NO. 772872 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO ALSO BEING THE SOUTH LINE OF THE EXISTING MUNICIPAL BOUNDARY OF THE CITY OF ARVADA AS DESCRIBED IN ORDINANCE NO. 1591 RECORDED SEPTEMBER 27, 1979 AS RECEPTION NO. 79088347 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO, AND THE TRUE POINT OF BEGINNING;

THENCE NORTH 89°43'40" EAST, COINCIDENT WITH THE EASTERLY EXTENSION OF THE NORTH LINE OF SAID LOT 13, AND THE SOUTH LINE OF SAID MUNICIPAL BOUNDARY, A DISTANCE OF 10.00 FEET TO THE WEST LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14; THENCE NORTH 00°16'20" WEST, COINCIDENT WITH SAID WEST LINE, AND THE SOUTH LINE OF SAID MUNICIPAL BOUNDARY, A DISTANCE OF 15.00 FEET TO THE SOUTH LINE OF THAT PARCEL OF LAND DESCRIBED IN DEED RECORDED OCTOBER 23, 1903 IN BOOK 126 AT PAGE 559 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO; THENCE NORTH 89°43'40" EAST, COINCIDENT WITH SAID SOUTH LINE, AND THE SOUTH LINE OF SAID MUNICIPAL BOUNDARY, A DISTANCE OF 30.00 FEET TO THE EAST RIGHT-OF-WAY LINE OF CARR STREET; THENCE SOUTH 08°27'01" WEST, DEPARTING SAID MUNICIPAL BOUNDARY, A DISTANCE OF 131.88 FEET; THENCE NORTH 10°06'30" WEST, A DISTANCE OF 117.08 FEET TO THE TRUE POINT OF BEGINNING.

SAID PARCEL CONTAINS 2607 SQUARE FEET OR 0.060 ACRES, MORE OR LESS.

NOTES:

1) BASIS OF BEARING: THE WEST LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 14, TOWNSHIP 3 SOUTH, RANGE 69 WEST OF THE 6TH P.M., IN JEFFERSON COUNTY, COLORADO IS ASSUMED TO BEAR NORTH 00°16'20" WEST BEING MONUMENTED ON THE SOUTH END BY A 3/4" REBAR WITH 3 1/4" BRASS CAP, ILLEGIBLE, AND ON THE NORTH END BY A 3/4" REBAR WITH 3 1/2" BRASS CAP, PLS 13212 IN MONUMENT BOX, WITH ALL BEARINGS SHOWN HEREON RELATIVE THERETO.

2) CERTIFICATION DEFINED: THE USE OF THE WORD "CERTIFY" OR "CERTIFICATION" BY A REGISTERED PROFESSIONAL LAND SURVEYOR, IN THE PRACTICE OF LAND SURVEYING, CONSTITUTES AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THOSE FACTS OF FINDINGS WHICH ARE SUBJECT OF THE CERTIFICATION, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EITHER EXPRESS OR IMPLIED.

3) ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTIONS BASED UPON A DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

4) ALL DISTANCES SHOWN HEREON ARE REPORTED IN U.S. SURVEY FEET.

5) THE CITY OF ARVADA IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE SURVEY DATA SHOWN HEREIN. THE CITY OF ARVADA'S REVIEW IS FOR GENERAL COMPLIANCE WITH ARVADA'S LAND DEVELOPMENT CODE. THE CITY OF ARVADA, THROUGH THE ACCEPTANCE OF THE ANNEXATION MAP, ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THE ANNEXATION MAP. THE ACCURACY OF SURVEY INFORMATION INCLUDING BOUNDARY INFORMATION, MONUMENTATION, LOT LINES, ETC. IS THE SOLE RESPONSIBILITY OF THE LICENSED SURVEYOR NAMED HEREIN.

SURVEYOR'S STATEMENT:

I, CURTIS D. HOOS, A LICENSED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT AN ANNEXATION MAP WAS MADE BY ME OR DIRECTLY UNDER MY SUPERVISION IN ACCORDANCE WITH APPLICABLE STANDARDS OF PRACTICE, AND BASED ON MY KNOWLEDGE, INFORMATION AND BELIEF THE ACCOMPANYING ANNEXATION MAP ACCURATELY AND PROPERLY SHOWS THE PROPERTY DETERMINED BY THIS SURVEY, ENROACHMENTS, EASEMENTS, RIGHT OF WAY OR PASSAGEWAYS ACROSS SAID PROPERTY THAT ARE IN EVIDENCE OR KNOWN TO ME, ARE AS SHOWN TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF. THIS SURVEY, AND THE INFORMATION SHOWN HEREON ARE NOT A GUARANTY OR WARRANTY, EITHER EXPRESSED OR IMPLIED.

CURTIS D. HOOS PLS 37971
FOR AND ON BEHALF OF:
AMERICAN WEST LAND SURVEYING CO.
A COLORADO CORPORATION

CONTIGUITY STATEMENT:

THE ABOVE DESCRIBED LAND IS CONTIGUOUS TO THE CITY OF ARVADA AND MEETS THE REQUIREMENTS SET FORTH IN COLORADO REVISED STATUTES §31-12-104-(1)(A) THAT ONE-SIXTH OR MORE OF THE PERIMETER TO BE ANNEXED IS CONTIGUOUS WITH THE ANNEXING MUNICIPALITY.

TOTAL PERIMETER OF AREA CONSIDERED FOR ANNEXATION = 303.96 L.F.

ONE-SIXTH OF TOTAL PERIMETER OF AREA = 50.66 L.F.

PERIMETER OF THE AREA CONTIGUOUS WITH EXISTING CITY LIMITS = 55.00 L.F.

THE TOTAL CONTIGUOUS PERIMETER IS 18%, WHICH EXCEEDS THE 1/6 AREA REQUIRED.

APPROVAL CERTIFICATE:

APPROVED FOR FILING BY THE CITY OF ARVADA THIS _____ DAY OF _____ , 20____.

_____ ATTEST:_____
MAYOR CITY CLERK

ORDINANCE NUMBER(S)_____

CLERK AND RECORDER'S CERTIFICATE:

_____
RECEPTION NUMBER

ACCEPTED FOR FILING IN THE OFFICE OF THE CLERK AND RECORDER OF JEFFERSON COUNTY, AT GOLDEN COLORADO

ON THIS _____ DAY OF _____ , 20 _____ AT _____ O.CLOCK.

BY:_____ _____
JEFFERSON COUNTY CLERK AND RECORDER DEPUTY CLERK

American West Land Surveying Co.
A Colorado Corporation
PO Box 129, Brighton, CO 80601 * P:303-659-1532 F:303-655-0575 * amwestls.com

REVISION	DATE	SCALE 1" = 20'
		DATE: FEB 25, 2025
		DRAWN BY: CDH
		CHECKED BY: MJH
		CLIENT: MARTINEZ
		JOB NO. 25-

FILE: D:\SURVEYS\Q-R\Rhodes\5044 CARR ST_ANNEX.pro

CITY OF ARVADA

REPORT TO CITY COUNCIL PUBLIC HEARING

AGENDA ITEM 10.B.3.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: CB26-010, An Ordinance Annexing Certain Land Into the City of Arvada, Martinez Annexation No. 2, a 01.11 Acre Parcel of Land Approximately Located at 5044 Carr Street, in the City of Arvada, County of Jefferson, State of Colorado (Ordinance No. 4926) (Presenter: Rob Smetana, Planning Manager)

Report in Brief

This 0.88 acre property is currently served by a failing well. In order to obtain water, the owner is requesting to annex into the City of Arvada. The total annexation area including a portion of the adjacent streets will be 1.17 acres. As such the proposed zoning designation is R-6 (Residential 6) for medium-high density residential which would allow up to 6 dwelling units per acre. No subdivision is currently proposed and any future subdivision will need to be processed as a separate administrative application at a later date.

The Arvada team recommends that CB26-010, An Ordinance Annexing Certain Land into the City of Arvada, Martinez Annexation No. 2, a 1.11 Acre Parcel of Land Approximately Located at 5044 Carr Street, in the City of Arvada, County of Jefferson, State of Colorado be approved.

Financial Impact

There is no fiscal impact to the city.

Background

This residential property is currently served by a failing well. In order to obtain water, the owner is requesting to annex into the City of Arvada. The total annexation area, including Martinez Annexation No. 1 (0.06 acres) and Martinez Annexation No. 2 (1.11 acres) which also includes a portion of the adjacent streets, will be 1.17 acres. As such, the proposed zoning designation is R-6 (Residential 6) for medium-high density residential, which would allow up to 6 dwelling units per acre. In order to meet contiguity requirements, a serial annexation is required. Martinez Annexation No. 1 includes a small triangular portion of Carr Street. Martinez Annexation No. 2, includes the remainder of Carr Street that is adjacent to this property, all the private property associated with 5044 Carr Street and a portion of W. 51st Avenue that is also adjacent to this property. The Arvada Comprehensive Plan designates this site as Suburban Residential, which allows for a variety of residential unit types, including the existing single-family residential use. No new development is currently proposed for this site and any future development will need to be processed as a separate administrative application at a later date.

Discussion

Div. 8-3-3 Annexation and Disconnection Approval Criteria	Finding	Rationale
1. The annexation is in accord with the Comprehensive Plan and the best interests of the City would be served by annexation of such property.	Complies	The existing single family home and the proposed R6 zoning designation is in compliance with the Suburban designation of the Comprehensive Plan.

2. The property is capable of being integrated into the City and developed in compliance with all applicable provisions of this Code and the Arvada City Code.	Complies	The site is capable of being integrated into the City and all future development applications will comply with code requirements.
3. At the time any development of the area proposed to be annexed is completed, there will be capacity to adequately serve residents of such area with all necessary utilities, facilities and public services.	Complies	Water and Sewer services are intended for residents of Arvada and these annexations will allow Arvada to continue to serve its residents rather than outside entities.

Public Contact

The required neighborhood meeting took place on December 13, 2023. The applicant, staff, and three neighbors were in attendance. Neighbors inquired about the proposed construction activities associated with the water connection and how that may impact the neighborhood. They also expressed concern with the proposed zoning designation as it would allow up to six units per acre on the site. Staff explained that in order to achieve that density, a future development application would be required and that it would need to address all development aspects of the LDC. As such, neighbors would receive notice of any future development applications and would be allowed to provide further input at that time.

Commission Recommendation

On July 2, 2025, the Planning Commission voted 7 to 0 to recommend approval to the City Council.

Strategic Alignment

The project is consistent with the City Council Strategic Plan principles for the Community and Economic Development work system.

Alternative Courses of Action

N/A

Recommendation for Action

The Arvada Team recommends that the City Council Approve CB26-010, An Ordinance Annexing Certain Land into the City of Arvada, Martinez Annexation No. 2, a 1.11 Acre Parcel of Land Approximately Located at 5044 Carr Street, in the City of Arvada, County of Jefferson, State of Colorado subject to the conditions stated in the Staff Report on Page 5.

Suggested Motion:

I move that CB26-010, An Ordinance Annexing Certain Land into the City of Arvada, Martinez Annexation No. 2, a 1.11 Acre Parcel of Land Approximately Located at 5044 Carr Street, in the City of Arvada, County of Jefferson, State of Colorado, be (approved on final reading, numbered 4926 and ordered published by title only) (rejected).

Prepared by:
Heidi Van Gieson, Administrative Specialist

Reviewed by:

Approved by:

Josie Suk, Development Systems and Administrative Manager	03/30/2026
Rob Smetana, Planning Manager	03/30/2026
Jessica Garner, Director of Community and Economic Development	03/31/2026
Gail Walker, Legal Specialist-Contracts	04/01/2026
Kelsy Sargent, Assistant City Attorney	04/01/2026
Rachel Morris, City Attorney	04/07/2026
Allison Scheck, Deputy City Manager	04/09/2026
Don Wick, City Manager	04/09/2026

Enclosure, exhibits & attachments required to support the report

COUNCIL BILL NO. 26-010
ORDINANCE NO. 4926

AN ORDINANCE ANNEXING CERTAIN LAND INTO THE CITY OF ARVADA, MARTINEZ ANNEXATION NO. 2, A 01.11 ACRE PARCEL OF LAND APPROXIMATELY LOCATED AT 5044 CARR STREET, IN THE CITY OF ARVADA, COUNTY OF JEFFERSON, STATE OF COLORADO

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ARVADA, COLORADO:

Section 1. The City Council of the City of Arvada, State of Colorado, having examined the filings and the annexation map for certain real property more fully described in said map finds as follows:

1. That a petition for annexation, together with four copies of the annexation map as required by law, was filed with the City by the owners of over fifty percent of the area of the territory hereinafter described, exclusive of public streets and alleys, and comprising more than fifty percent of the landowners of the property to be annexed.

2. That the City, by resolution at a properly noticed meeting accepted said petition and found and determined that the applicable parts of the Municipal Annexation Act of 1965, as amended, and Section 30 of Article II of the Colorado Constitution have been met and further determined that an election was not required under the Act and that no additional terms and conditions were imposed upon said annexation.

3. That the area proposed to be annexed meets the applicable requirements of Sections 31-12-104 and 31-12-105, C.R.S., and is therefore eligible for annexation to the City of Arvada.

Section 2. The following described real property, situated in the County of Jefferson, State of Colorado, be and the same hereby is annexed to the City of Arvada, to wit:

A PARCEL OF LAND LOCATED IN THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 14, AND THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 15, TOWNSHIP 3 SOUTH, RANGE 69 WEST OF THE 6TH P.M., COUNTY OF JEFFERSON, STATE OF COLORADO

More particularly described in the attached Exhibit A.

Section 3. The Mayor is hereby authorized to execute, the City Clerk to attest, in form approved by the City Attorney, an Annexation Agreement pertaining to the property owned by the Petitioners.

Section 4. The Clerk of the City shall perform all statutory duties to complete said annexation.

Section 5. This Ordinance shall be effective five days after publication following final passage

INTRODUCED, READ, AND ORDERED PUBLISHED this 24th day of March, 2026.

PASSED, ADOPTED, AND APPROVED this 21st day of April, 2026.

_____
Lauren Simpson, Mayor

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:
Rachel A. Morris, City Attorney

By: _____

Publication Dates: March 26, 2024
April 23, 2026

Exhibit A

AN ORDINANCE ANNEXING CERTAIN LAND INTO THE CITY OF ARVADA, MARTINEZ ANNEXATION NO. 2, A 01.11 ACRE PARCEL OF LAND APPROXIMATELY LOCATED AT 5044 CARR STREET, IN THE CITY OF ARVADA, COUNTY OF JEFFERSON, STATE OF COLORADO

EXHIBIT A

Legal Description of Property to be Annexed

Parcel No. 1:

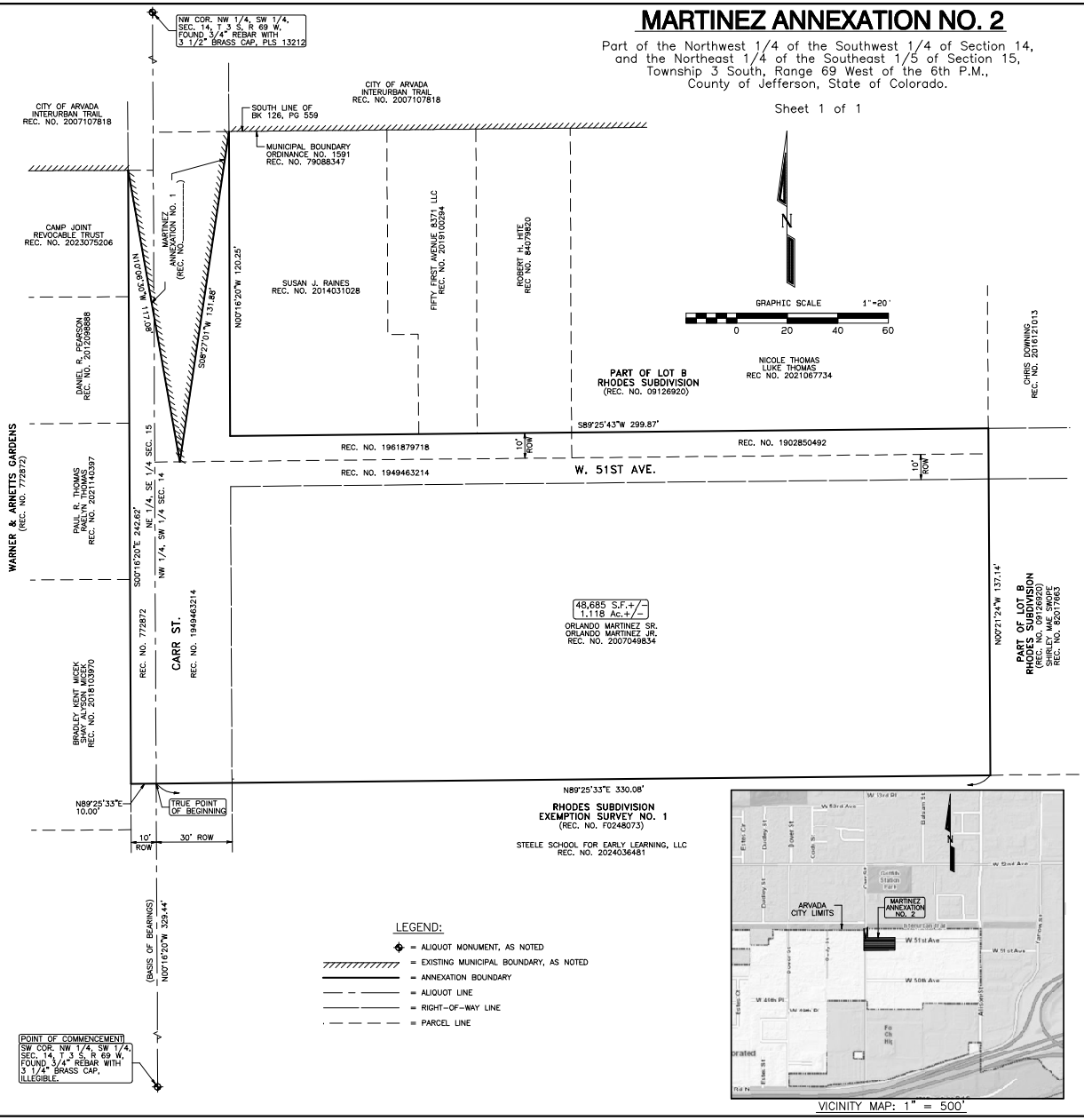
A PARCEL OF LAND LOCATED IN THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 14, AND THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 15, TOWNSHIP 3 SOUTH, RANGE 69 WEST OF THE 6TH P.M., COUNTY OF JEFFERSON, STATE OF COLORADO, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14; THENCE NORTH 00°16'20" WEST, COINCIDENT WITH THE WEST LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14, A DISTANCE OF 329.44 FEET TO THE TRUE POINT OF BEGINNING; THENCE NORTH 89°25'33" EAST, COINCIDENT WITH THE SOUTH LINE OF THAT PARCEL OF LAND DESCRIBED IN DEED RECORDED MAY 2, 2007 AS RECEPTION NO. 2007049834 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO AND THE WESTERLY EXTENSION THEREOF, A DISTANCE OF 330.08 FEET TO THE SOUTHEAST CORNER OF SAID PARCEL; THENCE NORTH 00°21'24" WEST, COINCIDENT WITH THE EAST LINE OF SAID PARCEL AND THE NORTHERLY EXTENSION THEREOF, A DISTANCE OF 137.14 FEET TO THE NORTH RIGHT-OF-WAY LINE OF WEST 51ST AVENUE AS DESCRIBED IN DEED RECORDED APRIL 21, 1926 IN BOOK 285 AT PAGE 295, AND IN DEED RECORDED OCTOBER 20, 1961 IN BOOK 1417 AT PAGE 387 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO; THENCE SOUTH 89°25'43" WEST, COINCIDENT WITH SAID RIGHT-OF-WAY LINE, A DISTANCE OF 299.87 FEET TO THE EAST RIGHT-OF-WAY LINE OF CARR STREET AS DESCRIBED IN SAID DEED; THENCE NORTH 00°16'20" WEST, COINCIDENT WITH SAID RIGHT-OF-WAY LINE, A DISTANCE OF 120.25 FEET TO THE SOUTH LINE OF THAT PARCEL OF LAND DESCRIBED IN DEED RECORDED OCTOBER 23, 1903 IN BOOK 126 AT PAGE 559 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO; ALSO BEING THE EAST LINE OF MARTINEZ ANNEXATION NO. 1; THENCE SOUTH 08°27'01" WEST, COINCIDENT WITH SAID EAST LINE, A DISTANCE OF 131.88 FEET; THENCE NORTH 10°06'30" WEST, COINCIDENT WITH THE WEST LINE OF MARTINEZ ANNEXATION NO. 1, A DISTANCE OF 117.08 FEET TO THE WEST RIGHT-OF-WAY LINE OF CARR STREET AND THE NORTHEAST CORNER OF LOT 13, AS SHOWN ON THE PLAT OF WARNER & ARNETTS GARDENS RECORDED APRIL 27, 1907 AS RECEPTION NO. 772872 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO; THENCE SOUTH 00°16'20" EAST, DEPARTING THE BOUNDARY OF MARTINEZ ANNEXATION NO. 1 AND COINCIDENT WITH SAID RIGHT-OF-WAY LINE, A DISTANCE OF 242.62 FEET; THENCE NORTH 89°25'33" EAST, A DISTANCE OF 10.00 FEET TO THE TRUE POINT OF BEGINNING.

MARTINEZ ANNEXATION NO. 2

Part of the Northwest 1/4 of the Southwest 1/4 of Section 14, and the Northeast 1/4 of the Southeast 1/5 of Section 15, Township 3 South, Range 69 West of the 6th P.M., County of Jefferson, State of Colorado.

Sheet 1 of 1



LEGEND:

- ◆ = ALIQUOT MONUMENT, AS NOTED
- ////////// = EXISTING MUNICIPAL BOUNDARY, AS NOTED
- ——— = ANNEXATION BOUNDARY
- — — — = ALIQUOT LINE
- ——— = RIGHT-OF-WAY LINE
- · — · — = PARCEL LINE

VICINITY MAP: 1" = 500'

PROPERTY DESCRIPTION:

A PARCEL OF LAND LOCATED IN THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 14, AND THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 15, TOWNSHIP 3 SOUTH, RANGE 69 WEST OF THE 6TH P.M., COUNTY OF JEFFERSON, STATE OF COLORADO, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14; THENCE NORTH 00°16'20" WEST, COINCIDENT WITH THE WEST LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14, A DISTANCE OF 329.44 FEET TO THE TRUE POINT OF BEGINNING; THENCE NORTH 89°25'33" EAST, COINCIDENT WITH THE SOUTH LINE OF THAT PARCEL OF LAND DESCRIBED IN DEED RECORDED MAY 2, 2007 AS RECEPTION NO. 2007049834 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO AND THE WESTERLY EXTENSION THEREOF, A DISTANCE OF 330.08 FEET TO THE SOUTHEAST CORNER OF SAID PARCEL; THENCE NORTH 00°21'24" WEST, COINCIDENT WITH THE EAST LINE OF SAID PARCEL AND THE NORTHERLY EXTENSION THEREOF, A DISTANCE OF 137.14 FEET TO THE NORTH RIGHT-OF-WAY LINE OF WEST 51ST AVENUE AS DESCRIBED IN DEED RECORDED APRIL 21, 1926 AS RECEPTION NO. 1902850492 AND IN DEED RECORDED JUNE 27, 1949 AS RECEPTION NO. 463214 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO; THENCE SOUTH 89°25'43" WEST, COINCIDENT WITH SAID RIGHT-OF-WAY LINE, A DISTANCE OF 299.87 FEET TO THE EAST RIGHT-OF-WAY LINE OF CARR STREET AS DESCRIBED IN SAID DEED; THENCE NORTH 00°16'20" WEST, COINCIDENT WITH SAID RIGHT-OF-WAY LINE, A DISTANCE OF 120.25 FEET TO THE SOUTH LINE OF THAT PARCEL OF LAND DESCRIBED IN DEED RECORDED OCTOBER 23, 1903 IN BOOK 126 AT PAGE 559 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO; ALSO BEING THE EAST LINE OF MARTINEZ ANNEXATION NO. 1; THENCE SOUTH 08°27'01" WEST, COINCIDENT WITH SAID EAST LINE, A DISTANCE OF 131.88 FEET; THENCE NORTH 10°06'30" WEST, COINCIDENT WITH THE WEST LINE OF MARTINEZ ANNEXATION NO. 1, A DISTANCE OF 117.08 FEET TO THE WEST RIGHT-OF-WAY LINE OF CARR STREET AND THE NORTHEAST CORNER OF LOT 13, AS SHOWN ON THE PLAT OF WARNER & ARNETTS GARDENS RECORDED APRIL 27, 1907 AS RECEPTION NO. 772872 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO; THENCE SOUTH 00°16'20" EAST, DEPARTING THE BOUNDARY OF MARTINEZ ANNEXATION NO. 1 AND COINCIDENT WITH SAID RIGHT-OF-WAY LINE, A DISTANCE OF 242.62 FEET; THENCE NORTH 89°25'33" EAST, A DISTANCE OF 10.00 FEET TO THE TRUE POINT OF BEGINNING.

SAID PARCEL CONTAINS 48,685 SQUARE FEET OR 1.118 ACRES, MORE OR LESS.

NOTES:

1) BASIS OF BEARING: THE WEST LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 14, TOWNSHIP 3 SOUTH, RANGE 69 WEST OF THE 6TH P.M., IN JEFFERSON COUNTY, COLORADO IS ASSUMED TO BEAR NORTH 00°16'20" WEST BEING MONUMENTED ON THE SOUTH END BY A 3/4" REBAR WITH 3 1/4" BRASS CAP, ILLEGIBLE, AND ON THE NORTH END BY A 3/4" REBAR WITH 3 1/2" BRASS CAP, PLS 13212 IN MONUMENT BOX, WITH ALL BEARINGS SHOWN HEREON RELATIVE THERETO.

2) CERTIFICATION DEFINED: THE USE OF THE WORD "CERTIFY" OR "CERTIFICATION" BY A REGISTERED PROFESSIONAL LAND SURVEYOR, IN THE PRACTICE OF LAND SURVEYING, CONSTITUTES AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THOSE FACTS OF FINDINGS WHICH ARE SUBJECT OF THE CERTIFICATION, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EITHER EXPRESS OR IMPLIED.

3) ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTIONS BASED UPON A DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

4) ALL DISTANCES SHOWN HEREON ARE REPORTED IN U.S. SURVEY FEET.

5) THE CITY OF ARVADA IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE SURVEY DATA SHOWN HEREIN. THE CITY OF ARVADA'S REVIEW IS FOR GENERAL COMPLIANCE WITH ARVADA'S LAND DEVELOPMENT CODE. THE CITY OF ARVADA, THROUGH THE ACCEPTANCE OF THE ANNEXATION MAP, ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THE ANNEXATION MAP; THE ACCURACY OF SURVEY INFORMATION INCLUDING BOUNDARY INFORMATION, MONUMENTATION, LOT LINES, ETC. IS THE SOLE RESPONSIBILITY OF THE LICENSED SURVEYOR NAMED HEREIN.

SURVEYOR'S STATEMENT:

I, CURTIS D. HOOS, A LICENSED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT AN ANNEXATION MAP WAS MADE BY ME OR DIRECTLY UNDER MY SUPERVISION IN ACCORDANCE WITH APPLICABLE STANDARDS OF PRACTICE, AND BASED ON MY KNOWLEDGE, INFORMATION AND BELIEF THE ACCOMPANYING ANNEXATION MAP ACCURATELY AND PROPERLY SHOWS THE PROPERTY DETERMINED BY THIS SURVEY, ENROACHMENTS, EASEMENTS, RIGHT OF WAY OR PASSAGEWAYS ACROSS SAID PROPERTY THAT ARE IN EVIDENCE OR KNOWN TO ME, ARE AS SHOWN TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF. THIS SURVEY, AND THE INFORMATION SHOWN HEREON ARE NOT A GUARANTY OR WARRANTY, EITHER EXPRESSED OR IMPLIED.

CURTIS D. HOOS PLS 37971
FOR AND ON BEHALF OF:
AMERICAN WEST LAND SURVEYING CO.
A COLORADO CORPORATION

CONTIGUITY STATEMENT:

THE ABOVE DESCRIBED LAND IS CONTIGUOUS TO THE CITY OF ARVADA AND MEETS THE REQUIREMENTS SET FORTH IN COLORADO REVISED STATUTES §31-12-104-(1)(A) THAT ONE-SIXTH OR MORE OF THE PERIMETER TO BE ANNEXED IS CONTIGUOUS WITH THE ANNEXING MUNICIPALITY.

TOTAL PERIMETER OF AREA CONSIDERED FOR ANNEXATION = 1388.92 L.F.

ONE-SIXTH OF TOTAL PERIMETER OF AREA = 231.49 L.F.

PERIMETER OF THE AREA CONTIGUOUS WITH EXISTING CITY LIMITS = 248.96 L.F.

THE TOTAL CONTIGUOUS PERIMETER IS 18%, WHICH EXCEEDS THE 1/6 AREA REQUIRED.

APPROVAL CERTIFICATE:

APPROVED FOR FILING BY THE CITY OF ARVADA THIS _____ DAY OF _____ , 20_____.

_____ ATTEST: _____
MAYOR CITY CLERK

ORDINANCE NUMBER(S)_____

CLERK AND RECORDER'S CERTIFICATE:

_____
RECEPTION NUMBER

ACCEPTED FOR FILING IN THE OFFICE OF THE CLERK AND RECORDER OF JEFFERSON COUNTY, AT GOLDEN COLORADO

ON THIS _____ DAY OF _____ , 20 _____ AT _____ O.CLOCK.

BY: _____
JEFFERSON COUNTY CLERK AND RECORDER DEPUTY CLERK

American West Land Surveying Co.
A Colorado Corporation
PO Box 129, Brighton, CO 80601 * P:303-659-1532 F:303-655-0575 * amwestls.com

REVISION	DATE	SCALE 1" = 20'
		DATE: FEB 25, 2025
		DRAWN BY: CDH
		CHECKED BY: MJH
		CLIENT: MARTINEZ
		JOB NO. 25-

FILE: D:\SURVEYS\Q-R\Rhodes\5044 CARR ST_ANNEX_NO2.pro

PETITION FOR ANNEXATION

NAME OF ANNEXATION: ***Martinez Annexation No. 2***

APPROXIMATE LOCATION: ***5044 Carr St***

PETITION FOR ANNEXATION OF UNINCORPORATED
TERRITORY IN THE COUNTY OF ***JEFFERSON***
STATE OF COLORADO, TO THE CITY OF ARVADA,
STATE OF COLORADO

TO THE MAYOR AND THE CITY COUNCIL OF THE CITY OF ARVADA, COLORADO:

The undersigned in accordance with the Municipal Annexation Act of 1965, Chapter 31, Article 12, C.R.S. 1973, as amended, hereby petitions the City Council of the City of Arvada for annexation to the City of Arvada of the following described unincorporated territory located in the County of Jefferson, State of Colorado, to wit:

LEGAL DESCRIPTION (See Exhibit A)

In support of the said Petition, your Petitioners allege that:

1. It is desirable and necessary that the above-described territory be annexed to the City of Arvada.

2. No less than one-sixth of the perimeter of the area proposed to be annexed is contiguous with the City of Arvada.

3. A community of interest exists between the territory proposed to be annexed and the City of Arvada.

4. The territory proposed to be annexed is urban or will be urbanized in the future.

5. The territory proposed to be annexed is integrated or is capable of being integrated with the City of Arvada.

6. No land held in identical ownership, whether consisting of one tract or parcel of real estate or two or more contiguous tracts or parcels of real estate:

a. is divided into separate parts or parcels without the written consent of the landowner or landowners thereof.

b. comprising twenty acres or more which, together with the buildings and improvements situated thereon, has an assessed value in excess of two-hundred thousand dollars for an ad valorem tax purpose for the year preceding the annexation is included within the territory proposed to be annexed, without the written consent of the landowner or landowners thereof.

7. No annexation proceedings have been commenced by another municipality for the annexation of part or all of the area proposed herein to be annexed to Arvada.

8. Annexation of the territory proposed to be annexed will not result in detachment of area from any school district and the attachment of the same to another school district.

9. Annexation of the area proposed to be annexed will not have the effect of extending the City of Arvada's municipal boundary more than three miles in any direction from any point of such municipal boundary in any one year.

10. No portion of a platted street or alley lies within the boundaries of the area proposed to be annexed, unless the entire width of said street or alley has been included within the boundaries of the area to be annexed.

11. The Signers of the Petition comprise more than fifty percent of the landowners in the area to be annexed and are the landowners of more than fifty percent of the territory included in the area proposed to be annexed, excluding public streets and alleys and any land owned by the annexing municipality.

12. All other requirements of Section 31-12-104 and 31-12-105, C.R.S., exist or have been met.

13. The mailing address of the Signer, the legal description of the land owned by such signer, and the date of signing of such signature are all shown on this Petition.

14. Attached to this Petition is the Affidavit of Circulator of this Petition that the signature hereon is the signature of the person whose name it purports to be.

[Signature Pages to Follow]

Your Petitioners further request that the City of Arvada approve the annexation of the area proposed to be annexed.

Owner's Signature: _____

Name: Orlando Martinez, Sr.

Title: Owner

Owner's Name: Orlando Sr Properties, LLC

Address: 10355 Montview Blvd.,
Aurora, CO 80010

Date of signing: _____

Owner's Signature: _____

Name: Andy Kerr

Title: Chair, Board of County Commissioners

Owner's Name: County of Jefferson, State of Colorado

Address: 100 Jefferson County Parkway, Golden, CO 80419

Date of signing: 1/22/2026

AFFIDAVIT OF CIRCULATOR

STATE OF COLORADO)

) ss.

COUNTY OF Jefferson)

Nicholas Nilson, being duly sworn, upon oath, deposes and states:

1. That the affiant circulated the Petition for Annexation for the purpose of obtaining the signature(s) of the above Petitioner(s).

2. That each signature thereon is the signature of the person whose name it purports to be.

Circulator

NOTARY CERTIFICATE

STATE OF COLORADO)

) ss.

COUNTY OF Jefferson)

Subscribed and sworn to before me this 26th day of January, 2026.

(SEAL)

Witness my hand and seal:

My commission expires: 11/21/2028

NICOLE KATHERINE ALBER
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID# 20164005333
MY COMMISSION EXPIRES 11/21/2028

EXHIBIT A

Legal Description of Property to be Annexed

Parcel No. 1:

A PARCEL OF LAND LOCATED IN THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 14, AND THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 15, TOWNSHIP 3 SOUTH, RANGE 69 WEST OF THE 6TH P.M., COUNTY OF JEFFERSON, STATE OF COLORADO, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14; THENCE NORTH 00°16'20" WEST, COINCIDENT WITH THE WEST LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14, A DISTANCE OF 329.44 FEET TO THE TRUE POINT OF BEGINNING; THENCE NORTH 89°25'33" EAST, COINCIDENT WITH THE SOUTH LINE OF THAT PARCEL OF LAND DESCRIBED IN DEED RECORDED MAY 2, 2007 AS RECEPTION NO. 2007049834 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO AND THE WESTERLY EXTENSION THEREOF, A DISTANCE OF 330.08 FEET TO THE SOUTHEAST CORNER OF SAID PARCEL; THENCE NORTH 00°21'24" WEST, COINCIDENT WITH THE EAST LINE OF SAID PARCEL AND THE NORTHERLY EXTENSION THEREOF, A DISTANCE OF 137.14 FEET TO THE NORTH RIGHT-OF-WAY LINE OF WEST 51ST AVENUE AS DESCRIBED IN DEED RECORDED APRIL 21, 1926 IN BOOK 285 AT PAGE 295, AND IN DEED RECORDED OCTOBER 20, 1961 IN BOOK 1417 AT PAGE 387 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO; THENCE SOUTH 89°25'43" WEST, COINCIDENT WITH SAID RIGHT-OF-WAY LINE, A DISTANCE OF 299.87 FEET TO THE EAST RIGHT-OF-WAY LINE OF CARR STREET AS DESCRIBED IN SAID DEED; THENCE NORTH 00°16'20" WEST, COINCIDENT WITH SAID RIGHT-OF-WAY LINE, A DISTANCE OF 120.25 FEET TO THE SOUTH LINE OF THAT PARCEL OF LAND DESCRIBED IN DEED RECORDED OCTOBER 23, 1903 IN BOOK 126 AT PAGE 559 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO; ALSO BEING THE EAST LINE OF MARTINEZ ANNEXATION NO. 1; THENCE SOUTH 08°27'01" WEST, COINCIDENT WITH SAID EAST LINE, A DISTANCE OF 131.88 FEET; THENCE NORTH 10°06'30" WEST, COINCIDENT WITH THE WEST LINE OF MARTINEZ ANNEXATION NO. 1, A DISTANCE OF 117.08 FEET TO THE WEST RIGHT-OF-WAY LINE OF CARR STREET AND THE NORTHEAST CORNER OF LOT 13, AS SHOWN ON THE PLAT OF WARNER & ARNETTS GARDENS RECORDED APRIL 27, 1907 AS RECEPTION NO. 772872 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO; THENCE SOUTH 00°16'20" EAST, DEPARTING THE BOUNDARY OF MARTINEZ ANNEXATION NO. 1 AND COINCIDENT WITH SAID RIGHT-OF-WAY LINE, A DISTANCE OF 242.62 FEET; THENCE NORTH 89°25'33" EAST, A DISTANCE OF 10.00 FEET TO THE TRUE POINT OF BEGINNING.

PETITION FOR ANNEXATION

NAME OF ANNEXATION: ***Martinez Annexation No. 2***

APPROXIMATE LOCATION: ***5044 Carr St***

PETITION FOR ANNEXATION OF UNINCORPORATED
TERRITORY IN THE COUNTY OF ***JEFFERSON***
STATE OF COLORADO, TO THE CITY OF ARVADA,
STATE OF COLORADO

TO THE MAYOR AND THE CITY COUNCIL OF THE CITY OF ARVADA, COLORADO:

The undersigned in accordance with the Municipal Annexation Act of 1965, Chapter 31, Article 12, C.R.S. 1973, as amended, hereby petitions the City Council of the City of Arvada for annexation to the City of Arvada of the following described unincorporated territory located in the County of Jefferson, State of Colorado, to wit:

LEGAL DESCRIPTION (See Exhibit A)

In support of the said Petition, your Petitioners allege that:

1. It is desirable and necessary that the above-described territory be annexed to the City of Arvada.
2. No less than one-sixth of the perimeter of the area proposed to be annexed is contiguous with the City of Arvada.
3. A community of interest exists between the territory proposed to be annexed and the City of Arvada.
4. The territory proposed to be annexed is urban or will be urbanized in the future.
5. The territory proposed to be annexed is integrated or is capable of being integrated with the City of Arvada.
6. No land held in identical ownership, whether consisting of one tract or parcel of real estate or two or more contiguous tracts or parcels of real estate:

a. is divided into separate parts or parcels without the written consent of the landowner or landowners thereof.

b. comprising twenty acres or more which, together with the buildings and improvements situated thereon, has an assessed value in excess of two-hundred thousand dollars for an ad valorem tax purpose for the year preceding the annexation is included within the territory proposed to be annexed, without the written consent of the landowner or landowners thereof.

7. No annexation proceedings have been commenced by another municipality for the annexation of part or all of the area proposed herein to be annexed to Arvada.

8. Annexation of the territory proposed to be annexed will not result in detachment of area from any school district and the attachment of the same to another school district.

9. Annexation of the area proposed to be annexed will not have the effect of extending the City of Arvada's municipal boundary more than three miles in any direction from any point of such municipal boundary in any one year.

10. No portion of a platted street or alley lies within the boundaries of the area proposed to be annexed, unless the entire width of said street or alley has been included within the boundaries of the area to be annexed.

11. The Signers of the Petition comprise more than fifty percent of the landowners in the area to be annexed and are the landowners of more than fifty percent of the territory included in the area proposed to be annexed, excluding public streets and alleys and any land owned by the annexing municipality.

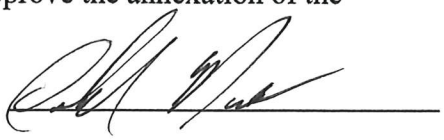
12. All other requirements of Section 31-12-104 and 31-12-105, C.R.S., exist or have been met.

13. The mailing address of the Signer, the legal description of the land owned by such signer, and the date of signing of such signature are all shown on this Petition.

14. Attached to this Petition is the Affidavit of Circulator of this Petition that the signature hereon is the signature of the person whose name it purports to be.

[Signature Pages to Follow]

Your Petitioners further request that the City of Arvada approve the annexation of the area proposed to be annexed.

Owner's Signature: 

Name: Orlando Martinez, Sr.

Title: Owner

Owner's Name: Orlando Sr Properties, LLC

Address: 10355 Montview Blvd.,
Aurora, CO 80010

Date of signing: DEC 29 2025

Owner's Signature: _____

Name: _____

Title: _____

Owner's Name: County of Jefferson

Address: _____

Date of signing: _____

AFFIDAVIT OF CIRCULATOR

STATE OF COLORADO)

) ss.

COUNTY OF Denver)

Katherine Struthers, being duly sworn, upon oath, deposes and states:

1. That the affiant circulated the Petition for Annexation for the purpose of obtaining the signature of Orlando Martinez, Sr., as authorized representative of Orlando Sr Properties, LLC, one of the above Petitioners.

2. That the signature of Orlando Martinez, Sr., on the above Petition is the signature of the person whose name it purports to be.

Circulator

NOTARY CERTIFICATE

STATE OF COLORADO)

) ss.

COUNTY OF Denver)

Subscribed and sworn to before me this 26th day of January, 2024.

(SEAL)

Witness my hand and seal: Pamala A. Thomas

My commission expires:

PAMALA A THOMAS
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20214031096
MY COMMISSION EXPIRES AUGUST 4, 2029

EXHIBIT A

Legal Description of Property to be Annexed

Parcel No. 1:

A PARCEL OF LAND LOCATED IN THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 14, AND THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 15, TOWNSHIP 3 SOUTH, RANGE 69 WEST OF THE 6TH P.M., COUNTY OF JEFFERSON, STATE OF COLORADO, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14; THENCE NORTH 00°16'20" WEST, COINCIDENT WITH THE WEST LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14, A DISTANCE OF 329.44 FEET TO THE TRUE POINT OF BEGINNING; THENCE NORTH 89°25'33" EAST, COINCIDENT WITH THE SOUTH LINE OF THAT PARCEL OF LAND DESCRIBED IN DEED RECORDED MAY 2, 2007 AS RECEPTION NO. 2007049834 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO AND THE WESTERLY EXTENSION THEREOF, A DISTANCE OF 330.08 FEET TO THE SOUTHEAST CORNER OF SAID PARCEL; THENCE NORTH 00°21'24" WEST, COINCIDENT WITH THE EAST LINE OF SAID PARCEL AND THE NORTHERLY EXTENSION THEREOF, A DISTANCE OF 137.14 FEET TO THE NORTH RIGHT-OF-WAY LINE OF WEST 51ST AVENUE AS DESCRIBED IN DEED RECORDED APRIL 21, 1926 IN BOOK 285 AT PAGE 295, AND IN DEED RECORDED OCTOBER 20, 1961 IN BOOK 1417 AT PAGE 387 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO; THENCE SOUTH 89°25'43" WEST, COINCIDENT WITH SAID RIGHT-OF-WAY LINE, A DISTANCE OF 299.87 FEET TO THE EAST RIGHT-OF-WAY LINE OF CARR STREET AS DESCRIBED IN SAID DEED; THENCE NORTH 00°16'20" WEST, COINCIDENT WITH SAID RIGHT-OF-WAY LINE, A DISTANCE OF 120.25 FEET TO THE SOUTH LINE OF THAT PARCEL OF LAND DESCRIBED IN DEED RECORDED OCTOBER 23, 1903 IN BOOK 126 AT PAGE 559 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO; ALSO BEING THE EAST LINE OF MARTINEZ ANNEXATION NO. 1; THENCE SOUTH 08°27'01" WEST, COINCIDENT WITH SAID EAST LINE, A DISTANCE OF 131.88 FEET; THENCE NORTH 10°06'30" WEST, COINCIDENT WITH THE WEST LINE OF MARTINEZ ANNEXATION NO. 1, A DISTANCE OF 117.08 FEET TO THE WEST RIGHT-OF-WAY LINE OF CARR STREET AND THE NORTHEAST CORNER OF LOT 13, AS SHOWN ON THE PLAT OF WARNER & ARNETTS GARDENS RECORDED APRIL 27, 1907 AS RECEPTION NO. 772872 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO; THENCE SOUTH 00°16'20" EAST, DEPARTING THE BOUNDARY OF MARTINEZ ANNEXATION NO. 1 AND COINCIDENT WITH SAID RIGHT-OF-WAY LINE, A DISTANCE OF 242.62 FEET; THENCE NORTH 89°25'33" EAST, A DISTANCE OF 10.00 FEET TO THE TRUE POINT OF BEGINNING.

CITY OF ARVADA

REPORT TO CITY COUNCIL PUBLIC HEARING

AGENDA ITEM 10.B.4.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: CB26-011, An Ordinance Zoning Martinez Annexation No. 1 and No. 2, from Jefferson County R-2 to City of Arvada R6 (Residential, 6), a 1.17 Acre Parcel of Land Approximately Located at 5044 Carr St., and Amending the Official Zoning Maps of the City of Arvada, Colorado (Ordinance No. 4927) (Presenter: Rob Smetana, Planning Manager)

Report in Brief

This 0.88 acre property is currently served by a failing well. In order to obtain water, the owner is requesting to annex into the City of Arvada. The total annexation area including a portion of the adjacent streets will be 1.17 acres. As such the proposed zoning designation is R-6 (Residential 6) for medium-high density residential which would allow up to 6 dwelling units per acre. No subdivision is currently proposed and any future subdivision will need to be processed as a separate administrative application at a later date.

The Arvada team recommends approval of the CB26-011, An Ordinance Zoning Martinez Annexation No. 1 and No. 2, from Jefferson County R-2 to City of Arvada R6 (Residential, 6), a 1.17 Acre Parcel of Land Approximately located at 5044 Carr St., and Amending the Official Zoning Maps of the City of Arvada, Colorado subject to the conditions stated in the Staff Report on Page 5.

Financial Impact

There is no fiscal impact to the city.

Background

This residential property is currently served by a failing well. In order to obtain water, the owner is requesting to annex into the City of Arvada. The total annexation area including Martinez Annexation No. 1 (0.06 acres) and Martinez Annexation No. 2 (1.11 acres) which also includes a portion of the adjacent streets, will be 1.17 acres. As such, the proposed zoning designation is R-6 (Residential 6) for medium-high density residential, which would allow up to 6 dwelling units per acre. In order to meet contiguity requirements, a serial annexation is required. Martinez Annexation No. 1 includes a small triangular portion of Carr Street. Martinez Annexation No. 2, includes the remainder of Carr Street that is adjacent to this property, all the private property associated with 5044 Carr Street and a portion of W. 51st Avenue that is also adjacent to this property. The Arvada Comprehensive Plan designates this site as Suburban Residential, which allows for a variety of residential unit types, including the existing single-family residential use. No new development is currently proposed for this site and any future development will need to be processed as a separate administrative application at a later date.

Discussion

Div. 8-3-4 Zoning and Rezoning Approval Criteria	**Finding**	**Rationale**
1. The rezoning is consistent with the Arvada Comprehensive Plan, or an adopted sub-area plan, corridor plan, or urban renewal plan, or reflects	Complies	The proposed R6 zoning designation is in compliance with the Suburban designation of the Comprehensive Plan.

conditions that have changed since the adoption of the Comprehensive Plan.		
2. The intended land use is consistent with the stated intent of the proposed zoning district.	Complies	Single family homes are an allowed land use within the R6 zone district.
3. Facilities and services (including sewage and waste disposal, water, gas, electricity, police and fire protection, and roads and transportation, as applicable) will, prior to development, be available to serve the subject property while maintaining adequate levels of service to existing development.	Complies	Arvada already has existing water mains in the adjacent streets and will be able to serve this property similar to other lots in the surrounding area.
4. The intended land use for which the rezoning is sought will not result in significant adverse impacts upon the natural environment, including air, water, noise, stormwater management, wildlife, and vegetation, or such impacts will be substantially mitigated.	Complies	The existing land use is not intended to change in the immediate future. Should future development occur, potential impacts will be evaluated at that time.
5. The rezoning is consistent with the character of existing or planned development on adjacent properties and in the surrounding area or neighborhood, or measures will be taken to substantially buffer or otherwise substantially mitigate any negative impacts.	Complies	The proposed R6 zoning designation is consistent with the variety of residential uses in the area including the R-2 areas in unincorporated Jefferson County and the R13 areas within the City.

Public Contact

The required neighborhood meeting took place on December 13, 2023. The applicant, staff, and three neighbors were in attendance. Neighbors inquired about the proposed construction activities associated with the water connection and how that may impact the neighborhood. They also expressed concern with the proposed zoning designation as it would allow up to six units per acre on the site. Staff explained that in order to achieve that density, a future development application would be required and that it would need to address all development aspects of the LDC. As such, neighbors would receive notice of any future development applications and would be allowed to provide further input at that time.

Commission Recommendation

On July 2, 2025, the Planning Commission voted 7 to 0 to recommend approval to the City Council.

Strategic Alignment

The project is consistent with the City Council Strategic Plan principles for the Community and Economic Development work system.

Alternative Courses of Action

N/A

Recommendation for Action

The Arvada Team recommends that the City Council Approve CB26-011, An Ordinance Zoning Martinez Annexation No. 1 and No. 2, from Jefferson County R-2 to City of Arvada R6 (Residential, 6), a 1.17 Acre Parcel of Land Approximately located at 5044 Carr St., and Amending the Official Zoning Maps of the City of Arvada, Colorado subject to the conditions stated in the Staff Report on Page 5

Suggested Motion:

I move that CB26-011, An Ordinance Zoning Martinez Annexation No. 1 and No. 2, from Jefferson County R-2 to City of Arvada R6 (Residential, 6), a 1.17 Acre Parcel of Land Approximately located at 5044 Carr St., and Amending the Official Zoning Maps of the City of Arvada, Colorado, be (approved on final reading, numbered 4927 and ordered published by title only) (rejected).

This motion is based on the findings of fact and conditions adopted by the Planning Commission.

This motion is based on the following findings of fact for denial:(Recite approval criteria you believe the evidence fails to satisfy and your reasons).

Prepared by:
Heidi Van Gieson, Administrative Specialist

Reviewed by:

Approved by:

Josie Suk, Development Systems and Administrative Manager	03/30/2026
Rob Smetana, Planning Manager	03/30/2026
Jessica Garner, Director of Community and Economic Development	03/31/2026
Gail Walker, Legal Specialist-Contracts	04/01/2026
Kelsy Sargent, Assistant City Attorney	04/01/2026
Rachel Morris, City Attorney	04/07/2026
Allison Scheck, Deputy City Manager	04/09/2026
Don Wick, City Manager	04/09/2026

Enclosure, exhibits & attachments required to support the report

COUNCIL BILL NO. 26-011
ORDINANCE NO. 4927

AN ORDINANCE ZONING MARTINEZ ANNEXATION NO. 1 AND NO. 2, FROM JEFFERSON COUNTY R-2 TO CITY OF ARVADA R6 (RESIDENTIAL, 6), A 1.17 ACRE PARCEL OF LAND APPROXIMATELY LOCATED AT 5044 CARR ST., AND AMENDING THE OFFICIAL ZONING MAPS OF THE CITY OF ARVADA, COLORADO

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ARVADA, COLORADO:

Section 1. The following described property is hereby zoned from Jefferson County R-2 to City of Arvada R6 (Residential 6).

LOCATED AT 5044 CARR STREET MORE PARTICULARLY DESCRIBED ON THE ATTACHED EXHIBIT A & B.

Section 2. The Official Zoning Maps of the City of Arvada are hereby amended in accordance herewith.

Section 3. This ordinance shall be effective fifteen days after publication following final passage.

INTRODUCED, READ, AND ORDERED PUBLISHED this 24th day of March, 2026.

PASSED, ADOPTED, AND APPROVED this 21st day of April, 2026.

_____
Lauren Simpson, Mayor

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:
Rachel A. Morris, City Attorney

By: _____

Publication Dates: March 26, 2026
April 23, 2026

EXHIBIT A

Legal Description of Property to be Annexed

A PARCEL OF LAND LOCATED IN THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 14, AND THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 15, TOWNSHIP 3 SOUTH, RANGE 69 WEST OF THE 6TH P.M., COUNTY OF JEFFERSON, STATE OF COLORADO, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14; THENCE NORTH 00°16'20" WEST, COINCIDENT WITH THE WEST LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14, A DISTANCE OF 329.44 FEET; THENCE SOUTH 89°25'33" WEST, A DISTANCE OF 10.00 FEET TO THE WEST RIGHT-OF-WAY LINE OF CARR STREET; THENCE NORTH 00°16'20" WEST, A DISTANCE OF 242.62 FEET TO THE NORTHEAST CORNER OF LOT 13, AS SHOWN ON THE PLAT OF WARNER & ARNETTS GARDENS RECORDED APRIL 27, 1907 AS RECEPTION NO. 772872 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO ALSO BEING THE SOUTH LINE OF THE EXISTING MUNICIPAL BOUNDARY OF THE CITY OF ARVADA AS DESCRIBED IN ORDINANCE NO. 1591 RECORDED SEPTEMBER 27, 1979 AS RECEPTION NO. 79088347 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO, AND THE TRUE POINT OF BEGINNING;

THENCE NORTH 89°43'40" EAST, COINCIDENT WITH THE EASTERLY EXTENSION OF THE NORTH LINE OF SAID LOT 13, AND THE SOUTH LINE OF SAID MUNICIPAL BOUNDARY, A DISTANCE OF 10.00 FEET TO THE WEST LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14; THENCE NORTH 00°16'20" WEST, COINCIDENT WITH SAID WEST LINE, AND THE SOUTH LINE OF SAID MUNICIPAL BOUNDARY, A DISTANCE OF 15.00 FEET TO THE SOUTH LINE OF THAT PARCEL OF LAND DESCRIBED IN DEED RECORDED OCTOBER 23, 1903 IN BOOK 126 AT PAGE 559 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO; THENCE NORTH 89°43'40" EAST, COINCIDENT WITH SAID SOUTH LINE, AND THE SOUTH LINE OF SAID MUNICIPAL BOUNDARY, A DISTANCE OF 30.00 FEET TO THE EAST RIGHT-OF-WAY LINE OF CARR STREET; THENCE SOUTH 08°27'01" WEST, DEPARTING SAID MUNICIPAL BOUNDARY, A DISTANCE OF 131.88 FEET; THENCE NORTH 10°06'30" WEST, A DISTANCE OF 117.08 FEET TO THE TRUE POINT OF BEGINNING.

EXHIBIT B

Legal Description of Property to be Annexed

Parcel No. 1:

A PARCEL OF LAND LOCATED IN THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 14, AND THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 15, TOWNSHIP 3 SOUTH, RANGE 69 WEST OF THE 6TH P.M., COUNTY OF JEFFERSON, STATE OF COLORADO, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14; THENCE NORTH 00°16'20" WEST, COINCIDENT WITH THE WEST LINE OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 14, A DISTANCE OF 329.44 FEET TO THE TRUE POINT OF BEGINNING; THENCE NORTH 89°25'33" EAST, COINCIDENT WITH THE SOUTH LINE OF THAT PARCEL OF LAND DESCRIBED IN DEED RECORDED MAY 2, 2007 AS RECEPTION NO. 2007049834 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO AND THE WESTERLY EXTENSION THEREOF, A DISTANCE OF 330.08 FEET TO THE SOUTHEAST CORNER OF SAID PARCEL; THENCE NORTH 00°21'24" WEST, COINCIDENT WITH THE EAST LINE OF SAID PARCEL AND THE NORTHERLY EXTENSION THEREOF, A DISTANCE OF 137.14 FEET TO THE NORTH RIGHT-OF-WAY LINE OF WEST 51ST AVENUE AS DESCRIBED IN DEED RECORDED APRIL 21, 1926 IN BOOK 285 AT PAGE 295, AND IN DEED RECORDED OCTOBER 20, 1961 IN BOOK 1417 AT PAGE 387 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO; THENCE SOUTH 89°25'43" WEST, COINCIDENT WITH SAID RIGHT-OF-WAY LINE, A DISTANCE OF 299.87 FEET TO THE EAST RIGHT-OF-WAY LINE OF CARR STREET AS DESCRIBED IN SAID DEED; THENCE NORTH 00°16'20" WEST, COINCIDENT WITH SAID RIGHT-OF-WAY LINE, A DISTANCE OF 120.25 FEET TO THE SOUTH LINE OF THAT PARCEL OF LAND DESCRIBED IN DEED RECORDED OCTOBER 23, 1903 IN BOOK 126 AT PAGE 559 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO; ALSO BEING THE EAST LINE OF MARTINEZ ANNEXATION NO. 1; THENCE SOUTH 08°27'01" WEST, COINCIDENT WITH SAID EAST LINE, A DISTANCE OF 131.88 FEET; THENCE NORTH 10°06'30" WEST, COINCIDENT WITH THE WEST LINE OF MARTINEZ ANNEXATION NO. 1, A DISTANCE OF 117.08 FEET TO THE WEST RIGHT-OF-WAY LINE OF CARR STREET AND THE NORTHEAST CORNER OF LOT 13, AS SHOWN ON THE PLAT OF WARNER & ARNETTS GARDENS RECORDED APRIL 27, 1907 AS RECEPTION NO. 772872 IN THE RECORDS OF THE CLERK AND RECORDER FOR JEFFERSON COUNTY, COLORADO; THENCE SOUTH 00°16'20" EAST, DEPARTING THE BOUNDARY OF MARTINEZ ANNEXATION NO. 1 AND COINCIDENT WITH SAID RIGHT-OF-WAY LINE, A DISTANCE OF 242.62 FEET; THENCE NORTH 89°25'33" EAST, A DISTANCE OF 10.00 FEET TO THE TRUE POINT OF BEGINNING.

CITY OF ARVADA

REPORT TO CITY COUNCIL PUBLIC HEARING

AGENDA ITEM 10.C.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: CB26-008, An Ordinance Approving a Conditional Use Permit to Allow 384 Multifamily and 51 Townhome Units on Site in the MX-S (Mixed Use Suburban) Zoning District for Avalon Arvada, a 20.1 Acre Parcel of Land Approximately Located at 17201 W 64th Ave. (Ordinance No. 4924) (Presenter: Rob Smetana, Planning Manager)

Report in Brief

Presenter: Rob Smetana, Planning Manager

The applicant, Leanne Vielehr of Norris Design, requests approval of a Conditional Use application to allow 384 multifamily and 51 townhome units on a site in the MX-S (Mixed- Use, Suburban) zoning district.

The Arvada Team recommends that the City Council approve CB26-008, An Ordinance Approving a Conditional Use Permit to Allow 384 Multifamily and 51 Townhome Units on Site in the MX-S (Mixed Use Suburban) Zoning District for Avalon Arvada, a 20.1 Acre Parcel of Land Approximately Located at 17201 W 64th Ave.

Financial Impact

There is no fiscal impact to the city.

Background

According to the conceptual Site Plan, the project proposes to construct eight townhome buildings ranging from four to eight units per building, housing 51 units. The townhomes are anticipated to be a mix of two- and three-bedroom units. The Site Plan also includes 12 breezeway and corridor multifamily buildings, providing 384 apartment units. The multifamily units will be a mix of studio, one-, two-, and three-bedroom apartments. Of the 12 buildings, 10 buildings are proposed to be three stories, and two buildings are proposed to be four stories. The approximately 20.1-acre parcel will also be developed with associated access drives, parking lots, and landscaped areas, including a two-acre small urban park

Discussion

The required neighborhood meeting for this project took place on April 10, 2025. The applicant, staff, and approximately 180 neighbors were in attendance. The applicant held three additional neighborhood meetings prior to the required meeting.

The applicant began the meeting by introducing the project team. During their presentation, the applicant described the existing site conditions, provided a timeline of the entitlement process for the project, and presented a revised project to address the neighbors' concerns regarding the initial design.

At the conclusion of the applicant's presentation, the applicant then held a Q&A session with the neighbors in attendance. Issues identified during the Q&A session include, but were not limited to, the following: increased traffic along Easley Road, the proximity of the townhome access drive to the MorningStar property, the location of guest parking, contamination on the site and associated mitigation, drainage of detention ponds into Ralston Creek, increased criminal activity in the area of the project, the density of the proposed project, and the possibility of rezoning the property.

Public Contact

The required neighborhood meeting for this project took place on April 10, 2025. Written notice was sent 15 days prior to the meeting, a published notice was posted in the newspaper 15 days prior to the meeting, and a public hearing sign was posted 15 days prior to the meeting.

Commission Recommendation

On January 21, 2026, the Planning Commission voted 5 to 1 (1 Absent) to recommend for approval to the City Council.

Strategic Alignment

The project is consistent with the City Council Strategic Plan principles for the Community and Economic Development work system.

Alternative Courses of Action

N/A

Recommendation for Action

The Arvada Team recommends that the City Council approve CB26-008, An Ordinance Approving a Conditional Use Permit to Allow 384 Multifamily and 51 Townhome Units on Site in the MX-S (Mixed Use Suburban) Zoning District for Avalon Arvada, a 20.1 Acre Parcel of Land Approximately Located at 17201 W 64th Ave.

Suggested Motion:

I move that CB26-008, An Ordinance Approving a Conditional Use Permit to Allow 384 Multifamily and 51 Townhome Units on Site in the MX-S (Mixed Use Suburban) Zoning District for Avalon Arvada, a 20.1 Acre Parcel of Land Approximately Located at 17201 W 64th Ave., be (approved on final reading, numbered 4924 and ordered published by title only)(rejected).

This motion is based on the findings of fact and conditions adopted by the Planning Commission.

This motion is based on the following findings of fact for denial:(Recite approval criteria you believe the evidence fails to satisfy and your reasons).

Prepared by:
Heidi Van Gieson, Administrative Specialist

Reviewed by:

Approved by:

Rozalynne Thompson, Principal Planner	03/30/2026
Rob Smetana, Planning Manager	03/30/2026
Josie Suk, Development Systems and Administrative Manager	03/31/2026

Jessica Garner, Director of Community and Economic Development	03/31/2026
Gail Walker, Legal Specialist-Contracts	04/01/2026
Kelsy Sargent, Assistant City Attorney	04/01/2026
Allison Scheck, Deputy City Manager	04/02/2026
Don Wick, City Manager	04/08/2026

Enclosure, exhibits & attachments required to support the report

COUNCIL BILL NO. 26-008
ORDINANCE NO. 4924

AN ORDINANCE APPROVING A CONDITIONAL USE PERMIT TO ALLOW 384 MULTIFAMILY AND 51 TOWNHOME UNITS ON SITE IN THE MX-S (MIXED USE SUBURBAN) ZONING DISTRICT FOR AVALON ARVADA, A 20.1 ACRE PARCEL OF LAND APPROXIMATELY LOCATED AT 17201 W. 64TH AVE.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ARVADA, COLORADO:

Section 1. A conditional use permit is hereby approved for the following-described property to allow 384 multifamily and 51 townhome units on site in the MX-S (Mixed Use Suburban) zoning district for Avalon Arvada, a 20.1 acre parcel of land approximately located at 17201 W. 64th Ave:

LEGAL DESCRIPTION:

LOTS 1 AND 2, VELDKAMP MINOR SUBDIVISION - FIRST AMENDMENT, COUNTY OF JEFFERSON, STATE OF COLORADO

As described in Exhibit A.

Section 2. The conditional use permit hereby approved by this ordinance is expressly conditioned upon such conditions, limitations, mitigation measures, and restrictions as are set forth in such permit.

Section 3. The Conditional Use Permit, including any conditions or provisions imposed upon this conditional use, shall be recorded with the Clerk and Recorder's Office in the County in which the property is located.

Section 4. This Ordinance shall be effective fifteen days after publication following final passage.

INTRODUCED, READ, AND ORDERED PUBLISHED this 24th day of March, 2026.

PASSED, ADOPTED AND APPROVED this 21st day of April, 2026.

_____
Lauren Simpson, Mayor

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:
Rachel A. Morris, City Attorney

BY: _____

Publication Dates: March 26, 2026
April 23, 2026

Exhibit A

AN ORDINANCE APPROVING A CONDITIONAL USE PERMIT TO ALLOW 384 MULTIFAMILY AND 51 TOWNHOME UNITS ON SITE IN THE MX-S (MIXED USE SUBURBAN) ZONING DISTRICT FOR AVALON ARVADA, A 20.1 ACRE PARCEL OF LAND APPROXIMATELY LOCATED AT 17201 W. 64TH AVE.

EXHIBIT A
LEGAL DESCRIPTION

The Land referred to herein below is situated in the County of Jefferson, State of Colorado, and is described as follows:

Lots 1 and 2, VELDKAMP MINOR SUBDIVISION - FIRST AMENDMENT, County of Jefferson, State of Colorado.

City of Arvada
Community and Economic Development Department
PUBLIC HEARING STAFF REPORT

Avalon Arvada/Welby Gardens
17201 West 64th Avenue
Conditional Use
DA2025-0035

NATURE OF REQUEST

The applicant, Leanne Vielehr of Norris Design, requests approval of a Conditional Use application to allow 384 multifamily and 51 townhome units on a site in the MX-S (Mixed- Use, Suburban) zoning district.

According to the conceptual Site Plan, the project proposes to construct eight townhome buildings ranging from four to eight units per building, housing 51 units. The townhomes are anticipated to be a mix of two- and three-bedroom units. The Site Plan also includes 12 breezeway and corridor multifamily buildings, providing 384 apartment units. The multifamily units will be a mix of studio, one-, two-, and three-bedroom apartments. Of the 12 buildings, 10 buildings are proposed to be three stories, and two buildings are proposed to be four stories. The approximately 20.1-acre parcel will also be developed with associated access drives, parking lots, and landscaped areas, including a two-acre small urban park.

LOCATION AND HISTORY

The project site is approximately 20.1 acres, irregularly-shaped, and developed with five to six greenhouses, an office building, hoop houses, warehouses, utility structures, including above ground storage tanks, minor structures, a parking lot, and an access drive to support a wholesale plant nursery operation at the site. The site is comprised of Lots 1 and 2 of the Veldkamp Subdivision. Vehicles access the site from a drive west of Easley Road, which leads to a parking area at the southeast of the site. Records indicate that development on the property began in 1971, with construction of a greenhouse and office building to the southeast of the site. Over time, a series of greenhouses were constructed on the site between 1971 and 2004 along with storage, warehouse, and other support structures. There are several areas that collect stormwater runoff as well as discharges from the greenhouses and hoop houses with water retention ponds generally located between the large greenhouse structures.

NEIGHBORHOOD MEETING

Division 8-2-2 of the Land Development Code (LDC) requires that at least one neighborhood meeting be held for projects that require public hearings before the Planning Commission and City Council.

The required neighborhood meeting for this project took place on April 10, 2025. The applicant, staff, and approximately 180 neighbors were in attendance. The applicant had held an additional three neighborhood meetings prior to the required meeting.

The applicant began the meeting by introducing the project team. During their presentation, the applicant described the existing site conditions, provided a timeline of the entitlement process for the project, and presented a revised project to address the neighbors' concerns regarding the initial design.

At the conclusion of the applicant's presentation, the applicant then held a Q&A session with the neighbors in attendance. Issues identified during the Q&A session include, but were not limited to, the following: increased traffic along Easley Road, the proximity of the townhome access drive to the MorningStar property, the location of guest parking, contamination on the site and associated mitigation, drainage of detention ponds into Ralston Creek, increased criminal activity in the area of the project, the density of the proposed project, and the possibility of rezoning the property.

The applicant prepared a summary of the meeting, which is attached.

PUBLIC NOTIFICATION

Division 8-2-4 of the Land Development Code requires public notification for all public hearings as follows:

Written Notice: At least 15 days prior to all public hearings, written notice must be mailed to all property owners within 1,500 feet of the subject property and to all homeowners associations and neighborhood associations with a known interest in the subject property. The applicant has provided an affidavit of mailing prior to the public hearing verifying this requirement has been met.

Posted Notice: At least 15 days prior to all public hearings, signs notifying the public of the hearing must be posted on the subject property. The applicant has provided a posting log prior to the public hearing verifying that this requirement has been met.

Published Notice: At least 15 days prior to all public hearings, notice of the hearing must be published in a newspaper of general circulation in the City. The required notice has been published.

SEVERED MINERAL RIGHTS

At least 30 days prior to the public hearing, written notice of the application must be mailed to any owner of mineral rights associated with the subject property. The applicant has provided notarized certification that the Jefferson County Clerk and Recorder records do not identify any owners of mineral rights.

DEVELOPMENT REVIEW TIMELINE

Given that the proposed project requires Conditional Use approval, it is subject to a public hearing decision track (Track 5) in accordance with Table 8-2-2-2A "Decision Making" in the

LDC. The project underwent four reviews to address staff comments. The first submittal was received on May 23, 2025 and the fourth submittal was received on December 16, 2025. Staff met the timeline in all four of the reviews.

ALIGNMENT WITH CITY COUNCIL STRATEGIC PLAN

The project is consistent with the City Council Strategic Plan principles for the Community and Economic Development work system. By complying with the applicable requirements, it is ensured that the project would construct safe buildings, protecting and maintaining the health, safety, and welfare of the public. Further, the project proposes to construct 51 townhome and 384 multifamily units, which would add to Arvada's housing stock and improve access to quality housing that is affordable to a broad range of income levels.

ZONING AND LAND USE

The subject property is currently zoned MX-S (Mixed-Use, Suburban) and is approximately 20.1 acres in size.

Surrounding properties are zoned and utilized as follows:

Direction	Zoning	Actual Use
North	Open Space (OS)	West Woods Golf Course
South	MX-S (Mixed Use Suburban)	MorningStar Senior Living of Arvada
East	PUD (Planned Unit Development)	Single-Unit Residential
West	PUD (Planned Unit Development)	Single-Unit Residential

PROJECT ANALYSIS

Compliance with the Comprehensive Plan

The Comprehensive Plan designates the site as Mixed Use (MU). The Mixed-Use category is intended to promote a wide range of land uses, including retail, office, light industrial, live-work, and medium and higher density residential. The Comprehensive Plan does not prescribe a minimum or maximum density for sites designated MU; however, the Comprehensive Plan recommends a density greater than residential zoning districts for residential projects on parcels designated MU, with the goal of providing greater housing diversity and supporting transit. At a density of 21 dwelling units per acre, the project is near the upper range of the density allowed for sites designated High Density Residential (HDR), which is 24 dwelling units per acre.

The Conditional Use request is consistent with the following goals and policies of the Comprehensive Plan:

GOAL L-2
Plan for a balanced mix of commercial and residential land uses in Arvada.

> POLICY L-2.1 Complete Community
> The City will provide for a balanced mix of land uses by promoting redevelopment and continuing to reserve lands for future commercial and industrial development as well as a variety of housing choices.

GOAL L-3-1
Encourage development of transit-supportive, higher-density, mixed-use, pedestrian-oriented areas.

POLICY L-3.1 Designated Mixed-Use Areas
The plan designates mixed-use areas in Arvada to provide a mix of land uses, services, retail and commercial development, employment, and in some cases, a diversity of higher density housing in close proximity to transit, bike, and pedestrian connections.

POLICY L-3.2 Criteria for New and Redeveloping Mixed-Use Areas
Mixed-use areas are envisioned as strategically located, high intensity, pedestrian-oriented activity areas providing a range of retail, business, civic, cultural, and residential opportunities for the surrounding trade area. Mixed-use areas should be located in urban centers or designated corridors and should create or demonstrate the following characteristics:

- Transit-supportive residential densities with a mix of housing types and affordability;
- Transit-supportive mix of retail and employment opportunities;
- Streets or other physical features that help define the center;
- Public plazas, gathering spaces or amenities designed as a focal point;
- Transit service
- Pedestrian-oriented site design; and
- Interconnected network of multi-modal streets linking to surrounding areas.

GOAL L-5
Designate and promote redevelopment and infill to generate economic revitalization, improve physical conditions, and provide an appropriate mix of quality housing choices.

GOAL CC-1
Plan Arvada as a City of different development character districts.

POLICY CC-1.1 Variety of Development Types
The City will include a variety of development types including rural areas, suburban residential neighborhoods, historic districts, redevelopment areas, and mixed-use communities that contain services, employment, and higher density housing.

POLICY CC-1.2 Promote Integration Within Districts Through Design
The City will promote integration and a sense of place within districts of the City through the context-sensitive design of new development.

POLICY CC-1.3 Compatible Infill
The City will encourage new infill development to consider and be sensitive to the character of existing neighborhoods. Considerations shall include building scale, placement, size, height transitions, landscape, streetscape, and other design measures.

POLICY CC-1.4 Work With Stakeholders
The City will work with stakeholders, developers, and the community to consider a project's potential effects and strive for integration in a manner that helps enrich the district's character.

GOAL CC-2
Establish and maintain Arvada's distinct qualities and small-town identity.

> POLICY CC-2.2 High Quality Private Development
> The City will promote high quality architecture, site planning, landscaping, signage, and lighting for new residential and commercial developments.

GOAL N-1
Plan for a range of neighborhoods and accessible housing of different tenure types to accommodate diverse incomes and all ages and abilities.

GOAL T-3
Identify and implement traffic solutions to reduce and manage traffic congestion on arterial streets.

> POLICY T-3.2: Traffic Solutions to Reduce Congestion
> The City will consider arterial street widenings and construction of missing segments, traffic signal timing and progression projects, intersection improvements, grade separations, and other measures to help reduce traffic congestion.

GOAL T-4
Develop the transportation system in a manner that maintains the quality of life for residents and visitors.

Compliance with Other Applicable Plans
There are no other applicable plans.

Setbacks
The minimum setbacks for the project are required and conceptually proposed as follows:

	Required	**Conceptually Proposed**
Frontage Zone (Min./Max.)	15 feet/35 feet (Suburban Townhomes) 20 feet/35 feet (General Multifamily)	15 feet/35 feet (Suburban Townhomes) N/A (General Multifamily)
Non-Street Frontage Perimeter Setback (Townhomes Only)	15 feet	15 feet
Minimum Street Side Setback	15 feet (Suburban Townhomes) 10 feet (General Multifamily)	N/A (Suburban Townhomes) N/A (General Multifamily)
Minimum Interior Side Setback (Multifamily Only)	6 feet (General Multifamily)	6 feet (General Multifamily)
Building Separation, Townhomes	10 feet (Side to Side) 30 feet (All Others)	10 feet (Side to Side)
Rear Setback (General Multifamily Only)	10 feet	10 feet

Minimum Parking Setback (Front)	20 feet (Suburban Townhomes) 20 feet (General Multifamily)	20 feet (Suburban Townhomes) 20 feet (General Multifamily)

Building Height
Pursuant to Table 2-1-4-2A of the LDC, the maximum height for residential buildings in the MX-S zoning district is 45 feet. According to the project narrative and the "Site Data Table" in the conceptual project set of plans, the maximum height of the buildings is proposed to be 45 feet. While the conceptual height of the building complies with the LDC, compliance with LDC will be reevaluated if a Site Plan application is submitted.

Open Space
Pursuant to Table 2-1-4-2A of the LDC, a small urban park is required. For lots more than one acre, the small urban park area must be a minimum of 10 percent of the net parcel area. Given that the net lot area of the site is 20.1 acres, the required small urban park area is 2.0 acres or 87,120 square feet. According to the "Site Data Table", the proposed conceptual small urban will be 87,555 square feet, which complies with Table 2-1-4-2A of the LDC. However, while the conceptual size of the small urban park complies with the LDC, compliance with LDC will be reevaluated during review of a Site Plan application, if submitted.

Landscaping, Buffering and Fencing
The project must comply with the applicable landscaping, buffering, and fencing requirements in Article 4-6 "Landscaping and Buffering" of the LDC and any other applicable standards and regulations. According to the "Site Data Table", the conceptual proposed landscape area is 61,511 square feet for the townhomes and 176,863 square feet for the multifamily development. The Site Plan application, if submitted, must include a landscape plan pursuant to Subsection 4-6-3-2(A) of the LDC. The landscape plan's compliance with Article 4-6 "Landscaping and Buffering" of the LDC and any applicable standards and regulations will be evaluated at the time a Site Plan application is submitted.

Parks
As the project is a residential development**,** Park Land Dedication or a Fee-In-Lieu will be required pursuant to Subsection 8-4-3-6(B) of the LDC if a Site Plan application is submitted and approved. The Park Land Dedication or payment of Fee-In-Lieu must be satisfied prior to, or as part of, the approval of the Site Plan, if submitted, pursuant to Subsection 8-4-3-6(I)(1) of the LDC. If park land will be dedicated, the owner/developer of land is required to convey to the City in fee simple not less than 10 acres per 1000 population projected for the development of such land pursuant to Subsection 8-4-3-6(C)(3) of the LDC. If payment of a Fee-In-Lieu is elected, the owner/developer must pay the City the cash equivalent of the fair market value of the land otherwise required to be dedicated pursuant to Subsection 8-4-3-6.

Additionally, Subsection 8-4-3-7(A) of the LDC requires a separate Park Development Fee. The owner/developer must pay the Park Development Fee at the time of approval of the Site Plan, if submitted.

Building Design
Division 5-1-2 "Building and Structure Design Standards" of the LDC establishes design parameters for the architectural design of the project. As the design of the buildings will be

finalized in the Site Plan, if submitted, evaluation of the project's consistency with the design standards will occur at that time.

Circulation and Connectivity
Two access drives located at the southeast corner of the site will provide vehicular access to Easley Road. Both access drives will be constructed to the west of Easley Road and will replace the existing Welby Gardens parking lot access and delivery site access. The drives will provide direct access to the site from Easley Road. The drives are connected to the internal private drives that provide internal circulation within the site. An emergency vehicle only access is proposed at the southwest corner of the project site through an existing emergency access easement on the MorningStar Senior Living site.

Harris Kocher Smith (HKS) prepared a Traffic Impact Study (TIS) on May 14, 2025. The TIS was revised on June 26, 2025 and November 24, 2025. The TIS evaluated the transportation impacts that could result from the proposed project, including the impact of vehicular trips projected to be generated by the project on the study area intersections and roadway system. The study includes 2025 (existing), 2027 (year of anticipated project build-out), and 2047 (long-term) analysis horizons. The scope of the analysis included the following roadways:

- West 64th Avenue
- Virgil Way
- Easley Road
- Terry Street
- Quaker Street

The scope of the analysis included the following intersections:

- West 64th Avenue/Virgil Way
- West 64th Avenue/Easley Road
- West 64th Avenue/Terry Street
- West 64th Avenue/Quaker Street

Using the publication *Trip Generation*, *11th Edition* by the Institute of Traffic Engineers (ITE), the project is anticipated to generate approximately 2,875 daily vehicle trips, with 163 trips occurring in the a.m. peak hour and 213 trips occurring in the p.m. peak hour.

The level of impact of the vehicular trips generated by the project is measured by levels of service (LOS). LOS is a qualitative ranking of the traffic operational conditions experienced by users under specified roadway, traffic, and traffic control conditions. There are six levels of service ranging from "A" to "F", with LOS "A" representing the best operating conditions and LOS "F" the worst.

To evaluate the project's impact on levels of service (LOS), the TIS performed peak hour intersection capacity analyses for the total traffic conditions for the 2027 (build-out) and 2047 (long-term) analysis horizon total traffic scenarios on the intersections listed above. The TIS projected significant changes to the LOS for the West 64th Avenue/Easley Road intersection. Specifically, the TIS projected that with the addition of the vehicular trips generated by the project, the intersection overall will deteriorate from a LOS "D" to a LOS "F" in the p.m. peak

hour by the 2027 (build-out) analysis horizon. By the 2047 (long-term) analysis horizon, it is projected that the northbound shared through/right turn lane will deteriorate from a LOS "C" to a LOS "E" in the p.m. peak hour, and the southbound shared left/through/right turn lane will deteriorate from a LOS "D" to a LOS "F" in the a.m. peak hour. Based on a warrant analysis, the TIS recommends that a traffic signal be installed at the West 64th Avenue/Easley Road intersection to mitigate deterioration in LOS. The City team recommends a condition of approval requiring the installation of a signal at the West 64th Avenue/Easley Road intersection. The signal shall be funded by the developer and maintained by the City of Arvada.

As for the queuing analysis, the TIS projected that the southbound shared left/through/right turn lane queue is projected to exceed its lane group capacity and spill back into the upstream intersection by the 2027 (build-out) analysis horizon. The TIS also projected that this scenario is expected to continue in both the a.m. and p.m. peak hour by the 2047 (long-term) analysis horizon. It is recommended that a signal be installed at the intersection to mitigate the queuing issue at the southbound shared left/through/right turn lane queue. However, even with a signal installed, the TIS concluded that that the northbound left turn lane queue would exceed its capacity and spill back into the northbound through lane in the p.m. peak hour by the 2047 (long-term) analysis horizon. To mitigate this queuing issue, the TIS recommends extending the northbound left turn lane queue by 50 feet. In addition to the installation of a signal at the West 64th Avenue/Easley Road intersection, the City team recommends a condition of approval requiring that the northbound left turn lane queue be extended by 50 feet to provide adequate storage.

As for the remaining intersections, the TIS does not recommend geometric or operational modifications as a result of the proposed project and determined that there are no queuing related issues. However, it is projected that the southbound left turn lane at the West 64th Avenue/Virgil Way intersection and southbound shared left/through/right turn lane at the West 64th Avenue/Terry Street intersection will continue to experience a poor to failing LOS (LOS "E" or "F") during the p.m. peak hour in both the background and total traffic scenarios. The TIS recommends monitoring each intersection to determine when actual traffic volumes will warrant the need for modifications to improve the intersections' operational conditions.

The TIS also analyzed the project's impacts on the roadways listed above and concluded that there are no geometric or operational modifications being recommended for the listed roadways.

Grading and Drainage
A detailed grading and drainage plan will be required to be submitted with a Site Plan application.

Parking and Loading
According to the "Site Data Table" in the conceptual plan set, 117 parking spaces are proposed for the townhome development with 102 covered and 15 uncovered. For the multifamily development, 796 parking spaces are proposed, with 440 uncovered and 356 covered. Additionally, the project proposed 96 bike parking spaces to serve the multifamily development. The project must comply with the applicable parking requirements in Article 4-5 "Parking and Loading" of the LDC and any other applicable standards and regulations. The project's compliance with Article 4-5 "Parking and Loading" of the LDC and any applicable standards and regulations will be evaluated at the time a Site Plan application is submitted.

Environmental
Baseline Engineering Corporation ("Baseline") prepared at Phase I Environmental Assessment (ESA) on December 26, 2024 and a Limited Phase II (ESA) on October 17, 2025. The purpose of the Phase I ESA is to identify any recognized environmental conditions (RECs) and the purpose of the Phase II ESA is to further investigate the RECs identified in the Phase I ESA. The Phase II ESA investigates the RECs by collecting soil and groundwater samples and analyzing these samples for compounds associated with the current plant nursery operations at the site.

Phase I ESA

The Phase I ESA identified the following eight RECs associated with the plant nursery operations:

- The storage, mixing, and use of large quantities of fertilizer, herbicides, and pesticides.
- The storage and use of motor oil, hydraulic oil, and water chemicals.
- The storage, use, and former use of diesel and gasoline above ground storage tanks (ASTs).
- The use of waste oil and grease containers and ASTs.
- The evidence of past spills from the gasoline and diesel dispensers.
- The evidence of past spills from stored containers and waste oil AST. • Surface drainages from the fertilizer, herbicide, and pesticide mixing areas.
- Areas of historical use of septic systems

Phase II ESA and Recommendations

Soil borings were drilled in outdoor and indoor locations. There were 22 soil borings completed from those locations with a total of 28 samples collected. Nine soil samples collected from the outdoor soil boring locations were analyzed for pesticides and chlorinated acid herbicides by United States Environmental Protection Agency (EPA) Methods 8081 and 8151A, respectively; Resource Conservation and Recovery Act (RCRA) 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) by EPA Methods 6010D/7471B; nitrate as N and sulfate by EPA Method 9056A; and pH by EPA Method 9045D. Nine hand augered soil samples for laboratory analysis collected from inside the buildings were analyzed for pesticides, chlorinated acid herbicides, RCRA metals, and nitrate as N and sulfate. The remaining 10 soil samples collected using the post-hole power auger were analyzed only for pesticides and chlorinated acid herbicides by EPA Methods 8081 and 8151A, respectively. Additionally, five groundwater monitoring wells were installed to collect groundwater samples.

The soil samples were compared to EPA Regional Screening Levels (RSLs) for residential and industrial land uses. An insecticide, Dieldrin, and Total Petroleum Hydrocarbons (TPH) were found to exceed EPA Residential RSLs. Dieldrin, an insecticide used in the 1950s to 1970s, was detected in 17 out of the 28 soil samples. The concentration of Dieldrin exceeded the Residential RSL in several locations. TPH compounds were found in all four samples taken. TPH concentrations were even found to exceed Industrial RSLs at two locations.

As for groundwater samples, all detections of RCRA 8 metals as well as pesticides, herbicides, VOCs, and 1,4-dioxanewere below the Colorado Groundwater Standards (CGS). However,

both of the concentrations of nitrate and sulfate exceeded the CGSs of 10 mg/L and 250 mg/L, respectively.

The Phase II ESA identifies several measures to manage environmental conditions on the site. The Phase II ESA recommends that soils with dieldrin concentrations greater than the EPA RSL for residential use will need to be managed appropriately. If those soils are to be removed, then it is recommended that the soils be disposed of at a licensed Class D landfill. Further, petroleum impacts identified near the above-ground storage tanks (ASTs) should, if removed, also be managed as special solid waste and disposed of at a licensed Class D landfill. Finally, as for the nitrate and sulfate concentrations, the Phase II ESA concludes that the impact is limited in aerial extent and will likely dissipate over time once greenhouse operations cease.

The Colorado Department of Public Health & Environment (CDPHE) has been in conversation with the applicant/developer. An environmental investigation and cleanup at the property will take place under the Voluntary Cleanup and Redevelopment Program (VCUP). Extensive soil and groundwater sampling will be undertaken by the applicant developer to determine the nature and extent of contamination at this site as part of the VCUP process.

Once the nature and extent of the contamination is determined, then the applicant/developer will excavate and clean up to residential standards under the purview of CDPHE. The City team recommends a condition of approval that applicant/developer shall submit a Voluntary Cleanup and Redevelopment Program (VCUP) application to the Colorado Department of Public Health & Environment (CDPHE) and shall complete site remediation prior to the issuance of the DEV permit or any building permits. Notwithstanding the foregoing, the issuance of the DEV permit or any building permit required for the purpose of conducting environmental investigation or remediation necessary to complete the Voluntary Cleanup and Redevelopment Program shall be permitted at the City's discretion.

Utility Services
Water and sanitary sewer service is provided by the City of Arvada and capacity is adequate to service the site.

Dry utility providers (i.e. gas, electric, phone and cable services) will design and provide service to the area including telephone, cable television, and internet services.

Police and Fire Protection
The property will be serviced by the Arvada Police Department (APD) and the Arvada Fire and Protection District (AFPD). The project’s compliance with (IFC) section D106.3 will be evaluated during review of the Site Plan application, if submitted.

LAND DEVELOPMENT CODE APPROVAL CRITERIA

It is the responsibility of the applicant to justify the requested land use application. The City Council must base its findings regarding the approval on the criteria shown in the table(s) below and upon testimony heard during the public hearing as it applied to the criteria.

Staff performed an analysis of the proposal, based on the approval criteria listed in Chapter 8 of the Land Development Code, and presents the following findings:

Div. 8-3-5 Conditional Use Approval Criteria	Finding	Rationale
1. The application complies with the applicable standards of this LDC, other adopted City ordinances, resolutions and regulations including but not limited to any use-specific standards for the proposed conditional use in Division 3-1-3, any approved Master Development Plan that includes the property, and any conditions specifically applied to development of the property by the Planning Commission or City Council in a prior decision affecting the property;	Complies	Although the project is conceptual at this stage, as discussed above, the project conceptually complies with the applicable standards and regulations of the LDC. Once the design of the project is finalized and a Site Plan application is submitted, the City team will reevaluate the project's compliance with the applicable standards and regulations.
2. The application is consistent with the Arvada Comprehensive Plan;	Complies	The site is designated as Mixed Use (MU). The Mixed-Use category is intended to promote a wide range of land uses, including retail, office, light industrial, live-work, and medium and higher density residential. The Comprehensive Plan does not prescribe a minimum or maximum density for sites designated MU; however, the Comprehensive Plan recommends a density greater than residential zone districts for residential projects on parcels designated MU, with the goal of providing greater housing diversity and supporting transit. As a residential development at a density of 21 dwelling units per acre, the project is near the upper range of the density allowed for sites designated High Density Residential (HDR), which is 24 dwelling units per acre. Further, the project achieves several goals and policies in the Comprehensive Plan as listed above such as providing for accessible housing of different tenure types (rentals) to accommodate diverse incomes and all ages and abilities.
3. The use is consistent with the purpose and intent of the zoning district in which it is located;	Complies	The site is zoned Mixed-Use Suburban (MX-S). The intent of the MX-S zoning district is to provide for a variety of residential and nonresidential uses, in vertically mixed-use, horizontally mixed-use, or single-use configurations. The project proposes 384 multifamily units and 51 townhome units, which is a residential single-use configuration.

4. The size, scale, height, density, multi-modal traffic impacts, hours of operation and other similar characteristics of the proposed use are comparable with existing and planned uses in the surrounding area and the zoning district regulations;	Complies	Conceptually, the maximum height of the proposed multifamily buildings will be 45 feet or four stories. The proposed four-story multifamily buildings would be larger than other buildings in the surrounding area, which are predominantly one and two-stories in height; however, the conceptual scale and mass of the buildings would be substantially consistent with applicable development standards of the MX-S zoning district in the LDC, which allow for larger buildings, and the goal of higher density in the Comprehensive Plan. Moreover, to account for the larger scale of buildings allowed on MX-S zoned sites that abut lower-density residential districts, the LDC imposes a height transition zone on MX-S zoned properties pursuant to Subsection 2-1-10-3(B)(2) of the LDC. As discussed above, to mitigate traffic impacts, the City team recommends imposing a condition of approval requiring the installation of a signal at the West 64th Avenue/Easley Road intersection and a condition of approval requiring that the northbound left turn queue lane of the West 64th Avenue/Easley Road intersection be extended by 50 feet to provide adequate storage. As residential uses, the hours of operation of the proposed multifamily and townhomes units of the proposed use residential uses in the surrounding neighborhood.
5. Facilities and services including sewer, water, storm water, gas, electricity, police and fire protection, and roads and transportation will, prior to or as part of the development, be available to serve the subject property while maintaining adequate levels of service for existing development; and	Complies	As discussed above, facilities and services including sewer, water, storm water, gas, electricity, and police and fire protection will be available to serve the property while maintaining adequate levels for the existing development. As discussed above, a condition of approval requiring the installation of

		a signal at the West 64th Avenue/Easley Road intersection and a condition of approval requiring that the northbound left turn queue lane of the West 64th Avenue/Easley Road intersection be extended by 50 feet to provide adequate storage will be imposed to mitigate deterioration in LOS. Further, the southbound left turn lane at the West 64th Avenue/Virgil Way intersection and southbound shared left/through/right turn lane at the West 64th Avenue/Terry Street intersection will be monitored monitoring to determine when actual traffic volumes will warrant the need for modifications to improve the intersections' operational conditions.
6. The application mitigates any adverse impacts on the surrounding area to the degree practicable.	Complies	As identified in the TIS and Phase I and Phase II Environmental Assessments, the project will have adverse traffic and environmental impacts. The measures to mitigate traffic and environmental impacts are discussed below. <u>Traffic</u> As discussed above, the project is anticipated to generate approximately 2,875 daily vehicle trips, with 163 trips occurring in the a.m. peak hour and 213 trips occurring in the p.m. peak hour. A condition of approval requiring the installation of a signal at the West 64th Avenue/Easley Road intersection and a condition of approval requiring that the northbound left turn queue lane of the West 64th Avenue/Easley Road intersection be extended by 50 feet to provide adequate storage will be imposed to mitigate deterioration in LOS. Further, the southbound left turn lane at the West 64th Avenue/Virgil Way intersection and southbound shared left/through/right turn lane at the West 64th Avenue/Terry Street intersection will be monitored to determine when actual traffic volumes will warrant the need for modifications to improve the intersections' operational conditions.

		Environmental Baseline Engineering Corporation ("Baseline") prepared at Phase I Environmental Assessment (ESA) on December 26, 2024 and a Limited Phase II (ESA) on October 17, 2025. As discussed above, the Phase II ESA identifies several measures to manage environmental conditions on the site. The Phase II ESA recommends that soils with dieldrin concentrations greater than the EPA RSL for residential use will need to be managed appropriately. If those soils are to be removed, then it is recommended that the soils be disposed of at a licensed Class D landfill. Further, petroleum impacts identified near the above-ground storage tanks (ASTs) should, if removed, also be managed as special solid waste and disposed of at a licensed Class D landfill. Finally, as for the nitrate and sulfate concentrations, the Phase II ESA concludes that the impact is limited in aerial extent and will likely dissipate over time once greenhouse operations cease. The Colorado Department of Public Health & Environment (CDPHE) has been in conversation with the applicant/developer. An environmental investigation and cleanup at the property will take place under the Voluntary Cleanup and Redevelopment Program (VCUP). Extensive soil and groundwater sampling will be undertaken by the applicant developer to determine the nature and extent of contamination at this site as part of the VCUP process. Once the nature and extent of the contamination is determined, then the applicant/developer will excavate and clean up to residential standards under the purview of CDPHE. The City team recommends a condition of approval that the

		applicant/developer shall submit a Voluntary Cleanup and Redevelopment Program (VCUP) application to the Colorado Department of Public Health & Environment (CDPHE) and shall complete site remediation prior to the issuance of the DEV permit or any building permits. Notwithstanding the foregoing, the issuance of the DEV permit or any building permit required for the purpose of conducting environmental investigation or remediation necessary to complete the Voluntary Cleanup and Redevelopment Program shall be permitted at the City's discretion.

STAFF RECOMMENDATION

Based upon project analysis and review of the Land Development Code approval criteria, staff recommends approval of the project.

At its January 21, 2026 meeting, the Planning Commission recommended that the Conditional Use be approved subject to conditions of approval. If the City Council finds that the Conditional Use application is supported by the approval criteria, then staff recommends that the following conditions be made part of the approval:

1. A traffic signal shall be installed at the West 64th Avenue/Easley Road intersection. A proportion of the signal's cost shall be funded by the developer and maintained by the City of Arvada.

2. The northbound left turn lane queue at the West 64th Avenue/Easley Road intersection shall be extended by 50 feet to provide adequate storage.

3. The applicant/developer shall submit a Voluntary Cleanup and Redevelopment Program (VCUP) application to the Colorado Department of Public Health & Environment (CDPHE) and shall complete site remediation prior to the issuance of the DEV permit or any building permits. Notwithstanding the foregoing, the issuance of the DEV permit or any building permit required for the purpose of conducting environmental investigation or remediation necessary to complete the Voluntary Cleanup and Redevelopment Program shall be permitted at the City's discretion.

4. Language or plat notes related to the dedication of dry utility easements to the City of Arvada benefitting applicable utility providers for the installation, maintenance, and replacement of electric, gas, television, cable, and telecommunications facilities shall be placed on preliminary and final plats.

5. All utility easements be depicted graphically on the preliminary and final plats.

The City Council may deny the request(s) if it cannot make affirmative findings of the approval criteria stated above.

City of Arvada
Community and Economic Development Department
PUBLIC HEARING STAFF REPORT

Avalon Arvada/Welby Gardens
17201 West 64th Avenue
Conditional Use
DA2025-0035

NATURE OF REQUEST

The applicant, Leanne Vielehr of Norris Design, requests approval of a Conditional Use application to allow 384 multifamily and 51 townhome units on a site in the MX-S (Mixed- Use, Suburban) zoning district.

According to the conceptual Site Plan, the project proposes to construct eight townhome buildings ranging from four to eight units per building, housing 51 units. The townhomes are anticipated to be a mix of two- and three-bedroom units. The Site Plan also includes 12 breezeway and corridor multifamily buildings, providing 384 apartment units. The multifamily units will be a mix of studio, one-, two-, and three-bedroom apartments. Of the 12 buildings, 10 buildings are proposed to be three stories, and two buildings are proposed to be four stories. The approximately 20.1-acre parcel will also be developed with associated access drives, parking lots, and landscaped areas, including a two-acre small urban park.

LOCATION AND HISTORY

The project site is approximately 20.1 acres, irregularly-shaped, and developed with five to six greenhouses, an office building, hoop houses, warehouses, utility structures, including above ground storage tanks, minor structures, a parking lot, and an access drive to support a wholesale plant nursery operation at the site. The site is comprised of Lots 1 and 2 of the Veldkamp Subdivision. Vehicles access the site from a drive west of Easley Road, which leads to a parking area at the southeast of the site. Records indicate that development on the property began in 1971, with construction of a greenhouse and office building to the southeast of the site. Over time, a series of greenhouses were constructed on the site between 1971 and 2004 along with storage, warehouse, and other support structures. There are several areas that collect stormwater runoff as well as discharges from the greenhouses and hoop houses with water retention ponds generally located between the large greenhouse structures.

NEIGHBORHOOD MEETING

Division 8-2-2 of the Land Development Code (LDC) requires that at least one neighborhood meeting be held for projects that require public hearings before the Planning Commission and City Council.

The required neighborhood meeting for this project took place on April 10, 2025. The applicant, staff, and approximately 180 neighbors were in attendance. The applicant had held an additional three neighborhood meetings prior to the required meeting.

The applicant began the meeting by introducing the project team. During their presentation, the applicant described the existing site conditions, provided a timeline of the entitlement process for the project, and presented a revised project to address the neighbors' concerns regarding the initial design.

At the conclusion of the applicant's presentation, the applicant then held a Q&A session with the neighbors in attendance. Issues identified during the Q&A session include, but were not limited to, the following: increased traffic along Easley Road, the proximity of the townhome access drive to the MorningStar property, the location of guest parking, contamination on the site and associated mitigation, drainage of detention ponds into Ralston Creek, increased criminal activity in the area of the project, the density of the proposed project, and the possibility of rezoning the property.

The applicant prepared a summary of the meeting, which is attached.

PUBLIC NOTIFICATION

Division 8-2-4 of the Land Development Code requires public notification for all public hearings as follows:

Written Notice: At least 15 days prior to all public hearings, written notice must be mailed to all property owners within 1,500 feet of the subject property and to all homeowners associations and neighborhood associations with a known interest in the subject property. The applicant has provided an affidavit of mailing prior to the public hearing verifying this requirement has been met.

Posted Notice: At least 15 days prior to all public hearings, signs notifying the public of the hearing must be posted on the subject property. The applicant has provided a posting log prior to the public hearing verifying that this requirement has been met.

Published Notice: At least 15 days prior to all public hearings, notice of the hearing must be published in a newspaper of general circulation in the City. The required notice has been published.

SEVERED MINERAL RIGHTS

At least 30 days prior to the public hearing, written notice of the application must be mailed to any owner of mineral rights associated with the subject property. The applicant has provided notarized certification that the Jefferson County Clerk and Recorder records do not identify any owners of mineral rights.

DEVELOPMENT REVIEW TIMELINE

Given that the proposed project requires Conditional Use approval, it is subject to a public hearing decision track (Track 5) in accordance with Table 8-2-2-2A "Decision Making" in the

LDC. The project underwent four reviews to address staff comments. The first submittal was received on May 23, 2025 and the fourth submittal was received on December 16, 2025. Staff met the timeline in all four of the reviews.

ALIGNMENT WITH CITY COUNCIL STRATEGIC PLAN

The project is consistent with the City Council Strategic Plan principles for the Community and Economic Development work system. By complying with the applicable requirements, it is ensured that the project would construct safe buildings, protecting and maintaining the health, safety, and welfare of the public. Further, the project proposes to construct 51 townhome and 384 multifamily units, which would add to Arvada's housing stock and improve access to quality housing that is affordable to a broad range of income levels.

ZONING AND LAND USE

The subject property is currently zoned MX-S (Mixed-Use, Suburban) and is approximately 20.1 acres in size.

Surrounding properties are zoned and utilized as follows:

Direction	Zoning	Actual Use
North	Open Space (OS)	West Woods Golf Course
South	MX-S (Mixed Use Suburban)	MorningStar Senior Living of Arvada
East	PUD (Planned Unit Development)	Single-Unit Residential
West	PUD (Planned Unit Development)	Single-Unit Residential

PROJECT ANALYSIS

Compliance with the Comprehensive Plan

The Comprehensive Plan designates the site as Mixed Use (MU). The Mixed-Use category is intended to promote a wide range of land uses, including retail, office, light industrial, live-work, and medium and higher density residential. The Comprehensive Plan does not prescribe a minimum or maximum density for sites designated MU; however, the Comprehensive Plan recommends a density greater than residential zoning districts for residential projects on parcels designated MU, with the goal of providing greater housing diversity and supporting transit. At a density of 21 dwelling units per acre, the project is near the upper range of the density allowed for sites designated High Density Residential (HDR), which is 24 dwelling units per acre.

The Conditional Use request is consistent with the following goals and policies of the Comprehensive Plan:

GOAL L-2
Plan for a balanced mix of commercial and residential land uses in Arvada.

> POLICY L-2.1 Complete Community
> The City will provide for a balanced mix of land uses by promoting redevelopment and continuing to reserve lands for future commercial and industrial development as well as a variety of housing choices.

GOAL L-3-1
Encourage development of transit-supportive, higher-density, mixed-use, pedestrian-oriented areas.

POLICY L-3.1 Designated Mixed-Use Areas
The plan designates mixed-use areas in Arvada to provide a mix of land uses, services, retail and commercial development, employment, and in some cases, a diversity of higher density housing in close proximity to transit, bike, and pedestrian connections.

POLICY L-3.2 Criteria for New and Redeveloping Mixed-Use Areas
Mixed-use areas are envisioned as strategically located, high intensity, pedestrian-oriented activity areas providing a range of retail, business, civic, cultural, and residential opportunities for the surrounding trade area. Mixed-use areas should be located in urban centers or designated corridors and should create or demonstrate the following characteristics:

- Transit-supportive residential densities with a mix of housing types and affordability;
- Transit-supportive mix of retail and employment opportunities;
- Streets or other physical features that help define the center;
- Public plazas, gathering spaces or amenities designed as a focal point;
- Transit service
- Pedestrian-oriented site design; and
- Interconnected network of multi-modal streets linking to surrounding areas.

GOAL L-5
Designate and promote redevelopment and infill to generate economic revitalization, improve physical conditions, and provide an appropriate mix of quality housing choices.

GOAL CC-1
Plan Arvada as a City of different development character districts.

POLICY CC-1.1 Variety of Development Types
The City will include a variety of development types including rural areas, suburban residential neighborhoods, historic districts, redevelopment areas, and mixed-use communities that contain services, employment, and higher density housing.

POLICY CC-1.2 Promote Integration Within Districts Through Design
The City will promote integration and a sense of place within districts of the City through the context-sensitive design of new development.

POLICY CC-1.3 Compatible Infill
The City will encourage new infill development to consider and be sensitive to the character of existing neighborhoods. Considerations shall include building scale, placement, size, height transitions, landscape, streetscape, and other design measures.

POLICY CC-1.4 Work With Stakeholders
The City will work with stakeholders, developers, and the community to consider a project's potential effects and strive for integration in a manner that helps enrich the district's character.

GOAL CC-2
Establish and maintain Arvada's distinct qualities and small-town identity.

> POLICY CC-2.2 High Quality Private Development
> The City will promote high quality architecture, site planning, landscaping, signage, and lighting for new residential and commercial developments.

GOAL N-1
Plan for a range of neighborhoods and accessible housing of different tenure types to accommodate diverse incomes and all ages and abilities.

GOAL T-3
Identify and implement traffic solutions to reduce and manage traffic congestion on arterial streets.

> POLICY T-3.2: Traffic Solutions to Reduce Congestion
> The City will consider arterial street widenings and construction of missing segments, traffic signal timing and progression projects, intersection improvements, grade separations, and other measures to help reduce traffic congestion.

GOAL T-4
Develop the transportation system in a manner that maintains the quality of life for residents and visitors.

Compliance with Other Applicable Plans
There are no other applicable plans.

Setbacks
The minimum setbacks for the project are required and conceptually proposed as follows:

	Required	**Conceptually Proposed**
Frontage Zone (Min./Max.)	15 feet/35 feet (Suburban Townhomes) 20 feet/35 feet (General Multifamily)	15 feet/35 feet (Suburban Townhomes) N/A (General Multifamily)
Non-Street Frontage Perimeter Setback (Townhomes Only)	15 feet	15 feet
Minimum Street Side Setback	15 feet (Suburban Townhomes) 10 feet (General Multifamily)	N/A (Suburban Townhomes) N/A (General Multifamily)
Minimum Interior Side Setback (Multifamily Only)	6 feet (General Multifamily)	6 feet (General Multifamily)
Building Separation, Townhomes	10 feet (Side to Side) 30 feet (All Others)	10 feet (Side to Side)
Rear Setback (General Multifamily Only)	10 feet	10 feet

Minimum Parking Setback (Front)	20 feet (Suburban Townhomes) 20 feet (General Multifamily)	20 feet (Suburban Townhomes) 20 feet (General Multifamily)

Building Height
Pursuant to Table 2-1-4-2A of the LDC, the maximum height for residential buildings in the MX-S zoning district is 45 feet. According to the project narrative and the "Site Data Table" in the conceptual project set of plans, the maximum height of the buildings is proposed to be 45 feet. While the conceptual height of the building complies with the LDC, compliance with LDC will be reevaluated if a Site Plan application is submitted.

Open Space
Pursuant to Table 2-1-4-2A of the LDC, a small urban park is required. For lots more than one acre, the small urban park area must be a minimum of 10 percent of the net parcel area. Given that the net lot area of the site is 20.1 acres, the required small urban park area is 2.0 acres or 87,120 square feet. According to the "Site Data Table", the proposed conceptual small urban will be 87,555 square feet, which complies with Table 2-1-4-2A of the LDC. However, while the conceptual size of the small urban park complies with the LDC, compliance with LDC will be reevaluated during review of a Site Plan application, if submitted.

Landscaping, Buffering and Fencing
The project must comply with the applicable landscaping, buffering, and fencing requirements in Article 4-6 "Landscaping and Buffering" of the LDC and any other applicable standards and regulations. According to the "Site Data Table", the conceptual proposed landscape area is 61,511 square feet for the townhomes and 176,863 square feet for the multifamily development. The Site Plan application, if submitted, must include a landscape plan pursuant to Subsection 4-6-3-2(A) of the LDC. The landscape plan's compliance with Article 4-6 "Landscaping and Buffering" of the LDC and any applicable standards and regulations will be evaluated at the time a Site Plan application is submitted.

Parks
As the project is a residential development**,** Park Land Dedication or a Fee-In-Lieu will be required pursuant to Subsection 8-4-3-6(B) of the LDC if a Site Plan application is submitted and approved. The Park Land Dedication or payment of Fee-In-Lieu must be satisfied prior to, or as part of, the approval of the Site Plan, if submitted, pursuant to Subsection 8-4-3-6(I)(1) of the LDC. If park land will be dedicated, the owner/developer of land is required to convey to the City in fee simple not less than 10 acres per 1000 population projected for the development of such land pursuant to Subsection 8-4-3-6(C)(3) of the LDC. If payment of a Fee-In-Lieu is elected, the owner/developer must pay the City the cash equivalent of the fair market value of the land otherwise required to be dedicated pursuant to Subsection 8-4-3-6.

Additionally, Subsection 8-4-3-7(A) of the LDC requires a separate Park Development Fee. The owner/developer must pay the Park Development Fee at the time of approval of the Site Plan, if submitted.

Building Design
Division 5-1-2 "Building and Structure Design Standards" of the LDC establishes design parameters for the architectural design of the project. As the design of the buildings will be

finalized in the Site Plan, if submitted, evaluation of the project's consistency with the design standards will occur at that time.

Circulation and Connectivity
Two access drives located at the southeast corner of the site will provide vehicular access to Easley Road. Both access drives will be constructed to the west of Easley Road and will replace the existing Welby Gardens parking lot access and delivery site access. The drives will provide direct access to the site from Easley Road. The drives are connected to the internal private drives that provide internal circulation within the site. An emergency vehicle only access is proposed at the southwest corner of the project site through an existing emergency access easement on the MorningStar Senior Living site.

Harris Kocher Smith (HKS) prepared a Traffic Impact Study (TIS) on May 14, 2025. The TIS was revised on June 26, 2025 and November 24, 2025. The TIS evaluated the transportation impacts that could result from the proposed project, including the impact of vehicular trips projected to be generated by the project on the study area intersections and roadway system. The study includes 2025 (existing), 2027 (year of anticipated project build-out), and 2047 (long-term) analysis horizons. The scope of the analysis included the following roadways:

- West 64th Avenue
- Virgil Way
- Easley Road
- Terry Street
- Quaker Street

The scope of the analysis included the following intersections:

- West 64th Avenue/Virgil Way
- West 64th Avenue/Easley Road
- West 64th Avenue/Terry Street
- West 64th Avenue/Quaker Street

Using the publication *Trip Generation*, *11th Edition* by the Institute of Traffic Engineers (ITE), the project is anticipated to generate approximately 2,875 daily vehicle trips, with 163 trips occurring in the a.m. peak hour and 213 trips occurring in the p.m. peak hour.

The level of impact of the vehicular trips generated by the project is measured by levels of service (LOS). LOS is a qualitative ranking of the traffic operational conditions experienced by users under specified roadway, traffic, and traffic control conditions. There are six levels of service ranging from "A" to "F", with LOS "A" representing the best operating conditions and LOS "F" the worst.

To evaluate the project's impact on levels of service (LOS), the TIS performed peak hour intersection capacity analyses for the total traffic conditions for the 2027 (build-out) and 2047 (long-term) analysis horizon total traffic scenarios on the intersections listed above. The TIS projected significant changes to the LOS for the West 64th Avenue/Easley Road intersection. Specifically, the TIS projected that with the addition of the vehicular trips generated by the project, the intersection overall will deteriorate from a LOS "D" to a LOS "F" in the p.m. peak

hour by the 2027 (build-out) analysis horizon. By the 2047 (long-term) analysis horizon, it is projected that the northbound shared through/right turn lane will deteriorate from a LOS "C" to a LOS "E" in the p.m. peak hour, and the southbound shared left/through/right turn lane will deteriorate from a LOS "D" to a LOS "F" in the a.m. peak hour. Based on a warrant analysis, the TIS recommends that a traffic signal be installed at the West 64th Avenue/Easley Road intersection to mitigate deterioration in LOS. The City team recommends a condition of approval requiring the installation of a signal at the West 64th Avenue/Easley Road intersection. The signal shall be funded by the developer and maintained by the City of Arvada.

As for the queuing analysis, the TIS projected that the southbound shared left/through/right turn lane queue is projected to exceed its lane group capacity and spill back into the upstream intersection by the 2027 (build-out) analysis horizon. The TIS also projected that this scenario is expected to continue in both the a.m. and p.m. peak hour by the 2047 (long-term) analysis horizon. It is recommended that a signal be installed at the intersection to mitigate the queuing issue at the southbound shared left/through/right turn lane queue. However, even with a signal installed, the TIS concluded that that the northbound left turn lane queue would exceed its capacity and spill back into the northbound through lane in the p.m. peak hour by the 2047 (long-term) analysis horizon. To mitigate this queuing issue, the TIS recommends extending the northbound left turn lane queue by 50 feet. In addition to the installation of a signal at the West 64th Avenue/Easley Road intersection, the City team recommends a condition of approval requiring that the northbound left turn lane queue be extended by 50 feet to provide adequate storage.

As for the remaining intersections, the TIS does not recommend geometric or operational modifications as a result of the proposed project and determined that there are no queuing related issues. However, it is projected that the southbound left turn lane at the West 64th Avenue/Virgil Way intersection and southbound shared left/through/right turn lane at the West 64th Avenue/Terry Street intersection will continue to experience a poor to failing LOS (LOS "E" or "F") during the p.m. peak hour in both the background and total traffic scenarios. The TIS recommends monitoring each intersection to determine when actual traffic volumes will warrant the need for modifications to improve the intersections' operational conditions.

The TIS also analyzed the project's impacts on the roadways listed above and concluded that there are no geometric or operational modifications being recommended for the listed roadways.

Grading and Drainage
A detailed grading and drainage plan will be required to be submitted with a Site Plan application.

Parking and Loading
According to the "Site Data Table" in the conceptual plan set, 117 parking spaces are proposed for the townhome development with 102 covered and 15 uncovered. For the multifamily development, 796 parking spaces are proposed, with 440 uncovered and 356 covered. Additionally, the project proposed 96 bike parking spaces to serve the multifamily development. The project must comply with the applicable parking requirements in Article 4-5 "Parking and Loading" of the LDC and any other applicable standards and regulations. The project's compliance with Article 4-5 "Parking and Loading" of the LDC and any applicable standards and regulations will be evaluated at the time a Site Plan application is submitted.

Environmental
Baseline Engineering Corporation ("Baseline") prepared at Phase I Environmental Assessment (ESA) on December 26, 2024 and a Limited Phase II (ESA) on October 17, 2025. The purpose of the Phase I ESA is to identify any recognized environmental conditions (RECs) and the purpose of the Phase II ESA is to further investigate the RECs identified in the Phase I ESA. The Phase II ESA investigates the RECs by collecting soil and groundwater samples and analyzing these samples for compounds associated with the current plant nursery operations at the site.

Phase I ESA

The Phase I ESA identified the following eight RECs associated with the plant nursery operations:

- The storage, mixing, and use of large quantities of fertilizer, herbicides, and pesticides.
- The storage and use of motor oil, hydraulic oil, and water chemicals.
- The storage, use, and former use of diesel and gasoline above ground storage tanks (ASTs).
- The use of waste oil and grease containers and ASTs.
- The evidence of past spills from the gasoline and diesel dispensers.
- The evidence of past spills from stored containers and waste oil AST. • Surface drainages from the fertilizer, herbicide, and pesticide mixing areas.
- Areas of historical use of septic systems

Phase II ESA and Recommendations

Soil borings were drilled in outdoor and indoor locations. There were 22 soil borings completed from those locations with a total of 28 samples collected. Nine soil samples collected from the outdoor soil boring locations were analyzed for pesticides and chlorinated acid herbicides by United States Environmental Protection Agency (EPA) Methods 8081 and 8151A, respectively; Resource Conservation and Recovery Act (RCRA) 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) by EPA Methods 6010D/7471B; nitrate as N and sulfate by EPA Method 9056A; and pH by EPA Method 9045D. Nine hand augered soil samples for laboratory analysis collected from inside the buildings were analyzed for pesticides, chlorinated acid herbicides, RCRA metals, and nitrate as N and sulfate. The remaining 10 soil samples collected using the post-hole power auger were analyzed only for pesticides and chlorinated acid herbicides by EPA Methods 8081 and 8151A, respectively. Additionally, five groundwater monitoring wells were installed to collect groundwater samples.

The soil samples were compared to EPA Regional Screening Levels (RSLs) for residential and industrial land uses. An insecticide, Dieldrin, and Total Petroleum Hydrocarbons (TPH) were found to exceed EPA Residential RSLs. Dieldrin, an insecticide used in the 1950s to 1970s, was detected in 17 out of the 28 soil samples. The concentration of Dieldrin exceeded the Residential RSL in several locations. TPH compounds were found in all four samples taken. TPH concentrations were even found to exceed Industrial RSLs at two locations.

As for groundwater samples, all detections of RCRA 8 metals as well as pesticides, herbicides, VOCs, and 1,4-dioxanewere below the Colorado Groundwater Standards (CGS). However,

both of the concentrations of nitrate and sulfate exceeded the CGSs of 10 mg/L and 250 mg/L, respectively.

The Phase II ESA identifies several measures to manage environmental conditions on the site. The Phase II ESA recommends that soils with dieldrin concentrations greater than the EPA RSL for residential use will need to be managed appropriately. If those soils are to be removed, then it is recommended that the soils be disposed of at a licensed Class D landfill. Further, petroleum impacts identified near the above-ground storage tanks (ASTs) should, if removed, also be managed as special solid waste and disposed of at a licensed Class D landfill. Finally, as for the nitrate and sulfate concentrations, the Phase II ESA concludes that the impact is limited in aerial extent and will likely dissipate over time once greenhouse operations cease.

The Colorado Department of Public Health & Environment (CDPHE) has been in conversation with the applicant/developer. An environmental investigation and cleanup at the property will take place under the Voluntary Cleanup and Redevelopment Program (VCUP). Extensive soil and groundwater sampling will be undertaken by the applicant developer to determine the nature and extent of contamination at this site as part of the VCUP process.

Once the nature and extent of the contamination is determined, then the applicant/developer will excavate and clean up to residential standards under the purview of CDPHE. The City team recommends a condition of approval that the applicant/developer submit a VCUP application prior to submittal of a Site Plan application and complete site remediation prior to the issuance of building permits.

Utility Services
Water and sanitary sewer service is provided by the City of Arvada and capacity is adequate to service the site.

Dry utility providers (i.e. gas, electric, phone and cable services) will design and provide service to the area including telephone, cable television, and internet services.

Police and Fire Protection
The property will be serviced by the Arvada Police Department (APD) and the Arvada Fire and Protection District (AFPD). The project's compliance with (IFC) section D106.3 will be evaluated during review of the Site Plan application, if submitted.

LAND DEVELOPMENT CODE APPROVAL CRITERIA

It is the responsibility of the applicant to justify the requested land use application. The Planning Commission should make a recommendation to the City Council based on its findings regarding the approval criteria shown in the table(s) below and upon testimony heard during the public hearing as it applied to the criteria.

Staff performed an analysis of the proposal, based on the approval criteria listed in Chapter 8 of the Land Development Code, and presents the following findings:

Div. 8-3-5 Conditional Use Approval Criteria	Finding	Rationale

1. The application complies with the applicable standards of this LDC, other adopted City ordinances, resolutions and regulations including but not limited to any use-specific standards for the proposed conditional use in Division 3-1-3, any approved Master Development Plan that includes the property, and any conditions specifically applied to development of the property by the Planning Commission or City Council in a prior decision affecting the property;	Complies	Although the project is conceptual at this stage, as discussed above, the project conceptually complies with the applicable standards and regulations of the LDC. Once the design of the project is finalized and a Site Plan application is submitted, the City team will reevaluate the project's compliance with the applicable standards and regulations.
2. The application is consistent with the Arvada Comprehensive Plan;	Complies	The site is designated as Mixed Use (MU). The Mixed-Use category is intended to promote a wide range of land uses, including retail, office, light industrial, live-work, and medium and higher density residential. The Comprehensive Plan does not prescribe a minimum or maximum density for sites designated MU; however, the Comprehensive Plan recommends a density greater than residential zone districts for residential projects on parcels designated MU, with the goal of providing greater housing diversity and supporting transit. As a residential development at a density of 21 dwelling units per acre, the project is near the upper range of the density allowed for sites designated High Density Residential (HDR), which is 24 dwelling units per acre. Further, the project achieves several goals and policies in the Comprehensive Plan as listed above such as providing for accessible housing of different tenure types (rentals) to accommodate diverse incomes and all ages and abilities.
3. The use is consistent with the purpose and intent of the zoning district in which it is located;	Complies	The site is zoned Mixed-Use Suburban (MX-S). The intent of the MX-S zoning district is to provide for a variety of residential and nonresidential uses, in vertically mixed-use, horizontally mixed-use, or single-use configurations. The project proposes 384 multifamily units and 51 townhome units, which is a residential single-use configuration.

4. The size, scale, height, density, multi-modal traffic impacts, hours of operation and other similar characteristics of the proposed use are comparable with existing and planned uses in the surrounding area and the zoning district regulations;	Complies	Conceptually, the maximum height of the proposed multifamily buildings will be 45 feet or four stories. The proposed four-story multifamily buildings would be larger than other buildings in the surrounding area, which are predominantly one and two-stories in height; however, the conceptual scale and mass of the buildings would be substantially consistent with applicable development standards of the MX-S zoning district in the LDC, which allow for larger buildings, and the goal of higher density in the Comprehensive Plan. Moreover, to account for the larger scale of buildings allowed on MX-S zoned sites that abut lower-density residential districts, the LDC imposes a height transition zone on MX-S zoned properties pursuant to Subsection 2-1-10-3(B)(2) of the LDC. As discussed above, to mitigate traffic impacts, the City team recommends imposing a condition of approval requiring the installation of a signal at the West 64th Avenue/Easley Road intersection and a condition of approval requiring that the northbound left turn queue lane of the West 64th Avenue/Easley Road intersection be extended by 50 feet to provide adequate storage. As residential uses, the hours of operation of the proposed multifamily and townhomes units of the proposed use residential uses in the surrounding neighborhood.
5. Facilities and services including sewer, water, storm water, gas, electricity, police and fire protection, and roads and transportation will, prior to or as part of the development, be available to serve the subject property while maintaining adequate levels of service for existing development; and	Complies	As discussed above, facilities and services including sewer, water, storm water, gas, electricity, and police and fire protection will be available to serve the property while maintaining adequate levels for the existing development. As discussed above, a condition of approval requiring the installation of

		a signal at the West 64th Avenue/Easley Road intersection and a condition of approval requiring that the northbound left turn queue lane of the West 64th Avenue/Easley Road intersection be extended by 50 feet to provide adequate storage will be imposed to mitigate deterioration in LOS. Further, the southbound left turn lane at the West 64th Avenue/Virgil Way intersection and southbound shared left/through/right turn lane at the West 64th Avenue/Terry Street intersection will be monitored monitoring to determine when actual traffic volumes will warrant the need for modifications to improve the intersections' operational conditions.
6. The application mitigates any adverse impacts on the surrounding area to the degree practicable.	Complies	As identified in the TIS and Phase I and Phase II Environmental Assessments, the project will have adverse traffic and environmental impacts. The measures to mitigate traffic and environmental impacts are discussed below. <u>Traffic</u> As discussed above, the project is anticipated to generate approximately 2,875 daily vehicle trips, with 163 trips occurring in the a.m. peak hour and 213 trips occurring in the p.m. peak hour. A condition of approval requiring the installation of a signal at the West 64th Avenue/Easley Road intersection and a condition of approval requiring that the northbound left turn queue lane of the West 64th Avenue/Easley Road intersection be extended by 50 feet to provide adequate storage will be imposed to mitigate deterioration in LOS. Further, the southbound left turn lane at the West 64th Avenue/Virgil Way intersection and southbound shared left/through/right turn lane at the West 64th Avenue/Terry Street intersection will be monitored to determine when actual traffic volumes will warrant the need for modifications to improve the intersections' operational conditions.

		Environmental Baseline Engineering Corporation ("Baseline") prepared at Phase I Environmental Assessment (ESA) on December 26, 2024 and a Limited Phase II (ESA) on October 17, 2025. As discussed above, the Phase II ESA identifies several measures to manage environmental conditions on the site. The Phase II ESA recommends that soils with dieldrin concentrations greater than the EPA RSL for residential use will need to be managed appropriately. If those soils are to be removed, then it is recommended that the soils be disposed of at a licensed Class D landfill. Further, petroleum impacts identified near the above-ground storage tanks (ASTs) should, if removed, also be managed as special solid waste and disposed of at a licensed Class D landfill. Finally, as for the nitrate and sulfate concentrations, the Phase II ESA concludes that the impact is limited in aerial extent and will likely dissipate over time once greenhouse operations cease. The Colorado Department of Public Health & Environment (CDPHE) has been in conversation with the applicant/developer. An environmental investigation and cleanup at the property will take place under the Voluntary Cleanup and Redevelopment Program (VCUP). Extensive soil and groundwater sampling will be undertaken by the applicant developer to determine the nature and extent of contamination at this site as part of the VCUP process. Once the nature and extent of the contamination is determined, then the applicant/developer will excavate and clean up to residential standards under the purview of CDPHE. The City team recommends a condition of approval that the

		applicant/developer submit a VCUP application prior to submittal of a Site Plan application and complete site remediation prior to the issuance of building permits.

STAFF RECOMMENDATION

Based upon project analysis and review of the Land Development Code approval criteria, staff recommends approval of the project.

If the Planning Commission finds that a recommendation to approve the Conditional Use application is supported by the approval criteria, then staff recommends that the following conditions be made part of the approval:

1. A traffic signal shall be installed at the West 64th Avenue/Easley Road intersection. The signal shall be funded by the developer and maintained by the City of Arvada.

2. The northbound left turn lane queue at the West 64th Avenue/Easley Road intersection shall be extended by 50 feet to provide adequate storage.

3. The southbound left turn lane at the West 64th Avenue/Virgil Way intersection and southbound shared left/through/right turn lane at the West 64th Avenue/Terry Street intersection will be monitored to determine when actual traffic volumes will warrant the need for modifications to improve the intersections' operational conditions.

4. The applicant/developer shall submit a Voluntary Cleanup and Redevelopment Program (VCUP) application to the Colorado Department of Public Health & Environment (CDPHE) prior to submittal of a Site Plan application and complete site remediation prior to the issuance of building permits.

5. Language or plat notes related to the dedication of dry utility easements to the City of Arvada benefitting applicable utility providers for the installation, maintenance, and replacement of electric, gas, television, cable, and telecommunications facilities shall be placed on preliminary and final plats.

6. All utility easements be depicted graphically on the preliminary and final plats.

The Planning Commission may recommend denial of the request(s) if it cannot make affirmative findings of the approval criteria stated above.

Avalon Arvada Conditional Use Permit

Planning Commission

January 21, 2026

AvalonBay COMMUNITIES

Community Developer

AvalonBay COMMUNITIES

Consultants

TPC THE PACHNER COMPANY

HKS HARRIS KOCHER SMITH

NORRIS DESIGN PEOPLE + PLACEMAKING

studio PBA

OTTENJOHNSON ROBINSON NEFF + RAGONETTI PC

About AvalonBay

AvalonBay Communities is a leading multifamily company. We develop, build, own, and operate class-A multifamily communities in 10 US regions, including Colorado. Given our long-term ownership structure, we are incentivized by the performance of both the apartment community and the greater communities in which we develop.

POWERED BY PEOPLE, PURPOSE & CULTURE

CREATING A BETTER WAY TO LIVE — COMMITMENT TO INTEGRITY — SPIRIT OF CARING — FOCUS ON CONTINUOUS IMPROVEMENT

ICC · AGC DIVERSITY & INCLUSION AWARDS 2024 · GRESB · CDP DISCLOSER 2023 · EQUALITY 100 · TOP WORK PLACES 2023

Environmental and Social Awards and Recognitions

Awards and Recognition

- Newsweek America's Most Responsible Companies 2023 5th YEAR IN A ROW
- Newsweek America's Greenest Companies 2024
- Forbes Top 100 List of Net Zero Leaders Ranked #48 2nd YEAR ON LIST
- Washington Post Best Places to Work
- Human Rights Campaign – Best Place to Work for LGBTQ+ Equality 2nd YEAR ON LIST
- Associated General Contractors – Diversity & Inclusion Excellence Award 2024
- 3BL Media global list of 100 Best Corporate Citizens 6th YEAR ON LIST

Project Site & Existing Context

Project Site & Existing Context

Our Request

No Rezoning

Conditional Use Permit

Request for a **Conditional Use Permit** in the MX-S zone to allow **Multifamily and Single-family** attached

Current Conceptual Site Plan

Approval Criteria

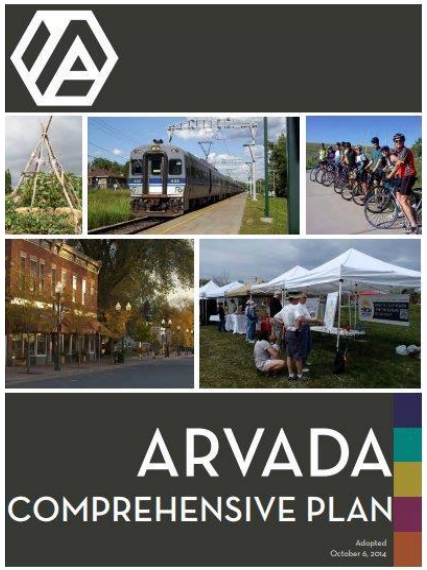
APPROVAL CRITERIA

Follow Along Here

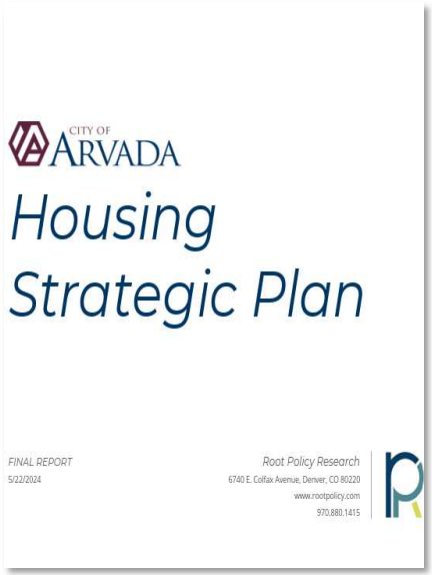
1. The application complies with the applicable standards of this LDC …
2. The application is consistent with the Arvada Comprehensive Plan
3. The use is consistent with the purpose and intent of the zoning district in which it is located
4. The size, scale, height, density, multi-modal traffic impacts, hours of operation and other similar characteristics of the proposed use are comparable with existing and planned use in the surrounding area and the zoning district regulations
5. Facilities and services including sewer, water, storm water, gas, electricity, police and fire protection, and roads and transportation will, prior to or as part of the development be available to serve the subject property while maintaining adequate levels of services for existing development
6. The application mitigates any adverse impacts on the surrounding area to the degree practicable

Our Guiding Documents

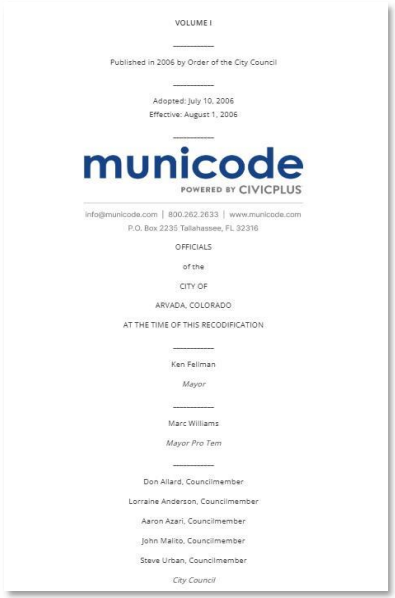
2014 Arvada Comprehensive Plan



2024 Arvada Housing Strategic Plan



Current Arvada Zoning Code

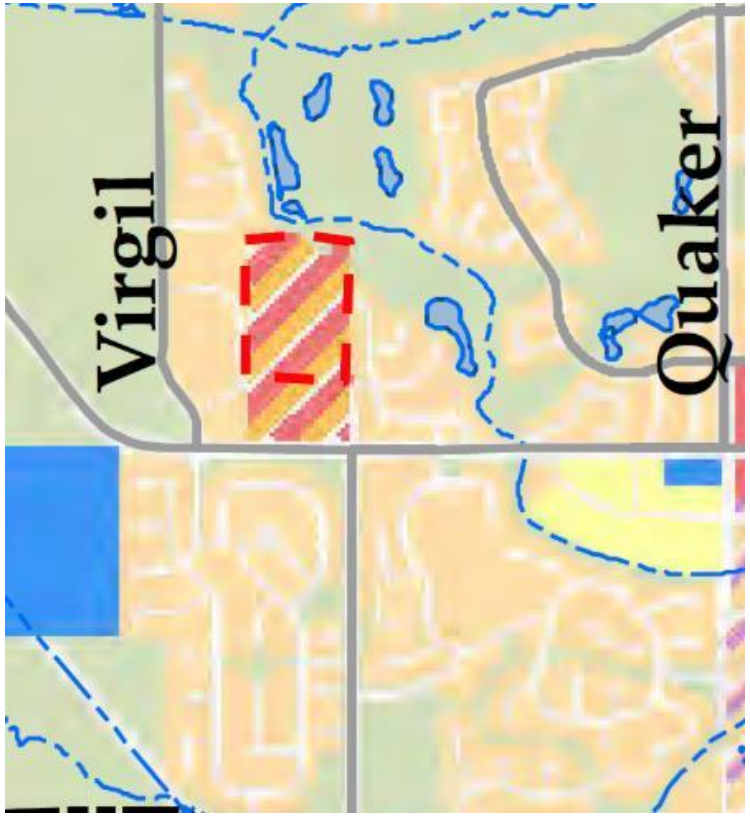


Our Guiding Documents

2014 Arvada Comprehensive Plan

APPROVAL CRITERIA

2 **Comprehensive Plan Compliance**



Legend

- Mixed-Use
- Suburban Residential
- Open Space Parks
- Public/Quasi-Public Facilities
- Low Density Residential

2014 Arvada Comprehensive Plan

APPROVAL CRITERIA

2 **Comprehensive Plan Compliance**

POLICY L-3.1: Designated Mixed-Use Areas
"The plan designates mixed-use areas in Arvada to provide a mix of land uses, services, retail and commercial development, employment, and in some cases, a **diversity of higher density housing** . . ." (Arvada Comp Plan)

GOAL L-5: Redevelopment and Infill
"Designate and **promote redevelopment and infill** to generate economic revitalization, improve physical conditions, and provide an appropriate **mix of quality housing choices**. " (Arvada Comp Plan)

POLICY L-3.2: Criteria for New and Redeveloping Mixed-Use Areas
"Mixed-use areas are envisioned as strategically located, **high intensity**, pedestrian-oriented activity areas providing a range of retail, business, civic, cultural, and **residential opportunities** for the surrounding trade area." (Arvada Comp Plan)

Primary Uses:

The Mixed-Use category is intended to promote a wide range of land uses, including retail, office, light industrial, live-work, and medium and higher density residential.

"the Comprehensive Plan recommends a density greater than residential zoning districts for residential projects on parcels designated MU, with the goal of providing greater housing diversity..." (Staff Report)

Arvada Housing Strategic Plan

APPROVAL CRITERIA

2 **Comprehensive Plan Compliance**

Housing Goals

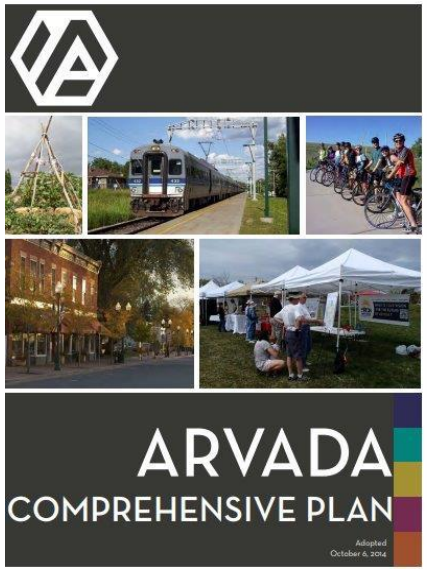
"Increase production of housing that expands price-point and product diversity in Arvada, including **Multifamily** and "**missing middle**" products that tend to have more attainable price-points."

Arvada West's Reality

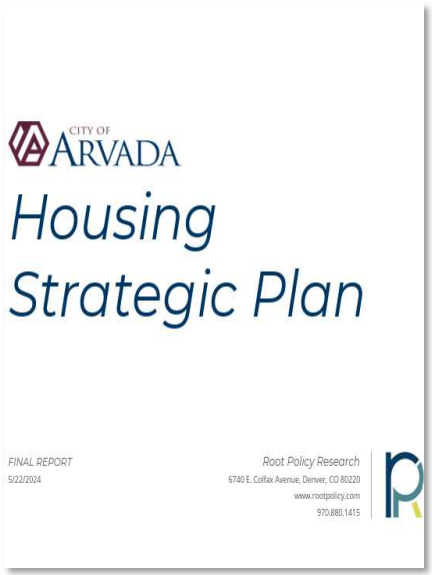
Today, west Arvada offers exceptional access to mountains and trails, but virtually no apartment housing west of Ward road to support diverse living needs.

Our Guiding Documents

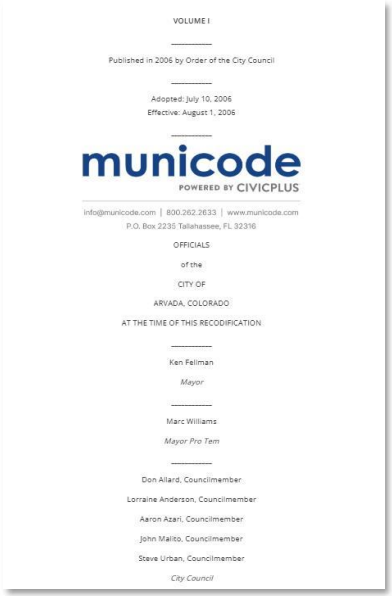
2014 Arvada Comprehensive Plan



2024 Arvada Housing Strategic Plan



Current Arvada Zoning Code



Zoning

Historical Buildout of Site

APPROVAL CRITERIA

3 **Zoning Intent and Consistency**

Year: 1963

Year: 1971

Year: 1994

Zoning

Historical Buildout of Site

APPROVAL CRITERIA

3 **Zoning Intent and Consistency**

Year: 1999

Zoning in 1997 - Permitted Uses

- Drive Thru Restaurant
- Food, Liquor, Store
- Bar, Tavern, Nightclub
- Ambulance Service
- Grocery Store
- Carwash
- Gas Station
- Passenger Terminal
- Auto Accessory Store
- Hospital
- Parking Structure
- Vocational Business School
- Drive Thru Bank
- Motor Vehicle Showroom
- Hotel, Motel
- Assembly Hall
- Hardware and Minor Appliance Store

Zoning

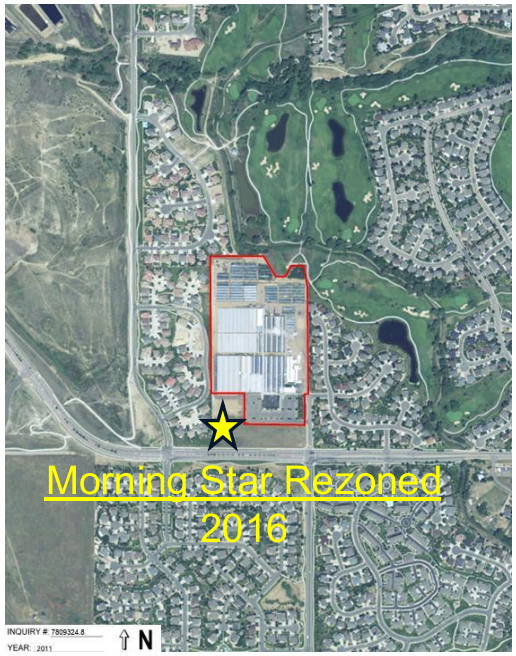
Historical Buildout of Site

APPROVAL CRITERIA

3 **Zoning Intent and Consistency**

Year: 2005

Year: 2011



Year: 2019

Current Zoning

APPROVAL CRITERIA

3 **Zoning Intent and Consistency**

LEGEND

- MX-S - Mixed Use – Suburban
- PUD - Planned Unit Development
- RN 7.5 - Residential Neighborhood 7.5 du/ac
- OS - Open Space

Current Zoning

APPROVAL CRITERIA

3 **Zoning Intent and Consistency**

Allowed Uses W/O Conditional Approval:

- Workshop
- Hospital
- Medical Office
- Office
- Assembly Hall
- Private College
- Private School
- Private Vocational or Trade School
- Indoor Amusement and Recreation
- Restaurant

MX-S ZONING STANDARDS	Residential	Non-Residential
Max Height	45ft	45ft
Max Height (ADU)	30ft	-
Max Height (Accessory bldg.)	18ft	-
Min Landscape Area	25%	25%
Max Density	None	-

Allowed Uses with Conditional Approval:

- Greenhouses or Nurseries
- Radio Tower
- Data Center
- Ambulance Services
- Light Industrial
- Resource Extraction (Minerals)
- Self-Storage
- Data Center
- Single Family Detached
- Duplex
- Multiplex

Limited Uses:

- Group Home
- Live Work Unit
- Self-Storage
- Data Center
- Bar/Nightclub
- Fast Food
- Animal Training
- Fueling Station
- Motor Vehicle Services
- Vehicle Equipment

Zoning –Existing Context

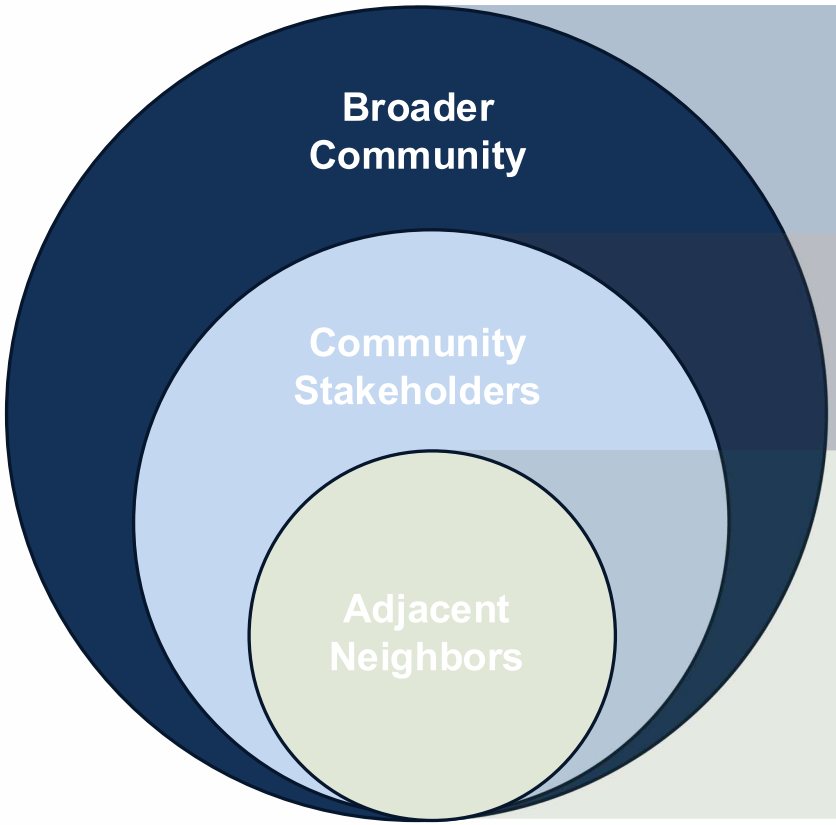
What MX-S looks like in this area today

APPROVAL CRITERIA

3 **Zoning Intent and Consistency**

Precedent imagery from Morningstar

Neighborhood Outreach



- Civic Organizations
- Jefferson County Regional Organizations

- Nearby Neighborhoods
- Area Businesses

- Westwood Links
- Westwood Ranch
- Trail Village
- Fieldstone
- Sunrise Ridge
- Adjacent

Date of Meeting	Method	Notice
January 13th, 2025	Meeting focused on the abutting eastern neighbors to address buffering	42 Homes • Walked and distributed flyer
February 5th, 2025	Small open house meeting with the Western neighbors and HOA representatives	46 Homes • Walked neighborhood and distributed flyer, notice to HOA & email to previous participants
February 26th, 2025	Neighborhood meeting with Eastern neighbors	76 Homes • Walked neighborhood distributed flyer, email notice to previous participants
April 10th, 2025	Formal and required neighborhood meeting	Within 500' per City's Neighborhood Meeting Guide
April – Present	Multiple meetings with neighbors, organizations and other interested parties	Continued Community Engagement

Evolution of our Conceptual Site Plan

Initial Conceptual Site Plan

APPROVAL CRITERIA

Current Conceptual Site Plan

4 + 6 Compatibility & Mitigation

Additional Community Opportunities

Traffic Improvements

Environmental Remediation

Views and Compatibility

Infrastructure and Utility Coordination

These were additional community opportunities raised during outreach, and the following slides outline how the project has responded to each

Traffic Improvements

What We've Heard About Traffic

- Will this project increase congestion at W 64th Ave and Easley Rd?
- Could Cut-through traffic impact nearby residential streets?
- Will traffic movements be clearly marked and predictable?
- How will additional trips affect safety during peak hours?

Traffic Improvements

APPROVAL CRITERIA

4 + 6 Compatibility & Mitigation

Environmental Remediation

APPROVAL CRITERIA

6 Mitigation

Existing Conditions

Environmental Remediation

APPROVAL CRITERIA

6 Mitigation

Colorado Department of Public Health and Environment (CDPHE) - Cleanup Process

Environmental site cleanup is facilitated by CDPHE, a State agency, to ensure proper cleanup procedures throughout Colorado

- We have coordinated with CDPHE and expect to conduct the required clean up under the Voluntary Cleanup Program.
- AVB will conduct all necessary remediation activities subject to review and approval by CDPHE
- All environmental remediation will be protective of public health and the environment.

Where we are today:

- Completed an Environmental Site Assessment Phase 1
- Completed an Environmental Site Assessment Phase 2
- In discussions with CDPHE for Voluntary Cleanup Program

Environmental Remediation

APPROVAL CRITERIA

6 **Mitigation**

AvalonBay Cleanup Experience

AvalonBay Communities has a proven track record of successfully executing environmental cleanup projects across Colorado and in other states where we develop residential communities. Our team is well-versed in navigating both relatively simple to more complex remediation efforts and restoring each site to a condition that is safe for residential use , and in full compliance with applicable regulations and guidance. Below are a few recent examples.

AVA RiNo (2021)

Avalon Gov. Park (2021)

Avalon Montville (2021)

Views and Compatibility

APPROVAL CRITERIA

4 **Compatibility**

Proposed Perspectives – From Southwest

Views and Compatibility

APPROVAL CRITERIA

4 **Compatibility**

Proposed Perspectives – From Southeast

Views and Compatibility

APPROVAL CRITERIA

4 **Compatibility**

Proposed Perspectives – From East

Scale Analysis – Morningstar Senior Living

AvalonBay's Building C

Existing Morningstar Building

Additional Community Opportunities

APPROVAL CRITERIA

5 **Infrastructure**

Infrastructure and Utility Coordination

Infrastructure Coordination Through Referral

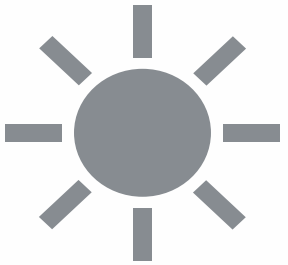
- All required public facilities and services are reviewed through Arvada's referral process

- Agencies involved with Arvada's referral process:
  - Public Works
  - Engineering
  - Utility
  - Fire Protection Districts
  - Police and Law Enforcement
  - Transportation Agencies

The City's referral process ensures infrastructure and services are available while maintaining adequate service levels

Our Commitment to Sustainability

- Energy-efficient appliances and lighting
- Low-water landscaping and smart irrigation systems
- EV charging infrastructure
- Solar-ready buildings national, recognition for environmental leadership, and responsible development practices
- Numerous green building certification, including multiple LEED Gold Certifications at all new developments within Colorado.



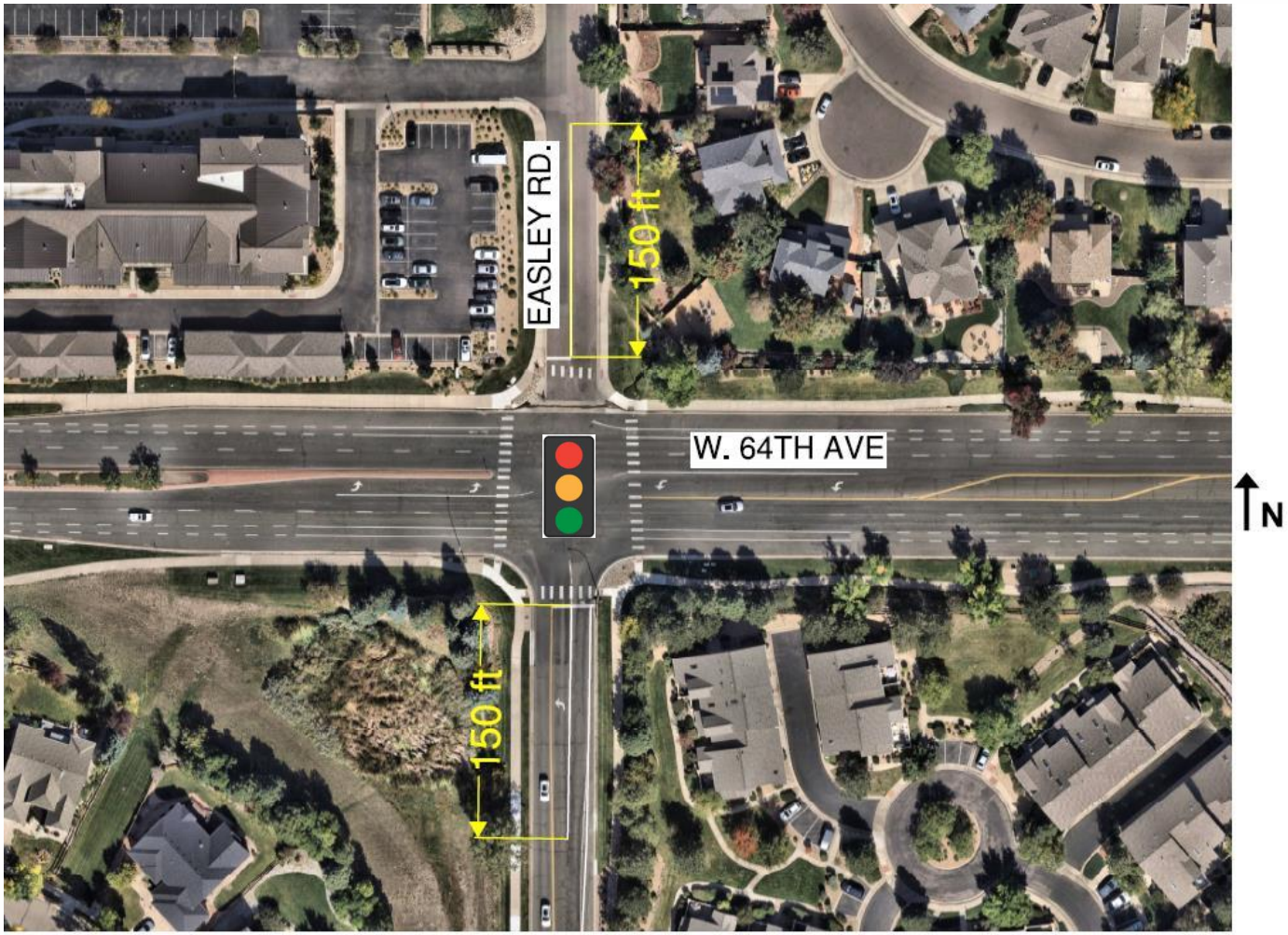
Approval Criteria

- [x] 1. The application complies with the applicable standards of this LDC …
- [x] 2. The application is consistent with the Arvada Comprehensive Plan
- [x] 3. The use is consistent with the purpose and intent of the zoning district in which it is located
- [x] 4. The size, scale, height, density, multi-modal traffic impacts, hours of operation and other similar characteristics of the proposed use are comparable with existing and planned use in the surrounding area and the zoning district regulations
- [x] 5. Facilities and services including sewer, water, storm water, gas, electricity, police and fire protection, and roads and transportation will, prior to or as part of the development be available to serve the subject property while maintaining adequate levels of services for existing development
- [x] 6. The application mitigates any adverse impacts on the surrounding area to the degree practicable.

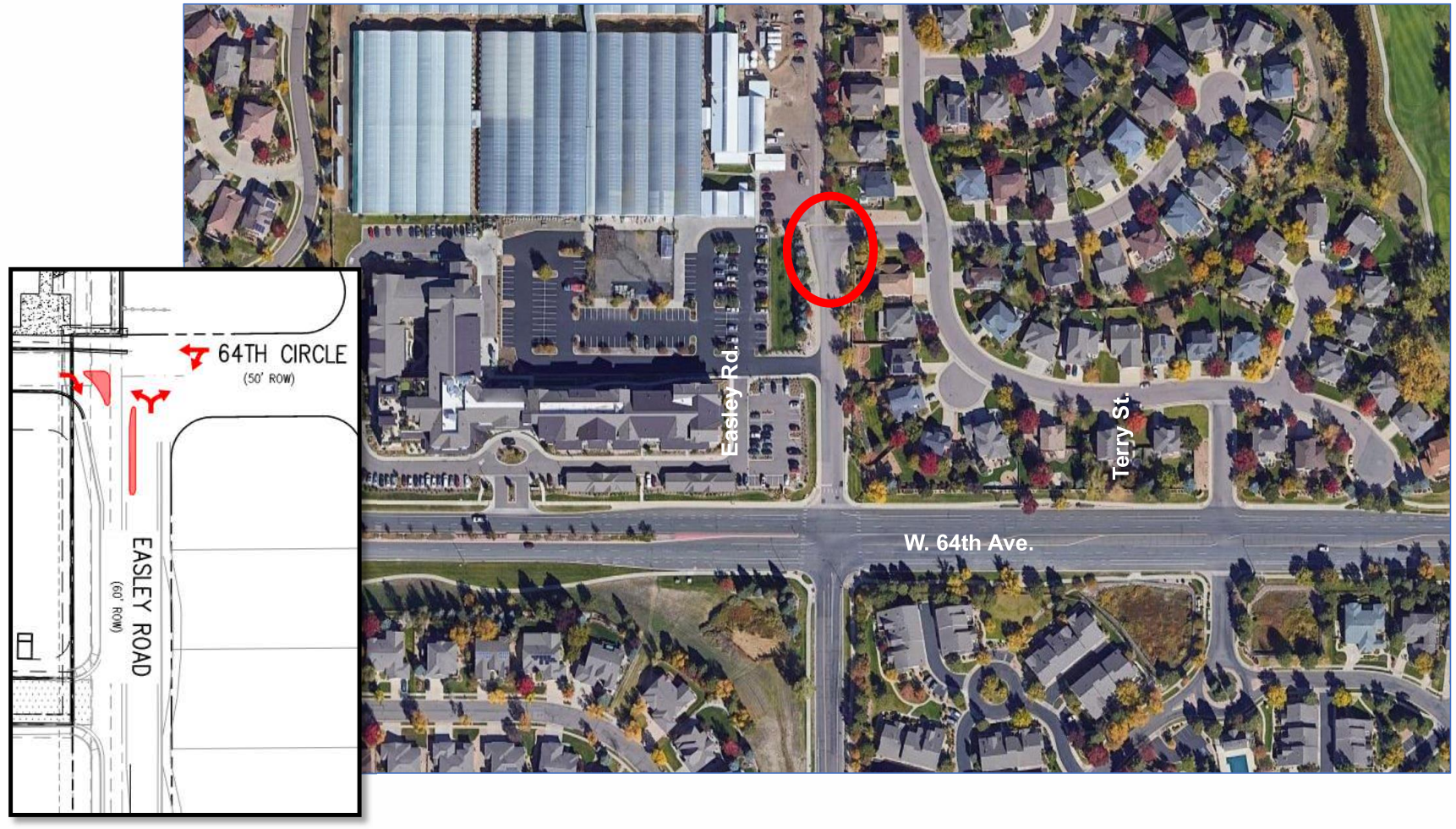
Thank you!

AvalonBay
COMMUNITIES

Easley Road Restriping with Signage



Easley Road and W 64th Circle



Height Analysis – Arvada Avalon

Building B Elevations

Building A Elevations

Views and Compatibility

APPROVAL CRITERIA

4 Compatibility

Proposed Perspectives – From West

What We've Heard - Initial Concept Plan

1. Buffer and screening from existing neighbors
2. View corridors from neighborhood perspectives
3. Reposition park space to enhance buffering and facilitate public access
4. Find appropriate scale of height for adjacent properties
5. Encourage additional buffer space on NW corner of property site.
6. Promote View corridors for adjacent neighborhood

Current Conceptual Site Plan

APPROVAL CRITERIA

4 + 6 Compatibility & Mitigation

1. Significant increase to buffers and screening from existing neighbors. Implementation of park along the east
2. Increase buffer, screening, and reconfigure buildings to maintain view corridors
3. Repurpose park to enhance buffering space between existing neighbors and project buildings
4. Position 4 story structures internal to site to ensure height transition compatibility
5. Provide additional landscape and buffer on NW corner. Reduced building frontage
6. Limit traffic, noise, and impacts on western boundary. Move active uses internal

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Denver, Colorado 80204
303.892.1166

Avalon Arvada - Welby Gardens :: Neighborhood Meeting

Summary of applicant's presentation, Attendee questions and comments and Applicant's response

Took place: April 10, 2024 @ 6pm, West Woods Elementary School Gym
Approx. 180 attendees (159 names on sign-in sheet)

Summary of Applicant Presentation:

- Team introductions
- Introduction to AvalonBay:
  - Who is AvalonBay as a developer and long-term operator
  - Typical renter demographics for AvalonBay Colorado properties
  - AvalonBay current resident rules and regulations
- Project location
  - Existing Conditions
- Arvada City Process and where our project is on the timeline
- Team outreach philosophy
  - Previous neighborhood meetings (not required by City process)
    - When they took place
    - Number of homes flyered
    - General feedback
- Existing Zoning
  - MX-S Zoning Standards and other allowed uses
- Arvada Guiding Documents
- Welby Garden development history (1971-now)
- Previous Site Plan shared during 1st three neighbor meetings
  - Primary concerns with the initial plan and how the team has addressed those concerns in the revised site plan:
    - Buffers and screening for existing neighbors
    - View corridors for adjacent neighbors
    - Repositioning Park space
    - # of 4-story buildings
    - MF circulation on outside of site plan near perimeters
- Revised Site Plan
  - Changes made to address concerns from neighbors:
    - Significant increase to landscape buffers on east, north and west sides
    - Move Park space from center of site plan to eastern edge to make more accessible to neighbors, have frontage on public ROW and serve as buffer to neighbors
    - Reduced number of 4-story buildings from 4 to 2 and relocated them to center of site plan to reduce visual impacts.
    - Reoriented most buildings east/west to create view corridors
    - Moved MF circulation more internal to site plan. To limit impacts to surrounding neighbors.

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- Continued refinement of site plan through City review/referral process
    - Example of Traffic Impact report process

Summary of Attendee Questions/Concerns and Applicant Responses:

Traffic:

Attendees expressed concerns over increased traffic and safety. Questions and concerns included:

- Increased traffic and safety on Easley Rd. and at the intersection of Easley Rd. and W. 64th Ave.
  Response: A traffic impact study is currently underway and will be submitted and reviewed as part of the development process. This study informs the developer's engineers and the city planning department about the current and future demands on nearby roadways and recommends traffic improvements to support the additional demand. The developer is prepared to fund proportional improvements identified as necessary to support the increase in density from the proposed project.

- Spillover traffic into the neighborhood to the east on W. 64th Dr. and Terry St.
  Response: A traffic impact study is currently underway and will be submitted and reviewed as part of the development process. This study informs the developer's engineers and the city planning department about the current and future demands on nearby roadways and recommends traffic improvements to support the additional demand. The developer is prepared to fund proportional improvements identified as necessary to support the increase in density from the proposed project.

- Increased traffic from new distribution project to west in combination with this project.
  Response: Traffic impacts on all nearby roads will be studied as part of the required traffic impact study. Improvements to those roadways will be proposed if necessary.

- Number of cars per apartment
  Response: While there is no way to predict with certainty the exact number of cars per apartment, we can point to similar suburban communities and reasonably infer the parking demand for the proposed community. On average across AvalonBay's other communities in the Denver area, there are 1.3 vehicles per apartment. The current proposal provides 2.1 parking spaces per apartment, or 84 more spaces than is required per code.

- Townhome roadway is too close to MorningStar
  Response: The site plan will continue to be developed to reduce impacts to all neighbors, including the Morningstar Community.

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- How will we mitigate for the traffic impacts?
  Response: A traffic impact study is currently underway and will be submitted and reviewed as part of the development process. This study informs the developer's engineers and the city planning department about the current and future demands on nearby roadways and recommends traffic improvements to support the additional demand. The developer is prepared to fund proportional improvements identified as necessary to support the increase in density from the proposed project.

- Where will guest park?
  Response: Guest parking will be provided on site.

- How do we know there will not be overflow parking?
  Response: Per Arvada code, the parking required to provide adequate parking for the proposed development is 712 spaces. The current proposal provides 796 parking spaces, or 84 spaces more than is required per city code.

Environmental:

Attendees expressed concerns over potential environmental contamination from Welby Garden operations. Questions and concerns included:

- If this site has contamination, what assurance do we have that it will be cleaned up?
  Response: If a property contains contamination, which is determined through an environmental site assessment, any redevelopment of the property will be monitored by appropriate public agencies to ensure cleanup efforts are sufficient and complete.

- Can you assure us that our detention ponds won't drain into Ralston Creek?
  Response: Drainage from the site will be engineered in a way that does not change historical (current) rates of flow off the site and into the city's storm drainage system. The city manages the public storm drainage system.

- Want to see an Environmental Impact study done with extensive testing
  Response: Phase I and Phase II Environmental Site Assessments have been completed on the site, which include studies of any potential environmental contaminants.

- Have we done any ground core sampling on site?
  Response: Yes, multiple soil samples were taken on site to understand subsurface conditions, including any potential environmental contamination or concerns.

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- Light pollution impacts, will you use night/dark sky lights?
  Response: The proposed community will feature lighting designed in compliance with the City of Arvada's "Exterior Lighting" standards. These standards are designed in a way to reduce and mitigate impacts to neighboring properties while still providing adequate lighting on site for safety and security.

Safety:

Attendees expressed concerns about safety. Questions and concerns included:

- The intersection of Easley Rd and W. 64th Ave. is currently not safe for pedestrians or bicyclists
  Response: A traffic impact study is currently underway and will be submitted and reviewed as part of the development process. This study considers not only vehicular traffic, but bicycle and pedestrian traffic where applicable. It informs the developer's engineers and the city planning department about the current and future demands on nearby roadways and recommends traffic improvements to support the additional demand. The developer is prepared to fund proportional improvements identified as necessary to support the increase in density from the proposed project.

- Crime or criminal activity with new project
  Response: The developer is not expecting an increase in crime or criminal activity as a result of the development of this community. This is based on experience in operating and managing over 90,000 apartment homes across the country.

- Safety for school bus stop on Easley
  Response: The developer, or any other private property owner, does not dictate the nature or location of school bus stops. The school district is a referral agency to the site development permit and will be informed of the development and its impact on the schools. Additionally, the developer will likely have to pay fees to the school district to offset the impact of additional children in the school district.

- Urban wildfire environmental impacts? Our neighborhood is the same as Marshall Fire. Concerned about Emergency Vehicular Access locations (they believe it does not meet code) and no variances should be granted on this subject for safety.
  Response: The developer understands that the currently proposed site plan complies with vehicular access requirements set forth by the Arvada Fire Department, as informed by several conversations directly with the Arvada Fire Department. As part of the site development permit process, the Arvada Fire Department will review the drawings and confirm compliance or require changes to ensure compliance with vehicular access requirements.

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Site Plan/Zoning:

- Our site plan exceeds the maximum density allowed in the Comprehensive Plan
  Response: Per the 2014 Arvada Comprehensive Plan, this property is identified as "Mixed-Use" on the Future Land Use Map. Mixed-use identifies medium and high density residential as use categories and states that density should be greater than residential zone districts but does not specify a maximum density.

- Will all the buildings, 3-story, 4-story and TH all be 45' height?
  Response: At this stage, the buildings have not been designed, so exact heights cannot by stated. However, the 3-story buildings and townhomes will be less than 45ft in height. The 4-story buildings will likely be at or near the 45ft height maximum. All buildings will comply with the maximum allowable building height of 45ft.

- How tall is Morning Star?
  Response: Per the approved Final Development Plan for the Morningstar community, the maximum ridge height of the building is 45ft.

- Density is too high. Comprehensive Plan states the density should decrease on the west side of City to maintain community
  Response: Per the 2014 Arvada Comprehensive Plan, this property is identified as "Mixed-Use" on the Future Land Use Map. Mixed-use identifies medium and high density residential as use categories and states that density should be greater than residential zone districts but does not specify a maximum density.

- Can the site be rezoned to ensure a lower density of development?
  Response: Zoning on the site can be changed, but the process must be applied for by the site owner or an authorized representative of the site owner.

- The proposal falls short with compatibility with neighborhood. Mixed use zoning should invite the public and benefit community. Mixed use zoning should be located adjacent to the Arterial roadway.
  Response: In the Arvada Comprehensive Plan this property is designated as a "Mixed-Use", which states that high density residential is appropriate. Additionally, the Mixed-Use, Suburban District zoning allows for multifamily as a use with a conditional use approval.

- Can single-family homes be incorporated into the plan around the perimeter as a density transition?
  Response: In order to maintain the financial feasibility of the proposed community, a number of factors, including density and construction type, have to be considered. The proposed site plan offers a variation in housing typology that serves to reduce the overall density and creates multiple options for housing at different rent levels.

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General Development:

- Viability of multi-family communities in the market today (higher vacancy, reduced rents)
  Response: Apartment rental rates and vacancy levels in Arvada are currently at and are projected to remain at a level at which new development is financially feasible.

- Impact on all infrastructure, fire, police, schools, utilities – Is the City of Arvada prepared to deal with those?
  Response: A large part of the development process involves extensive reviews of the development plan by utility providers, schools, and emergency services. Impacts to these providers are determined and, in most cases, appropriate fees are generated that must be paid by the developer to offset the impact of the proposed community.

- Request that developers facilitate a meeting with the city staff and neighbors to discuss their concerns.
  Response: The developer has held three informal neighborhood meetings, one formal neighborhood meeting, and has fielded numerous emails and phone calls regarding the proposed community. Conversations with the city staff and the neighborhood will continue through the Conditional Use Application and the required public hearings. Additionally, the developer and developer's representatives have provided their contact information and remain open to hearing community feedback, discussing the proposed community, and answering questions.

- Will the neighbors be notified of the Planning Commission and City Council meetings?
  Response: Yes, neighbors with lots within 400 feet of the Welby Gardens property line will be directly notified of all public hearings. Additionally, all neighboring HOAs will be notified, and informational signs will be posted on the property.

- Have the Developer closed on the property?
  Response: The developer is currently under contract on the land and plans to close in early 2026.

- Morning Star is the most impacted. Developer needs to do a better job reaching out to Morning Star and their concerns.
  Response: The developer has discussed the proposed community with Morningstar's ownership and will continue to discuss the impacts with the Morningstar Community as the development progresses.

- When would construction begin?
  Response: Currently, construction is planned to start in the fourth quarter of 2026.

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Comments in Favor of Project:

- West Arvada is lacking rental opportunities with this type of housing.
- Our small businesses employees and essential service workers need a place to live in West Arvada
- If this community had existed when I was working in West Arvada, I would have wanted to live here. Great location for people who can't afford to buy in West Arvada

  Response: As a long-term owner and operator, the developer looks forward to providing a new community to Arvada that provides rental housing options for current and future residents.

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November 21, 2025

City of Arvada
8101 Ralston Road,
Arvada, CO 80002

Re: Avalon Arvada :: Conditional Use Permit

Dear Ms. Thompson

We are pleased to submit this letter and associated documents on behalf of our client, AvalonBay, Communities, Inc. for a Conditional Use Permit application for the site located at 17201 W 64th Ave, Arvada, CO 80007 (the "Site"). This project overview letter provides a summary of the proposed project, the documents included with the submittal and the consultant team.

Applicant
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Planner/ Landscape Architect
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Project Narrative

Site Location & Context

The proposed residential community is located on a property of approximately 20.1 acres on the north side of W 64th Avenue, between Easley Road and Virgil Way within the City of Arvada. The parcel (Parcel ID: 30-023-01-083) is made up of Lots 1 and 2 of the Veldkamp Minor Subdivision and is currently zoned as Mixed-Use Suburban (MX-S) with a Comprehensive Plan land use designation of Mixed-Use. This proposal includes a mix of multi-family and townhome residential products. Both multi-family and townhome residential uses are allowed as a conditional use in the Mixed-Use Suburban (MX-S). The site is currently occupied for commercial use and is actively used by the Welby Gardens Wholesale Center. To the north of the property is the West Woods golf course, with senior living to the south of the subject property along W 64th Avenue, and single-family residential uses to both the east and west of the property. The proposed community is bordered by both single-family detached and senior living residential uses.

Project Description

The proposed mixed-density residential community includes a mix of housing types and designs to create an aesthetically attractive development which provides housing for a diverse range of future residents. The configuration of residential structures will create a cohesive residential community with a suburban character, consistent with the purpose of the Mixed-Use, Suburban (MX-S) zone district, while enabling higher density development and accommodating attainably priced housing for Arvada's growing population.

The site plan proposes eight (8) townhome buildings ranging from 4-8 units per building, totaling fifty-one (51) units. The townhomes are anticipated to be a mix of two- and three-bedroom units. The site plan also includes twelve (12) breezeway and corridor multi-family buildings, providing 384 apartment units through a mix of studio, one-, two- and three-bedroom apartments. Ten buildings are proposed to be 3-stories, and 2 buildings are proposed to be 4-stories. All residential buildings are proposed not to exceed the maximum height of 45'. In total, this residential community proposes 435 units at a density of 20.5 DU/Acre. There is no density maximum for Mixed-Use Suburban zone district or Mixed-Use comprehensive plan land use designation. The proposed community is consistent with the height of the existing MorningStar community and is less dense.

The community design is internally oriented, with a clubhouse and amenity center in the southeast corner, open space which includes an urban park surrounding the property. Circulation, in the form of private drives and parking, is primarily oriented toward the interior of the site to create a unified community feel and mitigate negative visual and auditory impacts toward neighbors. Primary access for the community will be taken from Easley Road to the east, near the southeast corner of the site; emergency vehicular access (EVA) is proposed through the MorningStar Senior Living community to the south, at the southwestern corner of the property through an existing emergency access easement. The proposed site plan exceeds the minimum parking spaces required with an average of 2.07 spaces per home and at least 50% of the required spaces are proposed to be covered either in garages or carports.

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The proposed site plan includes a rich, cohesive network of green space, benefiting residents and neighbors alike. Attractive landscaping is used to buffer the site along the property boundaries, with a patchwork of landscape islands, green courts, and open space throughout the site. The hallmark of the proposed green space is a Small Urban Park (approximately 2 acres in size) proposed along the east and northeast edges of the site. The design of the park is anticipated to incorporate the history of the site and will likely include a community garden and features or naming paying homage to Welby Gardens. The park may also include other amenities like play structure, open turf and gathering spaces. Beyond the on-site provision of open space, public land dedication is also required per Code; the 2-acre Urban Park on-site is proposed to fulfill part of the public land dedication requirement. Remaining public land dedication requirements for park land and public schools are anticipated to be satisfied through cash-in-lieu. Additional amenities like a dog park, game lawns and plaza areas will likely round out the outdoor spaces for residents.

Sustainability is an important aspect of AvalonBay Communities. AvalonBay Communities pursues integrity in design and operational excellence through a number of ESG-related standards which are met for all new communities. The use of low-flow water fixtures, 100% EnergyStar appliances, efficient LED lighting systems, weather-based irrigation systems, and low water demand landscape plantings are all strategies that AvalonBay Communities utilizes in new communities. Cost-benefit analysis for solar energy is conducted for all new construction, and all communities are built with infrastructure to support rooftop photovoltaic systems. In addition to solar energy analysis, embodied carbon emissions are tracked through the use of Life Cycle Assessments (LCA) on all new developments, as well as biodiversity and climate risk assessments. Electric vehicle charging is installed at all communities to support the transition away from fossil fuel dependency. AvalonBay's serious commitment to sustainability and achievements in ESG have been well documented with inclusion on Forbes Top 100 List of Net Zero Leaders, Newsweek America's Greenest Companies, Newsweek America's Most Responsible Companies, and excellent ratings such as a "Prime" Corporate ESG Ranking Status from ISS, an A- Climate Change Score from CDP, and scoring above all other REITs in the Global Real Estate Sustainability Benchmark (GRESB).

Architectural Concept

The architectural design of this multifamily development will be thoughtfully crafted to complement the character of the surrounding neighborhood while incorporating high-quality materials that ensure durability and aesthetic appeal. The project embraces a harmonious blend of timeless and contemporary elements, creating a welcoming residential environment. Through careful planning and attention to detail, the design will meet Chapter 5 of the Arvada Land Development Code and prioritizes functionality, sustainability, and a strong sense of community, creating a living space that seamlessly integrates with its surroundings.

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Public Outreach

Given the location and unique circumstances of this site, AvalonBay chose to engage neighbor feedback early in the design process and in advance of the required neighborhood meeting. AvalonBay reached out to adjacent and surrounding neighbors who would be most impacted by the development of this community to gather their feedback on the initial site plan. Three (3) neighbor feedback meetings took place in January and February of 2025. Based on their feedback, the site plan was revised prior to the formal neighborhood meeting that took place on April 10th, 2025. The following changes were made to the site plan to address the concerns heard from the neighbors during these first three meetings. Those changes included:

- A significant increase to landscape buffers on east, north, and west sides
- Relocation of the park space from the center of the site plan to the eastern edge to provide more accessibility to neighbors, create connection to and frontage on public ROW, and serve as buffer to neighbors
- Reduction in the number of 4-story buildings from 4 to 2 and relocation of them to the center of site plan to reduce visual impacts
- Reorientation of most buildings east/west to create view corridors for the single-family neighbors
- Consolidation of MF circulation internal to the site plan to limit impacts to the surrounding single-family neighbors.

Approval Criteria (Conditional Use 8-3-5-1.-B)

1. ***Whether the application complies with the applicable standards of this LDC, other adopted City ordinances, resolutions and regulations including but not limited to any use-specific standards for the proposed Conditional Use in Division 3-1-3, any approved Master Development Plan that includes the property, and any conditions specifically applied to development of the property by the Planning Commission or City Council in a prior decision affecting the property.***
   The proposed mixed-density residential community complies with all applicable standards of the Land Development Code (LDC), as well as all other adopted City ordinances, resolutions, and regulations. This includes alignment with the use-specific standards outlined in Division 3-1-3 of the LDC for the proposed Conditional Use.

2. ***Whether the application is consistent with the Arvada Comprehensive Plan.***
   This site is designated Mixed-Use in the Comprehensive Plan. The proposed site plan meets the intent of this designation by including high-density residential as a primary use while incorporating an additional housing type, the horizontal mix of medium residential townhomes. These land uses provide a transition between the existing single-family residential and senior living residential. The density meets the intent of the Mixed-use designation and building height transitions are incorporated into the site plan. The site plan promotes walkability and pedestrian, bike connections and Urban Park.

3. ***Whether the use is consistent with the purpose and intent of the zoning district in which it is located.***
   The proposed development incorporates a carefully considered mix of housing types, including multi-family and townhome residential products, designed to create an aesthetically cohesive and visually appealing community. The site layout and building configuration are intended to foster a strong sense of neighborhood identity and connectivity, while maintaining a distinctly suburban character. This approach is fully aligned with the purpose and intent of the Mixed-Use, Suburban (MX-S) zone district, which encourages a range of residential options in a form that supports both community cohesion and design quality.

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4. *Whether the size, scale, height, density, multi-modal traffic impacts, hours of operation and other similar characteristics of the proposed use are comparable with existing and planned uses in the surrounding area and the zoning district regulations.*
The proposed residential community consists of 411 dwelling units at an overall density of 20.5 dwelling units per acre. All residential buildings are designed not to exceed the maximum building height of 45 feet, consistent with the standards permitted in the Mixed-Use Suburban (MX-S) zone district. Notably, there is no prescribed maximum density in either the MX-S zoning district or the Mixed-Use land use designation in the Comprehensive Plan. The proposed development will be significantly smaller in scale and less dense than the adjacent Morningstar community that is also zoned MX-S. The proposed density of 20.5 dwelling units per acre is less than that of the adjacent MorningStar Senior Living community at 30.2 dwelling units per acre. Additionally, only the tallest buildings in the proposed development will achieve 45 ft in height, whereas all buildings in the adjacent Morningstar community achieve the maximum allowable 45 ft in height.

   Open space is a central component of the design and includes an urban park that provides both visual relief and accessible recreational amenities for residents. Primary vehicular access will be provided from Easley Road, near the southeast corner of the site. Emergency vehicle access (EVA) is proposed at the southwest corner of the site, through the MorningStar Senior Living property via an existing emergency access easement.
   The proposed site plan exceeds the City's minimum parking requirements, providing an average of 2.07 spaces per unit. Additionally, at least 50% of the required parking will be covered, either through private garages or carports, contributing to both the visual quality and functionality of the site.

5. *Whether the Facilities and services including sewer, water, storm water, gas, electricity, police and fire protection, and roads and transportation will, prior to or as part of the development, be available to serve the subject property while maintaining adequate levels of service for existing development.*
The Avalon Bay Arvada project is committed to ensuring that all necessary public facilities and services, including sewer, water, stormwater, gas, electricity, police, fire protection, roads, and transportation—are available prior to or in conjunction with the development, while maintaining adequate levels of service for existing development in the area. To demonstrate compliance, the project is preparing a comprehensive utility report that will estimate the anticipated demand generated by the development and evaluate its impact on existing water and sewer infrastructure. As part of this effort, sewer flow monitoring has been conducted to verify available capacity within the current system. The project will also prepare a comprehensive drainage report that will detail on-site water quality treatment and detention facilities designed to manage stormwater runoff, ensuring post-development discharge rates do not exceed pre-development conditions. Coordination is underway with Xcel Energy for the provision of gas and electricity, and the project team is working directly with the Arvada Fire Department to confirm that the development meets all applicable fire code requirements and provides adequate access for fire protection. Additionally, a traffic impact study has been completed to evaluate the project's effects on the surrounding transportation network. This study concludes that, with the recommended installation of a traffic signal at the intersection of 64th Avenue and Easley Road, the surrounding intersections will maintain acceptable levels of service through the long-term planning horizon of 2047.

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6. *Whether the application mitigates any adverse impacts on the surrounding area to the degree practicable.*

Traffic impacts will be mitigated through primarily internal circulation within the community site, with private drives and parking areas oriented toward the center of the site to promote a cohesive community character and to reduce potential visual and auditory impacts to surrounding properties.

Noise and light impact will be mitigated through the careful and intentional use of landscaping and certain design features. For example, trees and shrubs will be used in many areas where vehicle headlamp pollution may impact neighboring homes and the surrounding areas. Exterior building lighting will comply with all specifications in Arvada's building code to mitigate direct impact to neighboring homes.

Visual impacts will be mitigated through the intentional and thoughtful positioning of multi-story buildings throughout the site. For example, by positioning most buildings in an east-west orientation, impacts on views from neighboring homes will be mitigated. Additionally, setbacks in excess of those required by code are applied in many areas to further lessen the visual impacts to neighbors and the surrounding area.

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Please let us know if you have any questions or need any additional information. I can be reached at 303-892-1166 or lvielehr@norris-design.com. We look forward to working with staff to further refine the Conceptual Site Plan during the Conditional Use Permit review process.

Sincerely,
Norris Design

Leanne Vielehr

Leanne Vielehr
Principal

TRAFFIC IMPACT STUDY

AVALON ARVADA
ARVADA, COLORADO

May 14, 2025
Revised: June 26, 2025
Revised: November 24, 2025

Prepared for:
AvalonBay Communities
5050 South Syracuse St. Suite 1025
Denver, CO 80237

Prepared by:

1120 Lincoln Street
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Harris Kocher Smith Project No. 241061

TABLE OF CONTENTS

I. INTRODUCTION 3
- A. Project Overview 3
- B. Purpose of Study 3
- C. Study Area 3

II. EXISTING CONDITIONS 4
- A. Existing Traffic Volumes 4
- B. Existing Roadway System 4
- C. 2025 (Existing) Conditions Operational Analysis 6
- D. 2025 (Existing) Conditions Queuing Analysis 7

III. BACKGROUND TRAFFIC 9
- A. Background Traffic Volumes 9
- B. Background Traffic Roadway System 10
- C. Background Traffic Operational Analysis 10
- D. Background Traffic Queuing Analysis 11

IV. PROJECT DEVELOPMENT 14
- A. Trip Generation 14
- B. Trip Distribution 14
- C. Trip Assignment 14

V. TOTAL TRAFFIC 14

VI. PROJECT ANALYSIS 15
- A. Operational Analysis 15
- B. Queuing Analysis 18
- C. Traffic Signal Warrant Analysis 20
- D. Multimodal Assessment 20
- E. Summary of Operational Analysis & Recommended Improvements 21

VII. CONCLUSIONS 25

LIST OF TABLES

Table 1: 2025 (Existing) Conditions - Summary of Operational Analysis 8
Table 2: 2025 (Existing) Conditions - Summary of Queuing Analysis 9
Table 3: 2027 & 2047 Background Traffic - Summary of Operational Analysis 12
Table 4: 2027 & 2047 Background Traffic - Summary of Queuing Analysis 13
Table 5: Avalon Arvada Development - Trip Generation Summary 14
Table 6: 2027 & 2047 Total Traffic - Summary of Operational Analysis 16
Table 7: 2027 & 2047 Background & Total Traffic Operational Analysis Comparison 17
Table 8: 2027 & 2047 Total Traffic - Summary of Queuing Analysis 19
Table 9: Traffic Signal Warrant Analysis Summary 20
Table 10: Summary of Recommendations 25

FIGURES

1 Site Location Map
2 Conceptual Site Plan
3 2025 (Existing) Traffic Volumes
4 2025 (Existing) Traffic Operational Conditions
5 2027 (Build-Out) Analysis Horizon Background Traffic Volumes
6 2047 (Long-Term) Analysis Horizon Background Traffic Volumes
7 2027 (Build-Out) Analysis Horizon Background Traffic Operational Conditions
8 2047 (Long-Term) Analysis Horizon Background Traffic Operational Conditions
9 Site Generated Trip Distribution
10 Site Generated Trip Assignment
11 2027 (Build-Out) Analysis Horizon - Total Traffic Volumes
12 2047 (Long-Term) Analysis Horizon - Total Traffic Volumes
13 2027 (Build-Out) Analysis Horizon - Total Traffic Operational Conditions
14 2047 (Long-Term) Analysis Horizon - Total Traffic Operational Conditions

APPENDICIES

APPENDIX “A” CITY OF ARVADA APPROVED TIS BASE ASSUMPTIONS FORM

APPENDIX “B” 2025 (EXISTING) TRAFFIC VOLUME COUNTS

APPENDIX “C” INTERSECTION CAPACITY ANALYSIS WORKSHEETS

APPENDIX “D” TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

I. INTRODUCTION

A. Project Overview

AvalonBay Communities is proposing to redevelop the Welby Gardens Wholesale Center located at 17201 W 64th Ave. in Arvada, Colorado. The property is situated on approximately 20.1 acres. The subject property is bound by Ralston Creek and West Woods Golf Course to the north, single-family homes adjacent to Torrey Ct. to the east, MorningStar Senior Living of Arvada to the south, and single-family homes adjacent to Umber Cir. to the west. For the purpose of this study, the proposed development will be referred to as the Avalon Arvada development. At buildout, the proposed development will consist of 384 multi-family (low-rise) residential dwelling units, 51 single-family attached (townhome) units, and associated amenities.

Vehicular access for the proposed Avalon Arvada development will be provided by two access driveways that will intersect Easley Rd. north of W 64th Ave. Both access driveways will be constructed on the west side of Easley Ave. replacing the existing Welby Gardens parking lot access and delivery site access. Both driveways will be full movement accesses and provide direct connections into the proposed Avalon Arvada development. An emergency vehicle only access (EVA) will also be constructed at the southwest corner of the project site, connecting to the MorningStar Senior Living property.

Figure 1 provides a site location map of the proposed project and surrounding transportation system. Figure 2 graphically illustrates the conceptual site plan and proposed access for the proposed Avalon Arvada development. The approved City of Arvada TIS Base Assumption Form is provided in Appendix “A”.

B. Purpose of Study

The purpose of this study is to evaluate the impact of the vehicular trips projected to be generated by the proposed Avalon Arvada development on the study area intersections and roadway system. The study includes 2025 (existing), 2027 (year of anticipated project build-out), and 2047 (long-term) analysis horizons.

C. Study Area

The study area encompasses the existing roadway system in the vicinity of the project site. Specifically, the following roadways and intersections are included in the study:

- Study Area Roadways
  1. W 64th Ave.
  2. Virgil Way
  3. Easley Rd.
  4. Terry St.
  5. Quaker St.
- Study Area Intersections
  1. W 64th Ave./Virgil Way (TWSC)
  2. W 64th Ave./Easley Rd. (TWSC)
  3. W 64th Ave./Terry St. (TWSC)
  4. W 64th Ave./Quaker St. (Signalized)

II. EXISTING CONDITIONS

A. Existing Traffic Volumes

Existing peak hour intersection turning movement traffic volume counts were collected for this study at the following intersections on Tuesday, April 22, 2025:

1. W 64th Ave./Virgil Way (TWSC)
2. W 64th Ave./Easley Rd. (TWSC)
3. W 64th Ave./Terry St. (TWSC)
4. W 64th Ave./Quaker St. (Signalized)

24-hour directional traffic volume counts were collected for this study at the following locations on Tuesday, April 22, 2025:

- W 64th Ave. west of Easley Rd.
- W 64th Ave. east of Easley Rd.
- Easley Rd. north of W 64th Ave.
- Easley Rd. south of W 64th Ave.

A summary of the 2025 (existing) peak hour intersection turning movement and daily directional counts are illustrated in Figure 3. Detailed traffic volume count data collected for this study is provided in Appendix "B".

B. Existing Roadway System

The existing transportation network in the vicinity of the proposed Avalon Arvada development is graphically illustrated in Figure 1. The following narrative provides a description of the study area roadways and associated intersections:

Existing Study Area Roadways:

1. **W 64th Ave.** – Within the study area, W 64th Ave. is classified as a Principal Arterial under the jurisdiction of the city of Arvada. The roadway section consists of two travel lanes and a bike lane in each direction. West of Easley Rd. there is a raised center median, and east of Easley Rd. there is a striped center median. There is curb and gutter, and sidewalk along both sides of the roadway. The posted speed limit is 45 mph.
2. **Virgil Way** – Within the study area, Virgil Way is classified as a Collector roadway under the jurisdiction of the city of Arvada. The roadway section consists of one travel lane and one bike lane in each direction. There is curb and gutter and detached sidewalk along both sides of the roadway. The posted speed limit is 35 mph.
3. **Easley Rd.** – Within the study area, Easley Rd. is classified as a Minor Arterial roadway south of W 64th Ave. and a local roadway north of W 64th Ave., under the jurisdiction of the city of Arvada. North of W 64th Ave. the roadway section consists of one travel lane in each direction, terminating at the Welby Gardens site entrance. There is curb and gutter and sidewalk along both sides of the roadway. South of W 64th Ave. the roadway section consists of one travel lane and one bike lane in each direction. There is curb and gutter and detached sidewalk along both sides of the roadway. The posted speed limit is 35 mph.
4. **Terry St.** – Within the study area, Terry St. is classified as a local roadway under the jurisdiction of the city of Arvada. The roadway section consists of one travel lane in each

direction. There is curb and gutter and sidewalk along both sides of the roadway. There is no posted speed limit, so the speed limit is assumed to be 25 mph.

5. **Quaker St.** – Within the study area, Quaker St. is classified as a Minor Arterial roadway north of W 64th Ave. and a local roadway south of W 64th Ave. under the jurisdiction of the city of Arvada. North of W 64th Ave. the roadway section consists of two travel lanes and a bike lane in each direction with a raised center median. There is curb and gutter and sidewalk along both sides of the roadway. The posted speed limit is 40 mph. South of W 64th Ave., the roadway section consists of one travel lane in each direction with a painted center median. There is curb and gutter and sidewalk along both sides of the roadway. The posted speed limit is 30 mph.

Existing Study Area Intersections:

1. **W 64th Ave./Virgil Way** – The W 64th Ave./Virgil Way intersection is a four-legged intersection operating under stop sign control with stop control on the northbound and southbound approaches. The east leg of the intersection has one left turn lane with approximately 150 feet of storage, two through lanes, and one right turn lane on the westbound approach, and two eastbound departure lanes plus a northbound to eastbound auxiliary lane. The west leg of the intersection has one left turn lane with approximately 200 feet of storage, two through lanes, and one right turn lane on the eastbound approach, and two westbound departure lanes. The north leg of the intersection has one left turn lane with approximately 75 feet of storage and one shared through/right turn lane on the southbound approach, and one northbound departure lane. The south leg of the intersection has one shared left/through/right turn lane on the northbound approach, and one southbound departure lane.
2. **W 64th Ave./Easley Rd. –** The W 64th Ave./Easley Rd. intersection is a four-legged intersection operating under stop sign control with stop control on the northbound and southbound approaches. The east leg of the intersection has one left turn lane with approximately 175 feet of storage, two through lanes, and one right turn lane on the westbound approach, and two eastbound departure lanes plus a northbound to eastbound auxiliary lane. The west leg of the intersection has one left turn lane with approximately 100 feet of storage, two through lanes, and one right turn lane on the eastbound approach, and two westbound departure lanes plus a southbound to westbound auxiliary lane. The north leg of the intersection has one shared left/through/right turn lane on the southbound approach, and one northbound departure lane. The south leg of the intersection has one left turn lane with approximately 100 feet of storage and one shared through/right turn lane on the northbound approach, and one southbound departure lane.
3. **W 64th Ave./Terry St.** – The W 64th Ave./Terry St. intersection is a four-legged intersection operating under stop sign control with stop control on the northbound and southbound approaches. The east leg of the intersection has one left turn lane with approximately 150 feet of storage, two through lanes, and one right turn lane on the westbound approach, and two eastbound departure lanes plus a northbound to eastbound auxiliary lane. The west leg of the intersection has one left turn lane with approximately 150 feet of storage, two through lanes, and one right turn lane on the eastbound approach, and two westbound departure lanes. The north leg of the intersection has one shared left/through/right turn lane on the southbound approach, and one northbound departure lane. The south leg of the intersection has one shared left/through/right turn lane on the northbound approach, and one southbound departure lane.

4. **W 64th Ave./Quaker St.** – The W 64th Ave./Quaker St. intersection is a four-legged intersection operating under actuated/coordinated traffic signal control with protected/permitted left turn phasing on all four approaches. The east leg of the intersection has one left turn lane with approximately 150 feet of storage, two through lanes, and one right turn lane on the westbound approach, and two eastbound departure lanes. The west leg of the intersection has one left turn lane with approximately 125 feet of storage, two through lanes, and one right turn lane on the eastbound approach, and two westbound departure lanes. The north leg of the intersection has one left turn lane with approximately 200 feet of storage, one through lane, and one right turn lane on the southbound approach, and two northbound departure lanes. The south leg of the intersection has one left turn lane with approximately 100 feet of storage, one through lane, and one right turn lane on the northbound approach, and one southbound departure lane.

C. 2025 (Existing) Conditions Operational Analysis

In order to establish a base condition in which to evaluate and compare the impacts of the traffic generated by the proposed Avalon Arvada development on the study area intersections, peak hour capacity analyses were performed for the 2025 (existing) conditions scenario. These analyses utilized the methodologies contained in the *Highway Capacity Manual 7th Edition* (HCM 7) employing *Synchro 12* software and resulted in a qualitative measure of the operational characteristics of the intersection, described by a letter designation ranging from "A" to "F" known as "Level of Service" (LOS). LOS "A" represents free-flow operating conditions, whereas LOS "F" represents excessive congestion and delay. Unsignalized intersection capacity analysis reports a LOS designation for each impeded intersection movement. Signalized intersection capacity analysis reports the overall LOS designation for the intersection as well as for each lane group and approach. LOS "D" is considered the minimum acceptable standard of operation.

The study area intersections included in the 2025 (existing) conditions analysis are as follows:

1. W 64th Ave./Virgil Way (TWSC)
2. W 64th Ave./Easley Rd. (TWSC)
3. W 64th Ave./Terry St. (TWSC)
4. W 64th Ave./Quaker St. (Signalized)

The results of the 2025 (existing) conditions operational analysis are summarized in Table 1, below. Figure 4 graphically illustrates the results of the existing conditions analysis and detailed *Synchro 12* software intersection capacity analysis reports are provided in Appendix "C".

As shown in Table 1, all of the existing study area intersections are projected to operate at acceptable levels of service (LOS "D" or better), overall, under existing conditions.

The following intersections are projected to be operating at acceptable levels of service (LOS "D" or better) overall, however, one or more lane groups are shown to be experiencing poor to failing levels of service (LOS "E" or "F"):

- W 64th Ave./Easley Rd.
  - The northbound left turn lane and southbound shared left/through/right turn lane are projected to have a failing level of service (LOS "F") during the p.m. peak hour.

D. 2025 (Existing) Conditions Queuing Analysis

Queue lengths and associated storage requirements for auxiliary lanes (turn bays) at the existing study area intersections were computed utilizing the *Synchro 12* 95%tile reported queues. Queue length calculations are based on a 25-foot vehicle length and reported as the total cumulative computed queue length for all traffic lanes in the lane group.

Existing storage capacity for auxiliary lane groups (left turn and right turn lanes) is reported as the cumulative capacity of all lanes in the group. Table 2 provides a summary of this analysis and comparison to the actual vehicle storage lengths provided for each of the existing study area intersections.

As shown in Table 2, the following queue related issues are being experienced at the existing study area intersections based on the reported queues in the 2025 (existing) conditions analysis scenario:

- W 64th Ave./Easley Rd.
    - The northbound left turn lane queue is shown to exceed its capacity and spill back into the northbound through lane during the p.m. peak hour.

- W 64th Ave./Quaker St.
    - The southbound left turn lane queue is shown to exceed its capacity and spill back into the southbound through lane during both the a.m. and p.m. peak hour.

TABLE 1
2025 (EXISTING) CONDITIONS
SUMMARY OF OPERATIONAL ANALYSIS

INTERSECTION	CONTROL	2025 EXISTING TRAFFIC			
		AM PEAK LOS	AM PEAK DELAY	PM PEAK LOS	PM PEAK DELAY
1. W 64th Ave. & Virgil Way	**TWSC**				
a. EB L		A	7.9	A	8.3
b. WB L		A	7.7	A	8.8
c. NB LTR	Stop	B	10.5	B	13.9
d. SB L	Stop	B	13.3	C	22.3
e. SB TR	Stop	B	10.2	B	10.9
f. INTERSECTION		**A**	**2.4**	**A**	**1.9**
2. W 64th Ave. & Easley Rd.	**TWSC**				
a. EB L		A	7.8	A	8.0
b. WB L		A	8.2	A	9.9
c. NB L	Stop	C	20.1	F	212.4
d. NB TR	Stop	B	10.0	B	12.6
e. SB LTR	Stop	C	17.0	F	61.4
f. INTERSECTION		**A**	**5.0**	**C**	**20.1**
3. W 64th Ave. & Terry St.	**TWSC**				
a. EB L		A	8.2	A	8.6
b. WB L		A	8.0	A	9.1
c. NB LTR	Stop	B	10.0	B	14.7
d. SB LTR	Stop	B	13.0	C	21.8
e. INTERSECTION		**A**	**1.1**	**A**	**0.9**
4. W 64th Ave. & Quaker St.	**Signal**				
a. EB L (Prot+Perm)		B	10.3	A	8.9
b. EB T		B	11.9	B	11.1
c. EB R		B	11.0	A	9.2
d. WB L (Prot+Perm)		B	10.4	A	9.3
e. WB T		B	12.8	B	12.1
f. WB R		B	13.7	B	15.5
g. NB L (Prot+Perm)		D	44.5	D	44.7
h. NB T		D	45.5	D	46.5
i. NB R		D	53.2	D	53.2
j. SB L (Prot+Perm)		D	50.5	D	38.5
k. SB T		C	29.2	C	32.8
l. SB R		C	32.5	D	37.0
m. INTERSECTION		**C**	**26.5**	**B**	**18.5**

TABLE 2
2025 (EXISTING) CONDITIONS
SUMMARY OF QUEUING ANALYSIS

INTERSECTION (# OF LANES IN LANE GROUP)	EXISTING STORAGE (FT)	2025 EXISTING TRAFFIC QUEUE LENGTH (FT) 95TH%	
		AM PEAK	PM PEAK
1. W 64th Ave. & Virgil Way			
a. EB L (1)	200	0	3
b. WB L (1)	150	0	3
c. NB LTR (1)	625	5	5
d. SB L (1)	75	10	13
e. SB TR (1)	200	3	5
2. W 64th Ave. & Easley Rd.			
a. EB L (1)	100	0	0
b. WB L (1)	175	10	20
c. NB L (1)	100	20	183
d. NB TR (1)	150	18	33
e. SB LTR (1)	150	8	60
3. W 64th Ave. & Terry St.			
a. EB L (1)	150	0	0
b. WB L (1)	150	0	3
c. NB LTR (1)	125	5	8
d. SB LTR (1)	150	5	5
4. W 64th Ave. & Quaker St.			
a. EB L (1)	125	48	78
b. EB T (2)	350	127	266
c. EB R (1)	175	8	8
d. WB L (1)	150	23	24
e. WB T (2)	500	158	219
f. WB R (1)	250	100	52
g. NB L (1)	100	8	8
h. NB T (1)	150	25	36
i. NB R (1)	150	65	60
j. SB L (1)	200	351	201
k. SB T (1)	530	19	26
l. SB R (1)	175	50	52

III. BACKGROUND TRAFFIC

A. Background Traffic Volumes

Background traffic volume forecasts for the 2027 (buildout) and 2047 (long-term) analysis horizons were developed for this study utilizing the following methodology:

- For the purposes of this study, it is assumed that peak-hour distribution of background intersection approach traffic (left turn, through, right turn) will remain constant through the 2027 (buildout) and 2047 (long-term) analysis horizons.
- The Denver Regional Council of Governments (DRCOG) travel models for 2020 and 2050 daily traffic volumes were utilized to forecast the average annual traffic volume growth rate (AGR) for the study area roadways. Based on the current DRCOG 2020 and 2050 travel models for the roadways within the study area, it was determined that an average annual traffic volume growth rate (AGR) of 1.42% would be used for this study. An AGR of 1.42% results in a 2-year (2025 to 2027) growth factor of 1.029 and a 22-year (2025 to 2047) growth factor of 1.364.
- The appropriate AGR factors were applied to the 2025 (existing) traffic volumes in order to develop the forecast 2027 (build-out) and 2047 (long-term) background traffic volumes.
- It was assumed that no additional developments within the study area will be in place prior to the 2047 (long-term) analysis horizon that would contribute additional background traffic to the study area roadway system.

Figures 5 and 6 graphically illustrate the forecast background traffic volumes for the 2027 (buildout) and 2047 (long-term) analysis horizons for this study, respectively.

B. Background Traffic Roadway System

The existing roadway network within the proposed Avalon Arvada development study area is not assumed to be modified as all study area roadways are assumed to be fully built out. No major roadway or intersection improvements or modifications are anticipated by the 2047 (long-term) analysis horizon.

C. Background Traffic Operational Analysis

The following study area intersections were analyzed for the 2027 (build-out) and 2047 (long-term) total background traffic analysis horizons in order to provide a basis for comparison of their operational characteristics with and without the proposed Avalon Arvada development:

1. W 64th Ave./Virgil Way (TWSC)
2. W 64th Ave./Easley Rd. (TWSC)
3. W 64th Ave./Terry St. (TWSC)
4. W 64th Ave./Quaker St. (Signalized)

The results of the background traffic operational analyses are summarized graphically for the 2027 (build-out) and 2047 (long-term) background traffic analysis horizons in Figures 7 and 8, respectively. A summary of the results of the intersection capacity analyses are provided in Table 3 and detailed *Synchro 12* software intersection capacity analysis reports in Appendix “C”.

As shown in Table 3, all of the existing study area intersections as well as all of their individual lane groups are projected to operate at acceptable levels of service (LOS “D” or better), overall, during the 2027 (build-out) and 2047 (long-term) analysis horizon background traffic scenarios with the exception of the following:

- W 64th Ave./Virgil Way
  - By the 2047 (long-term) analysis horizon the southbound left turn lane is projected to have a poor level of service (LOS “E”) during the p.m. peak hour.

- W 64th Ave./Easley Rd.
  - By the 2027 (build-out) analysis horizon the northbound left turn lane and southbound shared left/through/right turn lane are both projected to have a failing level of service (LOS “F”) during the p.m. peak hour.
  - By the 2047 (long-term) analysis horizon it is projected the northbound left turn lane will have a poor level of service (LOS “E”) during the a.m. peak hour, and the intersection overall will have a failing level of service (LOS “F”) in the p.m. peak hour.
- W 64th Ave./Terry St.
  - By the 2047 (long-term) analysis horizon the southbound shared left/through/right turn lane is projected to have a poor level of service (LOS “E”) during the p.m. peak hour.

D. Background Traffic Queuing Analysis

Queue lengths and associated storage requirements for auxiliary lanes (turn bays) at the existing study area intersections were computed for the 2027 (build-out) and 2047 (long-term) analysis horizon background traffic scenarios. Table 4 provides a summary of this analysis and comparison to the actual vehicle storage lengths provided for each of the existing study area intersections.

As shown in Table 4, the following queue related issues are projected to be experienced at the study area intersections based on the reported queues in the 2027 (build-out) and 2047 (long-term) analysis horizon background traffic analysis scenarios that weren’t already present under existing conditions:

- W 64th Ave./Easley Rd.
  - 2047 (Long-Term) Analysis Horizon – During the p.m. peak hour, the southbound shared left/through/right turn lane queue is projected to exceed its lane group capacity and spill back into the upstream intersection. The installation of a traffic signal at this intersection would mitigate this queueing issue. With a signal installed, it is projected however that the northbound left turn lane queue would exceed its capacity and spill back into the northbound shared through/right turn lane in the p.m. peak hour. This could be mitigated by extending the turn lane striping by 50 feet.
- W 64th Ave./Quaker St.
  - 2027 (Build-Out) Analysis Horizon – During both the a.m. and p.m. peak hour, the southbound left turn lane queue is projected to exceed its lane group capacity and spill back into the southbound through lanes. Lengthening the turn bay is constrained due to the reverse taper raised median on Quaker St. so optimizing the signal timing for actual traffic conditions at this intersection would be the best means to mitigate this potential queuing issue.

TABLE 3
2027 (BUILD-OUT) & 2047 (LONG-TERM) BACKGROUND TRAFFIC
SUMMARY OF OPERATIONAL ANALYSIS

INTERSECTION	CONTROL	2027 BACKGROUND TRAFFIC				2047 BACKGROUND TRAFFIC			
		AM PEAK LOS	AM PEAK DELAY	PM PEAK LOS	PM PEAK DELAY	AM PEAK LOS	AM PEAK DELAY	PM PEAK LOS	PM PEAK DELAY
1. W 64th Ave. & Virgil Way	**TWSC**								
a. EB L		A	7.9	A	8.3	A	8.2	A	8.8
b. WB L		A	7.7	A	8.9	A	7.8	A	9.7
c. NB LTR	Stop	B	10.6	B	14.2	B	11.9	C	19.6
d. SB L	Stop	B	13.5	C	23.3	C	17.3	E	45.2
e. SB TR	Stop	B	10.3	B	11.0	B	11.2	B	13.1
f. INTERSECTION		**A**	**2.4**	**A**	**1.9**	**A**	**2.8**	**A**	**2.8**
2. W 64th Ave. & Easley Rd.	**TWSC**								
a. EB L		A	7.8	A	8.0	A	8.0	A	8.4
b. WB L		A	8.2	B	10.0	A	8.7	B	12.4
c. NB L	Stop	C	21.0	F	279.4	E	43.3	F	940.1
d. NB TR	Stop	B	10.1	B	12.9	B	11.3	C	19.9
e. SB LTR	Stop	C	17.5	F	71.5	D	26.5	F	612.5
f. INTERSECTION		**A**	**5.1**	**D**	**25.2**	**A**	**7.3**	**F**	**93.8**
2.A. W 64th Ave. & Easley Rd.	**Signal**								
a. EB L (Prot+Perm)		A	5.1	A	6.5	A	6.1	A	8.7
b. EB T		A	5.7	A	8.1	A	7.0	B	11.6
c. EB R		A	5.9	A	8.0	A	7.2	B	11.3
d. WB L (Prot+Perm)		A	4.0	A	5.4	A	4.7	A	8.3
e. WB T		A	4.5	A	5.7	A	5.5	A	7.5
f. WB R		A	4.2	A	5.1	A	4.9	A	6.4
g. NB L (Prot+Perm)		D	41.0	D	39.6	D	39.6	D	38.3
h. NB TR		D	45.0	D	44.2	D	46.9	D	44.3
i. SB LTR		D	46.7	D	47.6	D	46.6	D	44.6
j. INTERSECTION		**B**	**15.5**	**B**	**15.8**	**B**	**16.5**	**B**	**17.7**
3. W 64th Ave. & Terry St.	**TWSC**								
a. EB L		A	8.2	A	8.7	A	8.6	A	9.3
b. WB L		A	8.0	A	9.2	A	8.3	B	10.2
c. NB LTR	Stop	B	10.1	B	14.9	B	10.9	C	22.4
d. SB LTR	Stop	B	13.2	C	22.7	C	16.5	E	40.1
e. INTERSECTION		**A**	**1.1**	**A**	**0.9**	**A**	**1.2**	**A**	**1.4**
4. W 64th Ave. & Quaker St.	**Signal**								
a. EB L (Prot+Perm)		B	10.3	A	7.6	B	14.6	B	15.7
b. EB T		B	12.0	A	9.3	B	16.7	B	13.1
c. EB R		B	11.1	A	7.7	B	15.0	B	10.1
d. WB L (Prot+Perm)		B	10.4	A	7.2	B	14.1	A	9.7
e. WB T		B	12.9	A	9.5	B	18.0	B	12.7
f. WB R		B	13.8	B	12.3	B	19.8	B	18.7
g. NB L (Prot+Perm)		D	44.5	D	44.6	D	43.3	D	43.5
h. NB T		D	45.4	D	46.4	D	44.4	D	45.4
i. NB R		D	53.2	D	52.8	D	53.0	D	52.6
j. SB L (Prot+Perm)		D	53.7	D	52.8	D	54.6	D	50.9
k. SB T		C	29.2	D	36.0	C	24.1	C	31.9
l. SB R		C	32.6	D	41.8	C	27.7	D	37.9
m. INTERSECTION		**C**	**27.4**	**B**	**18.8**	**C**	**30.0**	**C**	**21.9**

TABLE 4
2027 (BUILD-OUT) & 2047 (LONG-TERM) BACKGROUND TRAFFIC
SUMMARY OF QUEUING ANALYSIS

INTERSECTION (# OF LANES IN LANE GROUP)	EXISTING STORAGE (FT)	2027 BACKGROUND TRAFFIC QUEUE LENGTH (FT) 95TH%		2047 BACKGROUND TRAFFIC QUEUE LENGTH (FT) 95TH%	
		AM PEAK	PM PEAK	AM PEAK	PM PEAK
1. W 64th Ave. & Virgil Way					
a. EB L (1)	200	0	3	0	5
b. WB L (1)	150	0	3	3	3
c. NB LTR (1)	625	5	8	8	13
d. SB L (1)	75	10	13	18	35
e. SB TR (1)	200	3	5	5	8
2. W 64th Ave. & Easley Rd. (TWSC)					
a. EB L (1)	100	0	0	0	0
b. WB L (1)	175	10	23	15	40
c. NB L (1)	100	23	208	63	388
d. NB TR (1)	150	18	35	28	83
e. SB LTR (1)	150	8	68	18	220
2.A. W 64th Ave. & Easley Rd. (Signalized)					
a. EB L (1)	100	5	6	6	7
b. EB T (2)	2000	87	234	110	348
c. EB R (1)	200	17	32	26	40
d. WB L (1)	175	52	69	63	97
e. WB T (2)	1000	105	143	127	196
f. WB R (1)	175	10	5	10	8
g. NB L (1)	100	75	108	95	136
h. NB TR (1)	150	55	60	65	78
i. SB LTR (1)	150	38	76	49	96
3. W 64th Ave. & Terry St.					
a. EB L (1)	150	0	0	0	3
b. WB L (1)	150	0	3	3	3
c. NB LTR (1)	125	5	8	8	18
d. SB LTR (1)	150	5	5	8	15
4. W 64th Ave. & Quaker St.					
a. EB L (1)	125	50	68	75	106
b. EB T (2)	350	131	241	200	376
c. EB R (1)	175	10	10	12	12
d. WB L (1)	150	23	21	34	31
e. WB T (2)	500	163	200	253	317
f. WB R (1)	250	37	46	50	61
g. NB L (1)	100	8	9	9	10
h. NB T (1)	150	25	36	30	43
i. NB R (1)	150	62	60	12	80
j. SB L (1)	200	370	270	488	268
k. SB T (1)	530	19	28	21	32
l. SB R (1)	175	51	56	53	61

IV. PROJECT DEVELOPMENT

A. Trip Generation

The trip generation projections for the proposed Avalon Arvada development were forecast utilizing the publication *Trip Generation, 11th Edition*, by the Institute of Transportation Engineers (ITE). Estimates of total daily traffic volumes and a.m. and p.m. peak hour traffic volumes were calculated. Trip generation reductions as a result of internal trip capture, transportation demand management or transit use were not considered.

For the purposes of this study, it was assumed that the proposed Avalon Arvada development will be fully built out by 2027 and will consist of 384 multi-family (low-rise) residential dwelling units, 51 single-family attached (townhome) units, and associated amenities. Based on these parameters, at buildout, the proposed Avalon Arvada development is projected to generate 2,875 daily vehicle trips of which 163 are projected to be generated during the a.m. peak hour and 213 are projected to be generated during the p.m. peak hour.

TABLE 5
AVALON ARVADA DEVELOPMENT – TRIP GENERATION SUMMARY

Land Use	Intensity		ITE Code	Daily (vpd)	AM Peak Hour (vph)			PM Peak Hour (vph)		
					Total	In	Out	Total	In	Out
Multifamily Housing (Low-Rise)	384	DU	220	2537	142	34	108	186	117	69
Single-Family Attached Housing (Townhomes)	51	DU	215	338	21	5	16	27	16	11
Combined Total				**2,875**	**163**	**39**	**124**	**213**	**133**	**80**

B. Trip Distribution

The distribution of the projected vehicle trips generated by the proposed Avalon Arvada development was established based on the current and projected future traffic patterns on the surrounding transportation system, efficiency of access to the principal transportation corridors serving the area, and potential trip origins/destinations for the proposed land uses. Figure 9 graphically illustrates the projected site generated trip distribution patterns for the proposed Avalon Arvada development.

C. Trip Assignment

The vehicular traffic volumes projected to be generated by the proposed Avalon Arvada development, shown in Table 5, were assigned to the study area roadways and intersections utilizing the trip distribution methodology described above. Figure 10 graphically illustrates the site generated trip assignment for the proposed Avalon Arvada development.

V. TOTAL TRAFFIC

Total traffic forecasts for the 2027 (build-out) and 2047 (long-term) analysis horizons were computed by combining the associated 2027 (build-out) and 2047 (long-term) background traffic volumes with the projected site generated traffic volumes. Figures 11 & 12 graphically illustrate the total traffic projections for the study area intersections for the 2027 (build-out) and 2047 (long-term) analysis horizons, respectively.

VI. PROJECT ANALYSIS

A. Operational Analysis

In order to evaluate the impact of the proposed Avalon Arvada development on the study area roadway system, peak hour intersection capacity analyses for the total traffic conditions were performed for the 2027 (build-out) and 2047 (long-term) analysis horizon total traffic scenarios at each of the study area intersections listed below:

1. W 64th Ave./Virgil Way (TWSC)
2. W 64th Ave./Easley Rd. (TWSC)
3. W 64th Ave./Terry St. (TWSC)
4. W 64th Ave./Quaker St. (Signalized)

The results of the total traffic operational analyses are summarized in Table 6, below. Figures 13 and 14 graphically illustrate the 2027 (build-out) and 2047 (long-term) analysis horizon total traffic scenarios operational analyses, respectively. Detailed *Synchro 12* software intersection capacity analysis reports are provided in Appendix "C".

A comparative analysis of the 2027 (build-out) and 2047 (long-term) analysis horizons background and total traffic scenarios operational analyses was performed to evaluate the level of impact, as measured by level of service, the proposed Avalon Arvada development will have on the study area intersections. Based on the comparative analyses, the following changes in level of service are projected for the study area intersections with the addition of the proposed Avalon Arvada development site generated trips:

- W 64th Ave./Easley Rd.
    - By the 2027 (build-out) analysis horizon, it is projected that with the addition of the Avalon Arvada projected site generated trips, the intersection overall, will deteriorate from a LOS "D" to a LOS "F" in the p.m. peak hour. This deterioration of level of service would be mitigated with the installation of a traffic signal at this intersection.
    - By the 2047 (long-term) analysis horizon, it is projected that with the addition of the Avalon Arvada projected site generated trips, the northbound shared through/right turn lane will deteriorate from a LOS "C" to a LOS "E" in the p.m. peak hour, and the southbound shared left/through/right turn lane will deteriorate from a LOS "D" to a LOS "F" in the a.m. peak hour. This deterioration of level of service would be mitigated with the installation of a traffic signal at this intersection.

There are no other study area intersections, overall, or individual lane groups that are projected to deteriorate from an acceptable level of service (LOS "D" or better) to a poor or failing level of service (LOS "E" or "F") with the addition of the traffic projected to be generated by the proposed Avalon Arvada development in either the 2027 (build-out) or 2047 (long-term) analysis horizons total traffic conditions scenarios. Those intersections with poor or failing overall or individual lane group levels of service in the background traffic scenarios are projected to remain with poor to failing levels of service in the total traffic scenarios.

Table 7 provides a side-by-side comparative summary of the 2027 (build-out) and 2047 (long-term) analysis horizons background and total traffic scenarios operational analyses.

TABLE 6
2027 (BUILD-OUT) & 2047 (LONG-TERM) TOTAL TRAFFIC
SUMMARY OF OPERATIONAL ANALYSIS

INTERSECTION	CONTROL	2027 TOTAL TRAFFIC				2047 TOTAL TRAFFIC			
		AM PEAK LOS	AM PEAK DELAY	PM PEAK LOS	PM PEAK DELAY	AM PEAK LOS	AM PEAK DELAY	PM PEAK LOS	PM PEAK DELAY
1. W 64th Ave. & Virgil Way	**TWSC**								
a. EB L		A	8.0	A	8.4	A	8.3	A	8.9
b. WB L		A	7.7	A	9.0	A	7.9	A	9.9
c. NB LTR	Stop	B	10.8	B	14.9	B	12.3	C	21.1
d. SB L	Stop	B	14.4	D	26.2	C	18.7	F	55.7
e. SB TR	Stop	B	10.5	B	11.3	B	11.5	B	13.6
f. INTERSECTION		**A**	**2.4**	**A**	**2.1**	**A**	**2.8**	**A**	**3.3**
2. W 64th Ave. & Easley Rd.	**TWSC**								
a. EB L		A	7.9	A	8.4	A	8.1	A	8.8
b. WB L		A	8.2	B	10.0	A	8.7	B	12.4
c. NB L	Stop	C	24.5	F	614.2	F	58.8	F	1364.0
d. NB TR	Stop	B	10.4	C	16.5	B	11.8	E	40.2
e. SB LTR	Stop	D	27.5	F	320.6	F	81.3	F	1914.0
f. INTERSECTION		**A**	**8.1**	**F**	**66.4**	**C**	**16.2**	**F**	**228.2**
2.A. W 64th Ave. & Easley Rd.	**Signal**								
a. EB L (Prot+Perm)		A	7.7	A	8.2	A	9.2	B	11.2
b. EB T		A	9.0	B	11.3	B	11.0	B	16.2
c. EB R		A	9.2	B	11.2	B	11.4	B	15.8
d. WB L (Prot+Perm)		A	6.9	A	8.2	A	7.8	B	11.9
e. WB T		A	7.9	A	9.4	A	9.3	B	12.1
f. WB R		A	7.5	A	9.0	A	8.5	B	11.0
g. NB L (Prot+Perm)		D	43.9	D	44.2	D	42.3	D	41.6
h. NB TR		D	43.7	D	35.8	D	44.1	D	43.8
i. SB LTR		D	44.8	D	45.1	D	44.4	D	43.6
j. INTERSECTION		**B**	**18.6**	**B**	**17.4**	**B**	**18.8**	**B**	**19.6**
3. W 64th Ave. & Terry St.	**TWSC**								
a. EB L		A	8.3	A	9.0	A	8.7	A	9.7
b. WB L		A	8.2	A	9.4	A	8.5	B	10.5
c. NB LTR	Stop	B	10.5	C	16.1	B	11.5	D	25.1
d. SB LTR	Stop	B	14.8	D	27.8	C	19.1	F	53.0
e. INTERSECTION		**A**	**1.1**	**A**	**1.0**	**A**	**1.3**	**A**	**1.6**
4. W 64th Ave. & Quaker St.	**Signal**								
a. EB L (Prot+Perm)		B	10.5	A	7.9	B	14.9	B	19.3
b. EB T		B	12.3	A	9.4	B	17.2	B	13.3
c. EB R		B	11.1	A	7.7	B	15.0	B	10.1
d. WB L (Prot+Perm)		B	10.5	A	7.2	B	14.2	A	9.8
e. WB T		B	13.2	A	9.7	B	18.1	B	13.1
f. WB R		B	14.0	B	12.3	B	19.8	B	18.7
g. NB L (Prot+Perm)		D	44.5	D	44.6	D	43.3	D	43.5
h. NB T		D	45.4	D	46.4	D	44.4	D	45.4
i. NB R		D	53.2	D	52.8	D	53.0	D	52.6
j. SB L (Prot+Perm)		D	53.7	D	52.8	D	54.6	D	50.9
k. SB T		C	29.2	D	36.0	C	24.1	C	31.9
l. SB R		C	32.7	D	42.8	C	27.8	D	38.6
m. INTERSECTION		**C**	**26.6**	**B**	**18.6**	**C**	**29.5**	**C**	**22.2**

TABLE 7
2027 (BUILD-OUT) & 2047 (LONG-TERM) BACKGROUND & TOTAL TRAFFIC OPERATIONAL ANALYSIS COMPARISON

INTERSECTION	CONTROL	2027 (BUILD-OUT)				2047 (LONG-TERM)			
		BACKGROUND		TOTAL		BACKGROUND		TOTAL	
		AM PEAK LOS	PM PEAK LOS	AM PEAK LOS	PM PEAK LOS	AM PEAK LOS	PM PEAK LOS	AM PEAK LOS	PM PEAK LOS
1. W 64th Ave. & Virgil Way	**TWSC**								
a. EB L		A	A	A	A	A	A	A	A
b. WB L		A	A	A	A	A	A	A	A
c. NB LTR	Stop	B	B	B	B	B	C	B	C
d. SB L	Stop	B	C	B	D	C	E	C	F
e. SB TR	Stop	B	B	B	B	B	B	B	B
f. INTERSECTION		**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**
2. W 64th Ave. & Easley Rd.	**TWSC**								
a. EB L		A	A	A	A	A	A	A	A
b. WB L		A	B	A	B	A	B	A	B
c. NB L	Stop	C	F	C	F	E	F	F	F
d. NB TR	Stop	B	B	B	C	B	C	B	E
e. SB LTR	Stop	C	F	D	F	D	F	F	F
f. INTERSECTION		**A**	**D**	**A**	**F**	**A**	**F**	**C**	**F**
2.A. W 64th Ave. & Easley Rd.	**Signal**								
a. EB L (Prot+Perm)		A	A	A	A	A	A	A	B
b. EB T		A	A	A	B	A	B	B	B
c. EB R		A	A	A	B	A	B	B	B
d. WB L (Prot+Perm)		A	A	A	A	A	A	A	B
e. WB T		A	A	A	A	A	A	A	B
f. WB R		A	A	A	A	A	A	A	B
g. NB L (Prot+Perm)		D	D	D	D	D	D	D	D
h. NB TR		D	D	D	D	D	D	D	D
i. SB LTR		D	D	D	D	D	D	D	D
j. INTERSECTION		**B**	**B**	**B**	**B**	**B**	**B**	**B**	**B**
3. W 64th Ave. & Terry St.	**TWSC**								
a. EB L		A	A	A	A	A	A	A	A
b. WB L		A	A	A	A	A	B	A	B
c. NB LTR	Stop	B	B	B	C	B	C	B	D
d. SB LTR	Stop	B	C	B	D	C	E	C	F
e. INTERSECTION		**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**
4. W 64th Ave. & Quaker St.	**Signal**								
a. EB L (Prot+Perm)		B	A	B	A	B	B	B	B
b. EB T		B	A	B	A	B	B	B	B
c. EB R		B	A	B	A	B	B	B	B
d. WB L (Prot+Perm)		B	A	B	A	B	A	B	A
e. WB T		B	A	B	A	B	B	B	B
f. WB R		B	B	B	B	B	B	B	B
g. NB L (Prot+Perm)		D	D	D	D	D	D	D	D
h. NB T		D	D	D	D	D	D	D	D
i. NB R		D	D	D	D	D	D	D	D
j. SB L (Prot+Perm)		D	D	D	D	D	D	D	D
k. SB T		C	D	C	D	C	C	C	C
l. SB R		C	D	C	D	C	D	C	D
m. INTERSECTION		**C**	**B**	**C**	**B**	**C**	**C**	**C**	**C**

B. Queuing Analysis

Queue lengths and associated storage requirements for through and auxiliary lanes (turn bays) at the study area intersections were computed utilizing the *Synchro 12* 95%tile reported queues for the 2027 (build-out) and 2047 (long-term) analysis horizons total traffic scenarios. Queue length calculations are based on a 25-foot vehicle length and reported as the total cumulative computed queue length for all traffic lanes in the lane group. Table 8 provides a summary of this analysis and comparison to the actual vehicle storage lengths provided for each of the existing study area intersections.

As shown in Table 8, the following queue related issues are projected to be experienced at the study area intersections based on the reported queues in the 2027 (build-out) and 2047 (long-term) analysis horizon total traffic analysis scenarios that weren't already present under background conditions:

- W 64th Ave./Easley Rd.
  - 2027 (Build-Out) Analysis Horizon – During the p.m. peak hour, the southbound shared left/through/right turn lane queue is projected to exceed its lane group capacity and spill back into the upstream intersection. This is expected to continue in both the a.m. and p.m. peak hour by the 2047 (long-term) analysis horizon. The installation of a traffic signal at this intersection would mitigate this queueing issue. With a signal installed, it is projected however that the northbound left turn lane queue would exceed its capacity and spill back into the northbound through lane in the p.m. peak hour by the 2047 (long-term) analysis horizon. This queuing issue could be mitigated by extending the turn lane striping by 50 feet.

TABLE 8
2027 (BUILD-OUT) & 2047 (LONG-TERM) TOTAL TRAFFIC
SUMMARY OF QUEUING ANALYSIS

INTERSECTION (# OF LANES IN LANE GROUP)	EXISTING STORAGE (FT)	2027 TOTAL TRAFFIC QUEUE LENGTH (FT) 95TH%		2047 TOTAL TRAFFIC QUEUE LENGTH (FT) 95TH%	
		AM PEAK	PM PEAK	AM PEAK	PM PEAK
1. W 64th Ave. & Virgil Way					
a. EB L (1)	200	0	3	0	5
b. WB L (1)	150	0	3	3	5
c. NB LTR (1)	625	5	8	10	15
d. SB L (1)	75	10	18	20	50
e. SB TR (1)	200	3	5	5	10
2. W 64th Ave. & Easley Rd. (TWSC)					
a. EB L (1)	100	3	5	3	5
b. WB L (1)	175	10	23	15	40
c. NB L (1)	100	28	273	80	423
d. NB TR (1)	150	18	50	30	160
e. SB LTR (1)	150	65	270	158	498
2.A. W 64th Ave. & Easley Rd. (Signalized)					
a. EB L (1)	100	17	31	18	33
b. EB T (2)	2000	120	289	150	409
c. EB R (1)	200	23	39	35	47
d. WB L (1)	175	78	90	99	128
e. WB T (2)	1000	144	182	181	253
f. WB R (1)	175	32	15	32	17
g. NB L (1)	100	61	96	78	119
h. NB TR (1)	150	46	58	54	71
i. SB LTR (1)	150	135	135	145	143
3. W 64th Ave. & Terry St.					
a. EB L (1)	150	0	0	0	3
b. WB L (1)	150	0	3	3	5
c. NB LTR (1)	125	5	10	8	20
d. SB LTR (1)	150	8	10	13	25
4. W 64th Ave. & Quaker St.					
a. EB L (1)	125	55	71	81	109
b. EB T (2)	350	163	260	238	403
c. EB R (1)	175	10	10	12	12
d. WB L (1)	150	23	21	34	31
e. WB T (2)	500	177	238	268	365
f. WB R (1)	250	38	47	50	62
g. NB L (1)	100	8	9	9	10
h. NB T (1)	150	25	36	30	43
i. NB R (1)	150	62	60	62	67
j. SB L (1)	200	370	270	488	268
k. SB T (1)	530	19	28	21	32
l. SB R (1)	175	52	59	53	62

C. Traffic Signal Warrant Analysis

Existing and forecast traffic volumes were evaluated for satisfying the criteria for the installation of a traffic signal based on the methodology presented in the *Manual on Uniform Traffic Control Devices for Streets and Highways, 11th Edition* at the intersection of W 64th Ave. & Easley Rd.

Warrant 1 – Eight Hour Vehicular Volume, Warrant 2 – Four Hour Vehicular Volume, and Warrant 3 – Peak Hour were evaluated based on existing and projected background and total traffic volumes.

The forecast hourly background traffic volumes for the 2027 (build-out) and 2047 (long-term) analysis horizons were forecast using the methodology described in Section III of this study. The distribution of the intersection approach movement (left turn, right turn) volumes were based on the turn movement distribution (left turn, right turn) of the peak hour volumes that were collected for this study. Hourly approach volumes were derived assuming the same hourly distribution of the approach volumes on W 64th Ave. from the 24-hour directional counts collected on Tuesday, April 22, 2025. In order to develop a 24-hour traffic volume profile for the site generated trips projected, the same hourly distribution was used. It was determined from the volume data collected that the south leg of the intersection is the minor road with the higher approach volume, therefore used for this analysis.

Based on these parameters and the analysis performed herein, it was determined that the W 64th Ave. & Easley Rd. intersection is projected to meet Warrants 1, 2, and 3 all under existing conditions. The intersection is projected to continue meeting all 3 warrants through the 2047 (long-term) analysis horizon. Therefore, it is recommended that a traffic signal be installed at this intersection. The operational analysis completed for the W 64th Ave. & Easley Rd. intersection analyzed the intersection as it currently operates with stop-sign control, and as a traffic signal for comparison. Detailed recommendations for this intersection are included in section VI.E.of this report.

A summary of the results of the traffic signal warrant analyses is presented in Table 9, below. Detailed traffic signal warrant analysis worksheets and the volume data used for this analysis are provided in Appendix “D”.

TABLE 9
TRAFFIC SIGNAL WARRANT ANALYSIS SUMMARY

	Analysis Horizon	Eight Hour - Warrant 1 Met?	Four Hour - Warrant 2 Met?	Peak Hour - Warrant 3 Met?
W 64th Ave. & Easley Rd.	2025 Existing Traffic	YES	YES	YES
	2027 Background Traffic	YES	YES	YES
	2027 Total Traffic	YES	YES	YES
	2047 Background Traffic	YES	YES	YES
	2047 Total Traffic	YES	YES	YES

D. Multimodal Assessment

The proposed Avalon Arvada development has the potential to incorporate various multimodal and travel demand management (TDM) strategies and amenities that encourage and promote multimodal travel options. Incorporating multimodal and TDM strategies and amenities can help offset the impacts of the traffic generated by the development, as well as enhance the overall safety, mobility, and environment of the surrounding transportation system. Some of the options may include:

- Enhanced Wayfinding – Enhanced route/guide signing to existing/proposed pedestrian, bicycle, transit, commercial/retail and recreational facilities.
- Resident Communications System – On-site resident communication system that provide residents a conduit to share information on a variety of topics including ridesharing, car sharing, and bike sharing. The format of the system may incorporate on-site kiosks, newsletters, web site, etc.
- Electric Vehicle Charging Stations – On-site electric vehicle charging stations.
- Bicycle Amenities – On-site bicycle amenities such as long-term storage, bike racks, repair/maintenance shop, and wash areas.
- Bike, Scooter, Car Share Station(s) – Bike, scooter, and/or car sharing station(s) adjacent to or near the proposed development to encourage multimodal travel among residents.
- Improving existing and/or adding ADA compliant sidewalks and accessible routes.
- Adding crosswalk markings at strategic locations.
- Adding pavement markings and signage for on-street bicycle lanes.

As the development process moves forward, the development team looks forward to working collaboratively with City staff to develop a plan that provides appropriate and beneficial on-site amenities, as well as off-site enhancements to encourage and promote multimodal options in the travel decisions made by the residents of the proposed development.

E. Summary of Operational Analysis & Recommended Improvements

The following is a summary of analysis and recommendations for improvements to the existing and proposed study area intersections and roadways based on the proposed Avalon Arvada development:

Study Area Roadways:

- **W 64th Ave.** – There are no geometric or operational modifications being recommended for W 64th Ave. within the study area as a result of the proposed Avalon Arvada development. It is anticipated that the roadway section will remain unchanged through the 2047 (long-term) analysis horizon.
- **Virgil Way –** There are no geometric or operational modifications being recommended for Virgil Way within the study area as a result of the proposed Avalon Arvada development. It is anticipated that the roadway section will remain unchanged through the 2047 (long-term) analysis horizon.
- **Easley Rd.** – There are no geometric or operational modifications being recommended for Easley Rd. within the study area as a result of the proposed Avalon Arvada development. It is anticipated that the roadway section will remain unchanged through the 2047 (long-term) analysis horizon.
- **Terry St.** – There are no geometric or operational modifications being recommended for Terry St. within the study area as a result of the proposed Avalon Arvada development. It is anticipated that the roadway section will remain unchanged through the 2047 (long-term) analysis horizon.
- **Quaker St. –** There are no geometric or operational modifications being recommended for Quaker St. within the study area as a result of the proposed Avalon Arvada development. It is anticipated that the roadway section will remain unchanged through the 2047 (long-term) analysis horizon.

Study Area Intersections:

- **W 64th Ave./Virgil Way** – The W 64th Ave./Virgil Way intersection is not anticipated to undergo any significant geometric or operational modifications through the 2047 (long-term) analysis horizon. It is anticipated that the intersection will remain a four-legged intersection operating under stop sign control with stop control on the northbound and southbound approaches. The east leg of the intersection has one left turn lane with approximately 150 feet of storage, two through lanes, and one right turn lane on the westbound approach, and two eastbound departure lanes plus a northbound to eastbound auxiliary lane. The west leg of the intersection has one left turn lane with approximately 200 feet of storage, two through lanes, and one right turn lane on the eastbound approach, and two westbound departure lanes. The north leg of the intersection has one left turn lane with approximately 75 feet of storage and one shared through/right turn lane on the southbound approach, and one northbound departure lane. The south leg of the intersection has one shared left/through/right turn lane on the northbound approach, and one southbound departure lane.

  Based on these parameters and the forecast total traffic volumes, it is projected that the intersection, overall, as well as all lane groups will not experience a decline from an acceptable level of service (LOS "D" or better) to a poor or failing level of service (LOS "E" or "F") with the addition of the site generated traffic by the 2027 (build-out) analysis horizon total traffic scenarios. Based on the queuing analysis, there are no projected queue related issues associated with the addition of the site generated traffic by the 2027 (build-out) analysis horizon total traffic scenarios.

  By the 2050 (long-term) analysis horizon it is projected that the intersection, overall, as well as all lane groups will not experience a decline from an acceptable level of service (LOS "D" or better) to a poor or failing level of service (LOS "E" or "F") with the addition of the site generated traffic. However, it is projected that the southbound left turn lane will continue to experience a poor to failing level of service (LOS "E" or "F") during the p.m. peak hour in both the background and total traffic scenarios. This failing movement is fairly typical as a stop-controlled minor street approach to an arterial and is due to the projected high volume of background traffic on W 64th Ave. causing significant delay for the stop-controlled minor street approach. This intersection should be monitored, however, to determine when actual traffic volumes will warrant the need for modifications to improve the intersection's operational conditions. There are no projected queue related issues associated with the addition of the site generated traffic by the 2047 (long-term) analysis horizon total traffic scenarios. There are no additional geometric or operational modifications being recommended for the W 64th Ave./Virgil Way intersection as a result of the proposed Avalon Arvada development.

- **W 64th Ave./Easley Rd.** – The W 64th Ave./Easley Rd. intersection is not anticipated to undergo any significant geometric or operational modifications through the 2050 (long-term) analysis horizon. However, it is recommended based on the analysis completed in this study that the intersection be converted into a four-legged intersection operating under actuated/coordinated traffic signal control with protected/permitted left turn phasing on the eastbound, westbound, and northbound approaches. The intersection geometry is recommended to remain the same. The east leg of the intersection has one left turn lane with approximately 175 feet of storage, two through lanes, and one right turn lane on the westbound approach, and two eastbound departure lanes plus a northbound to eastbound auxiliary lane. The west leg of the intersection has one left turn lane with approximately 100 feet of storage, two through lanes, and one right turn lane on the eastbound approach, and two westbound departure lanes plus a southbound to

westbound auxiliary lane. The north leg of the intersection has one shared left/through/right turn lane on the southbound approach, and one northbound departure lane. The south leg of the intersection has one left turn lane with approximately 100 feet of storage and one shared through/right turn lane on the northbound approach, and one southbound departure lane.

Based on these parameters of the intersection operating under traffic signal control, and the forecast total traffic volumes, it is projected that the intersection, overall, as well as all lane groups will not experience a decline from an acceptable level of service (LOS "D" or better) to a poor or failing level of service (LOS "E" or "F") with the addition of the site generated traffic by the 2027 (build-out) analysis horizon total traffic scenarios. All lane groups would operate with acceptable operational conditions. Based on the queuing analysis, there are no projected queue related issues associated with the addition of the site generated traffic by the 2027 (build-out) analysis horizon total traffic scenarios. If the intersection remains as a stop-controlled intersection, the operational deficiencies seen in the background traffic scenario would continue in the total traffic scenario.

By the 2047 (long-term) analysis horizon it is projected that the intersection, overall, as well as all lane groups will not experience a decline from an acceptable level of service (LOS "D" or better) to a poor or failing level of service (LOS "E" or "F") with the addition of the site generated traffic if the intersection operates under traffic signal control. All lane groups would operate with acceptable operational conditions. With a signal installed, it is projected that the northbound left turn lane queue would exceed its capacity and spill back into the northbound through lanes in the p.m. peak hour by the 2047 (long-term) analysis horizon. This queuing issue could be mitigated by extending the turn lane striping by 50 feet. There are no other queue related issues associated with the addition of the site generated traffic by the 2050 (long-term) analysis horizon total traffic scenarios. If the intersection remains as a stop-controlled intersection, the operational deficiencies seen in the background traffic scenario would continue in the total traffic scenario.

Since the intersection meets signal warrants under existing conditions, it is recommended that the city of Arvada install a traffic signal at this intersection by the 2027 (build-out) analysis horizon. There are no additional geometric or operational modifications being recommended for the W 64th Ave./Easley Rd. intersection as a result of the proposed Avalon Arvada development.

- **W 64th Ave./Terry St.** – The W 64th Ave./Terry St. intersection is not anticipated to undergo any significant geometric or operational modifications through the 2047 (long-term) analysis horizon. It is anticipated that the intersection will remain a four-legged intersection operating under stop sign control with stop control on the northbound and southbound approaches. The east leg of the intersection has one left turn lane with approximately 150 feet of storage, two through lanes, and one right turn lane on the westbound approach, and two eastbound departure lanes plus a northbound to eastbound auxiliary lane. The west leg of the intersection has one left turn lane with approximately 150 feet of storage, two through lanes, and one right turn lane on the eastbound approach, and two westbound departure lanes. The north leg of the intersection has one shared left/through/right turn lane on the southbound approach, and one northbound departure lane. The south leg of the intersection has one shared left/through/right turn lane on the northbound approach, and one southbound departure lane.

Based on these parameters and the forecast total traffic volumes, it is projected that the intersection, overall, as well as all lane groups will not experience a decline from an acceptable level of service (LOS "D" or better) to a poor or failing level of service (LOS "E" or "F") with the addition of the site generated traffic by the 2027 (build-out) analysis horizon total traffic scenarios. Based on the queuing analysis, there are no projected queue related issues associated with the addition of the site generated traffic by the 2027 (build-out) analysis horizon total traffic scenarios.

By the 2050 (long-term) analysis horizon it is projected that the intersection, overall, as well as all lane groups will not experience a decline from an acceptable level of service (LOS "D" or better) to a poor or failing level of service (LOS "E" or "F") with the addition of the site generated traffic. However, it is projected that the southbound shared left/through/right turn lane will continue to experience a poor to failing level of service (LOS "E" or "F") during the p.m. peak hour in both the background and total traffic scenarios. This failing movement is fairly typical as a stop-controlled minor street approach to an arterial and is due to the projected high volume of background traffic on W 64th Ave. causing significant delay for the stop-controlled minor street approach. This intersection should be monitored, however, to determine when actual traffic volumes will warrant the need for modifications to improve the intersection's operational conditions. There are no projected queue related issues associated with the addition of the site generated traffic by the 2047 (long-term) analysis horizon total traffic scenarios. There are no additional geometric or operational modifications being recommended for the W 64th Ave./Terry St. intersection as a result of the proposed Avalon Arvada development.

- **W 64th Ave./Quaker St.** – The W 64th Ave./Quaker St. intersection is not anticipated to undergo any significant geometric or operational modifications through the 2047 (long-term) analysis horizon. It is anticipated that the intersection will remain a four-legged intersection operating under actuated/coordinated traffic signal control with protected/permitted left turn phasing on all four approaches. The east leg of the intersection has one left turn lane with approximately 150 feet of storage, two through lanes, and one right turn lane on the westbound approach, and two eastbound departure lanes. The west leg of the intersection has one left turn lane with approximately 125 feet of storage, two through lanes, and one right turn lane on the eastbound approach, and two westbound departure lanes. The north leg of the intersection has one left turn lane with approximately 200 feet of storage, one through lane, and one right turn lane on the southbound approach, and two northbound departure lanes. The south leg of the intersection has one left turn lane with approximately 100 feet of storage, one through lane, and one right turn lane on the northbound approach, and one southbound departure lane.

  Based on these parameters and the forecast total traffic volumes, it is projected that the intersection, overall, as well as all lane groups will not experience a decline from an acceptable level of service (LOS "D" or better) to a poor or failing level of service (LOS "E" or "F") with the addition of the site generated traffic by the 2027 (build-out) analysis horizon total traffic scenarios. Based on the queuing analysis, there are no projected queue related issues associated with the addition of the site generated traffic by the 2027 (build-out) analysis horizon total traffic scenarios.

  By the 2050 (long-term) analysis horizon it is projected that the intersection, overall, as well as all lane groups will not experience a decline from an acceptable level of service (LOS "D" or better) to a poor or failing level of service (LOS "E" or "F") with the addition of the site generated traffic. There are no projected queue related issues associated with the addition of the site generated traffic by the 2047 (long-term) analysis horizon total

traffic scenarios. There are no geometric or operational modifications being recommended for the W 64th Ave./Quaker St. intersection as a result of the proposed Avalon Arvada development.

VII. CONCLUSIONS

AvalonBay Communities is proposing to redevelop the Welby Gardens Wholesale Center located at 17201 W 64th Ave. in Arvada, Colorado. The property is situated on approximately 20.1 acres. The subject property is bound by Ralston Creek and West Woods Golf Course to the north, single-family homes adjacent to Torrey Ct. to the east, MorningStar Senior Living of Arvada to the south, and single-family homes adjacent to Umber Cir. to the west. At buildout, the proposed development will consist of 384 multi-family (low-rise) residential dwelling units, 51 single-family attached (townhome) units, and associated amenities.

Vehicular access for the proposed Avalon Arvada development will be provided by two access driveways that will intersect Easley Rd. north of W 64th Ave. Both access driveways will be constructed on the west side of Easley Ave. replacing the existing Welby Gardens parking lot access and delivery site access. Both driveways will be full movement accesses and provide direct connections into the proposed Avalon Arvada development. An emergency vehicle only access (EVA) will also be constructed at the southwest corner of the project site, connecting to the MorningStar Senior Living property.

Based on these parameters, at buildout, the proposed Avalon Arvada development is projected to generate 2,875 daily vehicle trips of which 163 are projected to be generated during the a.m. peak hour and 213 are projected to be generated during the p.m. peak hour.

The purpose of this study is to evaluate the impact of the vehicular trips projected to be generated by the proposed Avalon Arvada development on the study area intersections and roadway system. The study includes 2025 (existing), 2027 (expected project build-out), and 2047 (long-term) analysis horizons. Based on the analyses contained herein, recommendations for intersection improvements to accommodate the addition of the proposed development traffic were developed. A summary of the recommended improvements/modifications for the study area roadways and intersections are provided in Table 10, below.

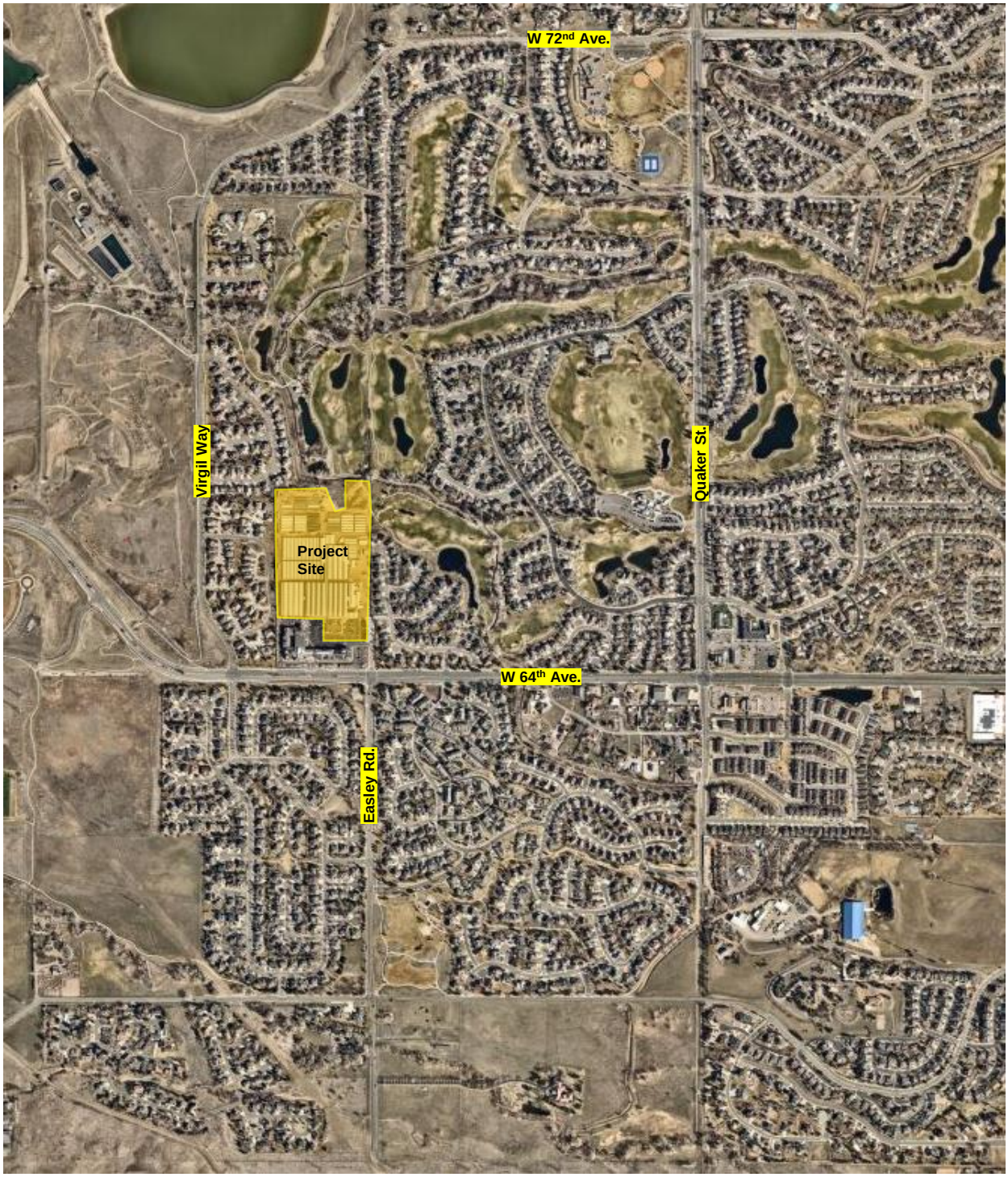
TABLE 10
SUMMARY OF RECOMMENDATIONS

Roadway	Recommendations	Responsibility	Timing
W 64th Ave.	No geometric or operational modifications are recommended as a result of the proposed Avalon Arvada development.	N/A	N/A
Virgil Way	No geometric or operational modifications are recommended as a result of the proposed Avalon Arvada development.	N/A	N/A
Easley Rd.	No geometric or operational modifications are recommended as a result of the proposed Avalon Arvada development.	N/A	N/A
Terry St.	No geometric or operational modifications are recommended as a result of the proposed Avalon Arvada development.	N/A	N/A
Quaker St.	No geometric or operational modifications are recommended as a result of the proposed Avalon Arvada development.	N/A	N/A

TABLE 10 (CONTINUED)
SUMMARY OF RECOMMENDATIONS

Intersection	Recommendations	Responsibility	Timing
W 64th Ave./ Virgil Way	No geometric or operational modifications are recommended as a result of the proposed Avalon Arvada development.	N/A	N/A
W 64th Ave./Easley Rd.	No geometric or operational modifications are recommended as a result of the proposed Avalon Arvada development. It is recommended based on the analysis completed in this study that the intersection be converted into a four-legged intersection operating under actuated/ coordinated traffic signal control with protected/ permitted left turn phasing on the eastbound, westbound, and northbound approaches. The intersection geometry is recommended to remain the same, with the exception of the northbound left turn lane which is recommended to be lengthened to 150 feet in order to provide adequate storage. The rest of the intersection would remain the same.	N/A City of Arvada	N/A By 2027
W 64th Ave./Terry St.	No geometric or operational modifications are recommended as a result of the proposed Avalon Arvada development.	N/A	N/A
W 64th Ave./Quaker St.	No geometric or operational modifications are recommended as a result of the proposed Avalon Arvada development.	N/A	N/A

N



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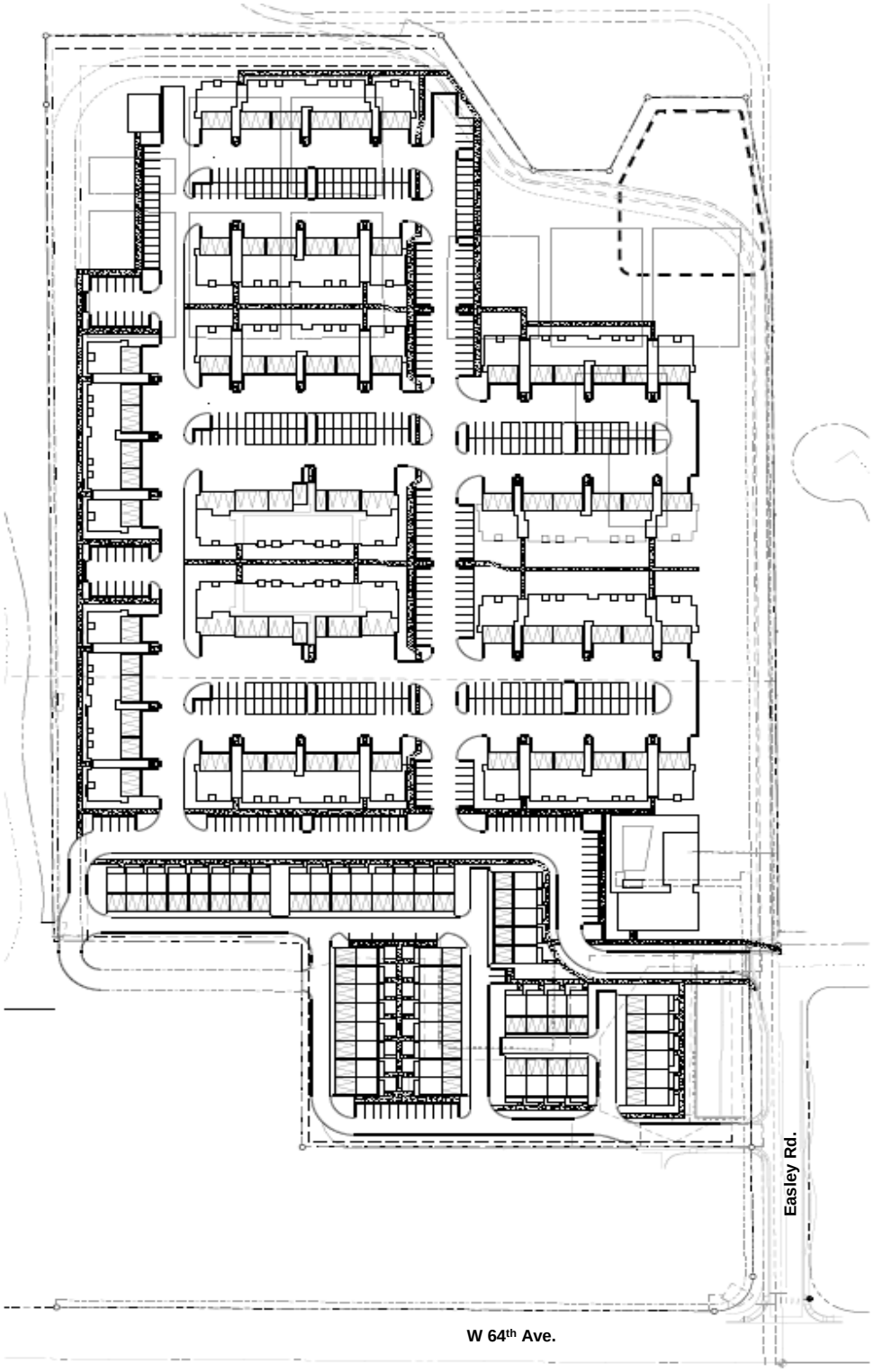
Site Location Map

Avalon Arvada

AvalonBay Communities

HKS #241061

Figure 1



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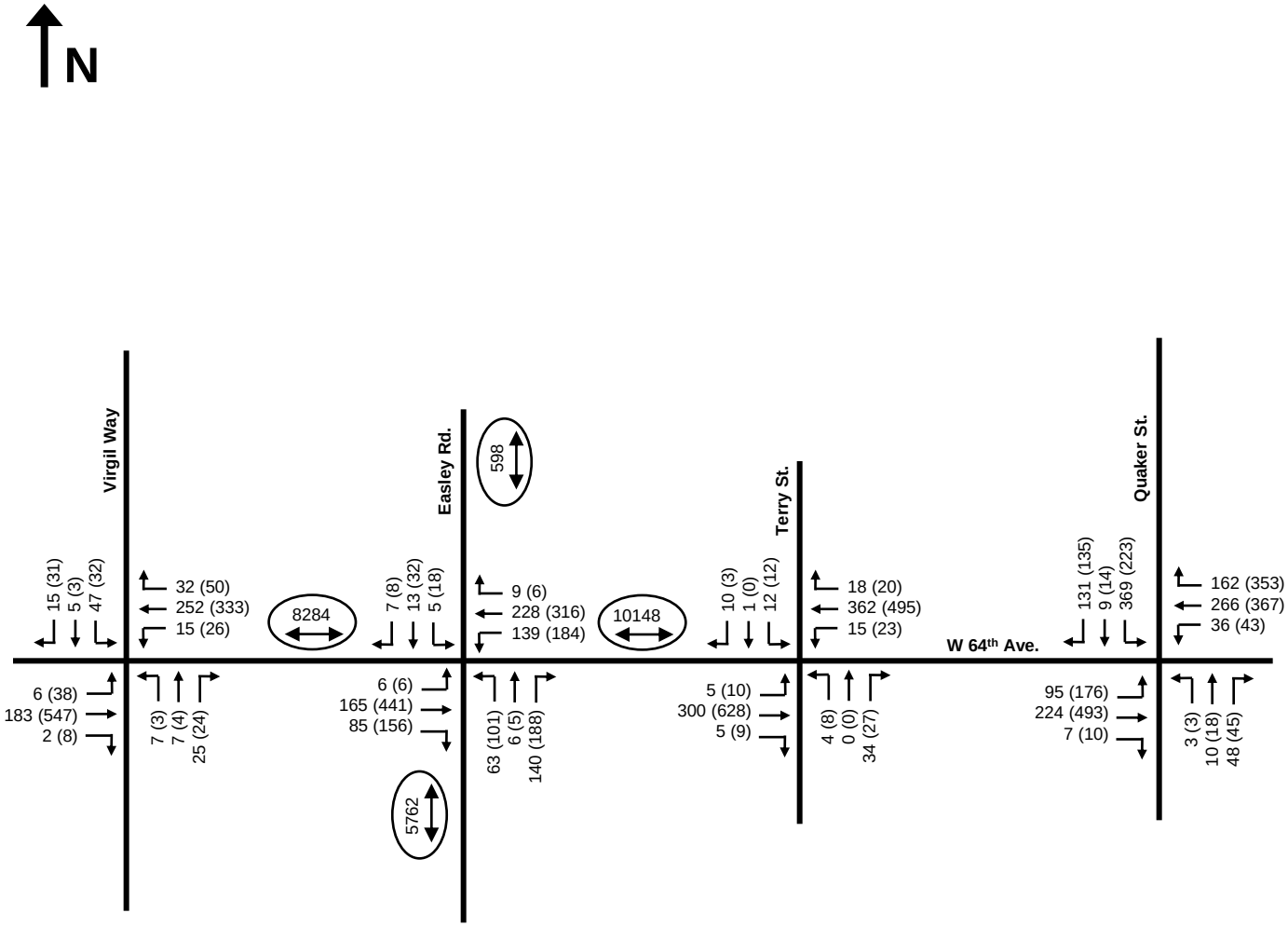
Conceptual Site Plan

Avalon Arvada

AvalonBay Communities

HKS #241061

Figure 2



Legend: Drawing Not To Scale

5 (8)
64 (50)
8 (7)
Weekday AM (PM) Peak Hour Traffic Volumes, vph

3200
Daily Traffic Volumes, vpd

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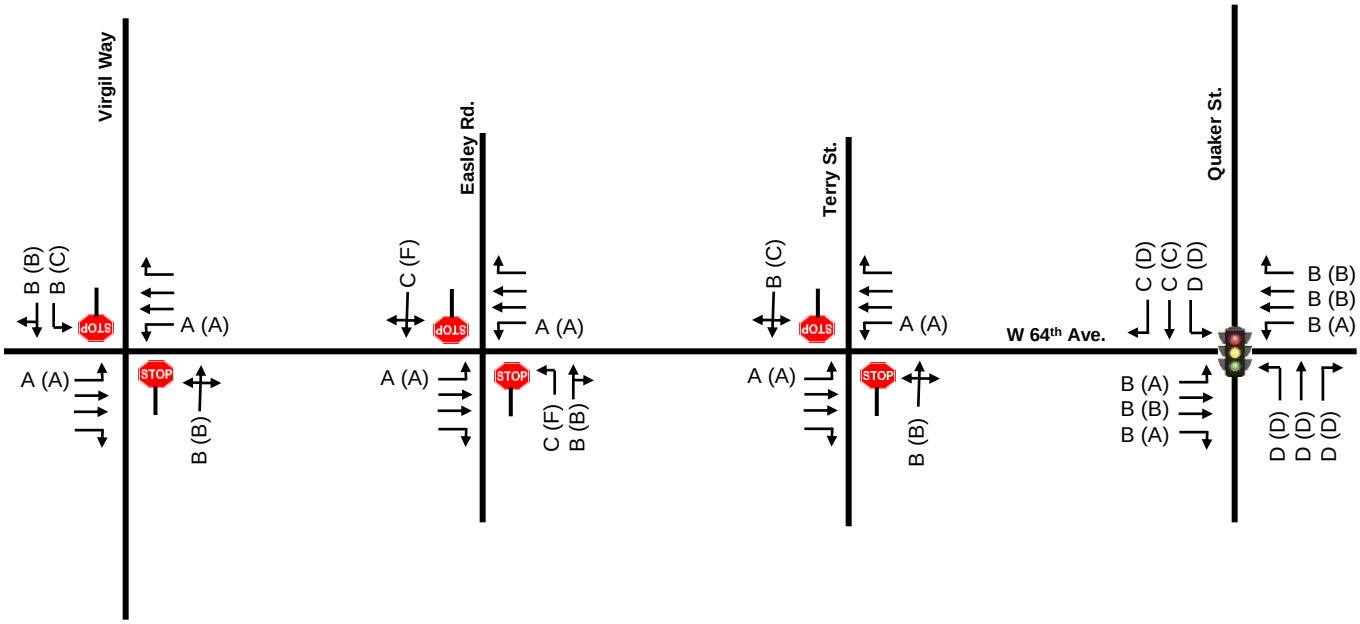
2025 Existing Traffic Volumes

Avalon Arvada

AvalonBay Communities

HKS #241061

Figure 3



Legend: Drawing Not To Scale

A (B)	Weekday AM (PM)
A (B)	Peak Hour
A (B)	Level of Service

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2025 Existing Traffic Operational Conditions

Avalon Arvada

AvalonBay Communities

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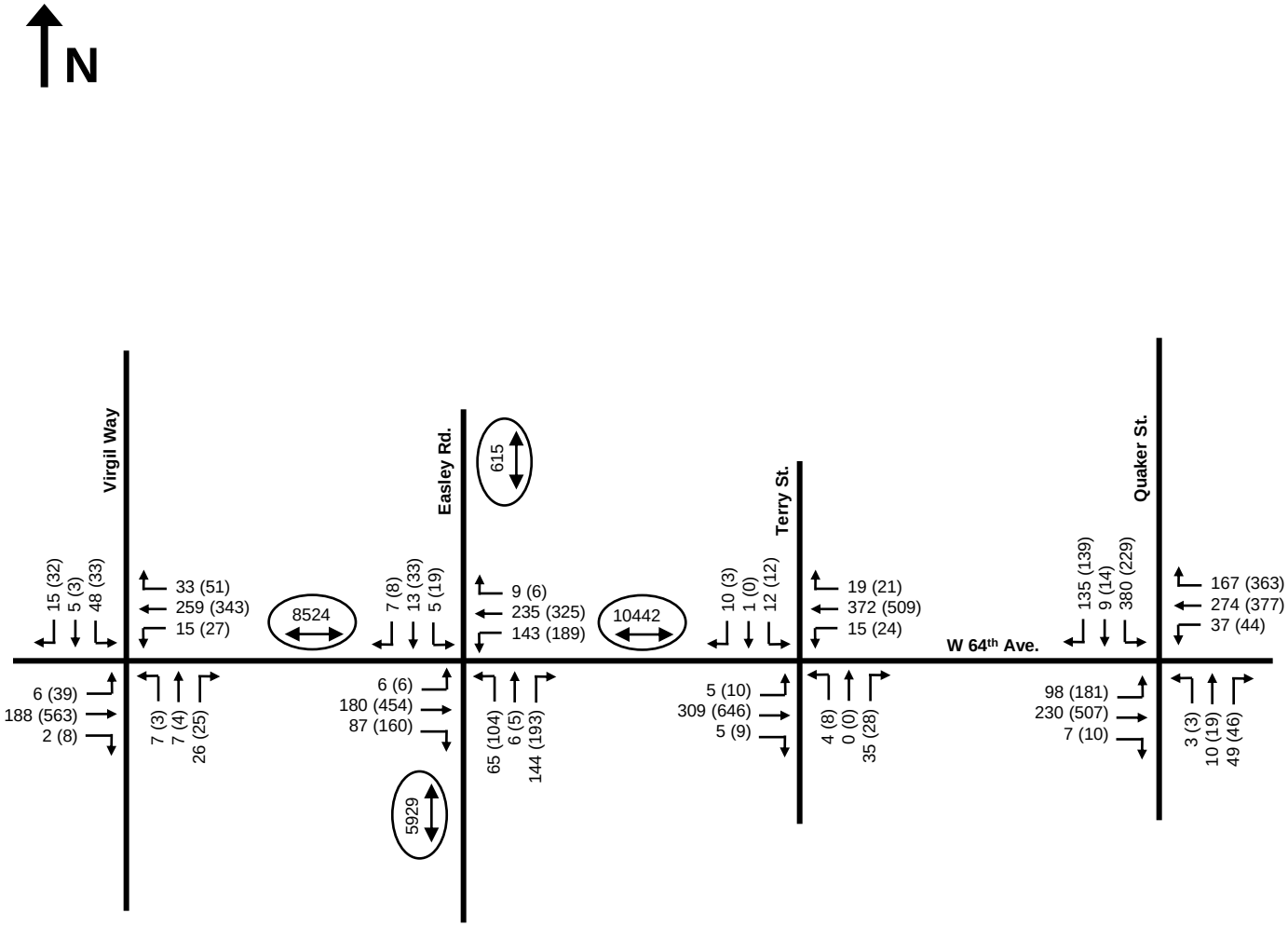
Figure 4



Legend: Drawing Not To Scale

5 (8) 64 (50) 8 (7)	Weekday AM (PM) Peak Hour Traffic Volumes, vph
3200	Daily Traffic Volumes, vpd

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2027 (Build-Out) Analysis Horizon
Background Traffic Volumes

Avalon Arvada

AvalonBay Communities

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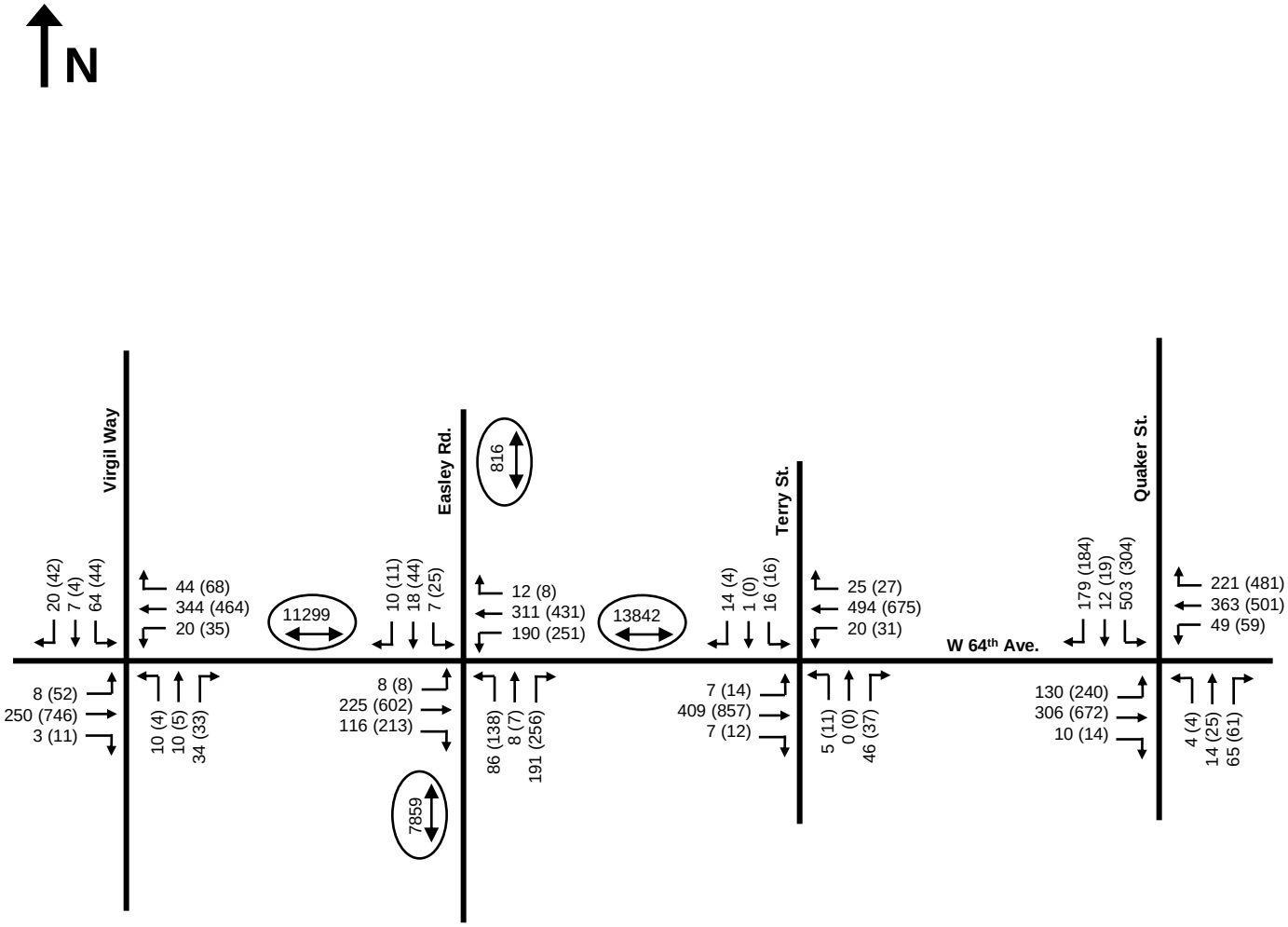
Figure 5



Legend: Drawing Not To Scale

5 (8)
64 (50)
8 (7)
Weekday AM (PM) Peak Hour Traffic Volumes, vph

3200
Daily Traffic Volumes, vpd

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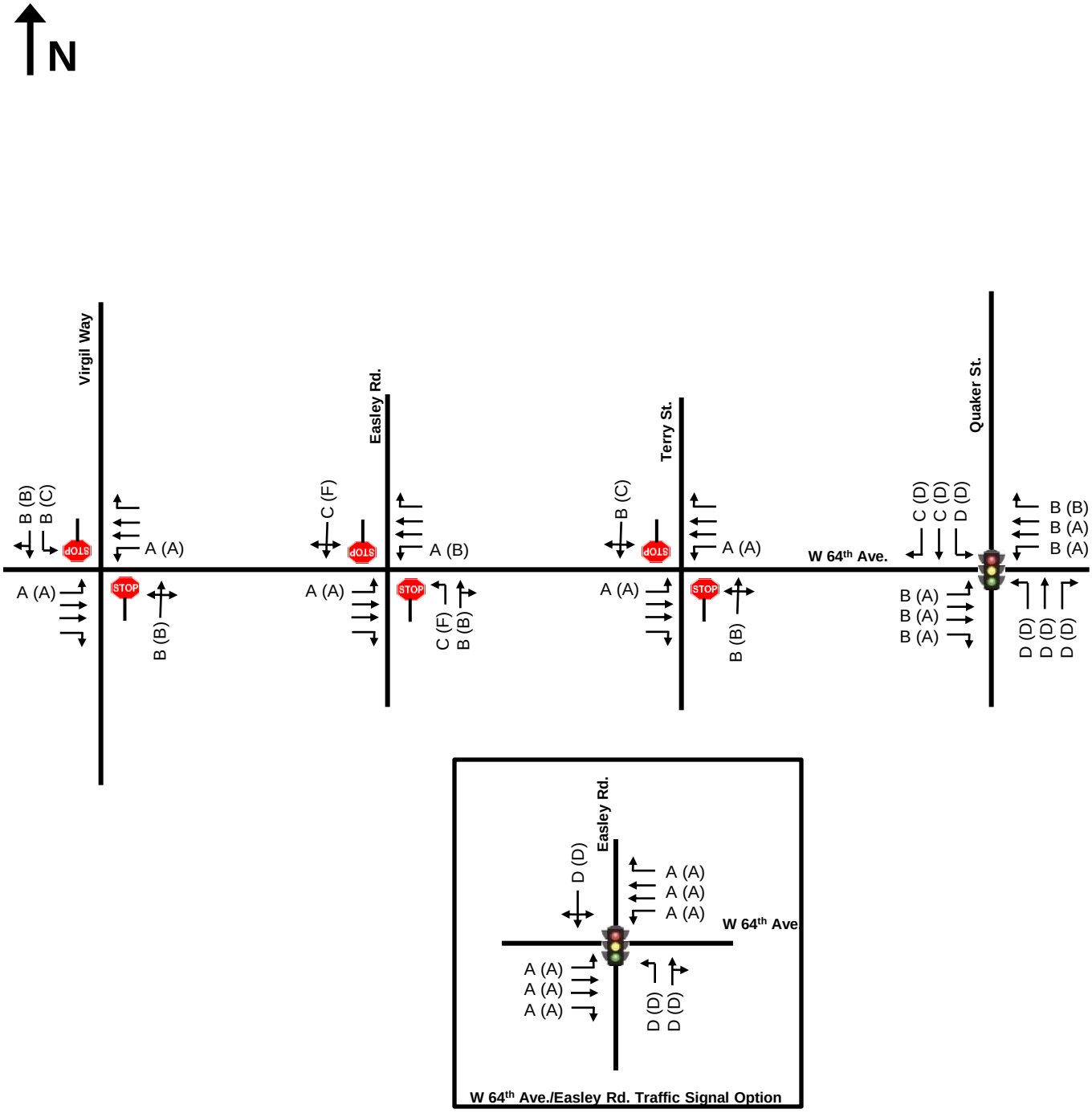
2047 (Long-Term) Analysis Horizon Background Traffic Volumes

Avalon Arvada

AvalonBay Communities

HKS #241061

Figure 6



W 64th Ave./Easley Rd. Traffic Signal Option

Legend: Drawing Not To Scale

A (B)	Weekday AM (PM)
A (B)	Peak Hour
A (B)	Level of Service

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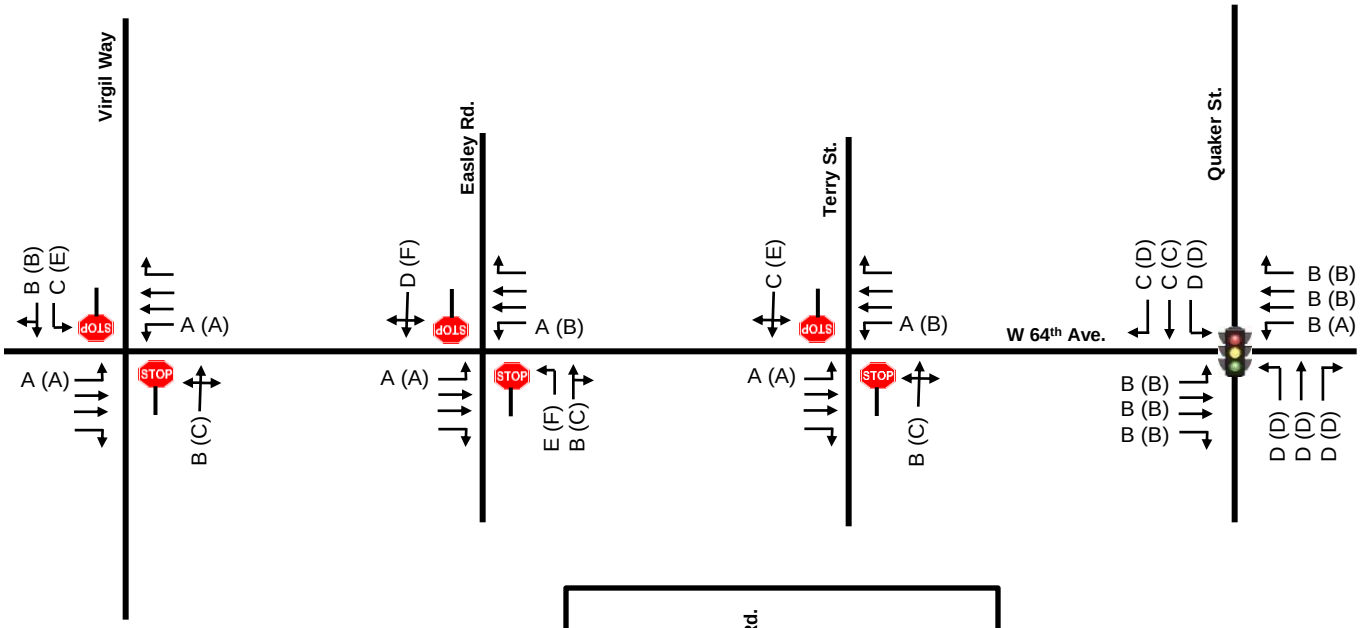
2027 (Build-Out) Analysis Horizon
Background Traffic Operational Conditions

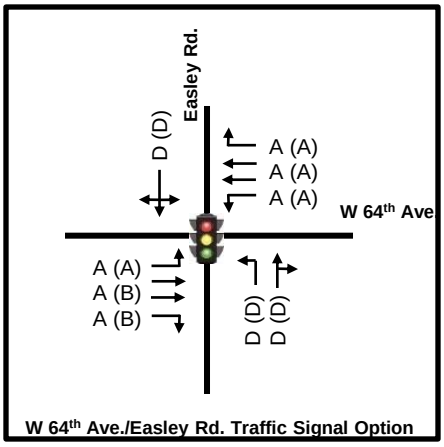
Avalon Arvada

AvalonBay Communities

HKS #241061

Figure 7





Legend: Drawing Not To Scale

A (B)	Weekday AM (PM)
A (B)	Peak Hour
A (B)	Level of Service

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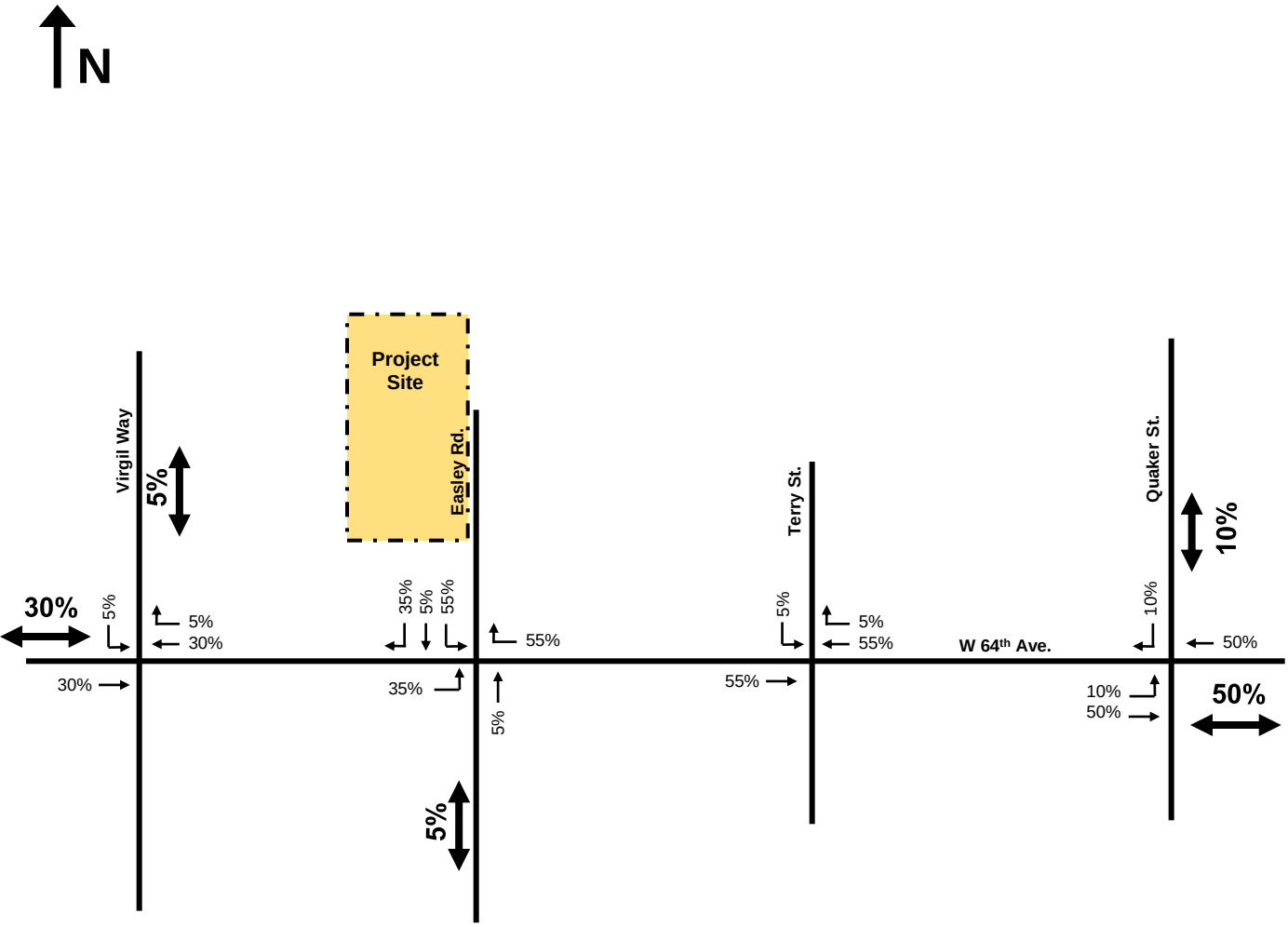
2047 (Long-Term) Analysis Horizon
Background Traffic Operational Conditions

Avalon Arvada

AvalonBay Communities

HKS #241061

Figure 8



Legend: Drawing Not To Scale

XX% Site-Generated Trip Distribution

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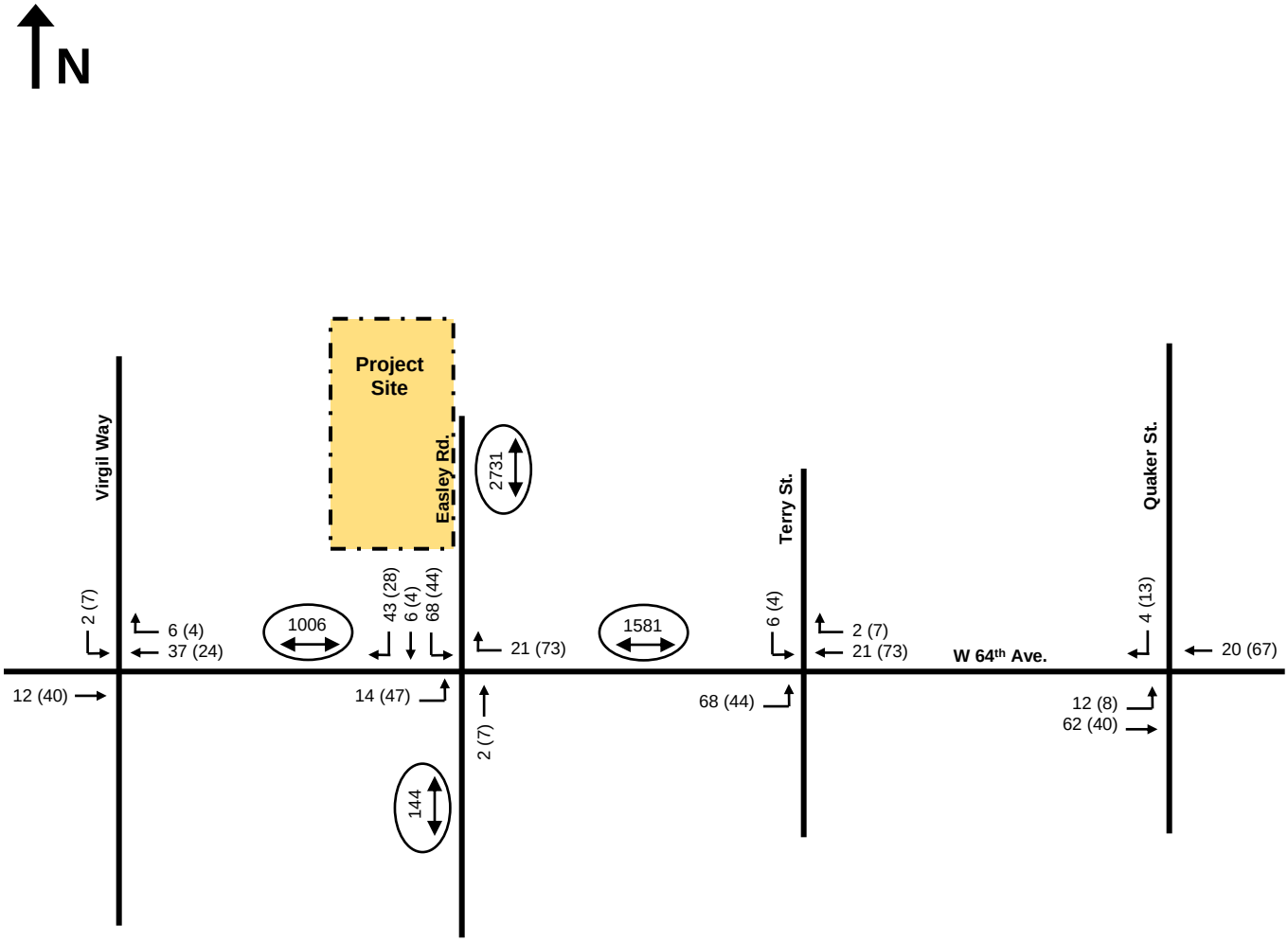
Site Generated Trip Distribution

Avalon Arvada

AvalonBay Communities

HKS #241061

Figure 9



Legend: Drawing Not To Scale

5 (8)
64 (50)
8 (7)
Weekday AM (PM) Peak Hour Traffic Volumes, vph

3200
Daily Traffic Volumes, vpd

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Site Generated Trip Assignment

Avalon Arvada

AvalonBay Communities

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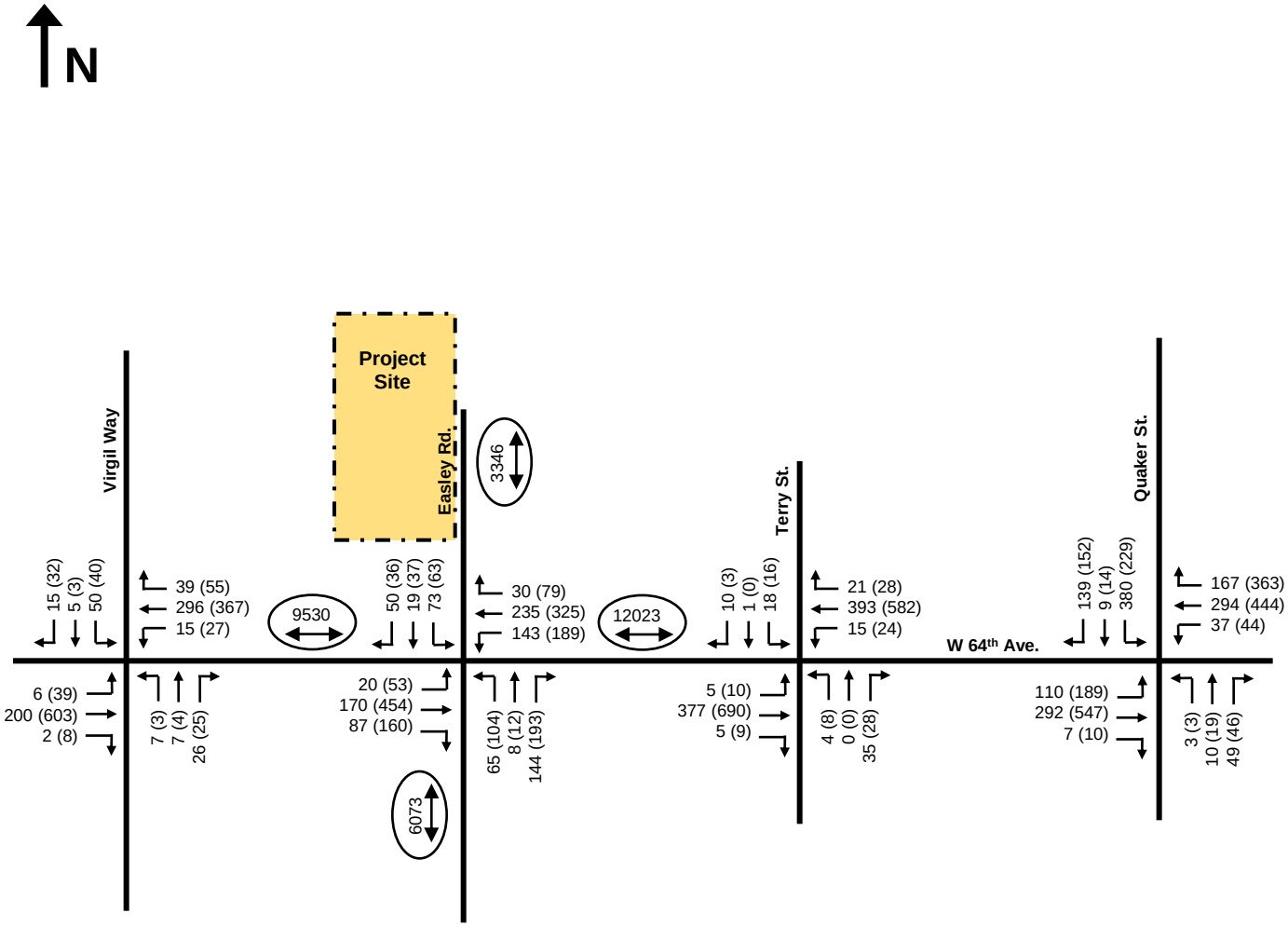
Figure 10



Legend: Drawing Not To Scale

5 (8)
64 (50)
8 (7)
Weekday AM (PM) Peak Hour Traffic Volumes, vph

3200
Daily Traffic Volumes, vpd

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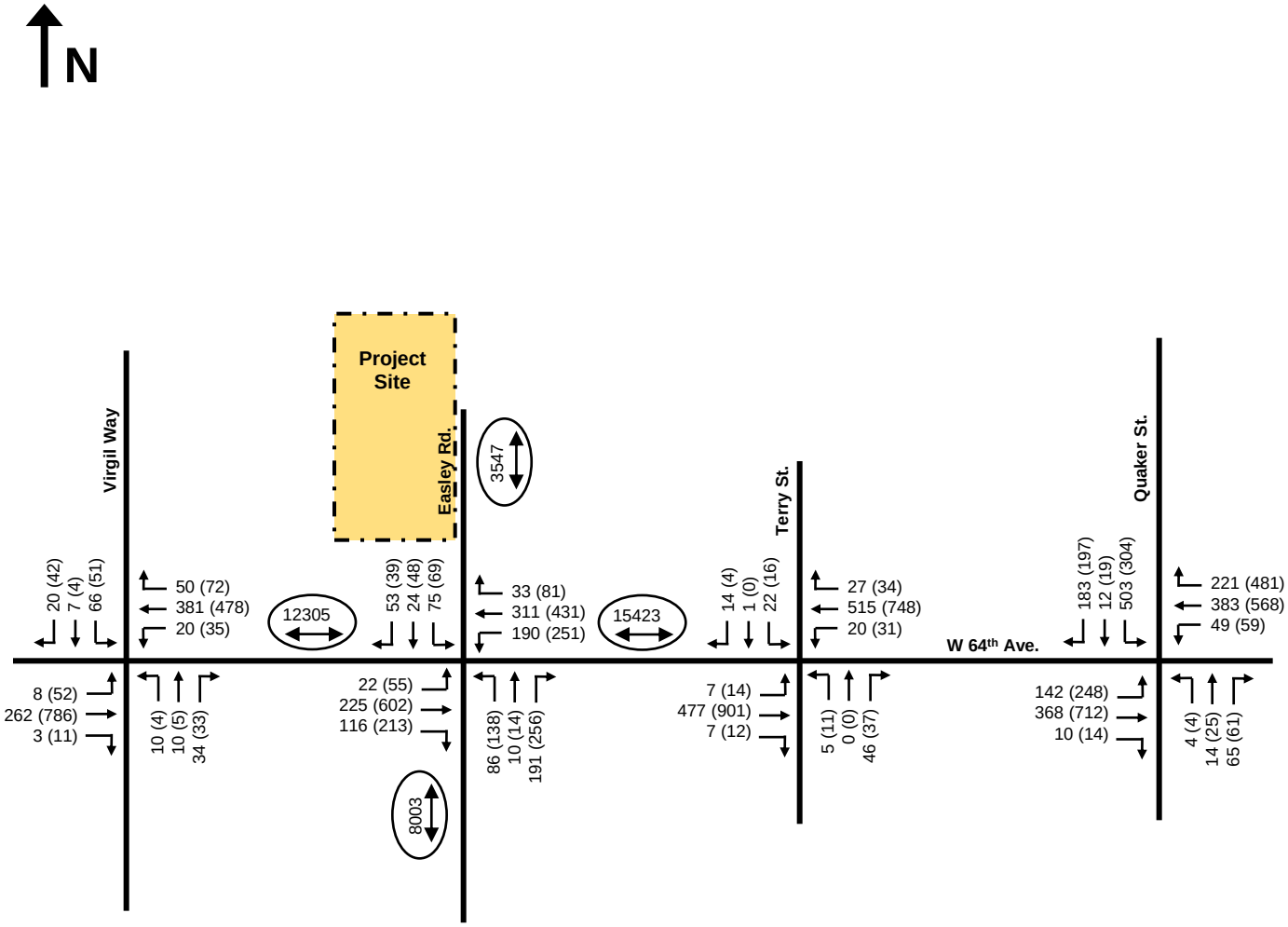
Avalon Arvada
AvalonBay Communities
HKS #241061

2027 (Build-Out) Analysis Horizon
Total Traffic Volumes
(Background + Site Generated)

Figure 11



Legend: Drawing Not To Scale

5 (8)
64 (50)
8 (7)
Weekday AM (PM) Peak Hour Traffic Volumes, vph

3200
Daily Traffic Volumes, vpd

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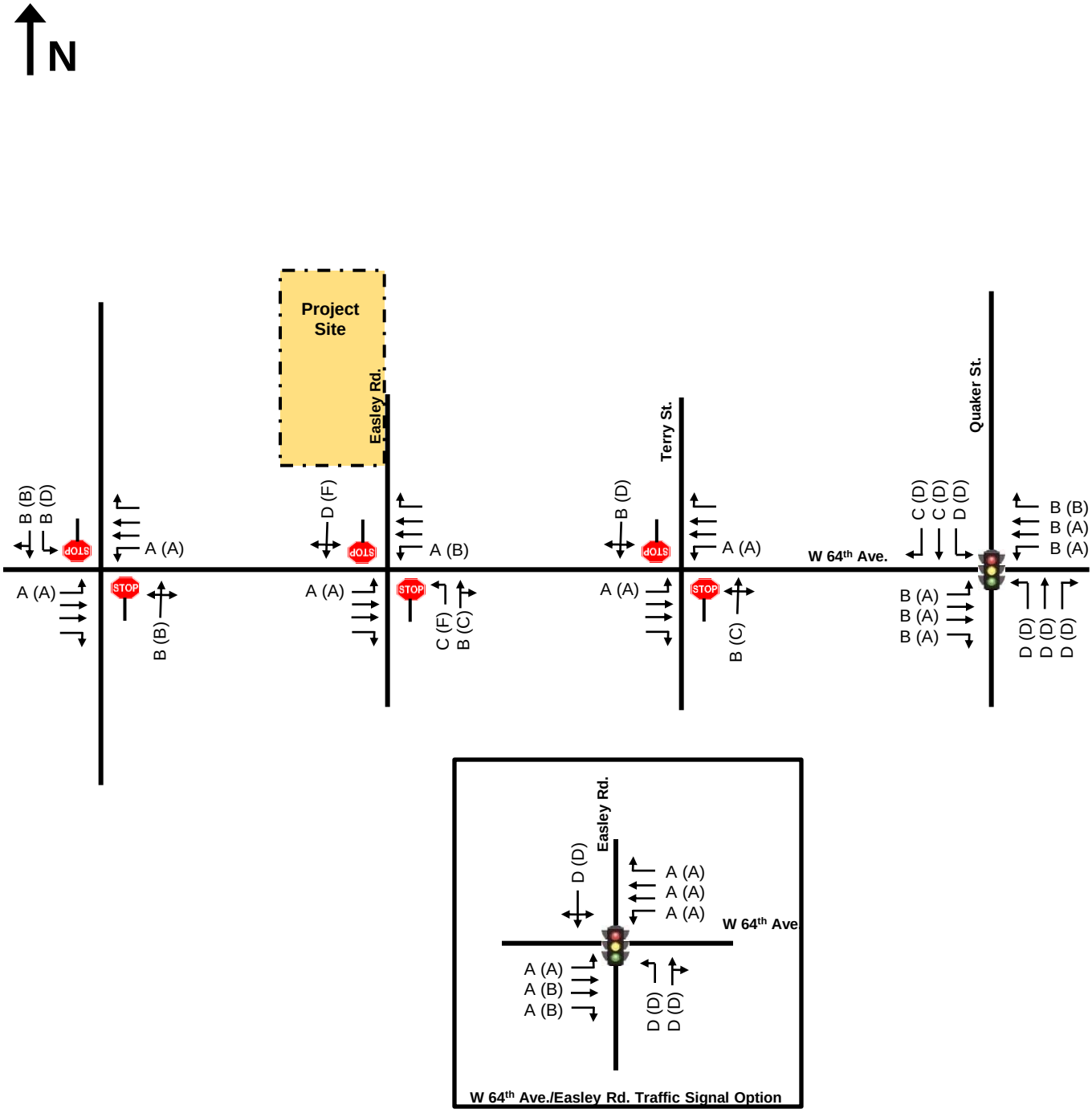
Avalon Arvada
AvalonBay Communities
HKS #241061

2047 (Long-Term) Analysis Horizon
Total Traffic Volumes
(Background + Site Generated)

Figure 12



W 64th Ave./Easley Rd. Traffic Signal Option

Legend: Drawing Not To Scale

A (B)	Weekday AM (PM)
A (B)	Peak Hour
A (B)	Level of Service

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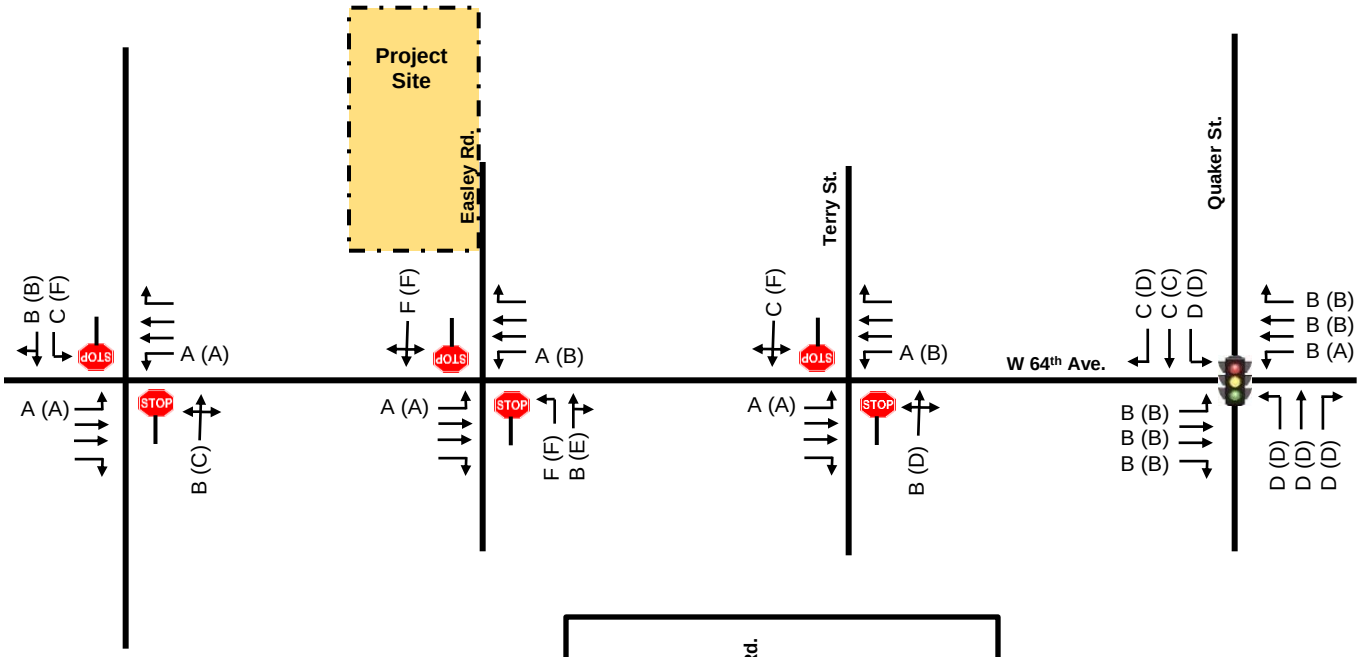
2027 (Build-Out) Analysis Horizon
Total Traffic Operational Conditions

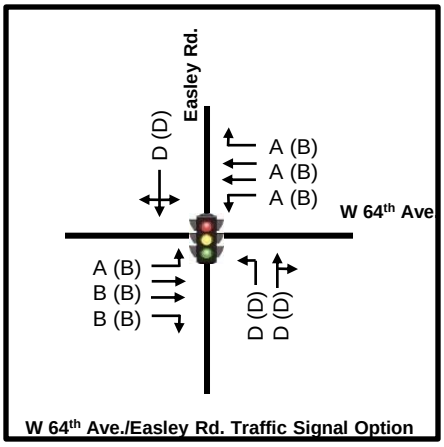
Avalon Arvada

AvalonBay Communities

HKS #241061

Figure 13





Legend: Drawing Not To Scale

A (B) Weekday AM (PM)
A (B) Peak Hour
A (B) Level of Service

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2047 (Long-Term) Analysis Horizon
Total Traffic Operational Conditions

Avalon Arvada

AvalonBay Communities

HKS #241061

Figure 14

APPENDIX “A”

CITY OF ARVADA APPROVED
TIS BASE ASSUMPTIONS FORM

City of Arvada Traffic Impact Analysis (TIA) - Base Assumptions Form

(Updated March 2022)

Project Information				
Project Name	AV Arvada-Welby Gardens			
Project Address	17201 W 64th Ave. Arvada, CO 80007			
Project Number	PA2024-0174			
TIA Assumptions				
Study Boundaries	**North**	Ralston Creek	**South**	W 64th Ave.
	East	Easley Rd.	**West**	Umber Cir.
Study Years	**Short Range**	2027	**Long Range**	2047
Future Traffic Growth Rates	**Short Range**	1.42 %	**Long Range**	1.42 %
	Justification	Based on DRCOG Models, See attached calculations		
Study Intersections	**1**	W 64th Ave. & Virgil Way	**5**	
	2	W 64th Ave. & Easley Rd.	**6**	
	3	W 64th Ave. & Terry St.	**7**	
	4	W 64th Ave. & Quaker St.	**8**	
Time Period for Study	**AM**	7:00-9:00	**PM**	4:00-6:00
	Weekends		**Other**	
Trip Generation Rates	**Rates?**	See Attached	**Equations?**	
Trip Adjustment Factors	**Passby**	N/A	**Captive Market**	
Overall Trip Distribution	**See Attachment**			
Mode Split Assumptions	N/A			
Committed Roadway Improvements	TBD			

City of Arvada Traffic Impact Analysis (TIA) - Base Assumptions Form

(Updated March 2022)

Other Traffic Studies	N/A
Areas Requiring Special Study	Traffic Signal Warrant Analysis at W 64th Ave & Easley Rd. intersection

Benjamin Leech
Name
Applicant Representative

Benjamin Leech
Signature

01/06/2024
Date

ENGINEERING
APPROVED
CITY OF ARVADA
fmartone 01/06/2025
REVIEWER DATE

City of Arvada Acceptance

Traffic Growth Rate Calculations

DRCOG 2020 Traffic Volume Model:

- 64th Ave just west of Virgil Way: 10
- 64th Ave just west of Quaker St: 13

DRCOG 2050 Traffic Volume Model:

- 64th Ave just west of Virgil Way: 16
- 64th Ave just west of Quaker St: 19

Using the equation, $y=x(1+i)^n$ where n = 30 years, the following growth rates were determined:

- 64th Ave just west of Virgil Way: $16=10(1+i)^{30}$, i = 0.0157 or 1.57%
- 64th Ave just west of Quaker St: $19=13(1+i)^{30}$, i = 0.0127 or 1.27%

Since the proposed project site is located between Virgil Way and Quaker St, the average of the two growth rates was found and determined to be **1.42%**. Therefore, it is proposed that a 1.42% growth rate is used for this study.

Avalon Arvada
Arvada, CO
HKS Project No. 241061

Avalon Arvada Development Trip Generation															
Land Use	Intensity		ITE Code	Daily (vpd)	AM Peak Hour (vph)					PM Peak Hour (vph)				
					Total	% In	% Out	In	Out	Total	% In	% Out	In	Out
Multifamily Housing (Low-Rise)	394	DU	220	2601	145	24%	76%	35	110	190	63%	37%	120	70
Single-Family Attached Housing (Townhomes)	51	DU	215	338	21	25%	75%	5	16	27	59%	41%	16	11
Combined Total				**2,939**	**166**			**40**	**126**	**217**			**136**	**81**

Notes:

1. Trip Generation Projections are based on ITE Trip Generation, 11th Edition

Avalon Arvada Development
Arvada, Colorado

Study Area Intersections:

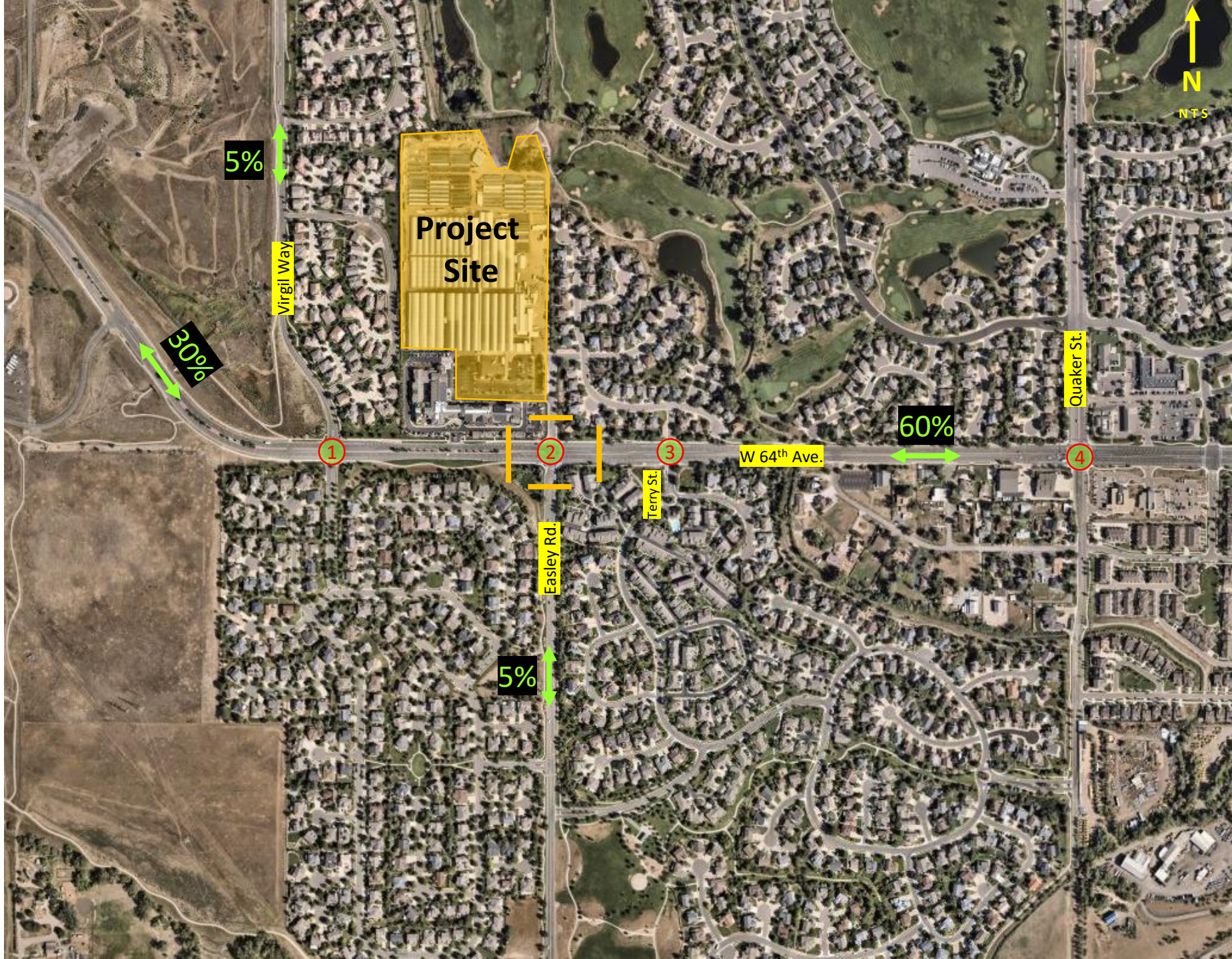
1. W 64th Ave. & Virgil Way
2. W 64th Ave. & Easley Rd.
3. W 64th Ave. & Terry St.
4. W 64th Ave. & Quaker St.

LEGEND

① = Existing Study Area Intersection & AM & PM Peak Hour TMC Locations

= 24 Hour Directional Count Locations

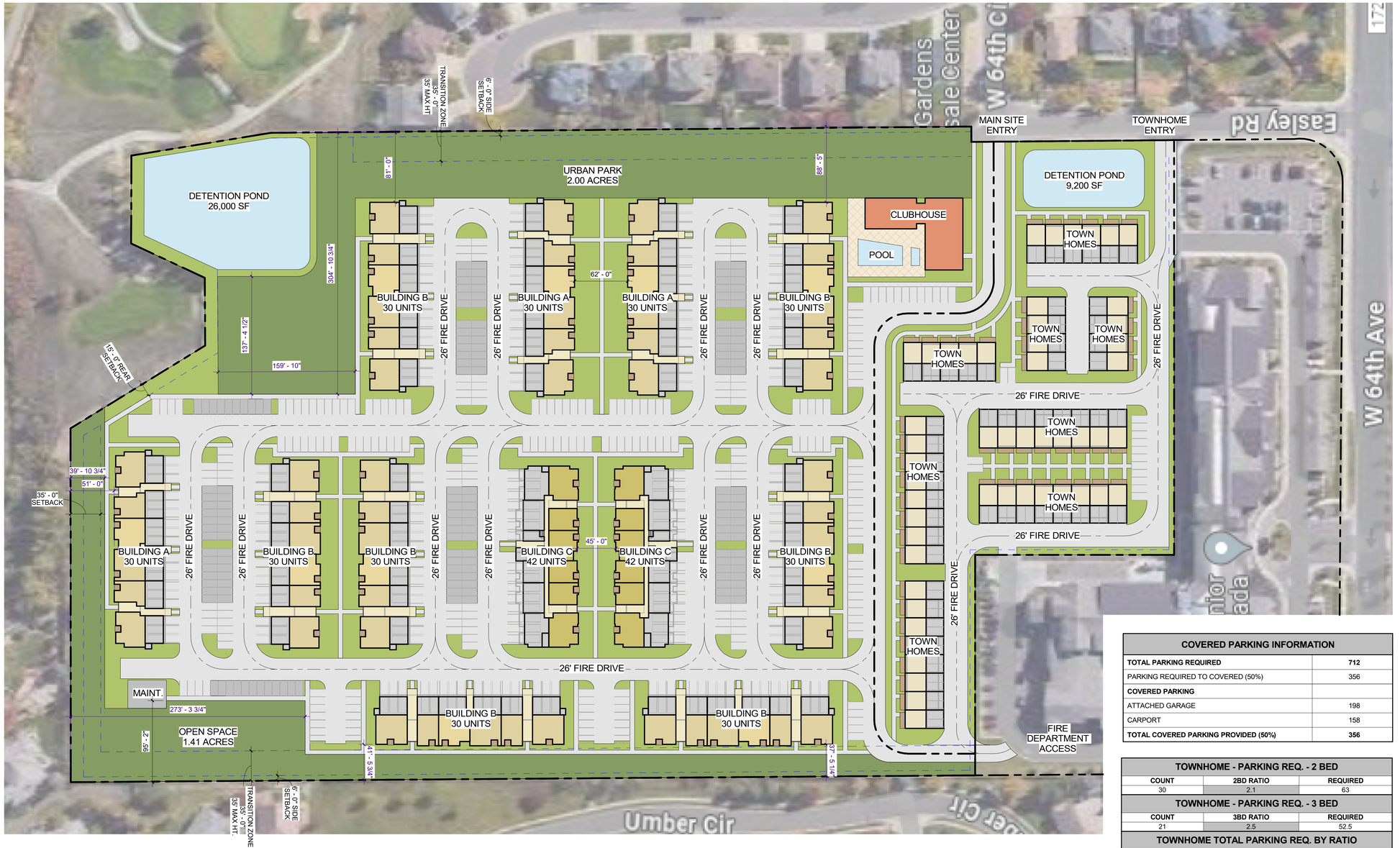
10% = Site Generated Trip Distribution



UNIT MIX - BUILDING A					
UNIT TYPE	UNIT DESCRIPTION	QTY	UNIT AREA	TOTAL AREA	MIX
A1	1 BEDROOM / 1 BATH	12	747 SF	8,964	40%
A3	1 BEDROOM / 1 BATH	2	891 SF	1,782	7%
B1	2 BEDROOM / 2 BATH	7	1,165 SF	8,155	23%
B2	2 BEDROOM / 2 BATH	4	1,293 SF	5,172	13%
B3	2 BEDROOM / 2 BATH / DEN	3	1,238 SF	3,714	10%
B4	2 BEDROOM / 2 BATH	2	1,293 SF	2,586	7%
		30		30,373	100%

UNIT MIX - BUILDING B					
UNIT TYPE	UNIT DESCRIPTION	QTY	UNIT AREA	TOTAL AREA	MIX
S1	STUDIO	4	575 SF	2,300	13%
A1	1 BEDROOM / 1 BATH	8	747 SF	5,976	27%
A5	1 BEDROOM / 1 BATH	6	844 SF	5,064	20%
B1	2 BEDROOM / 2 BATH	3	1,165 SF	3,495	10%
B3	2 BEDROOM / 2 BATH / DEN	3	1,238 SF	3,714	10%
B7	2 BEDROOM / 2 BATH	2	1,213 SF	2,426	7%
C1	3 BEDROOM / 2 BATH	4	1,506 SF	6,024	13%
		30		28,999	100%

UNIT MIX - BUILDING C					
UNIT TYPE	UNIT DESCRIPTION	QTY	UNIT AREA	TOTAL AREA	MIX
A2	1 BEDROOM / 1 BATH	6	822 SF	4,932	14%
A4	1 BEDROOM / 1 BATH / DEN	3	899 SF	2,697	7%
AM19-D	1 BEDROOM / 1 BATH / DEN	6	942 SF	5,652	14%
AM19-D1	1 BEDROOM / 1 BATH / DEN	3	931 SF	2,793	7%
B5	2 BEDROOM / 2 BATH	8	1,261 SF	10,088	19%
B6	2 BEDROOM / 2 BATH	6	1,261 SF	7,566	14%
BM08	2 BEDROOM / 2 BATH	4	1,095 SF	4,380	10%
BM08-B	2 BEDROOM / 2 BATH	6	1,090 SF	6,540	14%
		42		44,648	100%



SCALE: 1" = 60'

N

0 60'

LEGEND	
AMENITY OR LEASING	CIRCULATION
RESIDENTIAL UNIT	PATIO / BALCONY
CARPORT / BOH	

PROJECT SITE DENSITY				
PARCEL NAME	LOT SIZE	AC	UNIT COUNT	DU/AC
1 - OVERALL PARCEL	874,262 SF	20.1 acres	411	20.5
2 - MULTIFAMILY	706,427 SF	16.2 acres	384	23.7
3 - TOWNHOMES	167,836 SF	3.9 acres	51	13.2

PROJECT OVERALL AREA INFO	
AMENITY	6,096 SF
BALCONY - 3 STORY	5,733 SF
BALCONY - 4 STORY	3,782 SF
CARPORT	25,728 SF
CIRCULATION	34,776 SF
CORRIDOR	8,294 SF
DETENTION	35,452 SF
DRIVES / PARKING RESIDENTIAL	256,214 SF
DRIVES / PARKING TOWNHOME	48,124 SF
ELECTRICAL	198 SF
GARAGE - 3 STORY	38,765 SF
GARAGE - 4 STORY	10,003 SF
JANITOR - 4 STORY	82 SF
MAINTENANCE	1,485 SF
PARK	145,956 SF
PATIO - 3 STORY	3,414 SF
SIDEWALK - RESIDENTIAL	26,030 SF
SIDEWALK - TOWNHOMES	8,859 SF
STORAGE - 4 STORY	258 SF
TELECOM	285 SF
TOWNHOME	44,527 SF
TOWNHOME GARAGE	22,433 SF
TOWNHOME PATIO	5,661 SF
UNIT	383,431 SF
UTILITY	954 SF
UTILITY - 4 STORY	114 SF
GRAND TOTAL GSF	1,116,654 SF

COVERED PARKING INFORMATION	
TOTAL PARKING REQUIRED	**712**
PARKING REQUIRED TO COVERED (50%)	356
COVERED PARKING	
ATTACHED GARAGE	198
CARPORT	158
TOTAL COVERED PARKING PROVIDED (50%)	**356**

TOWNHOME - PARKING REQ. - 2 BED		
COUNT	2BD RATIO	REQUIRED
30	2.1	63

TOWNHOME - PARKING REQ. - 3 BED		
COUNT	3BD RATIO	REQUIRED
21	2.5	52.5

TOWNHOME TOTAL PARKING REQ. BY RATIO
TOTAL PARKING REQUIRED
116

RESIDENTIAL - PARKING PROVIDED - TOWNHOME	
PARKING TYPE	COUNT
GARAGE PARKING (TH)	102
SURFACE PARKING (TH)	15
GRAND TOTAL	117

OVERALL UNIT MIX - APARTMENT					
UNIT TYPE	UNIT DESCRIPTION	COUNT	UNIT AREA	TOTAL AREA	MIX
S1	STUDIO	28	575 SF	16,100 SF	7.3%
		28		16,100 SF	7.3%
A1	1 BEDROOM / 1 BATH	92	747 SF	68,724 SF	24.0%
A2	1 BEDROOM / 1 BATH	12	822 SF	9,864 SF	3.1%
A3	1 BEDROOM / 1 BATH	6	890 SF	5,340 SF	1.6%
A4	1 BEDROOM / 1 BATH / DEN	6	898 SF	5,388 SF	1.6%
A5	1 BEDROOM / 1 BATH	42	844 SF	35,448 SF	10.9%
AM19-D	1 BEDROOM / 1 BATH / DEN	12	941 SF	11,292 SF	3.1%
AM19-D1	1 BEDROOM / 1 BATH / DEN	6	930 SF	5,580 SF	1.6%
		176		141,636 SF	45.8%
B1	2 BEDROOM / 2 BATH	42	1165 SF	48,930 SF	10.9%
B2	2 BEDROOM / 2 BATH	12	1292 SF	15,504 SF	3.1%
B3	2 BEDROOM / 2 BATH / DEN	30	1237 SF	37,110 SF	7.8%
B4	2 BEDROOM / 2 BATH	6	1292 SF	7,752 SF	1.6%
B5	2 BEDROOM / 2 BATH	16	1260 SF	20,160 SF	4.2%
B6	2 BEDROOM / 2 BATH	12	1260 SF	15,120 SF	3.1%
B7	2 BEDROOM / 2 BATH	14	1212 SF	16,968 SF	3.6%
BM08	2 BEDROOM / 2 BATH	8	1095 SF	8,760 SF	2.1%
BM08-B	2 BEDROOM / 2 BATH	12	1090 SF	13,080 SF	3.1%
		152		183,384 SF	39.6%
C1	3 BEDROOM / 2 BATH	28	1506 SF	42,168 SF	7.3%
		28		42,168 SF	7.3%
GRAND TOTAL: 384		384		383,288 SF	100.0%

OVERALL UNIT MIX - TOWNHOME					
UNIT TYPE	UNIT DESCRIPTION	Count	UNIT AREA	TOTAL AREA	MIX
T2	2 BEDROOM / 2.5 BATH	30	1319 SF	39,570 SF	58.8%
		30		39,570 SF	58.8%
T3	3 BEDROOM / 2.5 BATH	21	1516 SF	31,836 SF	41.2%
		21		31,836 SF	41.2%
GRAND TOTAL: 51		51		71,406 SF	100.0%

PARKING REQ - STUDIO		
COUNT	STUDIO PARKING RATIO	REQUIRED
28	1.4	39.2

APARTMENT - PARKING REQ - 1 BED		
COUNT	1BR RATIO	REQUIRED
176	1.6	281.6

APARTMENT - PARKING REQ. - 2 BED		
COUNT	2BD RATIO	REQUIRED
152	2.1	319.2

APT - PARKING REQ. - 3 BED		
COUNT	3BD RATIO	REQUIRED
28	2.5	70

APARTMENT TOTAL PARKING REQ. BY RATIO
TOTAL PARKING REQ.
712

RESIDENTIAL - PARKING PROVIDED - APARTMENT	
PARKING TYPE	COUNT
CARPORT	158
GARAGE PARKING	198
SURFACE PARKING	244
TANDEM	196
GRAND TOTAL	796

RESIDENTIAL PARKING RATIO				
COUNT	UNIT COUNT	PARKING PER UNIT	BED COUNT	PARKING PER BED
796	384	2.07	592	1.34

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AvalonBay COMMUNITIES

AVALON WELBY CENTER

ARVADA, COLORADO
VERSION 12

SCHEMATIC SITE PLAN - AVALON

04/01/2025

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APPENDIX “B”

2025 EXISTING
TRAFFIC VOLUME COUNTS

All Traffic Data Services

10 - EASLEY RD SOUTH OF W 64TH AVE

Time	NB	SB	Total
4/22/2025	3	0	3
4/22/2025 12:15:00 AM	1	2	3
4/22/2025 12:30:00 AM	1	2	3
4/22/2025 12:45:00 AM	1	2	3
4/22/2025 1:00:00 AM	0	0	0
4/22/2025 1:15:00 AM	1	0	1
4/22/2025 1:30:00 AM	0	0	0
4/22/2025 1:45:00 AM	0	0	0
4/22/2025 2:00:00 AM	0	0	0
4/22/2025 2:15:00 AM	0	0	0
4/22/2025 2:30:00 AM	0	1	1
4/22/2025 2:45:00 AM	0	0	0
4/22/2025 3:00:00 AM	0	0	0
4/22/2025 3:15:00 AM	1	1	2
4/22/2025 3:30:00 AM	0	0	0
4/22/2025 3:45:00 AM	5	0	5
4/22/2025 4:00:00 AM	1	2	3
4/22/2025 4:15:00 AM	1	2	3
4/22/2025 4:30:00 AM	3	1	4
4/22/2025 4:45:00 AM	2	4	6
4/22/2025 5:00:00 AM	9	3	12
4/22/2025 5:15:00 AM	6	9	15
4/22/2025 5:30:00 AM	11	12	23
4/22/2025 5:45:00 AM	5	11	16
4/22/2025 6:00:00 AM	15	18	33
4/22/2025 6:15:00 AM	13	20	33
4/22/2025 6:30:00 AM	21	28	49
4/22/2025 6:45:00 AM	40	39	79
4/22/2025 7:00:00 AM	38	48	86
4/22/2025 7:15:00 AM	35	56	91
4/22/2025 7:30:00 AM	35	68	103
4/22/2025 7:45:00 AM	54	73	127
4/22/2025 8:00:00 AM	54	64	118
4/22/2025 8:15:00 AM	35	55	90
4/22/2025 8:30:00 AM	56	45	101
4/22/2025 8:45:00 AM	47	53	100
4/22/2025 9:00:00 AM	35	50	85
4/22/2025 9:15:00 AM	32	47	79
4/22/2025 9:30:00 AM	29	37	66
4/22/2025 9:45:00 AM	25	29	54
4/22/2025 10:00:00 AM	31	43	74
4/22/2025 10:15:00 AM	36	32	68
4/22/2025 10:30:00 AM	32	49	81
4/22/2025 10:45:00 AM	38	28	66
4/22/2025 11:00:00 AM	30	30	60
4/22/2025 11:15:00 AM	29	32	61
4/22/2025 11:30:00 AM	39	30	69
4/22/2025 11:45:00 AM	38	29	67
Total	888	1,055	1,943
Percentage	45.7%	54.3%	
Peak Hour	7:45 AM	7:15 AM	7:15 AM
Volume	199	261	439
PHF	0.888	0.894	0.864

All Traffic Data Services

10 - EASLEY RD SOUTH OF W 64TH AVE

Time	NB	SB	Total
4/22/2025 12:00:00 PM	40	39	79
4/22/2025 12:15:00 PM	30	38	68
4/22/2025 12:30:00 PM	33	34	67
4/22/2025 12:45:00 PM	37	47	84
4/22/2025 1:00:00 PM	30	35	65
4/22/2025 1:15:00 PM	31	44	75
4/22/2025 1:30:00 PM	45	39	84
4/22/2025 1:45:00 PM	40	43	83
4/22/2025 2:00:00 PM	40	27	67
4/22/2025 2:15:00 PM	35	47	82
4/22/2025 2:30:00 PM	26	45	71
4/22/2025 2:45:00 PM	47	42	89
4/22/2025 3:00:00 PM	54	37	91
4/22/2025 3:15:00 PM	43	55	98
4/22/2025 3:30:00 PM	35	67	102
4/22/2025 3:45:00 PM	53	79	132
4/22/2025 4:00:00 PM	73	55	128
4/22/2025 4:15:00 PM	90	61	151
4/22/2025 4:30:00 PM	61	79	140
4/22/2025 4:45:00 PM	84	76	160
4/22/2025 5:00:00 PM	63	97	160
4/22/2025 5:15:00 PM	75	95	170
4/22/2025 5:30:00 PM	72	86	158
4/22/2025 5:45:00 PM	84	91	175
4/22/2025 6:00:00 PM	53	111	164
4/22/2025 6:15:00 PM	46	75	121
4/22/2025 6:30:00 PM	29	60	89
4/22/2025 6:45:00 PM	36	60	96
4/22/2025 7:00:00 PM	48	75	123
4/22/2025 7:15:00 PM	41	53	94
4/22/2025 7:30:00 PM	27	62	89
4/22/2025 7:45:00 PM	28	34	62
4/22/2025 8:00:00 PM	23	36	59
4/22/2025 8:15:00 PM	21	39	60
4/22/2025 8:30:00 PM	20	28	48
4/22/2025 8:45:00 PM	11	35	46
4/22/2025 9:00:00 PM	15	36	51
4/22/2025 9:15:00 PM	15	15	30
4/22/2025 9:30:00 PM	14	16	30
4/22/2025 9:45:00 PM	11	9	20
4/22/2025 10:00:00 PM	5	7	12
4/22/2025 10:15:00 PM	6	7	13
4/22/2025 10:30:00 PM	2	3	5
4/22/2025 10:45:00 PM	2	5	7
4/22/2025 11:00:00 PM	3	5	8
4/22/2025 11:15:00 PM	2	2	4
4/22/2025 11:30:00 PM	3	5	8
4/22/2025 11:45:00 PM	0	1	1
Total	1,682	2,137	3,819
Percentage	44.0%	56.0%	
Peak Hour	4:00 PM	5:15 PM	5:15 PM
Volume	310	387	674
PHF	0.861	0.872	0.963
Grand Total	2,570	3,192	5,762
Percentage	44.6%	55.4%	

All Traffic Data Services

11 - EASLEY RD NORTH OF W 64TH AVE

Time	NB	SB	Total
4/22/2025	2	0	2
4/22/2025 12:15:00 AM	0	0	0
4/22/2025 12:30:00 AM	0	0	0
4/22/2025 12:45:00 AM	0	0	0
4/22/2025 1:00:00 AM	0	0	0
4/22/2025 1:15:00 AM	0	0	0
4/22/2025 1:30:00 AM	0	0	0
4/22/2025 1:45:00 AM	0	1	1
4/22/2025 2:00:00 AM	0	0	0
4/22/2025 2:15:00 AM	0	0	0
4/22/2025 2:30:00 AM	0	0	0
4/22/2025 2:45:00 AM	0	0	0
4/22/2025 3:00:00 AM	0	0	0
4/22/2025 3:15:00 AM	0	0	0
4/22/2025 3:30:00 AM	0	0	0
4/22/2025 3:45:00 AM	0	0	0
4/22/2025 4:00:00 AM	0	0	0
4/22/2025 4:15:00 AM	0	0	0
4/22/2025 4:30:00 AM	1	0	1
4/22/2025 4:45:00 AM	0	1	1
4/22/2025 5:00:00 AM	0	0	0
4/22/2025 5:15:00 AM	1	1	2
4/22/2025 5:30:00 AM	0	2	2
4/22/2025 5:45:00 AM	1	2	3
4/22/2025 6:00:00 AM	1	2	3
4/22/2025 6:15:00 AM	7	0	7
4/22/2025 6:30:00 AM	16	3	19
4/22/2025 6:45:00 AM	28	4	32
4/22/2025 7:00:00 AM	12	2	14
4/22/2025 7:15:00 AM	12	5	17
4/22/2025 7:30:00 AM	6	4	10
4/22/2025 7:45:00 AM	7	8	15
4/22/2025 8:00:00 AM	1	8	9
4/22/2025 8:15:00 AM	6	4	10
4/22/2025 8:30:00 AM	7	5	12
4/22/2025 8:45:00 AM	12	7	19
4/22/2025 9:00:00 AM	5	3	8
4/22/2025 9:15:00 AM	4	3	7
4/22/2025 9:30:00 AM	9	1	10
4/22/2025 9:45:00 AM	7	5	12
4/22/2025 10:00:00 AM	4	2	6
4/22/2025 10:15:00 AM	6	8	14
4/22/2025 10:30:00 AM	4	5	9
4/22/2025 10:45:00 AM	9	4	13
4/22/2025 11:00:00 AM	5	7	12
4/22/2025 11:15:00 AM	3	2	5
4/22/2025 11:30:00 AM	4	10	14
4/22/2025 11:45:00 AM	7	12	19
Total	187	121	308
Percentage	60.7%	39.3%	
Peak Hour	6:30 AM	11:00 AM	6:30 AM
Volume	68	31	82
PHF	0.607	0.646	0.641

All Traffic Data Services

11 - EASLEY RD NORTH OF W 64TH AVE

Time	NB	SB	Total
4/22/2025 12:00:00 PM	5	7	12
4/22/2025 12:15:00 PM	1	0	1
4/22/2025 12:30:00 PM	7	4	11
4/22/2025 12:45:00 PM	4	8	12
4/22/2025 1:00:00 PM	5	4	9
4/22/2025 1:15:00 PM	8	6	14
4/22/2025 1:30:00 PM	3	3	6
4/22/2025 1:45:00 PM	4	2	6
4/22/2025 2:00:00 PM	6	7	13
4/22/2025 2:15:00 PM	3	5	8
4/22/2025 2:30:00 PM	2	2	4
4/22/2025 2:45:00 PM	1	3	4
4/22/2025 3:00:00 PM	2	9	11
4/22/2025 3:15:00 PM	1	5	6
4/22/2025 3:30:00 PM	3	16	19
4/22/2025 3:45:00 PM	3	7	10
4/22/2025 4:00:00 PM	2	3	5
4/22/2025 4:15:00 PM	1	7	8
4/22/2025 4:30:00 PM	5	5	10
4/22/2025 4:45:00 PM	5	6	11
4/22/2025 5:00:00 PM	1	22	23
4/22/2025 5:15:00 PM	5	28	33
4/22/2025 5:30:00 PM	6	6	12
4/22/2025 5:45:00 PM	4	2	6
4/22/2025 6:00:00 PM	3	1	4
4/22/2025 6:15:00 PM	3	1	4
4/22/2025 6:30:00 PM	1	2	3
4/22/2025 6:45:00 PM	2	0	2
4/22/2025 7:00:00 PM	1	1	2
4/22/2025 7:15:00 PM	2	0	2
4/22/2025 7:30:00 PM	0	1	1
4/22/2025 7:45:00 PM	3	1	4
4/22/2025 8:00:00 PM	2	1	3
4/22/2025 8:15:00 PM	0	1	1
4/22/2025 8:30:00 PM	2	0	2
4/22/2025 8:45:00 PM	1	0	1
4/22/2025 9:00:00 PM	1	0	1
4/22/2025 9:15:00 PM	0	0	0
4/22/2025 9:30:00 PM	0	0	0
4/22/2025 9:45:00 PM	0	0	0
4/22/2025 10:00:00 PM	0	1	1
4/22/2025 10:15:00 PM	0	1	1
4/22/2025 10:30:00 PM	0	2	2
4/22/2025 10:45:00 PM	0	0	0
4/22/2025 11:00:00 PM	0	1	1
4/22/2025 11:15:00 PM	1	0	1
4/22/2025 11:30:00 PM	0	0	0
4/22/2025 11:45:00 PM	0	0	0
Total	109	181	290
Percentage	37.6%	62.4%	
Peak Hour	12:30 PM	4:45 PM	4:45 PM
Volume	24	62	79
PHF	0.750	0.554	0.598
Grand Total	296	302	598
Percentage	49.5%	50.5%	

All Traffic Data Services

8 - W 64TH AVE WEST OF EASLEY RD

Time	EB	WB	Total
4/22/2025	3	0	3
4/22/2025 12:15:00 AM	3	1	4
4/22/2025 12:30:00 AM	1	3	4
4/22/2025 12:45:00 AM	1	0	1
4/22/2025 1:00:00 AM	1	0	1
4/22/2025 1:15:00 AM	0	1	1
4/22/2025 1:30:00 AM	1	0	1
4/22/2025 1:45:00 AM	0	2	2
4/22/2025 2:00:00 AM	1	2	3
4/22/2025 2:15:00 AM	2	1	3
4/22/2025 2:30:00 AM	2	0	2
4/22/2025 2:45:00 AM	0	0	0
4/22/2025 3:00:00 AM	1	0	1
4/22/2025 3:15:00 AM	1	2	3
4/22/2025 3:30:00 AM	1	1	2
4/22/2025 3:45:00 AM	3	9	12
4/22/2025 4:00:00 AM	5	3	8
4/22/2025 4:15:00 AM	2	2	4
4/22/2025 4:30:00 AM	1	2	3
4/22/2025 4:45:00 AM	5	9	14
4/22/2025 5:00:00 AM	2	5	7
4/22/2025 5:15:00 AM	8	8	16
4/22/2025 5:30:00 AM	8	21	29
4/22/2025 5:45:00 AM	9	26	35
4/22/2025 6:00:00 AM	23	36	59
4/22/2025 6:15:00 AM	23	27	50
4/22/2025 6:30:00 AM	27	38	65
4/22/2025 6:45:00 AM	26	35	61
4/22/2025 7:00:00 AM	48	50	98
4/22/2025 7:15:00 AM	50	55	105
4/22/2025 7:30:00 AM	62	52	114
4/22/2025 7:45:00 AM	71	65	136
4/22/2025 8:00:00 AM	71	77	148
4/22/2025 8:15:00 AM	54	86	140
4/22/2025 8:30:00 AM	60	70	130
4/22/2025 8:45:00 AM	65	68	133
4/22/2025 9:00:00 AM	54	66	120
4/22/2025 9:15:00 AM	59	41	100
4/22/2025 9:30:00 AM	66	50	116
4/22/2025 9:45:00 AM	33	35	68
4/22/2025 10:00:00 AM	57	48	105
4/22/2025 10:15:00 AM	49	36	85
4/22/2025 10:30:00 AM	71	44	115
4/22/2025 10:45:00 AM	70	47	117
4/22/2025 11:00:00 AM	42	45	87
4/22/2025 11:15:00 AM	62	39	101
4/22/2025 11:30:00 AM	48	44	92
4/22/2025 11:45:00 AM	47	44	91
Total	1,299	1,296	2,595
Percentage	50.1%	49.9%	
Peak Hour	7:30 AM	8:00 AM	7:45 AM
Volume	258	301	554
PHF	0.908	0.875	0.936

All Traffic Data Services

8 - W 64TH AVE WEST OF EASLEY RD

Time	EB	WB	Total
4/22/2025 12:00:00 PM	66	52	118
4/22/2025 12:15:00 PM	52	42	94
4/22/2025 12:30:00 PM	71	42	113
4/22/2025 12:45:00 PM	48	53	101
4/22/2025 1:00:00 PM	54	40	94
4/22/2025 1:15:00 PM	51	46	97
4/22/2025 1:30:00 PM	51	55	106
4/22/2025 1:45:00 PM	55	34	89
4/22/2025 2:00:00 PM	39	48	87
4/22/2025 2:15:00 PM	58	54	112
4/22/2025 2:30:00 PM	61	46	107
4/22/2025 2:45:00 PM	60	46	106
4/22/2025 3:00:00 PM	65	60	125
4/22/2025 3:15:00 PM	70	50	120
4/22/2025 3:30:00 PM	79	74	153
4/22/2025 3:45:00 PM	90	101	191
4/22/2025 4:00:00 PM	99	101	200
4/22/2025 4:15:00 PM	111	120	231
4/22/2025 4:30:00 PM	147	81	228
4/22/2025 4:45:00 PM	157	113	270
4/22/2025 5:00:00 PM	164	94	258
4/22/2025 5:15:00 PM	154	98	252
4/22/2025 5:30:00 PM	138	101	239
4/22/2025 5:45:00 PM	143	133	276
4/22/2025 6:00:00 PM	169	100	269
4/22/2025 6:15:00 PM	108	81	189
4/22/2025 6:30:00 PM	108	85	193
4/22/2025 6:45:00 PM	109	77	186
4/22/2025 7:00:00 PM	126	69	195
4/22/2025 7:15:00 PM	98	61	159
4/22/2025 7:30:00 PM	105	39	144
4/22/2025 7:45:00 PM	46	30	76
4/22/2025 8:00:00 PM	45	38	83
4/22/2025 8:15:00 PM	64	24	88
4/22/2025 8:30:00 PM	33	19	52
4/22/2025 8:45:00 PM	58	20	78
4/22/2025 9:00:00 PM	61	10	71
4/22/2025 9:15:00 PM	21	13	34
4/22/2025 9:30:00 PM	5	19	24
4/22/2025 9:45:00 PM	6	11	17
4/22/2025 10:00:00 PM	6	11	17
4/22/2025 10:15:00 PM	5	7	12
4/22/2025 10:30:00 PM	6	1	7
4/22/2025 10:45:00 PM	4	2	6
4/22/2025 11:00:00 PM	6	3	9
4/22/2025 11:15:00 PM	1	1	2
4/22/2025 11:30:00 PM	5	3	8
4/22/2025 11:45:00 PM	1	2	3
Total	3,279	2,410	5,689
Percentage	57.6%	42.4%	
Peak Hour	4:30 PM	5:15 PM	5:15 PM
Volume	623	436	1,043
PHF	0.950	0.820	0.945
Grand Total	4,578	3,706	8,284
Percentage	55.3%	44.7%	

All Traffic Data Services

9 - W 64TH AVE EAST OF EASLEY RD

Time	EB	WB	Total
4/22/2025	4	0	4
4/22/2025 12:15:00 AM	3	2	5
4/22/2025 12:30:00 AM	0	3	3
4/22/2025 12:45:00 AM	2	2	4
4/22/2025 1:00:00 AM	1	0	1
4/22/2025 1:15:00 AM	0	0	0
4/22/2025 1:30:00 AM	1	0	1
4/22/2025 1:45:00 AM	0	1	1
4/22/2025 2:00:00 AM	0	1	1
4/22/2025 2:15:00 AM	2	1	3
4/22/2025 2:30:00 AM	2	1	3
4/22/2025 2:45:00 AM	0	0	0
4/22/2025 3:00:00 AM	1	0	1
4/22/2025 3:15:00 AM	0	1	1
4/22/2025 3:30:00 AM	1	1	2
4/22/2025 3:45:00 AM	4	5	9
4/22/2025 4:00:00 AM	3	2	5
4/22/2025 4:15:00 AM	2	3	5
4/22/2025 4:30:00 AM	2	2	4
4/22/2025 4:45:00 AM	2	7	9
4/22/2025 5:00:00 AM	8	5	13
4/22/2025 5:15:00 AM	7	10	17
4/22/2025 5:30:00 AM	8	20	28
4/22/2025 5:45:00 AM	10	32	42
4/22/2025 6:00:00 AM	18	33	51
4/22/2025 6:15:00 AM	24	42	66
4/22/2025 6:30:00 AM	31	62	93
4/22/2025 6:45:00 AM	28	60	88
4/22/2025 7:00:00 AM	52	74	126
4/22/2025 7:15:00 AM	50	83	133
4/22/2025 7:30:00 AM	66	91	157
4/22/2025 7:45:00 AM	75	87	162
4/22/2025 8:00:00 AM	84	93	177
4/22/2025 8:15:00 AM	60	114	174
4/22/2025 8:30:00 AM	81	82	163
4/22/2025 8:45:00 AM	77	91	168
4/22/2025 9:00:00 AM	60	89	149
4/22/2025 9:15:00 AM	66	64	130
4/22/2025 9:30:00 AM	70	70	140
4/22/2025 9:45:00 AM	45	53	98
4/22/2025 10:00:00 AM	61	66	127
4/22/2025 10:15:00 AM	72	53	125
4/22/2025 10:30:00 AM	78	67	145
4/22/2025 10:45:00 AM	91	63	154
4/22/2025 11:00:00 AM	59	60	119
4/22/2025 11:15:00 AM	74	55	129
4/22/2025 11:30:00 AM	78	59	137
4/22/2025 11:45:00 AM	82	65	147
Total	1,545	1,775	3,320
Percentage	46.5%	53.5%	
Peak Hour	10:30 AM	7:30 AM	8:00 AM
Volume	304	385	682
PHF	0.835	0.844	0.963

All Traffic Data Services

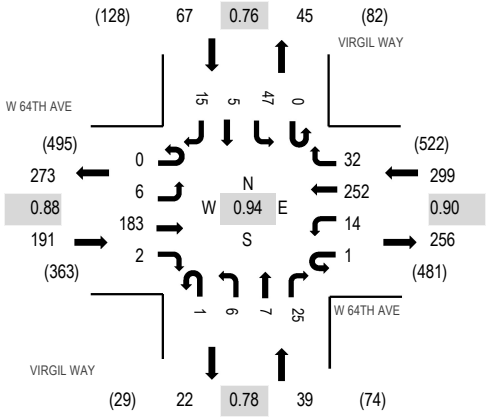
9 - W 64TH AVE EAST OF EASLEY RD

Time	EB	WB	Total
4/22/2025 12:00:00 PM	89	72	161
4/22/2025 12:15:00 PM	63	62	125
4/22/2025 12:30:00 PM	86	61	147
4/22/2025 12:45:00 PM	69	80	149
4/22/2025 1:00:00 PM	69	61	130
4/22/2025 1:15:00 PM	61	71	132
4/22/2025 1:30:00 PM	78	76	154
4/22/2025 1:45:00 PM	80	64	144
4/22/2025 2:00:00 PM	71	66	137
4/22/2025 2:15:00 PM	72	78	150
4/22/2025 2:30:00 PM	66	70	136
4/22/2025 2:45:00 PM	85	64	149
4/22/2025 3:00:00 PM	97	68	165
4/22/2025 3:15:00 PM	92	80	172
4/22/2025 3:30:00 PM	91	105	196
4/22/2025 3:45:00 PM	112	145	257
4/22/2025 4:00:00 PM	126	109	235
4/22/2025 4:15:00 PM	136	110	246
4/22/2025 4:30:00 PM	151	103	254
4/22/2025 4:45:00 PM	166	113	279
4/22/2025 5:00:00 PM	173	116	289
4/22/2025 5:15:00 PM	185	126	311
4/22/2025 5:30:00 PM	146	123	269
4/22/2025 5:45:00 PM	142	141	283
4/22/2025 6:00:00 PM	141	132	273
4/22/2025 6:15:00 PM	99	103	202
4/22/2025 6:30:00 PM	102	109	211
4/22/2025 6:45:00 PM	101	95	196
4/22/2025 7:00:00 PM	128	98	226
4/22/2025 7:15:00 PM	103	80	183
4/22/2025 7:30:00 PM	86	54	140
4/22/2025 7:45:00 PM	51	43	94
4/22/2025 8:00:00 PM	49	56	105
4/22/2025 8:15:00 PM	67	44	111
4/22/2025 8:30:00 PM	42	38	80
4/22/2025 8:45:00 PM	52	39	91
4/22/2025 9:00:00 PM	53	24	77
4/22/2025 9:15:00 PM	22	14	36
4/22/2025 9:30:00 PM	9	25	34
4/22/2025 9:45:00 PM	10	13	23
4/22/2025 10:00:00 PM	6	12	18
4/22/2025 10:15:00 PM	6	8	14
4/22/2025 10:30:00 PM	8	2	10
4/22/2025 10:45:00 PM	5	6	11
4/22/2025 11:00:00 PM	6	4	10
4/22/2025 11:15:00 PM	2	3	5
4/22/2025 11:30:00 PM	3	3	6
4/22/2025 11:45:00 PM	0	2	2
Total	3,657	3,171	6,828
Percentage	53.6%	46.4%	
Peak Hour	4:30 PM	5:15 PM	5:00 PM
Volume	677	526	1,157
PHF	0.915	0.933	0.930
Grand Total	5,202	4,946	10,148
Percentage	51.3%	48.7%	

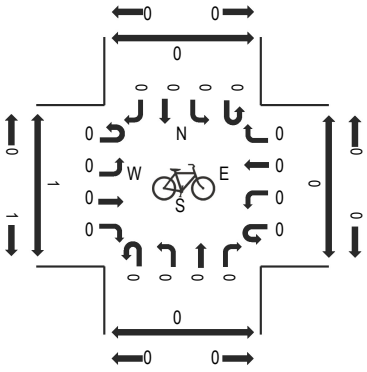
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 VIRGIL WAY & W 64TH AVE AM
Date: Tuesday, April 22, 2025
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

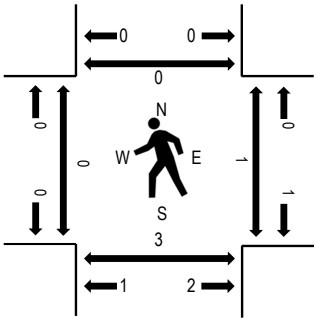
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

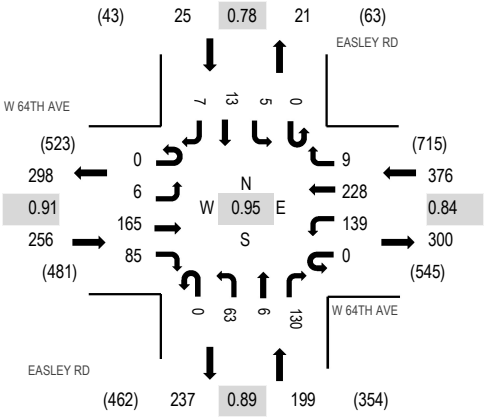
Traffic Counts - Motorized Vehicles

Interval Start Time	W 64TH AVE Eastbound				W 64TH AVE Westbound				VIRGIL WAY Northbound				VIRGIL WAY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	2	33	0	1	0	49	0	0	1	1	5	0	9	0	5	106	500	0	2	4	1
7:15 AM	0	5	34	0	0	1	49	4	0	4	0	6	0	13	0	4	120	553	0	1	0	0
7:30 AM	0	5	41	0	0	1	46	4	0	1	3	8	0	12	0	4	125	577	0	0	4	0
7:45 AM	0	1	50	0	0	5	56	8	0	4	2	9	0	11	0	3	149	596	0	0	2	0
8:00 AM	0	3	50	2	0	4	62	12	0	1	1	8	0	13	0	3	159	587	0	0	0	0
8:15 AM	0	1	40	0	1	3	70	9	0	0	2	3	0	8	3	4	144		0	0	0	0
8:30 AM	0	1	43	0	0	2	64	3	1	1	2	5	0	15	2	5	144		0	1	1	0
8:45 AM	0	2	48	2	0	2	55	11	0	1	0	5	0	10	1	3	140		0	1	1	1
Count Total	0	20	339	4	2	18	451	51	1	13	11	49	0	91	6	31	1,087		0	5	12	2
Peak Hour	0	6	183	2	1	14	252	32	1	6	7	25	0	47	5	15	596		0	1	3	0

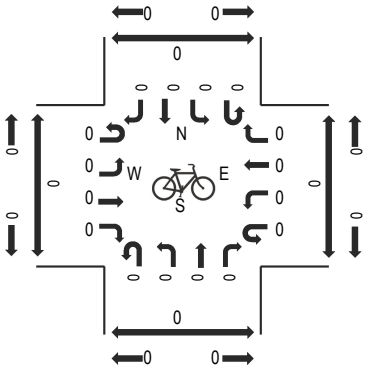
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 EASLEY RD & W 64TH AVE AM
Date: Tuesday, April 22, 2025
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

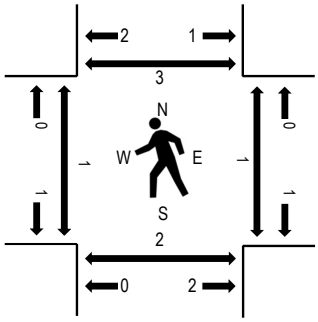
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

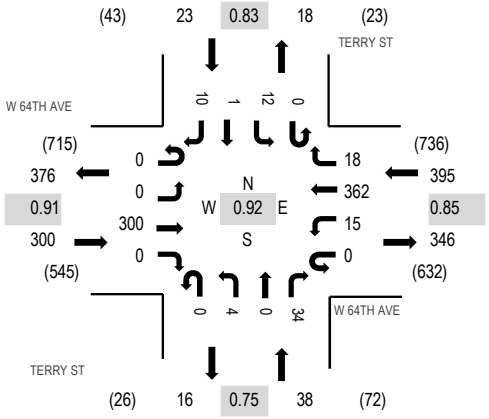
Traffic Counts - Motorized Vehicles

Interval Start Time	W 64TH AVE Eastbound				W 64TH AVE Westbound				EASLEY RD Northbound				EASLEY RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	3	30	15	0	31	37	6	0	13	3	22	0	0	2	0	162	747	0	0	0	1
7:15 AM	1	1	28	20	0	34	42	7	0	11	4	20	0	2	2	1	173	811	0	0	0	0
7:30 AM	0	4	39	19	0	47	43	1	0	8	1	26	0	1	2	1	192	845	0	0	0	1
7:45 AM	0	4	35	32	0	36	50	1	0	15	2	37	0	3	5	0	220	856	1	0	2	0
8:00 AM	0	0	50	21	0	40	53	0	0	20	1	33	0	1	3	4	226	846	0	0	0	1
8:15 AM	0	1	37	16	0	37	73	4	0	11	1	23	0	0	2	2	207		0	1	0	0
8:30 AM	0	1	43	16	0	26	52	4	0	17	2	37	0	1	3	1	203		0	0	0	2
8:45 AM	1	0	43	21	0	30	53	8	0	13	4	30	0	4	2	1	210		0	0	1	2
Count Total	2	14	305	160	0	281	403	31	0	108	18	228	0	12	21	10	1,593		1	1	3	7
Peak Hour	0	6	165	85	0	139	228	9	0	63	6	130	0	5	13	7	856		1	1	2	3

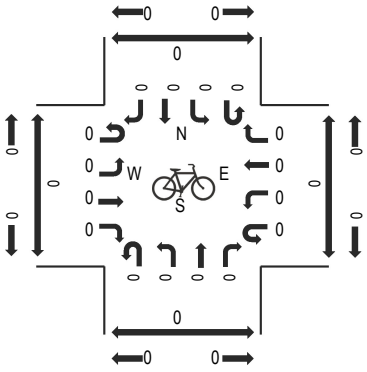
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 3 TERRY ST & W 64TH AVE AM
Date: Tuesday, April 22, 2025
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

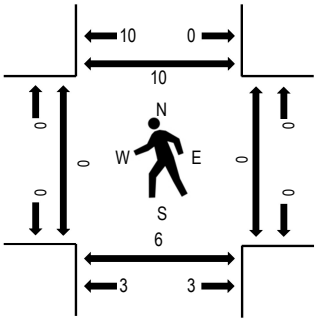
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	W 64TH AVE Eastbound				W 64TH AVE Westbound				TERRY ST Northbound				TERRY ST Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	50	1	0	0	74	0	0	0	0	9	0	1	0	1	136	642	0	0	0	1
7:15 AM	0	0	51	1	0	2	79	1	0	4	0	6	0	5	0	2	151	711	0	0	2	0
7:30 AM	0	0	64	1	0	2	87	3	0	0	0	5	0	6	0	1	169	751	0	0	1	1
7:45 AM	0	0	76	0	0	4	84	6	0	1	0	8	0	5	0	2	186	756	0	0	5	0
8:00 AM	0	0	83	0	0	5	89	6	0	1	0	12	0	5	1	3	205	754	0	0	0	3
8:15 AM	0	0	60	0	0	5	111	4	0	0	0	8	0	0	0	3	191		0	0	1	6
8:30 AM	0	0	81	0	0	1	78	2	0	2	0	6	0	2	0	2	174		0	0	0	1
8:45 AM	0	0	76	1	0	2	90	1	0	0	0	10	0	3	0	1	184		0	0	0	2
Count Total	0	0	541	4	0	21	692	23	0	8	0	64	0	27	1	15	1,396		0	0	9	14
Peak Hour	0	0	300	0	0	15	362	18	0	4	0	34	0	12	1	10	756		0	0	6	10

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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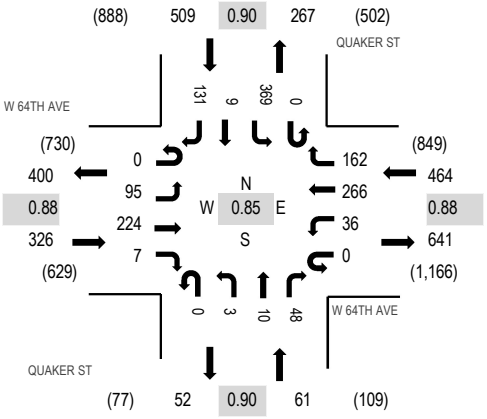
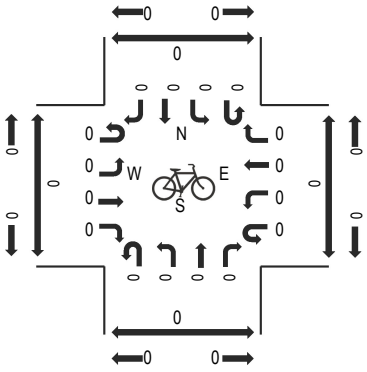
Location: 4 QUAKER ST & W 64TH AVE AM
Date: Tuesday, April 22, 2025
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

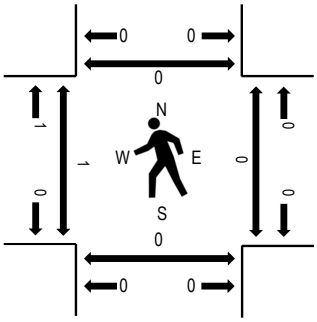
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

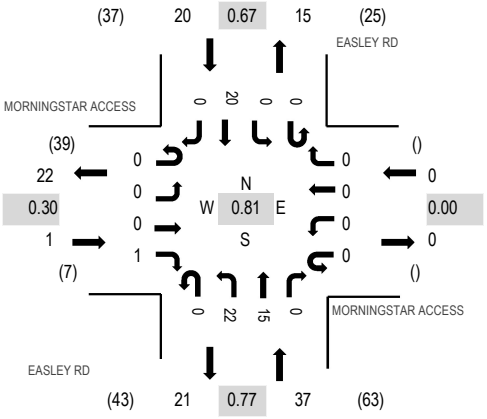
Traffic Counts - Motorized Vehicles

Interval Start Time	W 64TH AVE Eastbound				W 64TH AVE Westbound				QUAKER ST Northbound				QUAKER ST Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	18	45	1	0	5	49	19	0	0	2	5	0	56	3	26	229	1,121	0	0	0	0
7:15 AM	0	23	35	0	0	3	59	20	0	0	6	7	0	89	0	23	265	1,291	0	0	0	1
7:30 AM	0	17	54	1	0	5	57	30	0	1	3	10	0	99	3	31	311	1,360	0	0	0	0
7:45 AM	0	27	57	4	0	4	59	41	0	0	3	14	0	68	2	37	316	1,343	1	0	0	0
8:00 AM	0	33	66	0	0	14	68	60	0	1	2	14	0	110	3	28	399	1,354	0	0	0	0
8:15 AM	0	18	47	2	0	13	82	31	0	1	2	10	0	92	1	35	334		0	0	0	0
8:30 AM	0	27	58	0	0	2	61	35	0	2	3	9	0	81	1	15	294		1	1	0	0
8:45 AM	0	26	69	1	0	8	72	52	0	0	4	10	0	61	1	23	327		0	0	0	0
Count Total	0	189	431	9	0	54	507	288	0	5	25	79	0	656	14	218	2,475		2	1	0	1
Peak Hour	0	95	224	7	0	36	266	162	0	3	10	48	0	369	9	131	1,360		1	0	0	0

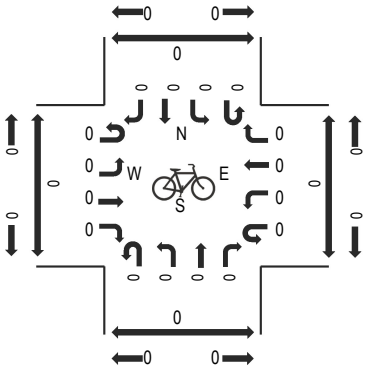
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 5 EASLEY RD & MORNINGSTAR ACCESS AM
Date: Tuesday, April 22, 2025
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:15 AM - 07:30 AM

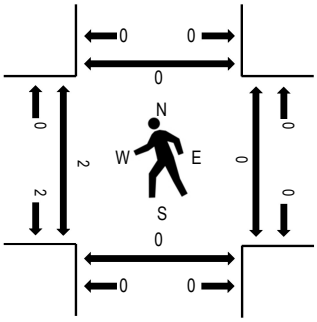
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

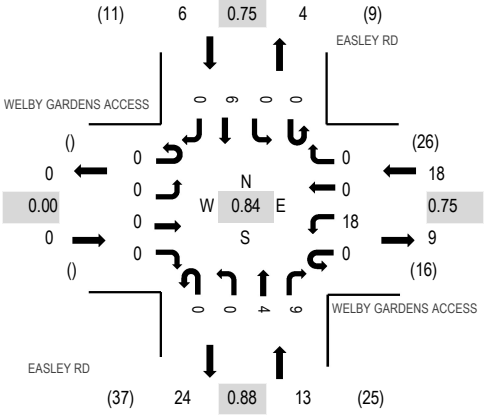
Traffic Counts - Motorized Vehicles

Interval Start Time	MORNINGSTAR ACCESS Eastbound				MORNINGSTAR ACCESS Westbound				EASLEY RD Northbound				EASLEY RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	0	0	0	0	0	0	9	3	0	0	0	2	0	14	58	0	0	0	0
7:15 AM	0	0	0	1	0	0	0	0	0	8	4	0	0	0	5	0	18	52	1	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	2	4	0	0	0	4	0	10	44	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	3	4	0	0	0	9	0	16	46	1	0	0	0
8:00 AM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	6	0	8	49	0	1	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	3	3	0	0	0	4	0	10		0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	4	3	0	0	0	5	0	12		0	0	0	0
8:45 AM	0	0	0	5	0	0	0	0	0	9	3	0	0	0	2	0	19		1	0	0	0
Count Total	0	1	0	6	0	0	0	0	0	39	24	0	0	0	37	0	107		3	1	0	0
Peak Hour	0	0	0	1	0	0	0	0	0	22	15	0	0	0	20	0	58		2	0	0	0

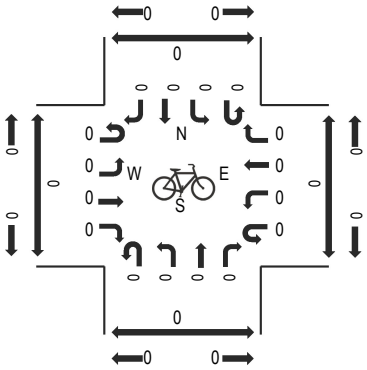
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 6 EASLEY RD & WELBY GARDENS ACCESS AM
Date: Tuesday, April 22, 2025
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

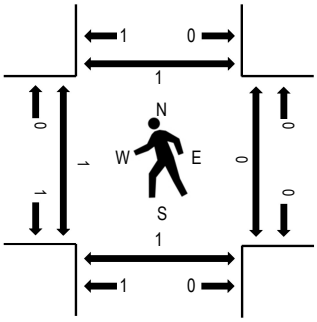
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

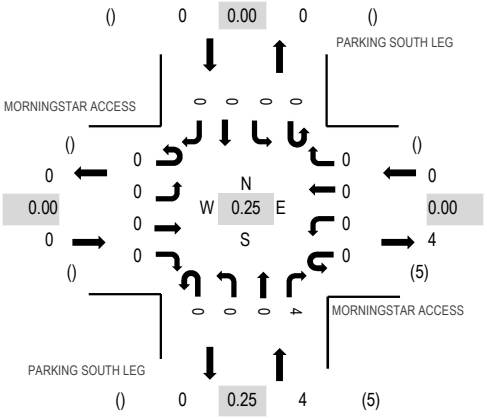
Traffic Counts - Motorized Vehicles

Interval Start Time	WELBY GARDENS ACCESS Eastbound				WELBY GARDENS ACCESS Westbound				EASLEY RD Northbound				EASLEY RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	0	0	1	0	0	0	0	3	0	0	0	1	0	5	34	0	0	0	0
7:15 AM	0	0	0	0	0	3	0	0	0	0	2	2	0	0	2	0	9	37	0	0	1	0
7:30 AM	0	0	0	0	0	4	0	0	0	0	2	2	0	0	1	0	9	35	0	0	0	0
7:45 AM	0	0	0	0	0	6	0	0	0	0	0	3	0	0	2	0	11	34	1	0	0	1
8:00 AM	0	0	0	0	0	5	0	0	0	0	0	2	0	0	1	0	8	28	0	0	0	0
8:15 AM	0	0	0	0	0	3	0	0	0	0	1	2	0	0	1	0	7		0	0	0	0
8:30 AM	0	0	0	0	0	4	0	0	0	0	1	2	0	0	1	0	8		0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	2	0	5		0	0	1	0
Count Total	0	0	0	0	0	26	0	0	0	0	9	16	0	0	11	0	62		1	0	2	1
Peak Hour	0	0	0	0	0	18	0	0	0	0	4	9	0	0	6	0	37		1	0	1	1

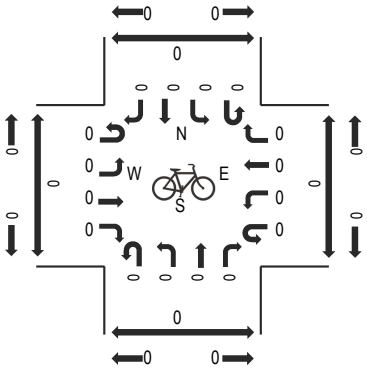
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 7 PARKING SOUTH LEG & MORNINGSTAR ACCESS AM
Date: Tuesday, April 22, 2025
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

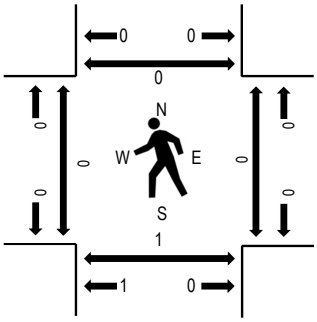
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

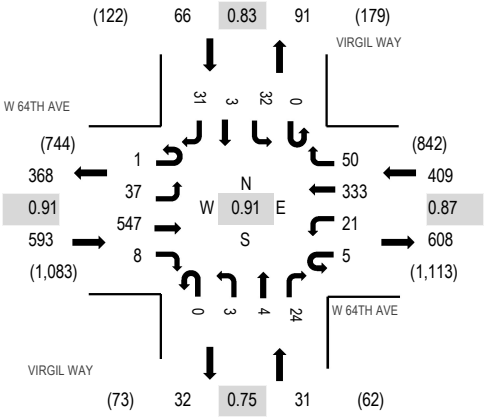
Traffic Counts - Motorized Vehicles

Interval Start Time	MORNINGSTAR ACCESS Eastbound				MORNINGSTAR ACCESS Westbound				PARKING SOUTH LEG Northbound				PARKING SOUTH LEG Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4		0	0	1	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5		0	0	1	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4		0	0	1	0

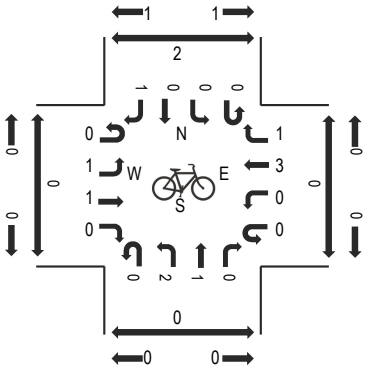
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 VIRGIL WAY & W 64TH AVE PM
Date: Tuesday, April 22, 2025
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

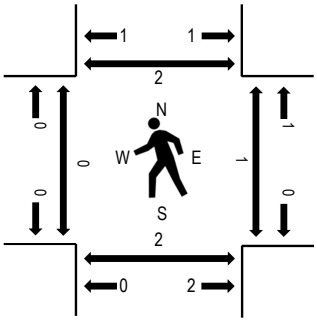
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

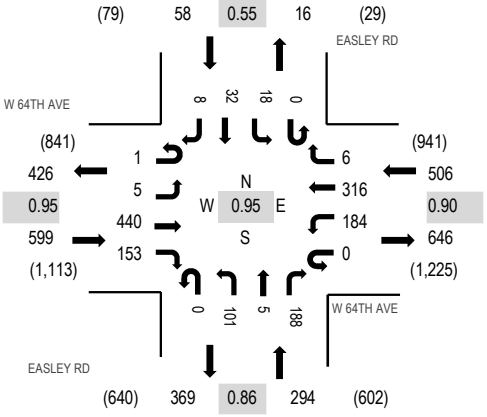
Traffic Counts - Motorized Vehicles

Interval Start Time	W 64TH AVE Eastbound				W 64TH AVE Westbound				VIRGIL WAY Northbound				VIRGIL WAY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	7	86	2	1	7	74	18	0	1	0	7	0	5	2	6	216	1,018	0	0	0	0
4:15 PM	0	5	97	4	1	4	106	10	0	2	2	4	0	9	1	4	249	1,078	0	2	1	1
4:30 PM	0	11	132	3	1	6	64	11	0	1	0	7	0	9	0	5	250	1,095	0	0	2	0
4:45 PM	0	12	135	5	3	4	103	9	0	0	3	9	0	7	1	12	303	1,099	0	0	1	1
5:00 PM	1	12	155	0	1	6	76	9	0	1	0	3	0	6	0	6	276	1,091	0	0	1	1
5:15 PM	0	7	138	2	1	5	72	19	0	1	0	6	0	8	1	6	266		0	1	0	0
5:30 PM	0	6	119	1	0	6	82	13	0	1	1	6	0	11	1	7	254		0	0	0	0
5:45 PM	0	6	134	3	0	8	106	16	0	2	2	3	0	9	1	5	295		0	0	0	0
Count Total	1	66	996	20	8	46	683	105	0	9	8	45	0	64	7	51	2,109		0	3	5	3
Peak Hour	1	37	547	8	5	21	333	50	0	3	4	24	0	32	3	31	1,099		0	1	2	2

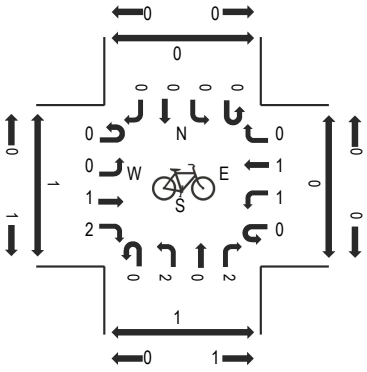
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 EASLEY RD & W 64TH AVE PM
Date: Tuesday, April 22, 2025
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

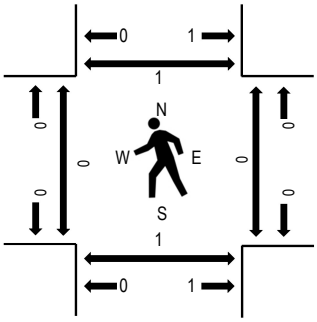
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

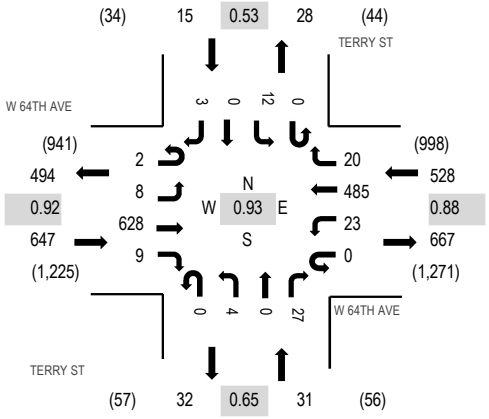
Traffic Counts - Motorized Vehicles

Interval Start Time	W 64TH AVE Eastbound				W 64TH AVE Westbound				EASLEY RD Northbound				EASLEY RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	1	1	79	18	0	35	73	1	0	27	0	46	0	1	2	0	284	1,278	1	0	0	0
4:15 PM	1	0	88	22	0	37	73	0	0	44	1	45	0	3	2	2	318	1,359	0	0	2	1
4:30 PM	0	0	108	39	0	40	61	2	0	18	3	40	0	3	0	2	316	1,424	0	0	2	0
4:45 PM	0	2	117	38	0	36	76	1	0	35	2	47	0	2	2	2	360	1,447	0	0	0	2
5:00 PM	0	0	123	41	0	44	72	0	0	20	1	42	0	8	12	2	365	1,457	0	0	1	1
5:15 PM	0	2	123	29	0	49	76	1	0	20	2	53	0	9	17	2	383		0	0	0	0
5:30 PM	0	1	97	40	0	43	77	3	0	22	2	48	0	1	3	2	339		0	0	0	0
5:45 PM	1	2	97	43	0	48	91	2	0	39	0	45	0	0	0	2	370		0	0	0	0
Count Total	3	8	832	270	0	332	599	10	0	225	11	366	0	27	38	14	2,735		1	0	5	4
Peak Hour	1	5	440	153	0	184	316	6	0	101	5	188	0	18	32	8	1,457		0	0	1	1

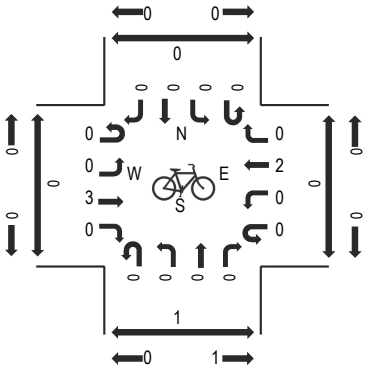
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 3 TERRY ST & W 64TH AVE PM
Date: Tuesday, April 22, 2025
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

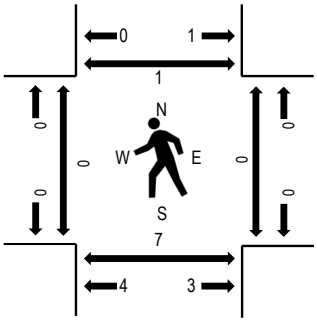
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

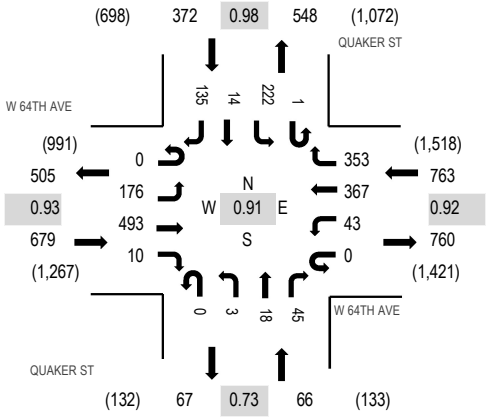
Traffic Counts - Motorized Vehicles

Interval Start Time	W 64TH AVE Eastbound				W 64TH AVE Westbound				TERRY ST Northbound				TERRY ST Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	127	1	0	8	104	2	0	2	0	5	0	7	0	2	258	1,092	0	0	1	0
4:15 PM	0	3	125	5	0	1	109	5	0	2	0	2	0	5	0	0	257	1,130	0	0	0	1
4:30 PM	0	0	150	0	0	6	103	4	0	0	0	9	0	3	0	1	276	1,202	0	0	2	1
4:45 PM	0	1	166	0	0	4	123	1	0	1	0	4	0	1	0	0	301	1,216	0	0	3	1
5:00 PM	0	1	170	2	0	4	104	6	0	1	0	4	0	4	0	0	296	1,221	0	0	2	1
5:15 PM	0	5	177	2	0	7	124	3	0	2	0	3	0	4	0	2	329		0	0	0	0
5:30 PM	1	1	143	3	0	4	119	7	0	1	0	11	0	0	0	0	290		0	0	5	0
5:45 PM	1	1	138	2	0	8	138	4	0	0	0	9	0	4	0	1	306		0	0	0	0
Count Total	2	12	1,196	15	0	42	924	32	0	9	0	47	0	28	0	6	2,313		0	0	13	4
Peak Hour	2	8	628	9	0	23	485	20	0	4	0	27	0	12	0	3	1,221		0	0	7	1

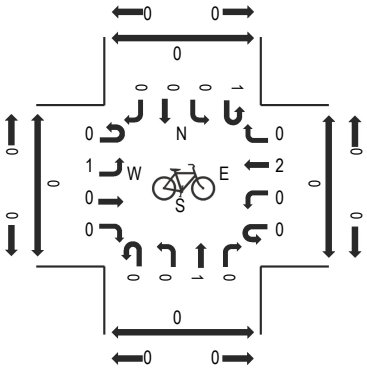
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 4 QUAKER ST & W 64TH AVE PM
Date: Tuesday, April 22, 2025
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

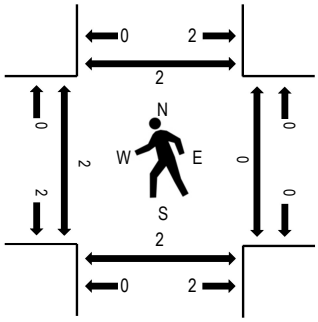
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

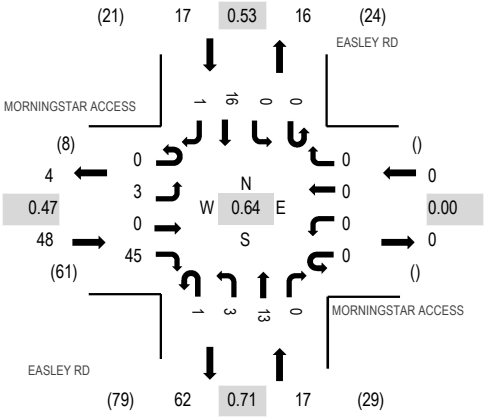
Traffic Counts - Motorized Vehicles

Interval Start Time	W 64TH AVE Eastbound				W 64TH AVE Westbound				QUAKER ST Northbound				QUAKER ST Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	47	89	4	0	10	95	65	0	0	3	17	0	54	5	16	405	1,752	0	0	0	0
4:15 PM	0	33	89	4	0	13	86	101	0	0	6	12	0	68	1	27	440	1,804	1	0	0	1
4:30 PM	0	51	118	1	0	8	90	87	0	1	5	11	0	49	1	26	448	1,879	0	0	0	0
4:45 PM	0	48	118	2	0	10	89	88	0	1	2	8	0	53	3	37	459	1,880	0	0	0	0
5:00 PM	0	38	133	4	0	11	87	77	0	0	4	12	1	61	5	24	457	1,864	0	0	0	0
5:15 PM	0	51	136	2	0	10	103	97	0	0	5	18	0	53	5	35	515		2	0	0	0
5:30 PM	0	39	106	2	0	12	88	91	0	2	7	7	0	55	1	39	449		0	0	2	2
5:45 PM	0	42	106	4	0	10	109	81	0	2	3	7	0	41	4	34	443		0	0	1	0
Count Total	0	349	895	23	0	84	747	687	0	6	35	92	1	434	25	238	3,616		3	0	3	3
Peak Hour	0	176	493	10	0	43	367	353	0	3	18	45	1	222	14	135	1,880		2	0	2	2

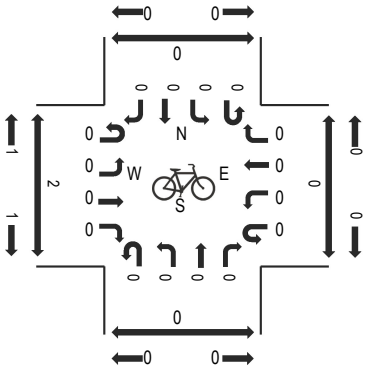
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 5 EASLEY RD & MORNINGSTAR ACCESS PM
Date: Tuesday, April 22, 2025
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

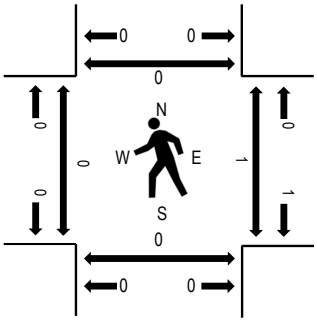
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

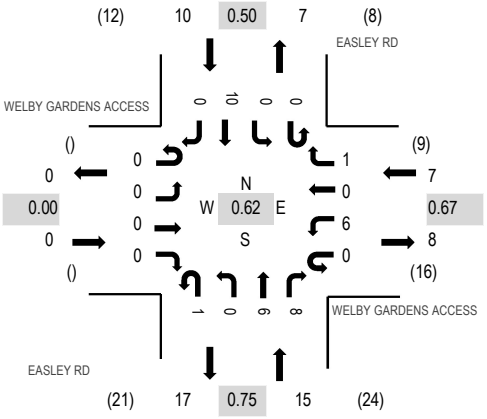
Traffic Counts - Motorized Vehicles

Interval Start Time	MORNINGSTAR ACCESS Eastbound				MORNINGSTAR ACCESS Westbound				EASLEY RD Northbound				EASLEY RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	0	2	0	0	0	0	0	2	0	0	0	0	1	0	5	34	0	0	0	0
4:15 PM	0	0	0	5	0	0	0	0	0	0	1	0	0	0	2	0	8	61	0	0	0	0
4:30 PM	0	0	0	5	0	0	0	0	0	1	4	0	0	0	0	0	10	80	0	0	0	0
4:45 PM	0	0	0	4	0	0	0	0	0	0	5	0	0	0	2	0	11	82	0	1	0	0
5:00 PM	0	2	0	24	0	0	0	0	0	1	0	0	0	0	4	1	32	77	0	0	0	0
5:15 PM	0	1	0	13	0	0	0	0	0	1	4	0	0	0	8	0	27		0	0	0	0
5:30 PM	0	0	0	4	0	0	0	0	1	1	4	0	0	0	2	0	12		0	0	0	0
5:45 PM	0	0	0	1	0	0	0	0	0	1	3	0	0	0	1	0	6		0	2	0	0
Count Total	0	3	0	58	0	0	0	0	1	7	21	0	0	0	20	1	111		0	3	0	0
Peak Hour	0	3	0	45	0	0	0	0	1	3	13	0	0	0	16	1	82		0	1	0	0

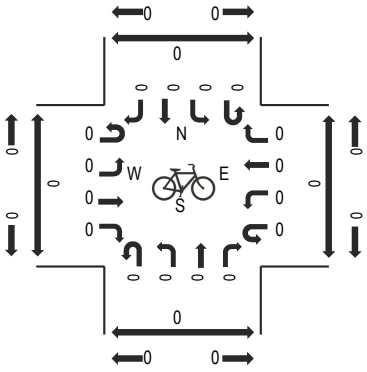
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 6 EASLEY RD & WELBY GARDENS ACCESS PM
Date: Tuesday, April 22, 2025
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

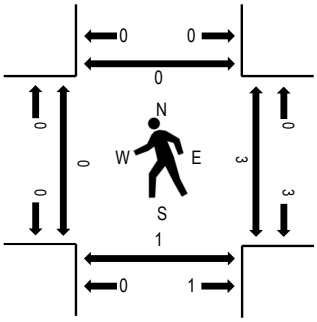
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

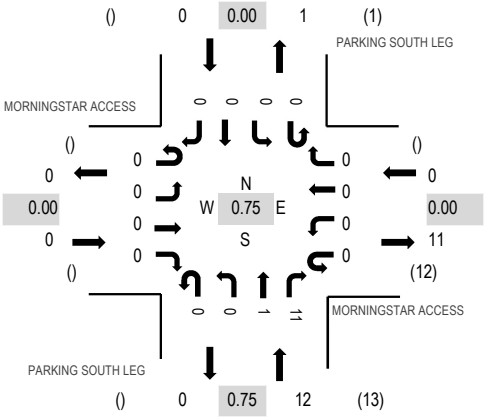
Traffic Counts - Motorized Vehicles

Interval Start Time	WELBY GARDENS ACCESS Eastbound				WELBY GARDENS ACCESS Westbound				EASLEY RD Northbound				EASLEY RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	14	0	0	0	0
4:15 PM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	3	20	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	30	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	3	0	0	2	0	6	32	0	0	0	0
5:00 PM	0	0	0	0	0	2	0	0	0	0	2	0	0	0	3	0	7	31	0	0	1	0
5:15 PM	0	0	0	0	0	2	0	1	1	0	2	2	0	0	5	0	13		0	0	0	0
5:30 PM	0	0	0	0	0	2	0	0	0	0	1	3	0	0	0	0	6		0	3	0	0
5:45 PM	0	0	0	0	0	1	0	0	0	0	1	3	0	0	0	0	5		0	0	0	0
Count Total	0	0	0	0	0	8	0	1	1	0	7	16	0	0	12	0	45		0	3	1	0
Peak Hour	0	0	0	0	0	6	0	1	1	0	6	8	0	0	10	0	32		0	3	1	0

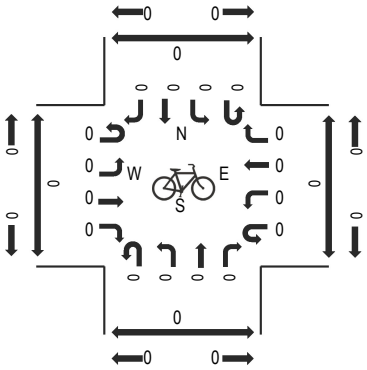
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 7 PARKING SOUTH LEG & MORNINGSTAR ACCESS PM
Date: Tuesday, April 22, 2025
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

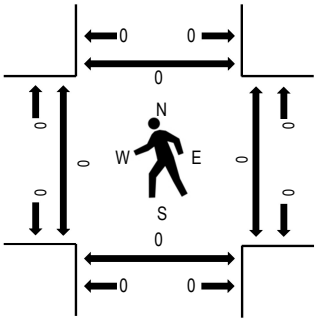
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



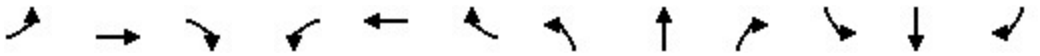
Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	MORNINGSTAR ACCESS Eastbound				MORNINGSTAR ACCESS Westbound				PARKING SOUTH LEG Northbound				PARKING SOUTH LEG Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	12	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	10	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	7	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	4	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1		0	0	1	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	1	12	0	0	0	0	13		0	0	1	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	1	11	0	0	0	0	12		0	0	0	0

APPENDIX “C”

INTERSECTION CAPACITY ANALYSIS WORKSHEETS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		200	150		200	0		0	100		0
Storage Lanes	1		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.915			0.886	
Flt Protected	0.950			0.950				0.991		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1689	0	1770	1650	0
Flt Permitted	0.950			0.950				0.991		0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1689	0	1770	1650	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		509			1111			528			387	
Travel Time (s)		11.6			25.3			12.0			8.8	

Intersection Summary	
Area Type:	Other

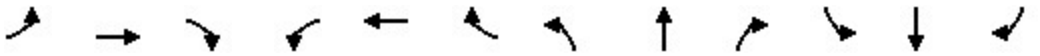
Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	183	2	15	252	32	7	7	25	47	5	15
Future Vol, veh/h	6	183	2	15	252	32	7	7	25	47	5	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	200	150	-	200	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	199	2	16	274	35	8	8	27	51	5	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	309	0	0	201	0	0	384	553	99	423	521	137
Stage 1	-	-	-	-	-	-	212	212	-	307	307	-
Stage 2	-	-	-	-	-	-	172	341	-	116	214	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1249	-	-	1368	-	-	549	439	937	515	459	886
Stage 1	-	-	-	-	-	-	770	726	-	678	660	-
Stage 2	-	-	-	-	-	-	813	637	-	876	724	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1249	-	-	1368	-	-	523	432	937	483	451	886
Mov Cap-2 Maneuver	-	-	-	-	-	-	523	432	-	483	451	-
Stage 1	-	-	-	-	-	-	766	722	-	670	652	-
Stage 2	-	-	-	-	-	-	782	629	-	837	720	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.25	0.38	10.53	12.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	693	1249	-	-	1368	-	-	483	714
HCM Lane V/C Ratio	0.061	0.005	-	-	0.012	-	-	0.106	0.03
HCM Control Delay (s/veh)	10.5	7.9	-	-	7.7	-	-	13.3	10.2
HCM Lane LOS	B	A	-	-	A	-	-	B	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.4	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.857			0.960	
Flt Protected	0.950			0.950			0.950				0.991	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1596	0	0	1772	0
Flt Permitted	0.950			0.950			0.950				0.991	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1596	0	0	1772	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1111			598			564			445	
Travel Time (s)		25.3			13.6			12.8			10.1	

Intersection Summary	
Area Type:	Other

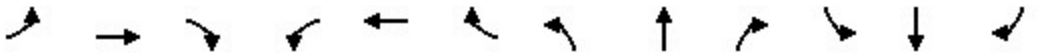
Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	165	85	139	228	9	63	6	140	5	13	7
Future Vol, veh/h	6	165	85	139	228	9	63	6	140	5	13	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	150	-	200	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	179	92	151	248	10	68	7	152	5	14	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	258	0	0	272	0	0	626	752	90	656	835	124
Stage 1	-	-	-	-	-	-	192	192	-	550	550	-
Stage 2	-	-	-	-	-	-	433	560	-	106	285	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1304	-	-	1289	-	-	369	338	950	351	302	904
Stage 1	-	-	-	-	-	-	791	740	-	487	514	-
Stage 2	-	-	-	-	-	-	571	509	-	888	674	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1304	-	-	1289	-	-	306	296	950	254	265	904
Mov Cap-2 Maneuver	-	-	-	-	-	-	306	296	-	254	265	-
Stage 1	-	-	-	-	-	-	787	736	-	430	454	-
Stage 2	-	-	-	-	-	-	484	449	-	736	671	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.18	3.02	13.08	17
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	306	871	1304	-	-	1289	-	-	327
HCM Lane V/C Ratio	0.224	0.182	0.005	-	-	0.117	-	-	0.083
HCM Control Delay (s/veh)	20.1	10	7.8	-	-	8.2	-	-	17
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.8	0.7	0	-	-	0.4	-	-	0.3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	200		150	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.878			0.941	
Flt Protected	0.950			0.950				0.995			0.975	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1627	0	0	1709	0
Flt Permitted	0.950			0.950				0.995			0.975	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1627	0	0	1709	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		598			2068			454			273	
Travel Time (s)		13.6			47.0			7.4			6.2	

Intersection Summary	
Area Type:	Other

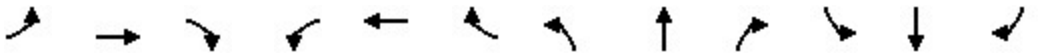
Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	300	5	15	362	18	4	0	34	12	1	10
Future Vol, veh/h	5	300	5	15	362	18	4	0	34	12	1	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	200	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	326	5	16	393	20	4	0	37	13	1	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	413	0	0	332	0	0	567	783	163	600	768	197
Stage 1	-	-	-	-	-	-	337	337	-	426	426	-
Stage 2	-	-	-	-	-	-	230	446	-	174	342	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1142	-	-	1225	-	-	406	324	853	385	330	811
Stage 1	-	-	-	-	-	-	651	640	-	577	584	-
Stage 2	-	-	-	-	-	-	752	573	-	811	636	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1142	-	-	1225	-	-	392	318	853	361	324	811
Mov Cap-2 Maneuver	-	-	-	-	-	-	392	318	-	361	324	-
Stage 1	-	-	-	-	-	-	648	637	-	569	576	-
Stage 2	-	-	-	-	-	-	731	565	-	772	633	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.13	0.3	10.01	13.03
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	759	1142	-	-	1225	-	-	473
HCM Lane V/C Ratio	0.054	0.005	-	-	0.013	-	-	0.053
HCM Control Delay (s/veh)	10	8.2	-	-	8	-	-	13
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2



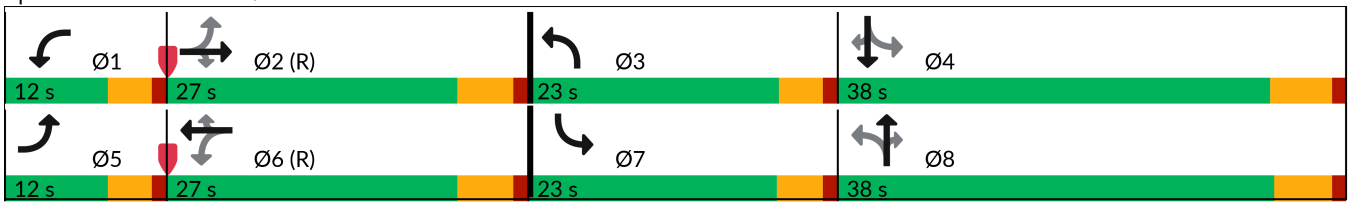
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		150	150		200	75		150	200		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.545			0.601			0.751			0.463		
Satd. Flow (perm)	1015	3539	1583	1120	3539	1583	1399	1863	1583	862	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			176			119			142
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2068			705			812			759	
Travel Time (s)		47.0			16.0			18.5			17.3	

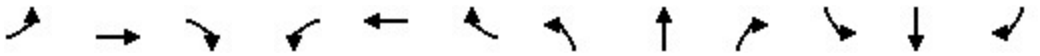
Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	224	7	36	266	162	3	10	48	369	9	131
Future Volume (vph)	95	224	7	36	266	162	3	10	48	369	9	131
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.2	42.2	9.5	42.2	42.2	9.5	40.3	40.3	9.5	40.6	40.6
Total Split (s)	12.0	27.0	27.0	12.0	27.0	27.0	23.0	38.0	38.0	23.0	38.0	38.0
Total Split (%)	12.0%	27.0%	27.0%	12.0%	27.0%	27.0%	23.0%	38.0%	38.0%	23.0%	38.0%	38.0%
Yellow Time (s)	3.3	4.2	4.2	3.3	4.2	4.2	3.2	4.3	4.3	3.4	4.6	4.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	5.2	5.2	4.3	5.2	5.2	4.2	5.3	5.3	4.4	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	62.0	55.8	55.8	58.5	52.3	52.3	11.7	6.2	6.2	27.9	24.7	24.7
Actuated g/C Ratio	0.62	0.56	0.56	0.59	0.52	0.52	0.12	0.06	0.06	0.28	0.25	0.25
v/c Ratio	0.15	0.12	0.01	0.06	0.16	0.19	0.02	0.10	0.25	0.98	0.02	0.29
Control Delay (s/veh)	8.6	12.6	0.0	8.4	14.4	3.1	25.7	45.6	2.8	74.6	29.3	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.6	12.6	0.0	8.4	14.4	3.1	25.7	45.6	2.8	74.6	29.3	7.3
LOS	A	B	A	A	B	A	C	D	A	E	C	A
Approach Delay (s/veh)		11.1			10.0			11.0			56.5	
Approach LOS		B			A			B			E	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 98 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay (s/veh): 27.7	Intersection LOS: C
Intersection Capacity Utilization 52.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Quaker St. & W 64th Ave.

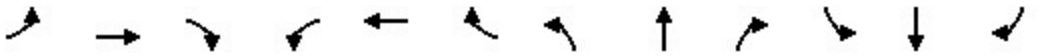




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	103	243	8	39	289	176	3	11	52	401	10	142
v/c Ratio	0.15	0.12	0.01	0.06	0.16	0.19	0.02	0.10	0.25	0.98	0.02	0.29
Control Delay (s/veh)	8.6	12.6	0.0	8.4	14.4	3.1	25.7	45.6	2.8	74.6	29.3	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.6	12.6	0.0	8.4	14.4	3.1	25.7	45.6	2.8	74.6	29.3	7.3
Queue Length 50th (ft)	25	42	0	9	52	0	1	7	0	231	5	0
Queue Length 95th (ft)	48	67	0	23	83	37	8	25	0	#351	19	50
Internal Link Dist (ft)		1988			625			732			679	
Turn Bay Length (ft)	130		150	150		200	75		150	200		150
Base Capacity (vph)	692	1973	937	715	1852	912	416	609	597	409	603	608
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.12	0.01	0.05	0.16	0.19	0.01	0.02	0.09	0.98	0.02	0.23

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	224	7	36	266	162	3	10	48	369	9	131
Future Volume (veh/h)	95	224	7	36	266	162	3	10	48	369	9	131
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	243	8	39	289	176	3	11	52	401	10	142
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	597	1891	844	693	1841	821	145	100	85	468	445	377
Arrive On Green	0.05	0.53	0.53	0.03	0.52	0.52	0.00	0.05	0.05	0.19	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	103	243	8	39	289	176	3	11	52	401	10	142
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.7	3.4	0.2	1.0	4.3	6.0	0.2	0.6	3.2	18.6	0.4	7.5
Cycle Q Clear(g_c), s	2.7	3.4	0.2	1.0	4.3	6.0	0.2	0.6	3.2	18.6	0.4	7.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	597	1891	844	693	1841	821	145	100	85	468	445	377
V/C Ratio(X)	0.17	0.13	0.01	0.06	0.16	0.21	0.02	0.11	0.61	0.86	0.02	0.38
Avail Cap(c_a), veh/h	650	1891	844	771	1841	821	473	612	518	468	606	514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.1	11.7	11.0	10.3	12.6	13.1	44.5	45.0	46.3	35.8	29.2	31.9
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.0	0.2	0.6	0.1	0.5	6.9	14.6	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	2.4	0.2	0.7	3.1	4.0	0.1	0.5	2.6	16.5	0.3	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.3	11.9	11.0	10.4	12.8	13.7	44.5	45.5	53.2	50.5	29.2	32.5
LnGrp LOS	B	B	B	B	B	B	D	D	D	D	C	C
Approach Vol, veh/h		354			504			66			553	
Approach Delay, s/veh		11.4			12.9			51.5			45.5	
Approach LOS		B			B			D			D	

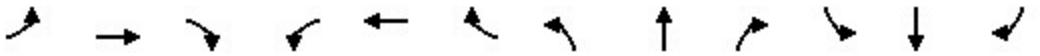
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	58.4	4.6	29.4	9.0	57.0	23.0	11.0
Change Period (Y+Rc), s	4.3	5.2	4.2	5.6	4.3	5.2	4.4	* 5.6
Max Green Setting (Gmax), s	7.7	21.8	18.8	32.4	7.7	21.8	18.6	* 33
Max Q Clear Time (g_c+I1), s	3.0	5.4	2.2	9.5	4.7	8.0	20.6	5.2
Green Ext Time (p_c), s	0.0	1.3	0.0	0.5	0.1	2.1	0.0	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	26.5
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		200	150		200	0		0	100		0
Storage Lanes	1		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.894			0.862	
Flt Protected	0.950			0.950				0.995		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1657	0	1770	1606	0
Flt Permitted	0.950			0.950				0.995		0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1657	0	1770	1606	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		509			1111			528			387	
Travel Time (s)		11.6			25.3			12.0			8.8	

Intersection Summary	
Area Type:	Other

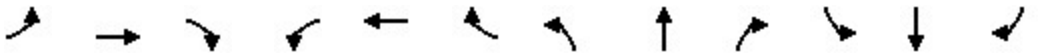
Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	547	8	26	333	50	3	4	24	32	3	31
Future Vol, veh/h	38	547	8	26	333	50	3	4	24	32	3	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	200	150	-	200	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	595	9	28	362	54	3	4	26	35	3	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	416	0	0	603	0	0	916	1150	297	801	1104	181
Stage 1	-	-	-	-	-	-	677	677	-	418	418	-
Stage 2	-	-	-	-	-	-	239	473	-	382	686	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1139	-	-	970	-	-	227	197	699	276	210	831
Stage 1	-	-	-	-	-	-	409	450	-	583	589	-
Stage 2	-	-	-	-	-	-	743	557	-	612	446	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1139	-	-	970	-	-	201	184	699	243	196	831
Mov Cap-2 Maneuver	-	-	-	-	-	-	201	184	-	243	196	-
Stage 1	-	-	-	-	-	-	394	434	-	566	572	-
Stage 2	-	-	-	-	-	-	688	541	-	562	430	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.53	0.56	13.93	16.42
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	437	1139	-	-	970	-	-	243	646
HCM Lane V/C Ratio	0.077	0.036	-	-	0.029	-	-	0.143	0.057
HCM Control Delay (s/veh)	13.9	8.3	-	-	8.8	-	-	22.3	10.9
HCM Lane LOS	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.1	-	-	0.5	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.854			0.981	
Flt Protected	0.950			0.950			0.950				0.985	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1591	0	0	1800	0
Flt Permitted	0.950			0.950			0.950				0.985	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1591	0	0	1800	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1111			598			564			445	
Travel Time (s)		25.3			13.6			12.8			10.1	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	20.1

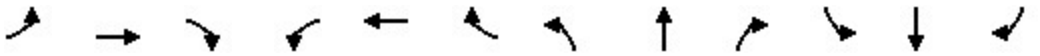
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	441	156	184	316	6	101	5	188	18	32	8
Future Vol, veh/h	6	441	156	184	316	6	101	5	188	18	32	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	150	-	200	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	479	170	200	343	7	110	5	204	20	35	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	350	0	0	649	0	0	1082	1242	240	999	1405	172
Stage 1	-	-	-	-	-	-	492	492	-	743	743	-
Stage 2	-	-	-	-	-	-	589	750	-	255	662	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1206	-	-	933	-	-	172	173	761	198	138	842
Stage 1	-	-	-	-	-	-	527	546	-	373	420	-
Stage 2	-	-	-	-	-	-	461	417	-	727	457	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1206	-	-	933	-	-	~ 97	135	761	109	108	842
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 97	135	-	109	108	-
Stage 1	-	-	-	-	-	-	524	543	-	293	330	-
Stage 2	-	-	-	-	-	-	321	328	-	523	455	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.08	3.6	81.28	61.38
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	97	680	1206	-	-	933	-	-	123
HCM Lane V/C Ratio	1.132	0.309	0.005	-	-	0.214	-	-	0.511
HCM Control Delay (s/veh)	212.4	12.6	8	-	-	9.9	-	-	61.4
HCM Lane LOS	F	B	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	7.3	1.3	0	-	-	0.8	-	-	2.4

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	200		150	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.897			0.975	
Flt Protected	0.950			0.950				0.988			0.961	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1651	0	0	1745	0
Flt Permitted	0.950			0.950				0.988			0.961	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1651	0	0	1745	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		598			2068			454			273	
Travel Time (s)		13.6			47.0			7.4			6.2	

Intersection Summary	
Area Type:	Other

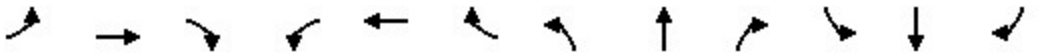
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	628	9	23	495	20	8	0	27	12	0	3
Future Vol, veh/h	10	628	9	23	495	20	8	0	27	12	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	200	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	683	10	25	538	22	9	0	29	13	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	560	0	0	692	0	0	1023	1314	341	951	1302	269
Stage 1	-	-	-	-	-	-	704	704	-	588	588	-
Stage 2	-	-	-	-	-	-	319	610	-	363	714	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1007	-	-	899	-	-	190	157	655	214	160	729
Stage 1	-	-	-	-	-	-	394	438	-	462	494	-
Stage 2	-	-	-	-	-	-	667	483	-	628	433	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1007	-	-	899	-	-	182	151	655	197	153	729
Mov Cap-2 Maneuver	-	-	-	-	-	-	182	151	-	197	153	-
Stage 1	-	-	-	-	-	-	389	433	-	449	480	-
Stage 2	-	-	-	-	-	-	645	470	-	594	428	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.13	0.39	14.67	21.8
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	410	1007	-	-	899	-	-	231
HCM Lane V/C Ratio	0.093	0.011	-	-	0.028	-	-	0.071
HCM Control Delay (s/veh)	14.7	8.6	-	-	9.1	-	-	21.8
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.2



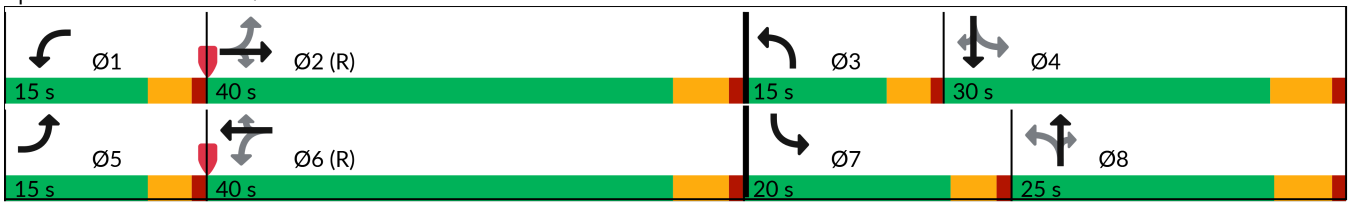
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		150	150		200	75		150	200		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.458			0.453			0.748			0.471		
Satd. Flow (perm)	853	3539	1583	844	3539	1583	1393	1863	1583	877	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169			384			165			147
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2068			705			812			759	
Travel Time (s)		47.0			16.0			18.5			17.3	

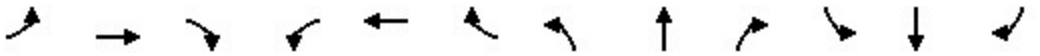
Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	176	493	10	43	367	353	3	18	45	223	14	135
Future Volume (vph)	176	493	10	43	367	353	3	18	45	223	14	135
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.2	42.2	9.5	42.2	42.2	9.5	40.3	40.3	9.5	40.6	40.6
Total Split (s)	15.0	40.0	40.0	15.0	40.0	40.0	15.0	25.0	25.0	20.0	30.0	30.0
Total Split (%)	15.0%	40.0%	40.0%	15.0%	40.0%	40.0%	15.0%	25.0%	25.0%	20.0%	30.0%	30.0%
Yellow Time (s)	3.3	4.2	4.2	3.3	4.2	4.2	3.2	4.3	4.3	3.4	4.6	4.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	5.2	5.2	4.3	5.2	5.2	4.2	5.3	5.3	4.4	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	66.4	58.9	58.9	58.9	51.5	51.5	12.1	6.7	6.7	24.7	21.5	21.5
Actuated g/C Ratio	0.66	0.59	0.59	0.59	0.52	0.52	0.12	0.07	0.07	0.25	0.22	0.22
v/c Ratio	0.29	0.26	0.01	0.08	0.22	0.38	0.02	0.16	0.19	0.69	0.04	0.32
Control Delay (s/veh)	8.4	12.2	0.0	7.8	15.1	3.0	26.7	46.4	1.6	42.7	31.1	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.4	12.2	0.0	7.8	15.1	3.0	26.7	46.4	1.6	42.7	31.1	7.9
LOS	A	B	A	A	B	A	C	D	A	D	C	A
Approach Delay (s/veh)		11.1			9.1			15.1			29.6	
Approach LOS		B			A			B			C	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 38 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay (s/veh): 14.1	Intersection LOS: B
Intersection Capacity Utilization 51.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Quaker St. & W 64th Ave.





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	191	536	11	47	399	384	3	20	49	242	15	147
v/c Ratio	0.29	0.26	0.01	0.08	0.22	0.38	0.02	0.16	0.19	0.69	0.04	0.32
Control Delay (s/veh)	8.4	12.2	0.0	7.8	15.1	3.0	26.7	46.4	1.6	42.7	31.1	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.4	12.2	0.0	7.8	15.1	3.0	26.7	46.4	1.6	42.7	31.1	7.9
Queue Length 50th (ft)	45	96	0	10	74	0	1	12	0	130	7	0
Queue Length 95th (ft)	78	140	0	24	115	52	8	36	0	201	26	52
Internal Link Dist (ft)		1988			625			732			679	
Turn Bay Length (ft)	130		150	150		200	75		150	200		150
Base Capacity (vph)	670	2083	1001	631	1823	1001	281	367	444	362	474	513
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.26	0.01	0.07	0.22	0.38	0.01	0.05	0.11	0.67	0.03	0.29

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	493	10	43	367	353	3	18	45	223	14	135
Future Volume (veh/h)	176	493	10	43	367	353	3	18	45	223	14	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	191	536	11	47	399	384	3	20	49	242	15	147
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	526	2036	908	564	1925	859	142	97	82	384	362	307
Arrive On Green	0.07	0.57	0.57	0.04	0.54	0.54	0.00	0.05	0.05	0.14	0.19	0.19
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	191	536	11	47	399	384	3	20	49	242	15	147
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.6	7.6	0.3	1.1	5.8	14.7	0.2	1.0	3.0	12.3	0.7	8.2
Cycle Q Clear(g_c), s	4.6	7.6	0.3	1.1	5.8	14.7	0.2	1.0	3.0	12.3	0.7	8.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	526	2036	908	564	1925	859	142	97	82	384	362	307
V/C Ratio(X)	0.36	0.26	0.01	0.08	0.21	0.45	0.02	0.21	0.60	0.63	0.04	0.48
Avail Cap(c_a), veh/h	597	2036	908	690	1925	859	328	368	312	405	456	387
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.5	10.7	9.2	9.2	11.8	13.9	44.7	45.5	46.4	35.6	32.8	35.8
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.1	0.2	1.7	0.1	1.0	6.8	2.9	0.0	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.1	5.3	0.2	0.8	4.1	9.2	0.1	0.9	2.4	9.5	0.5	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.9	11.1	9.2	9.3	12.1	15.5	44.7	46.5	53.2	38.5	32.8	37.0
LnGrp LOS	A	B	A	A	B	B	D	D	D	D	C	D
Approach Vol, veh/h		738			830			72			404	
Approach Delay, s/veh		10.5			13.5			51.0			37.8	
Approach LOS		B			B			D			D	

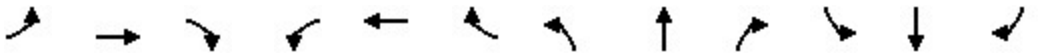
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.9	62.5	4.6	25.0	11.1	59.4	18.8	10.8
Change Period (Y+Rc), s	4.3	5.2	4.2	5.6	4.3	5.2	4.4	* 5.6
Max Green Setting (Gmax), s	10.7	34.8	10.8	24.4	10.7	34.8	15.6	* 20
Max Q Clear Time (g_c+I1), s	3.1	9.6	2.2	10.2	6.6	16.7	14.3	5.0
Green Ext Time (p_c), s	0.0	3.8	0.0	0.4	0.2	3.9	0.1	0.1

Intersection Summary	
HCM 7th Control Delay, s/veh	18.5
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		200	150		200	0		0	100		0
Storage Lanes	1		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.914			0.886	
Flt Protected	0.950			0.950				0.991		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1687	0	1770	1650	0
Flt Permitted	0.950			0.950				0.991		0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1687	0	1770	1650	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		509			1111			528			387	
Travel Time (s)		11.6			25.3			12.0			8.8	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	188	2	15	259	33	7	7	26	48	5	15
Future Vol, veh/h	6	188	2	15	259	33	7	7	26	48	5	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	200	150	-	200	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	204	2	16	282	36	8	8	28	52	5	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	317	0	0	207	0	0	393	567	102	433	534	141
Stage 1	-	-	-	-	-	-	217	217	-	314	314	-
Stage 2	-	-	-	-	-	-	176	350	-	119	220	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1239	-	-	1362	-	-	540	431	933	506	451	881
Stage 1	-	-	-	-	-	-	765	722	-	671	655	-
Stage 2	-	-	-	-	-	-	809	631	-	873	720	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1239	-	-	1362	-	-	515	424	933	474	443	881
Mov Cap-2 Maneuver	-	-	-	-	-	-	515	424	-	474	443	-
Stage 1	-	-	-	-	-	-	761	718	-	663	647	-
Stage 2	-	-	-	-	-	-	777	624	-	833	716	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.24	0.38	10.57	12.57
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	690	1239	-	-	1362	-	-	474	707
HCM Lane V/C Ratio	0.063	0.005	-	-	0.012	-	-	0.11	0.031
HCM Control Delay (s/veh)	10.6	7.9	-	-	7.7	-	-	13.5	10.3
HCM Lane LOS	B	A	-	-	A	-	-	B	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.4	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.856			0.960	
Flt Protected	0.950			0.950			0.950				0.991	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1595	0	0	1772	0
Flt Permitted	0.950			0.950			0.950				0.991	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1595	0	0	1772	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1111			598			564			445	
Travel Time (s)		25.3			13.6			12.8			10.1	

Intersection Summary	
Area Type:	Other

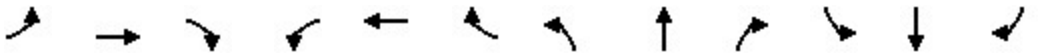
Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	170	87	143	235	9	65	6	144	5	13	7
Future Vol, veh/h	6	170	87	143	235	9	65	6	144	5	13	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	150	-	200	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	185	95	155	255	10	71	7	157	5	14	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	265	0	0	279	0	0	643	774	92	675	859	128
Stage 1	-	-	-	-	-	-	198	198	-	566	566	-
Stage 2	-	-	-	-	-	-	446	576	-	109	292	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1296	-	-	1280	-	-	358	328	947	340	293	899
Stage 1	-	-	-	-	-	-	785	736	-	476	505	-
Stage 2	-	-	-	-	-	-	561	500	-	885	669	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1296	-	-	1280	-	-	295	287	947	243	256	899
Mov Cap-2 Maneuver	-	-	-	-	-	-	295	287	-	243	256	-
Stage 1	-	-	-	-	-	-	781	732	-	418	444	-
Stage 2	-	-	-	-	-	-	474	440	-	728	666	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.18	3.03	13.4	17.47
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	295	867	1296	-	-	1280	-	-	316
HCM Lane V/C Ratio	0.239	0.188	0.005	-	-	0.121	-	-	0.086
HCM Control Delay (s/veh)	21	10.1	7.8	-	-	8.2	-	-	17.5
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.9	0.7	0	-	-	0.4	-	-	0.3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	200		150	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.878			0.941	
Flt Protected	0.950			0.950				0.995			0.975	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1627	0	0	1709	0
Flt Permitted	0.950			0.950				0.995			0.975	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1627	0	0	1709	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		598			2068			454			273	
Travel Time (s)		13.6			47.0			7.4			6.2	

Intersection Summary	
Area Type:	Other

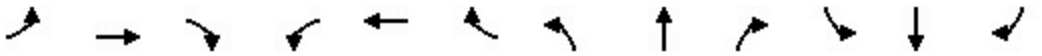
Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	309	5	15	372	19	4	0	35	12	1	10
Future Vol, veh/h	5	309	5	15	372	19	4	0	35	12	1	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	200	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	336	5	16	404	21	4	0	38	13	1	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	425	0	0	341	0	0	582	804	168	616	789	202
Stage 1	-	-	-	-	-	-	347	347	-	437	437	-
Stage 2	-	-	-	-	-	-	235	458	-	179	352	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1131	-	-	1214	-	-	396	315	847	375	321	805
Stage 1	-	-	-	-	-	-	642	633	-	568	578	-
Stage 2	-	-	-	-	-	-	747	566	-	806	630	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1131	-	-	1214	-	-	383	309	847	352	315	805
Mov Cap-2 Maneuver	-	-	-	-	-	-	383	309	-	352	315	-
Stage 1	-	-	-	-	-	-	639	630	-	561	570	-
Stage 2	-	-	-	-	-	-	725	558	-	766	627	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.13	0.3	10.07	13.23
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	753	1131	-	-	1214	-	-	462
HCM Lane V/C Ratio	0.056	0.005	-	-	0.013	-	-	0.054
HCM Control Delay (s/veh)	10.1	8.2	-	-	8	-	-	13.2
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2



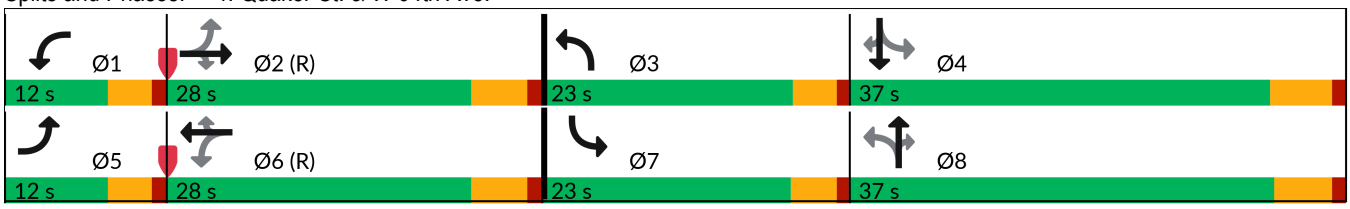
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		150	150		200	75		150	200		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.526			0.597			0.751			0.463		
Satd. Flow (perm)	980	3539	1583	1112	3539	1583	1399	1863	1583	862	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			182			119			147
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2068			705			812			759	
Travel Time (s)		47.0			16.0			18.5			17.3	

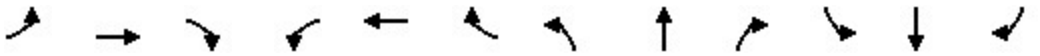
Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	230	7	37	274	167	3	10	49	380	9	135
Future Volume (vph)	98	230	7	37	274	167	3	10	49	380	9	135
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.2	42.2	9.5	42.2	42.2	9.5	40.3	40.3	9.5	40.6	40.6
Total Split (s)	12.0	28.0	28.0	12.0	28.0	28.0	23.0	37.0	37.0	23.0	37.0	37.0
Total Split (%)	12.0%	28.0%	28.0%	12.0%	28.0%	28.0%	23.0%	37.0%	37.0%	23.0%	37.0%	37.0%
Yellow Time (s)	3.3	4.2	4.2	3.3	4.2	4.2	3.2	4.3	4.3	3.4	4.6	4.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	5.2	5.2	4.3	5.2	5.2	4.2	5.3	5.3	4.4	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	62.0	55.8	55.8	57.5	50.2	50.2	11.7	6.2	6.2	27.9	24.7	24.7
Actuated g/C Ratio	0.62	0.56	0.56	0.58	0.50	0.50	0.12	0.06	0.06	0.28	0.25	0.25
v/c Ratio	0.16	0.13	0.01	0.06	0.17	0.21	0.02	0.10	0.25	1.01	0.02	0.29
Control Delay (s/veh)	8.6	12.6	0.0	8.4	14.9	3.1	25.7	45.6	2.9	81.8	29.3	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.6	12.6	0.0	8.4	14.9	3.1	25.7	45.6	2.9	81.8	29.3	7.2
LOS	A	B	A	A	B	A	C	D	A	F	C	A
Approach Delay (s/veh)		11.2			10.3			10.9			61.7	
Approach LOS		B			B			B			E	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 98 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay (s/veh): 29.8	Intersection LOS: C
Intersection Capacity Utilization 53.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Quaker St. & W 64th Ave.

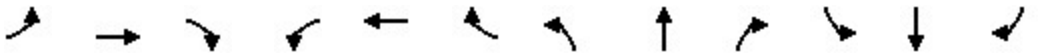




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	107	250	8	40	298	182	3	11	53	413	10	147
v/c Ratio	0.16	0.13	0.01	0.06	0.17	0.21	0.02	0.10	0.25	1.01	0.02	0.29
Control Delay (s/veh)	8.6	12.6	0.0	8.4	14.9	3.1	25.7	45.6	2.9	81.8	29.3	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.6	12.6	0.0	8.4	14.9	3.1	25.7	45.6	2.9	81.8	29.3	7.2
Queue Length 50th (ft)	26	43	0	9	54	0	1	7	0	240	5	0
Queue Length 95th (ft)	50	69	0	23	86	37	8	25	0	#370	19	51
Internal Link Dist (ft)		1988			625			732			679	
Turn Bay Length (ft)	130		150	150		200	75		150	200		150
Base Capacity (vph)	674	1973	937	704	1776	885	416	590	583	409	584	597
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.13	0.01	0.06	0.17	0.21	0.01	0.02	0.09	1.01	0.02	0.25

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	230	7	37	274	167	3	10	49	380	9	135
Future Volume (veh/h)	98	230	7	37	274	167	3	10	49	380	9	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	250	8	40	298	182	3	11	53	413	10	147
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	589	1887	842	688	1838	820	146	102	86	469	446	378
Arrive On Green	0.05	0.53	0.53	0.03	0.52	0.52	0.00	0.05	0.05	0.19	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	107	250	8	40	298	182	3	11	53	413	10	147
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.8	3.5	0.2	1.0	4.4	6.3	0.2	0.6	3.3	18.6	0.4	7.8
Cycle Q Clear(g_c), s	2.8	3.5	0.2	1.0	4.4	6.3	0.2	0.6	3.3	18.6	0.4	7.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	589	1887	842	688	1838	820	146	102	86	469	446	378
V/C Ratio(X)	0.18	0.13	0.01	0.06	0.16	0.22	0.02	0.11	0.62	0.88	0.02	0.39
Avail Cap(c_a), veh/h	642	1887	842	765	1838	820	474	593	502	469	587	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.2	11.8	11.0	10.3	12.7	13.2	44.4	45.0	46.3	36.2	29.2	32.0
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.0	0.2	0.6	0.1	0.5	6.9	17.5	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.9	2.5	0.2	0.7	3.2	4.1	0.1	0.5	2.6	17.9	0.3	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.3	12.0	11.1	10.4	12.9	13.8	44.5	45.4	53.2	53.7	29.2	32.6
LnGrp LOS	B	B	B	B	B	B	D	D	D	D	C	C
Approach Vol, veh/h		365			520			67			570	
Approach Delay, s/veh		11.5			13.0			51.5			47.8	
Approach LOS		B			B			D			D	

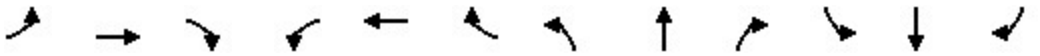
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	58.3	4.6	29.4	9.0	56.9	23.0	11.0
Change Period (Y+Rc), s	4.3	5.2	4.2	5.6	4.3	5.2	4.4	* 5.6
Max Green Setting (Gmax), s	7.7	22.8	18.8	31.4	7.7	22.8	18.6	* 32
Max Q Clear Time (g_c+I1), s	3.0	5.5	2.2	9.8	4.8	8.3	20.6	5.3
Green Ext Time (p_c), s	0.0	1.4	0.0	0.5	0.1	2.2	0.0	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	27.4
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



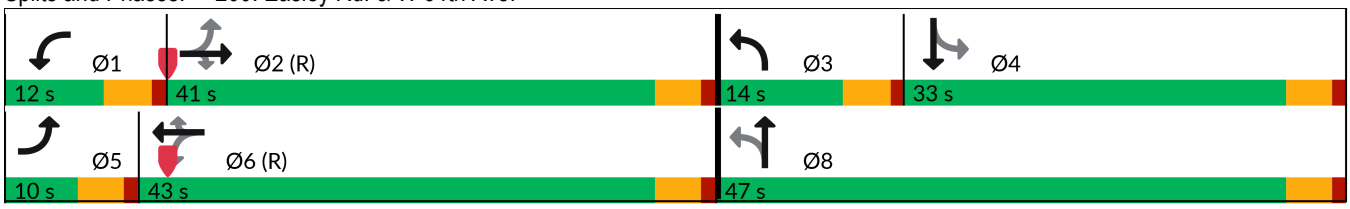
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.856			0.960	
Flt Protected	0.950			0.950			0.950				0.991	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1595	0	0	1772	0
Flt Permitted	0.594			0.592			0.634				0.895	
Satd. Flow (perm)	1106	3539	1583	1103	3539	1583	1181	1595	0	0	1600	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			115			115		157			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		606			489			425			365	
Travel Time (s)		13.8			11.1			9.7			8.3	

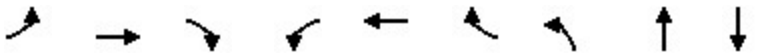
Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	6	170	87	143	235	9	65	6	5	13
Future Volume (vph)	6	170	87	143	235	9	65	6	5	13
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	5	2		1	6		3	8		4
Permitted Phases	2		2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	41.5	41.5	9.5	41.5	41.5	9.5	31.5	31.5	31.5
Total Split (s)	10.0	41.0	41.0	12.0	43.0	43.0	14.0	47.0	33.0	33.0
Total Split (%)	10.0%	41.0%	41.0%	12.0%	43.0%	43.0%	14.0%	47.0%	33.0%	33.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	68.4	62.8	62.8	75.4	73.4	73.4	15.6	15.6		6.8
Actuated g/C Ratio	0.68	0.63	0.63	0.75	0.73	0.73	0.16	0.16		0.07
v/c Ratio	0.01	0.08	0.09	0.17	0.10	0.01	0.30	0.43		0.23
Control Delay (s/veh)	5.3	9.2	1.7	4.9	5.5	0.0	37.5	9.8		38.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)	5.3	9.2	1.7	4.9	5.5	0.0	37.5	9.8		38.9
LOS	A	A	A	A	A	A	D	A		D
Approach Delay (s/veh)		6.6			5.1			18.2		38.9
Approach LOS		A			A			B		D

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.43	
Intersection Signal Delay (s/veh): 9.7	Intersection LOS: A
Intersection Capacity Utilization 34.1%	ICU Level of Service A
Analysis Period (min) 15	

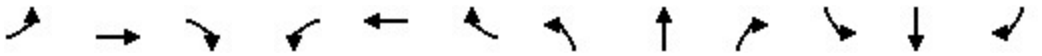
Splits and Phases: 200: Easley Rd. & W 64th Ave.





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	7	185	95	155	255	10	71	164	27
v/c Ratio	0.01	0.08	0.09	0.17	0.10	0.01	0.30	0.43	0.23
Control Delay (s/veh)	5.3	9.2	1.7	4.9	5.5	0.0	37.5	9.8	38.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	5.3	9.2	1.7	4.9	5.5	0.0	37.5	9.8	38.9
Queue Length 50th (ft)	1	25	0	28	23	0	38	4	12
Queue Length 95th (ft)	5	46	17	52	55	0	75	55	38
Internal Link Dist (ft)		526			409			345	285
Turn Bay Length (ft)	150		200	150		200	150		
Base Capacity (vph)	794	2221	1036	889	2596	1191	253	768	461
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.08	0.09	0.17	0.10	0.01	0.28	0.21	0.06

Intersection Summary



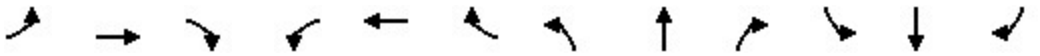
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	170	87	143	235	9	65	6	144	5	13	7
Future Volume (veh/h)	6	170	87	143	235	9	65	6	144	5	13	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	185	95	155	255	10	71	7	157	5	14	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	836	2388	1065	879	2532	1129	270	10	220	52	50	25
Arrive On Green	0.01	0.67	0.67	0.05	0.71	0.71	0.05	0.14	0.14	0.05	0.05	0.05
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	68	1527	187	996	498
Grp Volume(v), veh/h	7	185	95	155	255	10	71	0	164	27	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1595	1681	0	0
Q Serve(g_s), s	0.1	1.8	2.1	2.5	2.2	0.2	3.7	0.0	9.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	1.8	2.1	2.5	2.2	0.2	3.7	0.0	9.8	1.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.96	0.19		0.30
Lane Grp Cap(c), veh/h	836	2388	1065	879	2532	1129	270	0	229	126	0	0
V/C Ratio(X)	0.01	0.08	0.09	0.18	0.10	0.01	0.26	0.00	0.71	0.21	0.00	0.00
Avail Cap(c_a), veh/h	919	2388	1065	924	2532	1129	352	0	678	508	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.1	5.7	5.7	3.9	4.5	4.2	40.4	0.0	40.9	45.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.2	0.1	0.1	0.0	0.5	0.0	4.1	0.8	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	1.1	1.2	1.4	1.3	0.1	2.9	0.0	7.4	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	5.1	5.7	5.9	4.0	4.5	4.2	41.0	0.0	45.0	46.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D		D	D		
Approach Vol, veh/h		287			420			235			27	
Approach Delay, s/veh		5.8			4.3			43.8			46.7	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	71.7	9.4	9.5	5.4	75.7		18.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	36.5	9.5	28.5	5.5	38.5		42.5				
Max Q Clear Time (g_c+I1), s	4.5	4.1	5.7	3.5	2.1	4.2		11.8				
Green Ext Time (p_c), s	0.1	1.5	0.0	0.1	0.0	1.8		1.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	15.5
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		200	150		200	0		0	100		0
Storage Lanes	1		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.893			0.862	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1657	0	1770	1606	0
Flt Permitted	0.950			0.950				0.996		0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1657	0	1770	1606	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		509			1111			528			387	
Travel Time (s)		11.6			25.3			12.0			8.8	

Intersection Summary	
Area Type:	Other

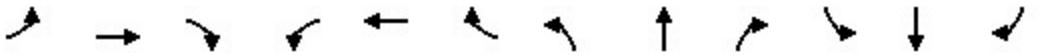
Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	563	8	27	343	51	3	4	25	33	3	32
Future Vol, veh/h	39	563	8	27	343	51	3	4	25	33	3	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	200	150	-	200	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	612	9	29	373	55	3	4	27	36	3	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	428	0	0	621	0	0	943	1184	306	824	1137	186
Stage 1	-	-	-	-	-	-	697	697	-	432	432	-
Stage 2	-	-	-	-	-	-	247	487	-	393	705	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1128	-	-	956	-	-	217	188	690	265	200	824
Stage 1	-	-	-	-	-	-	398	441	-	572	581	-
Stage 2	-	-	-	-	-	-	735	549	-	603	437	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1128	-	-	956	-	-	191	175	690	232	187	824
Mov Cap-2 Maneuver	-	-	-	-	-	-	191	175	-	232	187	-
Stage 1	-	-	-	-	-	-	383	424	-	555	563	-
Stage 2	-	-	-	-	-	-	679	532	-	552	421	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.53	0.57	14.15	16.99
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	428	1128	-	-	956	-	-	232	638
HCM Lane V/C Ratio	0.081	0.038	-	-	0.031	-	-	0.155	0.06
HCM Control Delay (s/veh)	14.2	8.3	-	-	8.9	-	-	23.3	11
HCM Lane LOS	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-	-	0.5	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.853			0.982	
Flt Protected	0.950			0.950			0.950				0.984	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1589	0	0	1800	0
Flt Permitted	0.950			0.950			0.950				0.984	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1589	0	0	1800	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1111			598			564			445	
Travel Time (s)		25.3			13.6			12.8			10.1	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	25.2

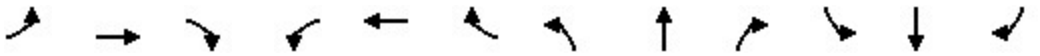
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	454	160	189	325	6	104	5	193	19	33	8
Future Vol, veh/h	6	454	160	189	325	6	104	5	193	19	33	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	150	-	200	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	493	174	205	353	7	113	5	210	21	36	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	360	0	0	667	0	0	1112	1277	247	1027	1445	177
Stage 1	-	-	-	-	-	-	507	507	-	764	764	-
Stage 2	-	-	-	-	-	-	605	771	-	263	680	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1195	-	-	918	-	-	163	165	753	189	131	836
Stage 1	-	-	-	-	-	-	517	538	-	362	411	-
Stage 2	-	-	-	-	-	-	451	408	-	720	449	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1195	-	-	918	-	-	~ 88	128	753	102	101	836
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 88	128	-	102	101	-
Stage 1	-	-	-	-	-	-	514	535	-	281	319	-
Stage 2	-	-	-	-	-	-	308	317	-	511	446	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.08	3.65	104.65	71.49
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	88	670	1195	-	-	918	-	-	115
HCM Lane V/C Ratio	1.291	0.321	0.005	-	-	0.224	-	-	0.569
HCM Control Delay (s/veh)	279.4	12.9	8	-	-	10	-	-	71.5
HCM Lane LOS	F	B	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	8.3	1.4	0	-	-	0.9	-	-	2.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	200		150	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.896			0.975	
Flt Protected	0.950			0.950				0.989			0.961	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1651	0	0	1745	0
Flt Permitted	0.950			0.950				0.989			0.961	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1651	0	0	1745	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		598			2068			454			273	
Travel Time (s)		13.6			47.0			7.4			6.2	

Intersection Summary	
Area Type:	Other

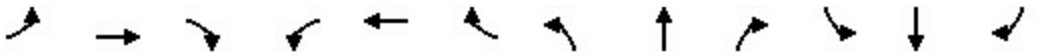
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	646	9	24	509	21	8	0	28	12	0	3
Future Vol, veh/h	10	646	9	24	509	21	8	0	28	12	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	200	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	702	10	26	553	23	9	0	30	13	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	576	0	0	712	0	0	1053	1352	351	978	1339	277
Stage 1	-	-	-	-	-	-	724	724	-	605	605	-
Stage 2	-	-	-	-	-	-	329	628	-	373	734	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	993	-	-	884	-	-	181	149	645	205	152	721
Stage 1	-	-	-	-	-	-	383	429	-	451	485	-
Stage 2	-	-	-	-	-	-	658	474	-	620	424	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	993	-	-	884	-	-	173	143	645	187	145	721
Mov Cap-2 Maneuver	-	-	-	-	-	-	173	143	-	187	145	-
Stage 1	-	-	-	-	-	-	379	424	-	438	471	-
Stage 2	-	-	-	-	-	-	636	460	-	584	420	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.13	0.4	14.94	22.69
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	401	993	-	-	884	-	-	220
HCM Lane V/C Ratio	0.098	0.011	-	-	0.03	-	-	0.074
HCM Control Delay (s/veh)	14.9	8.7	-	-	9.2	-	-	22.7
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.2



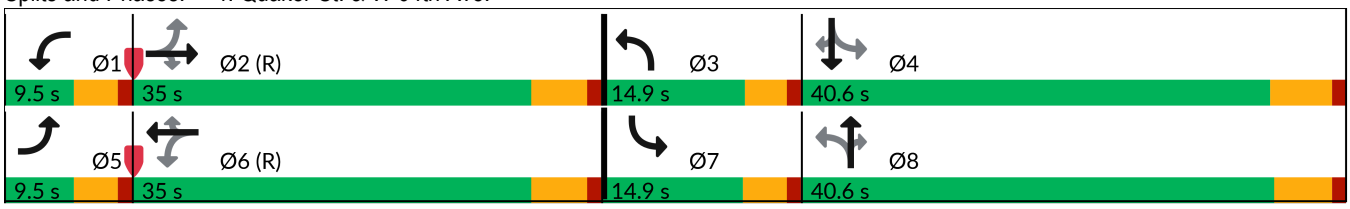
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		150	150		200	75		150	200		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.462			0.446			0.748			0.471		
Satd. Flow (perm)	861	3539	1583	831	3539	1583	1393	1863	1583	877	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			395			119			151
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2068			705			812			759	
Travel Time (s)		47.0			16.0			18.5			17.3	

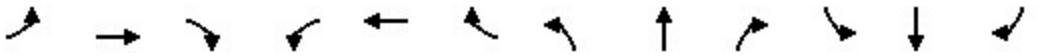
Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	507	10	44	377	363	3	19	46	229	14	139
Future Volume (vph)	181	507	10	44	377	363	3	19	46	229	14	139
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.2	42.2	9.5	42.2	42.2	9.5	40.3	40.3	9.5	40.6	40.6
Total Split (s)	9.5	35.0	35.0	9.5	35.0	35.0	14.9	40.6	40.6	14.9	40.6	40.6
Total Split (%)	9.5%	35.0%	35.0%	9.5%	35.0%	35.0%	14.9%	40.6%	40.6%	14.9%	40.6%	40.6%
Yellow Time (s)	3.3	4.2	4.2	3.3	4.2	4.2	3.2	4.3	4.3	3.4	4.6	4.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	5.2	5.2	4.3	5.2	5.2	4.2	5.3	5.3	4.4	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	70.6	63.4	63.4	63.7	56.4	56.4	12.2	6.7	6.7	20.3	17.1	17.1
Actuated g/C Ratio	0.71	0.63	0.63	0.64	0.56	0.56	0.12	0.07	0.07	0.20	0.17	0.17
v/c Ratio	0.28	0.25	0.01	0.08	0.21	0.37	0.02	0.17	0.23	0.92	0.05	0.38
Control Delay (s/veh)	6.5	9.8	0.0	6.0	12.2	2.5	29.7	46.5	2.5	74.6	35.4	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.5	9.8	0.0	6.0	12.2	2.5	29.7	46.5	2.5	74.6	35.4	9.5
LOS	A	A	A	A	B	A	C	D	A	E	D	A
Approach Delay (s/veh)		8.8			7.3			16.1			49.5	
Approach LOS		A			A			B			D	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 38 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay (s/veh): 16.5	Intersection LOS: B
Intersection Capacity Utilization 52.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Quaker St. & W 64th Ave.

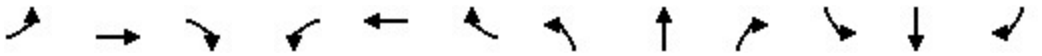




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	197	551	11	48	410	395	3	21	50	249	15	151
v/c Ratio	0.28	0.25	0.01	0.08	0.21	0.37	0.02	0.17	0.23	0.92	0.05	0.38
Control Delay (s/veh)	6.5	9.8	0.0	6.0	12.2	2.5	29.7	46.5	2.5	74.6	35.4	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.5	9.8	0.0	6.0	12.2	2.5	29.7	46.5	2.5	74.6	35.4	9.5
Queue Length 50th (ft)	39	87	0	9	66	0	2	13	0	144	8	0
Queue Length 95th (ft)	68	127	0	21	105	46	9	36	0	#270	28	56
Internal Link Dist (ft)		1988			625			732			679	
Turn Bay Length (ft)	130		150	150		200	75		150	200		150
Base Capacity (vph)	692	2242	1048	588	1995	1064	279	657	635	272	652	652
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.25	0.01	0.08	0.21	0.37	0.01	0.03	0.08	0.92	0.02	0.23

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	181	507	10	44	377	363	3	19	46	229	14	139
Future Volume (veh/h)	181	507	10	44	377	363	3	19	46	229	14	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	197	551	11	48	410	395	3	21	50	249	15	151
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	531	2168	967	594	2114	943	144	99	84	315	292	247
Arrive On Green	0.05	0.61	0.61	0.04	0.59	0.59	0.00	0.05	0.05	0.10	0.16	0.16
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	197	551	11	48	410	395	3	21	50	249	15	151
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.4	7.2	0.3	1.0	5.3	13.4	0.2	1.1	3.1	10.5	0.7	8.9
Cycle Q Clear(g_c), s	4.4	7.2	0.3	1.0	5.3	13.4	0.2	1.1	3.1	10.5	0.7	8.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	531	2168	967	594	2114	943	144	99	84	315	292	247
V/C Ratio(X)	0.37	0.25	0.01	0.08	0.19	0.42	0.02	0.21	0.59	0.79	0.05	0.61
Avail Cap(c_a), veh/h	531	2168	967	621	2114	943	327	660	560	315	655	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.2	9.0	7.7	7.1	9.3	10.9	44.5	45.3	46.3	40.1	35.9	39.4
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.1	0.2	1.4	0.1	1.0	6.5	12.7	0.1	2.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	4.8	0.2	0.7	3.6	8.3	0.1	0.9	2.4	3.6	0.6	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.6	9.3	7.7	7.2	9.5	12.3	44.6	46.4	52.8	52.8	36.0	41.8
LnGrp LOS	A	A	A	A	A	B	D	D	D	D	D	D
Approach Vol, veh/h		759			853			74			415	
Approach Delay, s/veh		8.8			10.7			50.7			48.2	
Approach LOS		A			B			D			D	

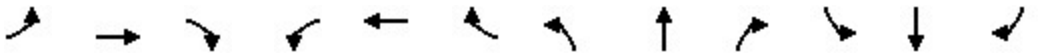
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	66.2	4.6	21.2	9.5	64.7	14.9	10.9
Change Period (Y+Rc), s	4.3	5.2	4.2	5.6	4.3	5.2	4.4	* 5.6
Max Green Setting (Gmax), s	5.2	29.8	10.7	35.0	5.2	29.8	10.5	* 35
Max Q Clear Time (g_c+I1), s	3.0	9.2	2.2	10.9	6.4	15.4	12.5	5.1
Green Ext Time (p_c), s	0.0	3.7	0.0	0.5	0.0	3.7	0.0	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	18.8
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



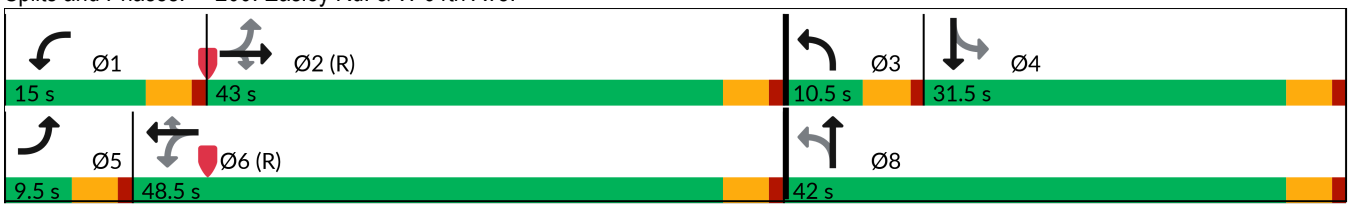
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.853			0.982	
Flt Protected	0.950			0.950			0.950				0.984	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1589	0	0	1800	0
Flt Permitted	0.540			0.420			0.548				0.813	
Satd. Flow (perm)	1006	3539	1583	782	3539	1583	1021	1589	0	0	1487	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			174			115		210			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		561			625			425			340	
Travel Time (s)		12.8			14.2			9.7			7.7	

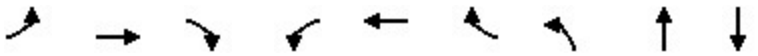
Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	6	454	160	189	325	6	104	5	19	33
Future Volume (vph)	6	454	160	189	325	6	104	5	19	33
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	5	2		1	6		3	8		4
Permitted Phases	2		2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	41.5	41.5	9.5	41.5	41.5	9.5	31.5	31.5	31.5
Total Split (s)	9.5	43.0	43.0	15.0	48.5	48.5	10.5	42.0	31.5	31.5
Total Split (%)	9.5%	43.0%	43.0%	15.0%	48.5%	48.5%	10.5%	42.0%	31.5%	31.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	65.3	59.7	59.7	73.4	71.3	71.3	17.6	17.6		9.1
Actuated g/C Ratio	0.65	0.60	0.60	0.73	0.71	0.71	0.18	0.18		0.09
v/c Ratio	0.01	0.23	0.17	0.31	0.14	0.01	0.50	0.48		0.46
Control Delay (s/veh)	5.5	11.1	2.4	6.1	6.0	0.0	42.6	8.8		48.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)	5.5	11.1	2.4	6.1	6.0	0.0	42.6	8.8		48.3
LOS	A	B	A	A	A	A	D	A		D
Approach Delay (s/veh)		8.8			6.0			20.4		48.3
Approach LOS		A			A			C		D

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 51 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.50	
Intersection Signal Delay (s/veh): 11.7	Intersection LOS: B
Intersection Capacity Utilization 53.6%	ICU Level of Service A
Analysis Period (min) 15	

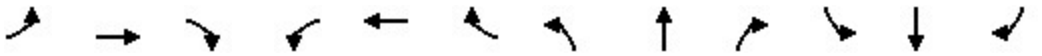
Splits and Phases: 200: Easley Rd. & W 64th Ave.





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	7	493	174	205	353	7	113	215	66
v/c Ratio	0.01	0.23	0.17	0.31	0.14	0.01	0.50	0.48	0.46
Control Delay (s/veh)	5.5	11.1	2.4	6.1	6.0	0.0	42.6	8.8	48.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	5.5	11.1	2.4	6.1	6.0	0.0	42.6	8.8	48.3
Queue Length 50th (ft)	1	75	0	36	32	0	62	3	36
Queue Length 95th (ft)	6	123	32	69	75	0	108	60	76
Internal Link Dist (ft)		481			545			345	260
Turn Bay Length (ft)	150		200	150		200	150		
Base Capacity (vph)	700	2111	1014	681	2524	1162	224	727	407
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.23	0.17	0.30	0.14	0.01	0.50	0.30	0.16

Intersection Summary



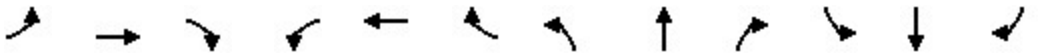
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	454	160	189	325	6	104	5	193	19	33	8
Future Volume (veh/h)	6	454	160	189	325	6	104	5	193	19	33	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	493	174	205	353	7	113	5	210	21	36	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	733	2245	1002	619	2426	1082	287	6	270	69	64	14
Arrive On Green	0.01	0.63	0.63	0.06	0.68	0.68	0.06	0.17	0.17	0.07	0.07	0.07
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	37	1554	316	936	198
Grp Volume(v), veh/h	7	493	174	205	353	7	113	0	215	66	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1591	1450	0	0
Q Serve(g_s), s	0.1	5.9	4.5	3.8	3.5	0.1	5.8	0.0	12.9	2.2	0.0	0.0
Cycle Q Clear(g_c), s	0.1	5.9	4.5	3.8	3.5	0.1	5.8	0.0	12.9	4.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.98	0.32		0.14
Lane Grp Cap(c), veh/h	733	2245	1002	619	2426	1082	287	0	276	147	0	0
V/C Ratio(X)	0.01	0.22	0.17	0.33	0.15	0.01	0.39	0.00	0.78	0.45	0.00	0.00
Avail Cap(c_a), veh/h	807	2245	1002	700	2426	1082	287	0	597	457	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.5	7.9	7.6	5.1	5.6	5.1	38.7	0.0	39.5	45.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.4	0.3	0.1	0.0	0.9	0.0	4.7	2.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	3.9	2.8	2.2	2.2	0.1	4.6	0.0	9.1	3.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.5	8.1	8.0	5.4	5.7	5.1	39.6	0.0	44.2	47.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D		D	D		
Approach Vol, veh/h		674			565			328			66	
Approach Delay, s/veh		8.0			5.6			42.6			47.6	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	10.5	67.7	10.5	11.3	5.4	72.8		21.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	38.5	6.0	27.0	5.0	44.0		37.5				
Max Q Clear Time (g_c+I1), s	5.8	7.9	7.8	6.6	2.1	5.5		14.9				
Green Ext Time (p_c), s	0.2	4.2	0.0	0.3	0.0	2.6		1.3				

Intersection Summary	
HCM 7th Control Delay, s/veh	15.8
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		200	150		200	0		0	100		0
Storage Lanes	1		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.914			0.886	
Flt Protected	0.950			0.950				0.991		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1687	0	1770	1650	0
Flt Permitted	0.950			0.950				0.991		0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1687	0	1770	1650	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		509			1111			528			387	
Travel Time (s)		11.6			25.3			12.0			8.8	

Intersection Summary	
Area Type:	Other

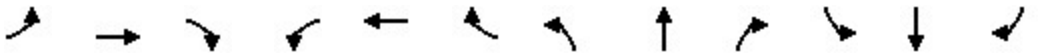
Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	200	2	15	296	39	7	7	26	50	5	15
Future Vol, veh/h	6	200	2	15	296	39	7	7	26	50	5	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	200	150	-	200	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	217	2	16	322	42	8	8	28	54	5	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	364	0	0	220	0	0	427	627	109	480	587	161
Stage 1	-	-	-	-	-	-	230	230	-	354	354	-
Stage 2	-	-	-	-	-	-	196	397	-	126	233	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1191	-	-	1347	-	-	512	399	924	469	420	856
Stage 1	-	-	-	-	-	-	752	712	-	636	629	-
Stage 2	-	-	-	-	-	-	787	602	-	865	711	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1191	-	-	1347	-	-	487	392	924	438	413	856
Mov Cap-2 Maneuver	-	-	-	-	-	-	487	392	-	438	413	-
Stage 1	-	-	-	-	-	-	747	709	-	628	621	-
Stage 2	-	-	-	-	-	-	756	595	-	825	707	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.23	0.33	10.82	13.27
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	662	1191	-	-	1347	-	-	438	675
HCM Lane V/C Ratio	0.066	0.005	-	-	0.012	-	-	0.124	0.032
HCM Control Delay (s/veh)	10.8	8	-	-	7.7	-	-	14.4	10.5
HCM Lane LOS	B	A	-	-	A	-	-	B	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.4	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.858			0.953	
Flt Protected	0.950			0.950			0.950				0.975	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1598	0	0	1731	0
Flt Permitted	0.950			0.950			0.950				0.975	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1598	0	0	1731	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1111			598			564			445	
Travel Time (s)		25.3			13.6			12.8			10.1	

Intersection Summary	
Area Type:	Other

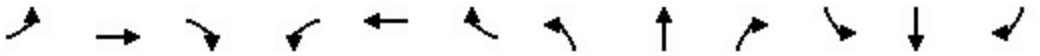
Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	170	87	143	235	30	65	8	144	73	19	50
Future Vol, veh/h	20	170	87	143	235	30	65	8	144	73	19	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	150	-	200	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	185	95	155	255	33	71	9	157	79	21	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	288	0	0	279	0	0	677	827	92	707	889	128
Stage 1	-	-	-	-	-	-	228	228	-	566	566	-
Stage 2	-	-	-	-	-	-	449	599	-	140	323	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1271	-	-	1280	-	-	339	305	947	322	281	899
Stage 1	-	-	-	-	-	-	754	714	-	476	505	-
Stage 2	-	-	-	-	-	-	559	489	-	848	649	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1271	-	-	1280	-	-	254	264	947	226	243	899
Mov Cap-2 Maneuver	-	-	-	-	-	-	254	264	-	226	243	-
Stage 1	-	-	-	-	-	-	741	702	-	418	444	-
Stage 2	-	-	-	-	-	-	440	429	-	687	638	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.57	2.87	14.62	27.52
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	254	833	1271	-	-	1280	-	-	311
HCM Lane V/C Ratio	0.278	0.198	0.017	-	-	0.121	-	-	0.497
HCM Control Delay (s/veh)	24.5	10.4	7.9	-	-	8.2	-	-	27.5
HCM Lane LOS	C	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	1.1	0.7	0.1	-	-	0.4	-	-	2.6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	200		150	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.878			0.954	
Flt Protected	0.950			0.950				0.995			0.970	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1627	0	0	1724	0
Flt Permitted	0.950			0.950				0.995			0.970	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1627	0	0	1724	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		598			2068			454			273	
Travel Time (s)		13.6			47.0			7.4			6.2	

Intersection Summary	
Area Type:	Other

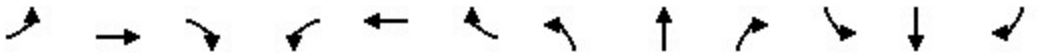
Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	377	5	15	393	21	4	0	35	18	1	10
Future Vol, veh/h	5	377	5	15	393	21	4	0	35	18	1	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	200	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	410	5	16	427	23	4	0	38	20	1	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	450	0	0	415	0	0	667	903	205	676	886	214
Stage 1	-	-	-	-	-	-	421	421	-	460	460	-
Stage 2	-	-	-	-	-	-	247	483	-	216	426	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1107	-	-	1140	-	-	344	276	802	340	282	791
Stage 1	-	-	-	-	-	-	581	587	-	551	564	-
Stage 2	-	-	-	-	-	-	735	551	-	767	584	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1107	-	-	1140	-	-	332	270	802	317	277	791
Mov Cap-2 Maneuver	-	-	-	-	-	-	332	270	-	317	277	-
Stage 1	-	-	-	-	-	-	578	585	-	543	556	-
Stage 2	-	-	-	-	-	-	713	543	-	727	581	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.11	0.29	10.47	14.84
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	700	1107	-	-	1140	-	-	397
HCM Lane V/C Ratio	0.061	0.005	-	-	0.014	-	-	0.079
HCM Control Delay (s/veh)	10.5	8.3	-	-	8.2	-	-	14.8
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.3



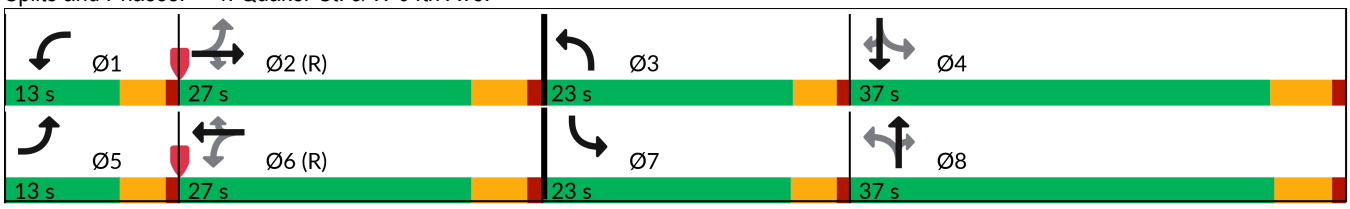
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		150	150		200	75		150	200		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.508			0.560			0.751			0.463		
Satd. Flow (perm)	946	3539	1583	1043	3539	1583	1399	1863	1583	862	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			182			119			151
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2068			705			812			759	
Travel Time (s)		47.0			16.0			18.5			17.3	

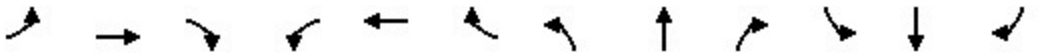
Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	292	7	37	294	167	3	10	49	380	9	139
Future Volume (vph)	110	292	7	37	294	167	3	10	49	380	9	139
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.2	42.2	9.5	42.2	42.2	9.5	40.3	40.3	9.5	40.6	40.6
Total Split (s)	13.0	27.0	27.0	13.0	27.0	27.0	23.0	37.0	37.0	23.0	37.0	37.0
Total Split (%)	13.0%	27.0%	27.0%	13.0%	27.0%	27.0%	23.0%	37.0%	37.0%	23.0%	37.0%	37.0%
Yellow Time (s)	3.3	4.2	4.2	3.3	4.2	4.2	3.2	4.3	4.3	3.4	4.6	4.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	5.2	5.2	4.3	5.2	5.2	4.2	5.3	5.3	4.4	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	62.3	55.8	55.8	57.2	49.9	49.9	11.7	6.2	6.2	27.9	24.7	24.7
Actuated g/C Ratio	0.62	0.56	0.56	0.57	0.50	0.50	0.12	0.06	0.06	0.28	0.25	0.25
v/c Ratio	0.18	0.16	0.01	0.06	0.18	0.21	0.02	0.10	0.25	1.01	0.02	0.30
Control Delay (s/veh)	8.8	12.8	0.0	8.4	15.3	3.1	25.7	45.6	2.9	81.8	29.3	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.8	12.8	0.0	8.4	15.3	3.1	25.7	45.6	2.9	81.8	29.3	7.2
LOS	A	B	A	A	B	A	C	D	A	F	C	A
Approach Delay (s/veh)		11.5			10.7			10.9			61.3	
Approach LOS		B			B			B			E	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 98 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay (s/veh): 28.8	Intersection LOS: C
Intersection Capacity Utilization 54.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Quaker St. & W 64th Ave.

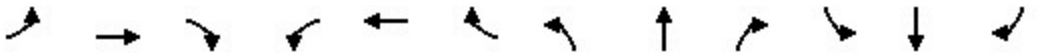




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	120	317	8	40	320	182	3	11	53	413	10	151
v/c Ratio	0.18	0.16	0.01	0.06	0.18	0.21	0.02	0.10	0.25	1.01	0.02	0.30
Control Delay (s/veh)	8.8	12.8	0.0	8.4	15.3	3.1	25.7	45.6	2.9	81.8	29.3	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.8	12.8	0.0	8.4	15.3	3.1	25.7	45.6	2.9	81.8	29.3	7.2
Queue Length 50th (ft)	29	56	0	9	59	0	1	7	0	240	5	0
Queue Length 95th (ft)	55	86	0	23	93	38	8	25	0	#370	19	52
Internal Link Dist (ft)		1988			625			732			679	
Turn Bay Length (ft)	130		150	150		200	75		150	200		150
Base Capacity (vph)	665	1973	937	683	1764	880	416	590	583	409	584	600
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.16	0.01	0.06	0.18	0.21	0.01	0.02	0.09	1.01	0.02	0.25

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	292	7	37	294	167	3	10	49	380	9	139
Future Volume (veh/h)	110	292	7	37	294	167	3	10	49	380	9	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	120	317	8	40	320	182	3	11	53	413	10	151
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	580	1887	842	644	1827	815	146	102	86	469	446	378
Arrive On Green	0.05	0.53	0.53	0.03	0.51	0.51	0.00	0.05	0.05	0.19	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	120	317	8	40	320	182	3	11	53	413	10	151
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	3.1	4.6	0.2	1.0	4.8	6.3	0.2	0.6	3.3	18.6	0.4	8.0
Cycle Q Clear(g_c), s	3.1	4.6	0.2	1.0	4.8	6.3	0.2	0.6	3.3	18.6	0.4	8.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	580	1887	842	644	1827	815	146	102	86	469	446	378
V/C Ratio(X)	0.21	0.17	0.01	0.06	0.18	0.22	0.02	0.11	0.62	0.88	0.02	0.40
Avail Cap(c_a), veh/h	645	1887	842	739	1827	815	473	593	502	469	587	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.3	12.1	11.0	10.5	13.0	13.3	44.4	45.0	46.3	36.2	29.2	32.1
Incr Delay (d2), s/veh	0.2	0.2	0.0	0.0	0.2	0.6	0.1	0.5	6.9	17.5	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.2	3.3	0.2	0.7	3.4	4.2	0.1	0.5	2.6	17.9	0.3	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.5	12.3	11.1	10.5	13.2	14.0	44.5	45.4	53.2	53.7	29.2	32.7
LnGrp LOS	B	B	B	B	B	B	D	D	D	D	C	C
Approach Vol, veh/h		445			542			67			574	
Approach Delay, s/veh		11.8			13.2			51.5			47.8	
Approach LOS		B			B			D			D	

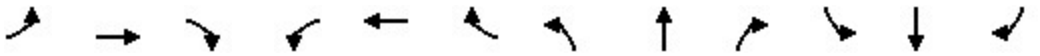
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	58.3	4.6	29.4	9.3	56.6	23.0	11.0
Change Period (Y+Rc), s	4.3	5.2	4.2	5.6	4.3	5.2	4.4	* 5.6
Max Green Setting (Gmax), s	8.7	21.8	18.8	31.4	8.7	21.8	18.6	* 32
Max Q Clear Time (g_c+I1), s	3.0	6.6	2.2	10.0	5.1	8.3	20.6	5.3
Green Ext Time (p_c), s	0.0	1.8	0.0	0.5	0.1	2.3	0.0	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	26.6
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



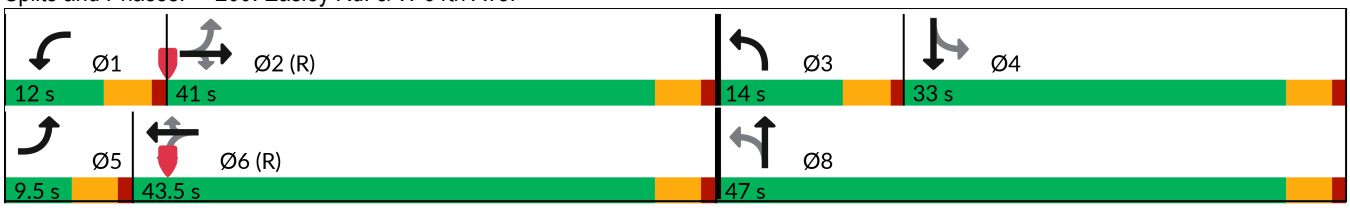
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.858			0.953	
Flt Protected	0.950			0.950			0.950				0.975	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1598	0	0	1731	0
Flt Permitted	0.594			0.584			0.567				0.753	
Satd. Flow (perm)	1106	3539	1583	1088	3539	1583	1056	1598	0	0	1337	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			115			115		157			27	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		606			489			425			365	
Travel Time (s)		13.8			11.1			9.7			8.3	

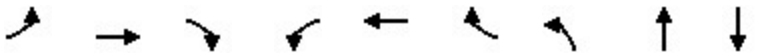
Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	20	170	87	143	235	30	65	8	73	19
Future Volume (vph)	20	170	87	143	235	30	65	8	73	19
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	5	2		1	6		3	8		4
Permitted Phases	2		2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	41.5	41.5	9.5	41.5	41.5	9.5	31.5	31.5	31.5
Total Split (s)	9.5	41.0	41.0	12.0	43.5	43.5	14.0	47.0	33.0	33.0
Total Split (%)	9.5%	41.0%	41.0%	12.0%	43.5%	43.5%	14.0%	47.0%	33.0%	33.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	58.0	52.0	52.0	65.6	61.2	61.2	25.3	25.3		14.7
Actuated g/C Ratio	0.58	0.52	0.52	0.66	0.61	0.61	0.25	0.25		0.15
v/c Ratio	0.03	0.10	0.11	0.20	0.12	0.03	0.22	0.32		0.70
Control Delay (s/veh)	9.4	15.3	2.9	9.1	11.3	0.1	26.8	6.3		49.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)	9.4	15.3	2.9	9.1	11.3	0.1	26.8	6.3		49.3
LOS	A	B	A	A	B	A	C	A		D
Approach Delay (s/veh)		11.0			9.7			12.4		49.3
Approach LOS		B			A			B		D

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay (s/veh): 16.0	Intersection LOS: B
Intersection Capacity Utilization 45.0%	ICU Level of Service A
Analysis Period (min) 15	

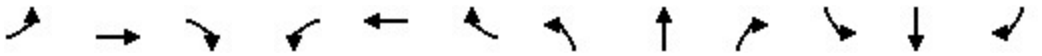
Splits and Phases: 200: Easley Rd. & W 64th Ave.





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	22	185	95	155	255	33	71	166	154
v/c Ratio	0.03	0.10	0.11	0.20	0.12	0.03	0.22	0.32	0.70
Control Delay (s/veh)	9.4	15.3	2.9	9.1	11.3	0.1	26.8	6.3	49.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	9.4	15.3	2.9	9.1	11.3	0.1	26.8	6.3	49.3
Queue Length 50th (ft)	5	31	0	36	31	0	34	4	78
Queue Length 95th (ft)	17	63	23	78	76	0	61	46	135
Internal Link Dist (ft)		526			409			345	285
Turn Bay Length (ft)	150		200	150		200	150		
Base Capacity (vph)	682	1838	877	778	2165	1013	339	769	400
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.10	0.11	0.20	0.12	0.03	0.21	0.22	0.39

Intersection Summary



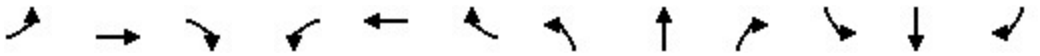
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	170	87	143	235	30	65	8	144	73	19	50
Future Volume (veh/h)	20	170	87	143	235	30	65	8	144	73	19	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	185	95	155	255	33	71	9	157	79	21	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	755	2092	933	790	2201	982	321	19	337	140	37	66
Arrive On Green	0.02	0.59	0.59	0.05	0.62	0.62	0.05	0.22	0.22	0.13	0.13	0.13
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	87	1512	652	278	502
Grp Volume(v), veh/h	22	185	95	155	255	33	71	0	166	154	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1598	1432	0	0
Q Serve(g_s), s	0.5	2.3	2.6	3.4	2.9	0.8	3.3	0.0	9.0	9.2	0.0	0.0
Cycle Q Clear(g_c), s	0.5	2.3	2.6	3.4	2.9	0.8	3.3	0.0	9.0	10.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.95	0.51		0.35
Lane Grp Cap(c), veh/h	755	2092	933	790	2201	982	321	0	356	243	0	0
V/C Ratio(X)	0.03	0.09	0.10	0.20	0.12	0.03	0.22	0.00	0.47	0.63	0.00	0.00
Avail Cap(c_a), veh/h	803	2092	933	828	2201	982	407	0	679	458	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.6	8.9	9.0	6.8	7.8	7.4	33.5	0.0	33.7	42.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.2	0.1	0.1	0.1	0.3	0.0	1.0	2.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	1.5	1.7	2.1	2.0	0.5	2.6	0.0	6.4	6.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.7	9.0	9.2	6.9	7.9	7.5	33.9	0.0	34.7	44.8	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C		C	D		
Approach Vol, veh/h		302			443			237			154	
Approach Delay, s/veh		9.0			7.5			34.4			44.8	
Approach LOS		A			A			C			D	

Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	9.9	63.4	9.1	17.6	6.8	66.4		26.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	36.5	9.5	28.5	5.0	39.0		42.5				
Max Q Clear Time (g_c+I1), s	5.4	4.6	5.3	12.4	2.5	4.9		11.0				
Green Ext Time (p_c), s	0.1	1.5	0.0	0.7	0.0	1.9		1.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	18.6
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		200	150		200	0		0	100		0
Storage Lanes	1		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.893			0.862	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1657	0	1770	1606	0
Flt Permitted	0.950			0.950				0.996		0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1657	0	1770	1606	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		509			1111			528			387	
Travel Time (s)		11.6			25.3			12.0			8.8	

Intersection Summary	
Area Type:	Other

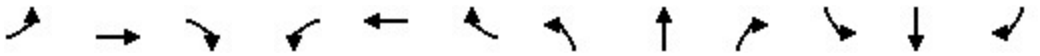
Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	603	8	27	367	55	3	4	25	40	3	32
Future Vol, veh/h	39	603	8	27	367	55	3	4	25	40	3	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	200	150	-	200	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	655	9	29	399	60	3	4	27	43	3	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	459	0	0	664	0	0	1000	1258	328	872	1207	199
Stage 1	-	-	-	-	-	-	740	740	-	458	458	-
Stage 2	-	-	-	-	-	-	260	517	-	415	749	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1099	-	-	921	-	-	197	170	668	245	182	808
Stage 1	-	-	-	-	-	-	375	421	-	552	566	-
Stage 2	-	-	-	-	-	-	722	532	-	586	417	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1099	-	-	921	-	-	173	158	668	213	170	808
Mov Cap-2 Maneuver	-	-	-	-	-	-	173	158	-	213	170	-
Stage 1	-	-	-	-	-	-	360	405	-	535	548	-
Stage 2	-	-	-	-	-	-	665	515	-	534	401	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.5	0.54	14.87	19.24
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	399	1099	-	-	921	-	-	213	611
HCM Lane V/C Ratio	0.087	0.039	-	-	0.032	-	-	0.204	0.062
HCM Control Delay (s/veh)	14.9	8.4	-	-	9	-	-	26.2	11.3
HCM Lane LOS	B	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-	-	0.7	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.859			0.964	
Flt Protected	0.950			0.950			0.950				0.977	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1600	0	0	1754	0
Flt Permitted	0.950			0.950			0.950				0.977	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1600	0	0	1754	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1111			598			564			445	
Travel Time (s)		25.3			13.6			12.8			10.1	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	66.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	53	454	160	189	325	79	104	12	193	63	37	36
Future Vol, veh/h	53	454	160	189	325	79	104	12	193	63	37	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	150	-	200	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	58	493	174	205	353	86	113	13	210	68	40	39

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	439	0	0	667	0	0	1216	1459	247	1133	1547	177
Stage 1	-	-	-	-	-	-	609	609	-	764	764	-
Stage 2	-	-	-	-	-	-	608	850	-	368	783	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1117	-	-	918	-	-	137	128	753	158	113	836
Stage 1	-	-	-	-	-	-	449	484	-	362	411	-
Stage 2	-	-	-	-	-	-	450	375	-	624	403	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1117	-	-	918	-	-	~ 57	94	753	75	83	836
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 57	94	-	75	83	-
Stage 1	-	-	-	-	-	-	426	459	-	281	319	-
Stage 2	-	-	-	-	-	-	291	291	-	415	382	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.67	3.2	217.64	$ 320.57
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	57	535	1117	-	-	918	-	-	102
HCM Lane V/C Ratio	1.984	0.417	0.052	-	-	0.224	-	-	1.443
HCM Control Delay (s/veh)	$ 614.2	16.5	8.4	-	-	10	-	-	$ 320.6
HCM Lane LOS	F	C	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	10.9	2	0.2	-	-	0.9	-	-	10.8

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	200		150	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.896			0.980	
Flt Protected	0.950			0.950				0.989			0.959	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1651	0	0	1751	0
Flt Permitted	0.950			0.950				0.989			0.959	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1651	0	0	1751	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		598			2068			454			273	
Travel Time (s)		13.6			47.0			7.4			6.2	

Intersection Summary	
Area Type:	Other

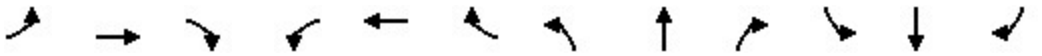
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	690	9	24	582	28	8	0	28	16	0	3
Future Vol, veh/h	10	690	9	24	582	28	8	0	28	16	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	200	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	750	10	26	633	30	9	0	30	17	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	663	0	0	760	0	0	1140	1487	375	1082	1466	316
Stage 1	-	-	-	-	-	-	772	772	-	685	685	-
Stage 2	-	-	-	-	-	-	368	715	-	397	782	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	922	-	-	848	-	-	156	123	623	172	127	679
Stage 1	-	-	-	-	-	-	358	407	-	404	447	-
Stage 2	-	-	-	-	-	-	624	433	-	600	403	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	922	-	-	848	-	-	148	118	623	157	121	679
Mov Cap-2 Maneuver	-	-	-	-	-	-	148	118	-	157	121	-
Stage 1	-	-	-	-	-	-	354	403	-	392	433	-
Stage 2	-	-	-	-	-	-	602	419	-	564	398	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.13	0.36	16.07	27.81
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	364	922	-	-	848	-	-	178
HCM Lane V/C Ratio	0.107	0.012	-	-	0.031	-	-	0.116
HCM Control Delay (s/veh)	16.1	9	-	-	9.4	-	-	27.8
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.4



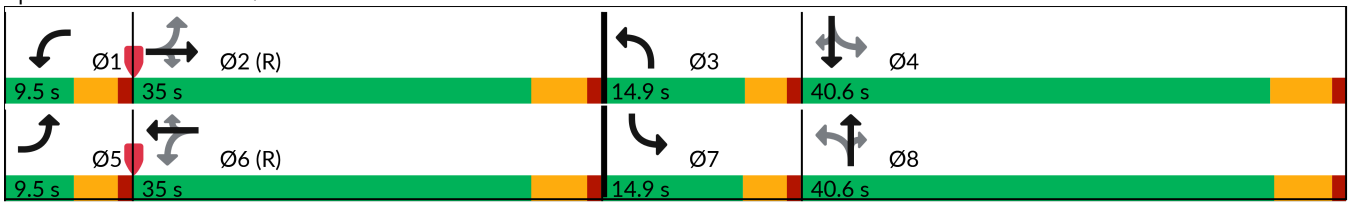
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		150	150		200	75		150	200		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.419			0.427			0.748			0.471		
Satd. Flow (perm)	780	3539	1583	795	3539	1583	1393	1863	1583	877	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			395			119			165
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2068			705			812			759	
Travel Time (s)		47.0			16.0			18.5			17.3	

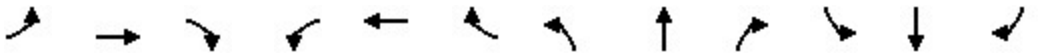
Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	547	10	44	444	363	3	19	46	229	14	152
Future Volume (vph)	189	547	10	44	444	363	3	19	46	229	14	152
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.2	42.2	9.5	42.2	42.2	9.5	40.3	40.3	9.5	40.6	40.6
Total Split (s)	9.5	35.0	35.0	9.5	35.0	35.0	14.9	40.6	40.6	14.9	40.6	40.6
Total Split (%)	9.5%	35.0%	35.0%	9.5%	35.0%	35.0%	14.9%	40.6%	40.6%	14.9%	40.6%	40.6%
Yellow Time (s)	3.3	4.2	4.2	3.3	4.2	4.2	3.2	4.3	4.3	3.4	4.6	4.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	5.2	5.2	4.3	5.2	5.2	4.2	5.3	5.3	4.4	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	70.7	63.4	63.4	63.4	56.1	56.1	12.2	6.7	6.7	20.3	17.1	17.1
Actuated g/C Ratio	0.71	0.63	0.63	0.63	0.56	0.56	0.12	0.07	0.07	0.20	0.17	0.17
v/c Ratio	0.32	0.27	0.01	0.08	0.24	0.37	0.02	0.17	0.23	0.92	0.05	0.41
Control Delay (s/veh)	6.8	9.9	0.0	6.0	12.6	2.5	29.7	46.5	2.5	74.6	35.4	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.8	9.9	0.0	6.0	12.6	2.5	29.7	46.5	2.5	74.6	35.4	9.4
LOS	A	A	A	A	B	A	C	D	A	E	D	A
Approach Delay (s/veh)		9.0			8.0			16.1			48.1	
Approach LOS		A			A			B			D	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 38 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay (s/veh): 16.3	Intersection LOS: B
Intersection Capacity Utilization 54.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Quaker St. & W 64th Ave.

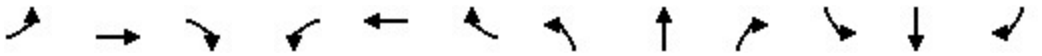




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	205	595	11	48	483	395	3	21	50	249	15	165
v/c Ratio	0.32	0.27	0.01	0.08	0.24	0.37	0.02	0.17	0.23	0.92	0.05	0.41
Control Delay (s/veh)	6.8	9.9	0.0	6.0	12.6	2.5	29.7	46.5	2.5	74.6	35.4	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.8	9.9	0.0	6.0	12.6	2.5	29.7	46.5	2.5	74.6	35.4	9.4
Queue Length 50th (ft)	40	95	0	9	81	0	2	13	0	144	8	0
Queue Length 95th (ft)	71	137	0	21	125	47	9	36	0	#270	28	59
Internal Link Dist (ft)		1988			625			732			679	
Turn Bay Length (ft)	130		150	150		200	75		150	200		150
Base Capacity (vph)	647	2242	1048	565	1984	1061	279	657	635	272	652	661
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.27	0.01	0.08	0.24	0.37	0.01	0.03	0.08	0.92	0.02	0.25

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	547	10	44	444	363	3	19	46	229	14	152
Future Volume (veh/h)	189	547	10	44	444	363	3	19	46	229	14	152
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	205	595	11	48	483	395	3	21	50	249	15	165
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	500	2168	967	570	2114	943	143	99	84	315	292	247
Arrive On Green	0.05	0.61	0.61	0.04	0.59	0.59	0.00	0.05	0.05	0.10	0.16	0.16
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	205	595	11	48	483	395	3	21	50	249	15	165
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.6	7.8	0.3	1.0	6.4	13.4	0.2	1.1	3.1	10.5	0.7	9.8
Cycle Q Clear(g_c), s	4.6	7.8	0.3	1.0	6.4	13.4	0.2	1.1	3.1	10.5	0.7	9.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	500	2168	967	570	2114	943	143	99	84	315	292	247
V/C Ratio(X)	0.41	0.27	0.01	0.08	0.23	0.42	0.02	0.21	0.59	0.79	0.05	0.67
Avail Cap(c_a), veh/h	500	2168	967	598	2114	943	327	660	560	315	655	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.3	9.1	7.7	7.2	9.5	10.9	44.5	45.3	46.3	40.1	35.9	39.7
Incr Delay (d2), s/veh	0.5	0.3	0.0	0.1	0.3	1.4	0.1	1.0	6.5	12.7	0.1	3.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.0	5.3	0.2	0.7	4.3	8.3	0.1	0.9	2.4	3.6	0.6	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.9	9.4	7.7	7.2	9.7	12.3	44.6	46.4	52.8	52.8	36.0	42.8
LnGrp LOS	A	A	A	A	A	B	D	D	D	D	D	D
Approach Vol, veh/h		811			926			74			429	
Approach Delay, s/veh		9.0			10.7			50.7			48.4	
Approach LOS		A			B			D			D	

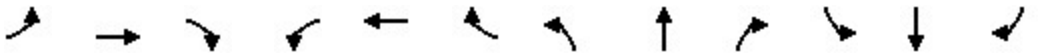
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	66.2	4.6	21.2	9.5	64.7	14.9	10.9
Change Period (Y+Rc), s	4.3	5.2	4.2	5.6	4.3	5.2	4.4	* 5.6
Max Green Setting (Gmax), s	5.2	29.8	10.7	35.0	5.2	29.8	10.5	* 35
Max Q Clear Time (g_c+I1), s	3.0	9.8	2.2	11.8	6.6	15.4	12.5	5.1
Green Ext Time (p_c), s	0.0	4.0	0.0	0.6	0.0	4.1	0.0	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	18.6
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



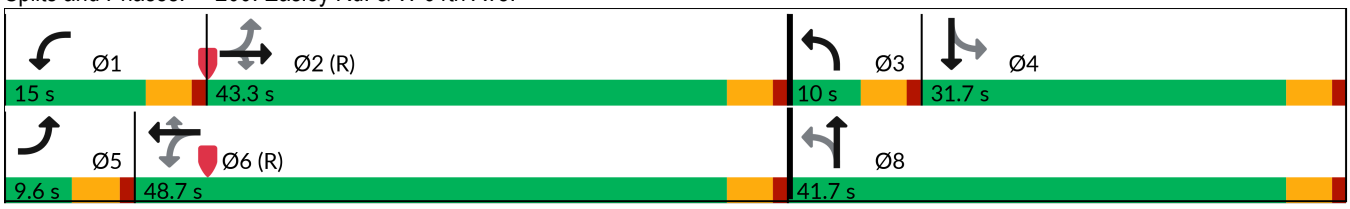
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.859			0.964	
Flt Protected	0.950			0.950			0.950				0.977	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1600	0	0	1754	0
Flt Permitted	0.540			0.403			0.543				0.745	
Satd. Flow (perm)	1006	3539	1583	751	3539	1583	1011	1600	0	0	1338	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			174			115		210			18	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		561			625			425			340	
Travel Time (s)		12.8			14.2			9.7			7.7	

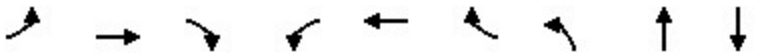
Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	53	454	160	189	325	79	104	12	63	37
Future Volume (vph)	53	454	160	189	325	79	104	12	63	37
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	5	2		1	6		3	8		4
Permitted Phases	2		2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	41.5	41.5	9.5	41.5	41.5	9.5	31.5	31.5	31.5
Total Split (s)	9.6	43.3	43.3	15.0	48.7	48.7	10.0	41.7	31.7	31.7
Total Split (%)	9.6%	43.3%	43.3%	15.0%	48.7%	48.7%	10.0%	41.7%	31.7%	31.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	58.3	51.6	51.6	65.6	57.0	57.0	24.7	24.7		14.7
Actuated g/C Ratio	0.58	0.52	0.52	0.66	0.57	0.57	0.25	0.25		0.15
v/c Ratio	0.09	0.27	0.19	0.34	0.17	0.09	0.39	0.40		0.69
Control Delay (s/veh)	7.9	15.5	3.3	9.0	12.2	1.6	33.0	7.0		51.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)	7.9	15.5	3.3	9.0	12.2	1.6	33.0	7.0		51.5
LOS	A	B	A	A	B	A	C	A		D
Approach Delay (s/veh)		12.0			9.7			15.7		51.5
Approach LOS		B			A			B		D

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 51 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay (s/veh): 15.0	Intersection LOS: B
Intersection Capacity Utilization 58.2%	ICU Level of Service B
Analysis Period (min) 15	

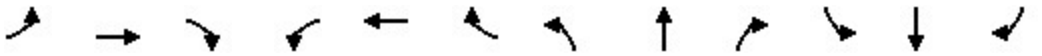
Splits and Phases: 200: Easley Rd. & W 64th Ave.





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	58	493	174	205	353	86	113	223	147
v/c Ratio	0.09	0.27	0.19	0.34	0.17	0.09	0.39	0.40	0.69
Control Delay (s/veh)	7.9	15.5	3.3	9.0	12.2	1.6	33.0	7.0	51.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	7.9	15.5	3.3	9.0	12.2	1.6	33.0	7.0	51.5
Queue Length 50th (ft)	12	87	0	45	55	0	58	6	79
Queue Length 95th (ft)	31	152	39	90	96	15	96	58	135
Internal Link Dist (ft)		481			545			345	260
Turn Bay Length (ft)	150		200	150		200	150		
Base Capacity (vph)	638	1824	900	613	2018	952	291	727	377
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.27	0.19	0.33	0.17	0.09	0.39	0.31	0.39

Intersection Summary



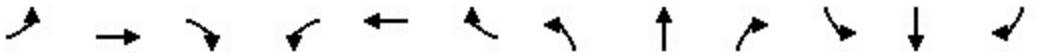
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	454	160	189	325	79	104	12	193	63	37	36
Future Volume (veh/h)	53	454	160	189	325	79	104	12	193	63	37	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	493	174	205	353	86	113	13	210	68	40	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	664	2004	894	575	2107	940	328	22	349	122	63	48
Arrive On Green	0.04	0.56	0.56	0.07	0.59	0.59	0.05	0.23	0.23	0.13	0.13	0.13
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	93	1506	529	476	363
Grp Volume(v), veh/h	58	493	174	205	353	86	113	0	223	147	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1599	1368	0	0
Q Serve(g_s), s	1.3	7.0	5.4	4.7	4.5	2.3	5.4	0.0	12.4	8.1	0.0	0.0
Cycle Q Clear(g_c), s	1.3	7.0	5.4	4.7	4.5	2.3	5.4	0.0	12.4	10.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.94	0.46		0.27
Lane Grp Cap(c), veh/h	664	2004	894	575	2107	940	328	0	371	233	0	0
V/C Ratio(X)	0.09	0.25	0.19	0.36	0.17	0.09	0.34	0.00	0.60	0.63	0.00	0.00
Avail Cap(c_a), veh/h	684	2004	894	639	2107	940	328	0	595	430	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.1	11.0	10.7	7.8	9.2	8.8	33.6	0.0	34.3	42.3	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.3	0.5	0.4	0.2	0.2	0.6	0.0	1.6	2.8	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.9	4.9	3.4	3.1	3.1	1.5	4.2	0.0	8.6	6.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.2	11.3	11.2	8.2	9.4	9.0	34.2	0.0	35.8	45.1	0.0	0.0
LnGrp LOS	A	B	B	A	A	A	C		D	D		
Approach Vol, veh/h		725			644			336			147	
Approach Delay, s/veh		11.0			8.9			35.3			45.1	
Approach LOS		B			A			D			D	

Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	11.4	60.9	10.0	17.7	8.5	63.8		27.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	38.8	5.5	27.2	5.1	44.2		37.2				
Max Q Clear Time (g_c+I1), s	6.7	9.0	7.4	12.5	3.3	6.5		14.4				
Green Ext Time (p_c), s	0.2	4.2	0.0	0.7	0.0	2.8		1.4				

Intersection Summary	
HCM 7th Control Delay, s/veh	17.4
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		200	150		200	0		0	100		0
Storage Lanes	1		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.915			0.890	
Flt Protected	0.950			0.950				0.991		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1689	0	1770	1658	0
Flt Permitted	0.950			0.950				0.991		0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1689	0	1770	1658	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		509			1111			528			387	
Travel Time (s)		11.6			25.3			12.0			8.8	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	250	3	20	344	44	10	10	34	64	7	20
Future Vol, veh/h	8	250	3	20	344	44	10	10	34	64	7	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	200	150	-	200	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	272	3	22	374	48	11	11	37	70	8	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	422	0	0	275	0	0	523	754	136	576	710	187
Stage 1	-	-	-	-	-	-	289	289	-	417	417	-
Stage 2	-	-	-	-	-	-	234	465	-	159	292	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1134	-	-	1285	-	-	437	337	888	400	357	823
Stage 1	-	-	-	-	-	-	694	672	-	584	589	-
Stage 2	-	-	-	-	-	-	748	561	-	828	669	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1134	-	-	1285	-	-	406	328	888	362	348	823
Mov Cap-2 Maneuver	-	-	-	-	-	-	406	328	-	362	348	-
Stage 1	-	-	-	-	-	-	689	666	-	574	579	-
Stage 2	-	-	-	-	-	-	706	552	-	774	664	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.25	0.38	11.93	15.49
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	578	1134	-	-	1285	-	-	362	608
HCM Lane V/C Ratio	0.102	0.008	-	-	0.017	-	-	0.192	0.048
HCM Control Delay (s/veh)	11.9	8.2	-	-	7.8	-	-	17.3	11.2
HCM Lane LOS	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.7	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.856			0.962	
Flt Protected	0.950			0.950			0.950				0.990	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1595	0	0	1774	0
Flt Permitted	0.950			0.950			0.950				0.990	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1595	0	0	1774	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1111			598			564			445	
Travel Time (s)		25.3			13.6			12.8			10.1	

Intersection Summary	
Area Type:	Other

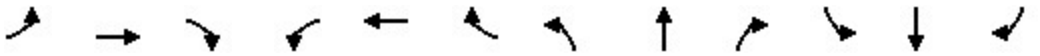
Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	225	116	190	311	12	86	8	191	7	18	10
Future Vol, veh/h	8	225	116	190	311	12	86	8	191	7	18	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	150	-	200	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	245	126	207	338	13	93	9	208	8	20	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	351	0	0	371	0	0	854	1026	122	895	1139	169
Stage 1	-	-	-	-	-	-	262	262	-	751	751	-
Stage 2	-	-	-	-	-	-	592	764	-	144	388	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1204	-	-	1184	-	-	252	233	906	235	200	845
Stage 1	-	-	-	-	-	-	720	690	-	369	416	-
Stage 2	-	-	-	-	-	-	460	411	-	844	607	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1204	-	-	1184	-	-	184	191	906	143	164	845
Mov Cap-2 Maneuver	-	-	-	-	-	-	184	191	-	143	164	-
Stage 1	-	-	-	-	-	-	715	685	-	305	344	-
Stage 2	-	-	-	-	-	-	353	339	-	638	603	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.18	3.21	20.96	26.5
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	184	787	1204	-	-	1184	-	-	205
HCM Lane V/C Ratio	0.509	0.275	0.007	-	-	0.174	-	-	0.185
HCM Control Delay (s/veh)	43.3	11.3	8	-	-	8.7	-	-	26.5
HCM Lane LOS	E	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	2.5	1.1	0	-	-	0.6	-	-	0.7



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	200		150	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.877			0.939	
Flt Protected	0.950			0.950				0.995			0.975	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1625	0	0	1705	0
Flt Permitted	0.950			0.950				0.995			0.975	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1625	0	0	1705	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		598			2068			454			273	
Travel Time (s)		13.6			47.0			7.4			6.2	

Intersection Summary	
Area Type:	Other

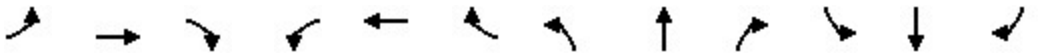
Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	409	7	20	494	25	5	0	46	16	1	14
Future Vol, veh/h	7	409	7	20	494	25	5	0	46	16	1	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	200	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	445	8	22	537	27	5	0	50	17	1	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	564	0	0	452	0	0	772	1067	222	818	1048	268
Stage 1	-	-	-	-	-	-	460	460	-	580	580	-
Stage 2	-	-	-	-	-	-	312	608	-	237	467	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1004	-	-	1105	-	-	289	220	781	268	226	730
Stage 1	-	-	-	-	-	-	551	564	-	467	498	-
Stage 2	-	-	-	-	-	-	673	484	-	744	560	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1004	-	-	1105	-	-	274	214	781	244	220	730
Mov Cap-2 Maneuver	-	-	-	-	-	-	274	214	-	244	220	-
Stage 1	-	-	-	-	-	-	547	560	-	458	488	-
Stage 2	-	-	-	-	-	-	644	475	-	692	556	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.14	0.31	10.94	16.49
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	661	1004	-	-	1105	-	-	347
HCM Lane V/C Ratio	0.084	0.008	-	-	0.02	-	-	0.097
HCM Control Delay (s/veh)	10.9	8.6	-	-	8.3	-	-	16.5
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.3



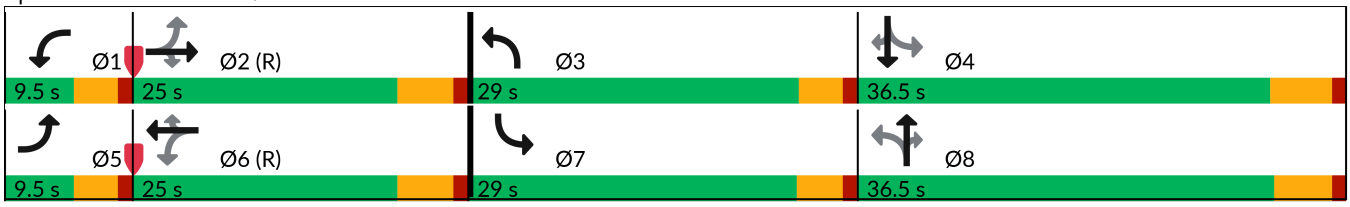
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		150	150		200	75		150	200		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.442			0.551			0.749			0.467		
Satd. Flow (perm)	823	3539	1583	1026	3539	1583	1395	1863	1583	870	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			240			119			195
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2068			705			812			759	
Travel Time (s)		47.0			16.0			18.5			17.3	

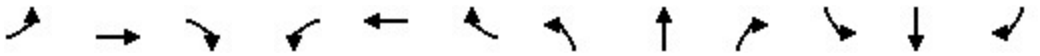
Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	306	10	49	363	221	4	14	65	503	12	179
Future Volume (vph)	130	306	10	49	363	221	4	14	65	503	12	179
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.2	42.2	9.5	42.2	42.2	9.5	40.3	40.3	9.5	40.6	40.6
Total Split (s)	9.5	25.0	25.0	9.5	25.0	25.0	29.0	36.5	36.5	29.0	36.5	36.5
Total Split (%)	9.5%	25.0%	25.0%	9.5%	25.0%	25.0%	29.0%	36.5%	36.5%	29.0%	36.5%	36.5%
Yellow Time (s)	3.3	4.2	4.2	3.3	4.2	4.2	3.2	4.3	4.3	3.4	4.6	4.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	5.2	5.2	4.3	5.2	5.2	4.2	5.3	5.3	4.4	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	56.0	47.0	47.0	50.4	42.6	42.6	11.9	6.4	6.4	34.1	30.9	30.9
Actuated g/C Ratio	0.56	0.47	0.47	0.50	0.43	0.43	0.12	0.06	0.06	0.34	0.31	0.31
v/c Ratio	0.26	0.20	0.01	0.09	0.26	0.30	0.02	0.13	0.33	1.06	0.02	0.31
Control Delay (s/veh)	12.2	17.7	0.0	11.5	20.5	4.0	22.5	46.0	6.3	86.3	24.7	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.2	17.7	0.0	11.5	20.5	4.0	22.5	46.0	6.3	86.3	24.7	5.5
LOS	B	B	A	B	C	A	C	D	A	F	C	A
Approach Delay (s/veh)		15.7			14.0			13.6			64.4	
Approach LOS		B			B			B			E	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 98 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.06	
Intersection Signal Delay (s/veh): 33.2	Intersection LOS: C
Intersection Capacity Utilization 64.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: Quaker St. & W 64th Ave.



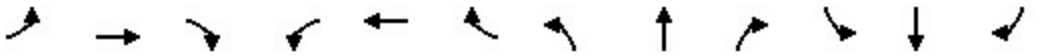


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	141	333	11	53	395	240	4	15	71	547	13	195
v/c Ratio	0.26	0.20	0.01	0.09	0.26	0.30	0.02	0.13	0.33	1.06	0.02	0.31
Control Delay (s/veh)	12.2	17.7	0.0	11.5	20.5	4.0	22.5	46.0	6.3	86.3	24.7	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.2	17.7	0.0	11.5	20.5	4.0	22.5	46.0	6.3	86.3	24.7	5.5
Queue Length 50th (ft)	41	68	0	15	86	0	2	9	0	~329	5	0
Queue Length 95th (ft)	75	105	0	34	133	50	9	30	12	#488	21	53
Internal Link Dist (ft)		1988			625			732			679	
Turn Bay Length (ft)	130		150	150		200	75		150	200		150
Base Capacity (vph)	549	1664	809	568	1507	812	525	581	575	518	620	657
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.20	0.01	0.09	0.26	0.30	0.01	0.03	0.12	1.06	0.02	0.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	306	10	49	363	221	4	14	65	503	12	179
Future Volume (veh/h)	130	306	10	49	363	221	4	14	65	503	12	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	141	333	11	53	395	240	4	15	71	547	13	195
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	459	1614	720	553	1566	699	159	124	105	587	578	490
Arrive On Green	0.05	0.45	0.45	0.04	0.44	0.44	0.01	0.07	0.07	0.25	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	141	333	11	53	395	240	4	15	71	547	13	195
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.4	5.6	0.4	1.6	7.0	10.0	0.2	0.8	4.4	24.6	0.5	9.7
Cycle Q Clear(g_c), s	4.4	5.6	0.4	1.6	7.0	10.0	0.2	0.8	4.4	24.6	0.5	9.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	459	1614	720	553	1566	699	159	124	105	587	578	490
V/C Ratio(X)	0.31	0.21	0.02	0.10	0.25	0.34	0.03	0.12	0.68	0.93	0.02	0.40
Avail Cap(c_a), veh/h	459	1614	720	577	1566	699	592	584	495	587	578	490
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.3	16.4	15.0	14.1	17.6	18.4	43.2	43.9	45.6	32.8	24.0	27.2
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.1	0.4	1.3	0.1	0.4	7.4	21.8	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.2	4.2	0.3	1.2	5.2	6.9	0.2	0.7	3.5	8.0	0.4	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.6	16.7	15.0	14.1	18.0	19.8	43.3	44.4	53.0	54.6	24.1	27.7
LnGrp LOS	B	B	B	B	B	B	D	D	D	D	C	C
Approach Vol, veh/h		485			688			90			755	
Approach Delay, s/veh		16.1			18.3			51.1			47.2	
Approach LOS		B			B			D			D	

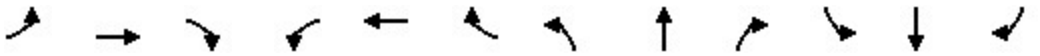
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	50.6	4.7	36.5	9.5	49.3	29.0	12.2
Change Period (Y+Rc), s	4.3	5.2	4.2	5.6	4.3	5.2	4.4	* 5.6
Max Green Setting (Gmax), s	5.2	19.8	24.8	30.9	5.2	19.8	24.6	* 31
Max Q Clear Time (g_c+I1), s	3.6	7.6	2.2	11.7	6.4	12.0	26.6	6.4
Green Ext Time (p_c), s	0.0	1.7	0.0	0.6	0.0	2.2	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	30.0
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



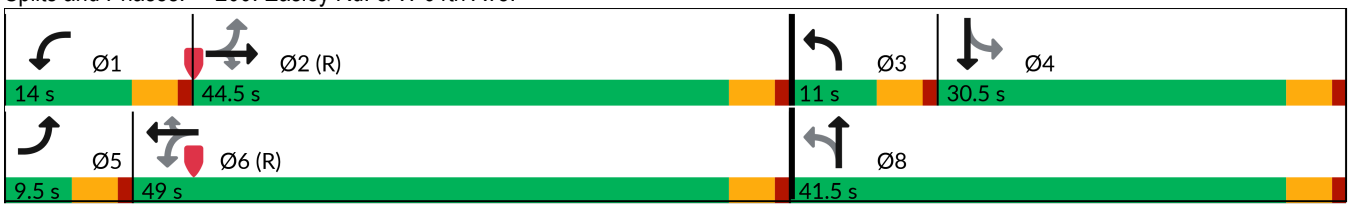
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.856			0.962	
Flt Protected	0.950			0.950			0.950				0.990	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1595	0	0	1774	0
Flt Permitted	0.548			0.559			0.613				0.870	
Satd. Flow (perm)	1021	3539	1583	1041	3539	1583	1142	1595	0	0	1559	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			115		208			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		606			489			425			365	
Travel Time (s)		13.8			11.1			9.7			8.3	

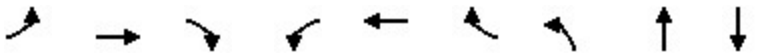
Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	8	225	116	190	311	12	86	8	7	18
Future Volume (vph)	8	225	116	190	311	12	86	8	7	18
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	5	2		1	6		3	8		4
Permitted Phases	2		2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	41.5	41.5	9.5	41.5	41.5	9.5	31.5	31.5	31.5
Total Split (s)	9.5	44.5	44.5	14.0	49.0	49.0	11.0	41.5	30.5	30.5
Total Split (%)	9.5%	44.5%	44.5%	14.0%	49.0%	49.0%	11.0%	41.5%	30.5%	30.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	69.2	63.6	63.6	77.0	74.9	74.9	14.2	14.0		7.3
Actuated g/C Ratio	0.69	0.64	0.64	0.77	0.75	0.75	0.14	0.14		0.07
v/c Ratio	0.01	0.11	0.12	0.24	0.13	0.01	0.46	0.54		0.31
Control Delay (s/veh)	4.8	8.8	2.3	4.6	5.0	0.0	44.0	11.0		40.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)	4.8	8.8	2.3	4.6	5.0	0.0	44.0	11.0		40.4
LOS	A	A	A	A	A	A	D	B		D
Approach Delay (s/veh)		6.5			4.7			20.9		40.4
Approach LOS		A			A			C		D

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 54 (54%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay (s/veh): 10.2	Intersection LOS: B
Intersection Capacity Utilization 40.2%	ICU Level of Service A
Analysis Period (min) 15	

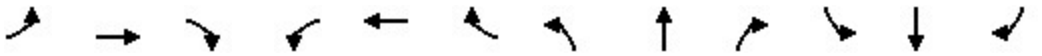
Splits and Phases: 200: Easley Rd. & W 64th Ave.





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	9	245	126	207	338	13	93	217	39
v/c Ratio	0.01	0.11	0.12	0.24	0.13	0.01	0.46	0.54	0.31
Control Delay (s/veh)	4.8	8.8	2.3	4.6	5.0	0.0	44.0	11.0	40.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	4.8	8.8	2.3	4.6	5.0	0.0	44.0	11.0	40.4
Queue Length 50th (ft)	1	33	0	34	28	0	52	5	17
Queue Length 95th (ft)	6	58	26	63	67	0	95	65	49
Internal Link Dist (ft)		526			409			345	285
Turn Bay Length (ft)	150		200	150		200	150		
Base Capacity (vph)	749	2250	1052	875	2649	1214	203	721	413
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.11	0.12	0.24	0.13	0.01	0.46	0.30	0.09

Intersection Summary



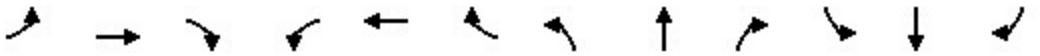
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	225	116	190	311	12	86	8	191	7	18	10
Future Volume (veh/h)	8	225	116	190	311	12	86	8	191	7	18	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	245	126	207	338	13	93	9	208	8	20	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	753	2280	1017	798	2449	1092	298	11	252	54	54	26
Arrive On Green	0.01	0.64	0.64	0.06	0.69	0.69	0.06	0.16	0.16	0.06	0.06	0.06
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	66	1529	189	942	444
Grp Volume(v), veh/h	9	245	126	207	338	13	93	0	217	39	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1595	1575	0	0
Q Serve(g_s), s	0.2	2.7	3.1	3.7	3.3	0.3	4.7	0.0	13.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	2.7	3.1	3.7	3.3	0.3	4.7	0.0	13.2	2.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.96	0.21		0.28
Lane Grp Cap(c), veh/h	753	2280	1017	798	2449	1092	298	0	263	134	0	0
V/C Ratio(X)	0.01	0.11	0.12	0.26	0.14	0.01	0.31	0.00	0.83	0.29	0.00	0.00
Avail Cap(c_a), veh/h	822	2280	1017	863	2449	1092	303	0	590	456	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.1	6.9	7.0	4.6	5.3	4.9	39.0	0.0	40.4	45.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.3	0.2	0.1	0.0	0.6	0.0	6.5	1.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	1.7	1.9	2.1	2.0	0.1	3.8	0.0	9.5	1.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.1	7.0	7.2	4.7	5.5	4.9	39.6	0.0	46.9	46.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D		D	D		
Approach Vol, veh/h		380			558			310			39	
Approach Delay, s/veh		7.0			5.2			44.7			46.6	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	10.4	68.7	10.7	10.2	5.6	73.4		21.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.5	40.0	6.5	26.0	5.0	44.5		37.0				
Max Q Clear Time (g_c+I1), s	5.7	5.1	6.7	4.4	2.2	5.3		15.2				
Green Ext Time (p_c), s	0.2	2.1	0.0	0.1	0.0	2.5		1.3				

Intersection Summary			
HCM 7th Control Delay, s/veh		16.5	
HCM 7th LOS		B	

Notes

User approved pedestrian interval to be less than phase max green.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		200	150		200	0		0	100		0
Storage Lanes	1		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.892			0.862	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1655	0	1770	1606	0
Flt Permitted	0.950			0.950				0.996		0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1655	0	1770	1606	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		509			1111			528			387	
Travel Time (s)		11.6			25.3			12.0			8.8	

Intersection Summary	
Area Type:	Other

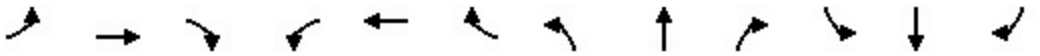
Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	52	746	11	35	454	68	4	5	33	44	4	42
Future Vol, veh/h	52	746	11	35	454	68	4	5	33	44	4	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	200	150	-	200	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	57	811	12	38	493	74	4	5	36	48	4	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	567	0	0	823	0	0	1249	1567	405	1091	1505	247
Stage 1	-	-	-	-	-	-	924	924	-	570	570	-
Stage 2	-	-	-	-	-	-	325	643	-	521	936	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1001	-	-	803	-	-	129	110	595	169	120	753
Stage 1	-	-	-	-	-	-	290	346	-	474	504	-
Stage 2	-	-	-	-	-	-	661	466	-	506	342	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1001	-	-	803	-	-	105	99	595	136	108	753
Mov Cap-2 Maneuver	-	-	-	-	-	-	105	99	-	136	108	-
Stage 1	-	-	-	-	-	-	274	327	-	451	480	-
Stage 2	-	-	-	-	-	-	587	444	-	442	323	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.57	0.61	19.62	28.79
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	292	1001	-	-	803	-	-	136	496
HCM Lane V/C Ratio	0.157	0.056	-	-	0.047	-	-	0.352	0.101
HCM Control Delay (s/veh)	19.6	8.8	-	-	9.7	-	-	45.2	13.1
HCM Lane LOS	C	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	0.5	0.2	-	-	0.1	-	-	1.4	0.3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.854			0.981	
Flt Protected	0.950			0.950			0.950				0.985	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1591	0	0	1800	0
Flt Permitted	0.950			0.950			0.950				0.985	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1591	0	0	1800	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1111			598			564			445	
Travel Time (s)		25.3			13.6			12.8			10.1	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	93.8

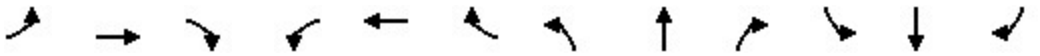
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	602	213	251	431	8	138	7	256	25	44	11
Future Vol, veh/h	8	602	213	251	431	8	138	7	256	25	44	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	150	-	200	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	654	232	273	468	9	150	8	278	27	48	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	477	0	0	886	0	0	1476	1695	327	1363	1917	234
Stage 1	-	-	-	-	-	-	672	672	-	1014	1014	-
Stage 2	-	-	-	-	-	-	804	1023	-	348	903	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1081	-	-	760	-	-	~ 88	92	669	107	67	768
Stage 1	-	-	-	-	-	-	412	453	-	255	314	-
Stage 2	-	-	-	-	-	-	343	311	-	641	354	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1081	-	-	760	-	-	~ 55	58	669	36	~ 42	768
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 55	58	-	36	~ 42	-
Stage 1	-	-	-	-	-	-	408	449	-	164	201	-
Stage 2	-	-	-	-	-	-	165	200	-	365	351	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.08	4.5	$ 336.55	$ 612.47
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	55	523	1081	-	-	760	-	-	46
HCM Lane V/C Ratio	2.727	0.547	0.008	-	-	0.359	-	-	1.895
HCM Control Delay (s/veh)	$ 940.1	19.9	8.4	-	-	12.4	-	-	$ 612.5
HCM Lane LOS	F	C	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	15.5	3.3	0	-	-	1.6	-	-	8.8

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	200		150	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.896			0.974	
Flt Protected	0.950			0.950				0.989			0.961	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1651	0	0	1744	0
Flt Permitted	0.950			0.950				0.989			0.961	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1651	0	0	1744	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		598			2068			454			273	
Travel Time (s)		13.6			47.0			7.4			6.2	

Intersection Summary	
Area Type:	Other

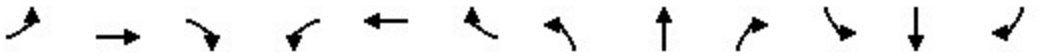
Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	857	12	31	675	27	11	0	37	16	0	4
Future Vol, veh/h	14	857	12	31	675	27	11	0	37	16	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	200	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	932	13	34	734	29	12	0	40	17	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	763	0	0	945	0	0	1396	1792	466	1297	1776	367
Stage 1	-	-	-	-	-	-	962	962	-	801	801	-
Stage 2	-	-	-	-	-	-	434	830	-	496	975	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	845	-	-	722	-	-	101	80	543	119	82	630
Stage 1	-	-	-	-	-	-	275	332	-	344	395	-
Stage 2	-	-	-	-	-	-	570	383	-	524	328	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	845	-	-	722	-	-	94	75	543	103	77	630
Mov Cap-2 Maneuver	-	-	-	-	-	-	94	75	-	103	77	-
Stage 1	-	-	-	-	-	-	270	326	-	328	377	-
Stage 2	-	-	-	-	-	-	540	365	-	477	322	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.15	0.43	22.4	40.06
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	259	845	-	-	722	-	-	124
HCM Lane V/C Ratio	0.202	0.018	-	-	0.047	-	-	0.175
HCM Control Delay (s/veh)	22.4	9.3	-	-	10.2	-	-	40.1
HCM Lane LOS	C	A	-	-	B	-	-	E
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0.1	-	-	0.6



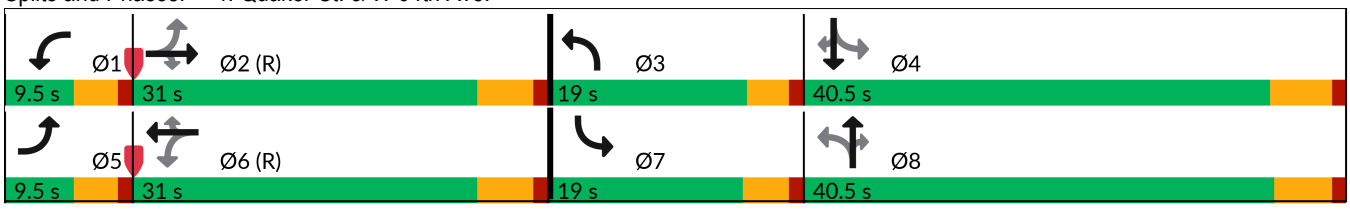
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		150	150		200	75		150	200		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.345			0.374			0.744			0.475		
Satd. Flow (perm)	643	3539	1583	697	3539	1583	1386	1863	1583	885	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			523			119			200
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2068			705			812			759	
Travel Time (s)		47.0			16.0			18.5			17.3	

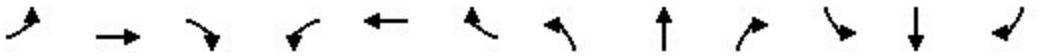
Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	672	14	59	501	481	4	25	61	304	19	184
Future Volume (vph)	240	672	14	59	501	481	4	25	61	304	19	184
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.2	42.2	9.5	42.2	42.2	9.5	40.3	40.3	9.5	40.6	40.6
Total Split (s)	9.5	31.0	31.0	9.5	31.0	31.0	19.0	40.5	40.5	19.0	40.5	40.5
Total Split (%)	9.5%	31.0%	31.0%	9.5%	31.0%	31.0%	19.0%	40.5%	40.5%	19.0%	40.5%	40.5%
Yellow Time (s)	3.3	4.2	4.2	3.3	4.2	4.2	3.2	4.3	4.3	3.4	4.6	4.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	5.2	5.2	4.3	5.2	5.2	4.2	5.3	5.3	4.4	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	66.5	56.5	56.5	51.8	44.0	44.0	12.5	7.0	7.0	24.8	21.5	21.5
Actuated g/C Ratio	0.67	0.57	0.57	0.52	0.44	0.44	0.13	0.07	0.07	0.25	0.22	0.22
v/c Ratio	0.42	0.37	0.02	0.15	0.35	0.53	0.02	0.21	0.30	0.95	0.05	0.40
Control Delay (s/veh)	9.5	14.2	0.0	8.7	19.9	3.9	26.8	47.0	4.6	72.6	31.5	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	9.5	14.2	0.0	8.7	19.9	3.9	26.8	47.0	4.6	72.6	31.5	7.7
LOS	A	B	A	A	B	A	C	D	A	E	C	A
Approach Delay (s/veh)		12.7			11.9			17.3			47.5	
Approach LOS		B			B			B			D	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 38 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay (s/veh): 19.4	Intersection LOS: B
Intersection Capacity Utilization 63.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 4: Quaker St. & W 64th Ave.

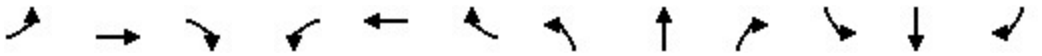




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	261	730	15	64	545	523	4	27	66	330	21	200
v/c Ratio	0.42	0.37	0.02	0.15	0.35	0.53	0.02	0.21	0.30	0.95	0.05	0.40
Control Delay (s/veh)	9.5	14.2	0.0	8.7	19.9	3.9	26.8	47.0	4.6	72.6	31.5	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	9.5	14.2	0.0	8.7	19.9	3.9	26.8	47.0	4.6	72.6	31.5	7.7
Queue Length 50th (ft)	63	139	0	14	120	0	2	17	0	189	10	0
Queue Length 95th (ft)	106	198	0	31	167	61	10	43	7	#268	32	61
Internal Link Dist (ft)		1988			625			732			679	
Turn Bay Length (ft)	130		150	150		200	75		150	200		150
Base Capacity (vph)	623	1998	947	434	1557	989	355	655	634	348	650	682
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.37	0.02	0.15	0.35	0.53	0.01	0.04	0.10	0.95	0.03	0.29

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	672	14	59	501	481	4	25	61	304	19	184
Future Volume (veh/h)	240	672	14	59	501	481	4	25	61	304	19	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	261	730	15	64	545	523	4	27	66	330	21	200
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	408	1967	878	460	1930	861	155	119	101	397	386	327
Arrive On Green	0.05	0.55	0.55	0.04	0.54	0.54	0.01	0.06	0.06	0.15	0.21	0.21
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	261	730	15	64	545	523	4	27	66	330	21	200
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.2	11.5	0.4	1.5	8.3	22.5	0.2	1.4	4.1	14.6	0.9	11.5
Cycle Q Clear(g_c), s	5.2	11.5	0.4	1.5	8.3	22.5	0.2	1.4	4.1	14.6	0.9	11.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	408	1967	878	460	1930	861	155	119	101	397	386	327
V/C Ratio(X)	0.64	0.37	0.02	0.14	0.28	0.61	0.03	0.23	0.65	0.83	0.05	0.61
Avail Cap(c_a), veh/h	408	1967	878	478	1930	861	410	658	558	397	653	553
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.4	12.5	10.1	9.5	12.3	15.6	43.4	44.5	45.7	37.1	31.8	36.0
Incr Delay (d2), s/veh	3.3	0.5	0.0	0.1	0.4	3.2	0.1	1.0	6.9	13.8	0.1	1.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.2	8.0	0.3	1.1	5.8	13.2	0.2	1.2	3.2	4.0	0.7	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.7	13.1	10.1	9.7	12.7	18.7	43.5	45.4	52.6	50.9	31.9	37.9
LnGrp LOS	B	B	B	A	B	B	D	D	D	D	C	D
Approach Vol, veh/h		1006			1132			97			551	
Approach Delay, s/veh		13.7			15.3			50.3			45.5	
Approach LOS		B			B			D			D	

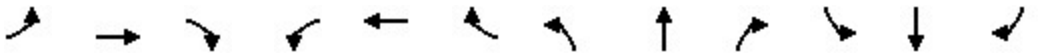
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	60.6	4.7	26.3	9.5	59.5	19.0	12.0
Change Period (Y+Rc), s	4.3	5.2	4.2	5.6	4.3	5.2	4.4	* 5.6
Max Green Setting (Gmax), s	5.2	25.8	14.8	34.9	5.2	25.8	14.6	* 35
Max Q Clear Time (g_c+I1), s	3.5	13.5	2.2	13.5	7.2	24.5	16.6	6.1
Green Ext Time (p_c), s	0.0	4.1	0.0	0.7	0.0	0.8	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	21.9
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



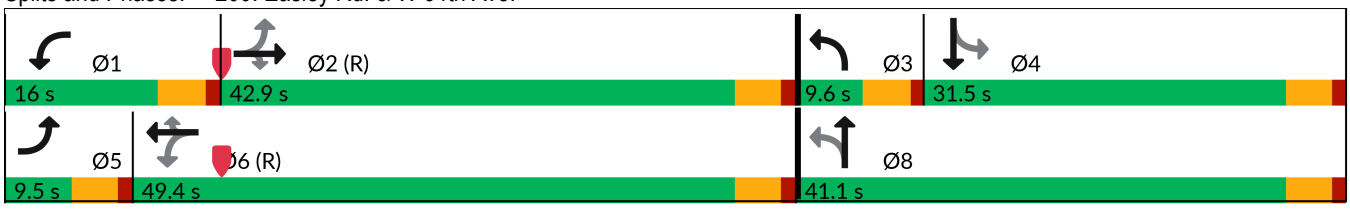
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.854			0.981	
Flt Protected	0.950			0.950			0.950				0.985	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1591	0	0	1800	0
Flt Permitted	0.483			0.336			0.500				0.694	
Satd. Flow (perm)	900	3539	1583	626	3539	1583	931	1591	0	0	1268	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			232			115		265			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		561			625			425			340	
Travel Time (s)		12.8			14.2			9.7			7.7	

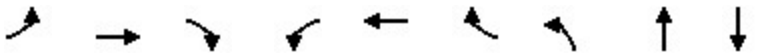
Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	8	602	213	251	431	8	138	7	25	44
Future Volume (vph)	8	602	213	251	431	8	138	7	25	44
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	5	2		1	6		3	8		4
Permitted Phases	2		2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	41.5	41.5	9.5	41.5	41.5	9.5	31.5	31.5	31.5
Total Split (s)	9.5	42.9	42.9	16.0	49.4	49.4	9.6	41.1	31.5	31.5
Total Split (%)	9.5%	42.9%	42.9%	16.0%	49.4%	49.4%	9.6%	41.1%	31.5%	31.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	63.3	57.6	57.6	73.0	70.9	70.9	18.0	18.0		10.4
Actuated g/C Ratio	0.63	0.58	0.58	0.73	0.71	0.71	0.18	0.18		0.10
v/c Ratio	0.01	0.32	0.23	0.47	0.19	0.01	0.71	0.57		0.63
Control Delay (s/veh)	6.0	13.2	2.6	8.0	6.5	0.0	54.4	10.1		57.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)	6.0	13.2	2.6	8.0	6.5	0.0	54.4	10.1		57.6
LOS	A	B	A	A	A	A	D	B		E
Approach Delay (s/veh)		10.4			7.0			25.4		57.6
Approach LOS		B			A			C		E

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 51 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay (s/veh): 14.1	Intersection LOS: B
Intersection Capacity Utilization 66.1%	ICU Level of Service C
Analysis Period (min) 15	

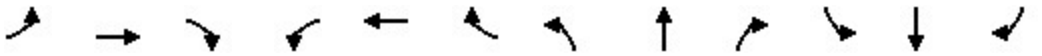
Splits and Phases: 200: Easley Rd. & W 64th Ave.





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	9	654	232	273	468	9	150	286	87
v/c Ratio	0.01	0.32	0.23	0.47	0.19	0.01	0.71	0.57	0.63
Control Delay (s/veh)	6.0	13.2	2.6	8.0	6.5	0.0	54.4	10.1	57.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.0	13.2	2.6	8.0	6.5	0.0	54.4	10.1	57.6
Queue Length 50th (ft)	1	112	0	52	45	0	84	11	49
Queue Length 95th (ft)	7	183	40	97	103	0	136	78	96
Internal Link Dist (ft)		481			545			345	260
Turn Bay Length (ft)	150		200	150		200	150		
Base Capacity (vph)	619	2037	1009	599	2507	1155	211	750	348
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.32	0.23	0.46	0.19	0.01	0.71	0.38	0.25

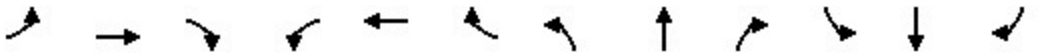
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	602	213	251	431	8	138	7	256	25	44	11
Future Volume (veh/h)	8	602	213	251	431	8	138	7	256	25	44	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	654	232	273	468	9	150	8	278	27	48	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	618	2038	909	517	2289	1021	289	9	325	64	87	17
Arrive On Green	0.01	0.57	0.57	0.08	0.64	0.64	0.05	0.21	0.21	0.11	0.11	0.11
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	45	1547	151	760	146
Grp Volume(v), veh/h	9	654	232	273	468	9	150	0	286	87	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1592	1056	0	0
Q Serve(g_s), s	0.2	9.6	7.3	5.9	5.4	0.2	5.1	0.0	17.3	1.3	0.0	0.0
Cycle Q Clear(g_c), s	0.2	9.6	7.3	5.9	5.4	0.2	5.1	0.0	17.3	9.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.97	0.31		0.14
Lane Grp Cap(c), veh/h	618	2038	909	517	2289	1021	289	0	334	168	0	0
V/C Ratio(X)	0.01	0.32	0.26	0.53	0.20	0.01	0.52	0.00	0.86	0.52	0.00	0.00
Avail Cap(c_a), veh/h	687	2038	909	576	2289	1021	289	0	583	402	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.7	11.1	10.7	7.4	7.3	6.4	36.7	0.0	38.0	42.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.7	0.8	0.2	0.0	1.7	0.0	6.3	2.5	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	6.7	4.7	3.8	3.5	0.1	6.2	0.0	11.6	4.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.7	11.6	11.3	8.3	7.5	6.4	38.3	0.0	44.3	44.6	0.0	0.0
LnGrp LOS	A	B	B	A	A	A	D		D	D		
Approach Vol, veh/h		895			750			436			87	
Approach Delay, s/veh		11.5			7.8			42.3			44.6	
Approach LOS		B			A			D			D	

Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	12.7	61.8	9.6	15.9	5.6	68.9		25.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	11.5	38.4	5.1	27.0	5.0	44.9		36.6				
Max Q Clear Time (g_c+I1), s	7.9	11.6	7.1	11.0	2.2	7.4		19.3				
Green Ext Time (p_c), s	0.3	5.8	0.0	0.3	0.0	3.5		1.7				

Intersection Summary	
HCM 7th Control Delay, s/veh	17.7
HCM 7th LOS	B



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		200	150		200	0		0	100		0
Storage Lanes	1		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.915			0.890	
Flt Protected	0.950			0.950				0.991		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1689	0	1770	1658	0
Flt Permitted	0.950			0.950				0.991		0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1689	0	1770	1658	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		509			1111			528			387	
Travel Time (s)		11.6			25.3			12.0			8.8	

Intersection Summary	
Area Type:	Other

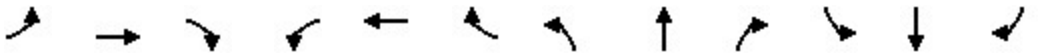
Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	262	3	20	381	50	10	10	34	66	7	20
Future Vol, veh/h	8	262	3	20	381	50	10	10	34	66	7	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	200	150	-	200	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	285	3	22	414	54	11	11	37	72	8	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	468	0	0	288	0	0	557	814	142	623	763	207
Stage 1	-	-	-	-	-	-	302	302	-	458	458	-
Stage 2	-	-	-	-	-	-	254	512	-	165	305	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1089	-	-	1271	-	-	413	311	879	370	333	799
Stage 1	-	-	-	-	-	-	682	663	-	552	566	-
Stage 2	-	-	-	-	-	-	728	535	-	820	661	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1089	-	-	1271	-	-	383	303	879	334	324	799
Mov Cap-2 Maneuver	-	-	-	-	-	-	383	303	-	334	324	-
Stage 1	-	-	-	-	-	-	677	657	-	543	556	-
Stage 2	-	-	-	-	-	-	686	526	-	767	655	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.24	0.35	12.29	16.63
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	552	1089	-	-	1271	-	-	334	579
HCM Lane V/C Ratio	0.106	0.008	-	-	0.017	-	-	0.215	0.051
HCM Control Delay (s/veh)	12.3	8.3	-	-	7.9	-	-	18.7	11.5
HCM Lane LOS	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.8	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.858			0.953	
Flt Protected	0.950			0.950			0.950				0.976	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1598	0	0	1733	0
Flt Permitted	0.950			0.950			0.950				0.976	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1598	0	0	1733	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1111			598			564			445	
Travel Time (s)		25.3			13.6			12.8			10.1	

Intersection Summary	
Area Type:	Other

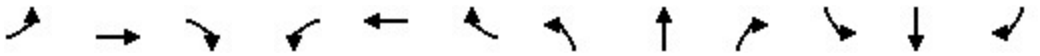
Intersection	
Int Delay, s/veh	16.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	225	116	190	311	33	86	10	191	75	24	53
Future Vol, veh/h	22	225	116	190	311	33	86	10	191	75	24	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	150	-	200	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	245	126	207	338	36	93	11	208	82	26	58

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	374	0	0	371	0	0	888	1079	122	927	1170	169
Stage 1	-	-	-	-	-	-	292	292	-	751	751	-
Stage 2	-	-	-	-	-	-	595	787	-	176	418	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1181	-	-	1184	-	-	238	217	906	223	192	845
Stage 1	-	-	-	-	-	-	691	669	-	369	416	-
Stage 2	-	-	-	-	-	-	458	401	-	809	589	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1181	-	-	1184	-	-	154	175	906	132	155	845
Mov Cap-2 Maneuver	-	-	-	-	-	-	154	175	-	132	155	-
Stage 1	-	-	-	-	-	-	677	656	-	305	344	-
Stage 2	-	-	-	-	-	-	325	331	-	601	577	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.49	3.09	25.85	81.28
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	154	750	1181	-	-	1184	-	-	194
HCM Lane V/C Ratio	0.605	0.291	0.02	-	-	0.174	-	-	0.853
HCM Control Delay (s/veh)	58.8	11.8	8.1	-	-	8.7	-	-	81.3
HCM Lane LOS	F	B	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	3.2	1.2	0.1	-	-	0.6	-	-	6.3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	200		150	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.877			0.949	
Flt Protected	0.950			0.950				0.995			0.971	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1625	0	0	1716	0
Flt Permitted	0.950			0.950				0.995			0.971	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1625	0	0	1716	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		598			2068			454			273	
Travel Time (s)		13.6			47.0			7.4			6.2	

Intersection Summary	
Area Type:	Other

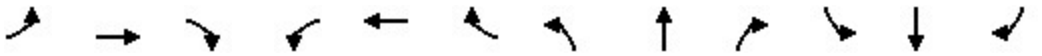
Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	477	7	20	515	27	5	0	46	22	1	14
Future Vol, veh/h	7	477	7	20	515	27	5	0	46	22	1	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	200	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	518	8	22	560	29	5	0	50	24	1	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	589	0	0	526	0	0	858	1166	259	878	1145	280
Stage 1	-	-	-	-	-	-	534	534	-	603	603	-
Stage 2	-	-	-	-	-	-	324	633	-	274	541	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	982	-	-	1037	-	-	251	193	740	242	198	717
Stage 1	-	-	-	-	-	-	498	523	-	452	486	-
Stage 2	-	-	-	-	-	-	662	472	-	708	519	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	982	-	-	1037	-	-	237	187	740	220	193	717
Mov Cap-2 Maneuver	-	-	-	-	-	-	237	187	-	220	193	-
Stage 1	-	-	-	-	-	-	494	519	-	443	476	-
Stage 2	-	-	-	-	-	-	633	462	-	655	515	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.12	0.3	11.46	19.05
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	612	982	-	-	1037	-	-	296
HCM Lane V/C Ratio	0.091	0.008	-	-	0.021	-	-	0.136
HCM Control Delay (s/veh)	11.5	8.7	-	-	8.5	-	-	19.1
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.5



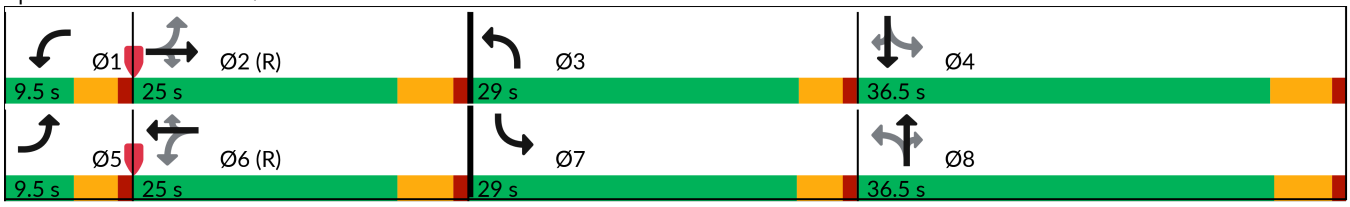
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		150	150		200	75		150	200		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.419			0.516			0.749			0.467		
Satd. Flow (perm)	780	3539	1583	961	3539	1583	1395	1863	1583	870	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			240			119			199
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2068			705			812			759	
Travel Time (s)		47.0			16.0			18.5			17.3	

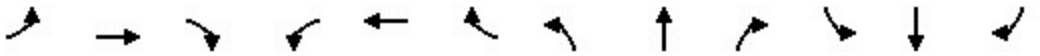
Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	142	368	10	49	383	221	4	14	65	503	12	183
Future Volume (vph)	142	368	10	49	383	221	4	14	65	503	12	183
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.2	42.2	9.5	42.2	42.2	9.5	40.3	40.3	9.5	40.6	40.6
Total Split (s)	9.5	25.0	25.0	9.5	25.0	25.0	29.0	36.5	36.5	29.0	36.5	36.5
Total Split (%)	9.5%	25.0%	25.0%	9.5%	25.0%	25.0%	29.0%	36.5%	36.5%	29.0%	36.5%	36.5%
Yellow Time (s)	3.3	4.2	4.2	3.3	4.2	4.2	3.2	4.3	4.3	3.4	4.6	4.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	5.2	5.2	4.3	5.2	5.2	4.2	5.3	5.3	4.4	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	56.5	47.0	47.0	49.8	42.0	42.0	11.9	6.4	6.4	34.1	30.9	30.9
Actuated g/C Ratio	0.57	0.47	0.47	0.50	0.42	0.42	0.12	0.06	0.06	0.34	0.31	0.31
v/c Ratio	0.29	0.24	0.01	0.10	0.28	0.30	0.02	0.13	0.33	1.06	0.02	0.32
Control Delay (s/veh)	12.5	18.1	0.0	11.6	21.1	4.0	22.5	46.0	6.3	86.3	24.7	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.5	18.1	0.0	11.6	21.1	4.0	22.5	46.0	6.3	86.3	24.7	5.5
LOS	B	B	A	B	C	A	C	D	A	F	C	A
Approach Delay (s/veh)		16.2			14.6			13.6			64.1	
Approach LOS		B			B			B			E	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.06	
Intersection Signal Delay (s/veh): 32.7	Intersection LOS: C
Intersection Capacity Utilization 65.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: Quaker St. & W 64th Ave.



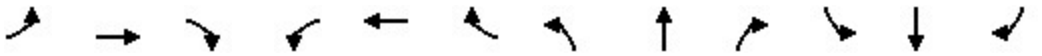


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	154	400	11	53	416	240	4	15	71	547	13	199
v/c Ratio	0.29	0.24	0.01	0.10	0.28	0.30	0.02	0.13	0.33	1.06	0.02	0.32
Control Delay (s/veh)	12.5	18.1	0.0	11.6	21.1	4.0	22.5	46.0	6.3	86.3	24.7	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.5	18.1	0.0	11.6	21.1	4.0	22.5	46.0	6.3	86.3	24.7	5.5
Queue Length 50th (ft)	45	83	0	15	93	0	2	9	0	~329	5	0
Queue Length 95th (ft)	81	125	0	34	141	50	9	30	12	#488	21	53
Internal Link Dist (ft)		1988			625			732			679	
Turn Bay Length (ft)	130		150	150		200	75		150	200		150
Base Capacity (vph)	539	1664	809	534	1484	803	525	581	575	518	620	660
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.24	0.01	0.10	0.28	0.30	0.01	0.03	0.12	1.06	0.02	0.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	368	10	49	383	221	4	14	65	503	12	183
Future Volume (veh/h)	142	368	10	49	383	221	4	14	65	503	12	183
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	154	400	11	53	416	240	4	15	71	547	13	199
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	450	1614	720	516	1566	699	159	124	105	587	578	490
Arrive On Green	0.05	0.45	0.45	0.04	0.44	0.44	0.01	0.07	0.07	0.25	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	154	400	11	53	416	240	4	15	71	547	13	199
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	4.8	6.9	0.4	1.6	7.4	10.0	0.2	0.8	4.4	24.6	0.5	9.9
Cycle Q Clear(g_c), s	4.8	6.9	0.4	1.6	7.4	10.0	0.2	0.8	4.4	24.6	0.5	9.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	450	1614	720	516	1566	699	159	124	105	587	578	490
V/C Ratio(X)	0.34	0.25	0.02	0.10	0.27	0.34	0.03	0.12	0.68	0.93	0.02	0.41
Avail Cap(c_a), veh/h	450	1614	720	540	1566	699	591	584	495	587	578	490
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.4	16.8	15.0	14.1	17.7	18.4	43.2	43.9	45.6	32.8	24.0	27.3
Incr Delay (d2), s/veh	0.5	0.4	0.0	0.1	0.4	1.3	0.1	0.4	7.3	21.8	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.5	5.1	0.3	1.2	5.5	6.9	0.2	0.7	3.5	8.0	0.4	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.9	17.2	15.0	14.2	18.1	19.8	43.3	44.4	53.0	54.6	24.1	27.8
LnGrp LOS	B	B	B	B	B	B	D	D	D	D	C	C
Approach Vol, veh/h		565			709			90			759	
Approach Delay, s/veh		16.5			18.4			51.1			47.1	
Approach LOS		B			B			D			D	

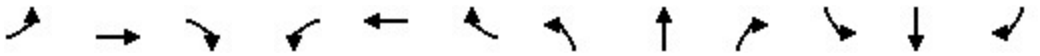
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	50.6	4.7	36.5	9.5	49.3	29.0	12.2
Change Period (Y+Rc), s	4.3	5.2	4.2	5.6	4.3	5.2	4.4	* 5.6
Max Green Setting (Gmax), s	5.2	19.8	24.8	30.9	5.2	19.8	24.6	* 31
Max Q Clear Time (g_c+I1), s	3.6	8.9	2.2	11.9	6.8	12.0	26.6	6.4
Green Ext Time (p_c), s	0.0	1.9	0.0	0.7	0.0	2.2	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	29.5
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



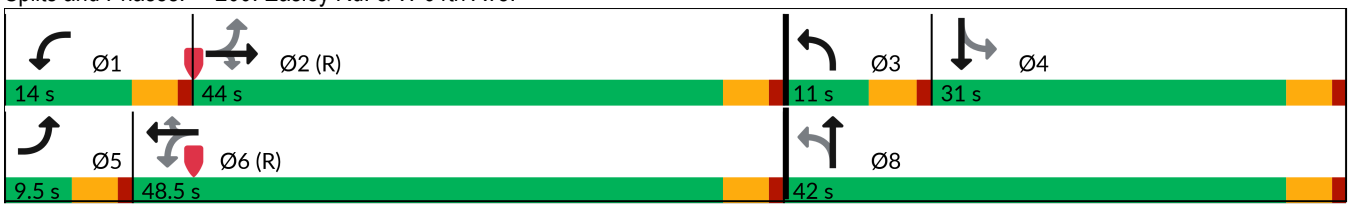
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.858			0.953	
Flt Protected	0.950			0.950			0.950				0.976	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1598	0	0	1733	0
Flt Permitted	0.548			0.551			0.554				0.734	
Satd. Flow (perm)	1021	3539	1583	1026	3539	1583	1032	1598	0	0	1303	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			126			115		208			26	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		606			489			425			365	
Travel Time (s)		13.8			11.1			9.7			8.3	

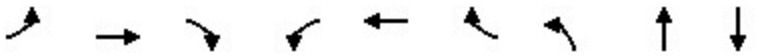
Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	22	225	116	190	311	33	86	10	75	24
Future Volume (vph)	22	225	116	190	311	33	86	10	75	24
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	5	2		1	6		3	8		4
Permitted Phases	2		2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	41.5	41.5	9.5	41.5	41.5	9.5	31.5	31.5	31.5
Total Split (s)	9.5	44.0	44.0	14.0	48.5	48.5	11.0	42.0	31.0	31.0
Total Split (%)	9.5%	44.0%	44.0%	14.0%	48.5%	48.5%	11.0%	42.0%	31.0%	31.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	57.8	51.7	51.7	66.2	61.8	61.8	24.8	24.8		16.0
Actuated g/C Ratio	0.58	0.52	0.52	0.66	0.62	0.62	0.25	0.25		0.16
v/c Ratio	0.04	0.13	0.14	0.27	0.15	0.04	0.31	0.40		0.72
Control Delay (s/veh)	8.9	15.2	3.9	9.1	10.9	0.1	29.5	6.5		50.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)	8.9	15.2	3.9	9.1	10.9	0.1	29.5	6.5		50.5
LOS	A	B	A	A	B	A	C	A		D
Approach Delay (s/veh)		11.2			9.6			13.3		50.5
Approach LOS		B			A			B		D

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 54 (54%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay (s/veh): 15.5	Intersection LOS: B
Intersection Capacity Utilization 52.7%	ICU Level of Service A
Analysis Period (min) 15	

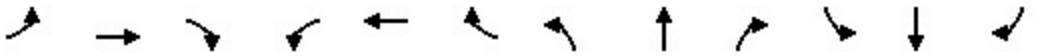
Splits and Phases: 200: Easley Rd. & W 64th Ave.





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	24	245	126	207	338	36	93	219	166
v/c Ratio	0.04	0.13	0.14	0.27	0.15	0.04	0.31	0.40	0.72
Control Delay (s/veh)	8.9	15.2	3.9	9.1	10.9	0.1	29.5	6.5	50.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.9	15.2	3.9	9.1	10.9	0.1	29.5	6.5	50.5
Queue Length 50th (ft)	5	43	0	49	41	0	46	5	86
Queue Length 95th (ft)	18	79	35	99	95	0	78	54	145
Internal Link Dist (ft)		526			409			345	285
Turn Bay Length (ft)	150		200	150		200	150		
Base Capacity (vph)	635	1830	879	759	2186	1022	303	729	364
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.13	0.14	0.27	0.15	0.04	0.31	0.30	0.46

Intersection Summary



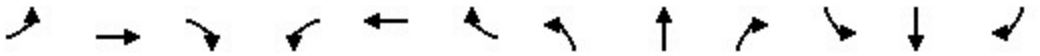
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	225	116	190	311	33	86	10	191	75	24	53
Future Volume (veh/h)	22	225	116	190	311	33	86	10	191	75	24	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	245	126	207	338	36	93	11	208	82	26	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	669	1952	870	716	2110	941	348	20	375	140	43	70
Arrive On Green	0.02	0.55	0.55	0.07	0.59	0.59	0.06	0.25	0.25	0.14	0.14	0.14
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	80	1517	600	301	484
Grp Volume(v), veh/h	24	245	126	207	338	36	93	0	219	166	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1597	1385	0	0
Q Serve(g_s), s	0.6	3.3	3.9	4.8	4.3	0.9	4.3	0.0	12.0	10.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	3.3	3.9	4.8	4.3	0.9	4.3	0.0	12.0	11.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.95	0.49		0.35
Lane Grp Cap(c), veh/h	669	1952	870	716	2110	941	348	0	394	253	0	0
V/C Ratio(X)	0.04	0.13	0.14	0.29	0.16	0.04	0.27	0.00	0.56	0.66	0.00	0.00
Avail Cap(c_a), veh/h	715	1952	870	763	2110	941	360	0	599	419	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.2	10.9	11.0	7.6	9.1	8.4	31.9	0.0	32.9	41.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.3	0.2	0.2	0.1	0.4	0.0	1.2	2.9	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	2.3	2.5	3.1	2.9	0.6	3.4	0.0	8.3	7.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.2	11.0	11.4	7.8	9.3	8.5	32.3	0.0	34.1	44.4	0.0	0.0
LnGrp LOS	A	B	B	A	A	A	C		C	D		
Approach Vol, veh/h		395			581			312			166	
Approach Delay, s/veh		11.0			8.7			33.6			44.4	
Approach LOS		B			A			C			D	

Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	11.4	59.4	10.3	18.9	6.9	63.9		29.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.5	39.5	6.5	26.5	5.0	44.0		37.5				
Max Q Clear Time (g_c+I1), s	6.8	5.9	6.3	13.6	2.6	6.3		14.0				
Green Ext Time (p_c), s	0.2	2.1	0.0	0.7	0.0	2.5		1.4				

Intersection Summary	
HCM 7th Control Delay, s/veh	18.8
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		200	150		200	0		0	100		0
Storage Lanes	1		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.892			0.862	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1655	0	1770	1606	0
Flt Permitted	0.950			0.950				0.996		0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1655	0	1770	1606	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		509			1111			528			387	
Travel Time (s)		11.6			25.3			12.0			8.8	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	52	786	11	35	478	72	4	5	33	51	4	42
Future Vol, veh/h	52	786	11	35	478	72	4	5	33	51	4	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	200	150	-	200	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	57	854	12	38	520	78	4	5	36	55	4	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	598	0	0	866	0	0	1305	1641	427	1139	1575	260
Stage 1	-	-	-	-	-	-	967	967	-	596	596	-
Stage 2	-	-	-	-	-	-	338	674	-	543	979	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	975	-	-	773	-	-	118	99	576	156	109	739
Stage 1	-	-	-	-	-	-	273	331	-	457	490	-
Stage 2	-	-	-	-	-	-	650	452	-	492	326	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	975	-	-	773	-	-	95	89	576	124	97	739
Mov Cap-2 Maneuver	-	-	-	-	-	-	95	89	-	124	97	-
Stage 1	-	-	-	-	-	-	257	311	-	435	466	-
Stage 2	-	-	-	-	-	-	574	430	-	427	307	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.55	0.59	21.06	35.71
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	270	975	-	-	773	-	-	124	470
HCM Lane V/C Ratio	0.169	0.058	-	-	0.049	-	-	0.447	0.106
HCM Control Delay (s/veh)	21.1	8.9	-	-	9.9	-	-	55.7	13.6
HCM Lane LOS	C	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.6	0.2	-	-	0.2	-	-	2	0.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.858			0.966	
Flt Protected	0.950			0.950			0.950				0.978	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1598	0	0	1760	0
Flt Permitted	0.950			0.950			0.950				0.978	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	1598	0	0	1760	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1111			598			564			445	
Travel Time (s)		25.3			13.6			12.8			10.1	

Intersection Summary	
Area Type:	Other

Intersection	
Int Delay, s/veh	228.2

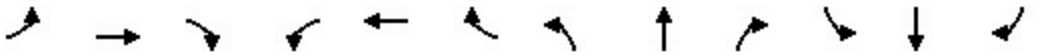
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	602	213	251	431	81	138	14	256	69	48	39
Future Vol, veh/h	55	602	213	251	431	81	138	14	256	69	48	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	150	-	200	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	654	232	273	468	88	150	15	278	75	52	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	557	0	0	886	0	0	1580	1876	327	1468	2020	234
Stage 1	-	-	-	-	-	-	774	774	-	1014	1014	-
Stage 2	-	-	-	-	-	-	806	1102	-	454	1005	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1010	-	-	760	-	-	~ 73	71	669	89	58	768
Stage 1	-	-	-	-	-	-	357	407	-	255	314	-
Stage 2	-	-	-	-	-	-	342	286	-	555	317	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1010	-	-	760	-	-	~ 42	43	669	~ 23	~ 35	768
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 42	43	-	~ 23	~ 35	-
Stage 1	-	-	-	-	-	-	336	382	-	164	201	-
Stage 2	-	-	-	-	-	-	153	183	-	293	298	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.56	4.07	$ 487.97	$ 1914.48
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	42	380	1010	-	-	760	-	-	36
HCM Lane V/C Ratio	3.586	0.773	0.059	-	-	0.359	-	-	4.754
HCM Control Delay (s/veh)	$ 1364	40.2	8.8	-	-	12.4	-	-	$ 1914.5
HCM Lane LOS	F	E	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	16.9	6.4	0.2	-	-	1.6	-	-	19.9

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	200		150	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.896			0.979	
Flt Protected	0.950			0.950				0.989			0.959	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1651	0	0	1749	0
Flt Permitted	0.950			0.950				0.989			0.959	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	0	1651	0	0	1749	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		598			2068			454			273	
Travel Time (s)		13.6			47.0			7.4			6.2	

Intersection Summary	
Area Type:	Other

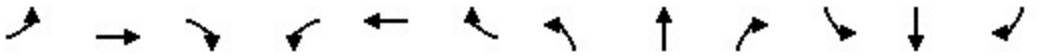
Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	901	12	31	748	34	11	0	37	20	0	4
Future Vol, veh/h	14	901	12	31	748	34	11	0	37	20	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	200	200	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	979	13	34	813	37	12	0	40	22	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	850	0	0	992	0	0	1484	1927	490	1401	1903	407
Stage 1	-	-	-	-	-	-	1010	1010	-	880	880	-
Stage 2	-	-	-	-	-	-	474	917	-	520	1023	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	784	-	-	693	-	-	87	66	524	100	68	594
Stage 1	-	-	-	-	-	-	257	316	-	308	363	-
Stage 2	-	-	-	-	-	-	540	349	-	507	311	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	784	-	-	693	-	-	80	61	524	86	64	594
Mov Cap-2 Maneuver	-	-	-	-	-	-	80	61	-	86	64	-
Stage 1	-	-	-	-	-	-	252	310	-	293	345	-
Stage 2	-	-	-	-	-	-	510	332	-	459	305	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.15	0.4	25.06	53.01
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	231	784	-	-	693	-	-	100
HCM Lane V/C Ratio	0.226	0.019	-	-	0.049	-	-	0.26
HCM Control Delay (s/veh)	25.1	9.7	-	-	10.5	-	-	53
HCM Lane LOS	D	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0.2	-	-	1



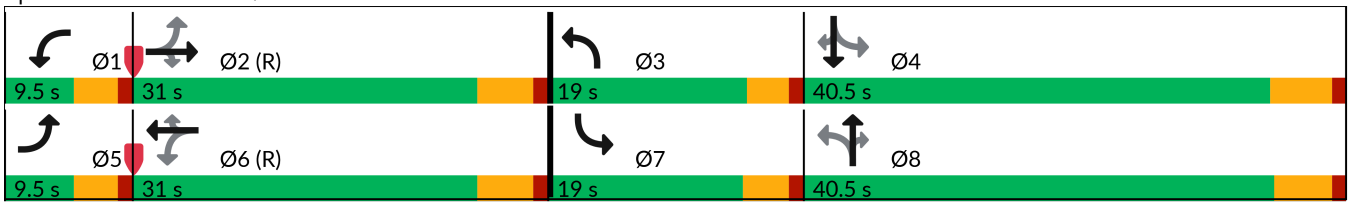
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		150	150		200	75		150	200		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.288			0.358			0.744			0.475		
Satd. Flow (perm)	536	3539	1583	667	3539	1583	1386	1863	1583	885	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123			523			119			214
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2068			705			812			759	
Travel Time (s)		47.0			16.0			18.5			17.3	

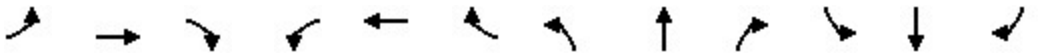
Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	248	712	14	59	568	481	4	25	61	304	19	197
Future Volume (vph)	248	712	14	59	568	481	4	25	61	304	19	197
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	42.2	42.2	9.5	42.2	42.2	9.5	40.3	40.3	9.5	40.6	40.6
Total Split (s)	9.5	31.0	31.0	9.5	31.0	31.0	19.0	40.5	40.5	19.0	40.5	40.5
Total Split (%)	9.5%	31.0%	31.0%	9.5%	31.0%	31.0%	19.0%	40.5%	40.5%	19.0%	40.5%	40.5%
Yellow Time (s)	3.3	4.2	4.2	3.3	4.2	4.2	3.2	4.3	4.3	3.4	4.6	4.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.3	5.2	5.2	4.3	5.2	5.2	4.2	5.3	5.3	4.4	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	66.5	56.5	56.5	48.4	40.7	40.7	12.5	7.0	7.0	24.8	21.5	21.5
Actuated g/C Ratio	0.67	0.57	0.57	0.48	0.41	0.41	0.13	0.07	0.07	0.25	0.22	0.22
v/c Ratio	0.44	0.39	0.02	0.16	0.43	0.55	0.02	0.21	0.30	0.95	0.05	0.42
Control Delay (s/veh)	9.8	14.4	0.0	9.1	22.4	4.2	26.8	47.0	4.6	72.6	31.5	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	9.8	14.4	0.0	9.1	22.4	4.2	26.8	47.0	4.6	72.6	31.5	7.7
LOS	A	B	A	A	C	A	C	D	A	E	C	A
Approach Delay (s/veh)		13.0			13.8			17.3			46.5	
Approach LOS		B			B			B			D	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 38 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay (s/veh): 19.9	Intersection LOS: B
Intersection Capacity Utilization 65.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: Quaker St. & W 64th Ave.

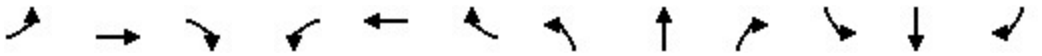




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	270	774	15	64	617	523	4	27	66	330	21	214
v/c Ratio	0.44	0.39	0.02	0.16	0.43	0.55	0.02	0.21	0.30	0.95	0.05	0.42
Control Delay (s/veh)	9.8	14.4	0.0	9.1	22.4	4.2	26.8	47.0	4.6	72.6	31.5	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	9.8	14.4	0.0	9.1	22.4	4.2	26.8	47.0	4.6	72.6	31.5	7.7
Queue Length 50th (ft)	65	150	0	14	145	0	2	17	0	189	10	0
Queue Length 95th (ft)	109	212	0	31	192	62	10	43	7	#268	32	62
Internal Link Dist (ft)		1988			625			732			679	
Turn Bay Length (ft)	130		150	150		200	75		150	200		150
Base Capacity (vph)	611	1998	947	398	1439	954	355	655	634	348	650	691
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.39	0.02	0.16	0.43	0.55	0.01	0.04	0.10	0.95	0.03	0.31

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	248	712	14	59	568	481	4	25	61	304	19	197
Future Volume (veh/h)	248	712	14	59	568	481	4	25	61	304	19	197
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	270	774	15	64	617	523	4	27	66	330	21	214
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	385	1967	878	441	1930	861	154	119	101	397	386	327
Arrive On Green	0.05	0.55	0.55	0.04	0.54	0.54	0.01	0.06	0.06	0.15	0.21	0.21
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	270	774	15	64	617	523	4	27	66	330	21	214
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	5.2	12.4	0.4	1.5	9.6	22.5	0.2	1.4	4.1	14.6	0.9	12.4
Cycle Q Clear(g_c), s	5.2	12.4	0.4	1.5	9.6	22.5	0.2	1.4	4.1	14.6	0.9	12.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	385	1967	878	441	1930	861	154	119	101	397	386	327
V/C Ratio(X)	0.70	0.39	0.02	0.15	0.32	0.61	0.03	0.23	0.65	0.83	0.05	0.65
Avail Cap(c_a), veh/h	385	1967	878	459	1930	861	409	658	558	397	653	553
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.8	12.7	10.1	9.7	12.6	15.6	43.4	44.5	45.7	37.1	31.8	36.4
Incr Delay (d2), s/veh	5.6	0.6	0.0	0.1	0.4	3.2	0.1	1.0	6.9	13.8	0.1	2.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.2	8.5	0.3	1.1	6.8	13.2	0.2	1.2	3.2	4.0	0.7	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.3	13.3	10.1	9.8	13.1	18.7	43.5	45.4	52.6	50.9	31.9	38.6
LnGrp LOS	B	B	B	A	B	B	D	D	D	D	C	D
Approach Vol, veh/h		1059			1204			97			565	
Approach Delay, s/veh		14.8			15.4			50.3			45.6	
Approach LOS		B			B			D			D	

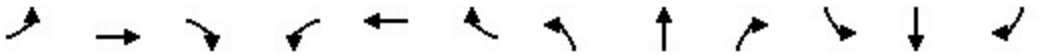
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	60.6	4.7	26.3	9.5	59.5	19.0	12.0
Change Period (Y+Rc), s	4.3	5.2	4.2	5.6	4.3	5.2	4.4	* 5.6
Max Green Setting (Gmax), s	5.2	25.8	14.8	34.9	5.2	25.8	14.6	* 35
Max Q Clear Time (g_c+I1), s	3.5	14.4	2.2	14.4	7.2	24.5	16.6	6.1
Green Ext Time (p_c), s	0.0	4.1	0.0	0.8	0.0	0.8	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	22.2
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



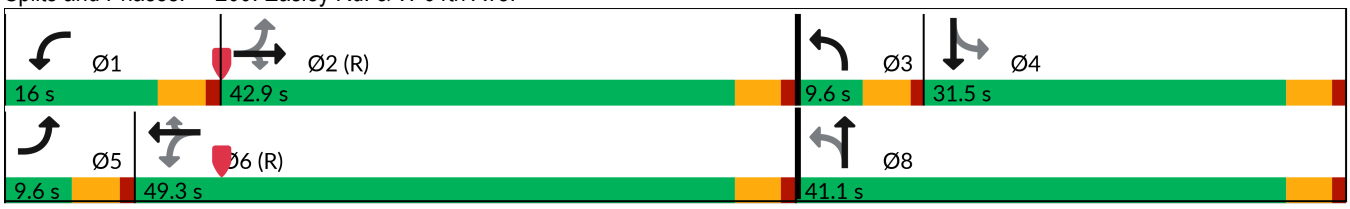
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	150		200	150		200	150		0	0		0
Storage Lanes	1		1	1		1	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850		0.858			0.966	
Flt Protected	0.950			0.950			0.950				0.978	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1598	0	0	1760	0
Flt Permitted	0.483			0.310			0.528				0.713	
Satd. Flow (perm)	900	3539	1583	577	3539	1583	984	1598	0	0	1283	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			232			115		265			16	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		561			625			425			340	
Travel Time (s)		12.8			14.2			9.7			7.7	

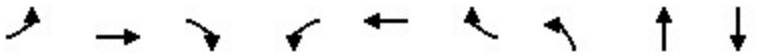
Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	55	602	213	251	431	81	138	14	69	48
Future Volume (vph)	55	602	213	251	431	81	138	14	69	48
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	5	2		1	6		3	8		4
Permitted Phases	2		2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	41.5	41.5	9.5	41.5	41.5	9.5	31.5	31.5	31.5
Total Split (s)	9.6	42.9	42.9	16.0	49.3	49.3	9.6	41.1	31.5	31.5
Total Split (%)	9.6%	42.9%	42.9%	16.0%	49.3%	49.3%	9.6%	41.1%	31.5%	31.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	55.2	48.4	48.4	64.5	55.4	55.4	26.4	26.4		16.8
Actuated g/C Ratio	0.55	0.48	0.48	0.65	0.55	0.55	0.26	0.26		0.17
v/c Ratio	0.11	0.38	0.26	0.53	0.24	0.09	0.50	0.48		0.74
Control Delay (s/veh)	9.0	18.7	3.5	12.5	13.5	1.9	34.8	7.4		54.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay (s/veh)	9.0	18.7	3.5	12.5	13.5	1.9	34.8	7.4		54.2
LOS	A	B	A	B	B	A	C	A		D
Approach Delay (s/veh)		14.3			12.0			16.6		54.2
Approach LOS		B			B			B		D

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 51 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay (s/veh): 16.8	Intersection LOS: B
Intersection Capacity Utilization 70.8%	ICU Level of Service C
Analysis Period (min) 15	

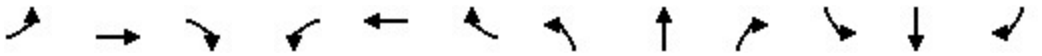
Splits and Phases: 200: Easley Rd. & W 64th Ave.





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	60	654	232	273	468	88	150	293	169
v/c Ratio	0.11	0.38	0.26	0.53	0.24	0.09	0.50	0.48	0.74
Control Delay (s/veh)	9.0	18.7	3.5	12.5	13.5	1.9	34.8	7.4	54.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	9.0	18.7	3.5	12.5	13.5	1.9	34.8	7.4	54.2
Queue Length 50th (ft)	13	134	0	66	80	0	77	13	94
Queue Length 95th (ft)	33	215	47	128	133	17	119	71	153
Internal Link Dist (ft)		481			545			345	260
Turn Bay Length (ft)	150		200	150		200	150		
Base Capacity (vph)	555	1714	886	524	1960	928	299	752	358
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.38	0.26	0.52	0.24	0.09	0.50	0.39	0.47

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	602	213	251	431	81	138	14	256	69	48	39
Future Volume (veh/h)	55	602	213	251	431	81	138	14	256	69	48	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	654	232	273	468	88	150	15	278	75	52	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	553	1762	786	477	1948	869	351	23	419	121	82	50
Arrive On Green	0.04	0.50	0.50	0.09	0.55	0.55	0.05	0.28	0.28	0.18	0.18	0.18
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	82	1516	384	452	276
Grp Volume(v), veh/h	60	654	232	273	468	88	150	0	293	169	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	0	1598	1112	0	0
Q Serve(g_s), s	1.6	11.4	8.6	7.1	6.9	2.7	5.1	0.0	16.3	8.8	0.0	0.0
Cycle Q Clear(g_c), s	1.6	11.4	8.6	7.1	6.9	2.7	5.1	0.0	16.3	15.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.95	0.44		0.25
Lane Grp Cap(c), veh/h	553	1762	786	477	1948	869	351	0	442	253	0	0
V/C Ratio(X)	0.11	0.37	0.30	0.57	0.24	0.10	0.43	0.00	0.66	0.67	0.00	0.00
Avail Cap(c_a), veh/h	572	1762	786	516	1948	869	351	0	585	375	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.1	15.6	14.9	10.6	11.8	10.8	30.8	0.0	32.1	40.6	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.6	1.0	1.3	0.3	0.2	0.8	0.0	1.7	3.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	8.1	5.8	4.9	4.8	1.7	5.5	0.0	10.5	7.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.2	16.2	15.8	11.9	12.1	11.0	31.6	0.0	33.8	43.6	0.0	0.0
LnGrp LOS	B	B	B	B	B	B	C		C	D		
Approach Vol, veh/h		946			829			443			169	
Approach Delay, s/veh		15.8			11.9			33.1			43.6	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	13.8	54.1	9.6	22.5	8.6	59.3		32.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	11.5	38.4	5.1	27.0	5.1	44.8		36.6				
Max Q Clear Time (g_c+I1), s	9.1	13.4	7.1	17.4	3.6	8.9		18.3				
Green Ext Time (p_c), s	0.2	5.7	0.0	0.6	0.0	3.8		1.8				

Intersection Summary	
HCM 7th Control Delay, s/veh	19.6
HCM 7th LOS	B

APPENDIX “D”

TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

2025 Existing - W. 64th Ave & Easley Rd.
Traffic Signal Warrant Summary Worksheet

70%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: W. 64th Ave. & Easley Rd.
County: Jefferson
City: Arvada

Major Street: W. 64th Ave.
Critical Approach Speed: 45 mph
Lanes: 2 or more lanes

Minor Street: Easley Rd.
Critical Approach Speed: 35 mph
Lanes: 2 or more lanes

% Right Turns Included
From North (SB) 100%
From East (WB) 0%
From South (NB) 100%
From West (EB) 0%

In built-up area of isolated community of < 10,000 population? No
Total number of approaches at intersection? 4 or more
If it is a "T" intersection, inflate minor threshold to 150%? No
Manually set volume level? No

Analysis based on EXISTING volume data.

Date	Day of the Week	Time (HH:MM)			
		From	AM / PM	To	AM / PM
4/22/2025	Tuesday	6:00	AM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	**Yes**
Condition A: Minimum Vehicular Volume	Yes
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	No
Warrant 2: Four-Hour Volume	**Yes**
Warrant 3: Peak Hour Volume	**Yes**
Warrant 4: Pedestrian Volume	**N/A**
Criterion A: Four-Hour	N/A
Criterion B: Peak-Hour	N/A
Warrant 5: School Crossing	**N/A**
Warrant 6: Coordinated Signal System	**N/A**
Warrant 7: Crash Experience	**N/A**
Warrant 8: Roadway Network	**N/A**
Warrant 9: Intersection Near a Grade Crossing	**N/A**

Warrant Analysis Conducted By:

Name: BZ
Agency: HKS
Date: 5/1/2025

Warrant 1: Eight - Hour Vehicular Volume 70%

Warrant Evaluated? Yes **Warrant Satisfied? Yes** **Manually Set To:**

Condition A : Min. Veh. Volume		
Volume Level	70%	56%
Major Rd. Req	420	336
Minor Rd. Req	140	112
Number of Hours	9	13

Satisfied? Yes

Condition B: Interruption of Continuous Traffic		
Volume Level	70%	56%
Major Rd. Req	630	504
Minor Rd. Req	70	56
Number of Hours	3	6

Satisfied? No

Condition C: Combination of A & B at 56%

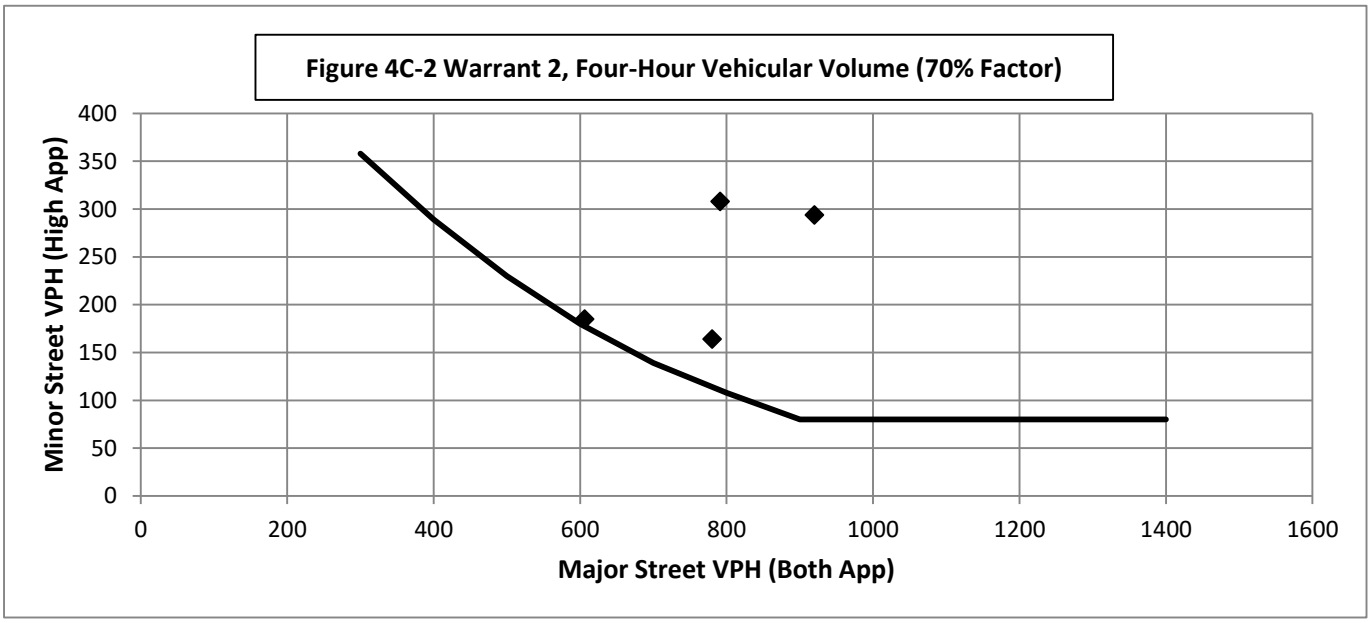
Satisfied? No

6:00 AM	Enter Start Time (Military Time) (HH:MM)				
Time Period	**From**	**To**	**Major Road: Both App. (VPH)**	**Minor Road: High App. (VPH)**	**Total**
1	6:00	7:00	263	89	352
2	7:00	8:00	492	162	654
3	8:00	9:00	550	192	742
4	9:00	10:00	421	121	542
5	10:00	11:00	419	137	556
6	11:00	12:00	375	136	511
7	12:00	13:00	438	140	578
8	13:00	14:00	416	146	562
9	14:00	15:00	427	148	575
10	15:00	16:00	606	185	791
11	16:00	17:00	791	308	1099
12	17:00	18:00	920	294	1214
13	18:00	19:00	780	164	944
14	19:00	20:00	535	144	679
15	20:00	21:00	315	75	390
16	21:00	22:00	140	55	195

Warrant 2: Four-Hour Volume 70%

Warrant Evaluated? Yes
Warrant Satisfied? Yes
Manually Set To:

Hour Start	17:00	16:00	18:00	15:00
Major Road Vol.	920	791	780	606
Minor Road Vol.	294	308	164	185



Warrant 3: Peak Hour Volume 70%

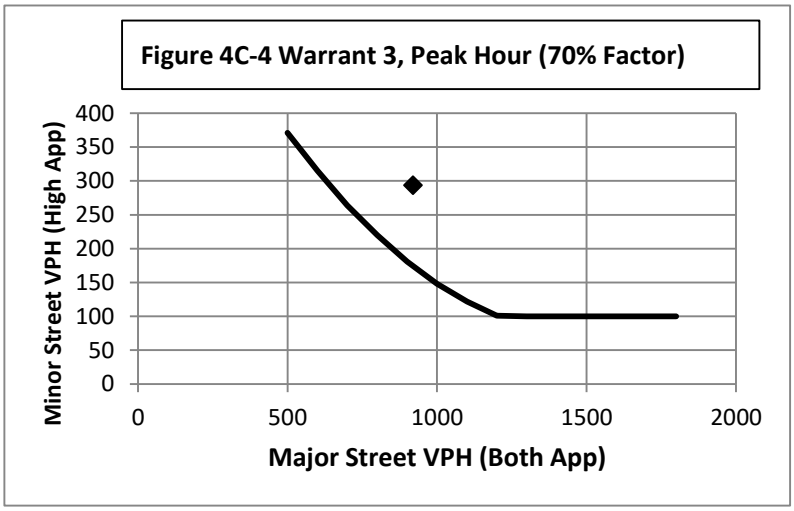
Warrant Evaluated? Yes **Warrant Satisfied? Yes** **Manually Set To:**

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	5	
Volume on Minor Approach	150	Yes
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
17:00	920	294



2027 Background Traffic - W. 64th Ave & Easley Rd.
Traffic Signal Warrant Summary Worksheet

70%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: W. 64th Ave. & Easley Rd.
County: Jefferson
City: Arvada

Major Street: W. 64th Ave.
Critical Approach Speed: 45 mph
Lanes: 2 or more lanes

Minor Street: Easley Rd.
Critical Approach Speed: 35 mph
Lanes: 2 or more lanes

% Right Turns Included
From North (SB) 100%
From East (WB) 0%
From South (NB) 100%
From West (EB) 0%

In built-up area of isolated community of < 10,000 population? No
Total number of approaches at intersection? 4 or more
If it is a "T" intersection, inflate minor threshold to 150%? No
Manually set volume level? No

Analysis based on PROJECTED volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2027	Yes	6:00	AM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	**Yes**
Condition A: Minimum Vehicular Volume	Yes
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	No
Warrant 2: Four-Hour Volume	**Yes**
Warrant 3: Peak Hour Volume	**Yes**
Warrant 4: Pedestrian Volume	**N/A**
Criterion A: Four-Hour	N/A
Criterion B: Peak-Hour	N/A
Warrant 5: School Crossing	**N/A**
Warrant 6: Coordinated Signal System	**N/A**
Warrant 7: Crash Experience	**N/A**
Warrant 8: Roadway Network	**N/A**
Warrant 9: Intersection Near a Grade Crossing	**N/A**

Warrant Analysis Conducted By:

Name: BZ
Agency: HKS
Date: 5/1/2025

Warrant 1: Eight - Hour Vehicular Volume 70%

Warrant Evaluated? Yes **Warrant Satisfied? Yes** **Manually Set To:**

Condition A : Min. Veh. Volume		
Volume Level	70%	56%
Major Rd. Req	420	336
Minor Rd. Req	140	112
Number of Hours	11	13

Satisfied? Yes

Condition B: Interruption of Continuous Traffic		
Volume Level	70%	56%
Major Rd. Req	630	504
Minor Rd. Req	70	56
Number of Hours	3	7

Satisfied? No

Condition C: Combination of A & B at 56%

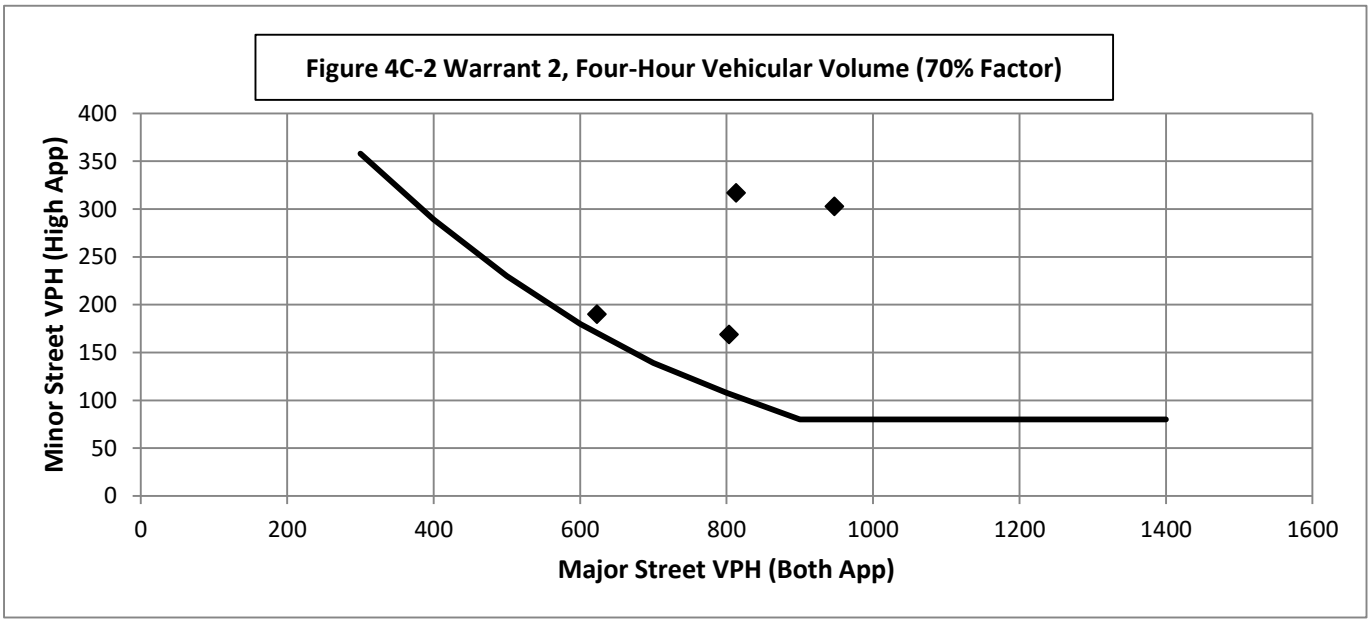
Satisfied? No

6:00 AM	Enter Start Time (Military Time) (HH:MM)				
Time Period	**From**	**To**	**Major Road: Both App. (VPH)**	**Minor Road: High App. (VPH)**	**Total**
1	6:00	7:00	271	92	363
2	7:00	8:00	507	167	674
3	8:00	9:00	566	198	764
4	9:00	10:00	433	125	558
5	10:00	11:00	431	141	572
6	11:00	12:00	386	140	526
7	12:00	13:00	450	144	594
8	13:00	14:00	428	150	578
9	14:00	15:00	440	152	592
10	15:00	16:00	623	190	813
11	16:00	17:00	813	317	1130
12	17:00	18:00	947	303	1250
13	18:00	19:00	803	169	972
14	19:00	20:00	551	148	699
15	20:00	21:00	324	77	401
16	21:00	22:00	144	57	201

Warrant 2: Four-Hour Volume 70%

Warrant Evaluated? Yes
Warrant Satisfied? Yes
Manually Set To:

Hour Start	17:00	16:00	18:00	15:00
Major Road Vol.	947	813	803	623
Minor Road Vol.	303	317	169	190



Warrant 3: Peak Hour Volume 70%

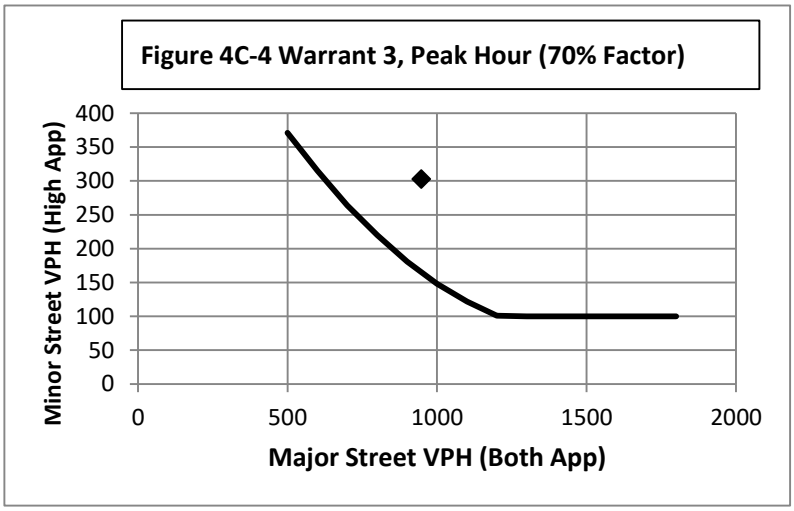
Warrant Evaluated? Yes **Warrant Satisfied? Yes** **Manually Set To:**

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	5	
Volume on Minor Approach	150	Yes
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
17:00	947	303



2027 Total Traffic - W. 64th Ave & Easley Rd.
Traffic Signal Warrant Summary Worksheet

70%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: W. 64th Ave. & Easley Rd.
County: Jefferson
City: Arvada

Major Street: W. 64th Ave.
Critical Approach Speed: 45 mph
Lanes: 2 or more lanes

Minor Street: Easley Rd.
Critical Approach Speed: 35 mph
Lanes: 2 or more lanes

% Right Turns Included
From North (SB) 100%
From East (WB) 0%
From South (NB) 100%
From West (EB) 0%

In built-up area of isolated community of < 10,000 population? No
Total number of approaches at intersection? 4 or more
If it is a "T" intersection, inflate minor threshold to 150%? No
Manually set volume level? No

Analysis based on PROJECTED volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2027	Yes	6:00	AM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	**Yes**
Condition A: Minimum Vehicular Volume	Yes
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	Yes
Warrant 2: Four-Hour Volume	**Yes**
Warrant 3: Peak Hour Volume	**Yes**
Warrant 4: Pedestrian Volume	**N/A**
Criterion A: Four-Hour	N/A
Criterion B: Peak-Hour	N/A
Warrant 5: School Crossing	**N/A**
Warrant 6: Coordinated Signal System	**N/A**
Warrant 7: Crash Experience	**N/A**
Warrant 8: Roadway Network	**N/A**
Warrant 9: Intersection Near a Grade Crossing	**N/A**

Warrant Analysis Conducted By:

Name: BZ
Agency: HKS
Date: 5/1/2025

Warrant 1: Eight - Hour Vehicular Volume 70%

Warrant Evaluated? Yes **Warrant Satisfied? Yes** **Manually Set To:**

Condition A : Min. Veh. Volume		
Volume Level	70%	56%
Major Rd. Req	420	336
Minor Rd. Req	140	112
Number of Hours	12	13

Satisfied? Yes

Condition B: Interruption of Continuous Traffic		
Volume Level	70%	56%
Major Rd. Req	630	504
Minor Rd. Req	70	56
Number of Hours	5	8

Satisfied? No

Condition C: Combination of A & B at 56%

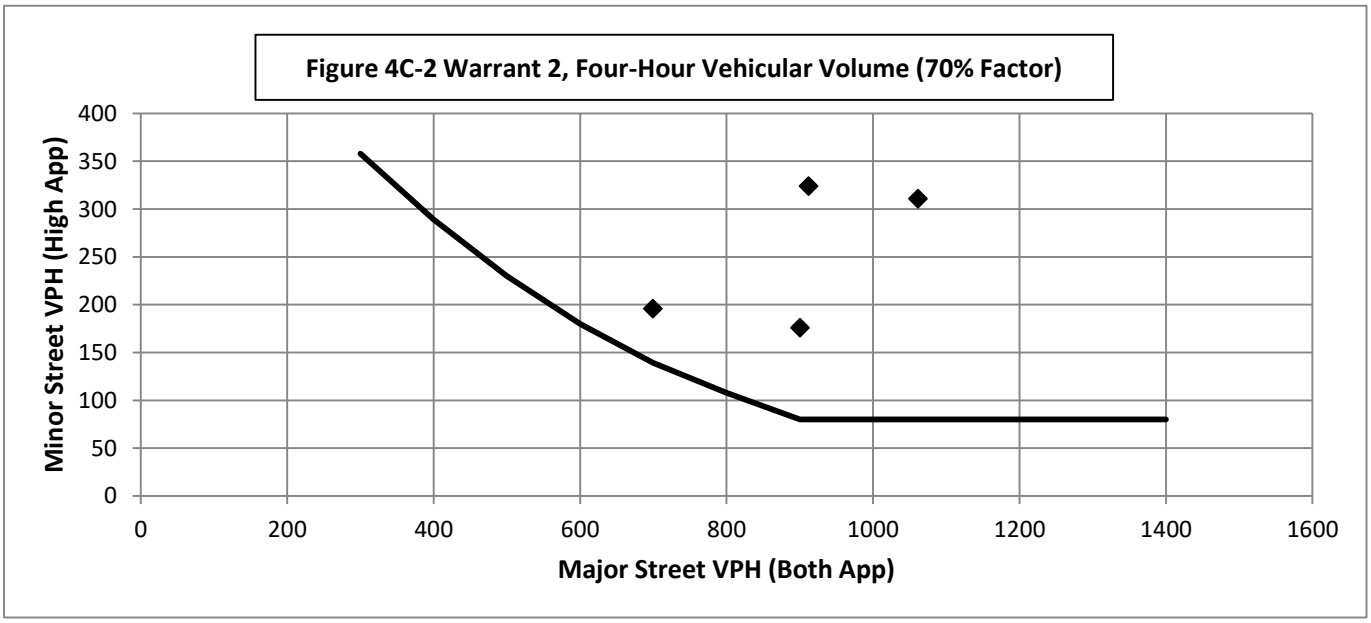
Satisfied? Yes

6:00 AM	Enter Start Time (Military Time) (HH:MM)				
Time Period	**From**	**To**	**Major Road: Both App. (VPH)**	**Minor Road: High App. (VPH)**	**Total**
1	6:00	7:00	304	94	398
2	7:00	8:00	568	171	739
3	8:00	9:00	634	202	836
4	9:00	10:00	485	128	613
5	10:00	11:00	483	145	628
6	11:00	12:00	433	143	576
7	12:00	13:00	505	148	653
8	13:00	14:00	480	154	634
9	14:00	15:00	493	156	649
10	15:00	16:00	699	196	895
11	16:00	17:00	912	324	1236
12	17:00	18:00	1061	311	1372
13	18:00	19:00	900	176	1076
14	19:00	20:00	617	153	770
15	20:00	21:00	364	80	444
16	21:00	22:00	162	58	220

Warrant 2: Four-Hour Volume 70%

Warrant Evaluated? Yes
Warrant Satisfied? Yes
Manually Set To:

Hour Start	17:00	16:00	18:00	15:00
Major Road Vol.	1061	912	900	699
Minor Road Vol.	311	324	176	196



Warrant 3: Peak Hour Volume 70%

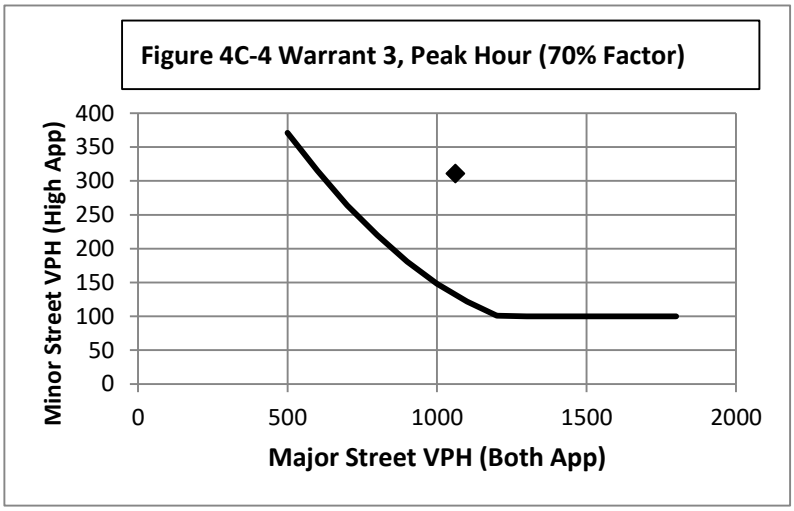
Warrant Evaluated? Yes **Warrant Satisfied? Yes** **Manually Set To:**

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	5	
Volume on Minor Approach	150	Yes
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
17:00	1061	311



2047 Background Traffic - W. 64th Ave & Easley Rd.
Traffic Signal Warrant Summary Worksheet

70%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: W. 64th Ave. & Easley Rd.
County: Jefferson
City: Arvada

Major Street: W. 64th Ave.
Critical Approach Speed: 45 mph
Lanes: 2 or more lanes

Minor Street: Easley Rd.
Critical Approach Speed: 35 mph
Lanes: 2 or more lanes

% Right Turns Included
From North (SB) 100%
From East (WB) 0%
From South (NB) 100%
From West (EB) 0%

In built-up area of isolated community of < 10,000 population? No
Total number of approaches at intersection? 4 or more
If it is a "T" intersection, inflate minor threshold to 150%? No
Manually set volume level? No

Analysis based on PROJECTED volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2047	No	6:00	AM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	**Yes**
Condition A: Minimum Vehicular Volume	Yes
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	Yes
Warrant 2: Four-Hour Volume	**Yes**
Warrant 3: Peak Hour Volume	**Yes**
Warrant 4: Pedestrian Volume	**N/A**
Criterion A: Four-Hour	N/A
Criterion B: Peak-Hour	N/A
Warrant 5: School Crossing	**N/A**
Warrant 6: Coordinated Signal System	**N/A**
Warrant 7: Crash Experience	**N/A**
Warrant 8: Roadway Network	**N/A**
Warrant 9: Intersection Near a Grade Crossing	**N/A**

Warrant Analysis Conducted By:

Name: BZ
Agency: HKS
Date: 5/1/2025

Warrant 1: Eight - Hour Vehicular Volume 70%

Warrant Evaluated? Yes **Warrant Satisfied? Yes** **Manually Set To:**

Condition A : Min. Veh. Volume		
Volume Level	70%	56%
Major Rd. Req	420	336
Minor Rd. Req	140	112
Number of Hours	13	14

Satisfied? Yes

Condition B: Interruption of Continuous Traffic		
Volume Level	70%	56%
Major Rd. Req	630	504
Minor Rd. Req	70	56
Number of Hours	7	13

Satisfied? No

Condition C: Combination of A & B at 56%

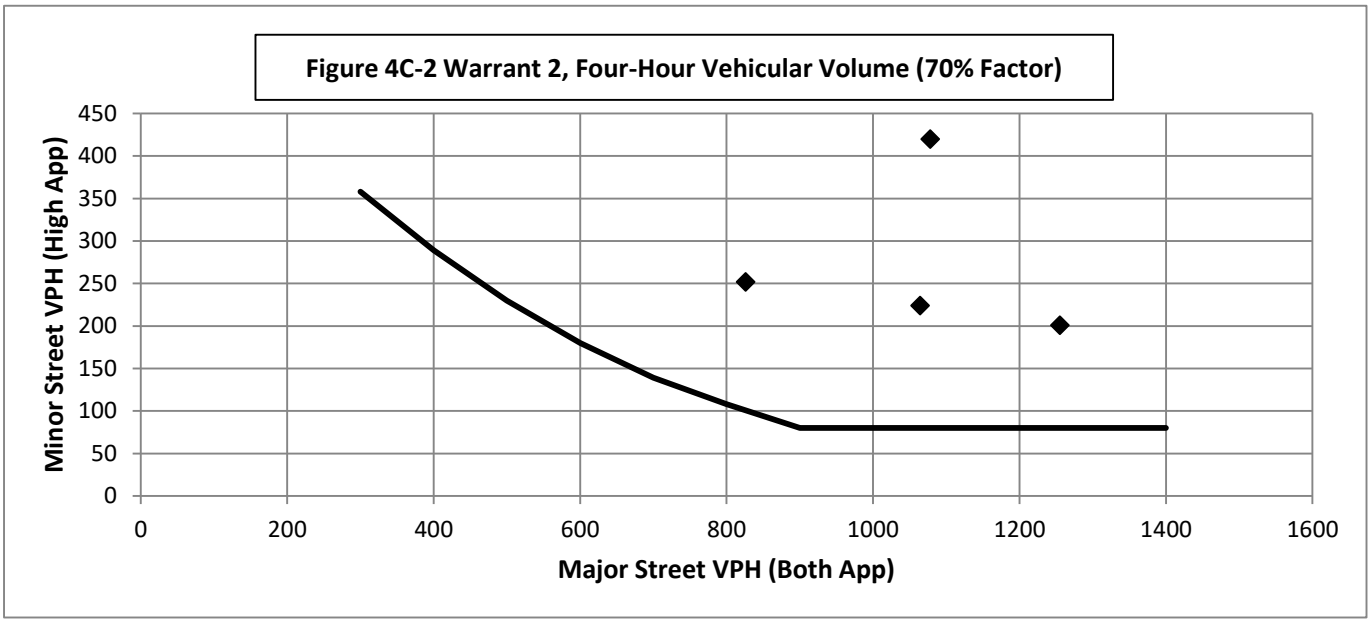
Satisfied? Yes

6:00 AM	Enter Start Time (Military Time) (HH:MM)				
Time Period	**From**	**To**	**Major Road: Both App. (VPH)**	**Minor Road: High App. (VPH)**	**Total**
1	6:00	7:00	359	121	480
2	7:00	8:00	671	221	892
3	8:00	9:00	750	262	1012
4	9:00	10:00	574	165	739
5	10:00	11:00	572	187	759
6	11:00	12:00	512	186	698
7	12:00	13:00	597	191	788
8	13:00	14:00	568	199	767
9	14:00	15:00	583	202	785
10	15:00	16:00	826	252	1078
11	16:00	17:00	1078	420	1498
12	17:00	18:00	1255	201	1456
13	18:00	19:00	1064	224	1288
14	19:00	20:00	730	196	926
15	20:00	21:00	430	102	532
16	21:00	22:00	191	75	266

Warrant 2: Four-Hour Volume 70%

Warrant Evaluated? Yes
Warrant Satisfied? Yes
Manually Set To:

Hour Start	16:00	17:00	18:00	15:00
Major Road Vol.	1078	1255	1064	826
Minor Road Vol.	420	201	224	252



Warrant 3: Peak Hour Volume 70%

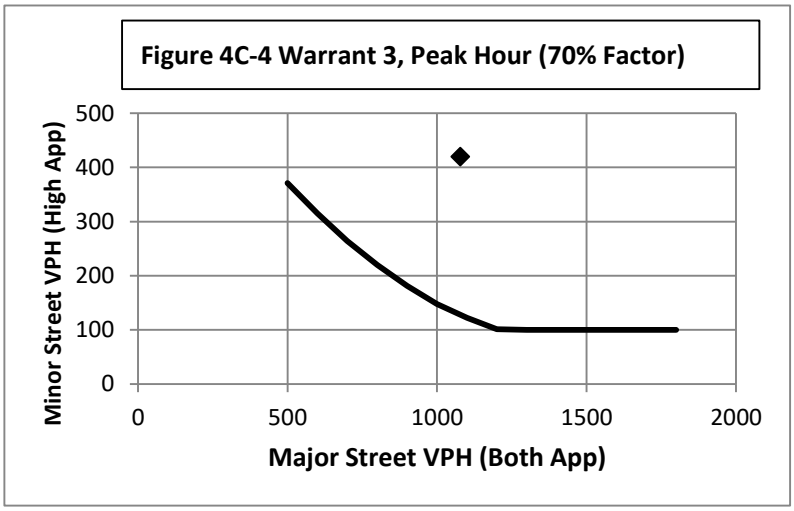
Warrant Evaluated? Yes **Warrant Satisfied? Yes** **Manually Set To:**

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	5	
Volume on Minor Approach	150	Yes
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
16:00	1078	420



2047 Total Traffic - W. 64th Ave & Easley Rd.
Traffic Signal Warrant Summary Worksheet

70%

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Major Street: W. 64th Ave.
Critical Approach Speed: 45 mph
Lanes: 2 or more lanes

Minor Street: Easley Rd.
Critical Approach Speed: 35 mph
Lanes: 2 or more lanes

% Right Turns Included
From North (SB) 100%
From East (WB) 0%
From South (NB) 100%
From West (EB) 0%

In built-up area of isolated community of < 10,000 population? No
Total number of approaches at intersection? 4 or more
If it is a "T" intersection, inflate minor threshold to 150%? No
Manually set volume level? No

Analysis based on PROJECTED volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2047	No	6:00	AM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	**Yes**
Condition A: Minimum Vehicular Volume	Yes
Condition B: Interruption of Continuous Traffic	Yes
Condition C: Combination: 80% of A and B	Yes
Warrant 2: Four-Hour Volume	**Yes**
Warrant 3: Peak Hour Volume	**Yes**
Warrant 4: Pedestrian Volume	**N/A**
Criterion A: Four-Hour	N/A
Criterion B: Peak-Hour	N/A
Warrant 5: School Crossing	**N/A**
Warrant 6: Coordinated Signal System	**N/A**
Warrant 7: Crash Experience	**N/A**
Warrant 8: Roadway Network	**N/A**
Warrant 9: Intersection Near a Grade Crossing	**N/A**

Warrant Analysis Conducted By:

Name: BZ
Agency: HKS
Date: 5/1/2025

Warrant 1: Eight - Hour Vehicular Volume 70%

Warrant Evaluated? Yes **Warrant Satisfied? Yes** **Manually Set To:**

Condition A : Min. Veh. Volume		
Volume Level	70%	56%
Major Rd. Req	420	336
Minor Rd. Req	140	112
Number of Hours	13	14

Satisfied? Yes

Condition B: Interruption of Continuous Traffic		
Volume Level	70%	56%
Major Rd. Req	630	504
Minor Rd. Req	70	56
Number of Hours	9	13

Satisfied? Yes

Condition C: Combination of A & B at 56%

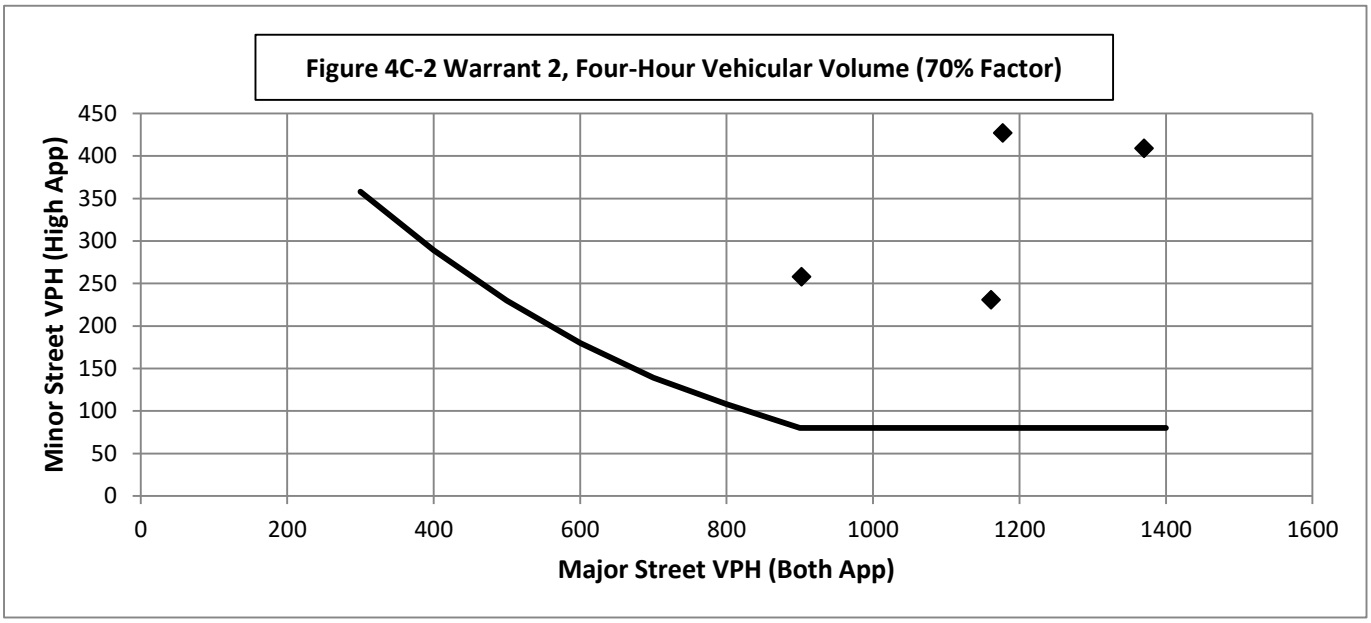
Satisfied? Yes

6:00 AM		Enter Start Time (Military Time) (HH:MM)			
Time Period	**From**	**To**	**Major Road: Both App. (VPH)**	**Minor Road: High App. (VPH)**	**Total**
1	6:00	7:00	392	124	516
2	7:00	8:00	733	225	958
3	8:00	9:00	818	267	1085
4	9:00	10:00	626	169	795
5	10:00	11:00	624	191	815
6	11:00	12:00	559	189	748
7	12:00	13:00	651	195	846
8	13:00	14:00	620	203	823
9	14:00	15:00	636	206	842
10	15:00	16:00	902	258	1160
11	16:00	17:00	1177	427	1604
12	17:00	18:00	1370	409	1779
13	18:00	19:00	1161	231	1392
14	19:00	20:00	796	201	997
15	20:00	21:00	469	105	574
16	21:00	22:00	209	76	285

Warrant 2: Four-Hour Volume 70%

Warrant Evaluated? Yes
Warrant Satisfied? Yes
Manually Set To:

Hour Start	17:00	16:00	18:00	15:00
Major Road Vol.	1370	1177	1161	902
Minor Road Vol.	409	427	231	258



Warrant 3: Peak Hour Volume 70%

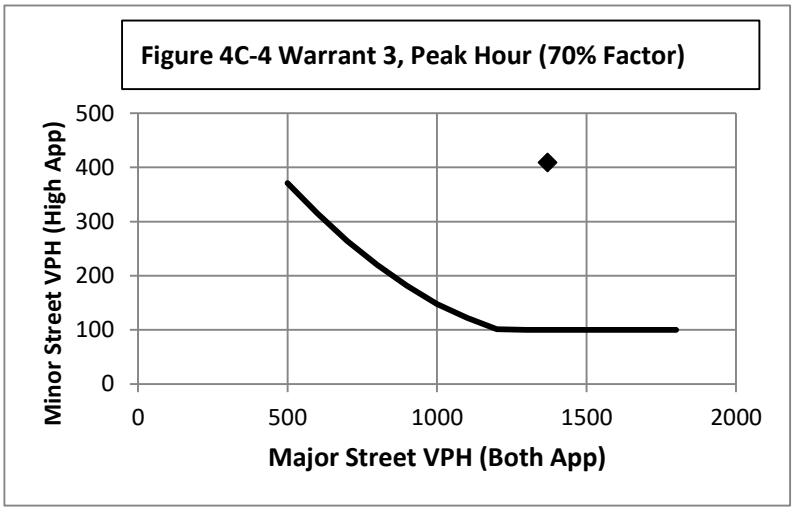
Warrant Evaluated? Yes **Warrant Satisfied? Yes** **Manually Set To:**

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	5	
Volume on Minor Approach	150	Yes
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
17:00	1370	409



W. 64th Ave. & Easley Rd. Traffic Volume Counts

2025 Existing Traffic Volumes

	EB	WB	EB +WB	NB	NB Volumes	100% of Right Turns			
						included	8	7	0.707
0:00	6	7	13	6	6		2	1	0.982
1:00	1	1	2	1	1		5	3	
2:00	4	3	6	0	0		6	7	
3:00	4	7	11	6	6		13	14	
4:00	9	14	23	7	7		27	67	
5:00	19	66	85	31	31		99	197	
6:00	70	193	263	89	89		231	335	
7:00	163	329	492	162	162		250	380	
8:00	177	373	550	192	192		212	276	
9:00	150	271	421	121	121		247	249	
10:00	175	245	419	137	137		199	239	
11:00	141	235	375	136	136		237	275	
12:00	168	270	438	140	140		211	272	
13:00	149	267	416	146	146		218	278	
14:00	154	273	427	148	148		304	398	
15:00	215	391	606	185	185		514	435	
16:00	363	427	791	308	308		599	506	
17:00	423	497	920	294	294		494	439	
18:00	349	431	780	164	164		375	275	
19:00	265	270	535	144	144		200	177	
20:00	141	174	315	75	75		93	76	
21:00	66	75	140	55	55		21	28	
22:00	15	27	42	15	15		13	12	
23:00	9	12	21	8	8				
			8094		2570				

2027 Background Traffic Volumes

	2025 Volumes		2027 Regional Background			2027 Local Background		2027 Total Background	
	2025 EB + WB	2025 NB	2027 EB + WB	2027 NB	Hourly Distribution	EB/WB Traffic	NB Traffic	EB/WB Total	NB Total
0:00	13	6	13	6	0.15%	0	0	13	6
1:00	2	1	2	1	0.03%	0	0	2	1
2:00	6	0	7	0	0.08%	0	0	7	0
3:00	11	6	11	6	0.14%	0	0	11	6
4:00	23	7	24	7	0.28%	0	0	24	7
5:00	85	31	87	32	1.05%	0	0	87	32
6:00	263	89	271	92	3.25%	0	0	271	92
7:00	492	162	507	167	6.08%	0	0	507	167
8:00	550	192	566	198	6.79%	0	0	566	198
9:00	421	121	433	125	5.20%	0	0	433	125
10:00	419	137	431	141	5.18%	0	0	431	141
11:00	375	136	386	140	4.64%	0	0	386	140
12:00	438	140	450	144	5.41%	0	0	450	144
13:00	416	146	428	150	5.14%	0	0	428	150
14:00	427	148	440	152	5.28%	0	0	440	152
15:00	606	185	623	190	7.48%	0	0	623	190
16:00	791	308	813	317	9.77%	0	0	813	317
17:00	920	294	947	303	11.37%	0	0	947	303
18:00	780	164	803	169	9.64%	0	0	803	169
19:00	535	144	551	148	6.61%	0	0	551	148
20:00	315	75	324	77	3.89%	0	0	324	77
21:00	140	55	144	57	1.73%	0	0	144	57
22:00	42	15	44	15	0.52%	0	0	44	15
23:00	21	8	22	8	0.26%	0	0	22	8
	8094	2570			100.00%	0	0	8328	2645

2-Year GF: 1.029

2027 Total Traffic Volumes

	2025 EB + WB	2025 NB	EB/WB BG Total	NB BG Total	Hourly Distribution	EB/WB Site Traffic	NB Site Traffic	EB/WB Total	NB Total
0:00	13	6	13	6	0.15%	1	0	14	6
1:00	2	1	2	1	0.03%	0	0	3	1
2:00	6	0	7	0	0.08%	0	0	7	0
3:00	11	6	11	6	0.14%	1	0	12	6
4:00	23	7	24	7	0.28%	1	0	25	7
5:00	85	31	87	32	1.05%	5	1	93	33
6:00	263	89	271	92	3.25%	16	2	287	94
7:00	492	162	507	167	6.08%	31	4	537	171
8:00	550	192	566	198	6.79%	34	5	600	202
9:00	421	121	433	125	5.20%	26	4	459	128
10:00	419	137	431	141	5.18%	26	4	457	145
11:00	375	136	386	140	4.64%	23	3	410	143
12:00	438	140	450	144	5.41%	27	4	477	148
13:00	416	146	428	150	5.14%	26	4	454	154
14:00	427	148	440	152	5.28%	27	4	466	156
15:00	606	185	623	190	7.48%	38	5	661	196
16:00	791	308	813	317	9.77%	49	7	863	324
17:00	920	294	947	303	11.37%	57	8	1004	311
18:00	780	164	803	169	9.64%	48	7	851	176
19:00	535	144	551	148	6.61%	33	5	584	153
20:00	315	75	324	77	3.89%	20	3	344	80
21:00	140	55	144	57	1.73%	9	1	153	58
22:00	42	15	44	15	0.52%	3	0	46	16
23:00	21	8	22	8	0.26%	1	0	23	8
	8094	2570	8328	2645	100.00%	503	72	8831	2717

EB/WB Site Traffic: 503
NB Site Traffic: 72

*Site Traffic ADT's determined from Site Generated Trip Distribution & Assignment for 2027 Analysis Horizon

2047 Background Traffic Volumes

	2025 Volumes		2047 Regional Background			2047 Local Background		2047 Total Background	
	2025 EB + WB	2025 NB	2047 EB + WB	2047 NB	Hourly Distribution	EB/WB Traffic	NB Traffic	EB/WB Total	NB Total
0:00	13	6	17	8	0.15%	0	0	17	8
1:00	2	1	3	1	0.03%	0	0	3	1
2:00	6	0	9	0	0.08%	0	0	9	0
3:00	11	6	15	8	0.14%	0	0	15	8
4:00	23	7	31	10	0.28%	0	0	31	10
5:00	85	31	116	42	1.05%	0	0	116	42
6:00	263	89	359	121	3.25%	0	0	359	121
7:00	492	162	671	221	6.08%	0	0	671	221
8:00	550	192	750	262	6.79%	0	0	750	262
9:00	421	121	574	165	5.20%	0	0	574	165
10:00	419	137	572	187	5.18%	0	0	572	187
11:00	375	136	512	186	4.64%	0	0	512	186
12:00	438	140	597	191	5.41%	0	0	597	191
13:00	416	146	568	199	5.14%	0	0	568	199
14:00	427	148	583	202	5.28%	0	0	583	202
15:00	606	185	826	252	7.48%	0	0	826	252
16:00	791	308	1078	420	9.77%	0	0	1078	420
17:00	920	294	1255	401	11.37%	0	0	1255	401
18:00	780	164	1064	224	9.64%	0	0	1064	224
19:00	535	144	730	196	6.61%	0	0	730	196
20:00	315	75	430	102	3.89%	0	0	430	102
21:00	140	55	191	75	1.73%	0	0	191	75
22:00	42	15	58	20	0.52%	0	0	58	20
23:00	21	8	29	11	0.26%	0	0	29	11
	8094	2570			100.00%	0	0	11040	3505

22-Year GF: 1.364

2047 Total Traffic Volumes

	2025 EB + WB	2025 NB	EB/WB BG Total	NB BG Total	Hourly Distribution	EB/WB Site Traffic	NB Site Traffic	EB/WB Total	NB Total
0:00	13	6	17	8	0.15%	1	0	18	8
1:00	2	1	3	1	0.03%	0	0	3	1
2:00	6	0	9	0	0.08%	0	0	9	0
3:00	11	6	15	8	0.14%	1	0	16	8
4:00	23	7	31	10	0.28%	1	0	33	10
5:00	85	31	116	42	1.05%	5	1	121	43
6:00	263	89	359	121	3.25%	16	2	376	124
7:00	492	162	671	221	6.08%	31	4	702	225
8:00	550	192	750	262	6.79%	34	5	784	267
9:00	421	121	574	165	5.20%	26	4	600	169
10:00	419	137	572	187	5.18%	26	4	598	191
11:00	375	136	512	186	4.64%	23	3	535	189
12:00	438	140	597	191	5.41%	27	4	624	195
13:00	416	146	568	199	5.14%	26	4	594	203
14:00	427	148	583	202	5.28%	27	4	609	206
15:00	606	185	826	252	7.48%	38	5	864	258
16:00	791	308	1078	420	9.77%	49	7	1127	427
17:00	920	294	1255	401	11.37%	57	8	1313	409
18:00	780	164	1064	224	9.64%	48	7	1113	231
19:00	535	144	730	196	6.61%	33	5	763	201
20:00	315	75	430	102	3.89%	20	3	450	105
21:00	140	55	191	75	1.73%	9	1	200	76
22:00	42	15	58	20	0.52%	3	0	60	21
23:00	21	8	29	11	0.26%	1	0	30	11
	8094	2570	11040	3505	100.00%	503	72	11543	3577

EB/WB Site Traffic: 503
NB Site Traffic: 72
SB Site Traffic:

*Site Traffic ADT's determined from Site Generated Trip Distribution & Assignment for 2027 Analysis Horizon

October 20, 2025

Rozalynne Thompson
City of Arvada
Community Development Department
8101 Ralston Rd
Arvada, CO 80001

RE: Avalon Arvada Environmental Reports

Dear Ms. Thompson,

AvalonBay Communities is pleased to submit the following materials in response to the City of Arvada's request for environmental information regarding the existing conditions at the Welby Gardens Wholesale Center site. AvalonBay plans to clean and redevelop this site as Avalon Arvada.

AvalonBay Communities has a long and successful history of environmental remediation across its national portfolio. We are committed to conducting the cleanup of the Welby Gardens site safely and in close coordination with the Colorado Department of Public Health and Environment (CDPHE). Our approach emphasizes regulatory compliance, community safety, and environmental stewardship.

The following items are being submitted for your review:

- Summary of AvalonBay Communities recent environmental cleanup experience
- Summary and peer review of Welby Gardens site environmental reports by ERO Resources Corporation
- Phase I Environmental Site Assessment Report
- Phase II Environmental Site Assessment Report
- Example of recent greenhouse cleanup in Colorado

We appreciate your attention to this matter and look forward to working collaboratively with the City of Arvada and CDPHE through the remediation and redevelopment process. Please do not hesitate to contact me with any questions or requests for additional information.

Thank you,
Andrew Johnson
Senior Development Manager
AvalonBay Communities, Inc

AvalonBay Environmental Cleanup Experience

AvalonBay Communities has a proven track record of successfully executing environmental cleanup projects across Colorado and in other states where we develop residential communities. Our team is well-versed in navigating both relatively simple to more complex remediation efforts and restoring each site to a condition that is safe for residential use, and in full compliance with applicable regulations and guidance. Below are a few recent examples.

Project Title: AVA RiNo (2021)

Location: Denver, Colorado

Environmental conditions: The site was historically used for auto repair and painting, which led to recognized environmental conditions including potential asbestos-containing materials and low levels of volatile organic compounds (VOCs), specifically tetrachloroethene (PCE), in groundwater. Additionally, non-native fill materials with possible regulated contaminants were present.

Cleanup Program/Oversight: Remediation was conducted by a licensed professional under the state-approved cleanup program Voluntary Cleanup Plan (VCUP) program, with oversight from the Colorado Department of Public Health and Environment(CDPHE).

Physical Cleanup: Removal of approximately 28,000 cubic yards of non-native fill material containing debris and regulated compounds, which was disposed of as Special Solid Waste at a licensed landfill. Post-removal sampling confirmed that remaining soils met all regulatory standards for VOCs, PAHs, and RCRA metals.

Remediation Cost: ~$400 thousand

Result: Clean site with unrestricted residential use. CDPHE no further action letter received (attached).

Project Title: Avalon Governors Park (2024)

Location: Denver, Colorado

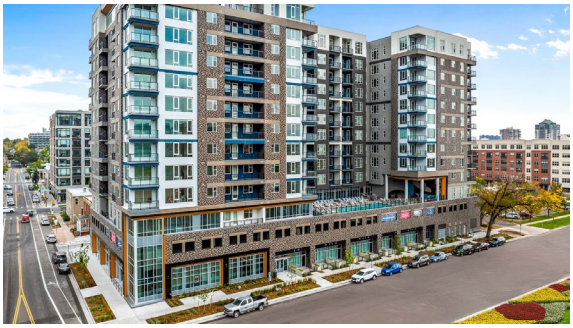
Environmental conditions: The site was historically used for dry-cleaning operations, which led to environmental conditions including chlorinated VOCs such as PCE and trichloroethene (TCE) in soil and groundwater. Additionally, petroleum hydrocarbons and other regulated contaminants were present in soil vapor and groundwater, exceeding regulatory thresholds and requiring excavation, treatment, and disposal.

Cleanup Program/Oversight: Remediation was conducted by a licensed professional under the state-approved cleanup program Corrective Action Plan (CAP) program, with oversight from the Colorado Department of Public Health and Environment(CDPHE).

Physical Cleanup: Excavation and offsite disposal of approximately 430 cubic yards of chlorinated VOC-impacted soil and 115 cubic yards of petroleum-impacted soil, with removed materials disposed of at the appropriate landfill. Groundwater was treated through dewatering and filtration and confirmation sampling verified that contaminant levels were reduced below regulatory thresholds.

Remediation Cost: ~$450 thousand

Result: Clean site with unrestricted residential use. CDPHE no further action letter received (attached).



Project Title: Avalon Montville (2023)

Location: Montville, New Jersey

Environmental conditions: The soil was contaminated with benzene and other pollutants from the former auto salvage yard on the site.

Cleanup Program/Oversight: Remediation was conducted by a licensed professional under a state-approved cleanup program, with oversight from the New Jersey Department of Environmental Protection (NJDEP).

Physical Cleanup: Removal of impacted soil, clean topsoil cap, demarcation layers, wetland buffer restoration, flood risk mitigation, and stormwater management system installation.

Remediation Cost: ~$9 million

Result: Clean site with unrestricted residential use.

Project Title: Avalon Boonton (2019)

Location: Boonton, New Jersey

Environmental conditions: The soil was contaminated with chemicals improperly disposed of on site.

Cleanup Program/Oversight: Remediation was conducted by a licensed professional under a state-approved cleanup program, with oversight from the New Jersey Department of Environmental Protection (NJDEP).

Physical Cleanup: Removal of contaminated soil, groundwater treatment, site preparation for residential development, replace with clean fill.

Remediation Cost: ~$15 million

Result: Clean site with unrestricted residential use.

Project Title: Avalon Yonkers (2019)

Location: Yonkers, New York

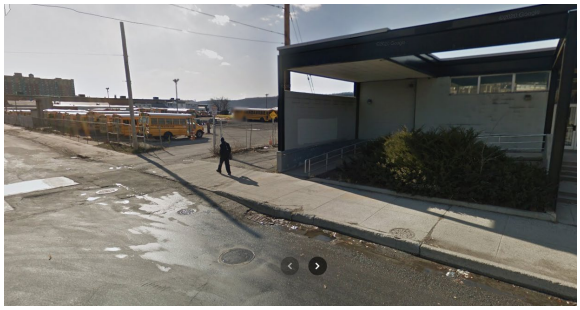
Environmental conditions: Contaminated soils and groundwater from former industrial/brownfield site.

Cleanup Program/Oversight: Brownfield remediation under New York State Department of Environmental Conservation (NYS DEC) oversight.

Physical Cleanup: Removal of contaminated soils, groundwater treatment, site preparation for residential development, stormwater management, flood mitigation, and ecological restoration.

Remediation Cost: ~$13 million

Result: Clean site with unrestricted residential use.



COLORADO
Department of Public Health & Environment

July 6, 2020

Mr. Todd Nicotra
AVA Lawrence St, LLC
1630 Welton St.; Suite 600B
Denver, CO 80202

RE: No Action Determination Approval for 2600 Lawrence St., Denver, CO

Dear Mr. Nocotra:

A No Action Petition (the Petition) was submitted on behalf of AVA Lawrence Street, LLC (the Applicant) to the Colorado Department of Public Health and Environment (the Department) pursuant to C.R.S. 25-16-307(2) of the Colorado Voluntary Cleanup and Redevelopment Act. The Petition was submitted for the applicant's property identified in the Petition and listed here generally as 2600 Lawrence St., in Denver, Colorado ("the property").

The Department conducted a review of the environmental data collected on the above-referenced property. Based on this review and pursuant to C.R.S. 25-16-307(2), the Department approves the applicant's Petition and makes the following determinations:

- The environmental assessment submitted by the applicant and performed by qualified environmental professionals indicates that there is no evidence of contamination released into the environment present from the applicant's property, which exceeds applicable promulgated state standards or which poses an unacceptable risk to human health and the environment.

Based on the information provided by the applicant concerning property identified in the Petition and listed here generally as 2600 Lawrence St., in Denver, Colorado, it is the opinion of the Colorado Department of Public Health and Environment that no further action is required to assure that this property, when used for the purposes identified in the No Action Petition (**Residential Use**), is protective of existing and proposed uses and does not pose an unacceptable risk to human health or the environment at the site.

The approval of the applicant's Petition by the Department applies only to conditions on the property and state standards that exist as of the time of submission of the Petition. In addition, this approval applies only for the land use specified in the application, which is **Residential Use**. This approval shall be considered void if it is determined that materially misleading information has been submitted by the applicant. Nothing in this letter shall be construed to limit the Department's authority to take actions under existing statutes as necessary, should new information come to the attention of the Department.

If you have any questions, please contact me at (303) 692-3411.

Sincerely,

Fonda Apostolopoulos
Voluntary Cleanup Program

File: RV200521-1

COLORADO
Department of Public Health & Environment

November 2, 2022

650 North Sherman, LLC
c/o Todd Nicotra
AvalonBay Communities, Inc.
todd_nicotra@avalonbay.com

RE: Modified Correction Action Plan Completion Report and No Further Action Request; (former) Colorado Lace Dry Cleaners (Seventh and Sherman, LLC), 696 North Sherman Street and 200 East 7th Avenue, Denver, Colorado; EPA ID No.: COD031964661; HAZ COR – No Further Action

Dear Todd Nicotra:

The Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division (the Division) has reviewed the August 17, 2022 *Modified Corrective Action Plan Completion Report and No Further Action Request* (the NFA Request). The NFA Request was written, compiled and submitted by Casey Resources, Inc. on the behalf of 650 North Sherman, LLC.

The NFA Request documents remedial efforts of chloroethenes beneath the building at the referenced location and petroleum impacts south of the same building. Redevelopment plans on the property demanded over-excavation of impacted soils and bedrock. Reportedly, soil, bedrock and groundwater were all appropriately managed and characterized. Manifests confirm proper disposal of hazardous and non-hazardous waste streams. Confirmation soil and bedrock sampling results in addition to groundwater monitoring during excavation and dewatering activities confirm adequate remediation of soil, bedrock, and groundwater at the referenced facility. Therefore, the Division has determined that no further action is required and the corrective action process be terminated.

It is important to note that this determination is based information presented to the Division, it is also taken from a snapshot in time, and if additional information is learned subsequent to the date of this letter that suggests a new release has been identified at the referenced property then this determination may no longer apply. Finally, if any borehole remains on the property and is no longer of use or will be abandoned it must be plugged in accordance with Rule 16 (2 CCR402-2). Great job on this effort. This project is a tremendous success story.

If any question, comment, or concern should arise regarding this correspondence please contact me at (720) 598-2843 or via email at richard.mruz@state.co.us.

Sincerely,

Richard Mruz, Jr., REHS
Hazardous Waste Corrective Action Unit
Hazardous Materials and Waste Management Division
Colorado Department of Public Health and Environment

EC: Paul Casey and Terry McGowan, Casey Resources, Inc.
Brian Packard, Lisa Keskin, Gregory Himmel, AvalonBay Communities, Inc.

ERO Resources Corporation

Denver 1626 Cole Boulevard, Suite 100, Lakewood, CO 80401
Durango 835 East 2nd Avenue, Suite 314, Durango, CO 81301
Grand Junction 715 Horizon Drive, Unit 301, Grand Junction, CO 81506
Idaho 7154 West State Street, Suite 398, Boise, ID 83714

October 20, 2025

TO: Andrew Johnson, Sr. Development Manager
AvalonBay Communities, Inc.
5050 South Syracuse Street, Suite 1025
Denver, CO 80237

FROM: Jack Denman, Senior Geologist

RE: Welby Gardens Environmental Report Summary

ERO Resources Corporation (ERO) is providing this Technical Memorandum to summarizing ERO's review of the following reports prepared by Baseline Engineering Corporation for the Welby Gardens Wholesale Center at 17201 West 64th Avenue in Arvada, Colorado.

Phase I Environmental Site Assessment. *Date: 12/26/2024* - The report is a standard ASTM Phase I Environmental Site Assessment to evaluate property for environmental conditions. The report notes that the property was cultivated agricultural fields until the development of the (currently-closed) landscape nursery facility beginning in the early 1970's. The report documents the review of historical and publicly available records and identified environmental concerns that, in ERO's professional experience, are typical for a historical landscape nursery facility. These concerns were primarily associated with the known use or presumed historical use of horticultural and petroleum products during the course of business operations. No manufacturing or known disposal of horticultural or petroleum products were identified, however as with similar operations, additional investigation was recommended to evaluate the property for the presence of horticultural chemicals, heavy metals commonly associated with horticultural activities, and petroleum products in soil or groundwater.

Limited Phase II Site Investigation – *Date: 10/17/2025* - This "Phase 2 Report" report documents the initial assessment of the soils and groundwater on the property to quantify the presence or absence of typical horticultural chemicals, petroleum products, and heavy metals commonly associated with horticultural activities. The Phase 2 Report describes drilling and sampling of soils throughout the property and the installation and sampling of several groundwater monitoring wells to evaluate groundwater quality beneath the property. ERO has the following comments based on our review:

- Twenty-two locations across the property were subject to drilling and/or sampling to be representative of the areas of concern identified in the Phase I ESA and provide a high-level overview of site conditions across the differing operational activities. Although any remedial action can be expected to require additional sampling to design, execute, and document cleanup actions, the initial effort detailed in the Phase 2 Report, in ERO's opinion, presents a reasonable characterization of the property conditions given the size of the former operations.

- Shallow soil samples detected the pesticide dieldrin at a range of concentrations indicative of use on the property during historical operations. It is presumed the use occurred prior to EPA banning the use of dieldrin as an insecticide in the early 1970s. The distribution of the detections is consistent with the reported historical usage in the older areas of the former operations. The decrease in concentrations with depth is consistent with the presumed plant-applications during operations.

- The lack of other elevated concentrations of pesticides or herbicides compounds in soils sampled from the property suggests limited historical use of other common horticultural chemicals that would present additional sources of contamination.

- Lead and arsenic are two heavy metals that are typically found in soils concurrently with historical horticultural chemical use and were not detected at concentrations that suggest lead- or arsenic-based compounds were likely used on the site. In ERO's opinion, the reported arsenic concentrations are well within typical background levels in Colorado, where arsenic is naturally occurring.

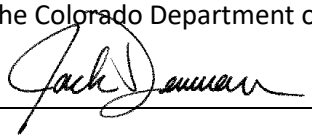
- Two areas of petroleum soil contamination were identified at the locations of above ground petroleum storage tanks, which is both logical and not uncommon. The contamination appears to have been the result of operational releases.

- Groundwater samples were collected from four of the five boring completed as monitoring wells, including at two downgradient locations (MW-02 and MW-04). The results provide a reasonable characterization of groundwater quality at the property.

- Groundwater results presented in the report indicate that site activities have not resulted in detectable concentrations of volatile organic compounds, pesticides, or herbicides in the wells downgradient from the former operations. This suggests that, although releases to the surface appear to have occurred, the releases have not impacted groundwater quality.

- PFAS, or per- and polyfluoroalkyl substances which are ubiquitous in the environment, were detected in one downgradient monitoring well (MW-04) even though there is no record of use on the property. Potential cross-contamination issues during the first sampling event may also lead to the discrepancies in the results in the Phase 2 Report. So long as groundwater is not used for domestic purposes, ERO agrees with the report conclusion that further evaluation of PFAS is not warranted at this time.

In conclusion, the preferred remediation strategy for the impacted soils in this circumstance would typically consist of excavation and off-site disposal at a permitted landfill. Based on the results of the Phase 2 Report reviewed by ERO, that remediation strategy would appear to be appropriate for this location to safely develop the property for residential land use. In Colorado, the typical mechanism for such remediation, documentation, and oversight would be within the Voluntary Cleanup Program (VCUP) of the Colorado Department of Public Health and Environment (CDPHE).

SIGNED: 

Jack Denman, Senior Geologist

PREPARED FOR:

AvalonBay Communities, Inc.

Attn: Mr. Greg Himmel
5050 S. Syracuse St., Suite 1025
Denver, CO 80237

PHASE I ENVIRONMENTAL SITE ASSESSMENT

WELBY GARDENS

17201 WEST 64TH AVENUE
ARVADA, COLORADO 80007

PREPARED BY:

BASELINE ENGINEERING CORPORATION

112 N. RUBEY DRIVE, SUITE 210
GOLDEN, CO 80403

December 26, 2024
REPORT EXPIRATION DATE: April 29, 2025

JOB # 45033

BASELINE
Engineering · Planning · Surveying

EXECUTIVE SUMMARY

On behalf of AvalonBay Communities, Inc. (*User* or the Client), Baseline Engineering Corporation (Baseline) completed a Phase I Environmental Site Assessment (ESA) for the Welby Gardens located at 17201 West 64th Avenue, Arvada, Colorado (the "Subject Property"). The Subject Property consists of approximate 20.05-acres of land that is developed with a wholesale plant nursery (Figure 1 and Figure 2). The Phase I ESA was requested by the Client to support the due diligence process in a purchase and sales agreement for the Subject Property.

This Phase I ESA was completed in general conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Standard Practice E1527-21, which was approved on March 14, 2022 by the Environmental Protection Agency (EPA) for being an acceptable guidance document for satisfying Federal All Appropriate Inquiry requirements (AAI). Any exceptions to, or deletions from, this practice are described in Section 1.8 - Limitations. The ASTM Standard Practice E1527-21 clarifies the start of a Phase I ESA as the date the first data are collected for developing the Phase I ESA report. For this report, the first data were obtained from Environmental Data Resources (EDR) of Shelton, Connecticut on October 31, 2024. Per the ASTM Standard Practice E1527-21, this report is viable for 180 days from that date, which is April 29, 2025.

This Phase I ESA was completed by reviewing numerous documents, maps, and regulatory databases. Baseline contracted with EDR to provide historical information and to search reasonably attainable regulatory databases. Multiple databases were scanned for regulatory facilities within the ASTM Standard Practice E1527-21 recommended search radius of the Subject Property (EDR, 2024a). Historic topographic maps, aerial photographs, city directories, fire insurance maps, geologic and groundwater reports and maps, and environmental reports for the Subject Property and adjacent areas were reviewed when available. Interviews were conducted with persons knowledgeable of the Subject Property history. City, County, and State regulatory agencies were also contacted where applicable.

The Phase I ESA identified historical and current use and storage of fertilizers, pesticides, and herbicides on the Subject Property, use of aboveground storage tanks (ASTs) for fuel and water storage, historical pond, three former septic system areas, an onsite water well, among others.

Baseline performed this Phase I ESA in conformance with the scope and limitations of the ASTM Standard Practice E1527-21 for the Subject Property on behalf of the Client. This assessment has revealed eight recognized environmental conditions (RECs) on the Subject Property and no adjacent or upgradient RECs. The four RECs include:

- The storage, mixing, and use of large quantities of fertilizer, herbicides, and pesticides.
- The storage and use of motor oil, hydraulic oil, and water chemicals.
- The storage, use, and former use of diesel and gasoline ASTs.
- The use of waste oil and grease containers and ASTs.

- The evidence of past spills from the gasoline and diesel dispensers.
- The evidence of past spills from stored containers and waste oil AST.
- Surface drainage from the fertilizer, herbicides, and pesticide mixing areas.
- Historical use of septic systems.

Other concerns identified not considered RECs per the ASTM Standard is the probable existence of ACM insulation on piping throughout the greenhouses and the existence of the deep water well. As noted, Mr. Marty Gerace stated that they do not own the well and that the current owner is required to properly abandon the well.

The Subject Property has a surface water retention system that includes ponds between several of the greenhouses. Over time, wetland grasses and cattails have grown in the retention ponds establishing what are considered wetlands. Any work in these areas, whether for modification or removal, will fall under the jurisdiction of the United States Army Corp of Engineers (USACOA). This work will have to be negotiated with the local USACOE administrator and off-setting wetland acreage must be arranged for prior to any disturbance to the wetland habitat.

TABLE OF CONTENTS

SECTION PAGE
1.0 INTRODUCTION 1
1.1 Location and Legal Description 1
1.2 Purpose 2
1.3 Planned Development 2
1.4 Scope of Work 3
1.5 User Requirements 3
1.6 Special Terms and Conditions 4
1.7 User Reliance and Warranty 4
1.8 Limitations 5
2.0 USER PROVIDED INFORMATION 5
2.1 Legal Description, Title, Records/Environmental Liens, and/or Activity and Use Limitations 5
2.2 Specialized Knowledge 5
2.3 Valuation Reduction for Environmental Issues 6
2.4 Owner, Site Manager, and Occupant Information 6
2.5 Commonly Known or Reasonably Ascertainable Information 6
3.0 PHYSICAL SETTING 6
3.1 Location and Topography 6
3.2 Local Geology 6
3.3 Hydrology 7
3.4 Hydrogeology 7
4.0 HISTORICAL LAND USE REVIEW 7
4.1 Past Land Ownership 8
4.2 Historic Topographic Map Review 8
4.3 Aerial Photograph Review 9
4.4 Fire Insurance Map Review 10
4.5 City Directory Review 10
4.5.1 Subject Property Listings 10
4.5.2 Off Subject Property Listings of Concern 11
4.6 Environmental Lien and AUL Search 12
5.0 RECORDS REVIEW 12
5.1 Client Provided Environmental Reports 12
5.2 Regulatory Database 12

TABLE OF CONTENTS (Continued)

SECTION PAGE

5.2.1 Property Listings 12
5.2.2 Regulatory Facilities 12
5.3 Local Agency Records Review 14
5.3.1 Federal, State, and county Environmental Agencies 14
5.3.2 County Assessor 14
5.3.3 Pollution Control Agencies 14
5.3.4 Water Quality Agencies 15
5.3.5 Arvada Fire Department 15
5.3.6 Building Records 15
6.0 INTERVIEWS AND SITE RECONNAISSANCE 16
6.1 Results from Interviews 16
6.2 Results from Site Reconnaissance 19
7.0 VAPOR MIGRATION/INTRUSION 22
8.0 FINDINGS 22
9.0 CONCLUSIONS 23
10.0 PROFESSIONAL SIGNATURE 23
11.0 REFERENCES 24

LIST OF TABLES

Table 1 Summary of Regulatory Databases
Table 2 Summary of Regulatory Facilities

LIST OF FIGURES

Figure 1 Site Vicinity Map
Figure 2 Subject Property Map
Figure 3 Adjacent Facilities Map
Figure 4 Soil Boring Location Map
Figure 5 Facility Reconnaissance Observations
Figure 6 Facility Reconnaissance Observations – AST Details

LIST OF APPENDICES

Appendices are included in electronic format due to the volume of material contained in the appendices.

Appendix A Jefferson County Assessor Records

Appendix B Records, Communications, and Interviews

Appendix C FEMA Flood Insurance Rate Map

Appendix D Environmental Data Resources (EDR) Reports

Appendix E Water Well Information

Appendix F Site Photographs

Appendix G Resumes of Environmental Professionals

LIST OF ACRONYMS/DEFINITIONS

AAI	All Appropriate Inquiries
ACM	Asbestos-Containing Materials
AMSL	Above Mean Sea Level
APCD	Air Pollution Control Division
AST	Above Ground Storage Tank
ASTM	American Society for Testing and Materials
AUL	Activity and Use Limitation
Baseline	Baseline Engineering Corporation
bgs	Below Ground Surface
CDPHE	Colorado Department of Public Health and Environment
CDWR	Colorado Department of Water Resources
Client	AvalonBay Communities, Inc.
CREC	Controlled Recognized Environmental Condition
EDR	Environmental Data Resources
EPA	Unites States Environmental Protection Agency
ESA	Environmental Site Assessment
ft^2	Square Feet
FEMA	Federal Emergency Management Agency
gal	Gallon
HMWMD	Hazardous Materials and Waste Management Division
HREC	Historic Recognized Environmental Condition
L	Liter
REC	Recognized Environmental Condition
Subject Property	17201 West 64th Avenue, Arvada, Colorado 80007
USACOE	United States Army Corp of Engineers
User	AvalonBay Communities, Inc.
USGS	United States Geological Survey
WQCD	Water Quality Control Division

1.0 INTRODUCTION

Baseline Engineering Corporation (Baseline) was retained by AvalonBay Communities, Inc. (*User* or the Client) to complete a Phase I Environmental Site Assessment (ESA) for the Welby Gardens located at 17201 West 64th Avenue, Arvada, Colorado (the "Subject Property"). The Phase I ESA was requested by the Client to support the due diligence process in a purchase and sales agreement for the Subject Property.

This Phase I ESA was completed in general conformance with practices as recommended by the American Society for Testing and Materials (ASTM) Standard Practice E1527-21, which was approved on March 14, 2022 by the Environmental Protection Agency (EPA) for being an acceptable guidance document for satisfying Federal All Appropriate Inquiry requirements (AAI). Any exceptions to, or deletions from, this practice are described in Section 1.8 – Limitations. The ASTM Standard Practice E1527-21 clarifies the start of a Phase I ESA as the date the first data are collected for developing the Phase I ESA report. For this report, the first data were obtained from Environmental Data Resources (EDR) of Shelton, Connecticut on October 31, 2024. Per the ASTM Standard Practice E1527-21, this report is viable for 180 days from that date, which is April 29, 2025.

1.1 Location and Legal Description

The Phase I ESA was completed on behalf of AvalonBay Communities, Inc. the "*User*" per the ASTM E1527-21 for the Subject Property, parcel number: 30-023-01-083 (Figure 1 and Figure 2). .

The Jefferson County Assessor Offices indicates the following related to the Subject Property:

- Parcel ID Number 30-023-01-083, Lot 0001 and Lot 0002, 20.05 acres or 873,334 square-feet, located in the southwest quarter of Section 2 Township 3 South, Range 70 West, and Subdivision 774355 Veldkamp Minor Subdivision First Amendment. The Subject Property is currently a wholesale plant nursery and has land use classified as Agricultural/Business, and the current owners are Welby Gardens CO, LLC. Nine main structures are listed as constructed on the Subject Property and occupy approximately 324,175 square feet ("ft^2"). There are 27,985 ft^2 of minor structures (outbuildings or sheds); 65,880 ft^2 of asphalt parking and road; and 4,280 ft^2 of concrete. The nine structures include:
    - Two storage warehouses,
    - Five greenhouse buildings, and
    - Two utility buildings noted as light commercial.
- The structures were constructed from 1976 to 1990.

Copies of the Jefferson County Assessor's Office records are presented in Appendix A for the Subject Property.

1.2 Purpose

The purpose of this Phase I ESA is to identify potential recognized environmental conditions (RECs) and conditions indicative of releases or threatened releases of hazardous substances or petroleum products, which may exist at or adjacent to the Subject Property, and to meet AAI requirements for the potential defenses under the Comprehensive Environmental Response, Compensation, and Liability Act, through literature review, site reconnaissance, interviews, and regulatory databases searches. The information provided in this Phase I ESA report provides the *User(s)* with a current understanding of the existing conditions and the potential environmental risks that may be associated with the Subject Property.

The ASTM Standard Practice E1527-21 defines the term 'recognized environmental conditions' as:

"*(1)* the presence of *hazardous substances* or *petroleum products* in, on, or at the *Subject Property* due to a *release* to the *environment*; *(2)* the likely presence of *hazardous substances* or *petroleum products* in, on, or at the *Subject Property* due to a *release* or likely *release* to the *environment*; or *(3)* the presence of *hazardous substances* or *petroleum products* in, on, or at the *Subject Property* under conditions that pose a *material threat* of a future *release* to the *environment*. A *de minimis condition* is not a *recognized environmental condition*."

A 'material threat' is defined as "*obvious* threat which is likely to lead to a *release* and that, in the opinion of the *environmental professional*, would likely result in impact to public health or the environment."

RECs are to be further classified, where applicable, as "controlled" and/or "historic" as follows:

A 'controlled recognized environmental condition' (CREC) is defined by the ASTM Standard Practice E1527-21 as "*recognized environmental condition* affecting the *Subject Property* that has been addressed to the satisfaction of the applicable regulatory authority or authorities with *hazardous substances* or *petroleum products* allowed to remain in place subject to implementation of required controls (for example, *activity and use limitations* or *other property use limitations*)*."* A CREC is further defined as being in, on, or at the Subject Property.

A 'historic recognized environmental condition' (HREC) is defined by the ASTM Standard Practice E1527-21 as "a previous *release of hazardous substances* or *petroleum products* affecting the *Subject Property* that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the *Subject Property* to any controls (for example, *activity and use limitations* or other *property use limitations*). A *historical recognized environmental condition* is not a *recognized environmental condition*." A HREC is also further defined as being in, on, or at the Subject Property.

1.3 Planned Development

The Client plans to build 350 to 450 multifamily apartment units on the Subject Property.

1.4 Scope of Work

Baseline followed the ASTM E1527-21 Standard Practice to complete the Phase I ESA. This Phase I ESA was completed by Baseline personnel qualified to prepare a Phase I ESA, meeting the ASTM E1527-21 definition of a qualified '*environmental professional'*.

As part of this Phase I ESA, Baseline completed:

- Visual inspections of the Subject Property and adjacent sites (from the Subject Property);
- Interviews, as feasible, with past and present owners, operators, and occupants;
- Review of historical sources back to the first obvious use of the Subject Property, including aerial photographs, topographic maps, city directories, and fire insurance maps, where reasonably ascertainable;
- Review of government records provided by a qualified subcontractor;
- Review of reasonably available pertinent public records;
- Review of reasonably available environmental reports for the Subject Property; and
- Identification of data gaps, and the significance of those data gaps in relation to the environmental conditions of the Subject Property;

The findings and conclusions expressed in this report are limited to the purpose stated herein, and the conditions observed at the time of the site reconnaissance by Baseline personnel. The scope of work does not include structural, electrical, mechanical, radon, wetlands, geotechnical, sampling, or other analyses/activities not expressly described in Section 1.6, and as part of an ASTM Standard Practice E1527-21 compliant Phase I ESA. Therefore, the findings and conclusions set forth herein are made without the benefit of said activities.

1.5 User Requirements

The ASTM Standard Practice E1527-21 places several requirements for the completion of due diligence activities on the *User* (potential purchaser, seller, lender, or owner requesting the Phase I ESA). The *User's* responsibilities include the following items:

- Environmental cleanup liens filed or recorded against the Subject Property;
- Activity and use limitations (AULs) placed on the Subject Property;
- Any specialized knowledge or experience related to the Subject Property or nearby properties;
- The relationship of the purchase price being paid for the Subject Property to its value if not contaminated;
- Commonly known or reasonable ascertainable information about the Subject Property; and

- Any obvious indications indicating the presence or likely presence of contamination on the Subject Property.

1.6 Special Terms and Conditions

A Phase I ESA typically excludes several activities defined in the ASTM Standard Practice E1527-21 as non-scope considerations. Non-scope considerations have not been taken into account as part of this assessment. These non-scope considerations include, but are not limited to:

- Recommendations;
- Sampling and testing for asbestos-containing material (ACM);
- Sampling and testing for radon;
- Sampling and testing for lead-based paint;
- Sampling and testing for lead in drinking water;
- Sampling and testing for mold;
- Sampling and testing of soil and groundwater;
- Wetland delineation;
- Cultural and historic resources delineation;
- Review of industrial hygiene issues;
- Review of health and safety issues;
- Ecological resources and endangered species delineation;
- Assessment of indoor and outdoor air quality; and
- Impacts from high voltage power lines.

In addition to these exclusions, a title records search was not conducted by Baseline.

1.7 User Reliance and Warranty

This report was prepared at the direction, and for the exclusive use, of the Client. Readers that have not completed the User Requirements as established in Section 6 of ASTM Standard Practice E1527-21 may not rely on this report.

The *User* is bound by the terms and conditions established between the Client and Baseline for development of this Phase I ESA. No other parties should rely on the information contained herein without prior written consent from the *User* and Baseline.

This report has been prepared in accordance with standard industry practices for the sole express use by the *User*. Data and observations presented in this report represent conditions in existence at the time and

specific locations investigated and may not reflect conditions existing at other locations or times. Many of the findings contained in this Phase I ESA are based on information available from public sources as well as interviews with persons knowledgeable of the Subject Property. Available information, especially environmental databases, changes continually and is frequently incomplete. Baseline assumes no liability for information that has been misrepresented or for items not visible, accessible, or present on the Subject Property at the time of the site reconnaissance. No warranties, expressed or implied, are made regarding the condition of the Subject Property.

1.8 Limitations

The limitations to the completion of this Phase I ESA include the following:

- A detailed search for environmental liens against the Subject Property was not conducted by Baseline. The Client has indicated that environmental liens or AULs were not identified for the Subject Property. Based on information from the Client and CDPHE website, this data gap is not considered a concern.
- Data gaps were identified as part of the aerial photograph and topographic reviews. Both aerial photographs and topographic maps were not reasonably ascertainable in five-year intervals. These represent data gaps; however, based on data obtained from other historical data sources, this does not represent a significant data gap.

2.0 USER PROVIDED INFORMATION

A *User* questionnaire was completed by Mr. Gregory Himmel, Client representative, on November 12, 2024 and is provided in Appendix B. Mr. Himmel's responses are presented in the following section.

2.1 Legal Description, Title, Records/Environmental Liens, and/or Activity and Use Limitations

The Jefferson County Assessor's Office provides a legal description for the Subject Property. These documents are provided in Appendix A.

A title search for past owners was not provided by the Client. However, the Client noted that the Subject Property has been a wholesale nursery for over 30 years.

Mr. Himmel noted that no environmental lien records were found for the Subject Property; however, there are typical zoning restrictions for the Subject Property. .

2.2 Specialized Knowledge

Mr. Himmel was not aware of any issues or specialized knowledge associated with the Subject Property with the exception that he noticed petroleum staining adjacent to the waste oil, aboveground storage tank (AST).

2.3 Valuation Reduction for Environmental Issues

Mr. Himmel indicated that the purchase price reflects a fair market value for land intended for multifamily residential development.

2.4 Owner, Site Manager, and Occupant Information

Mr. Himmel provided owner contact information as follows:

Marty Gerace & Nick Gerace
Welby Gardens LLC
17201 W 64th Ave
Arvada, CO 80007
303-288-3398
martyg@hardyboyplant.com
nickg@hardyboyplant.com

2.5 Commonly Known or Reasonably Ascertainable Information

Mr. Himmel noted that there are no known previous environmental or geotechnical reports for the Subject Property.

3.0 PHYSICAL SETTING

The following sections provide a brief discussion of the physical setting of the Subject Property.

3.1 Location and Topography

As presented in Section 1.1, the Subject Property consists of 20.05-acres of land that is developed with a wholesale plant nursery (Welby Gardens), located at 17201 West 64th Avenue, Arvada, Colorado.

The Subject Property is bounded on the north and northeast by the City of Arvada West Woods Golf Course, on the east and southeast by residential properties, on the south by a MorningStar Senior Living Center, and on the southwest, west, and northwest by residential properties (Figure 3). A more complete description of the current condition of the Subject Property is included in Section 6.2.

Review of topographic maps and Google Earth images indicate that the ground surface at the Subject Property gently slopes downward from west to east. The Subject Property elevation varies from approximately 5,690 feet above mean sea level (AMSL) on the west to approximately 5,675 feet AMSL on the east.

3.2 Local Geology

The *Surficial and Bedrock Geologic Map of the Golden Quadrangle, Jefferson County, Colorado* (Van Horn, Richard, 1972) shows the surficial lithology underlying the Subject Property as consisting of Louviers Alluvium. The Louviers Alluvium is described as a "*silty fine-grained sand becoming coarser with depth*". The upper one to three feet is commonly clayey to sandy silt, and in areas underlain by gravel

up to three feet thick. Overall, the thickness of the alluvium is 10 to 20 feet.

The Louviers Alluvium is underlain by the Arapahoe Formation which consists of light-gray to brown quartzose sandstone and silty claystone.

The United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) maintains surface soil data, which encompass the Subject Property. The NRCS in conjunction with the Soil Survey Geographic Database (SSURGO) has mapped the soils beneath the Subject Property as dominantly very cobbly sandy loam. The sandy loam is a well-drained soil class that consists of coarse-grained soils that are a mixture of sands, sands with fines, and clayey sand.

Recent geotechnical drilling at the Subject Property by Cole Garner Geotechnical (2024) indicates non-native fill materials occur from the ground surface to depths ranging from approximately 6 feet to 7 feet below ground surface (bgs). The fill consists mainly of fine-grained to coarse-grained sand and gravels, with some silt and clay lenses and cobbles. No debris or other deleterious materials were encountered. Beneath the non-native fill, native silty and was encountered at one location to a depth of approximately 12 feet bgs. Sedimentary sandstone and claystone bedrock was encountered below the non-native fill and native soils. Groundwater was encountered in Boring Nos. 1 and 3 at depths of approximately 13 and 8 feet bgs, respectively (Figure 4).

3.3 Hydrology

The closest prominent surface water features to the Subject Property are Blunn (Arvada) Reservoir approximately 0.57 mile to the northwest and Tucker Lake approximately 0.6 mile to the north. Ralston Creek, flowing from west to east is approximately 0.27 mile north of the Subject Property and Van Bibber Creek, flowing northwest to southeast, is approximately 0.66 mile south of the Subject Property.

Based on review of the online Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, included in Appendix C, the Subject Property lies within Floodplain Designation ‘Zone X’. FEMA defines Zone X as an “[a]rea of minimal flood hazard”.

3.4 Hydrogeology

Shallow groundwater flow generally mimics surface topography; therefore, shallow groundwater flow across the Subject Property is expected to flow from west to east.

4.0 HISTORICAL LAND USE REVIEW

A number of historical sources were examined in an effort to develop an understanding of previous uses of the Subject Property and the surrounding area. Baseline utilized EDR to compile reports from a selection of historic sources. Those sources included a variety of maps and city directories. Information collected from those sources is presented below.

4.1 Past Land Ownership

Limited information was found for ownership history of the Subject Property. The Jefferson County Assessor's Office lists limited chain of title information and shows the following ownership for the parcel:

Welby Gardens Co LLC is the current owner. Welby Gardens Co LLC purchased the Subject Property in November 2013 from Veldkamps Real Estate Inc. The date Veldkamps Real Estate Inc. purchased the Subject Property is not listed.

4.2 Historic Topographic Map Review

United States Geologic Survey (USGS) topographic quadrangle maps of the Subject Property obtained from EDR (2024b) were reviewed for the years 1899, 1939, 1942, 1944, 1957, 1965, 1971, 1980, 1994, 2013, 2016, 2019 and 2022. Copies of the topographic maps are provided within an electronic file contained in Appendix D. The topographic map review focused on development of the Subject Property and immediately adjacent properties, landfills, pits, depressions, lagoons, etc.

The 1899 topographic map shows the Subject Property and surrounding areas as vacant land. West 64th Avenue is shown on the south and Virgil Way to the west. Two railroad alignments are shown to the west.

The 1939 map shows the roads as dirt roads with the Subject Property vacant. The railroads are no longer shown. Tucker Lake is shown to the north and Church Ditch has been constructed to the east. The 1942 map is the same as 1939 with the exception that West 64th Avenue is partially paved.

The 1944, 1957, and 1965 topographic maps are essentially the same as the 1942 map with the Subject Property remaining vacant.

The first development of the Subject Property is shown on the 1971 map. The map shows one large building on the southern portion of the Subject Property. The 1980 topographic map shows the 1971 building as being expanded to the west property boundary. By 1994, a second building is shown north of the original building. This building is similar in size as the first building. Arvada (Blunn) Reservoir is now present to the west of Tucker Lake.

The 2013, 2016, 2019, and 2022 topographic maps do not show the buildings on the Subject Property. All the land areas to the south, west, north, and east are shown as developed with roadways. West 64th Avenue is now a four lane paved roadway, configured in its present day alignment.

Topographic Map Review Summary

The Subject Property remained vacant from 1899 to approximately 1965. By 1971, the Subject Property is developed with one building. The development of the Subject Property continues until the land area is developed. No environmental issues (RECs) were identified for the Subject Property and adjacent areas during the topographic map review.

4.3 Aerial Photograph Review

High altitude aerial photographs of the Subject Property obtained from EDR (2024c) were reviewed for the years 1937, 1955, 196e, 1971, 1979, 1983, 1994, 1999, 2005, 2011, 2015, and 2019. The aerial photographs were reviewed at a scale of 1 inch = 500 feet. The review was limited to the Subject Property and immediately adjacent land areas. The review focused on identifying stained areas, pits, landfills, soil piles, aboveground storage tanks, gas stations, etc. Reviewing aerial photography is also helpful in correlating a timeline of development with other sources that reference historical use. Copies of the aerial photographs are provided within an electronic file contained in Appendix D. Significant observations from select aerial photographs are summarized below.

1937 – 1963

The Subject Property is vacant. Church Ditch is shown to the east. Surrounding land areas are vacant.

1971

The Subject Property is developed with an array of greenhouses aligned north-south and an apparent office building adjacent to the east. This building is located on the south side of the Subject Property. Church Ditch is shown to the east. Surrounding land areas are vacant.

1979

Additional greenhouse buildings have been added to the west and north on the Subject Property. Surrounding land areas remain vacant.

1983

Additional greenhouse buildings have been added the Subject Property and now occupy an estimated one half to two thirds of the property area. Surrounding land areas remain vacant.

1994

The land use has now expanded to the north boundary and the development occupies approximately 80% of the land area. Residential homes and golf course fairways are present to the northwest. The remaining adjacent land areas remain vacant.

1999

The land use of the Subject Property has expanded to approximately 90% of the land area. Golf course fairways have been constructed to the north. Residential homes and golf course fairways are present to the northwest and west. New residential areas are being constructed south of West 64th Avenue.

2005, 2011, and 2015

The entire land area of the Subject Property is now developed. The southern portion appears to be an office/sales building and parking. The surrounding areas have all been developed with residential homes or golf course. A small area between the Subject Property and West 64th Avenue remains vacant.

2019

By 2019, the MorningStar Senior Living Center has been constructed in the area between the Subject Property and West 64th Avenue.

Aerial Photograph Review Summary

The Subject Property was shown as being developed with greenhouses on the southern portion of the property in 1971. Development continued through 2005 when the entire Subject Property area was occupied by greenhouse buildings and support structures. By 1994, the surrounding areas were being developed. By 2019, the surrounding land areas were developed with residential homes, golf course fairways, or commercial senior living centers. The use of the Subject Property as a wholesale greenhouses operation implies the use of fertilizers, pesticides, and herbicides. Potential improper use and storage of these compounds are considered a REC. No other RECs were identified on the Subject Property or adjacent properties as part of the aerial photograph review.

4.4 Fire Insurance Map Review

Sanborn maps were originally created as a product to help fire insurance companies assess the potential risks involved in underwriting policies. Sanborn has been developing these maps since 1866 and are a valuable tool for assessing historic use. EDR purchased the rights to all Sanborn maps produced after 1923. EDR reported that no Sanborn maps covering the Subject Property and adjacent area were found (EDR, 2024d).

4.5 City Directory Review

EDR completed a city directory review for the Subject Property (EDR 2024e). Business directories reviewed included the Haines, InfoUSA, Polk, Cole, Bresser, and Stewart directories along with the EDR Digital Archive of Cole and InfoUSA records. The directories search spanned from 1962 to 2020. The review was completed on approximate five-year intervals per the ASTM Standard Practice E1527-21. The directory listings provided are noted in the following paragraphs. Note that listings were not identified for 1962, 1967, and 2014. An electronic copy of the City Directory report is provided in Appendix D.

4.5.1 Subject Property Listings

The following are the Subject Property listings from 2020 to 1972.

2020

County Fair Garden Center Arvada
Hardy Boy Bedding Plants
Welby Gardens

2017

County Fair at Westwoods
Welby Gardens

2010
County Fair at Westwoods
Welby Gardens

2005
County Fair Garden Centers
S. Little and Brent Ragsdale

2000
Veldkamps Wholesale Greenhouses
Michael Girten

1995
Florawest Wholesale Greenhouse
L. Grant and S. Tisdale

1992
Florawest Wholesale Greenhouse
L. Grant
Veldkamps Flowers
Erich Hostetler

1986
Colorado Greenhouse
John Haberer
Veldkamps Inc.

1986
Veldkamps Greenhouse and Veldkamp Wholesale

1977
Veldkamps Greenhouse

1972
R. Weakland Inc.

4.5.2 Off Subject Property Listings of Concern

There were no listings adjacent to the Subject Property or in the Subject Property area that would be a concern. Listings included residential addresses from 1972 to 2017, and the MorningStar Senior Living Center at 17351 West 64th Avenue in 2020.

City Directory Review Summary

The Subject Property listings show the property was used as a wholesale greenhouse growing center. This implies the use of fertilizers, pesticides, and herbicides. Potential improper use and storage of these compounds are considered a REC.

4.6 Environmental Lien and AUL Search

Environmental liens and AULs for the Subject Property were not provided by the Client; however, the Client noted in the User Questionnaire that no liens or AULs were identified. The Colorado Department of Public Health and Environment (CDPHE) lists sites that have an environmental lien and/or AULs. No environmental liens and/or AULs were identified for the Subject Property or any of the adjacent land parcels. The nearest record of an environmental lien/AUL record is for the Table Mountain and Amax Research and Development Centers located 1.37 miles to the southeast of the Subject Property.

5.0 RECORDS REVIEW

5.1 Client Provided Environmental Reports

The Client confirmed that there were no environmental reports provided by the current owners of the Subject Property.

5.2 Regulatory Database

This section provides a summary of the significant findings from a search of federal, state, tribal, and proprietary records specific to environmental issues. This search was performed in an effort to identify onsite, adjacent, and/or hydraulically upgradient facilities that could potentially impact the Subject Property. EDR was contracted by Baseline to perform this search. Multiple databases were scanned for regulatory facilities within the ASTM-recommended search radius of 1-mile of the Subject Property. Results were plotted and labeled on radius maps and specific details of each site listed (EDR, 2024a).

5.2.1 Property Listings

There are standard environmental record sources required to be reviewed according to the ASTM E1527-21 standards. Listed in Table 1 is a summary of the federal, state, and tribal databases searched within the ASTM-required distances from the Subject Property as identified by EDR and the number of listings identified within those ranges. A total of 118 databases were searched for environmental information specific to the Subject Property and within the ASTM Standard Practice E1527-21 required search radiuses.

5.2.2 Regulatory Facilities

Table 2 summarizes the regulatory facility listing information provided by EDR. EDR identified 18 environmental listings for eight facilities within the ASTM Standard Practice E1527-21 specified search distances. Facilities are generally listed in order of proximity to the Subject Property as determined by EDR. Locations for the identified facilities are presented in Appendix D.

Three of the EDR-identified facilities had the same address and those facilities were combined by Baseline. Making these corrections resulted in a total of six facilities within the ASTM-specified search distance.

These six facilities are presented in Table 2. Three of the facilities are considered a potential concern and are 'bolded' in Table 2 and discussed in greater detail below. The remaining three facilities are not considered to represent a likely past, present or material threat of release in, on, or at the Subject Property based on distance, topography, assumed groundwater flow direction/gradient, current regulatory status, and/or the absence of reported releases. EDR facility locations can be found in Appendix D (Overview and Detail Maps).

Two orphan sites were identified by EDR with unspecified locations that could potentially fall within the search radius (Table 2). The orphan sites were reviewed and found to be located north of the Subject Property, which is considered cross-gradient to the Subject Property. Assuming groundwater flow to the east, these two orphan sites are not a concern.

SUBJECT PROPERTY FACILITIES

EDR Map ID #A1, A2, and A3 – Welby Gardens Veldkamps Greenhouses
These facilities are located on the Subject Property and were listed in the FTTS, HIST FTTS, and FINDS databases (please see Table 1 for acronym definitions). Both FTTS and HIST FTTS relate to administrative cases and pesticide enforcement actions and compliance activities related to the Federal Insecticide, Fungicide, & Rodenticide Act and Toxic Substances Control Act. The EDR report shows that the facility had two inspections completed in 1995 and 2004 and that no violations were identified. Although the records appear to show proper use and storage of pesticides and herbicides, the use of these compounds remain a REC.

UPGRADIENT FACILITIES

EDR Map ID #4 – Rocky Flats Industrial Park (THORO - AERRCO - GWI)
This facility is located at 17100 - 17400 West Highway 72 in Arvada. This facility is listed on the SEMS listing but is not a National Priority List (NPL) facility. The facility is listed under performance monitoring and has an environmental covenant dated 1/3/2019.

Under the U.S. Environmental Protection Agency (EPA) Administrative Order, the CERCLA response actions at this facility included installation and operation of an air sparging/soil vapor extraction (AS/SVE) system at the parcel formerly owned and operated by American Ecological Recycle Research Corporation at the Rocky Flats Industrial Park Site. The intent of the system was to reduce sources of volatile organic compound contamination to soil, groundwater, and surface water. That system operated successfully until it met shutdown parameters. On March 6, 2014, the EPA and CDPHE were informed that the AS/SVE equipment and above-ground facilities had been removed, and the AS, SVE, and groundwater monitoring wells had all been abandoned in accordance with the 2012 Proposed Completion Report. EPA issued a final Pollution Report on March 7, 2016.

An environmental covenant for the facility was established in 2019. The records reviewed and the issuance of an environmental covenant indicate that the facility has been remediated to the satisfaction of EPA and

the CDPHE, and as a result, this facility is not considered a REC to the Subject Property.

EDR Map ID #8 – City of Arvada Water Treatment Plant

This facility is located at 18001 West 66th avenue and is listed under the Solid/Hazardous Waste Facility (SHWF) list. This facility is a water treatment plant which has a surface impoundment to discharge alum treatment sludge. Alum sludge is a by-product generated during the drinking water purification process, where aluminum-salt is used as a coagulant to remove certain compounds such as phosphorous. The sludge is placed in the surface impoundment where it is dried and then either disposed as a waste or recycled for other purposes.

The EDR records do not show any violations. This facility is not considered a concern to the Subject Property.

5.3 Local Agency Records Review

The following local/regional agencies were contacted regarding records that could potentially identify environmental concerns and historical use information.

5.3.1 Federal, State, and county Environmental Agencies

The following agencies were contacted, and the data obtained discussed.

Hazardous Materials and Waste Management Division

Records for the Subject Property address was searched on the CDPHE Hazardous Materials and Waste Management Division (HMWMD) online records. No records were discovered. This result was confirmed in an email communication from HMWMD on November 12, 2024.

5.3.2 County Assessor

Baseline reviewed the Jefferson County Assessor's Office online database for records concerning the Subject Property. The records provided a legal description, description of structures, ownership information, and others. The Jefferson County Assessor's Office records are included in Appendix A.

5.3.3 Pollution Control Agencies

The following agencies were contacted, and the data obtained discussed in the respective section.

Oil and Public Safety

The Colorado Division of Labor and Environment (CDLE) Oil and Public Safety (OPS) maintains records of registered fuel aboveground storage tanks (ASTs) and underground storage tanks (USTs). These records are maintained in a database referred to as COSTIS (Colorado Storage Tank Information System). The COSTIS database did not have any records for the ASTs at the Subject Property.

Air Pollution Control Division

Records for the Subject Property address was searched on the Air Pollution Control Division (APCD) online records. No records were discovered. This result was confirmed in an email communication from APCD on November 14, 2024.

5.3.4 Water Quality Agencies

The following agencies were contacted, and the data obtained discussed in the respective section.

Water Quality Control Division

Records for the Subject Property address was searched on the Water Quality Control Division (WQCD) online records. No records were discovered. . This result was confirmed in an email communication from WQCD on November 13, 2024.

Colorado Division of Water Resources

The Colorado Division of Water Resources (CDWR) online database of groundwater wells was reviewed to provide information concerning potential wells on the Subject Property and to assess if any monitoring wells had been installed on or adjacent to the Subject Property. Monitoring wells or water wells within a 0.5-mile radius were plotted (Appendix E). There were six wells listed as constructed and three wells listed as permitted, but not constructed (Table E-1 in Appendix E). One constructed well is located on the Subject Property. One constructed well and one permitted well are located to the north of the Subject Property, and the other six constructed and three permitted wells are located southeast of the Subject Property. There are no monitoring wells located within the 0.5-mile radius.

The water supply well on the Subject Property is listed as used for commercial, replacement, and augmentation purposes. It is completed in the Laramie Fox-Hills Formation at 1,071 feet bgs. The maximum pumping rate listed is 150 gallons per minute (gpm); however, the yield was listed at 15 gpm.

5.3.5 Arvada Fire Department

A records request for the Subject Property addresses was submitted to the Arvada Fire Department on November 18, 2024. Mr. Steven Parker - Fire Marshall of the Arvada Fire Department replied on November 22, 2024 and noted that he did not find any incident responses to the Welby Garden's address related to hazardous materials. He provided an inspection summary report for the Subject Property. The most recent inspection on December 14, 2023 noted that the fire alarm system was not functional and that the fire sprinkler system needed repair. This is listed as an open violation.

Previous inspections on January 2023, October 2017, and December 2015 had similar deficiencies with the fire system. The listed issues were noted as corrected in the same year.

Review of the fire inspection details did not identify any environmental issues.

5.3.6 Building Records

A property report for the Subject Property and the EDR report lists several permits for dry utilities, commercial improvements, fencing, signage, wiring of light poles, building electrical, building (greenhouse) construction, bathroom install, plumbing, among others. There is also a reference to installation of a well pump. None of the permits suggest an environmental concern.

6.0 INTERVIEWS AND SITE RECONNAISSANCE

Interviews of current owners of the Subject Property and completion of a site reconnaissance of the Subject Property are required by the ASTM Standard Practice E1527-21. The following sections provide the results of the interviews conducted and findings from the site reconnaissance.

6.1 Results from Interviews

Nickolas (Nick) Gerace, current owner and Director of Wholesale Operations, was provided a questionnaire that addressed the Subject Property. Mr. Gerace completed the questionnaire on November 12, 2024. The completed questionnaire is provided in Appendix B. For most of the questions, Mr. Gerace answered the questions with a "No". Those that had positive responses are noted below:

- The Subject Property is not used for an industrial use and has not in the past;
- The adjoining properties to the Subject Property are not used for industrial purposes and have not in the past;
- The Subject Property and adjacent properties have not been used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility;
- There have not been any damaged or discarded batteries, or pesticides, paints, or other chemicals in containers of greater than 5 gallons (gal) / (19 liters [L]) in volume or 50 gal (190L) in the aggregate, stored on or used at the Subject Property;
- In response to whether there currently, or have there been previously, any drums (typically 55 gal (208L)) or sacks of chemicals located on the Subject Property, Mr. Gerace noted there are boiler cleaner and hydrogen peroxide chemical stored on the Subject Property;
- No fill dirt has been brought onto the Subject Property;
- A pit or pond was located on the northeast corner of the Subject Property;
- The is no stained soil on the Subject Property;
- Mr. Gerace noted that there are water and diesel tanks located on the Subject Property. There are no vent pipes or fill pipes protruding from the ground;
- There is no evidence of leaks, spills, or staining by substances other than water, or foul odors, associated with any flooring, drains, walls, ceilings, or exposed grounds on the Subject Property;
- A private well on premise is used for augmentation for a subdivision not owned by Welby Gardens;
- There are three known septic systems located on the Subject Property;
- There are no environmental liens or governmental notifications relating to past or recurrent violations of environmental laws with respect to the Subject Property;
- There are no past, threatened, or pending lawsuits or administrative proceedings concerning a

release or threatened release of any hazardous substance or petroleum products involving the Subject Property;

- The Subject Property does not discharge any waste water to the stormwater or sanitary sewer systems;
- There have been no hazardous substances or petroleum products, unidentified waste materials, tires, automotive or industrial batteries or any other waste materials been dumped above grade, buried and/or burned on the Subject Property;
- Xcel maintains a transformer on the Subject Property;
- Ben Veldkamp was the previous owner of the Subject Property;
- Mr. Gerace noted that about 8-acres of greenhouses were built in the 1960s on the Subject Property;
- The water system was upgraded in 2004 and the boiler system upgraded in 2019;
- The Subject Property is serviced by Xcel for water, sewer, power, and (transported) natural gas; and
- Safety data sheets, community right to know plan, spill prevention and other safety/preparedness plans, and geotechnical studies report are available for the Subject Property.

Based on these responses, Baseline provided additional questions which Nick Gerace responded to in an email dated December 2, 2024 (Appendix B). The original question is listed and Mr. Gerace's response is provided in blue font.

1. At the end of the questionnaire (page 7), you noted that Material Safety Data Sheets (MSDS), a Community Right-to-Know Plan, Spill Prevention or other safety/preparedness plans, and geotechnical studies documents exist for the Subject Property. Are these available for review and copying? In addition, is there a Property Site Plan available? This could be part of the Spill Prevention Plan.

   We store the MSDS's in several locations across all of our properties. The right to know board is visible for the facility next to the break room. I have a facility map, but it is more for our production purposes. The spill prevention is a kit we keep on hand for cleaning up any agricultural chemical spills.

2. On page 3, question #8, you note that boiler cleaner and hydrogen peroxide are contained in 55-gallon drums or sacks. Can you be more specific on the type of container, where they are stored, and purpose or use.

   They are stored in 55-gallon drums either metal or plastic depending on the supplier. They are stored in our boiler room. They are used to treat the boiler water to keep our steam system clean and operating correctly.

3. On page 3, question #10, you note the existence of a current or historic pit, pond, or lagoon on the northeast corner of the Subject Property. Was this a pond? What was the purpose (stormwater retention?)? What was the water source (stormwater?)? Review of aerial photographs suggest that area is currently heavily vegetated and may no longer be a pond. The aerial photographs do not show standing water. It looks like the area may have constructed berms starting in about 1999. Can you provide additional information please.

   It is storm water runoff/retention, it is dry most of the year depending on weather. It collects water after the other retention areas are full. It does have a lot of trees and grass growing in it. I don't have any knowledge of berms being built it the area; we didn't take over operations of the facility until 2003.

4. On page 4, question #12, you note the existence of current and historical storage tanks for water and diesel tanks. Can you please provide more information on size (volume), location, and if secondary containment is present. All this information may be in the Spill Prevention Plan.

   The storage tanks are centralized around our shop/ boiler area on the East side of the property. Our main water storage tank in located inside the shop it is 12,000 gallons. We use city water for irrigation. There are 3 horizontal tanks by the well that were used for the augmentation basically the well would fill them then a water truck would fill from them. I would guess they are between 3,000 and 4,000 gallons. We have two old vertical water tanks that haven't been used since we took over the property. They won't even hold water but they are 12,000 gallons. The two diesel tanks are 12,000 gallons we only use one of them for emergency backup for our boilers. The are contained with berms but don't know much about the system.

5. On page 4, question #15, you note the existence of a water well on the Subject Property "*used for augmentation for a subdivision not owned by Welby Gardens*". Based on review of the Colorado Division of Water Resources, the well installation applicant was a Peter Warren for the YWAM Foundation. This implies the well owner is the YWAM Foundation. Is this correct? How is the water used (yard irrigation or drinking water?). Does Welby Gardens, LLC receive a rent for this well and are you responsibly in any way, other than protecting the surface expression of the well? Are there any water quality data for this water? Can you provide any history on this well. I have found an original permit in 1976 (expired) followed by several others in 1994, 1997, and 2020 (all expired) with the well constructed in November 2020 (permit #84879-F), which would be when you owned the Subject Property.

   The well has been in place before 2020. YWAM does own the water rights. As far as we know they collected the water in the past and added back to a ditch in the area. We are not aware of anything wrong with the water quality or any testing that has been done. We don't receive rent for the well and we are not responsible for anything.

6. On page 5, question #16, you note three known septic systems. Can you provide their locations, approximate size of the tanks, the size of the leach areas, and the history of use? Are the systems still in place or have they been removed?

   The septic systems are still in place. There is one right buy the offices up front on the Southeast corner of the property. We hooked up the city in 2003 for this system and it isn't currently used. There is one on westside of the property that is currently in use. Also, one on the northside of the property that is also in use. We don't have any information on the size or leach fields. We were not involved in the property when they were installed.

7. On page 5, question #20, regarding the Xcel transformer. Is it pad mounted. I can confirm this on the site visit.

   It is pad mounted.

8. On page 6, question #24, you note that you upgraded the water system in 2004 and upgraded the boiler system in 2019. How was the water system upgraded? We assume the boiler system is/was used for overall water baseboard type heating of the greenhouses and offices/sales area. Is this correct?

   The water system upgrade included the installation of a new storage tank, water tempering system, and new pumps. The boiler system upgrade was the addition of a new boiler. The boiler system is a medium pressure steam system that we use pipes with steam traps and unit heaters to control the temperatures in the greenhouse. Our offices run off a traditional HVAC system.

9. On page 6, question #25, you may have a misprint. You note Xcel provides water and sewer. Is this actually the City of Arvada?

   Yes.

6.2 Results from Site Reconnaissance

Baseline's Environmental Professionals Mr. Terry McGowan and Mr. Vincent Barlock completed a site reconnaissance of the Subject Property on December 6, 2024. Mr. Todd Nicotra of AvalonBay Communities was also present for this site reconnaissance. Mr. Nick Gerace of Welby Gardens escorted the group throughout the Subject Property. Select photographs taken during the site reconnaissance are provided in Appendix F. Figure 5 and Figure 6 illustrate the findings from the site reconnaissance.

The Subject Property is bounded as follows (see *Adjacent Facilities Map*, Figure 3):

- North and Northeast: City of Arvada Westwoods Golf Course;
- East and Southeast: Residential properties;

- South: MorningStar Senior Living Center; and
- Southwest, West, and Northwest: Residential properties.

The majority of the Subject Property is improved with greenhouses and hoop houses used for growing perennial and annual plants throughout the year. At the time of reconnaissance, several of the greenhouses had poinsettia plants growing.

There are six large (approximately 45,000 ft^2 or larger) greenhouses and at least two storage warehouse areas constructed with metal frame and metal/plastic siding. The foundations appear to be slab on grade with drainage collection systems designed to move water overflow out of the greenhouses. Heating is provided via steam heat or natural gas heaters, with cooling completed by dripping water through filter media along the sides of the greenhouses, with accompanying large fans, i.e. essentially a large capacity swamp cooling system.

There are 30 plus hoop houses on the north and northeast sides of the Subject Property. These are used to grow plants and store planting materials. At the time of the visit, most of the hoop houses were not being used. The foundations appeared to be native ground, covered with landscape fabric.

There is a production area in one of the greenhouses where plants are potted for growing; a fertilizer mixing and storage area that contains mixing equipment, manifolds that direct water fertilizer to the appropriate greenhouse, and air compressors with air used to assist in delivery of the water fertilizer; and a separate area for pesticide/herbicide mixing and storage (Figure 5). The herbicides and pesticides are contained in a separate container that contains spills. The herbicides and pesticides are numerous (40+) in type and mostly contained in quart-size plastic bottles. Mr. Nick Gerace explained that open bottles were situated in the front and dated to make sure the open bottle was used up before opening another bottle. This also reduced waste generation. There is a large diesel powered generator for the emergency generation of electricity (Figure 5). There was a hydraulic oil drum in this area as well and abundant staining.

Plants are watered via an overhead sprinkler system for potted perennial plants and a separate drip system for larger plants. Fertilizer is mixed in with the irrigation water in a dedicated area shown on Figure 5 that has a concrete foundation with a drainage cut in the concrete to collect overflow and spillage. The overflow appears to flow to the retention system discussed in the following paragraph. Pesticides and herbicides are mixed separately and hand sprayed onto the plants.

Throughout the Subject Property, there are several areas that collect stormwater runoff as well as discharges from the greenhouses or hoop houses. Water retention ponds are shown on Figure 5 and generally are located between the large greenhouse structures. Wetland grasses and cattails have grown in these areas. The retention pond areas are connected to subsurface drainage lines that direct flow to the large / main retention pond in the northeast corner of the Subject Property. This main pond area is filled with trees, brush, and grasses. The main pond discharges to the west, eventually discharging to an offsite ditch. Flow occurs when the ponds fill and overflow; otherwise, water remains in the pond. The retention ponds are not

lined. Other drainage ditches are located adjacent to the hoop houses and direct surface water flow to the north where they connect to the main discharge line from the large main retention pond.

There are several ASTs located in a soil-bermed area on the east-southeast side of the Subject Property (Figure 6). The soil berm exists on the north, south, and east sides and is open on the west for access. The assumed flow direction in this area is east. There are four 12,000 gallon, vertical ASTs. Two formerly contained water; however, these ASTs leak and are not used. The other two vertical ASTs are meant for fuel. One of these ASTs contains diesel, used for emergency backup to the boiler; the other is not in use. A diesel fuel dispenser is located on the west side of the fuel ASTs and is not used. Staining is evident beneath the dispenser.

There are three 3,000/4,000-gallon horizontal ASTs formerly used to contain water pumped from the water well located in this same area on the east-southeast side of the Subject Property (Figure 6). The water well is not being used and according to Marty Gerace, the well should be abandoned by the current owner. He provided the contact's name as Billy Halux, Greek Metropolis of Colorado, 303-550-1211. Adjacent to these ASTs to the north is a former 1,000-gallon horizontal gasoline AST and dispenser which is not used.

In this same area on the east-southeast, there are 55-gallon containers of boiler cleaner, hydrogen peroxide, isopropyl alcohol, hydraulic oil, #2 grease, phosphoric acid, 15W-40 motor oil; used batteries stored on a pallet, used tires, a portable 250-gallon fuel AST with dispenser hose with possible soil staining, and numerous 5-gallon buckets of Redusol (greenhouse shading), Aqua-Tab water purifier, among others (Figure 5). There are also several storage containers in this area.

There are at least three septic and leach systems located on the Subject Property (Figure 5). Two are currently in use in the greenhouse areas and one is no longer used and was part of the office bathroom system. That system is now connected to City of Arvada sewer. Mr. Nick Gerace noted that there could be other septic systems that he does not know about as the greenhouse operations have expanded from south to north over time.

The boilers are heated using natural gas transported to the Subject Property by underground pipeline. The main pipeline entry to the boiler room is exposed on the east-southeast side of the Subject Property. The boiler room is located on the east side of the Subject Property and includes 3-4 boilers and a 12,000 gallon vertical water AST. Water is supplied by the City of Arvada.

The machinery and vehicle maintenance room are located on the east side of the Subject Property. They do only simple vehicle maintenance such as engine oil changes and radiator flushes. Major engine work is subcontracted out. They do not have a parts washer.

There is a pad-mounted transformer near the front of the office area and three pole-mounted transformers located in the northeast area of the Subject Property. There is no evidence oil staining on the pad or soil; however, the support pole has been sprayed with creosote which has stained the soil adjacent to the pole. Note that after 1979, any polychlorinated biphenyl (PCB) dielectric oil used in transformers had to contain

less than 50 parts per million of PCBs.

The exterior of the Subject Property has fencing, either constructed of wood, brick, or chain-link. Numerous old tractor trailers used for storage and miscellaneous material piles are located adjacent the fence line. The material piles consist of old metal and electrical parts.

There is a 500-gallon mobile waste oil AST in the north area of the Subject Property. There is evidence of spillage that has migrated to one of the stormwater drainage ditches.

Fire hydrants and underground water lines are present on the west side of the Subject Property. An additional fire hydrant is located near the entrance to the Subject Property.

7.0 VAPOR MIGRATION/INTRUSION

Based on the review summarized in this Phase I ESA, the potential for vapor intrusion at the Subject Property is considered low based on the Subject Property having limited fuel storage, limited soil staining, and that no adjacent or upgradient facilities were considered a concern.

8.0 FINDINGS

Baseline completed the required ASTM investigations with regard to the Subject Property. No significant data gaps were identified during this assessment.

RECs for the Subject Property were identified as follows:

The following RECs were identified:

- The storage, mixing, and use of large quantities of fertilizer, herbicides, and pesticides.
- The storage and use of motor oil, hydraulic oil, and water chemicals.
- The storage, use, and former use of diesel and gasoline ASTs.
- The use of waste oil and grease containers and ASTs.
- The evidence of past spills from the gasoline and diesel dispensers.
- The evidence of past spills from stored containers and waste oil AST.
- Surface drainage from the fertilizer, herbicides, and pesticide mixing areas.
- Historical use of septic systems,

No RECs were identified adjacent to or hydraulically upgradient from the Subject Property.

Other concerns identified not considered RECs per the ASTM Standard is the probable existence of ACM

insulation on piping throughout the greenhouses and the existence of the deep water well. As noted, Mr. Marty Gerace stated that they do not own the well and that the current owner is required to properly abandon the well.

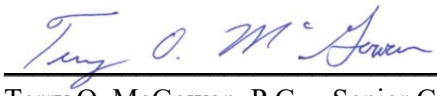
The Subject Property has a surface water retention system that includes ponds between several of the greenhouses. Over time, wetland grasses and cattails have grown in the retention ponds establishing what are considered wetlands. Any work in these areas, whether for modification or removal, will fall under the jurisdiction of the United States Army Corp of Engineers (USACOA). This work will have to be negotiated with the local USACOE administrator and off-setting wetland acreage must be arranged for prior to any disturbance to the wetland habitat.

9.0 CONCLUSIONS

Baseline has performed this Phase I ESA in conformance with the scope and limitations of the ASTM Standard Practice E1527-21 for Welby Gardens located at 17201 West 64th Avenue, Arvada, Colorado parcel number: 30-023-01-083. Any exceptions to, or deletions from, this practice and/or data gaps are described in Section 1.8 Limitations. This assessment has revealed eight RECs for the Subject Property and no adjacent or upgradient RECs as identified in Section 8.0.

10.0 PROFESSIONAL SIGNATURE

We declare that, to the best of our professional knowledge and belief, we meet the definition of an Environmental Professional as defined in § 312.10 of 40 C.F.R. § 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Subject Property. We have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312. This report has been prepared by the following qualified professionals (resumes provided in Appendix G):



Terry O. McGowan, P.G. – Senior Consultant
BASELINE ENGINEERING CORPORATION

Vincent E. Barlock, P.G. – Environmental Division Manager
BASELINE ENGINEERING CORPORATION

11.0 REFERENCES

American Society for Testing and Materials International (ASTM), 2021. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. Dated November 1, 2021. Approved by the Environmental Protection Agency on March 14, 2022.

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Colorado Department of Public Health and Environment (CDPHE), Hazardous Materials and Waste Management Division (HMWMD) 2024. Review of online records and email communications November 2024.

Colorado Department of Public Health and Environment (CDPHE), Water Quality Control Division (WQCD) 2024. Review of online records and email communications November 2024.

Colorado Storage Tank Information System (COSTIS), 2024. Review of the Oil and Public Safety Online Records. November 2024.

Colorado Division of Water Resources, 2024. Online Review of Water Well Permits. November 2024.

Environmental Data Resources (EDR), 2024a. The EDR Radius Map™ Report with GeoCheck®. Dated October 31, 2024.

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Environmental Data Resources (EDR), 2024c. The EDR Aerial Photo Decade Package. Dated October 31, 2024.

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Federal Emergency Management Agency (FEMA), 2014. Flood Insurance Rate Map. City of Arvada. Map Number 08059C0179F. Effective Date February 5, 2014.

Van Horn, Richard, 1972. Surficial and Bedrock Geologic Map of the Golden Quadrangle, Jefferson County, Colorado. U.S. Geological Survey, Folio of the Golden Quadrangle, Colorado Map I-761-A.

TABLES

TABLE 1

SUMMARY OF REGULATORY DATABASES
WELBY GARDENS
17201 WEST 64TH AVENUE
ARVADA, COLORADO

Database	Description	Radius (miles)	No. of Listings
ASTM Federal Databases			
NPL	The National Priorities List (NPL) is the Environmental Protection Agency's (EPA's) database of uncontrolled or abandoned hazardous waste facilities that have been listed for priority remedial actions under the Superfund Program. This includes the EPA's database of sites that have been proposed for listing on the NPL through issuance of a proposed rule in the Federal Register.	1.0	0
NPL-Delisted	Sites that have been deleted from the NPL by the EPA using the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) criteria where no further response is appropriate.	1.0	0
SEMS	SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list contains data on potentially hazardous waste sites that have been reported to the EPA by states, municipalities, private companies, and private persons, pursuant to Section 103 of CERCLA. This dataset also contains sites which are either proposed to or on the NPL and the sites which are in the screening and assessment phase for possible inclusion on the NPL.	0.5	1
SEMS ARCHIVE	SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. These are archived sites that have been removed from the inventory of CERCLIS listings. Archived status indicates that assessment has been completed and the EPA has determined that the location is not judged to be a potential NPL site; however, this classification does not necessarily mean that there is no hazard associated with the site.	0.5	0
RCRA CORRACTS	CORRACTS is an EPA list of Resource, Conservation, and Recovery Act (RCRA) permitted facilities that are undergoing corrective actions to remediate release of hazardous waste or constituents into the environment.	1.0	1

TABLE 1 (Continued)

SUMMARY OF REGULATORY DATABASES
WELBY GARDENS
17201 WEST 64TH AVENUE
ARVADA, COLORADO

Database	Description	Radius (miles)	No. of Listings
RCRA NON-CORRACTS RCRA TSDF	RCRAInfo is EPA's comprehensive information system for RCRA. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the RCRA. Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.	0.5	1
RCRA LQG	The RCRAInfo database identifies facilities that generate hazardous waste. Large quantity generators (LQG) produce at least 1,000 kg/month of hazardous waste or 1 kg/ month of acutely hazardous waste.	0.250	0
RCRA SQG	The RCRAInfo database identifies facilities that generate hazardous waste. Small quantity generators (SQG) produce 100 to 1,000 kg/month of hazardous waste.	0.250	0
RCRA VSQG	Formerly conditionally exempt small quantity generators (CESQG); now very small quantity generators (VSQG). The RCRAInfo database identifies facilities that generate hazardous waste. RCRA VSQG generate less than 100 kg/month of hazardous waste.	0.250	1
LUCIS	EDR searches the Land Use Control Information System (LUCIS) which contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties, the Engineering Controls Sites List, and the list of Sites with Institutional Controls.	0.5	0
US ENG CONTROLS	Engineering Controls Sites List - A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.	0.5	0
US INST CONTROL	Sites with Institutional Controls - A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.	0.5	0

TABLE 1 (Continued)

SUMMARY OF REGULATORY DATABASES
WELBY GARDENS
17201 WEST 64TH AVENUE
ARVADA, COLORADO

Database	Description	Radius (miles)	No. of Listings
ERNS	Emergency Response Notification System (ERNS) is a database of reported releases of oil and hazardous substances as reported by the United States Coast-Guard, National Response Center.	Target Property	0
ASTM State and Tribal Databases			
SHWF	A listing from the state Solid Waste Information System, which is used to help administer the various programs of the solid waste and materials management program. It includes a wide variety of types of facilities and sites, and includes information obtained over several decades and numerous legacy data systems.	0.5	1
LAST	A listing of Leaking Aboveground Storage Tank (LAST) records containing an inventory of reported releases from aboveground storage tanks (ASTs) in Colorado as reported by the Department of Labor and Employment, Oil Inspection Section. This includes LAST TRUST listings, which reimburses eligible applicants for costs incurred in remediating petroleum contamination from Petroleum ASTs.	0.5	0
LUST	A listing of Leaking Underground Storage Tank (LUST) records containing and inventory of reported releases from underground storage tanks (USTs) in Colorado as reported by the Department of Labor and Employment, Oil Inspection Section. For Tribal lands, EPA Region 8 maintains the LUST list.	0.5	0
LUST TRUST	LUST TRUST listings - Colorado Department of Labor and Employment, Oil Inspection Section program that reimburses eligible applicants for costs incurred in remediating petroleum contamination from petroleum USTs. These are typically also listed under LUST.	0.5	0
LTANKS	Petroleum Release Events Listing - Active and Closed Petroleum Release Events maintained by the Colorado Department of Labor and Employment, Oil Inspection Section. Includes Open Event locations, but also shows locations of closed events (releases that have been issued a No Further Action determination).	0.5	0
UST	A listing of USTs registered in Colorado as reported by the Department of Labor and Employment, Oil Inspection Section. For Tribal lands, EPA Region 8 maintains the UST list.	0.25	0

TABLE 1 (Continued)

SUMMARY OF REGULATORY DATABASES
WELBY GARDENS
17201 WEST 64TH AVENUE
ARVADA, COLORADO

Database	Description	Radius (miles)	No. of Listings
AST	A listing of AST in Colorado as reported by the Department of Labor and Employment, Oil Inspection Section. For Tribal lands, EPA Region 8 maintains the AST list.	0.25	0
VCP	Voluntary Cleanup and Redevelopment (VCP) listings identify sites that owners have submitted either a Voluntary Cleanup Plan (VCUP) or a request for a No-Action Determination (NAD) for CDPHE approval. The State's remediation decisions are based on existing standards and the proposed use of the property.	0.5	0
Other Common Database Listings (non-ASTM)			
U.S. Brownfields	The EPA's database that collects, tracks, and updates information pertaining to the various Brownfields grant programs. The Brownfields Management System (BMS) provides assessment, cleanup, and redevelopment information as it relates to "areas served/jurisdictions, grants and properties".	0.5	0
RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated - RCRAInfo is EPA's comprehensive information system, providing access to RCRA/HSWA data. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste. Non-Generators do not presently generate hazardous waste.	0.25	2
FUDS	Formerly Used Defense Sites (FUDS). The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.	1.0	0
FINDS	Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. E	Target Property	1
ECHO	Enforcement & Compliance History Information (ECHO) provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.	Target Property	0

TABLE 1 (Continued)

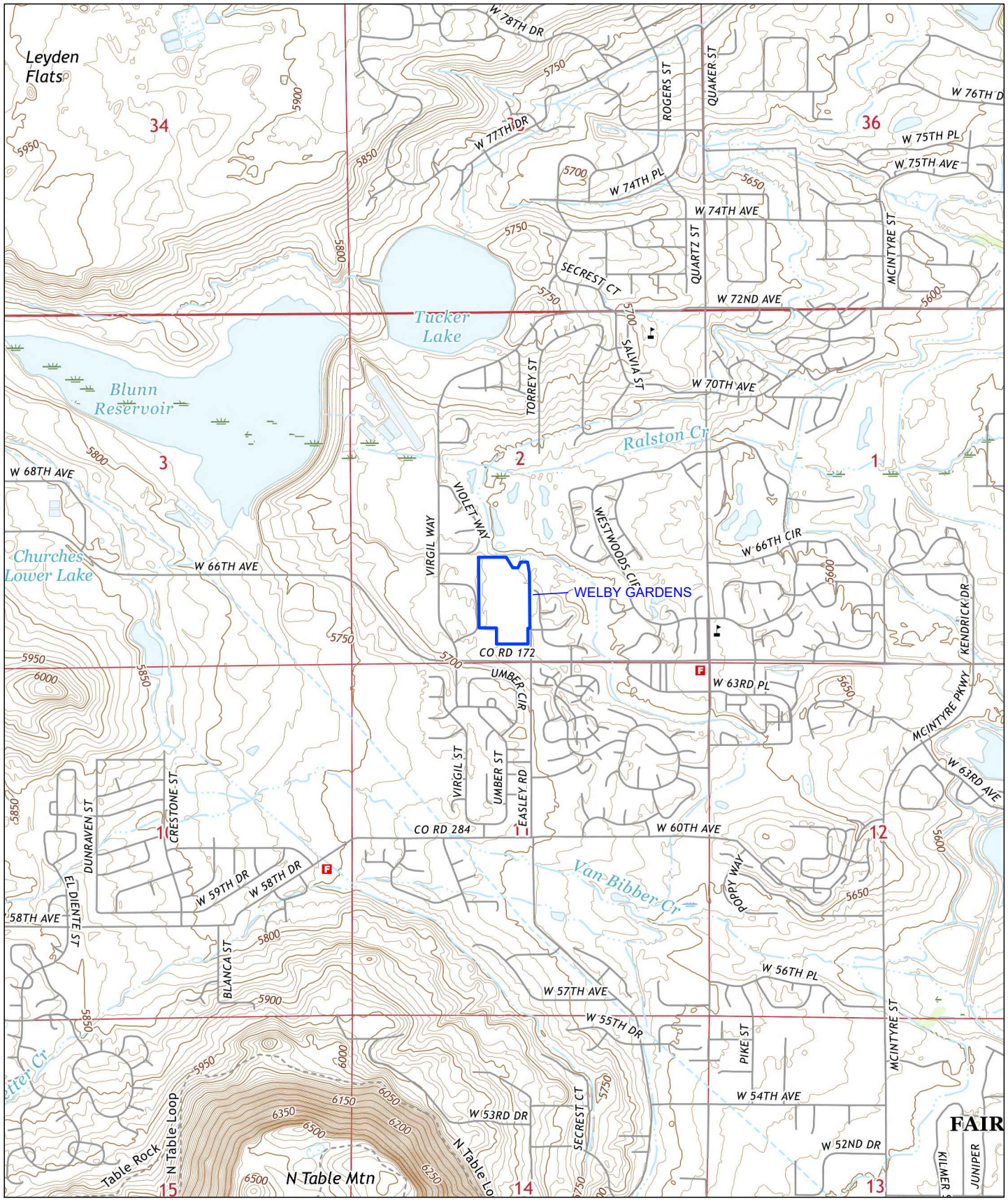
SUMMARY OF REGULATORY DATABASES
WELBY GARDENS
17201 WEST 64TH AVENUE
ARVADA, COLORADO

Database	Description	Radius (miles)	No. of Listings
AQUEOUS FOAM	Class B foams put out fires caused by flammable liquids like gasoline, oil, and jet fuel. They may contain PFAS chemicals. Anyone using or storing Class B firefighting foam containing these chemicals must register through the Certificate of Registration Program.	0.25	0
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act) FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act).	TP	2
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing. Thie list may include records that may not be included in the newer FTTS database updates.	TP	2
NPDES	US National Pollutant Discharge Elimination System (NPDES). Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit.	TP	0
EDR High Risk Historical Records (non-ASTM) - Search Distance Selected By EDR			
EDR Hist Auto	EDR Exclusive Historic Gas Stations - EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. This database presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns but may not show up in current government records searches.	0.125	0
EDR Hist Cleaner	EDR Exclusive Historic Dry Cleaners - EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. This database presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns but may not show up in current government records searches.	0.125	0

Notes:

- This is not a comprehensive list of database sources. Refer to the Environmental Data Resources (EDR) Radius Map report for a comprehensive list of sources. All sources with "listings" are included in this summary table

FIGURES



Source:USGS Golden 7.5 Minute Quadrangle

FIGURE 1

VICINITY MAP

BASELINE

112 N. Rubey Drive, Suite 210
Golden, CO 80403

COLORADO

QUADRANGLE LOCATION

N

0 1000 2000

SCALE IN FEET

PROJECT:	45033.02
DATE:	12/13/2024
DRAWN:	J.G.M.
CHECKED:	T.O.M.

Avalon Welby Gardens Development
17201 W 64th Ave
Arvada, Colorado 80007

D:\00SRV\Mclients\Baseline\Welby Gardens\Welby Gardens Site-Loc.dwg 12/16/2024

D:\00SRV\MC\CLIENTS\Baseline\Welby Gardens\Welby-Gardens-Site-Surround.dwg 12/20/2024

BASELINE
Engineering · Planning · Surveying

112 N. Rubey Drive, Suite 210
Golden, CO 80403

LEGEND

Property Boundary

N

0 50 100

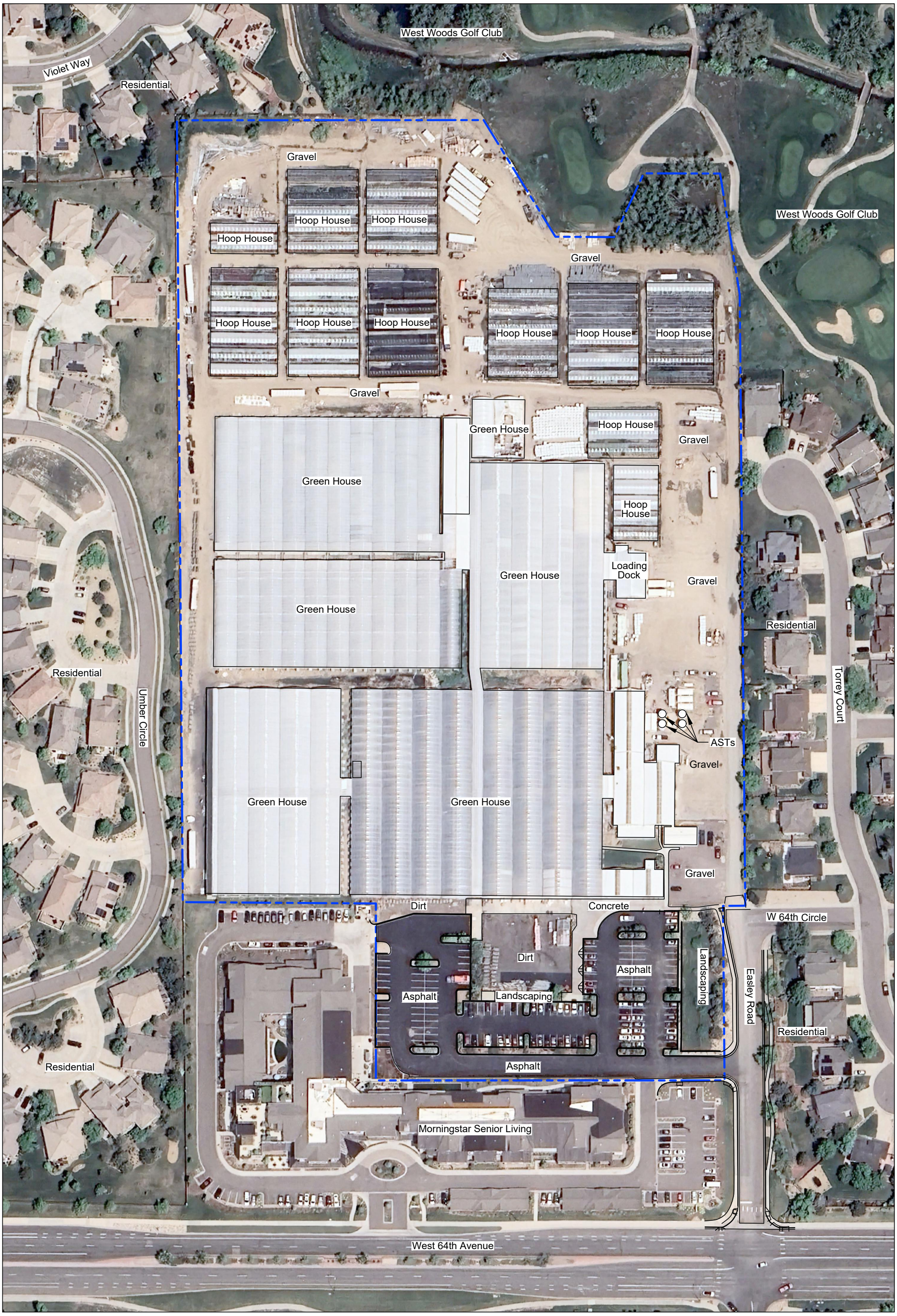
SCALE IN FEET

PROJECT:	45033.02
DATE:	12/20/2024
DRAWN:	J.G.M.
CHECKED:	T.O.M.

FIGURE 2

Facility Map

AvalonBay Welby Gardens Development
17201 W 64th Ave
Arvada, Colorado 80007



D:\00SRV\MCLIENTS\Baseline\Welby Gardens\Welby-Gardens-Site-Surround.dwg 12/20/2024

BASELINE
Engineering · Planning · Surveying

112 N. Rubey Drive, Suite 210
Golden, CO 80403

LEGEND

Property Boundary

N

0 60 120

SCALE IN FEET

PROJECT: 45033.02
DATE: 12/20/2024
DRAWN: J.G.M.
CHECKED: T.O.M.

FIGURE 3

Adjacent Facilities Map

AvalonBay Welby Gardens Development
17201 W 64th Ave
Arvada, Colorado 80007

0 - 6' Non-native fill material
6' - 19' Sandstone bedrock
19' - 35' Claystone bedrock
Groundwater Not Detected

4

Gravel

Hoop House

Hoop House

Hoop House

Hoop House

Hoop House

Hoop House

Hoop House

Hoop House

Hoop House

Hoop House

Gravel

3

Gravel

0 - 6' Non-native fill material
6' - 25' Sandstone bedrock
Groundwater 8' After Drilling

Green House

Green House

Hoop House

1

Gravel

0 - 6' Non-native fill material
6' -15' Sandstone bedrock
Groundwater 13' After Drilling

Hoop House

5

Green House

Loading Dock

Gravel

Green House

0 - 6' Non-native fill material
6' - 35' Sandstone bedrock
Groundwater Not Detected

Umber Circle

ASTs

Gravel

Green House

Green House

0 - 7' Non-native fill material
7' - 12' Sandstone bedrock
12' - 35' Claystone bedrock
Groundwater Not Detected

Gravel

2

W 64th Circle

Dirt

Concrete

Dirt

Asphalt

Landscaping

Asphalt

Landscaping

Easley Road

Asphalt

D:\00SRV\Mclients\Baseline\Welby Gardens\Welby-Gardens-Boring-Locs.dwg 12/23/2024

BASELINE
Engineering · Planning · Surveying

112 N. Rubey Drive, Suite 210
Golden, CO 80403

LEGEND

Property Boundary
Approximate Soil Boring Location

NOTE: Soil borings installed by Cole Garner Geotechnical (2024)

N

0 50 100

SCALE IN FEET

PROJECT: 45033.02
DATE: 12/20/2024
DRAWN: J.G.M.
CHECKED: T.O.M.

FIGURE 4

Soil Boring Location Map

AvalonBay Welby Gardens Development
17201 W 64th Ave
Arvada, Colorado 80007

D:\00SRV\Mclients\Baseline\Welby Gardens\Welby-Gardens-Site-Observation.dwg 12/23/2024

BASELINE
Engineering · Planning · Surveying

112 N. Rubey Drive, Suite 210
Golden, CO 80403

LEGEND

- Property Boundary
- Underground Drainage Piping (not all lines are shown)
- Drainage Ditch
- >

N

0 50 100

SCALE IN FEET

PROJECT:	45033.02
DATE:	12/20/2024
DRAWN:	J.G.M.
CHECKED:	T.O.M.

FIGURE 5

Facility Reconnaissance Observations

AvalonBay Welby Gardens Development
17201 W 64th Ave
Arvada, Colorado 80007

LEGEND

Property Boundary

N

0 10 10

SCALE IN FEET

PROJECT: 45033.02
DATE: 12/20/2024
DRAWN: J.G.M.
CHECKED: T.O.M.

FIGURE 6

Facility Reconnaissance Observations AST Details

AvalonBay Welby Gardens Development
17201 W 64th Ave
Arvada, Colorado 80007

BASELINE
Engineering · Planning · Surveying

112 N. Rubey Drive, Suite 210
Golden, CO 80403

D:\00SRV\Mclients\Baseline\Welby Gardens\Welby-Gardens-Site-Observation.dwg 12/23/2024

APPENDICES

Appendices are included in electronic format due to the volume of material contained in the appendices. Appendices included are:

Appendix A - Jefferson County Assessor Records

Appendix B - Records, Communications, and Interviews

Appendix C - FEMA Flood Insurance Rate Map

Appendix D - Environmental Data Resources (EDR) Reports

Appendix E - Water Well Information

Appendix F - Site Photographs

Appendix G - Resumes of Environmental Professionals

APPENDICES

APPENDIX A

Jefferson County Assessor Records

Property Information

Property Information | Sales | History

Property Information

Help

PIN/Schedule
300215734
Owners
WELBY GARDENS CO LLC

AIN/Parcel ID
30-023-01-083
Property Address
17201 W 64TH AVE
ARVADA, CO 80007

Address and Political
Address Information

Property Class
4280 All Other Agricultural
Mailing Address
17201 W 64TH AVE
ARVADA, CO 80007

Legal Description

Help

Subdivision
774355 VELDKAMP MINOR SUB 1ST AMD
Parcel Map
Map

Interactive Map
Aspin
Interactive Map
jMap

Block	Lot	Tract	Section	Township	Range	QSection	Land SQFT	Land Acres
	0001		02	03	70	SW	762,518	17.505
	0002		02	03	70		110,817	2.544

CAUTION: The above legal description is incomplete and for internal purposes only. DO NOT USE THE ABOVE LEGAL DESCRIPTION FOR DEEDS and other legal conveyances.

Sale History

Help

Sale Date	Sale Amount	Deed Type	Doc/Instr#
11/1/2013	$4,526,700	Special Warranty Deed	2013131219

Property Valuation

S FIND COMPARABLE SALES

Help

******The 2023 payable 2024 property valuation shown for your property reflects an adjustment enacted by the Legislature to reduce your property taxes. Commercial properties were reduced in value by $30,000, and residential properties were reduced by $55,000. This reduction is in effect for one year only. For additional information regarding the legislative change click here.******
Mass Appraisal Valuation Explanation

Tax Year	Actual Land Value	Actual Imp Value	Actual Total Value	Assessed Land Value	Assessed Imp Value	Assessed Total Value	Notice of Valuation
2024 payable 2025	$1,310,001	$370,999	$1,681,000	$365,490	$103,509	$468,999	
2023 payable 2024	$1,310,001	$370,999	$1,681,000	$365,490	$103,509	$468,999	View Notice

Mill Levy Information

Help

Treasurer Tax Information

Tax Year	TAG	Authority	Mill Levy
2024 payable 2025	1022	APEX PARK & REC DIST ARVADA ARVADA FIRE DIST COUNTY REGIONAL TRANSPORTATION DIST SCHOOL URBAN DRAINAGE&FLOOD C SO PLAT URBAN DRAINAGE&FLOOD CONT DIST **Total Mill Levy**	TBD TBD TBD TBD TBD TBD TBD TBD **TBD**
2023 payable 2024	1022	APEX PARK & REC DIST ARVADA ARVADA FIRE DIST COUNTY REGIONAL TRANSPORTATION DIST SCHOOL URBAN DRAINAGE&FLOOD C SO PLAT URBAN DRAINAGE&FLOOD CONT DIST **Total Mill Levy**	4.4540 4.3100 15.7280 26.9780 0.0000 44.5260 0.1000 0.9000 **96.9960**

Property Inventory

Help

Neighborhood
740 AGRIBUSINESS

Market Area
10 CommrMA: North Jeffco

Land

Help

Land Use	State Tax Class	Size	Unit Type	Land Contributor	Contributor Category
Ag Business/2 9.00-999	4180	873,334	Square Foot		

Improvements

Help

	Impr#	Property Type	Design	Construction Class	Quality	Year Built	Adj Year	Remd Year
Select	1-1	704 Agri-Business	406 Storage Warehouse	S: Metal Frame w/ Metal Siding	Average	1990	1991	
Select	2-1	704 Agri-Business	136 Greenhouse, Straight-wall	S: Metal Frame w/ Metal Siding	Average	1970	1970	
Select	3-1	704 Agri-Business	136 Greenhouse, Straight-wall	S: Metal Frame w/ Metal Siding	Average	1986	1986	
Select	4-1	704 Agri-Business	136 Greenhouse, Straight-wall	S: Metal Frame w/ Metal Siding	Average	1976	1976	
Select	5-1	704 Agri-Business	136 Greenhouse, Straight-wall	S: Metal Frame w/ Metal Siding	Average	1977	1977	
Select	6-1	704 Agri-Business	136 Greenhouse, Straight-wall	S: Metal Frame w/ Metal Siding	Average	1977	1977	
Select	7-1	704 Agri-Business	471 Utility Building, Light Commercial	D: Wood or Steel Studs Frame	Fair	1977	1977	
Select	8-1	704 Agri-Business	471 Utility Building, Light Commercial	S: Metal Frame w/ Metal Siding	Average	1991	1991	
Select	9-1	704 Agri-Business	406 Storage Warehouse	S: Metal Frame w/ Metal Siding	Average	1990	1990	

Impr#	Sub-Areas	Area-SQFT
1-1	Gross Building Area	12684

Impr#	Structural Elements by Unit	# Units
1-1	Marshall Swift Quality Rank	2
1-1	Nbr of Dwelling Units	1
1-1	Stories	1

Impr#	Structural Elements by Unit	# Units
1-1	Story Height	12

Impr#	Structural Elements by SQFT	Description	Area-SQFT
1-1	Rentable Area %	Net Rentable Area % (AG)	12,684
1-1	HVAC Systems	None	0

Extra Features

Help

Description	State Tax Class	Quality	Year Built	SQFT/Units	Quantity
Yard Imprs - Paving, Asphalt	4280	Average	2004	65,800	1
Yard Imprs - Paving, Concrete	4280	Average	2004	5,433	1

©2024 Assessor Property Records Search – Jefferson County, CO

Property Recs

Property Report For:

17201 W 64TH AVE
Arvada, CO
80007

Prepared On:
November 4, 2024

Report Link

YOU MAY NOT USE OUR SERVICE OR THE INFORMATION IT PROVIDES TO MAKE DECISIONS ABOUT CONSUMER CREDIT, EMPLOYMENT, INSURANCE OR TENANT SCREENING. BECAUSE ERRORS CAN OCCUR WITH ANY DATA SOURCES, WE CANNOT GUARANTEE THE ACCURACY OF THE DATA WE PROVIDE.

17201 W 64th Ave

Arvada CO 80007 (Jefferson County)

ESTIMATED VALUE

$1.68M

Built in 1990 • Agriculture / Farming • 12,684 sq. ft. Living Area

Satellite View & Map

Owners & Residents

MOST RECENT OWNER OR RESIDENT

Gary Lynn Butters
62 Years Old
DATES AT LOCATION: 06/29/2000 to 10/30/2024

MOST RECENT OWNER OR RESIDENT

Stephen Little
DATES AT LOCATION: 02/14/2019 to 10/30/2024

MOST RECENT OWNER OR RESIDENT

Isabel Calzada
DATES AT LOCATION: 08/01/1998 to 10/30/2024

MOST RECENT OWNER OR RESIDENT

Thomas J Currey
DATES AT LOCATION: 02/01/1997 to 10/30/2024

MOST RECENT OWNER OR RESIDENT

De Vital Ramirez
DATES AT LOCATION: 12/01/1998 to 10/30/2024

MOST RECENT OWNER OR RESIDENT

Maria D Ramirezdevital
DATES AT LOCATION: 06/01/2000 to 10/30/2024

MOST RECENT OWNER OR RESIDENT

Laura L Mooneyham
DATES AT LOCATION: 08/01/1993 to 10/30/2024

Marty J Gerace
59 Years Old
DATES AT LOCATION: 12/24/2019

Mark D Gerace
61 Years Old
DATES AT LOCATION: 12/14/2019

Stephen John Little
66 Years Old
DATES AT LOCATION: 02/01/2002 to 11/13/2019

Brent Alan Ragsdale
58 Years Old
DATES AT LOCATION: 07/23/2001 to 02/05/2014

Graciela Delrio
50 Years Old
DATES AT LOCATION: 11/01/2000 to 03/17/2005

Noe Delrio
48 Years Old
DATES AT LOCATION: 05/01/2000 to 02/22/2005

Maria Guadalupe Vital
39 Years Old
DATES AT LOCATION: 11/01/1997 to 11/15/2003

Martin Garcia
58 Years Old
DATES AT LOCATION: 04/01/1991 to 01/24/2003

Michael Dean Girten
70 Years Old
DATES AT LOCATION: 02/27/1995 to 01/24/2003

Susan Jeute Tisdale
64 Years Old
DATES AT LOCATION: 11/05/1994 to 01/24/2003

Fred W Grant
69 Years Old
DATES AT LOCATION: 06/23/1995 to 01/24/2003

Elizabeth Ann Grant
63 Years Old
DATES AT LOCATION: 10/24/1995 to 01/24/2003

Jose Luis Mendez
54 Years Old
DATES AT LOCATION: 01/01/1994 to 01/24/2003

Brent Lydell Mooneyham
66 Years Old
DATES AT LOCATION: 01/24/2003

Gracialo Sotalo
50 Years Old
DATES AT LOCATION: 11/01/2000 to 01/24/2003

J R Vitalreina
DATES AT LOCATION: 11/01/1997 to 01/24/2003

Joseph J Demars
48 Years Old (Deceased 2003)
DATES AT LOCATION: 12/01/2001 to 07/01/2002

William J Lavrinc
53 Years Old
DATES AT LOCATION: 03/08/2001 to 11/01/2001

Salomon Guzman
27 Years Old
DATES AT LOCATION: 01/04/2001

Graciela Delrio Sotelo
DATES AT LOCATION: 11/01/2000

Jose Rogelio Vital
62 Years Old
DATES AT LOCATION: 11/01/1997 to 06/01/2000

Juan Hose Ornelas
49 Years Old
DATES AT LOCATION: 08/03/1999

Jose M Vital
61 Years Old
DATES AT LOCATION: 11/11/1997

Donald J Arnold

46 Years Old (Deceased 2003)

DATES AT LOCATION: 08/01/1986 to 02/01/1989

Ownership Timeline

2013 - Present

Welby Gardens Co Llc

DATE OF PURCHASE
November 2013

PURCHASE PRICE
$4,526,650

N/A - 2013

Veldkamps Real Estate Inc

Property Details

Overall Attributes

TOTAL SQUARE FOOTAGE:
324,175 sq. ft.

NUMBER OF UNITS: 1

YEAR BUILT: 1990

Interior Dimensions

TOTAL FINISHED AREAS: 324,175 sq. ft.

Other

AIR CONDITIONING TYPE: Evaporative

EXTERIOR WALL TYPE: Metal

HEATING: None

FIRE SPRINKLERS: No

LEGAL DESCRIPTION:
1, VELDKAMP MINOR 1ST AMENDMENT, 02 03 70, VELDKAMP 01 AMD, VELDKAMP MINOR 01 AMD

Lot Information

Overview

LEGAL DESCRIPTION
1VELDKAMP MINOR 1ST AMENDMEN T02 03 701VELDKAMP 01 AMD02 03 701VELDKAMP 01 AMD02 03 701VEL DKAMP MINOR 01 AMD02 03 701VEL DKAMP MINOR 01 AMD02 03 70102 03 70

LAND USE CODE
Agricultural/Rural (General)

COUNTY LAND USE CODE
08059

COUNTY
Jefferson

SUBDIVISION NAME
Veldkamp Minor 1st Amendment

TYPE OF DEED
Grant Deed

COORDINATES
39.815222, -105.194675

LAND SQFT
873,334 sq. ft.

LAND ACRES
20.05 acres

NUMBER OF BUILDINGS
2

ASSESSED YEAR
2023

ASSESSED VALUE
$468,999

LAND VALUE
$365,490

IMPROVEMENTS VALUE
$103,509

PARCEL NUMBER
30-023-01-083

TRACT NAME
Census Tract 98.38

GEOID
08059009838

QUALIFIED GEOID
1400000US08059009838

Businesses At This Address

Welby Gardens Company Inc

Corporation

FILE #
19871288826

FILING STATUS
19871288826

FILING STATE
CO

MANAGED BY
Mark D Gerace

FILING DATE
June 30, 1975

COMPANY AGE
49 Years, 4 Months

COMPANY CONTACTS

Mark D Gerace
17201 W 64th Ave Arvada, CO 80007

Welby Gardens LLC

Limited Liability Company

FILE #
20191829917

FILING STATUS
20191829917

FILING STATE
CO

MANAGED BY
Marty Gerace

FILING DATE
October 18, 2019

COMPANY AGE
5 Years

COMPANY CONTACTS

Marty Gerace

17201 West 64th Avenue Arvada, CO
80007

HOA Mechanical Liens

OWNER RECORD

PROPERTY DETAILS

PARCEL ID
508712

FIPS CODE
08059

DOCUMENT DETAILS

BATCH SEQUENCE #
372

BATCH DATE
06/13/2019

RECORDING DATE
08/20/2018

FILING DATE
08/20/2018

DOCUMENT #
76463

DOCUMENT TYPE
MR

LIEN INFORMATION

PLAINTIFF NAME
VILLAGOMEZ PEDRO

TAX ACCOUNT #
508712

Sex Offenders

Nearest Sex Offenders

William Alfred Peterson
White,Male
1.8 miles away

Incest/aggravated-relative under 10,
Sex assault/child/postrust-vict under 15

William J Hunsaker
White,Male
3.2 miles away

Sex assault/child,
Sex assault/child pattern of abuse f3

Ian Nicholas Dixon
White,Male
3.9 miles away

Sexual assault (includes 1st deg sex assault as it existed prior to 7/1/00)/att

---

Adrian Jr Sanchez
White,Male
4.3 miles away

Attempt sex assault/child vict less than 15 yoa

Schumannthomas R R Schurmann
White,Male
5.2 miles away

Sexual assault on a child

Ross Edward Maurer

White,Male

6 miles away

Sexual assault on a child

Deeds & Sales Records

November 01, 2013

Grant Deed

AGRICULTURE / FARMING • ARMS-LENGTH

SELLER

Veldkamps Real Estate Inc

BUYER

Welby Gardens Co Llc
2761 E 74th Ave Denver Co 802296617

LENDER DETAILS

TRANSACTION VALUE
$4,526,650

TAX
$453

MORTGAGE
$2,700,000

EQUITY
↑ $1,826,650

COUNTY RECORDS

APN #
30-023-01-083

DOCUMENT TYPE
Grant Deed

COUNTY
Jefferson

DOCUMENT #
0000131219

PURCHASE TYPE
Transfer

TITLE RECORDS

TRANSACTION ID
371020362

COMPANY
Land Title Guarantee

CODE
5661

LOT
1

MORTGAGES RECORDS

LENDER NAME
Veldkamp's Real Estate Inc

LENDER ADDRESS
9501 W Colfax Ave

DOCUMENT NUMBER
131220

BUYER RECORDS

VESTING CHANGES

April 03, 2008

Deed Of Trust

AGRICULTURE / FARMING • LINE OF CREDIT

BUYER

Veldkamps Real Estate Inc
9501 W Colfax Ave Lakewood Co 802153920

LENDER DETAILS

LENDER
Bank

MORTGAGE
$150,000

COUNTY RECORDS

APN #
30-023-01-083

DOCUMENT TYPE
Deed Of Trust

COUNTY
Jefferson

DOCUMENT #
0000036297

PURCHASE TYPE
Mortgage

TITLE RECORDS

TRANSACTION ID

235250654

LOT

1

MORTGAGES RECORDS

RATE TYPE

Adjustable Rate

LENDER NAME

Colorado Busn Bk

DOCUMENT NUMBER

0000036297

BUYER RECORDS

VESTING CHANGES

November 06, 2007

Loan Modification

AGRICULTURE / FARMING

BUYER

Veldkamps Real Estate Inc
9501 W Colfax Ave Lakewood Co 802153920

LENDER DETAILS

MORTGAGE

$569,093

COUNTY RECORDS

APN #

30-023-01-083

DOCUMENT TYPE

Loan Modification

COUNTY

Jefferson

DOCUMENT #

0000074585

PURCHASE TYPE

Mortgage

TITLE RECORDS

TRANSACTION ID

246246694

COMPANY

Attorney Only

CODE

5421

LOT

1

MORTGAGES RECORDS

LENDER NAME

Bernard M Jr Veldkamp

LENDER ADDRESS

12200 W 18th Dr

DOCUMENT NUMBER

0000074585

BUYER RECORDS

VESTING CHANGES

May 18, 2007

Deed Of Trust

AGRICULTURE / FARMING

BUYER

Veldkamps Real Estate Inc
9501 W Colfax Ave Lakewood Co 802153920

LENDER DETAILS

LENDER

Bank

MORTGAGE

$2,250,000

COUNTY RECORDS

APN #

30-023-01-083

DOCUMENT TYPE

Deed Of Trust

COUNTY

Jefferson

DOCUMENT #

0000063850

PURCHASE TYPE

Mortgage

TITLE RECORDS

TRANSACTION ID
220420757

COMPANY
Vanguard Title Company

CODE
21186

LOT
1

MORTGAGES RECORDS

RATE TYPE
Adjustable Rate

LENDER NAME
Colorado Busn Bk

LENDER ADDRESS
15710 W Colfax Ave Golden, CO

DOCUMENT NUMBER
0000063850

BUYER RECORDS

VESTING CHANGES

April 12, 2005

Deed Of Trust

AGRICULTURE / FARMING • LINE OF CREDIT

BUYER

Veldkamps Real Estate Inc
9501 W Colfax Ave Lakewood Co 802153920

LENDER DETAILS

MORTGAGE
$575,000

COUNTY RECORDS

APN #
30-023-01-083

DOCUMENT TYPE
Deed Of Trust

COUNTY
Jefferson

DOCUMENT #
0000012932

PURCHASE TYPE
Mortgage

TITLE RECORDS

TRANSACTION ID
156743312

LOT
1

MORTGAGES RECORDS

RATE TYPE

Adjustable Rate

LENDER NAME

Wells Fargo Bk/tx

LENDER ADDRESS

Denver, CO

DOCUMENT NUMBER

0000012932

BUYER RECORDS

VESTING CHANGES

February 24, 2005

Grant Deed

AGRICULTURE / FARMING

BUYER

Veldkamps Real Estate Inc

COUNTY RECORDS

APN #

30-023-01-083

DOCUMENT TYPE

Grant Deed

COUNTY

Jefferson

DOCUMENT #

00F2176756

PURCHASE TYPE

Transfer

TITLE RECORDS

TRANSACTION ID

261509119

LOT

1

BUYER RECORDS

VESTING CHANGES

Property Taxes

PROPERTY TAX
$45,491

TAX RATE
9.70%

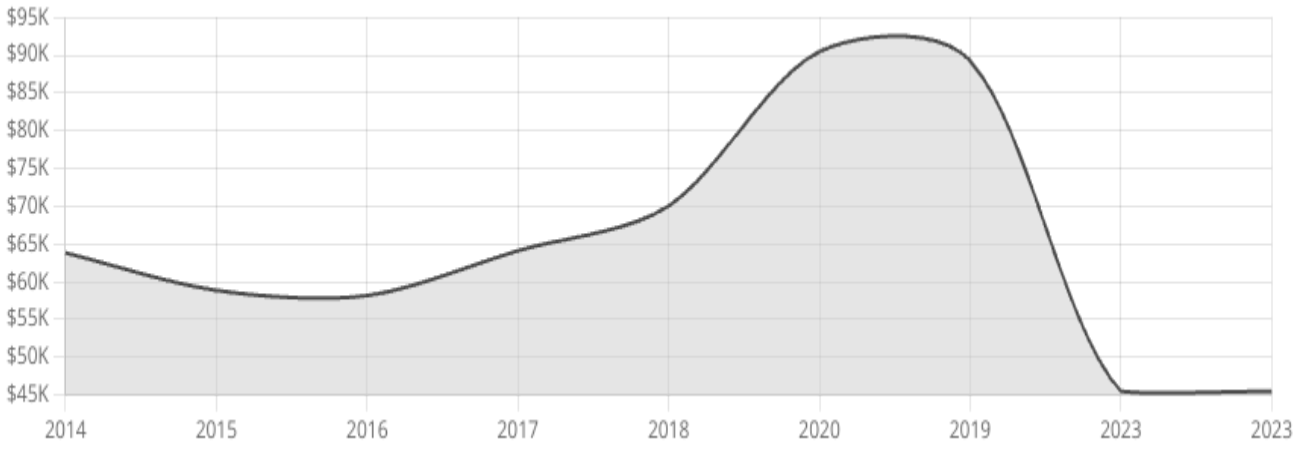
CHANGE FROM LAST YEAR
-49.0%

LAND VALUE
$365,490

IMPROVEMENT VALUE
$103,509

TOTAL VALUE
$468,999

Property Tax History



YEAR		PROPERTY TAX		CHANGE
2023		$45,491		-49.0%
LAND		ADDITIONS		ASSESSMENT
$365,490	+	$103,509	=	$468,999
YEAR		PROPERTY TAX		CHANGE
2020		$89,243		-1.3%

LAND		ADDITIONS		ASSESSMENT
$481,207	+	$456,245	=	$937,452

YEAR	PROPERTY TAX	CHANGE
2020	$90,463	**+29.2%**

LAND		ADDITIONS		ASSESSMENT
$481,207	+	$456,245	=	$937,452

YEAR	PROPERTY TAX	CHANGE
2019	$70,015	**+9.2%**

LAND		ADDITIONS		ASSESSMENT
$481,207	+	$456,245	=	$937,452

YEAR	PROPERTY TAX	CHANGE
2018	$64,094	**+10.2%**

LAND		ADDITIONS		ASSESSMENT
$325,596	+	$389,472	=	$715,068

YEAR	PROPERTY TAX	CHANGE
2017	$58,156	**-1.2%**

LAND		ADDITIONS		ASSESSMENT
$325,596	+	$389,472	=	$715,068

YEAR	PROPERTY TAX	CHANGE
2016	$58,842	**-7.8%**

LAND		ADDITIONS		ASSESSMENT
$325,670	+	$285,505	=	$611,175

YEAR	PROPERTY TAX	CHANGE
2015	$63,812	-

LAND		ADDITIONS		ASSESSMENT
$325,670	+	$285,505	=	$611,175

Building Permits

Permits Overview

TOTAL COST OF WORK

$352,251

NUMBER OF PERMITS

20

UNIQUE CONTRACTORS

15

DRY UTILITY

2 PERMITS Total Work: $36,899

COMMERCIAL

6 PERMITS Total Work: $211,871

POST CONSTRUCTION

1 PERMIT

RIGHT OF WAY

6 PERMITS

COMMISC

3 PERMITS Total Work: $5,750

SIGN

1 PERMIT

FENCE

1 PERMIT Total Work: $14,700

08/04/2020

Dry utility

CONTRACTOR
Mainline Construction LLC; Safety Zone Traffic Control LLC; Sefnco Communications INC

APPLICANT
Veldkamps Real Estate Inc
17201 W 64th Ave, Arvada, CO

JOB COST
$25,000

FEES
$2,895

STATUS
Expired

PERMIT #
ROW20-00502

DESCRIPTION
Bore 800' 24 potholes 2 soft surface bore pits -

23/03/2020

Commercial

CONTRACTOR
Kasco; Kenny Davis; Triax Engineering Vinod Ravindran; Weber Services & Construction

APPLICANT
Welby Gardens Co LLC

17201 W 64th Ave, Arvada, CO

JOB COST
$25,671

FEES
$1,248

STATUS
Expired

PERMIT #
COMM20-00009

DESCRIPTION
New boiler and rated room

06/09/2019

Dry utility

CONTRACTOR
Advanced Underground INC; Pauley Construction; Warning Lites INC OF Colorado

APPLICANT
Veldkamps Real Estate Inc
17201 W 64th Ave, Arvada, CO

JOB COST
$11,899

FEES
$1,894

STATUS

Expired

PERMIT #

ROW19-01156

DESCRIPTION

From mh bore to customer

22/07/2017

Post construction

APPLICANT

Welby Gardens Co LLC

17201 W 64th Ave, Arvada, CO

STATUS

Issued

PERMIT #

PCBMP17-00106

DESCRIPTION

Welby gardens

09/09/2014

Right of way

CONTRACTOR

Diamond Contracting Corp

FEES
$50

STATUS
Final

PERMIT #
03-0959

09/09/2014

Right of way

CONTRACTOR
Waterworks Sales CO A Hughes

FEES
$50

STATUS
Final

PERMIT #
04-0239

09/09/2014

Right of way

CONTRACTOR
Colorado Asphalt Services INC

FEES
$50

STATUS
Final

PERMIT #
03-1035

09/09/2014

Right of way

CONTRACTOR
Diamond Excavating INC

FEES
$909

STATUS
Final

PERMIT #
04-0199

09/09/2014

Right of way

CONTRACTOR
Diamond Contracting Corp

FEES
$100

STATUS
Final

PERMIT #
03-1031

09/09/2014

Right of way

CONTRACTOR
A Fast Patch INC

FEES
$50

STATUS
Final

PERMIT #
04-0198

15/04/2005

Commisc

APPLICANT
Al Gerace/Welby Gardens
17201 W 64th Ave, Arvada, CO

JOB COST
$2,800

FEES
$128

STATUS
Final

PERMIT #
E04-0098

DESCRIPTION
Wire parking lot lights poles

13/10/2004

Commercial

APPLICANT
Welby Gardens
17201 W 64th Ave, Arvada, CO

JOB COST
$65,000

FEES
$2,478

STATUS
Final

PERMIT #
C04-0069

DESCRIPTION

Convert portion of greenhouse to retail space in accordance

23/04/2004

Commercial

CONTRACTOR
Parker Plumbing & Heating INC; Woodward Electrical Serv INC

APPLICANT
Welby Gardens
17201 W 64th Ave, Arvada, CO

JOB COST
$21,000

FEES
$68,657

STATUS
Final

PERMIT #
C04-0055

DESCRIPTION
144sf addition for uni-sex accessible bathroom -

16/04/2004

Commisc

APPLICANT

Welby Gardens
17201 W 64th Ave, Arvada, CO

JOB COST
$2,800

FEES
$128

STATUS
Final

PERMIT #
E04-0118

DESCRIPTION
Installing electrical outlets and exits interior

14/04/2004

Sign

CONTRACTOR
ARENS ELECTRIC INC

APPLICANT
DAVID GREINER
17201 W 64th Ave, Arvada, CO

FEES
$110

STATUS
Issued

PERMIT #

S04-0039

DESCRIPTION
Wall single face alum & vinyl illum sign

12/04/2004

Commercial

CONTRACTOR
CODE FIRE LLC

APPLICANT
Welby Gardens
17201 W 64th Ave, Arvada, CO

JOB COST
$29,000

FEES
$1,114

STATUS
Issued

PERMIT #
F04-0019

DESCRIPTION
Fire sprinkler for welby gardens

12/04/2004

Commercial

CONTRACTOR
Metroplex Control Systems Inc

APPLICANT
Welby Gardens
17201 W 64th Ave, Arvada, CO

JOB COST
$8,200

FEES
$382

STATUS
Issued

PERMIT #
F04-0025

DESCRIPTION
Fire alarm system for welby gardens

31/03/2004

Fence

CONTRACTOR
Bryan Miller Co Inc

APPLICANT
Welby Gardens
17201 W 64th Ave, Arvada, CO

JOB COST
$14,700

FEES
$487

STATUS
Final

PERMIT #
M04-0307

DESCRIPTION
Modular block 4 retaining wall 239 lf

12/07/2000

Commercial

APPLICANT
Veldkamps
17201 W 64th Ave, Arvada, CO

JOB COST
$63,000

FEES
$2,264

STATUS
Final

PERMIT #
C99-0165

DESCRIPTION

Building 15 small bent hoop greenhouses on engineered

08/07/1998

Commisc

CONTRACTOR
Choice Electric Corp

APPLICANT
Veldkamps
17201 W 64th Ave, Arvada, CO

JOB COST
$150

FEES
$37

STATUS
Issued

PERMIT #
E98-0203

DESCRIPTION
Temporary service for well pump. Well will be pumped for wa

Foreclosures

No Foreclosures found

APPENDIX B

Records, Communications, and Interviews

Terry McGowan

From: christina.moraga@state.co.us on behalf of cdphe_apcd_records - CDPHE, CDPHE <cdphe_apcd_records@state.co.us>
Sent: Thursday, November 14, 2024 11:09 AM
To: Terry McGowan
Subject: Re: Welby Gardens - 17201 West 64th Avenue, Arvada, Colorado 80007

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Hello,

The Air Pollution Control Division found the following:

Stationary Sources Program
17201 West 64th Avenue in Arvada, Colorado 80007: No records available.

Indoor Environmental Program
Welby Gardens: The asbestos/lead database did not have records responsive to this location. The presence or absence of a record is not an indicator of whether asbestos-containing materials or lead-based paint may or may not be present on the property.

17201 West 64th Avenue in Arvada, Colorado 80007: The asbestos/lead database did not have records responsive to this location. The presence or absence of a record is not an indicator of whether asbestos-containing materials or lead-based paint may or may not be present on the property.

Thank you,
Christina

Effective 1 July 2024 the rate for records requests is $41.37 per hour. Please see the Department's Open Records Policy

Records and Information Unit (RIU)
4300 Cherry Creek Drive South
Denver CO 80246
cdphe_apcd_records@state.co.us
303-692-3220
APCD Map Portal and OnBase Records Search Tool (MaPORS) - click here
Visit the Records web page
You can find the Public Access Viewer (PAV) here.
User guides for the PAV can be found here.

For Phase 1 requests, you will need to contact each Division individually.

Air: cdphe_apcd_records@state.co.us

Haz: cdphe_cora_hmwmd@state.co.us

Water: cdphe.wqrecordscenter@state.co.us

Records pertaining to underground storage tanks (UST) are held by the Office of Oil and Public Safety. https://www.colorado.gov/ops

You can check the status of your stationary source permit here: https://apcdweb.dphe.state.co.us/PermitStatus/

Locate data here: https://cdphe.colorado.gov/colorado-data-and-statistics

Are you curious about ground-level ozone in Colorado? Visit our ozone webpage to learn more.

Under the Colorado Open Records Act (CORA), all messages sent by or to me on this state-owned e-mail account may be subject to public disclosure. If you have received this message in error, please notify the sender by replying to this message and delete the email without disclosure.

On Tue, Nov 12, 2024 at 3:48 PM Terry McGowan <terry.mcgowan@baselinecorp.com> wrote:

> Good afternoon,
>
> Baseline is completing a Phase I Environmental Assessment for the Welby Gardens located at 17201 West 64th Avenue in Arvada, Colorado 80007. We have used the APCD online portal and searched for environmental information for this site; however, no documents were found. We would like to confirm that this is truly the case.
>
> Would you please confirm that there are no APCD environmental documents for this site.
>
> Thank you.
>
> BASELINE
>
> ESOP
>
> TOP WORK PLACES 2023
>
> **Terry O. McGowan, P. G.** | **Senior Geologist/Hydrogeologist**
>
> **Environmental Division**
>
> 303.940.9966 | 303-229-5496

112 N. Rubey Drive, #210, Golden, CO 80403

www.baselinecorp.com | Social Media

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and please delete the original message. Thank you.

Arvada Fire Protection District

Fire Marshal's Office
7903 Allison Way - Arvada, CO 80005
Main 303-424-3012 - Fax 303-432-7995
www.arvadafireco.gov

Address: Welby Gardens
17201 West 64TH Avenue
Arvada, CO, 80033

Date(s): Inspected: 12/14/2023 12:58:57 PM
Next Scheduled Reinspection: 1/18/2024

Inspection Type(s): Compliance High-Hazard

General Comments: *none*

Findings:

Insp. Result	Location	Code Set	Code
Open Violation	Fire alarm	2018 International Fire Code SECTION 901 GENERAL	901.4.1 - Required fire protection systems installed, repaired, operated, tested and maintained.

Inspection Comment:
DEFICIENCY: Fire alarm system is not functional.
ACTION REQUIRED: Restore fire alarm to operational OR have fire protection engineer submit documentation to AFPD that system is not required.

Insp. Result	Location	Code Set	Code
Open Violation	Sprinkler Riser	2018 International Fire Code SECTION 901 GENERAL	901.4.1 - Required fire protection systems installed, repaired, operated, tested and maintained.

Inspection Comment:
DEFICIENCY: Fire sprinkler system has Red tag on system from 12/2023 inspection.
ACTION REQUIRED: Have deficiencies corrected and system restored to functioning and in compliance OR have fi
protection engineer submit documentation stating that system is not required to AFPD.

Address: Welby Gardens
17201 West 64TH Avenue
Arvada, CO, 80033

Date(s): First Inspected: 1/5/2023 9:04:59 AM; Most recent re-inspected: 12/14/2023 12:56:03 PM

Inspection Type(s): Compliance High-Hazard

General Comments: Re-inspection #1:Open violations to be noted on 12/14/23 inspection.

Findings:

Insp. Result	Location	Code Set	Code
Violation (Cleared 12/14/2023)	Fire alarm	2018 International Fire Code SECTION 901 GENERAL	901.4.1 - Required fire protection systems installed, repaire operated, tested and maintained.

Inspection Comment:
DEFICIENCY: Fire alarm not operational
ACTION REQUIRED: Fire alarm must be made operational.

Note: Per Josh R., Sentinel Fire is in process of bringing alarm to operational, possibly requiring new fire alarm panel.

Address: Welby Gardens
17201 West 64TH Avenue
Arvada, CO, 80033

Date(s): First Inspected: 1/11/2022 9:56:44 AM; Most recent re-inspected: 1/5/2023 8:33:43 AM

Inspection Type(s): Compliance High-Hazard

General Comments: Re-inspection #1:Open violations will be noted on 1/5/23 compliance inspection

Findings:

Insp. Result	Location	Code Set	Code
Violation (Cleared 1/5/2023)	Fire alarm	2018 International Fire Code SECTION 901 GENERAL	901.6 - Fire protection systems - inspections, testing and maintenance.

Inspection Comment:
DEFICIENCY: The fire alarm system has been de-activated
ACTION REQUIRED: Decision is forth coming on whether system is required

---

Address: Welby Gardens
17201 West 64TH Avenue
Arvada, CO, 80033

Date(s): Inspected: 12/9/2020 9:57:39 AM

Inspection Type(s): Compliance High-Hazard

General Comments: *none*

Findings: *No Findings for this inspection.*

Address: Welby Gardens
17201 West 64TH Avenue
Arvada, CO, 80033

Date(s): Inspected: 12/19/2019 10:15:32 AM

Inspection Type(s): Compliance High-Hazard

General Comments: Base inspection:Occupant in process of moving retail out and another location in. Lot of electrical upgrades in process. Greenhouses mostly empty.

Findings: *No Findings for this inspection.*

Address: Welby Gardens
17201 West 64TH Avenue
Arvada, CO, 80033

Date(s): Inspected: 12/18/2018 11:05:14 AM

Inspection Type(s): Compliance High-Hazard

General Comments: *none*

Findings: *No Findings for this inspection.*

Address: Welby Gardens
17201 West 64TH Avenue
Arvada, CO, 80033

Date(s): First Inspected: 10/9/2017 1:14:50 PM; Most recent re-inspected: 11/8/2017 3:51:01 PM

Inspection Type(s): Complaint, Compliance High-Hazard

General Comments: *none*

Findings:

Insp. Result	Location	Code Set	Code
Violation (Cleared 11/8/2017)	Floor 1 Sprinkler Riser	2015 International Fire Code CHAPTER 9 - FIRE PROTECTION SYSTEMS	901.4.1 - Required fire protection systems installed repaired, operated, tested and maintained.

Inspection Comment:
DEFICIENCY: The fire sprinkler riser inspection tag is dated November of 2015.
ACTION REQUIRED: Fire sprinkler systems are required to be tested annually. Have the sprinkler system

inspected and provide a copy of the system inspection report to AFPD.

Violation (Cleared 11/8/2017)	Floor 1 Sprinkler Riser	2015 International Fire Code CHAPTER 9 - FIRE PROTECTION SYSTEMS	901.6.2 - Records of all system ITM required on premises for minimum of 3 years.

Inspection Comment:
DEFICIENCY: There are no current records of sprinkler inspections.
ACTION REQUIRED: After system is inspected in accordance with other violation keep records of inspections on-site.

Violation (Cleared 11/8/2017)	Floor 1 Sprinkler Riser	2015 International Fire Code CHAPTER 9 - FIRE PROTECTION SYSTEMS	901.1 - Other Chapter 9 Violations (Fire Protection Systems)

Inspection Comment:
DEFICIENCY: The required Hydraulic Design Placards on the riser are not completed.
ACTION REQUIRED: During inspection of system have fire protection company complete Hydraulic Design Placards for system.

Address: Welby Gardens
17201 West 64TH Avenue
Arvada, CO, 80033

Date(s): First Inspected: 12/21/2015 9:28:28 AM; Most recent re-inspected: 12/31/2015 6:59:23 AM

Inspection Type(s): Compliance High-Hazard

General Comments: *none*

Findings:

Insp. Result	Location	Code Set	Code
Violation (Cleared 12/31/2015)	Floor 1	2009 International Fire Code CHAPTER 9 - FIRE PROTECTION SYSTEMS	901.6 - Fire protection systems - Inspection, testing and maintenance.

Inspection Comment:
DEFICIENCY: The circuit breaker for the fire alarm is not locked.
ACTION REQUIRED: Lock the breaker in the "on" positioon..
LOCATION: Electrical panel

Terry McGowan

From: Steven Parker <steven.parker@arvadafireco.gov>
Sent: Friday, November 22, 2024 8:35 AM
To: Terry McGowan
Subject: CORA request - 17201 W 64th Ave
Attachments: 17201 W 64th Ave._Inspection Summary Report.pdf

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Terry,

Attached is the inspection summary report for the requested address. I did not find any incident responses to this address related to hazardous materials.

Steven Parker EFO, FM, MS
Fire Marshal
7903 Allison Way Arvada, CO 80005
Desk:303-403-0477
Mobile:303-263-9778
www.ArvadaFireCO.gov

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sender by reply email and destroy all copies of the original message.

Terry McGowan

From: Smartsheet Forms <forms@app.smartsheet.com>
Sent: Monday, November 18, 2024 7:36 AM
To: Terry McGowan
Subject: Confirmation - Open Records Request

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Thank you for submitting your entry. A copy is included below for your records.

Open Records Request

Date of Request:	11/18/2024
Specific Information Requested:	Baseline is completing a Phase I Environmental Assessment for the Welby Gardens located at 17201 West 64th Avenue in Arvada, Colorado 80007. We are searching for environmental records such as above or below ground tank permits for installation or removal, response to spills or fire, inspection reports specifically to storage of fuels, pesticides, herbicides, or others. Thank you for your time
Request Type	Official CORA
Name:	Terry O. McGowan
Business Name:	Baseline Engineering Corp
Address:	112 N. Rubey Drive Suite 210, Golden
Phone:	303-229-5496
E-Mail:	terry.mcgowan@baselinecorp.com
Inspection at AFPD Headquarters	☐
By USPS mail	☐
By Electronic Transmission	☐
I Understand and Agree to the Retrieval Fee	☐

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NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

ALTA/NSPS LAND TITLE SURVEY

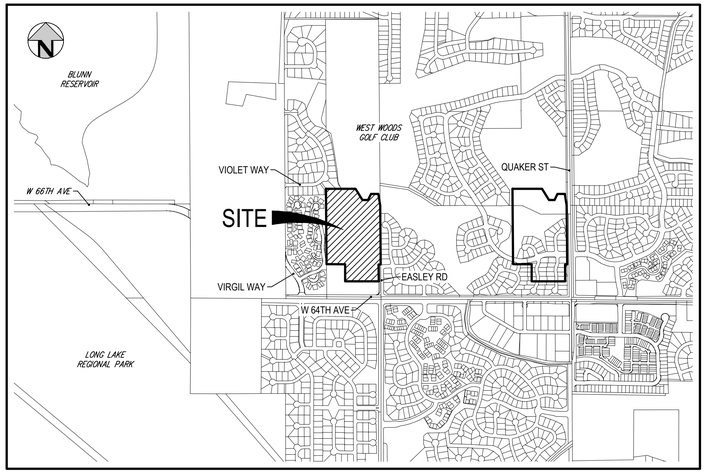
SITUATED IN THE SOUTHWEST 1/4 OF SECTION 2, TOWNSHIP 3 SOUTH, RANGE 70 WEST OF THE 6TH P.M., CITY OF ARVADA, COUNTY OF JEFFERSON, STATE OF COLORADO

LEGAL DESCRIPTION:

LOTS 1 AND 2, VELDKAMP MINOR SUBDIVISION – FIRST AMENDMENT, COUNTY OF JEFFERSON, STATE OF COLORADO.

NOTES:

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY HARRIS KOCHER SMITH TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. FOR ALL INFORMATION REGARDING EASEMENTS, RIGHTS–OF–WAY AND TITLE OF RECORD, HARRIS KOCHER SMITH RELIED UPON COMMITMENT FOR TITLE INSURANCE, COMMITMENT NUMBER: 3020–1234799 ISSUED BY FIRST AMERICAN TITLE INSURANCE COMPANY NATIONAL COMMERCIAL SERVICES AND HAVING A COMMITMENT DATE OF SEPTEMBER 23, 2024 AT 5:00 P.M.
2. NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.
3. BASIS OF BEARINGS: BEARINGS ARE BASED ON THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 2, TOWNSHIP 3 SOUTH, RANGE 70 WEST OF THE 6TH PRINCIPAL MERIDIAN AS BEARING NORTH 89°35'48" WEST AS SHOWN ON VELDKAMP MINOR SUBDIVISION – FIRST AMENDMENT RECORDED AT RECEPTION NO. F2176756. SAID LINE BEING MONUMENTED AT THE SOUTH QUARTER CORNER OF SAID SECTION 2 BY AN ILLEGIBLE 1.5" BRASS CAP IN RANGE BOX 0.8' BELOW GRADE, AND AT THE SOUTHWEST CORNER OF SAID SECTION 2 BY A 2" ALUMINUM CAP STAMPED "2002 PLS 5112" 0.3' BELOW GRADE.
4. TABLE A ITEM 2: THE ADDRESS OF THE SURVEYED IS 17201 WEST 64TH AVENUE, ARVADA, CO 80007.
5. TABLE A ITEM 3: SURVEYED PROPERTY FALLS WITHIN ZONE X OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP, MAP NO. 08059C0179F, LAST REVISED FEBRUARY 5, 2014. ZONE X IS DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2–PERCENT ANNUAL CHANCE FLOODPLAIN.
6. TABLE A ITEM 4: THE SURVEYED PROPERTY CONTAINS A TOTAL AREA OF 873,296 SQUARE FEET OR 20.05 ACRES, MORE OR LESS.
7. TABLE A ITEM 6: NO ZONING REPORT OR LETTER WAS PROVIDED BY THE CLIENT FOR THIS SURVEY. AS SUCH, THE CURRENT ZONING CLASSIFICATION, SETBACK REQUIREMENTS, HEIGHT AND FLOOR SPACE AREA RESTRICTIONS, AND PARKING REQUIREMENTS WERE NOT ADDRESSED.
8. TABLE A ITEM 9: THE SURVEYED PROPERTY CONTAINS 136 STANDARD STRIPED PARKING SPACES.
9. TABLE A ITEM 10: THE CLIENT DID NOT DESIGNATE ANY WALLS FOR THE DETERMINATION OF THE RELATIONSHIP AND/OR LOCATION OF CERTAIN DIVISION OR PARTY WALLS WITH RESPECT TO ADJOINING PROPERTIES. NOR DID THE CLIENT DESIGNATE ANY WALLS FOR THE DETERMINATION OF PLUMB. NO DIVISION OR PARTY WALLS WITH RESPECT TO ADJOINING PROPERTIES WERE OBSERVED DURING THE FIELDWORK FOR THIS SURVEY.
10. TABLE A ITEM 11: UTILITIES SHOWN HEREON ARE FROM VISIBLE FIELD INFORMATION AND UTILITY LOCATES PROVIDED BY HKS UTILITY SERVICES, LLC. HARRIS KOCHER SMITH DOES NOT GUARANTEE THESE LOCATIONS OR THAT THE UTILITIES SHOWN HEREON COMPRISE ALL UTILITIES IN THIS AREA, EITHER IN SERVICE OR ABANDONED, AND HARRIS KOCHER SMITH FURTHER DISCLAIMS ANY AND ALL LIABILITY RELATED TO INFORMATION FROM UTILITY MAPS AND MARKINGS THAT MAY BE SHOWN ON THIS SURVEY. UTILITIES DEPICTED HEREON DO NOT COMPLY WITH ASCE 38 UNDERGROUND UTILITY LOCATE STANDARDS. THE CLIENT AND CONTRACTOR BEAR ALL RESPONSIBILITY FOR COMPLIANCE WITH ALL APPLICABLE PROVISIONS OF SENATE BILL 18–167.
11. **AREAS OF CONCERN:** **A.O.C #1** – STORM SEWER AND UNDERGROUND ELECTRIC LINES APPEAR TO BE OUTSIDE OF INTENDED EASEMENT. **A.O.C #2** – ELECTRIC TRANSFORMER AND UNDERGROUND ELECTRIC LINE APPEAR TO BE OUTSIDE OF INTENDED EASEMENT.
12. THE LINEAR UNITS FOR THIS SURVEY ARE U.S. SURVEY FEET.
13. THE SURVEYED PROPERTY IS SUBJECT TO THE TERMS, PROVISIONS, COVENANTS, CONDITIONS, RESTRICTIONS, OBLIGATIONS AND RESERVATIONS CONTAINED IN THE FOLLOWING RECORDED DOCUMENTS IN THE TITLE COMMITMENT AS REFERENCED IN NOTE 1.



VICINITY MAP
SCALE: 1" = 1,000'

SCHEDULE B-2 ITEMS:

X. INDICATES THE EXCEPTION NUMBER WITHIN THE SCHEDULE B–2 OF THE TITLE COMMITMENT REFERENCED IN NOTE 1. (EXCEPTIONS 1–7 ARE STANDARD EXCEPTIONS) (*ITALIC TEXT IS THE SURVEYOR'S PARENTHETICAL NOTE*)

8. ANY EXISTING LEASES OR TENANCIES.
(*NOT A SURVEY MATTER*)

9. THE FINAL TITLE INSURANCE POLICY SHALL NOT AND DOES NOT INSURE THE TITLE TO THOSE FIXTURES, STRUCTURES AND LIKE APPURTENANCES WHICH ARE NOT ASSESSED AND TAXED AS REAL PROPERTY BY THE COUNTY. NO EXAMINATION OF THE TITLE TO THE REFERENCED FIXTURES, STRUCTURES AND LIKE APPURTENANCES HAS BEEN MADE.
(*NOT A SURVEY MATTER*)

10. RIGHT OF WAY FOR CHURCH DITCH, TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS, EASEMENTS, AND AGREEMENTS AS SET FORTH IN THE QUIT CLAIM DEED RECORDED MARCH 22, 1989 IN BOOK 12 AT PAGE 31.
(*CHURCH DITCH DOES NOT APPEAR TO CROSS THE SURVEYED PROPERTY*)

11. RESERVATION OF A ONE HALF INTEREST IN OIL, GAS AND OTHER MINERALS AS RESERVED IN DEED RECORDED FEBRUARY 25, 1927 IN BOOK 295 AT PAGE 161, AND ANY AND ALL ASSIGNMENTS THEREOF OR INTERESTS THEREIN.
(*AFFECTS THE SURVEYED PROPERTY; BLANKET IN NATURE; CANNOT BE PLOTTED*)

12. TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS, EASEMENTS AND AGREEMENTS AS SET FORTH IN THE UTILITY SERVICE AGREEMENT RECORDED JUNE 11, 1969 IN BOOK 2109 AT PAGE 242.
(*AS SHOWN*)

13. ANY TAX, LIEN, FEE OR ASSESSMENT BY REASON OF INCLUSION OF SUBJECT PROPERTY IN THE FAIRMOUNT FIRE PROTECTION DISTRICT, AS EVIDENCED BY INSTRUMENT RECORDED SEPTEMBER 25, 1970 IN BOOK 2210 AT PAGE 73.
(*AFFECTS THE SURVEYED PROPERTY; BLANKET IN NATURE; CANNOT BE PLOTTED*)

14. TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS AND AGREEMENTS AS SET FORTH IN THE FINDINGS AND RULING RECORDED MARCH 14, 1978 AT RECEPTION NO. 78022299 AND RECORDED JUNE 11, 1981 AT RECEPTION NO. 81041418.
(*AS SHOWN*)

15. TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS AND AGREEMENTS AS SET FORTH IN THE FINDINGS OF FACT RECORDED AUGUST 14, 1986 AT RECEPTION NO. 86094408 AND RECORDED SEPTEMBER 29, 1986 AT RECEPTION NO. 86117526.
(*AFFECTS CHURCH DITCH; NOTHING PLOTTED*)

16. TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS, EASEMENTS AND AGREEMENTS AS SET FORTH IN THE AGREEMENT RECORDED AUGUST 16, 1994 AT RECEPTION NO. 94137125.
(*AFFECTS THE SURVEYED PROPERTY; PROPOSED WELL LOCATION DOES NOT LIE WITHIN THE SURVEYED PROPERTY; CANNOT BE PLOTTED*)

17. TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS, EASEMENTS AND AGREEMENTS AS SET FORTH IN THE EASEMENT AGREEMENT RECORDED SEPTEMBER 15, 1994 AT RECEPTION NO. 94151425.
EASEMENT AND RELEASE IN CONNECTION THEREWITH RECORDED MARCH 24, 1997 AT RECEPTION NO. F0388489.
ASSIGNMENT IN CONNECTION THEREWITH RECORDED SEPTEMBER 11, 2008 AT RECEPTION NO. 2008085422.
(*AS SHOWN*)

18. TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS AND AGREEMENTS AS SET FORTH IN THE ORDINANCE NO. 3325 RECORDED FEBRUARY 20, 1997 AT RECEPTION NO. F0373570.
(*AFFECTS THE SURVEYED PROPERTY; BLANKET IN NATURE; CANNOT BE PLOTTED*)

19. VELDKAMP ANNEXATION MAP RECORDED FEBRUARY 27, 1997 AT RECEPTION NO. F0376577.
(*AFFECTS THE SURVEYED PROPERTY; BLANKET IN NATURE; CANNOT BE PLOTTED*)

20. TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS AND AGREEMENTS AS SET FORTH IN THE WEST WOODS NINE/VELDKAMP ANNEXATION AGREEMENT RECORDED FEBRUARY 27, 1997 AT RECEPTION NO. F0376578, FIRST AMENDMENT RECORDED SEPTEMBER 4, 1997 AT RECEPTION NO. F0471590.
(*AFFECTS THE SURVEYED PROPERTY; BLANKET IN NATURE; CANNOT BE PLOTTED*)

21. EASEMENTS, NOTES, COVENANTS, RESTRICTIONS AND RIGHTS–OF–WAY AS SHOWN ON THE PLAT OF VELDKAMP MINOR SUBDIVISION, RECORDED MARCH 13, 1997 AT RECEPTION NO. F0384095.
(*AS SHOWN*)

22. TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS AND AGREEMENTS AS SET FORTH IN THE ORDINANCE NO. 3868 RECORDED APRIL 15, 2004 AT RECEPTION NO. F2006064.
(*AFFECTS THE SURVEYED PROPERTY; BLANKET IN NATURE; CANNOT BE PLOTTED*)

23. TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS AND AGREEMENTS AS SET FORTH IN THE WELBY GARDENS NON–RESIDENTIAL DEVELOPMENT AGREEMENT RECORDED JUNE 24, 2004 AT RECEPTION NO. F2049794.
(*AS SHOWN*)

24. TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS, EASEMENTS AND AGREEMENTS AS SET FORTH IN THE WATER LINE EASEMENT RECORDED JULY 15, 2004 AT RECEPTION NO. F2061153.
(*AS SHOWN*)

25. TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS, EASEMENTS AND AGREEMENTS AS SET FORTH IN THE EMERGENCY ACCESS AND UTILITY EASEMENT RECORDED JULY 15, 2004 AT RECEPTION NO. F2061154.
(*AS SHOWN*)

26. TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS, EASEMENTS AND AGREEMENTS AS SET FORTH IN THE SIDEWALK EASEMENT RECORDED JULY 15, 2004 AT RECEPTION NO. F2061155.
(*AS SHOWN*)

27. TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS, EASEMENTS AND AGREEMENTS AS SET FORTH IN THE STORM SEWER AND DETENTION EASEMENT RECORDED JULY 15, 2004 AT RECEPTION NO. F2061156.
(*AS SHOWN*)

28. TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS, EASEMENTS AND AGREEMENTS AS SET FORTH IN THE UTILITY EASEMENT RECORDED JULY 15, 2004 AT RECEPTION NO. F2061157.
(*AS SHOWN*)

29. EASEMENTS, NOTES, COVENANTS, RESTRICTIONS AND RIGHTS–OF–WAY AS SHOWN ON THE PLAT OF VELDKAMP MINOR SUBDIVISION – FIRST AMENDMENT, RECORDED FEBRUARY 24, 2005 AT RECEPTION NO. F2176756.
(*AS SHOWN; THIS PLAT DOES NOT CREATE ANY EASEMENTS ON THE SURVEYED PROPERTY*)

30. TERMS, CONDITIONS, PROVISIONS, OBLIGATIONS, EASEMENTS AND AGREEMENTS AS SET FORTH IN THE RESTRICTIVE USE AND ACCESS EASEMENT AGREEMENT RECORDED MAY 20, 2016 AT RECEPTION NO. 2016047988.
(*AS SHOWN*)

SURVEYOR'S CERTIFICATION:

THIS IS TO CERTIFY TO: FIRST AMERICAN TITLE INSURANCE COMPANY NATIONAL COMMERCIAL SERVICES;

THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 6(a,b), 7(a,b1), 8, 9, 10, 11(a), AND 13 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON NOVEMBER 11, 2024.

I, AARON MURPHY, A LICENSED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY STATE THAT THE IMPROVEMENT SURVEY PLAT SHOWN HEREON WAS PREPARED BY ME OR UNDER DIRECT SUPERVISION; THAT IT WAS PREPARED TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF; THAT IT WAS PREPARED IN ACCORDANCE WITH APPLICABLE STANDARDS OF PRACTICE; AND THAT THIS CERTIFICATION IS NOT A GUARANTY OR WARRANTY, EITHER EXPRESSED OR IMPLIED.

AARON MURPHY, PLS 38162
FOR AND ON BEHALF OF
HARRIS KOCHER SMITH

Know what's below. Call before you dig.

CHECKED BY: AWM
DRAWN BY: TWG

ISSUE DATE: 11-19-2024

DATE	REVISION COMMENTS
	DRAFT

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

17201 W 64TH AVENUE
ARVADA, CO 80007

COVER

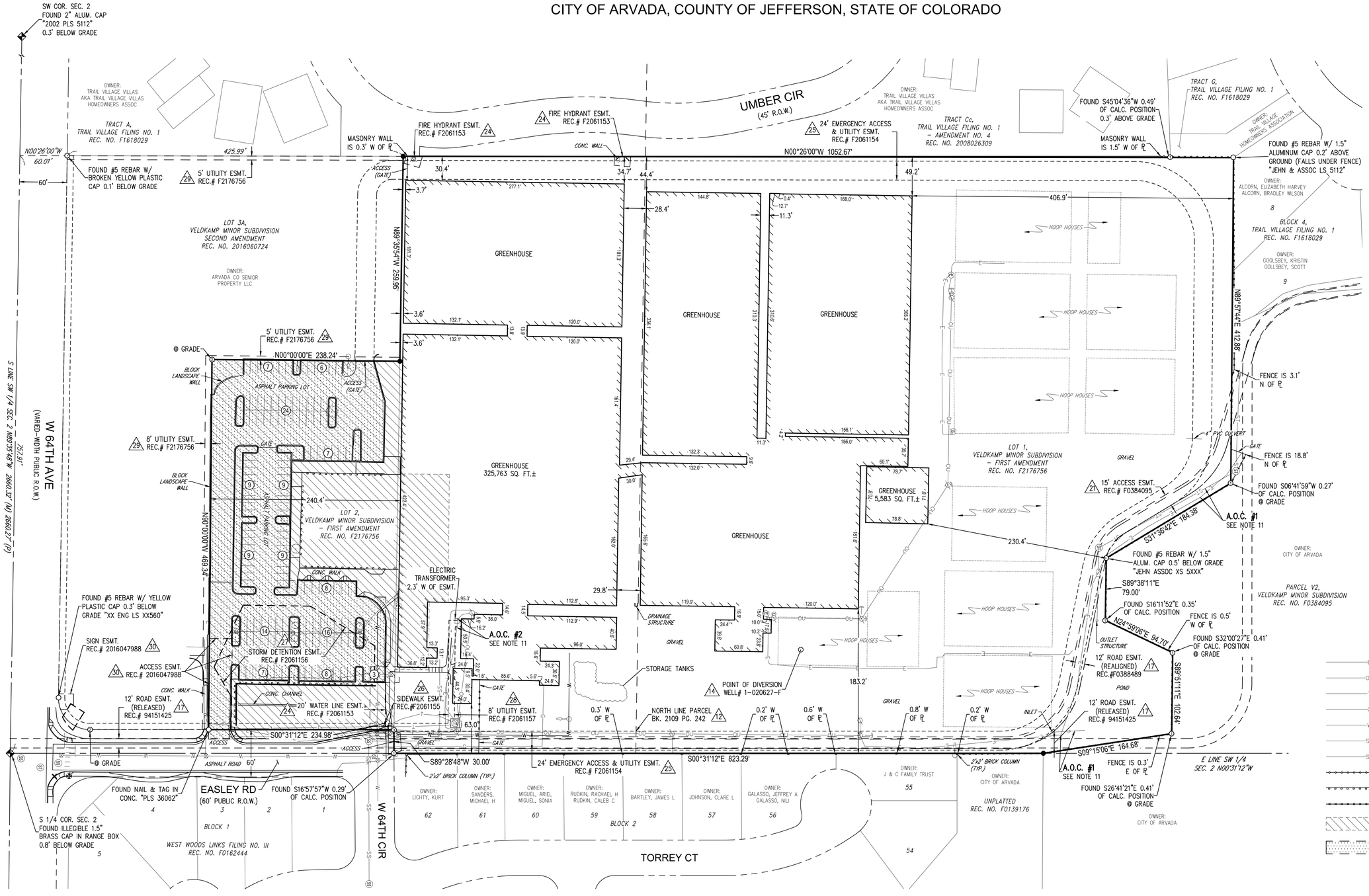
PROJECT #: 241061
SHEET NUMBER
1
1 OF 2

FILEPATH: P:\2024\241061\SURVEY\ALTA_241061.DWG LAYOUT: COVER
XREFS:
PLOTTED: TUE 11/19/24 3:52:11P BY: TOM.GRUBESIC

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

ALTA/NSPS LAND TITLE SURVEY

SITUATED IN THE SOUTHWEST 1/4 OF SECTION 2, TOWNSHIP 3 SOUTH, RANGE 70 WEST OF THE 6TH P.M.,
CITY OF ARVADA, COUNTY OF JEFFERSON, STATE OF COLORADO



LEGEND

- SET #5x18" REBAR W/ 1.25" BLUE PLASTIC CAP "PLS 38162"
- FOUND MONUMENT AS DESCRIBED
- FOUND #5 REBAR W/ YELLOW PLASTIC CAP "JEHN & ASSOC LS 36561"
- FOUND #5 REBAR W/ RED PLASTIC CAP "JEHN PLS 36062"
- FOUND ILLEGIBLE 3.25" BRASS CAP 1.0' BELOW GRADE
- FOUND CUT CROSS
- FOUND CHISELED CROSS
- ELECTRIC METER
- POLE–MOUNT TRANSFORMER
- ELECTRIC OUTLET
- TELECOM. PEDESTAL
- TELECOM. VAULT
- NATURAL GAS METER
- WATER MANHOLE
- FIRE HYDRANT
- WATER VALVE
- UTILITY POLE
- GUY WIRE
- LIGHT POLE
- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- CONIFEROUS TREE
- SIGN
- PARKING COUNT
- UNDERGROUND ELECTRIC LINE
- OVERHEAD UTILITY LINE
- UNDERGROUND TELECOM. LINE
- NATURAL GAS LINE
- WATER LINE
- SANITARY SEWER
- STORM SEWER
- WOOD FENCE
- IRON FENCE
- CHAIN–LINK FENCE
- WELBY GARDENS AFFECTED AREA REC. NO. F2049794 (23)
- EMERGENCY ACCESS ESMT. REC. NO. F2061154 (29)
- (M) MEASURED DIMENSION
- (P) DIMENSION PER VELDKAMP MINOR SUBDIVISION – FIRST AMENDMENT REC. NO. F2176756

Know what's below. Call before you dig.

SCALE: 1" = 60'

CHECKED BY: AWM
DRAWN BY: TWG

ISSUE DATE: 11-19-2024

DATE	REVISION COMMENTS
	DRAFT

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

17201 W 64TH AVENUE
ARVADA, CO 80007

SITE

PROJECT #: 241061
SHEET NUMBER
2
2 OF 2

FILEPATH: P:\2024\241061\SURVEY\ALTA 241061.DWG LAYOUT: SITE
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Preliminary Geotechnical Engineering Report

Proposed Multi-Family Development
17201 W 64th Avenue
Arvada, Colorado

Prepared for:
AvalonBay Communities, Inc.
5050 South Syracuse Street, Suite 1025
Denver, CO 80237

Prepared by:
Cole Garner Geotechnical
CGG Project No.: 24.22.209

November 20, 2024

Cole Garner Geotechnical
1070 W. 124th Ave, Ste. 300
Westminster, CO 80234
303.996.2999

November 20, 2024

AvalonBay Communities, Inc.
5050 South Syracuse Street, Suite 1025
Denver, CO 80237

Attn: Gregory Himmel
Director of Development
gregory_himmel@avalonbay.com

Re: Preliminary Geotechnical Engineering Report
Proposed Multi-Family Development
17201 W 64th Avenue
Arvada, Colorado
CGG Project No. 24.22.209

Cole Garner Geotechnical (CGG) has completed a preliminary geotechnical engineering investigation for the redevelopment of the subject property for a proposed multi-family residential community in Arvada, Colorado. This geotechnical executive summary should be used in conjunction with the entire report for design and/or construction purposes. It should be recognized that specific details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein. The section titled General Comments should be read for an understanding of the report limitations.

- **Subsurface Conditions:** Existing man-made fill materials were encountered just below the ground surface in our borings and extended to depths ranging from about 6 to 7 feet. The fill was variable but was mainly comprised of fine to coarse sand and gravels with some silt and clay lenses and cobbles. We assume the fill is related to historic site development, however, we did not encounter debris or other deleterious materials in our boring locations. Native silty sand soils were encountered below the fill in one boring (Boring No. 2) and extended to a depth of about 12 feet below existing site grade. Sedimentary sandstone and claystone bedrock was encountered below the fill and native soils and extended to the full depth of exploration. Groundwater was encountered in Boring Nos. 1 and 3 at depths of about 13 and 8 feet, respectively.

- **Expansive Soils:** The fill and native sand soils are considered non- to low expansive; samples of the sandstone bedrock also exhibited non- to low expansive potential. However, moderately to highly expansive claystone bedrock was encountered at depths of about 6 to 7 feet below existing site grade Boring Nos. 2 and 5 (representing potentially two-thirds to three-quarters of the site). ***Depending on proposed earthen cut and fill depths, this claystone formation (considered Expansive Soils) could be present at or near foundation bearing elevation on much of the site and could cause excessive movement of shallow foundations, floor slabs, etc.***

Where foundations will bear within about 3 to 5 feet of the claystone bedrock, we believe mitigation of this geologic hazard will be warranted. Mitigation is commonly performed in this region through a process of subexcavation, moisture conditioning, and recompaction. Depending on finished site grades, we estimate that subexcavation may need to range up to 8 to 10 feet below foundations. It may be possible to raise site grades and avoid the need for mitigation. We are available to discuss this alternative and help to develop more formal mitigation plans as proposed grading plans are developed, some demolition is completed, and more geotechnical borings can be completed.

- **Existing Fill, Demolition, and Site Preparation:** The presence of existing historic fill across the site along with other elements of past development will impact redevelopment of the property. The existing fill is variable in consistency and strength, and there is inherent risk at historic fills may contain or conceal debris, trash, organic materials, or other unsuitable materials. ***We did not encounter unsuitable materials or debris in our borings. Provided the fill materials do not pose an environmental hazard, these fill soils should be suitable for re-use on the site.*** However, due to the inherent variability of the fill, these materials are not considered suitable for support of foundations and floor slabs in their present state. ***We have recommended removal and recompaction of the existing fill materials below structures.***

  Demolition and site preparation should include removal of all shallow foundation elements, including any crawlspace or basement foundations, if present. Any existing deep foundations, such as drilled piers, should be truncated at least five feet below all new foundations and floor slabs. Demolition should also include removal of any loose backfill found adjacent to existing foundations or in abandoned utility trenches in and adjacent to new building footprint(s).

- **Structure Foundations and Floor Slabs:** Along with the variable fill conditions, demolition of existing structures and facilities will result in substantial variability of the soils at or near foundation bearing elevations across the site. For lightly-loaded residential buildings, the use of shallow foundations bearing on a zone of recompacted on-site soils (or imported fill, if needed) would be appropriate. Such systems include spread footings, reinforced mat foundations, and/or post-tensioned slab foundations. Many residential developers in the area utilize post-tensioned slab-on-grade foundations to limit distress to interior floors and living spaces.

  We believe that removal and recompaction to a depth of about 3 feet below foundations and floor slabs would provide a uniform zone of engineered fill capable of supporting typical residential and light commercial loading conditions. This process is discussed in more detail in the report. Though not currently planned, if the project will include heavily loaded structures, such as parking structures, footing sizes might be large. Soil improvement using rammed-aggregate piers could also be considered. Based on our experience, these systems may provide cost-effective solutions for support of the heavier-loaded structures. Detailed recommendations are presented in the report.

- **Required Additional Geotechnical Studies:** Supplemental geotechnical exploration is required and should be conducted as soon as demolition allows for borings within proposed building areas. These additional services will be used to develop final structural design parameters and to confirm and/or modify the recommendations and conclusions contained in this report. Additional investigation would also be required by the City of Arvada for design of any public roadway improvements.

We appreciate being of service to you in the geotechnical engineering phase of this project and are prepared to assist you during the construction phases as well. Please do not hesitate to contact us if you have any questions concerning this report or any of our testing, inspection, design and consulting services.

Sincerely,

Cole Garner Geotechnical

A.J. Santiago, E.I.
Project Engineer

Andrew J. Garner, P.E.
Principal, COO

Copies to: Addressee (1 PDF copy)

TABLE OF CONTENTS

Page No.

Letter of Transmittal ii
INTRODUCTION 1
PROJECT INFORMATION 1
SITE EXPLORATION PROCEDURES 2
Field Exploration 2
Laboratory Testing 2
SITE CONDITIONS 3
SUBSURFACE CONDITIONS 3
Geology 3
Soil and Bedrock Conditions 4
Field and Laboratory Test Results 4
Groundwater Conditions 4
ENGINEERING RECOMMENDATIONS 5
Geotechnical Considerations 5
Earthwork 7
Demolition and Site Preparation 7
Subgrade Preparation 8
Fill Materials 8
Fill Placement and Compaction Requirements 9
Excavations and Trench Construction 9
Conceptual Structural Considerations 10
Foundation Systems 10
Below-Grade Construction 10
Seismic Considerations 11
Interior, Non-structural Floor Slabs 11
Conceptual Pavement Thickness Design 11
Additional Design and Construction Considerations 13
Final Grading, Landscaping, and Surface Drainage 13
Exterior Slab Design and Construction 14
Underground Utility Systems 14
Concrete Corrosion Protection 15
GENERAL COMMENTS 15

APPENDIX A: BORING LOCATION DIAGRAM, BORING LOGS
APPENDIX B: LABORATORY TEST RESULTS
APPENDIX C: GENERAL NOTES

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PRELIMINARY GEOTECHNICAL ENGINEERING REPORT

PROPOSED MULTI-FAMILY DEVELOPMENT
17201 W 64TH AVENUE
ARVADA, COLORADO

CGG Project No. 24.22.209
November 20, 2024

INTRODUCTION

This report contains the results of our preliminary geotechnical engineering exploration for the redevelopment of the subject property for a proposed multi-family residential community in Arvada, Colorado. This study was performed in general accordance with our revised proposal number P24.22.220 as referenced in the October 11, 2024 Consulting Services Agreement between the client and our firm (executed November 6, 2024).

The purpose of these services is to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil and bedrock conditions
- Groundwater conditions
- Demolition, site preparation, and earthwork
- Foundation design and construction
- Below-grade construction
- Lateral earth pressures
- Floor slab design and construction
- Pavement structural sections
- Surface and subsurface drainage

The recommendations contained in this report are based upon the results of field and laboratory testing, engineering analyses, our experience with similar subsurface conditions and structures, and our understanding of the proposed project.

PROJECT INFORMATION

We understand that the project will include the re-development of approximately 20 acres of property located at the subject address in Arvada, Colorado. The property is currently occupied by commercial greenhouses (Welby Gardens) and associated facilities that will be razed as part of new construction.

Conceptual development plans include construction of nine multi-family residential buildings int eh northern property extents, nine townhome-style buildings in the southern site extents, a centrally-located leasing office/clubhouse with a pool, a 2-acre park (green space), and associated private driveways and parking. We assume residential buildings will be wood-frame and supported on at-grade foundations (no basements). Ground floors will include both living areas and at-grade, "tuck-under" garages.

The site appears to slope gently down to the east; therefore, we estimate that maximum earthen cut and fill depths on the order of 5 to 10 feet to bring the site to rough construction grade. Other major site development will include the installation of underground utilities, stormwater detention in the northeastern site extents, construction of trash enclosures, mail kiosks, and typical landscaping. If our assumptions above are not accurate, or if you have additional useful information, please inform us as soon as possible so that we may update this proposal as applicable.

SITE EXPLORATION PROCEDURES

The scope of the services performed for this project included a subsurface exploration program, laboratory testing, and engineering analysis.

Field Exploration: Our scope of services for this study included geotechnical exploration of the subsurface materials at five locations, as shown on the Boring Location Diagram included in Appendix A. Borings were located in accessible areas of the site given existing buildings and other development. Borings were advanced with a track-mounted drilling rig utilizing 4-inch diameter, solid-stem auger.

We planned to advance borings to depths ranging from about 25 to 35 feet below existing site grades; however, we encountered essential refusal to our drilling equipment in one boring (Boring No. 1) at a depth of about 15 feet below existing site grade. We were able to extend borings to their planned depths at the remaining locations.

Our field personnel recorded a lithologic log of each boring during the drilling operations. At selected intervals, samples of the subsurface materials were obtained by driving Modified California samplers. Penetration resistance measurements were obtained by driving the sample barrels into the subsurface materials with a 140-pound automatic hammer falling 30 inches. The penetration resistance value is a useful index to the consistency, relative density or hardness of the materials encountered.

Groundwater measurements were made in each boring at the time of site exploration and a day later. Borings were loosely backfilled with the auger cuttings upon completion of groundwater measurements.

Laboratory Testing: Samples retrieved during the field exploration were returned to the laboratory for observation by the project geotechnical engineer, and were classified in general accordance with the Unified Soil Classification System described in Appendix C. Bedrock was classified according to the

General Notes for Rock Classification. Bedrock was classified according to the notes on Rock Classification. At that time, an applicable laboratory-testing program was formulated to determine engineering properties of the subsurface materials. Following the completion of the laboratory testing, the field descriptions were confirmed or modified as necessary, and Boring Logs were prepared. These logs are presented in Appendix A.

Laboratory test results are presented in Appendix B. These results were used for the geotechnical engineering analyses and the development of foundation and earthwork recommendations. Laboratory tests were performed in general accordance with the applicable local or other accepted standards.

Selected soil and bedrock samples were tested for the following engineering properties:

- Water content
- Dry density
- Swell/Consolidation
- Grain size
- Plasticity Index
- Water-soluble sulfates

SITE CONDITIONS

The site is currently occupied by Welby Gardens, a commercial nursery greenhouse operation that has been on the site since 1948. The site is substantially occupied by several greenhouse buildings, smaller outbuildings, and an office; the remainder of the site includes paved and unpaved drives and outdoor storage areas, with limited concrete flatwork. The southern site extents are occupied by a paved parking lot associated with the adjacent assisted living facility. The site is bound on the north by the natural drainage of Ralston Creek and West Woods Golf Course, on the east and west by existing single-family residential subdivisions, and on the south by MorningStar Senior Living of Arvada.

Topographically, the site appears to slope predominately to the east with estimated topographic relief on the order of 20 feet. Site drainage was generally in the form of sheet surface flow directed generally towards the east and north by existing site features.

SUBSURFACE CONDITIONS

Geology: Surficial geologic conditions at the site, as mapped by the U.S. Geological Survey (USGS) ([1]Van Horn, 1972), consist of Louviers Alluvium of Pleistocene Age. These materials are generally described as silty, fine-grained sand becoming coarser with depth. As mapped in this area, the formation is typically on the order of 10 to 20 feet in thickness.

[1] Van Horn, Richard, 1972, ***Surficial and Bedrock Geologic Map of the Golden Quadrangle, Jefferson County, Colorado***, United States Geological Survey, Miscellaneous Geologic Investigations Map I-761-A.

Bedrock underlying the surface units consists of the Arapahoe Formation of Upper Cretaceous Age. Locally, the Arapahoe Formation is described as quartzose sandstone and claystone, which outcrops to the south and east of the site.

Mapping completed by the Colorado Geological Survey ([2]Hart, 1972) indicates the site is located in an area of " Low Swell Potential" associated with the Louviers Alluvium; however, areas of Highly and Very Highly expansive materials are mapped in the southern site extents and where the bedrock formation outcrops to the south and east of the site.

Other geologic hazards were not observed at the site. Seismic activity in the area is anticipated to be low, and the property should be relatively stable from a structural standpoint. With proper site grading around proposed structures, erosional problems at the site should be reduced.

Soil and Bedrock Conditions: Existing man-made fill materials were encountered just below the ground surface in our borings and extended to depths ranging from about 6 to 7 feet. The fill was variable but was mainly comprised of fine to coarse sand and gravels with some silt and clay lenses and cobbles. We assume the fill is related to historic site development. Native silty sand soils were encountered below the fill in one boring (Boring No. 2) and extended to a depth of about 12 feet below existing site grade.

Sedimentary sandstone and claystone bedrock was encountered below the fill and native soils and extended to the full depth of exploration. In general, the sandstone bedrock was predominate in the northern site extents (Boring Nos 1, 3, and 4), while the claystone bedrock was encountered in the two remaining borings (representing about two-thirds to three-quarters of the site). Other specific information regarding the subsurface conditions is shown on the attached boring logs.

Field and Laboratory Test Results: Field test results indicate that the sand soils (both fill and native) are typically medium dense, however, denser gravel and cobble materials were encountered. The bedrock was generally medium hard to very hard based on sampler penetration.

Samples of the fill soils are non- to low-plastic and are considered non- to low expansive. Samples of the sandstone bedrock exhibited non- to low-expansive potential. The claystone bedrock varied from low to highly expansive. Water-soluble sulfate testing of three samples indicated nil concentrations.

Groundwater Conditions: Groundwater was encountered while drilling Boring No. 3 at a depth of about 15 feet below existing site grade and was not encountered while advancing the remaining borings. When checked a day later, groundwater was present in Boring No. 1 at a depth of about 13 feet below

[2] Hart, Stephen S., 1972, ***Potentially Swelling Soil and Rock in the Front Range Urban Corridor, Colorado***, Colorado Geological Survey, Sheet 2 of 4.

existing site grade and in Boring 3 at a depth of about 8 feet; groundwater was not present in the remaining borings (however, Boring No. 2 had been graded over).

Based upon review of U.S. Geological Survey Maps ([3]Hillier, et al, 1983), regional groundwater beneath the project area is expected to be encountered in unconsolidated alluvial deposits on the site at depths ranging from 10 to 20 feet below present ground surface, however, shallow groundwater conditions are mapped in the eastern half of the site.

The above groundwater observations are only representative of the locations explored at the time(s) of our exploration(s). ***Seasonal fluctuations in groundwater elevation beyond those indicated above should be expected, especially in proximity to Ralston Creek; therefore, the possibility of groundwater fluctuations should be considered when developing design and construction plans for the project.***

ENGINEERING RECOMMENDATIONS

Geotechnical Considerations: Based on the information obtained from our subsurface exploration, laboratory testing, and a cursory review of geologic conditions, it is our opinion that the site should be suitable for development of the proposed project provided the recommendations in this report are followed. ***Proper demolition, reclamation, and site preparation will be critical to the performance of foundations, floor slabs, pavements, etc. Depending on structural loads, some additional ground improvement may be warranted to provide more economical foundation designs.***

- **Expansive Soils:** The fill and native sand soils are considered non- to low expansive; samples of the sandstone bedrock also exhibited non- to low expansive potential. However, moderately to highly expansive claystone bedrock was encountered at depths of about 6 to 7 feet below existing site grade Boring Nos. 2 and 5 (representing potentially two-thirds to three-quarters of the site). ***Depending on proposed earthen cut and fill depths, this claystone formation (considered Expansive Soils) could be present at or near foundation bearing elevation on much of the site and could cause excessive movement of shallow foundations, floor slabs, etc.***

  Where foundations will bear within about 3 to 5 feet of the claystone bedrock, we believe mitigation of this geologic hazard will be warranted. Mitigation is commonly performed in this region through a process of subexcavation, moisture conditioning, and recompaction. Depending on finished site grades, we estimate that subexcavation may need to range up to 8 to 10 feet below foundations. It may be possible to raise site grades and avoid the need for mitigation. We are available to discuss this alternative and help to develop more formal mitigation plans as proposed

[3] Hillier, Donald E.; Schneider, Paul A., Jr.; and Hutchinson, E. Carter, 1983, ***Depth to Water Table (1976-1977) in the Greater Denver Area, Front Range Urban Corridor, Colorado***, United States Geological Survey, Map I-856-K.

grading plans are developed, some demolition is complete, and more geotechnical borings can be completed.

- **Existing Fill, Demolition, and Site Preparation:** The presence of existing historic fill across the site along with other elements of past development will impact redevelopment of the property. The existing fill is variable in consistency and strength, and there is inherent risk at historic fills may contain or conceal debris, trash, organic materials, or other unsuitable materials. ***We did not encounter unsuitable materials or debris in our borings.***

  Our scope did not include analytical testing of the fill materials for various environmental concerns (to be addressed by others). Provided the fill materials do not pose an environmental hazard, these fill soils should be suitable for re-use on the site. However, due to the inherent variability of the fill, these materials are not considered suitable for support of foundations and floor slabs in their present state. ***We have recommended removal and recompaction of the existing fill materials below structures.***

  Demolition and site preparation should include removal of all shallow foundation elements, including any crawlspace or basement foundations, if present. Any existing deep foundations, such as drilled piers, should be truncated at least five feet below all new foundations and floor slabs. Demolition should also include removal of any loose backfill found adjacent to existing foundations or in abandoned utility trenches in and adjacent to new building footprint(s).

  Any organic or friable materials derived from the demolition of existing structures should be removed from the site and should not be allowed for use in any on-site fills without approval of the engineer. Site concrete and pavement materials may be crushed and re-used within new fill zones, provided they are processed to a maximum size of 4 to 6 inches and blended into the on-site soils***. It may be advantageous to stockpile these materials and use them to stabilize any soft subgrade soils that may be encountered during construction.***

- **Structure Foundations and Floor Slabs:** Along with the variable fill conditions, demolition of existing structures and facilities will result in substantial variability of the soils at or near foundation bearing elevations across the site. For lightly-loaded residential buildings, the use of shallow foundations bearing on a zone of recompacted on-site soils (or imported fill, if needed) would be appropriate. Such systems include spread footings, reinforced mat foundations, and/or post-tensioned slab foundations. Many residential developers in the area utilize post-tensioned slab-on-grade foundations in order to limit distress to interior floors and living spaces.

  We believe that removal and recompaction to a depth of about 3 feet below foundations and floor slabs would provide a uniform zone of engineered fill capable of supporting typical residential and light commercial loading conditions. This process is discussed in more detail in the report. Though

not currently planned, if the project will include heavily loaded structures, such as parking structures, footing sizes might be large. Soil improvement using rammed-aggregate piers could also be considered. Based on our experience, these systems may provide cost-effective solutions for support of the heavier-loaded structures. Detailed recommendations are presented herein.

- **Required Additional Geotechnical Studies:** Supplemental geotechnical exploration is required and should be conducted as soon as demolition allows for borings within proposed building areas. These additional services will be used to develop final structural design parameters and to confirm and/or modify the recommendations and conclusions contained in this report. Additional investigation would also be required by the City of Arvada for design of any public roadway improvements.

Earthwork: The following presents recommendations for site preparation, excavation, subgrade preparation, and placement of engineered fills on the project. All earthwork on the project should be observed and evaluated by CGG. The evaluation of earthwork should include observation and testing of engineered fills, subgrade preparation, foundation bearing soils and other geotechnical conditions exposed during the construction of the project.

- **Demolition and Site Preparation:** Strip and remove existing vegetation, fill soils, stockpiles, underground utilities, foundation elements, loose or soft backfill soils, and associated construction debris along with any other deleterious materials from the site. Demolition should include complete removal of foundations, floor slabs, pavements and exterior flatwork, along with any underground utilities below structural areas, and removal of any loose backfill found in utility trenches or adjacent to existing foundations. Any existing deep foundations, such as drilled piers, if present, should be truncated at least five feet below all new foundations and floor slabs. ***Any organic or friable materials derived from the demolition of existing structures should be removed from the site and should not be allowed for use in any on-site fills without approval of the engineer.***

  Site concrete and pavement materials may be re-used on site, provided they are processed to a maximum size of 4 to 6 inches and blended into the on-site soils***. It may be advantageous to stockpile these materials and use them to stabilize any soft subgrade soils that may be encountered during construction.***

  Some loose/soft soil conditions should be anticipated below existing pavements and flatwork and may be prevalent on the site following precipitation events. The stability of the site subgrade may also be affected also by repetitive construction traffic, depth of excavations, or other factors. If unstable conditions are encountered or develop during construction, workability may be improved by scarifying and aeration. Gravel augmentation (using crushed stone, recycled concrete, or other materials) or chemical treatment could also be considered.

While we did not encounter any debris laden or otherwise unsuitable materials within the existing fill soils at the site, ***the fill soils are variable and there is inherent risk associated with undocumented, man-made fills***. Given that a majority of the site is currently covered by buildings and other elements, and demolition activities will result in variable conditions across the site, we recommend removal and recompaction of the bearing soils below each building. Based on our preliminary borings, we recommend this zone extend at least 3 feet below foundation bearing elevation throughout each building footprint and a minimum of 5 feet laterally outside of each building. ***Provided the fill materials do not pose an environmental hazard, these fill soils should be suitable for re-use in this zone or in other areas of the site.***

- **Subgrade Preparation:** Subgrade soils over which new fills are to be placed, including the base of all subexcavations should be scarified to a depth of at least 12-inches, moisture conditioned, and recompacted prior to placement of new fill. The upper 12 inches of subgrade soils beneath the floor slab (if used), exterior PCC flatwork, and pavements should be moisture conditioned and recompacted just prior to concrete placement or pavement construction.

- **Fill Materials:** Clean on-site soils or approved imported materials may be used as fill material upon approval of the geotechnical engineer. Imported soils (if required) should conform to the following:

Gradation	**Percent finer by weight (ASTM C136)**
6"	100
3"	70-100
No. 4 Sieve	50-100
No. 200 Sieve	20 maximum

- Liquid Limit ..... 35 (max)
- Plasticity Index ..... 15 (max)
- Maximum expansive potential (%)* 0.5

*Measured on a sample compacted to approximately 95 percent of the ASTM D698 maximum dry density near optimum water content. The sample is confined under a 100 psf surcharge and submerged.

- **Fill Placement and Compaction Requirements:** Engineered fills used to bring the site to construction grade and other backfill soils should be placed and compacted according to the recommendation in the following table:

Criteria	Recommended values
Fill Materials	On-site clayey soils
Lift Thickness	8 to 12 inches or less in loose thickness
Moisture Content Range	• Clayey Soils: -1% below to +3% above the optimum moisture content • Non- to low plastic sands: Optimum moisture content +/- 2% • Below Pavements: Optimum to +2% above optimum
Compaction Requirements	• Clayey soils: 95% of standard Proctor dry density (ASTM D698) • Non- to low plastic sands: 95% of modified Proctor (ASTM D1557)

  At a minimum, fill soils placed for site grading, utility trench backfill and foundation backfill should be tested to confirm that earthwork is being performed according to our recommendations and project specifications. Subsequent lifts of fill should not be placed on previous lifts if the moisture content or dry density is determined to be less than specified.

- **Excavations and Trench Construction:** It is anticipated that excavations for the proposed construction can be accomplished with conventional heavy-duty earthmoving equipment. The individual contractor(s) is responsible for designing and constructing stable, dry, temporary excavations, as required, maintaining stability of both the excavation sides and bottom.

  All excavations should be sloped or shored in the interest of safety following local and federal regulations, including current OSHA excavation and trench safety standards. This will be particularly critical as excavations approach existing infrastructure. While the clay soils on the site may classify as OSHA Type B soils and stand on relatively steep, temporary slopes, the presence of Type C soils should also be anticipated. For these soil types, an excavation side slope configuration of 1-½ to 1 (horizontal to vertical) should be used unless the contractor's OSHA competent personnel allow for steeper side slopes.

  Shoring may be required as excavations approach existing improvements or property boundaries. Commonly used shoring methods in the area include soldier piers, soil nails, and/or piles and lagging. We recommend contacting a shoring design-build contractor to develop a shoring plan once excavation depths are determined.

  The soils to be penetrated by the proposed excavations may vary significantly across the site. ***Excavations extending below 10 feet may also encounter groundwater, depending on location on the site and seasonal conditions. Temporary dewatering may be required to complete deeper excavations.*** The contractor should verify that similar conditions exist throughout the proposed area

of excavation. If different subsurface conditions are encountered at the time of construction, the actual conditions should be evaluated to determine any excavation modifications necessary to maintain safe conditions.

As a safety measure, it is recommended that all vehicles and soil piles be kept to a minimum lateral distance from the crest of the slope equal to no less than the slope height. The exposed slope face should be protected against the elements.

Conceptual Structural Considerations: We assume that demolition of existing structures and facilities will result in substantial variability of the soils at or near foundation bearing elevation. In our opinion, this could lead to excessive movement of shallow foundations. We are available to review specific conditions for particular building locations once building locations and finished-floor elevations are finalized. ***Actual foundation designs should be based on additional geotechnical exploration and evaluation of the soil conditions for each structure.***

- **Foundation Systems:** Provided that mitigation of the existing fill and other elements is performed as described above, the site should be suitable for foundation types commonly used in the region. It is common in this region to support at-grade apartment buildings on post-tensioned slab foundations to minimize distress and damage to interior living spaces due to soil movements. ***Other shallow foundation types*** such as spread footings or mat foundations could also be used at the site for structures without living spaces (retail space, parking structures, detached garages, monument signs, trash enclosures, etc.).

  Shallow foundations bearing on at least 3 feet of recompacted on-site soils may be preliminarily designed for bearing pressures on the order of 1,500 to 2,500 pounds per square foot (psf); however, heavier structural loads may require large footing dimensions, in which case additional mitigation may be needed. In these cases, if warranted, the use of rammed-aggregate piers could be considered to improve bearing capacity to approximately 6,000 to 8,000 psf. We are available to discuss these systems if the design team feels they are warranted.

- **Below-Grade Construction:** Groundwater was measured at depths of about 8 and 13 feet in two of our borings, and depending on grading, could affect the potential use of basement or crawlspace construction on the site (if planned). ***It should be noted that these depths may not reflect seasonal "high groundwater conditions" that typically peak in the late spring and summer months in this region.*** Therefore, the possibility of shallow water should be considered if planning basement construction at the site. ***In general, we recommend that basements bear at least 3 feet above seasonal, high groundwater elevation.*** If groundwater is present at/near basement foundation elevation, permanent dewatering systems could be required (including treatment of the water for environmental concerns and discharge permitting through the State of Colorado). Even if groundwater is not a concern, foundation drain systems will be required around any walls that

retain earth. Foundation drainage systems typically include perforated pipe(s), embedded in gravel, placed in trenches that are sloped to discharge flows either into the storm sewer system or to a sump pit inside the building where water could be pumped to a suitable discharge.

- **Seismic Considerations:** Based on the soil conditions encountered in the test holes drilled on the site, we estimate that a Site Class C is appropriate for the site according to the 2015 International Building Code (Section 1613.3.2 referencing Table 20.3-1 of ASCE 7, Chapter 20). This parameter was estimated based on extrapolation of data beyond the deepest depth explored, using methods allowed by the code. Actual shear wave velocity testing/analysis and/or exploration to 100 feet was not performed.

- **Interior, Non-structural Floor Slabs:** For non-habitable structures not supported on post-tensioned slab foundations, we assume that conventional slab-on-grade floors are preferred. Provided that mitigation is performed as described above, interior floor slabs would bear on at least 5 feet of recompacted on-site or imported soil. It is our opinion that slab-on-grade floors bearing on these soils would potentially be subject to movements that are typical in the geologic region (about 1 inch of potential movement).

  Typical precautions used to manage movement of slab-on-grade floors include isolating plumbing and HVAC equipment, providing void space beneath partition walls, proper construction of closely spaced control joints, etc. Cosmetic distress such as drywall cracking, racking of door frames, etc. may result from slab movement in finished spaces (i.e. finished basements).

Conceptual Pavement Thickness Design: The preliminary design of private pavements for the project is based on the procedures outlined in the 1993 *Guideline for Design of Pavement Structures* by the American Association of State Highway and Transportation Officials (AASHTO) and the Colorado Department of Transportation (CDOT). The referenced design methods are is based on the subgrade soil support properties and anticipated traffic values.

- **Existing Fill:** Given the inherent uncertainty associated with the composition and engineering properties of undocumented fills, there is risk of poor pavement performance in isolated areas. To address this risk, we recommend additional subsurface evaluation during construction and a thorough proofroll of the pavement subgrade soils. Soft or suspect areas should be further evaluated with a series of test pits to be observed by CGG. ***Where any unsuitable materials are present, some limited removal and recompaction may be required. At a minimum, the subgrade materials should be scarified, moisture-conditioned and recompacted to a depth of 12 inches***.

- **Subgrade Soil for Pavement Support:** The on-site sand soils are considered to provide fair support for pavements. Based on the properties of the poorer quality subgrade soils, we have estimated a resilient modulus of 4,195 psi for these soils.

- **Assumed Traffic:** We assume that pavements associated with the project will include private drive lanes, driveways, fire lanes, and surface parking for automobiles and light trucks. We assume that private pavements will be surfaced with either asphalt concrete or Portland cement concrete. Any improvements to adjacent public roadways will need to be designed and constructed according to the governing standards.

  Based on our experience with similar projects, the following traffic criteria were used for determining pavement thicknesses using a design life of 20 years:

  - Driveways and parking stalls - maximum daily traffic of 1,000 cars per day (equivalent single-axle loads, ESAL's of 22,000)
  - Main site access drives and fire lanes – up to 5 trips/day by single-axle delivery trucks per day, 1 combined-axle truck per day and 1 trash truck per day, plus maximum daily traffic of 1,000 cars per day (73,000 ESAL's)

  The owner should review these assumptions, and we should be contacted to confirm or modify these resulting pavement sections, if needed.

- **Preliminary Pavement Sections:** Recommended alternatives for flexible and rigid pavements are summarized for each traffic area as follows:

Traffic Area	Alternative	Conceptual Pavement Section Thickness (Inches)		
		Asphalt Concrete Surface	Aggregate Base Course	Portland Cement Concrete
Light-Duty Automobile and Light Truck Parking Only	A	5-½ to 6	--	--
	B	4 to 4-½	6	--
	C	--	--	5
Heavy-Duty Private Drives, Fire Lanes, Delivery truck access	A	6-½ to 7	--	--
	B	4 to 5	6 to 9	--
	C	--	--	6

Each alternative should be investigated with respect to current material availability and economic conditions. Pavement thicknesses recommended are based on approved subgrade materials being properly moisture conditioned and compacted prior to paving.

For areas subject to concentrated and repetitive loading conditions such as dumpster pads, and ingress/egress aprons, we recommend using a Portland cement concrete pavement with a

thickness of at least 6 inches. For dumpster pads, the concrete pavement area should be large enough to support the container and tipping axle of the refuse truck.

- **Subgrade Preparation:** We recommend that any areas to receive fill be scarified, moisture conditioned, and recompacted to a depth of 12 inches. In addition, the upper 12 inches of pavement subgrade should be scarified, moisture conditioned, and recompacted immediately prior to final proofroll and paving.

  A proofroll of the subgrade soils should also be performed prior to paving and any soft/yielding areas remediated. Paving materials used at the site should meet current CDOT specifications.

- **Pavement Performance:** Future performance of pavements constructed on the subgrade at this site will be dependent upon several factors, including:

  - Maintaining stable moisture content of the subgrade soils.
  - Providing for a planned program of preventative maintenance.

  Minimizing excess moisture, which can reach the subgrade soils, can enhance the performance of all pavements. Preventative maintenance should be planned and provided for an ongoing pavement management program in order to enhance future pavement performance. Preventative maintenance activities are intended to slow the rate of pavement deterioration and to preserve the pavement investment.

Additional Design and Construction Considerations:

- **Final Grading, Landscaping, and Surface Drainage:** All grades must be adjusted to provide positive drainage away from structures during construction and maintained throughout the life of the proposed project. Infiltration of water into utility or foundation excavations must be prevented during construction. Landscaped irrigation, if any, should be minimized or eliminated in close proximity to structures.

  Water permitted to pond near or adjacent to the perimeter of structures (either during or post-construction) can result in significantly higher soil movements than those discussed in this report. As a result, any estimations of potential movement described in this report cannot be relied upon if positive drainage is not obtained and maintained, and water is allowed to infiltrate the fill and/or subgrade.

  Exposed ground (unpaved, landscaped areas) should be sloped at a minimum of 10 percent grade for at least 5 feet beyond the perimeter of buildings/structures, wherever possible. Swales sidewalk chases, area drains may be required to facilitate drainage. ***In no case should grades be less***

than 5 percent away from foundations. Backfill against footings, exterior walls and in utility and sprinkler line trenches should be well-compacted and free of all construction debris to reduce the possibility of moisture infiltration. After building construction and prior to project completion, we recommend that verification of final grading be performed to document that positive drainage, as described above, has been achieved.

Flatwork will be subject to post construction movement due to soil heave/settlement and frost action. Maximum grades practical should be used for paving and flatwork to prevent areas where water can pond. In addition, allowances in final grades should take into consideration post-construction movement of flatwork, particularly if such movement would be critical. Where paving or flatwork abut structures, care should be taken that joints are properly sealed and maintained to prevent the infiltration of surface water.

- **Exterior Slab Design and Construction:** Flatwork and pavements will be subject to post-construction movement due to backfill settlement and normal freeze/thaw cycles. Maximum grades practical should be used for paving and flatwork to prevent areas where water can pond. In addition, allowances in final grades should take into consideration post-construction movement of flatwork, particularly if such movement would be critical. Where paving or flatwork abuts structures, care should be taken that joints are properly sealed and slopes maintained to prevent the infiltration of surface water. Portions of the flatwork adjacent to the structures may also bear on foundation backfill that is prone to settlement. In areas where settlement of flatwork cannot be tolerated, slabs should be integrated into foundation or supported structurally by haunches.

  To reduce the potential for damage, we recommend:

  - exterior slabs in critical areas be supported on a zone of recompacted soils.
  - Supporting of flatwork at building entrances and other critical areas on haunches attached by the building foundations.
  - placement of effective control joints on relatively close centers and isolation joints between slabs and other structural elements.
  - provision for adequate drainage in areas adjoining the slabs.
  - use of designs which allow vertical movement between the exterior slabs and adjoining structural elements.

- **Underground Utility Systems:** All underground piping within or near the proposed structures should be designed with flexible couplings, so minor deviations in alignment do not result in breakage or distress. Utility knockouts in foundation walls should be oversized to accommodate differential movements.

It is strongly recommended that a representative of the geotechnical engineer provide full-time observation and compaction testing of trench backfill within building and pavement areas.

- **Concrete Corrosion Protection:** Select samples of the on-site soils were tested for the presence of water-soluble sulfates and testing indicated negligible values. These results indicate the site soils are within the American Concrete Institute (ACI) Sulfate Exposure Class S0 in accordance with Chapter 19 of the ACI design manual, *Building Code Requirements for Structural Concrete (ACI 318-14).* However, we recommend that project concrete could be designed utilizing ACI Sulfate Exposure Class S1, as summarized in the table below.

ACI Sulfate Exposure Class	Portland Cement Type (ASTM C150)	Maximum Water/Cement Ratio	Minimum Concrete Compressive Strength (psi)
S1	II (or equivalent)	0.50	4,000

GENERAL COMMENTS

The analysis and recommendations presented in this report are based upon the data obtained from the borings performed at the indicated locations and from other information discussed in this report. This report does not reflect variations that may occur between borings, across the site, or due to the modifying effects of weather. The nature and extent of such variations may not become evident until during or after construction. If variations appear, we should be immediately notified so that further evaluation and supplemental recommendations can be provided.

Supplemental geotechnical exploration is required. These additional services will be used to develop final structural design parameters and to confirm and/or modify the recommendations and conclusions contained in this report. Additional investigation may also be required for design of any public improvements required by the City of Littleton or other applicable agencies.

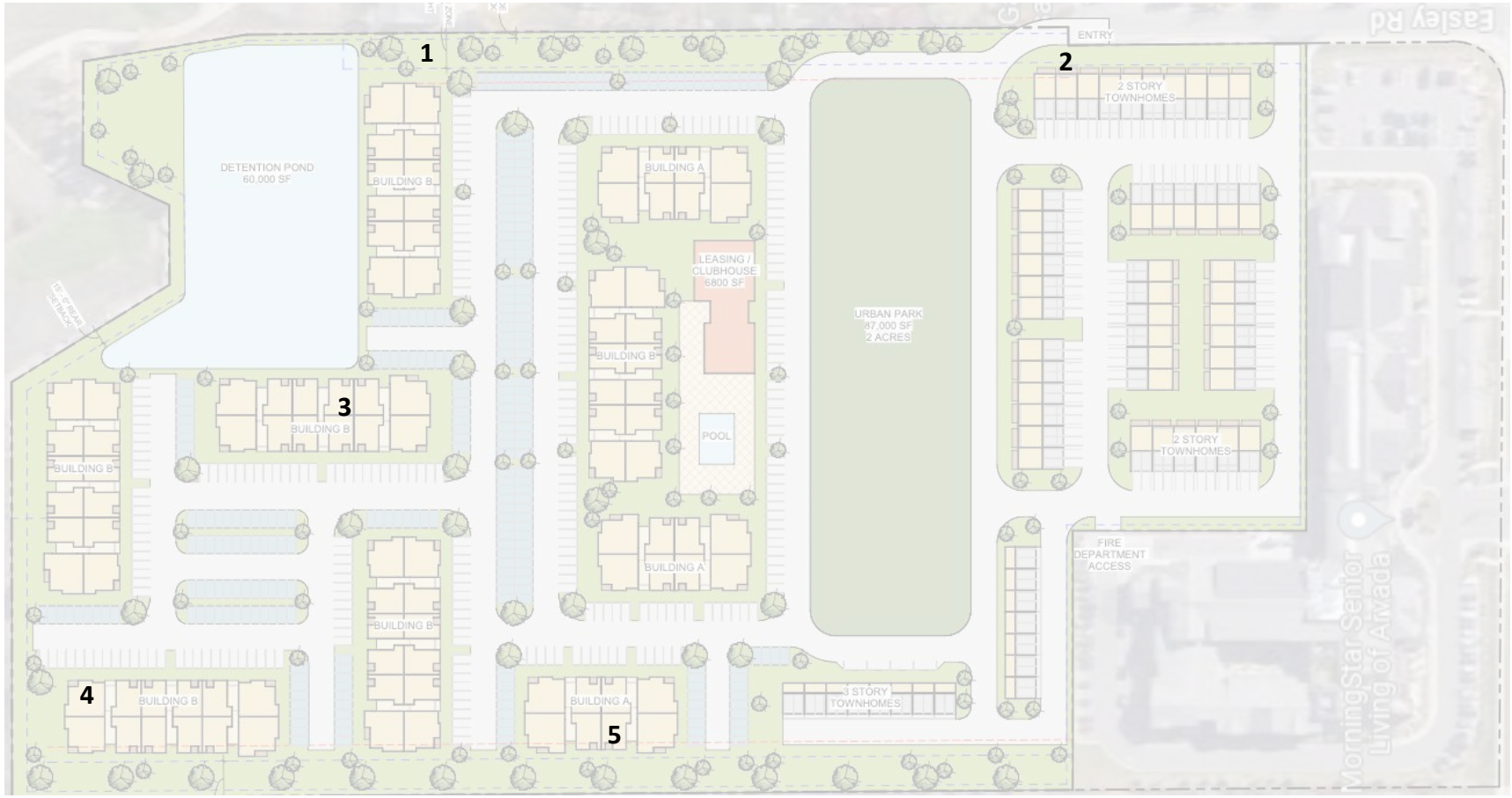
The scope of services for this project does not include, either specifically or by implication, any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranties, either express or implied, are intended or made. Site safety, excavation support, and dewatering requirements are the responsibility of others. In the event that changes are planned in the nature, design, or location of the project as outlined in this report, the conclusions and

recommendations contained in this report shall not be considered valid unless CGG reviews the changes, and either verifies or modifies the conclusions of this report in writing.

APPENDIX A

BORING LOCATION DIAGRAM
BORING LOGS



1
APPROXIMATE BORING LOCATIONS

BORING LOCATION DIAGRAM
PROPOSED ARVADA MULTI-FAMILY PRELIM
17201 W64TH AVENUE
ARVADA, COLORADO
CGG PROJECT NO. 24.22.209

Cole Garner Geotechnical
1070 W. 124th Ave., Suite 300
Westminster, CO 80234
(303) 996-2999

Cole Garner Geotechnical
1070 W 124th Ave, Suite 300
Westminster, CO 80234

BORING NUMBER 1

CLIENT AvalonBay Communities, Inc
PROJECT NAME AvalonBay Arvada Multi-Family Development
PROJECT NUMBER 24.22.209
PROJECT LOCATION 17201 W 64th Ave - Arvada, CO
DATE STARTED 10/21/24 **COMPLETED** 10/21/24
GROUND SURFACE ELEV. Not Provided **PROPOSED ELEV.** Not Provided
DRILLING CONTRACTOR Vine Laboratories
SURFACE CONDITIONS Gravel
DRILLING METHOD CME-55/Solid Stem Auger
GROUND WATER LEVELS:
HAMMER TYPE Automatic
▽ **DURING DRILLING** None
LOGGED BY AA **CHECKED BY** AG
▼ **AFTER DRILLING** 13.00 ft - 10/22/24

GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	USCS SYMBOL	SAMPLE TYPE	RECOVERY %	PENETRATION blows/in	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	SWELL-CONSOL /SURCHARGE LOAD, %psf
	0								
	FILL - FINE to COARSE SAND and GRAVEL, with silt and clay, some cobbles, light brown to brown, red, dry to moist, medium dense	5	GP-GM	CB	100	20 / 12	4.5		
	6 **SANDSTONE BEDROCK**, fine- to medium-grained, brown, tan, moist, hard to very hard	10	-	CB	100	50 / 7	15.0	115	+0.1/500
	▼	15	-	CB	100	50 / 3	14.3	26	
	15								

Refusal at 15.0 feet.
Approximate bottom of borehole at 15.0 feet.

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Cole Garner Geotechnical
1070 W 124th Ave, Suite 300
Westminster, CO 80234

BORING NUMBER 2

CLIENT AvalonBay Communities, Inc
PROJECT NAME AvalonBay Arvada Multi-Family Development
PROJECT NUMBER 24.22.209
PROJECT LOCATION 17201 W 64th Ave - Arvada, CO
DATE STARTED 10/21/24 **COMPLETED** 10/21/24
GROUND SURFACE ELEV. Not Provided **PROPOSED ELEV.** Not Provided
DRILLING CONTRACTOR Vine Laboratories
SURFACE CONDITIONS Gravel
DRILLING METHOD CME-55/Solid Stem Auger
GROUND WATER LEVELS:
HAMMER TYPE Automatic
▽ **DURING DRILLING** None
LOGGED BY AA **CHECKED BY** AG
▼ **AFTER DRILLING** Covered Over - 10/22/24

GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	USCS SYMBOL	SAMPLE TYPE	RECOVERY %	PENETRATION blows/in	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	SWELL-CONSOL /SURCHARGE LOAD, %psf
	FILL - FINE to COARSE SAND and GRAVEL, with silt and clay, some cobbles, light brown to brown, moist, medium dense	0							
		5	SC	CB	100	15 / 12	9.4		
	7								
	SILTY SAND, fine- to medium-grained, light brown to brown, iron-stained, moist, medium dense	10	SM	CB	100	17 / 12	16.9	114	
	12								
	CLAYSTONE BEDROCK, light brown to brown, grey, iron-stained, moist, medium hard to very hard	15	-	CB	100	49 / 12	15.0	119	+1.3/1000
		20	-	CB	100	50 / 12	21.7	104	+2.6/1500
		25	-	CB	100	50 / 9	21.0	111	
		30							
	35	35	-	CB	100	50 / 3	11.4	131	

Approximate bottom of borehole at 35.0 feet.

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Cole Garner Geotechnical
1070 W 124th Ave, Suite 300
Westminster, CO 80234

BORING NUMBER 3

CLIENT AvalonBay Communities, Inc
PROJECT NAME AvalonBay Arvada Multi-Family Development
PROJECT NUMBER 24.22.209
PROJECT LOCATION 17201 W 64th Ave - Arvada, CO
DATE STARTED 10/21/24 **COMPLETED** 10/21/24
GROUND SURFACE ELEV. Not Provided **PROPOSED ELEV.** Not Provided
DRILLING CONTRACTOR Vine Laboratories
SURFACE CONDITIONS Gravel
DRILLING METHOD CME-55/Solid Stem Auger
GROUND WATER LEVELS:
HAMMER TYPE Automatic
▽ **DURING DRILLING** 15.00 ft
LOGGED BY AA **CHECKED BY** AG
▼ **AFTER DRILLING** 8.00 ft - 10/22/24

GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	USCS SYMBOL	SAMPLE TYPE	RECOVERY %	PENETRATION blows/in	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	SWELL-CONSOL /SURCHARGE LOAD, %psf
	FILL - FINE to COARSE SAND and GRAVEL, with silt and clay, some cobbles, light brown to brown, red, dry to moist, very dense	0							
		5	GP-GM	CB	100	50 / 7	3.7		
		6							
	SANDSTONE BEDROCK, fine- to medium-grained, light brown to brown, moist to wet, very hard ▼								
		10	-	CB	100	50 / 6	11.3	110	+0.2/500
	▽	15	-	CB	0	50 / 3			
		20	-	CB	0	50 / 1			
		25	-	CB	0	50 / 2			

Approximate bottom of borehole at 25.0 feet.

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Cole Garner Geotechnical
1070 W 124th Ave, Suite 300
Westminster, CO 80234

BORING NUMBER 4

CLIENT AvalonBay Communities, Inc
PROJECT NAME AvalonBay Arvada Multi-Family Development
PROJECT NUMBER 24.22.209
PROJECT LOCATION 17201 W 64th Ave - Arvada, CO
DATE STARTED 10/21/24 **COMPLETED** 10/21/24
GROUND SURFACE ELEV. Not Provided **PROPOSED ELEV.** Not Provided
DRILLING CONTRACTOR Vine Laboratories
SURFACE CONDITIONS Gravel
DRILLING METHOD CME-55/Solid Stem Auger
GROUND WATER LEVELS:
HAMMER TYPE Automatic
▽ **DURING DRILLING** None
LOGGED BY AA **CHECKED BY** AG
▼ **AFTER DRILLING** None - 10/22/24

GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	USCS SYMBOL	SAMPLE TYPE	RECOVERY %	PENETRATION blows/in	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	SWELL-CONSOL /SURCHARGE LOAD, %psf
	FILL - FINE to COARSE SAND and GRAVEL, with silt and clay, some cobbles, light brown to brown, red, dry to moist, medium dense	0							
		5	SC	CB	100	16 / 12	5.2		
6	**SANDSTONE BEDROCK**, fine- to medium-grained, tan, iron-stained, moist, very hard								
		10	-	CB	100	50 / 5	9.4	116	-0.3/500
		15	-	CB	100	50 / 3	8.1	115	
19	**CLAYSTONE BEDROCK**, light brown to brown, grey to dark grey, iron-stained, dry to moist, very hard	20	-	CB	100	50 / 6	12.4	119	+0.4/1500
		25	-	CB	100	50 / 6	16.3	114	
		30							
35		35	-	CB	100	50 / 2	12.9	125	

Approximate bottom of borehole at 35.0 feet.

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Cole Garner Geotechnical
1070 W 124th Ave, Suite 300
Westminster, CO 80234

BORING NUMBER 5

CLIENT AvalonBay Communities, Inc
PROJECT NAME AvalonBay Arvada Multi-Family Development
PROJECT NUMBER 24.22.209
PROJECT LOCATION 17201 W 64th Ave - Arvada, CO
DATE STARTED 10/21/24 **COMPLETED** 10/21/24
GROUND SURFACE ELEV. Not Provided **PROPOSED ELEV.** Not Provided
DRILLING CONTRACTOR Vine Laboratories
SURFACE CONDITIONS Gravel
DRILLING METHOD CME-55/Solid Stem Auger
GROUND WATER LEVELS:
HAMMER TYPE Automatic
▽ **DURING DRILLING** None
LOGGED BY AA **CHECKED BY** AG
▼ **AFTER DRILLING** None - 10/22/24

GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	USCS SYMBOL	SAMPLE TYPE	RECOVERY %	PENETRATION blows/in	MOISTURE CONTENT (%)	DRY UNIT WT. (pcf)	SWELL-CONSOL /SURCHARGE LOAD, %psf
	0								
	FILL - FINE to COARSE SAND and GRAVEL, with silt and clay, some cobbles, light brown to brown, red, dry to moist, very dense	5	GP-GM	CB	100	50 / 11	3.8		
	6 **CLAYSTONE BEDROCK**, grey, brown, iron-stained, moist, firm to hard	10	-	CB	100	35 / 12	22.6	105	+7.3/500
		15	-	CB	100	50 / 11	15.4	117	+7.8/1000
		20	-	CB	100	50 / 7	16.6	119	
		25	-	CB	100	50 / 9	18.5	115	
		30							
	35	35	-	CB	100	50 / 8	19.7	119	

Approximate bottom of borehole at 35.0 feet.

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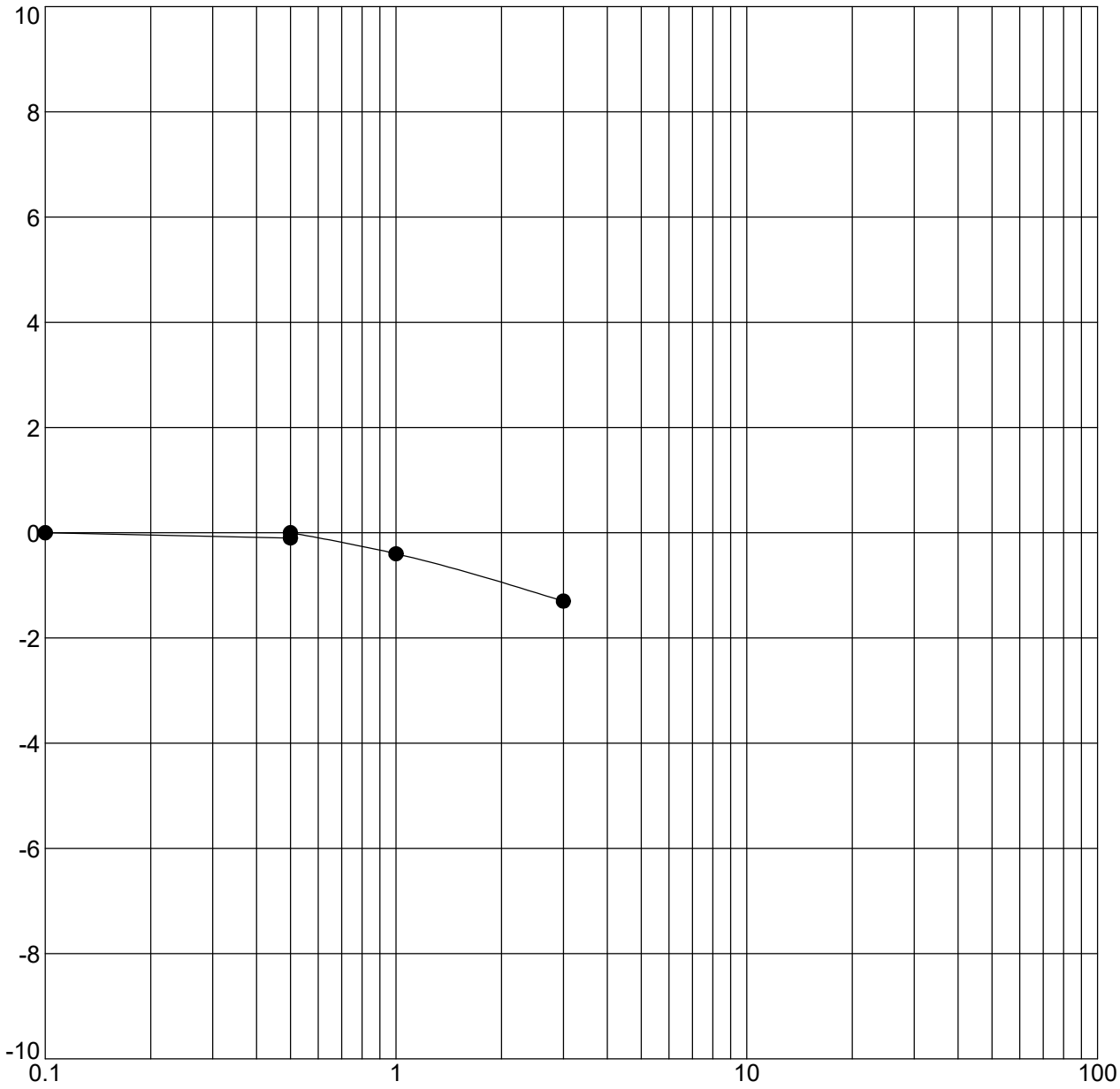
APPENDIX B

LABORATORY TEST RESULTS

SWELL/CONSOLIDATION TEST

Cole Garner Geotechnical
1070 W 124th Ave, Suite 300
Westminster, CO 80234

CLIENT AvalonBay Communities, Inc
PROJECT NAME AvalonBay Arvada Multi-Family Development
PROJECT NUMBER 24.22.209
PROJECT LOCATION 17201 W 64th Ave - Arvada, CO



BOREHOLE	DEPTH	Classification	γ_d	MC%
● 1	9.0	**SANDSTONE BEDROCK**	115	15

Note: Water Added to Sample at 500 psf.

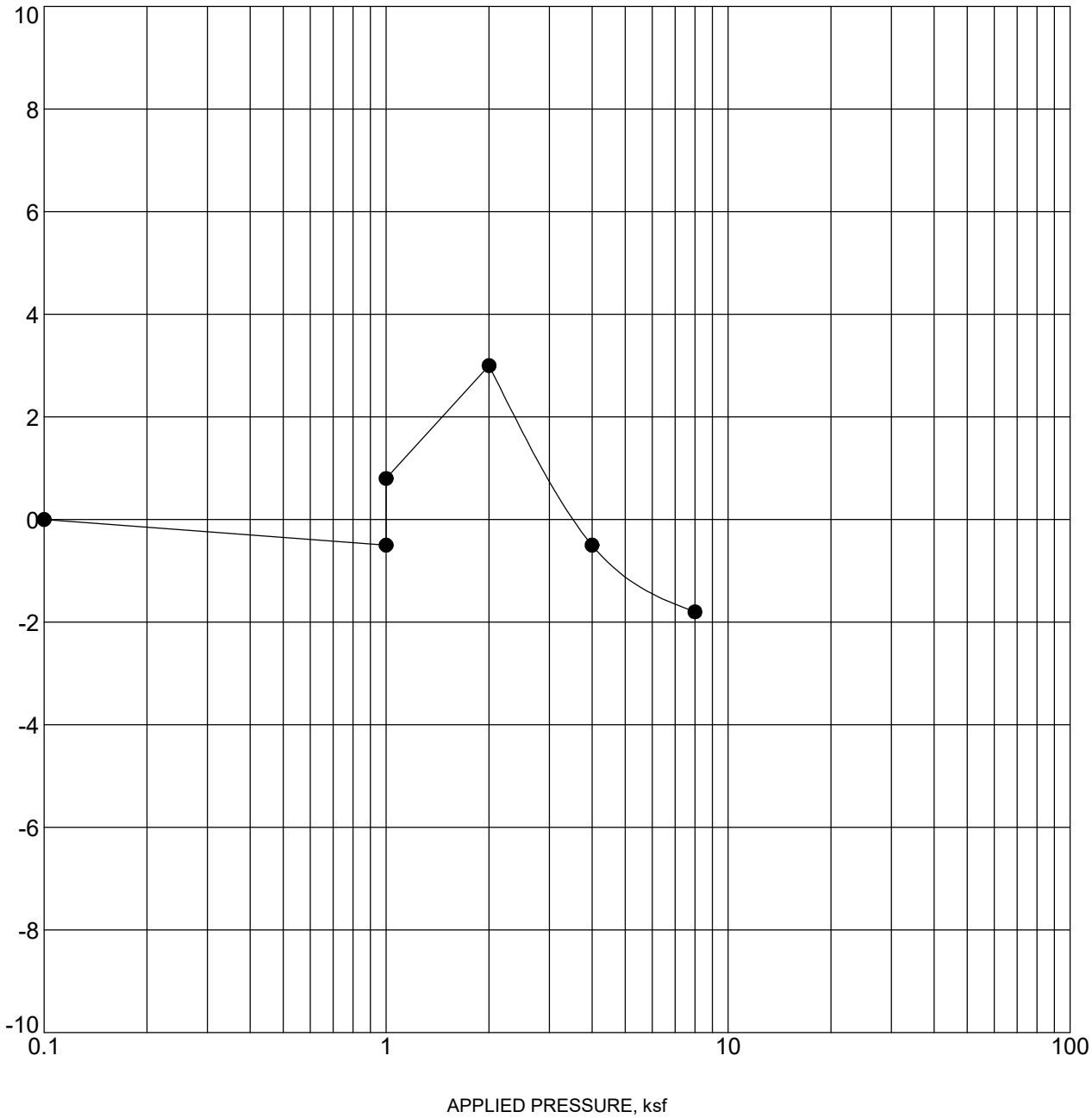
Date: 10/29/24

CONSOL STRAIN SINGLE - GINT STD US LAB.GDT - 11/19/24 12:03 - Y:\GINT BACKUPS\MAIN TRANSFER 10.28\PROJECTS GEO 2024\24.22.209 AVBARVADAMULTIFAMILY.GPJ

SWELL/CONSOLIDATION TEST

Cole Garner Geotechnical
1070 W 124th Ave, Suite 300
Westminster, CO 80234

CLIENT AvalonBay Communities, Inc
PROJECT NAME AvalonBay Arvada Multi-Family Development
PROJECT NUMBER 24.22.209
PROJECT LOCATION 17201 W 64th Ave - Arvada, CO



BOREHOLE	DEPTH	Classification	γ_d	MC%
● 2	14.0	**CLAYSTONE BEDROCK**	119	15

Note: Water Added to Sample at 1000 psf.

Date: 10/29/24

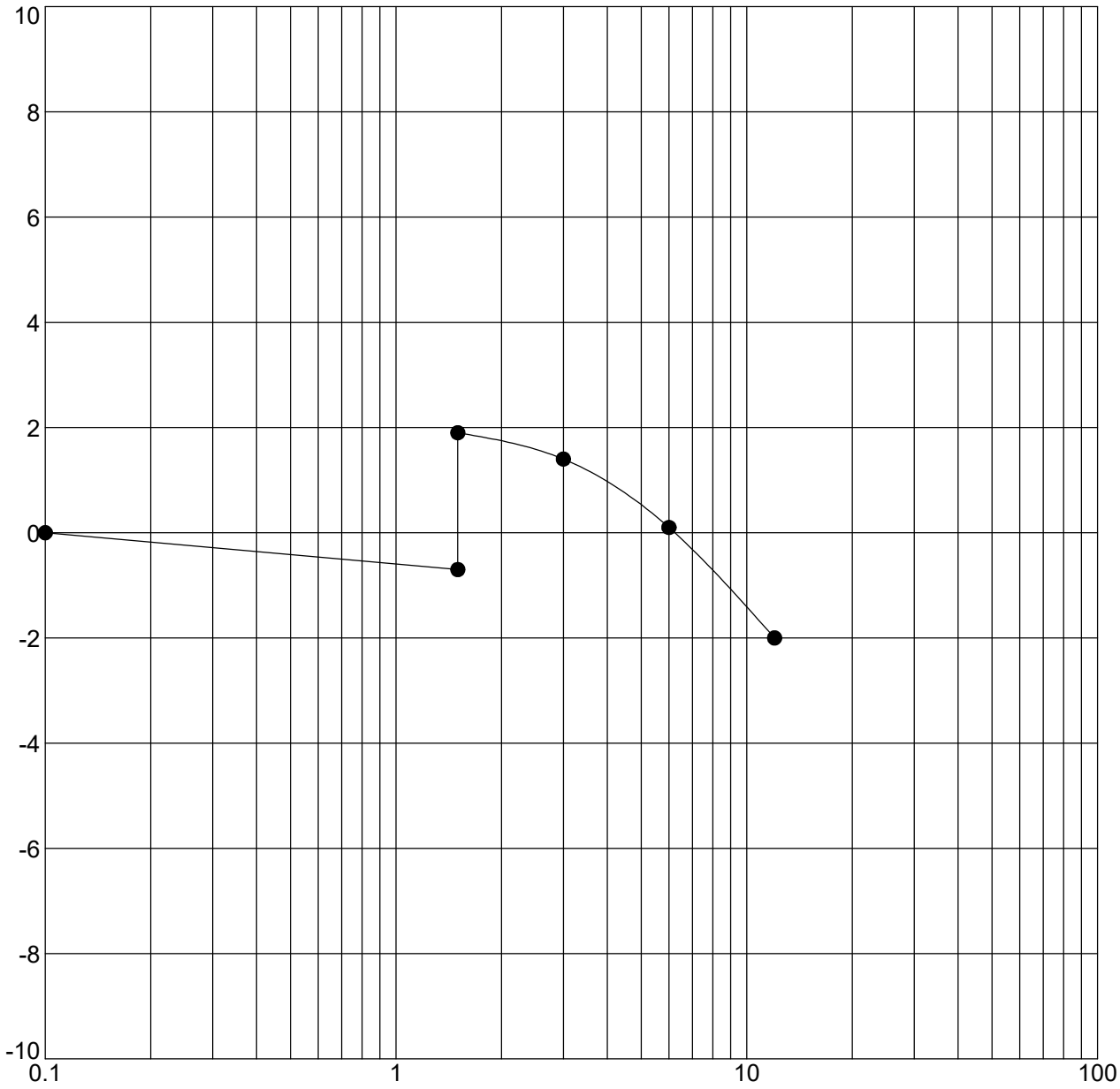
CONSOL STRAIN SINGLE - GINT STD US LAB.GDT - 11/19/24 12:03 - Y:\GINT BACKUPS\MAIN TRANSFER 10.28\PROJECTS GEO 2024\24.22.209 AVBARVADAMULTIFAMILY.GPJ

SWELL/CONSOLIDATION TEST

Cole Garner Geotechnical
1070 W 124th Ave, Suite 300
Westminster, CO 80234

CLIENT AvalonBay Communities, Inc **PROJECT NAME** AvalonBay Arvada Multi-Family Development

PROJECT NUMBER 24.22.209 **PROJECT LOCATION** 17201 W 64th Ave - Arvada, CO



BOREHOLE	DEPTH	Classification	γ_d	MC%
● 2	19.0	**CLAYSTONE BEDROCK**	104	22

Note: Water Added to Sample at 1500 psf.

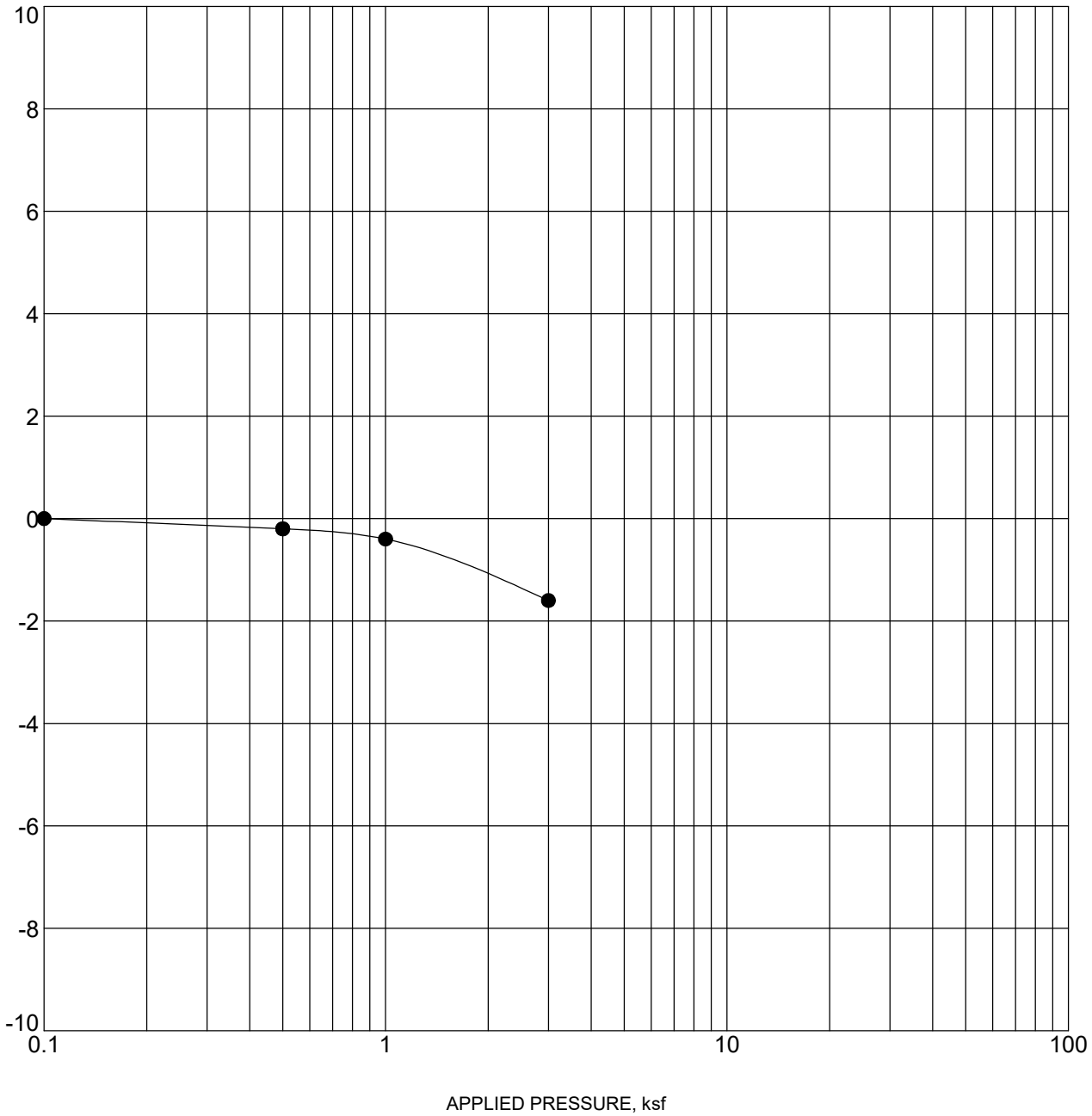
Date: 10/29/24

CONSOL STRAIN SINGLE - GINT STD US LAB.GDT - 11/19/24 12:03 - Y:\GINT BACKUPS\MAIN TRANSFER 10.28\PROJECTS GEO 2024\24.22.209 AVBARVADAMULTIFAMILY.GPJ

SWELL/CONSOLIDATION TEST

Cole Garner Geotechnical
1070 W 124th Ave, Suite 300
Westminster, CO 80234

CLIENT AvalonBay Communities, Inc
PROJECT NAME AvalonBay Arvada Multi-Family Development
PROJECT NUMBER 24.22.209
PROJECT LOCATION 17201 W 64th Ave - Arvada, CO



BOREHOLE	DEPTH	Classification	γ_d	MC%
● 3	9.0	**SANDSTONE BEDROCK**	110	11

Note: Water Added to Sample at 500 psf.

Date: 10/29/24

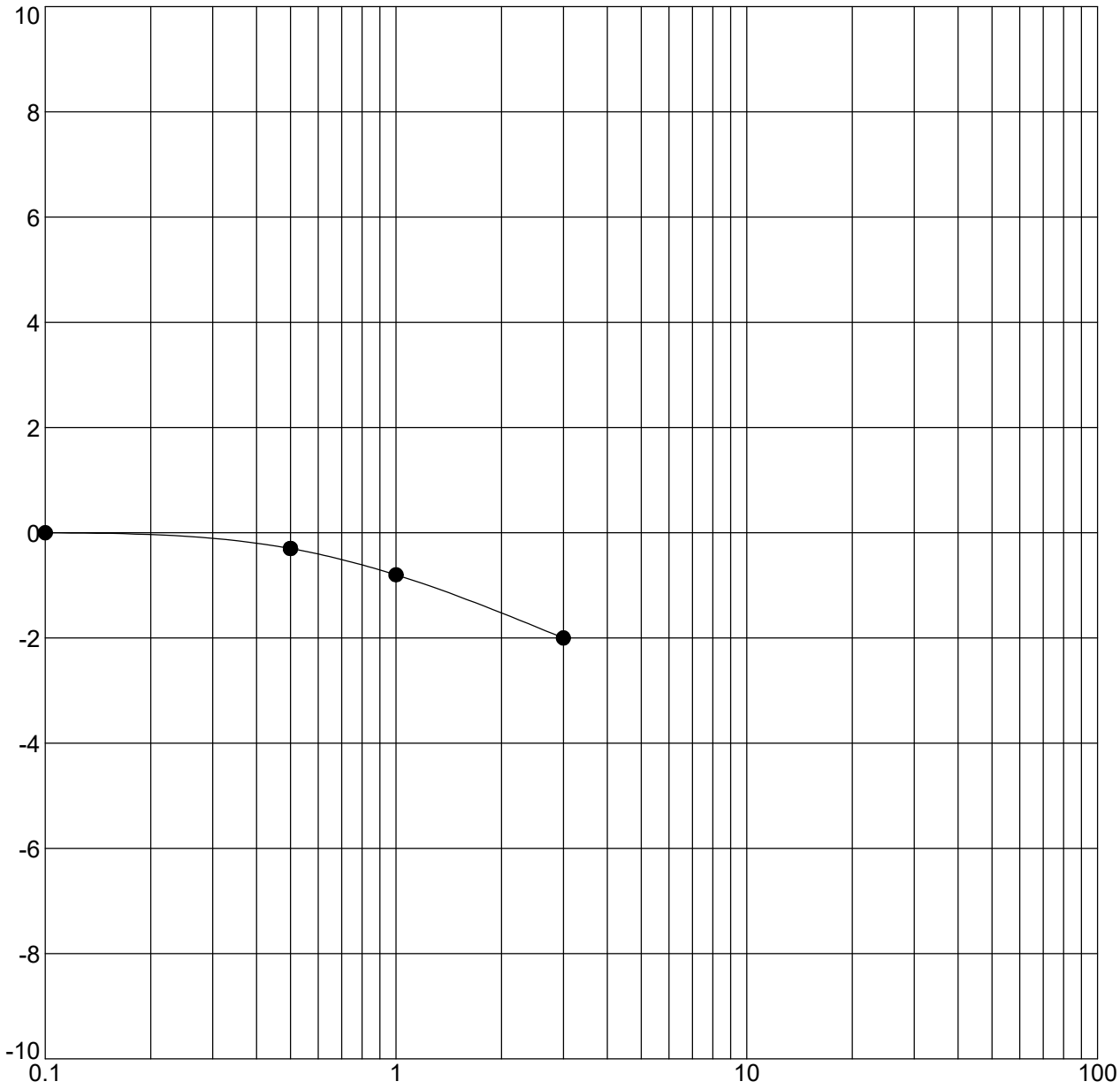
CONSOL STRAIN SINGLE - GINT STD US LAB.GDT - 11/19/24 12:03 - Y:\GINT BACKUPS\MAIN TRANSFER 10.28\PROJECTS GEO 2024\24.22.209 AVBARVADAMULTIFAMILY.GPJ

SWELL/CONSOLIDATION TEST

Cole Garner Geotechnical
1070 W 124th Ave, Suite 300
Westminster, CO 80234

CLIENT AvalonBay Communities, Inc **PROJECT NAME** AvalonBay Arvada Multi-Family Development

PROJECT NUMBER 24.22.209 **PROJECT LOCATION** 17201 W 64th Ave - Arvada, CO



BOREHOLE	DEPTH	Classification	γ_d	MC%
● 4	9.0	**SANDSTONE BEDROCK**	116	9

Note: Water Added to Sample at 500 psf.

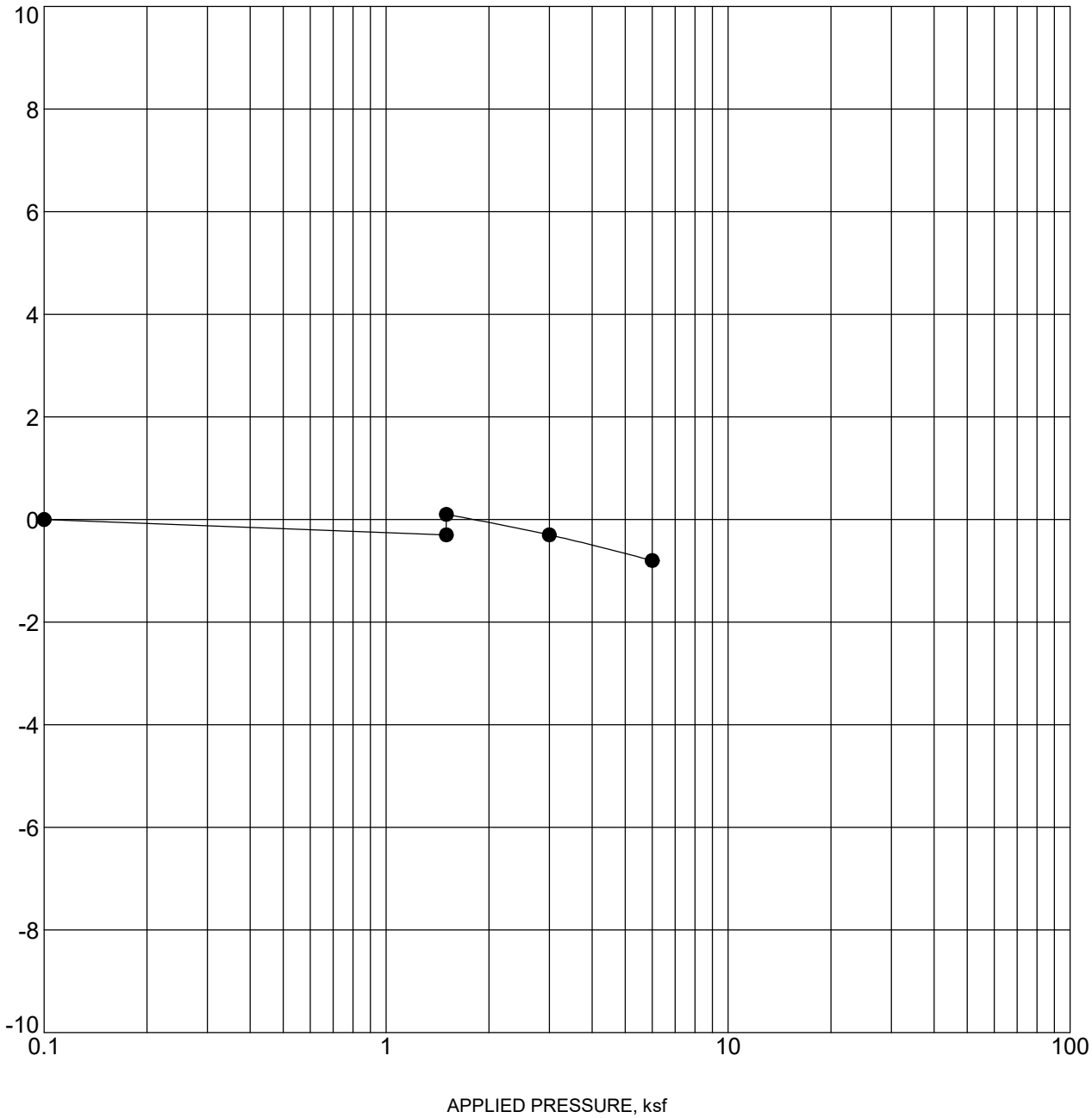
Date: 10/29/24

CONSOL STRAIN SINGLE - GINT STD US LAB.GDT - 11/19/24 12:03 - Y:\GINT BACKUPS\MAIN TRANSFER 10.28\PROJECTS GEO 2024\24.22.209 AVBARVADAMULTIFAMILY.GPJ

SWELL/CONSOLIDATION TEST

Cole Garner Geotechnical
1070 W 124th Ave, Suite 300
Westminster, CO 80234

CLIENT AvalonBay Communities, Inc
PROJECT NAME AvalonBay Arvada Multi-Family Development
PROJECT NUMBER 24.22.209
PROJECT LOCATION 17201 W 64th Ave - Arvada, CO



BOREHOLE	DEPTH	Classification	γ_d	MC%
● 4	19.0	**CLAYSTONE BEDROCK**	119	12

Note: Water Added to Sample at 1500 psf.

Date: 10/29/24

CONSOL STRAIN SINGLE - GINT STD US LAB.GDT - 11/19/24 12:03 - Y:\GINT BACKUPS\MAIN TRANSFER 10.28\PROJECTS GEO 2024\24.22.209 AVBARVADAMULTIFAMILY.GPJ

SWELL/CONSOLIDATION TEST

Cole Garner Geotechnical
1070 W 124th Ave, Suite 300
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PROJECT NAME AvalonBay Arvada Multi-Family Development
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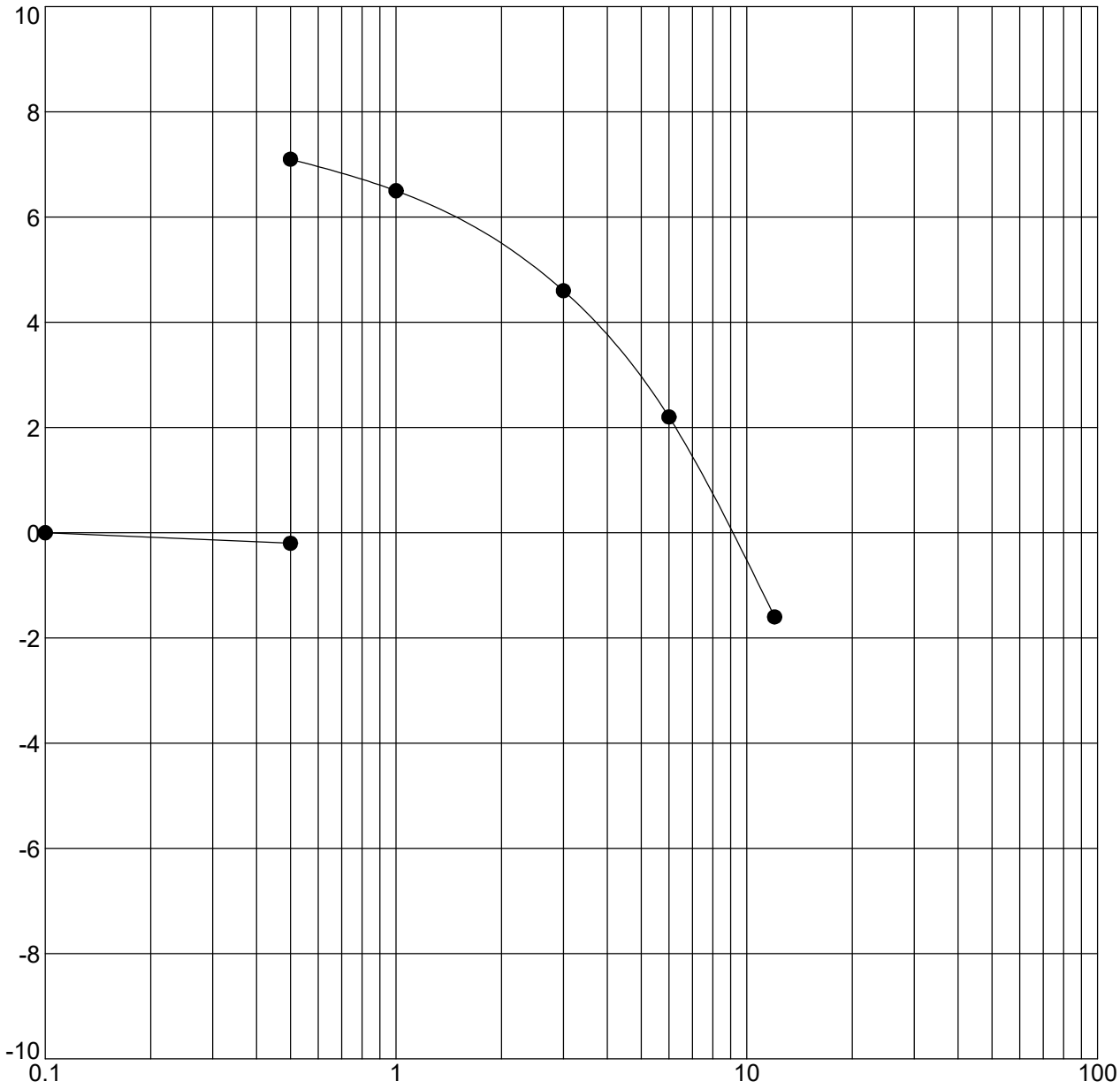

BOREHOLE	DEPTH	Classification	γ_d	MC%
● 5	9.0	**CLAYSTONE BEDROCK**	105	23

Note: Water Added to Sample at 500 psf.

Date: 10/29/24

CONSOL STRAIN SINGLE - GINT STD US LAB.GDT - 11/19/24 12:03 - Y:\GINT BACKUPS\MAIN TRANSFER 10.28\PROJECTS GEO 2024\24.22.209 AVBARVADAMULTIFAMILY.GPJ

SWELL/CONSOLIDATION TEST

Cole Garner Geotechnical
1070 W 124th Ave, Suite 300
Westminster, CO 80234

CLIENT AvalonBay Communities, Inc
PROJECT NAME AvalonBay Arvada Multi-Family Development
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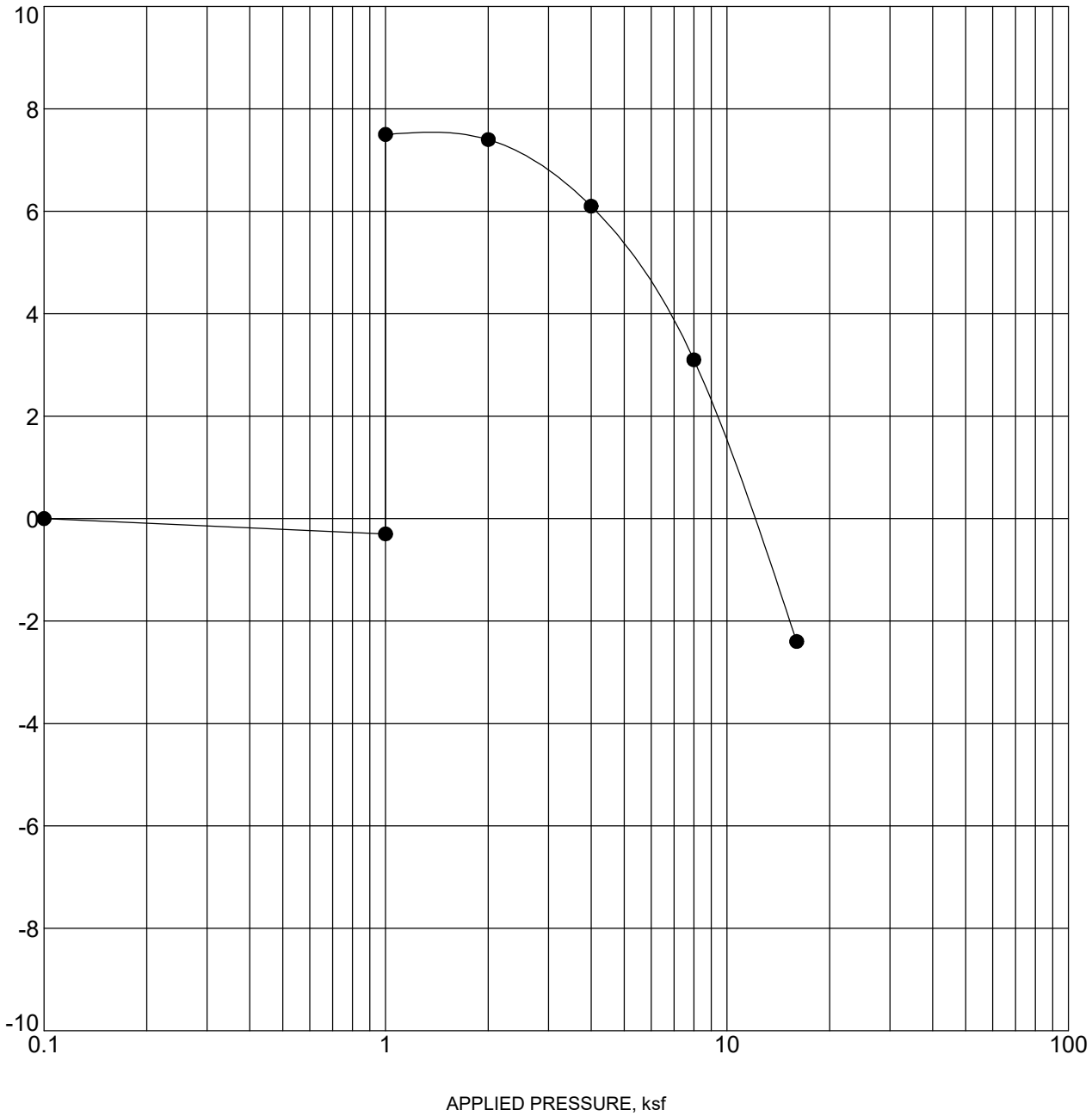
PROJECT LOCATION 17201 W 64th Ave - Arvada, CO



BOREHOLE	DEPTH	Classification	γ_d	MC%
● 5	14.0	**CLAYSTONE BEDROCK**	117	15

Note: Water Added to Sample at 1000 psf.

Date: 10/29/24

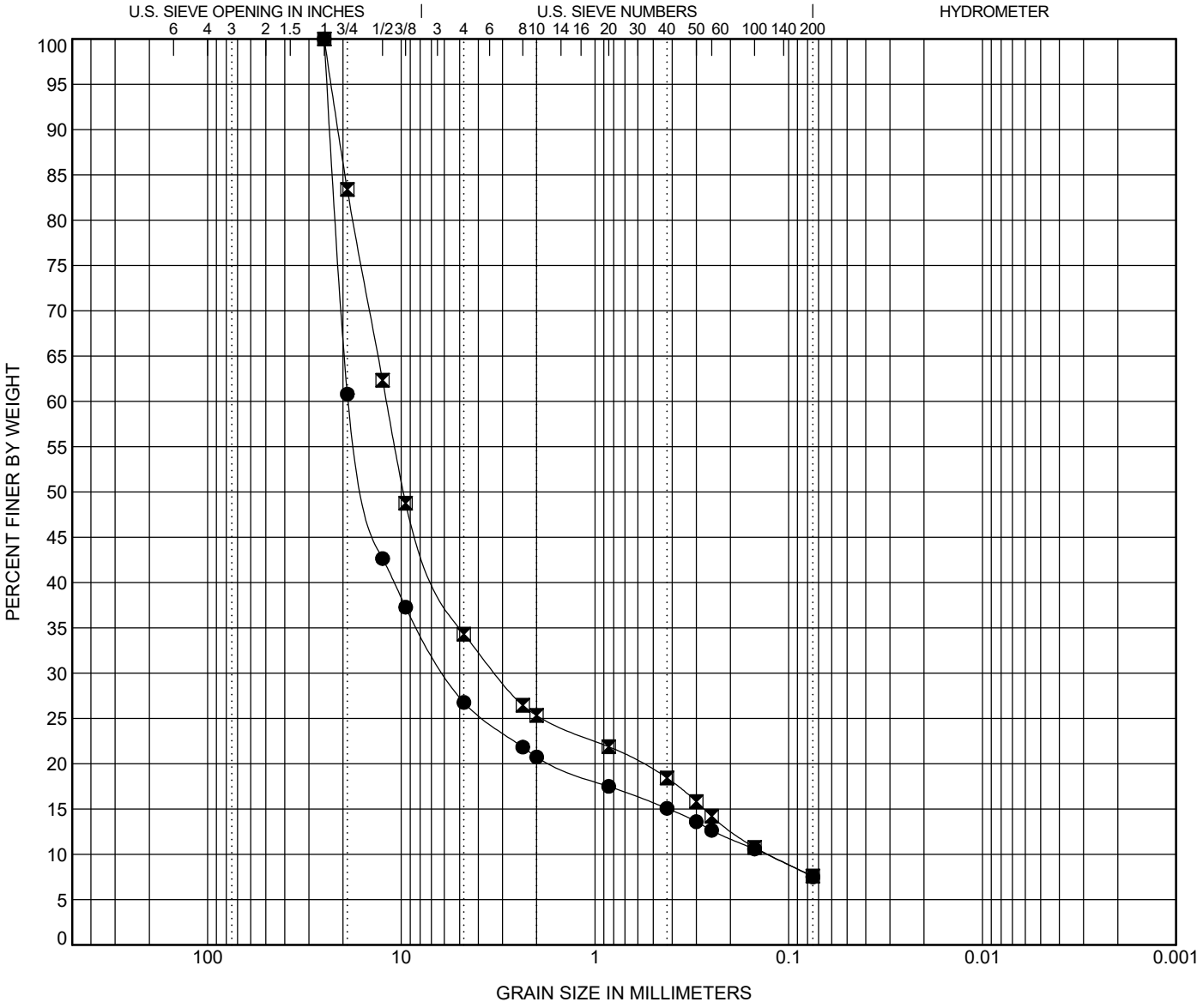
CONSOL STRAIN SINGLE - GINT STD US LAB.GDT - 11/19/24 12:03 - Y:\GINT BACKUPS\MAIN TRANSFER 10.28\PROJECTS GEO 2024\24.22.209 AVBARVADAMULTIFAMILY.GPJ

GRAIN SIZE DISTRIBUTION

Cole Garner Geotechnical
1070 W 124th Ave, Suite 300
Westminster, CO 80234

CLIENT AvalonBay Communities, Inc **PROJECT NAME** AvalonBay Arvada Multi-Family Development

PROJECT NUMBER 24.22.209 **PROJECT LOCATION** 17201 W 64th Ave - Arvada, CO



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	1	4.0	**POORLY GRADED GRAVEL with SILT and SAND(GP-GM)**	**NP**	**NP**	**NP**	**14.10**	**141.87**
⊠	3	4.0	**POORLY GRADED GRAVEL with SILT and SAND(GP-GM)**	**NP**	**NP**	**NP**	**6.93**	**94.11**

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	1	4.0	25	18.649	5.879	0.131	73.2	19.3	7.5	
⊠	3	4.0	25	11.922	3.236	0.127	65.7	26.7	7.6	

GRAIN SIZE - GINT STD US LAB.GDT - 11/5/24 08:28 - Y:\GINT BACKUPS\MAIN TRANSFER 10.28\PROJECTS GEO 2024\24.22.209 AVBARVADAMULTIFAMILY.GPJ

Cole Garner Geotechnical
1070 W 124th Ave, Suite 300
Westminster, CO 80234

SUMMARY OF LABORATORY RESULTS

CLIENT AvalonBay Communities, Inc

PROJECT NAME AvalonBay Arvada Multi-Family Development

PROJECT NUMBER 24.22.209

PROJECT LOCATION 17201 W 64th Ave - Arvada, CO

Borehole	Depth	Soil Description	Water Content (%)	Dry Density (pcf)	Swell (+) or Consolidation (-)/ Surcharge (%/psf)	Water Soluble Sulfates (ppm)	Passing #200 Sieve (%)	Atterberg Limits		
								Liquid Limit	Plastic Limit	Plasticity Index
1	4	FILL - FINE to COARSE SAND and GRAVEL	4.5			0	8	NP	NP	NP
1	9	SANDSTONE BEDROCK	15.0	115.3	+0.1/500					
1	14	SANDSTONE BEDROCK	14.3	25.7						
2	4	FILL - CLAYEY SAND with GRAVEL	9.4							
2	9	SILTY SAND	16.9	114.2						
2	14	CLAYSTONE BEDROCK	15.0	118.8	+1.3/1000	0				
2	19	CLAYSTONE BEDROCK	21.7	103.6	+2.6/1500					
2	24	CLAYSTONE BEDROCK	21.0	110.6						
2	34	CLAYSTONE BEDROCK	11.4	130.7						
3	4	FILL - FINE to COARSE SAND and GRAVEL	3.7				8	NP	NP	NP
3	9	SANDSTONE BEDROCK	11.3	110.1	+0.2/500					
4	4	FILL - FINE to COARSE SAND and GRAVEL	5.2							
4	9	SANDSTONE BEDROCK	9.4	116.3	-0.3/500					
4	14	SANDSTONE BEDROCK	8.1	115.4						
4	19	CLAYSTONE BEDROCK	12.4	119.2	+0.4/1500					
4	24	CLAYSTONE BEDROCK	16.3	113.8						
4	34	CLAYSTONE BEDROCK	12.9	125.0						
5	4	FILL - FINE to COARSE SAND and GRAVEL	3.8							
5	9	CLAYSTONE BEDROCK	22.6	105.4	+7.3/500					
5	14	CLAYSTONE BEDROCK	15.4	117.2	+7.8/1000					
5	19	CLAYSTONE BEDROCK	16.6	119.4		0	93	40	24	16
5	24	CLAYSTONE BEDROCK	18.5	115.3						
5	34	CLAYSTONE BEDROCK	19.7	118.7						

LAB SUMMARY - GINT STD US LAB.GDT - 11/19/24 12:04 - Y:\GINT BACKUPS\MAIN TRANSFER 10.28\PROJECTS GEO 2024\24.22.209 AVBARVADAMULTIFAMILY.GPJ

APPENDIX C

GENERAL NOTES

GENERAL NOTES

DRILLING & SAMPLING SYMBOLS:

SS:	Split Spoon - 1⅜" I.D., 2" O.D., unless otherwise noted	HS:	Hollow Stem Auger
ST:	Thin-Walled Tube – 2.5" O.D., unless otherwise noted	PA:	Power Auger
RS:	Ring Sampler - 2.42" I.D., 3" O.D., unless otherwise noted	HA:	Hand Auger
CB:	California Barrel - 1.92" I.D., 2.5" O.D., unless otherwise noted	RB:	Rock Bit
BS:	Bulk Sample or Auger Sample	WB:	Wash Boring or Mud Rotary

The number of blows required to advance a standard 2-inch O.D. split-spoon sampler (SS) the last 12 inches of the total 18-inch penetration with a 140-pound hammer falling 30 inches is considered the "Standard Penetration" or "N-value". For 2.5" O.D. California Barrel samplers (CB) the penetration value is reported as the number of blows required to advance the sampler 12 inches using a 140-pound hammer falling 30 inches, reported as "blows per inch," and is not considered equivalent to the "Standard Penetration" or "N-value".

WATER LEVEL MEASUREMENT SYMBOLS:

WL:	Water Level	WS:	While Sampling
WCI:	Wet Cave in	WD:	While Drilling
DCI:	Dry Cave in	BCR:	Before Casing Removal
AB:	After Boring	ACR:	After Casing Removal

Water levels indicated on the boring logs are the levels measured in the borings at the times indicated. Groundwater levels at other times and other locations across the site could vary. In pervious soils, the indicated levels may reflect the location of groundwater. In low permeability soils, the accurate determination of groundwater levels may not be possible with only short-term observations.

DESCRIPTIVE SOIL CLASSIFICATION: Soil classification is based on the Unified Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

FINE-GRAINED SOILS			COARSE-GRAINED SOILS			BEDROCK		
(CB) Blows/Ft.	(SS) Blows/Ft.	Consistency	(CB) Blows/Ft.	(SS) Blows/Ft.	Relative Density	(CB) Blows/Ft.	(SS) Blows/Ft.	Consistency
< 3	0-2	Very Soft	0-5	< 3	Very Loose	< 24	< 20	Weathered
3-5	3-4	Soft	6-14	4-9	Loose	24-35	20-29	Firm
6-10	5-8	Medium Stiff	15-46	10-29	Medium Dense	36-60	30-49	Medium Hard
11-18	9-15	Stiff	47-79	30-50	Dense	61-96	50-79	Hard
19-36	16-30	Very Stiff	> 79	> 50	Very Dense	> 96	> 79	Very Hard
> 36	> 30	Hard						

RELATIVE PROPORTIONS OF SAND AND GRAVEL

Descriptive Terms of Other Constituents	Percent of Dry Weight
Trace	< 15
With	15 – 29
Modifier	> 30

GRAIN SIZE TERMINOLOGY

Major Component of Sample	Particle Size
Boulders	Over 12 in. (300mm)
Cobbles	12 in. to 3 in. (300mm to 75 mm)
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm)
Silt or Clay	Passing #200 Sieve (0.075mm)

RELATIVE PROPORTIONS OF FINES

Descriptive Terms of Other Constituents	Percent of Dry Weight
Trace	< 5
With	5 – 12
Modifiers	> 12

PLASTICITY DESCRIPTION

Term	Plasticity Index
Non-plastic	0
Low	1-10
Medium	11-30
High	30+

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests[A]					Soil Classification	
					Group Symbol	Group Name[B]
Coarse Grained Soils	Gravels	Clean Gravels	$Cu \geq 4$ and $1 \leq Cc \leq 3$[E]		GW	Well graded gravel[F]
More than 50% retained	More than 50% of coarse fraction retained on No. 4 sieve	Less than 5% fines[C]	$Cu < 4$ and/or $1 > Cc > 3$[E]		GP	Poorly graded gravel[F]
on No. 200 sieve		Gravels with Fines More than 12% fines[C]	Fines classify as ML or MH		GM	Silty gravel[F,G,H]
			Fines classify as CL or CH		GC	Clayey gravel[F,G,H]
	Sands	Clean Sands	$Cu \geq 6$ and $1 \leq Cc \leq 3$[E]		SW	Well graded sand[I]
	50% or more of coarse fraction passes No. 4 sieve	Less than 5% fines[D]	$Cu < 6$ and/or $1 > Cc > 3$[E]		SP	Poorly graded sand[I]
		Sands with Fines More than 12% fines[D]	Fines classify as ML or MH		SM	Silty sand[G,H,I]
			Fines classify as CL or CH		SC	Clayey sand[G,H,I]
Fine-Grained Soils	Silts and Clays	Inorganic	PI > 7 and plots on or above "A" line[J]		CL	Lean clay[K,L,M]
50% or more passes the No. 200 sieve	Liquid limit less than 50		PI < 4 or plots below "A" line[J]		ML	Silt[K,L,M]
		Organic	**Liquid limit - oven dried**	< 0.75	OL	Organic clay[K,L,M,N]
			Liquid limit - not dried			Organic silt[K,L,M,O]
	Silts and Clays	Inorganic	PI plots on or above "A" line		CH	Fat clay[K,L,M]
	Liquid limit 50 or more		PI plots below "A" line		MH	Elastic silt[K,L,M]
		Organic	Liquid limit - oven dried	< 0.75	OH	Organic clay[K,L,M,P]
			Liquid limit - not dried			Organic silt[K,L,M,Q]
Highly organic soils	Primarily organic matter, dark in color, and organic odor				PT	Peat

[A] Based on the material passing the 3-in. (75-mm) sieve

[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well graded gravel with silt, GW-GC well graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

[D] Sands with 5 to 12% fines require dual symbols: SW-SM well graded sand with silt, SW-SC well graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay

[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥ 15% sand, add "with sand" to group name.

[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H] If fines are organic, add "with organic fines" to group name.

[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.

[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.

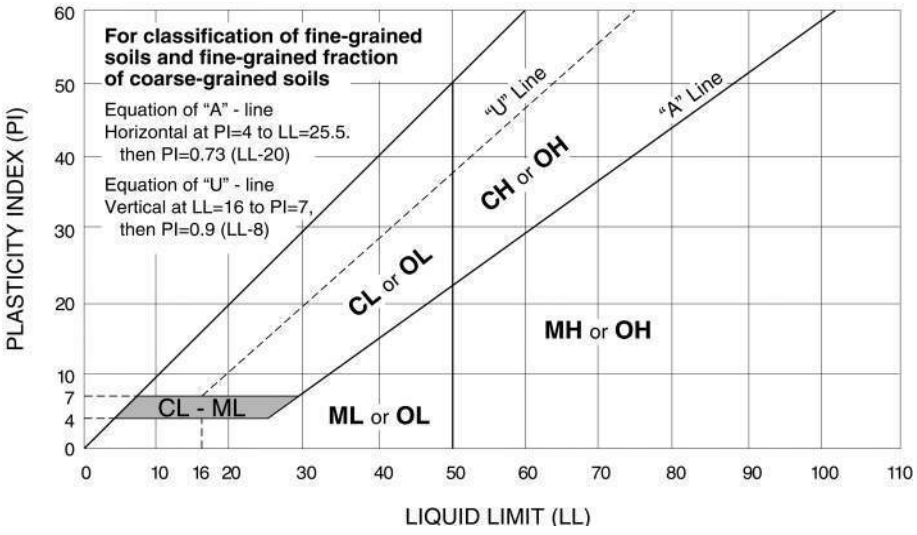
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.

[N] PI ≥ 4 and plots on or above "A" line.

[O] PI < 4 or plots below "A" line.

[P] PI plots on or above "A" line.

[Q] PI plots below "A" line.



ROCK CLASSIFICATION
(Based on ASTM C-294)

Sedimentary Rocks

Sedimentary rocks are stratified materials laid down by water or wind. The sediments may be composed of particles or pre-existing rocks derived by mechanical weathering, evaporation or by chemical or organic origin. The sediments are usually indurated by cementation or compaction.

Chert Very fine-grained siliceous rock composed of micro-crystalline or cyrptocrystalline quartz, chalcedony or opal. Chert is various colored, porous to dense, hard and has a conchoidal to splintery fracture.

Claystone Fine-grained rock composed of or derived by erosion of silts and clays or any rock containing clay. Soft massive and may contain carbonate minerals.

Conglomerate Rock consisting of a considerable amount of rounded gravel, sand and cobbles with or without interstitial or cementing material. The cementing or interstitial material may be quartz, opal, calcite, dolomite, clay, iron oxides or other materials.

Dolomite A fine-grained carbonate rock consisting of the mineral dolomite [$CaMg(CO_3)_2$]. May contain noncarbonate impurities such as quartz, chert, clay minerals, organic matter, gypsum and sulfides. Reacts with hydrochloric acid (HCL).

Limestone A fine-grained carbonate rock consisting of the mineral calcite ($CaCO_3$). May contain noncarbonate impurities such as quartz, chert, clay minerals, organic matter, gypsum and sulfides. Reacts with hydrochloric acid (HCL).

Sandstone Rock consisting of particles of sand with or without interstitial and cementing materials. The cementing or interstitial material may be quartz, opal, calcite, dolomite, clay, iron oxides or other material.

Shale Fine-grained rock composed of or derived by erosion of silts and clays or any rock containing clay. Shale is hard, platy, of fissile may be gray, black, reddish or green and may contain some carbonate minerals (calcareous shale).

Siltstone Fine grained rock composed of or derived by erosion of silts or rock containing silt. Siltstones consist predominantly of silt sized particles (0.0625 to 0.002 mm in diameter) and are intermediate rocks between claystones and sandstones and may contain carbonate minerals.

LABORATORY TEST
SIGNIFICANCE AND PURPOSE

TEST	SIGNIFICANCE	PURPOSE
California Bearing Ratio	Used to evaluate the potential strength of subgrade soil, subbase, and base course material, including recycled materials for use in road and airfield pavements.	***Pavement Thickness Design***
Consolidation	Used to develop an estimate of both the rate and amount of both differential and total settlement of a structure.	***Foundation Design***
Direct Shear	Used to determine the consolidated drained shear strength of soil or rock.	***Bearing Capacity, Foundation Design, and Slope Stability***
Dry Density	Used to determine the in-place density of natural, inorganic, fine-grained soils.	***Index Property Soil Behavior***
Expansion	Used to measure the expansive potential of fine-grained soil and to provide a basis for swell potential classification.	***Foundation and Slab Design***
Gradation	Used for the quantitative determination of the distribution of particle sizes in soil.	***Soil Classification***
Liquid & Plastic Limit, Plasticity Index	Used as an integral part of engineering classification systems to characterize the fine-grained fraction of soils, and to specify the fine-grained fraction of construction materials.	***Soil Classification***
Permeability	Used to determine the capacity of soil or rock to conduct a liquid or gas.	***Groundwater Flow Analysis***
pH	Used to determine the degree of acidity or alkalinity of a soil.	***Corrosion Potential***
Resistivity	Used to indicate the relative ability of a soil medium to carry electrical currents.	***Corrosion Potential***
R-Value	Used to evaluate the potential strength of subgrade soil, subbase, and base course material, including recycled materials for use in road and airfield pavements.	***Pavement Thickness Design***
Soluble Sulfate	Used to determine the quantitative amount of soluble sulfates within a soil mass.	***Corrosion Potential***
Unconfined Compression	To obtain the approximate compressive strength of soils that possess sufficient cohesion to permit testing in the unconfined state.	***Bearing Capacity Analysis for Foundations***
Water Content	Used to determine the quantitative amount of water in a soil mass.	***Index Property Soil Behavior***

REPORT TERMINOLOGY
(Based on ASTM D653)

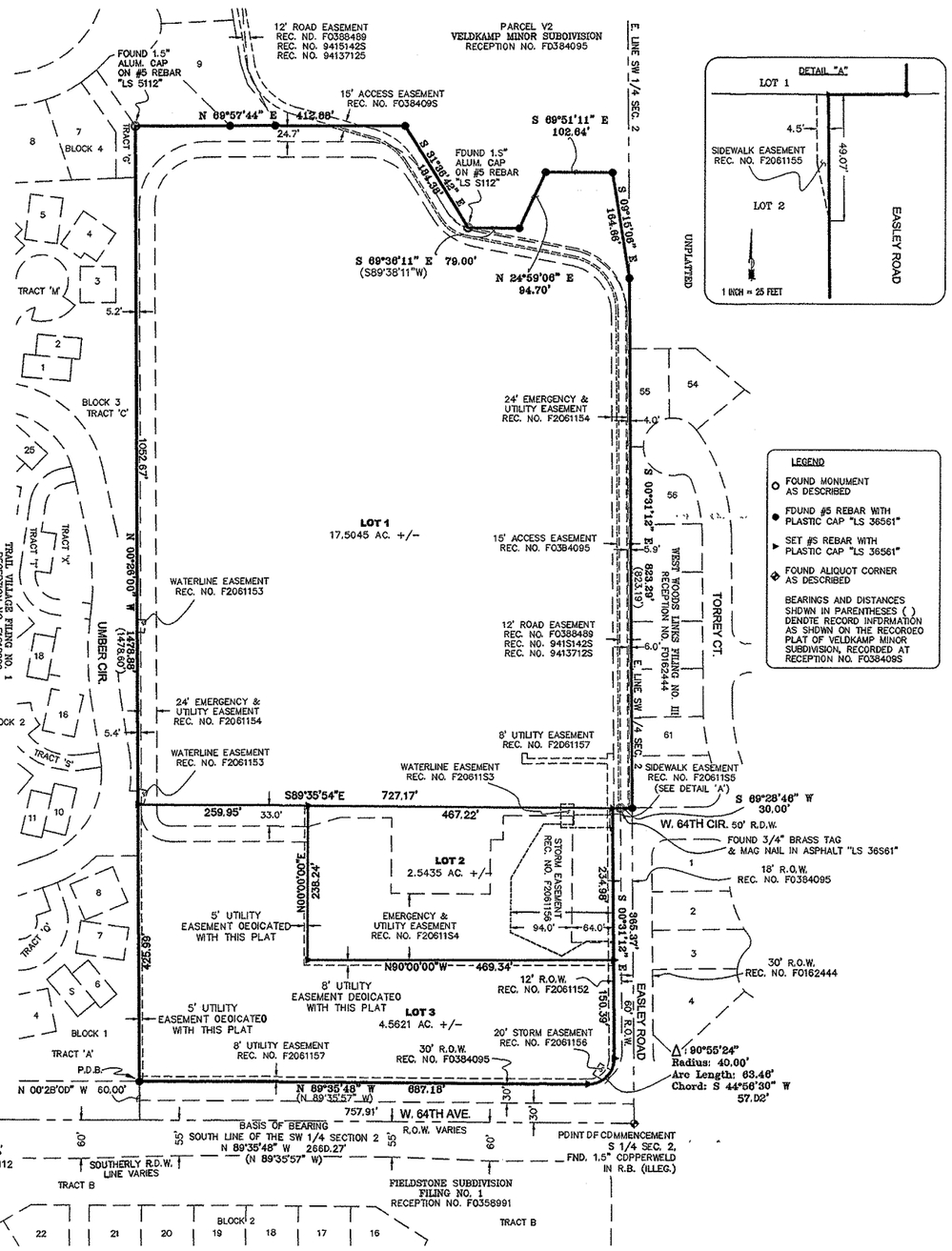
Allowable Soil Bearing Capacity	The recommended maximum contact stress developed at the interface of the foundation element and the supporting material.
Alluvium	Soil, the constituents of which have been transported in suspension by flowing water and subsequently deposited by sedimentation.
Aggregate Base Course	A layer of specified material placed on a subgrade or subbase usually beneath slabs or pavements.
Backfill	A specified material placed and compacted in a confined area.
Bedrock	A natural aggregate of mineral grains connected by strong and permanent cohesive forces. Usually requires drilling, wedging, blasting or other methods of extraordinary force for excavation.
Bench	A horizontal surface in a sloped deposit.
Caisson (Drilled Pier or Shaft)	A concrete foundation element cast in a circular excavation which may have an enlarged base. Sometimes referred to as a cast-in-place pier or drilled shaft.
Coefficient of Friction	A constant proportionality factor relating normal stress and the corresponding shear stress at which sliding starts between the two surfaces.
Colluvium	Soil, the constituents of which have been deposited chiefly by gravity such as at the foot of a slope or cliff.
Compaction	The densification of a soil by means of mechanical manipulation
Concrete Slab-on-Grade	A concrete surface layer cast directly upon a base, subbase or subgrade, and typically used as a floor system.
Differential Movement	Unequal settlement or heave between, or within foundation elements of structure.
Earth Pressure	The pressure exerted by soil on any boundary such as a foundation wall.
ESAL	Equivalent Single Axle Load, a criteria used to convert traffic to a uniform standard, (18,000 pound axle loads).
Engineered Fill	Specified material placed and compacted to specified density and/or moisture conditions under observations of a representative of a geotechnical engineer.
Equivalent Fluid	A hypothetical fluid having a unit weight such that it will produce a pressure against a lateral support presumed to be equivalent to that produced by the actual soil. This simplified approach is valid only when deformation conditions are such that the pressure increases linearly with depth and the wall friction is neglected.
Existing Fill (or Man-Made Fill)	Materials deposited throughout the action of man prior to exploration of the site.
Existing Grade	The ground surface at the time of field exploration.

REPORT TERMINOLOGY
(Based on ASTM D653)

Expansive Potential	The potential of a soil to expand (increase in volume) due to absorption of moisture.
Finished Grade	The final grade created as a part of the project.
Footing	A portion of the foundation of a structure that transmits loads directly to the soil.
Foundation	The lower part of a structure that transmits the loads to the soil or bedrock.
Frost Depth	The depth at which the ground becomes frozen during the winter season.
Grade Beam	A foundation element or wall, typically constructed of reinforced concrete, used to span between other foundation elements such as drilled piers.
Groundwater	Subsurface water found in the zone of saturation of soils or within fractures in bedrock.
Heave	Upward movement.
Lithologic	The characteristics which describe the composition and texture of soil and rock by observation.
Native Grade	The naturally occurring ground surface.
Native Soil	Naturally occurring on-site soil, sometimes referred to as natural soil.
Optimum Moisture Content	The water content at which a soil can be compacted to a maximum dry unit weight by a given compactive effort.
Perched Water	Groundwater, usually of limited area maintained above a normal water elevation by the presence of an intervening relatively impervious continuous stratum.
Scarify	To mechanically loosen soil or break down existing soil structure.
Settlement	Downward movement.
Skin Friction (Side Shear)	The frictional resistance developed between soil and an element of the structure such as a drilled pier.
Soil (Earth)	Sediments or other unconsolidated accumulations of solid particles produced by the physical and chemical disintegration of rocks, and which may or may not contain organic matter.
Strain	The change in length per unit of length in a given direction.
Stress	The force per unit area acting within a soil mass.
Strip	To remove from present location.
Subbase	A layer of specified material in a pavement system between the subgrade and base course.
Subgrade	The soil prepared and compacted to support a structure, slab or pavement system.

BK 181 Pg. 23 Rec# F2176756 2-24-2005 12:41:52 pm County of Jefferson State of Colorado # 11.00

VELDKAMP MINOR SUBDIVISION - FIRST AMENDMENT
A REPLAT OF A PORTION PARCEL V1, VELDKAMP MINOR SUBDIVISION LOCATED IN THE SOUTHWEST QUARTER OF SECTION 2 TOWNSHIP 3 SOUTH, RANGE 70 WEST OF THE 6TH P.M., CITY OF ARVADA, COUNTY OF JEFFERSON, STATE OF COLORADO
SHEET 1 OF 1



LEGEND
- FOUND MONUMENT AS DESCRIBED
- FOUND #5 REBAR WITH PLASTIC CAP "LS 36561"
- SET #5 REBAR WITH PLASTIC CAP "LS 36561"
- FOUND ALIQUOT CORNER AS DESCRIBED

BEARINGS AND DISTANCES SHOWN IN PARENTHESES ( ) DENOTE RECORD INFORMATION AS SHOWN ON THE RECORDED PLAT OF VELDKAMP MINOR SUBDIVISION, RECORDED AT RECEPTION NO. F0384095

LEGAL DESCRIPTION AND DEDICATION:

THE UNDERSIGNED, BEING THE OWNERS OF A PARCEL OF LAND LOCATED IN THE SOUTHWEST QUARTER OF SECTION 2, TOWNSHIP 3 SOUTH, RANGE 70 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF ARVADA, COUNTY OF JEFFERSON, STATE OF COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

PROVIOED LEGAL OESCRIPTION
(BY FIRST AMERICAN HERITAGE TITLE COMPANY, #272-HD000242-210-DT, AMENOMENT ND. 5)
PARCEL V1, VELDKAMP MINOR SUBDIVISION, FILED UNOER RECEPTION NUMBER F038409S, JEFFERSON COUNTY PUBLIC RECORDS AND CONSIDERING THE SOUTH LINE OF THE SOUTHWEST 1/4 OF SECTION 2, TOWNSHIP 3 SOUTH, RANGE 70 WEST OF THE 6TH P.M. AS BEARING N 89°35'57" W AND WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO IS MORE PARTICULARLY OESCRIBED AS FOLLOWS:
COMMENCING AT THE SOUTHEAST CORNER OF THE SOUTHWEST 1/4 OF SAID SECTION 2,
THENCE N 89°35'57" W, ALONG THE SOUTH LINE OF THE SOUTHWEST 1/4 OF SAID SECTION 2, A DISTANCE OF 757.91 FEET;
THENCE N 00°26'00" W, A DISTANCE OF 60.00 FEET TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF WEST 64TH AVENUE, AND THE TRUE POINT OF BEGINNING OF SAID PARCEL V1;
THENCE N 00°26'00" W, A DISTANCE OF 1478.60 FEET;
THENCE N 89°57'44" E, A DISTANCE OF 412.88 FEET;
THENCE S 31°36'42" E, A DISTANCE OF 184.38 FEET;
THENCE N 89°38'11" E, A DISTANCE OF 79.00 FEET;
THENCE N 24°59'06" E, A DISTANCE OF 94.70 FEET;
THENCE S 89°51'11" E, A DISTANCE OF 102.64 FEET;
THENCE S 09°15'06" E, A OISTANCE OF 164.66 FEET TO A POINT ON THE EAST LINE OF THE WEST 1/2 OF SAID SECTION 2;
THENCE ALONG SAID EAST LINE S 00°31'12" E, A DISTANCE OF 823.19 FEET;
THENCE S 89°28'48" W, A OISTANCE OF 18.00 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF EASLEY ROAD;
THENCE S 00°31'12" E, ALONG SAID WESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 375.39 FEET; THENCE ALONG THE ARC OF A CURVE TO THE RIGHT WITH A RADIUS OF 50.00 FEET AND A CENTRAL ANGLE OF 90°56'40" A OISTANCE OF 79.36 FEET TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF WEST 64TH AVENUE;
THENCE N 89°35'57" W, ALONG SAID NORTHERLY RIGHT-OF-WAY LINE A DISTANCE OF 688.98 FEET TO THE TRUE POINT OF BEGINNING,
EXCEPTING THEREFROM THAT PORTION DEDICATED TO THE CITY OF ARVADA IN INSTRUMENT RECORDED JULY 15, 2004 AT RECEPTION NUMBER F20611S2.
JEFFERSON COUNTY, STATE OF COLORADO.

REVISED LEGAL OESCRIPTION
A PORTION OF PARCEL V1, VELDKAMP MINOR SUBDIVISION, RECORDED AT RECEPTION NUMBER F038409S, JEFFERSON COUNTY PUBLIC RECORDS AND CONSIDERING THE SOUTH LINE OF THE SOUTHWEST 1/4 OF SECTION 2, TOWNSHIP 3 SOUTH, RANGE 70 WEST OF THE 6TH P.M. AS BEARING N 89°35'48" W AND WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO IS MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCING AT THE SOUTHEAST CORNER DF THE SOUTHWEST 1/4 OF SAID SECTION 2;
THENCE N 89°35'48" W, ALONG THE SOUTH LINE OF THE SOUTHWEST 1/4 OF SAID SECTION 2, A DISTANCE OF 757.91 FEET;
THENCE N 00°26'00" W, A DISTANCE OF 60.00 FEET TO A POINT DN THE NORTHERLY RIGHT-OF-WAY LINE OF WEST 64TH AVENUE, SAID POINT ALSO BEING THE POINT OF BEGINNING;
THENCE N 00°26'00" W, A DISTANCE OF 1478.66 FEET;
THENCE N 89°57'44" E, A DISTANCE OF 412.88 FEET;
THENCE S 31°36'42" E, A DISTANCE OF 184.38 FEET;
THENCE S 89°38'11" E, A DISTANCE OF 79.00 FEET;
THENCE N 24°59'06" E, A DISTANCE OF 94.70 FEET;
THENCE S 89°51'11" E, A DISTANCE OF 102.64 FEET;
THENCE S 09°15'06" E, A DISTANCE OF 164.68 FEET TO A POINT ON THE EAST LINE OF THE WEST 1/2 OF SAID SECTION 2;
THENCE ALONG SAID EAST LINE S 00°31'12" E, A DISTANCE OF 823.29 FEET;
THENCE S 89°28'48" W, A DISTANCE OF 30.00 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF EASLEY ROAD AS DESCRIBED AT RECEPTION NUMBER F2061152, JEFFERSON COUNTY PUBLIC RECORDS;
THENCE S 00°31'12" E, ALONG SAID WESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 388.37 FEET;
THENCE ALONG THE ARC OF A CURVE TO THE RIGHT WITH A RADIUS OF 40.00 FEET AND A CENTRAL ANGLE OF 90°55'24" A DISTANCE OF 63.48 FEET, WHOSE CHORD BEARS S 44°56'30" W, A DISTANCE OF 57.02 FEET TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF WEST 64TH AVENUE;
THENCE N 89°35'48" W, ALONG SAID NORTHERLY RIGHT-OF-WAY LINE A DISTANCE OF 687.16 FEET TO THE POINT OF BEGINNING.
CONTAINING 24.6101 ACRES MORE OR LESS.

HAVE LAID OUT, PLATTED, AND SUBDIVIDED THE ABOVE DESCRIBED LAND, UNDER THE NAME AND STYLE OF VELDKAMP MINOR SUBDIVISION - FIRST AMENDMENT, AND HEREBY GRANTS TO THE CITY OF ARVADA SUCH EASEMENTS AS ARE CREATED HEREBY AND DEPICTED OR, BY NOTE, REFERENCED HEREON, ALONG WITH THE RIGHT TO INSTALL, MAINTAIN, AND OPERATE MAINS, TRANSMISSION LINES, SERVICE LINES, AND APPURTENANCES, EITHER DIRECTLY OR THROUGH THE VARIOUS APPLICABLE SERVICE PROVIDERS AS MAY BE NECESSARY TO ACCOMPLISH THE INTENDED PURPOSES OF SUCH EASEMENT. UNLESS MORE NARROWLY DEFINED BY NOTE HEREON, UTILITY SHALL MEAN SEWER, WATER, DRAINAGE, ELECTRICITY, GAS, TELEPHONE, CABLE AND OTHER TELECOMMUNICATION FACILITIES.

OWNERS:

VELDKAMP'S REAL ESTATE, INC.
A COLORADO CORPORATION

BY: _____
BERNARD M. VELDKAMP, III, PRESIDENT

NOTARY:

STATE OF COLORADO)
) SS
COUNTY OF JEFFERSON)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS 10th DAY OF February 2005

BY: BERNARD M. VELDKAMP, III AS PRESIDENT OF

COMPANY: VELDKAMP'S REAL ESTATE INC., A COLORADO CORPORATION

WITNESS MY HAND AND SEAL _____

MY COMMISSION EXPIRES: Jan 29, 2008

CHERYL J. DRIEAL
NOTARY PUBLIC
STATE OF COLORADO
My Commission Expires Jan 29, 2008

DEED OF TRUST HOLDER'S ACKNOWLEDGMENT

THE INTEREST OF THE UNDERSIGNED LIEN HOLDER IN THE PROPERTY PLATTED HEREBY IS SUBORDINATED TO SUCH FEE SIMPLE DEDICATIONS AND GRANTS OF EASEMENTS TO THE CITY OF ARVADA, IF ANY, AS ARE DEPICTED OR REFERENCED HEREON.

_____ 1/21/05
BERNARO M. VELDKAMP, JR. DATE

NOTARY: Arizona
STATE OF ~~COLORADO~~
COUNTY OF ~~JEFFERSON~~ Maricopa) SS

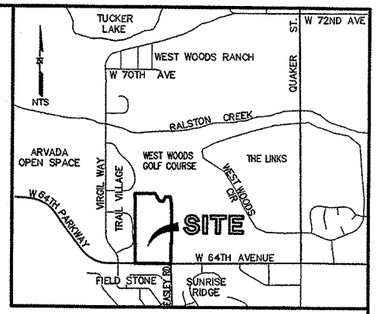
OFFICIAL SEAL
RENEE BRANAGAN
Notary Public - State of Arizona
MARICOPA COUNTY
My Comm. Expires June 26, 2007

THE FOREGOING INSTRUMENT WAS ACKNOWLEOGED BEFORE ME THIS 31ST DAY OF JAN 2005

BY: BERNARD M. VELDKAMP, JR.

WITNESS MY HAND AND SEAL _____

MY COMMISSION EXPIRES: 6/26/07



VICINITY MAP
N.T.S.

DEED OF TRUST HOLDER'S ACKNOWLEDGMENT

THE INTEREST OF THE UNDERSIGNED LIEN HOLDER IN THE PROPERTY PLATTED HEREBY IS SUBORDINATED TO SUCH FEE SIMPLE DEDICATIONS AND GRANTS OF EASEMENTS TO THE CITY OF ARVADA, IF ANY, AS ARE DEPICTED OR REFERENCED HEREON.

Cora L. Veldkamp 1/31/05
CORA L. VELDKAMP DATE

NOTARY: Arizona
STATE OF ~~COLORADO~~
COUNTY OF ~~JEFFERSON~~ Maricopa) SS

OFFICIAL SEAL
RENEE BRANAGAN
Notary Public - State of Arizona
MARICOPA COUNTY
My Comm. Expires June 26, 2007

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS 31ST DAY OF JAN 2005

BY: CORA L. VELDKAMP

WITNESS MY HAND AND SEAL _____

MY COMMISSION EXPIRES: 6/26/07

SURVEYOR'S CERTIFICATE:

I, CHRISTOPHER H. McELVAIN, A REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THE SURVEY OF VELDKAMP MINOR SUBDIVISION - FIRST AMENDMENT WAS MADE UNDER MY SUPERVISION AND THE ACCOMPANYING PLAT ACCURATELY AND PROPERLY SHOWS SAID MINOR SUBDIVISION.

CHRISTOPHER H. McELVAIN, P.L.S. 36S61
FOR AND ON BEHALF OF JEHN ENGINEERING, INC.

COLORADO 36561 REGISTERED LAND SURVEYOR 1/27/05

TITLE VERIFICATION STATEMENT:

I, Phillip Van Horn OF FIRST AMERICAN HERITAGE TITLE COMPANY, A QUALIFIED TITLE INSURANCE COMPANY, DO HEREBY CERTIFY THAT I/WE HAVE EXAMINED THE TITLE OF ALL LAND PLATTED HEREON AND THAT TITLE TO SUCH LAND IS IN THE OEDICATOR'S FREE ANO CLEAR OF ALL LIENS, TAXES AND ENCUMBRANCES, EXCEPT AS FOLLOWS:

FIRST AMERICAN HERITAGE TITLE COMPANY

BY: Phil Van Horn DATE: 2-14-05

AS: Commercial Title Officer

NOTES:

1. ALL BEARINGS CONTAINED HEREIN ARE BASED UPON THE ASSUMPTION THAT THE SOUTH LINE OF THE SOUTHWEST 1/4 OF SECTION 2 BEARS N 89°35'48" W BETWEEN THE MONUMENTS SHOWN HEREON

2. ALL DIMENSIONS SHOWN HEREON ARE IN FEET. ALL BEARINGS SHOWN HERE ON ARE IN DEGREE-MINUTES-SECONDS.

3. ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR LAND SURVEY BOUNDARY MONUMENT OR ACCESSORY COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUE 18-4-508, C.R.S.

4. NOTICE: ACCORDING TO COLORAOO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST OISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF CERTIFICATION SHOWN HEREON.

5. THIS DOES NOT CONSTITUTE A TITLE SEARCH BY JEHN ENGINEERING, INC. TO DETERMINE TITLE OR EASEMENTS OF RECORD. RESEARCH FOR THIS SURVEY WAS PERFORMED IN ACCORDANCE WITH CRS 38-51-106 AND THE RULES OF PROCEDURE AND BOARD POLICY STATEMENTS OF THE STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND PROFESSIONAL LAND SURVEYORS, SPECIFICALLY THOSE BOARD RULES AND POLICY STATEMENTS RELATING TO THE DEPICTION OF EASEMENTS AND RIGHTS OF WAY ON SUBDIVISION PLATS. TITLE COMMITMENT NUMBER 272-H0000242-210-DT, AMENDMENT NO. 4 DATED AUGUST 08, 2004, AT 8:00 AM PREPARED BY FIRST AMERICAN HERITAGE TITLE CO. WAS RELIED UPON FOR ALL INFORMATION REGARDING EASEMENTS OF RECORO, RIGHTS OF WAY, TITLE OF RECORD AND CIVIL COURT ACTIONS OF RECORD.

APPROVAL CERTIFICATES:

APPROVED BY THE COMMUNITY OEVELOPMENT DIRECTOR OF THE CITY OF ARVADA, COLORADO, THIS 24 DAY OF February 2005

Mike Elo
COMMUNITY DEVELOPMENT DIRECTOR

ATTEST: Janet Newman for CITY CLERK

CLERK AND RECORDERS CERTIFICATE:

F2176756
RECEPTION NUMBER

ACCEPTED FOR FILING IN THE OFFICE OF THE COUNTY CLERK ANO RECORDER OF JEFFERSON COUNTY, AT GOLDEN COLORADO, ON THIS 24th DAY OF February 2005, AT 12:41:52 O'CLOCK.

BY: Faye Griffin
JEFFERSON COUNTY CLERK AND RECORDER

Colleen J. Easton
DEPUTY CLERK

JEFFERSON COUNTY COLORADO

REVISIONS
12.16.04 - PER CITY COMMENTS
01.13.05 - PER CITY COMMENTS
01.24.05 - PER CITY COMMENTS

SHEET 1 OF 1

JEHN ENGINEERING
5885 WADSWORTH BYPASS, A-100
ARVADA, CO 80003
PH (303) 422-8388 FAX (303) 467-8438
WWW.JEHNENGINEERING.COM

J:\0359\203-166.02\survey\3166.02ASP.dwg - tim

Terry McGowan

From: robb.farquhar@state.co.us on behalf of cdphe_cora_hmwmd - CDPHE, CDPHE <cdphe_cora_hmwmd@state.co.us>
Sent: Tuesday, November 12, 2024 3:53 PM
To: Terry McGowan
Subject: Re: Welby Gardens - 17201 West 64th Avenue, Arvada, Colorado 80007

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Terry,

17201 W 64th Ave, Arvada, 80007: No records found

Robb

On Tue, Nov 12, 2024 at 3:48 PM Terry McGowan <terry.mcgowan@baselinecorp.com> wrote:

> Good afternoon,
>
> Baseline is completing a Phase I Environmental Assessment for the Welby Gardens located at 17201 West 64th Avenue in Arvada, Colorado 80007. We have used the HMWMD online portal and searched for environmental information for this site; however, no documents were found. We would like to confirm that this is truly the case.
>
> Would you please confirm that there are no HMWMD environmental documents for this site.
>
> Thank you.

BASELINE

ESOP

TOP WORK PLACES 2023

Terry O. McGowan, P. G. | **Senior Geologist/Hydrogeologist**

Environmental Division

303.940.9966 | 303-229-5496

112 N. Rubey Drive, #210, Golden, CO 80403

www.baselinecorp.com | Social Media

Confidential and Privileged - This message and all attachments are intended

only for the use of the individual or entity to which it is addressed, and may contain information that is privileged or confidential. If the reader of this message is not the intended recipient, or the employee, or an agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by return e-mail

and please delete the original message. Thank you.

--

You can search records via the OnBase Public Access Viewer. See User Guides for tips on searching here: HMWMD User Guides

Or, use our interactive map

Visit the HMWMD Records page for additional information on HMWMD programs and records procedures.

Baseline Engineering Corporation

Environmental Site Assessment Questionnaire

Baseline Engineering Corporation (Baseline) utilizes the following questionnaire as a tool to facilitate the Environmental Site Assessment (ESA) process. Please answer the following questions to the best of your knowledge. You have been selected to answer this questionnaire because you are (1) a current or past owner of the subject property, (2) a current or past occupant of the subject property, (3) a key site manager with respect to the subject property, or (4) a person that may have specific knowledge regarding current or historical operations at the subject property and adjoining properties. If you do not know an answer, please select "unknown". If possible and if applicable, please provide additional detail in the "Comments" section.

Baseline requests that the respondent sign the last page of the form which affirms that the respondent has answered all questions to the best of the respondent's actual knowledge and in good faith. Baseline would like to take this opportunity to thank you for your time and effort in assisting us with this task.

SUBJECT PROPERTY DATA **Date Completed:** 11/12/2024

Subject Property Address: 17201 W 64th Ave

City: Arvada **County:** Jefferson **State:** CO **Zip:** 80007

Subject Property is: Operating **Vacant Land, or** **Improved**

Respondent's Name: Nickolas Gerace **Relationship to the Subject Property:** Owner

Company: Welby Gardens LLC **Title:** Owner

Address: 17201 W 64th Ave

City: Arvada **County:** Jefferson **State:** CO **Zip:** 80007

Phone: 303-489-0389 **Fax:**

1. To the best of your knowledge is the *subject property* currently used for an industrial use? If yes, describe the current operations.

YES ☐ NO ☑ Unknown ☐

Comments:

2. To the best of your knowledge, is any adjoining property currently used for an industrial use? If yes, describe the current operations.

YES ☐ NO ☑ Unknown ☐

Comments:

3. To the best of your knowledge, has the subject property been used for an industrial use in the past? If yes, describe past operations.

YES ☐ NO ☑ Unknown ☐

Comments:

4. To the best of your knowledge, has any adjoining property been used for an industrial use in the past? If yes, describe past operations.

YES ☐ NO ☑ Unknown ☐

Comments:

5. To the best of your knowledge, is the subject property currently used or has formerly been used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility?

YES ☐ NO ☑ Unknown ☐

Comments:

If yes, please indicate which type of use and time period:

6. To the best of your knowledge, is any adjoining property currently used or has been formerly used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility?

YES ☐ NO ☑ Unknown ☐

Comments:

If yes, please indicate which type of use and time period:

7. To the best of your knowledge, are there currently, or have there been previously, any damaged or discarded batteries, or pesticides, paints, or other chemicals in containers of greater than 5 gal (19L) in volume or 50 gal (190L) in the aggregate, stored on or used at the subject property?

YES ☐ **NO** ☑ **Unknown** ☐

Comments:

8. To the best of your knowledge, are there currently, or have there been previously, any drums (typically 55 gal (208L)) or sacks of chemicals located on the subject property?

YES ☑ **NO** ☐ **Unknown** ☐

Comments:

Boiler cleaner and hydrogen peroxcide

9. Did you observe evidence or do you have prior knowledge of fill dirt has been brought onto the subject property? If yes, where did the fill dirt originate?

YES ☐ **NO** ☑ **Unknown** ☐

Comments:

10. To the best of your knowledge, are there currently, or have there been previously, any pits, ponds, or lagoons located on the subject property?

YES ☑ **NO** ☐ **Unknown** ☐

Comments:

Yes on the northeast corner of the property

11. To the best of your knowledge, are there currently, or has there been previously, any stained soil on the subject property?

YES ☐ **NO** ☑ **Unknown** ☐

Comments:

12. To the best of your knowledge, are there currently, or have there been previously, any registered or unregistered storage tanks (above ground or underground) located on the subject property?

YES ☑ **NO** ☐ **Unknown** ☐

Comments:

Yes water and diesel tanks

13. To the best of your knowledge, are there currently, or have there been previously, any vent pipes, fill pipes, or access ways protruding from the ground on the subject property or adjacent to any structure located on the subject property?

YES ☐ **NO** ☑ **Unknown** ☐

Comments:

14. To the best of your knowledge, Is there currently, or have there been previously, any evidence of leaks, spills, or staining by substances other than water, or foul odors, associated with any flooring, drains, walls, ceilings, or exposed grounds on the subject property?

YES ☐ **NO** ☑ **Unknown** ☐

Comments:

15. To the best of your knowledge, is the property currently, or has the subject property been previously served by a private well or non-public water system?

YES ☑ **NO** ☐ **Unknown** ☐

Comments:

Yes private well on premise used for augmentation for a subdivision not owned by Welby Gardens.

16. To the best of your knowledge, is the subject property currently, or has the subject property been previously served by a septic system?

YES ☑ **NO** ☐ **Unknown** ☐

Comments:

3 known sepetic systems

17. Do you have any knowledge of environmental liens or governmental notifications relating to past or recurrent violations of environmental laws with respect to the subject property or know of any past, threatened, or pending lawsuits or administrative proceedings concerning a release or threatened release of any hazardous substance or petroleum products involving the subject property?

YES ☐ **NO** ☑ **Unknown** ☐

Comments:

18. To the best of your knowledge, does the subject property discharge waste water (not including sanitary waste or stormwater) on or adjacent to the subject property and/or into a stormwater or sanitary sewer system?

YES ☐ **NO** ☑ **Unknown** ☐

Comments:

19. To the best of your knowledge, have any hazardous substances or petroleum products, unidentified waste materials, tires, automotive or industrial batteries or any other waste materials been dumped above grade, buried and/or burned on the subject property?

YES ☐ **NO** ☑ **Unknown** ☐

Comments:

20. To the best of your knowledge, is there a transformer, capacitor, or any hydraulic equipment on the subject property? If yes, do you have any knowledge of records indicating the presence of PCBs?

YES ☑ **NO** ☐ **Unknown** ☐

Comments:

Yes Xcel has a transformer

21. To the best of your knowledge, can you list any and all known past owners of the subject property including the time period of ownership and use of the subject property during ownership. Please include any contact information that you may have.

Ben Veldkamp owned property before us.

22. To the best of your knowledge, can you list any and all known past occupants of the subject property including time period of occupancy and use of the subject property during occupancy. Please include any contact information that you may have.

Ben Veldkamp

23. To the best of your knowledge, can you list the structures currently present on the subject property including age, dates of renovations (if any), size and building materials.

About 8 acres of greenhouse where built in the late 60's.

24. To the best of your knowledge, can you list the structures formerly present on the subject property (if any) including age, dates of renovations (if any), size and building materials.

We upgraded our water system in 2004 and upgraded the boiler system in 2019

25. To the best of your knowledge, can you list the current providers of the following utilities at the subject property (if applicable): drinking water, sanitary sewer, stormwater run-off, electricity, heat source, and telephone.

We have Xcel for water, sewer, power, and (transported) natural gas.

26. To the best of your knowledge, do you know if any of the environmental documents noted below exist for the subject property:

*****Prior environmental assessment or audit reports
YES ☐ **NO** ☑ **Unknown** ☐

*****Hazardous waste generator notices or reports
YES ☐ **NO** ☑ **Unknown** ☐

*****Environmental permits
YES ☐ **NO** ☑ **Unknown** ☐

*****Geotechnical studies
YES ☑ **NO** ☐ **Unknown** ☐

*****Safety Data Sheets
YES ☑ **NO** ☐ **Unknown** ☐

*****The subject property's community right-to-know plan
YES ☑ **NO** ☐ **Unknown** ☐

*****Spill prevention and other safety/preparedness plans
YES ☑ **NO** ☐ **Unknown** ☐

*****Reports regarding hydrogeologic conditions on the subject property and/ or the surrounding area
YES ☐ **NO** ☑ **Unknown** ☐

I believe that the above statements and facts are true and correct to the best of my actual knowledge and that no material facts have been suppressed or misstated.

Completed By:
(Print Name) Nickolas Gerace

Signature: _____ Date: 11/13/2024
(User)

BASELINE ENGINEERING CORPORATION

Additional Questions To The Environmental Site Assessment Questionnaire Completed On November 12,2024 By Mr. Nickolas Gerace
Welby Gardens Property (Subject Property)
17201 West 64th Avenue, Arvada, Colorado

DATE: November 22, 2024

TO: Mr. Nickolas Gerace – Owner of Welby Gardens, LLC

Cc: Mr. Gregory Himmel – AvalonBay Communities, Inc.

FROM: Terry O. McGowan – Baseline Engineering Corporation

Mr. Gerace, as noted in the title of this document, Baseline Engineering Corporation (Baseline) has some addition questions with regard to the responses you provided in the Environmental Site Assessment Questionnaire Completed on November 12, 2024. We have a lot of questions, and you may not what to have to type up all your answers. If so, we can have a sit down meeting and we can take notes. We would request that we could record your answers.

The questionnaire unfortunately does not always present all the necessary questions. One major question is missing. We assume that the greenhouse operations had to use pesticides, herbicides, and fertilizers, and possibly other chemicals. Assuming this is correct, can you define what was use and where were these items were stored (indoor or outdoor, and location)? What type of containers did they come in? How were they applied? Was there ever a large spill during use? Was there required training for the application of these chemicals?

1. At the end of the questionnaire (page 7), you noted that Material Safety Data Sheets (MSDS), a Community Right-to-Know Plan, Spill Prevention or other safety/preparedness plans, and geotechnical studies documents exist for the Subject Property. Are these available for review and copying? In addition, is there a Property Site Plan available? This could be part of the Spill Prevention Plan.

2. On page 3, question #8, you note that boiler cleaner and hydrogen peroxide are contained in 55-gallon drums or sacks. Can you be more specific on the type of container, where they are stored, and purpose or use.

3. On page 3, question #10, you note the existence of a current or historic pit, pond, or lagoon on the northeast corner of the Subject Property. Was this a pond? What was the purpose (stormwater retention?)? What was the water source (stormwater?)? Review of aerial photographs suggest that area is currently heavily vegetated and may no longer be a pond. The aerial photographs do not show standing water. It looks like the area may have constructed berms starting in about 1999. Can you provide additional information please.

4. On page 4, question #12, you note the existence of current and historical storage tanks for water and diesel tanks. Can you please provide more information on size (volume), location, and if secondary containment is present. All this information may be in the Spill Prevention Plan.

BASELINE ENGINEERING CORPORATION

Additional Questions To The Environmental Site Assessment Questionnaire Completed On November 12,2024 By Mr. Nickolas Gerace
Welby Gardens Property (Subject Property)
17201 West 64th Avenue, Arvada, Colorado

---

5. On page 4, question #15, you note the existence of a water well on the Subject Property "*used for augmentation for a subdivision not owned by Welby Gardens*". Based on review of the Colorado Division of Water Resources, the well installation applicant was a Peter Warren for the YWAM Foundation. This implies the well owner is the YWAM Foundation. Is this correct? How is the water used (yard irrigation or drinking water?). Does Welby Gardens, LLC receive a rent for this well and are you responsibly in any way, other than protecting the surface expression of the well? Are there any water quality data for this water? Can you provide any history on this well. I have found an original permit in 1976 (expired) followed by several others in 1994, 1997, and 2020 (all expired) with the well constructed in November 2020 (permit #84879-F), which would be when you owned the Subject Property.

6. On page 5, question #16, you note three known septic systems. Can you provide their locations, approximate size of the tanks, the size of the leach areas, and the history of use? Are the systems still in place or have they been removed?

7. On page 5, question #20, regarding the Xcel transformer. Is it pad mounted. I can confirm this on the site visit.

8. On page 6, question #24, you note that you upgraded the water system in 2004 and upgraded the boiler system in 2019. How was the water system upgraded? We assume the boiler system is/was used for overall water baseboard type heating of the greenhouses and offices/sales area. Is this correct?

9. On page 6, question #25, you may have a misprint. You note Xcel provides water and sewer. Is this actually the City of Arvada?

Thank you in advance for your assistance in answering these questions.

Terry McGowan

From: Nick Gerace <nickg@hardyboyplant.com>
Sent: Monday, December 2, 2024 4:30 PM
To: Terry McGowan; Marty Gerace; Gregory Himmel
Cc: Todd Nicotra; Vincent Barlock
Subject: RE: Environmental (additional) Site Visit & Questions

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Hi Terry,
I am going to try to answer your questions to best of my ability.

1. We store the MSDS's in several locations across all of our properties. The right to know board is visible for the facility next to the break room. I have a facility map, but it is more for our production purposes. The spill prevention is a kit we keep on hand for cleaning up any agricultural chemical spills.
2. They are stored in 55-gallon drums either metal or plastic depending on the supplier. They are stored in our boiler room. They are used to treat the boiler water to keep our steam system clean and operating correctly.
3. It is storm water runoff/retention, it is dry most of the year depending on weather. It collects water after the other retention areas are full. It does have a lot of trees and grass growing in it. I don't have any knowledge of berms being built it the area; we didn't take over operations of the facility until 2003.
4. The storage tanks are centralized around our shop/ boiler area on the East side of the property. Our main water storage tank in located inside the shop it is 12,000 gallons. We use city water for irrigation. There are 3 horizontal tanks by the well that were used for the augmentation basically the well would fill them then a water truck would fill from them. I would guess they are between 3,000 and 4,000 gallons. We have two old vertical water tanks that haven't been used since we took over the property. They won't even hold water but they are 12,000 gallons. The two diesel tanks are 12,000 gallons we only use one of them for emergency backup for our boilers. The are contained with berms but don't know much about the system.
5. The well has been in place before 2020. YWAM does own the water rights. As far as we know they collected the water in the past and added back to a ditch in the area. We are not aware of anything wrong with the water quality or any testing that has been done. We don't receive rent for the well and we are not responsible for anything.
6. The septic systems are still in place. There is one right buy the offices up front on the Southeast corner of the property. We hooked up the city in 2003 for this system and it isn't currently used. There is on westside of the property that is currently in use. Also one on the northside of the property that is also in use. We don't have any information on the size or leach fields. We were not involved in the property when they were installed.
7. It is pad mounted.
8. The water system upgrade included the installation of a new storage tank, water tempering system, and new pumps. The boiler system upgrade was the addition of a new boiler. The boiler system is a medium pressure steam system that we use pipes with steam traps and unit heaters to control the temperatures in the greenhouse. Our offices run off a traditional HVAC system.
9. Yes it is the city sorry for the confusion.

I hope this helps!
Thanks,
Nick

Nick Gerace

Welby Gardens Co.
Director of Wholesale Operations
(303)-288-3398
Cell: (303)-489-0389

From: Terry McGowan <terry.mcgowan@baselinecorp.com>
Sent: Friday, November 22, 2024 1:39 PM
To: Marty Gerace <MartyG@hardyboyplant.com>; Gregory Himmel <Gregory_Himmel@avalonbay.com>; Nick Gerace <nickg@hardyboyplant.com>
Cc: Todd Nicotra <Todd_Nicotra@avalonbay.com>; Vincent Barlock <vincent.barlock@baselinecorp.com>
Subject: RE: Environmental (additional) Site Visit & Questions

Hi Marty, thank you for the quick response. We figured the site visit would have to work around Thanksgiving. Let's plan on the week that you are back, and whatever day is best for you. I am sending you the questions with this email, so you can have an idea what we need. If you don't get it in time, oh well! There are quite a few questions so it may be best to deal with these in a sit-down meeting during the sit visit. However, if you can answer some of them by email that would help with the report preparation, but is not critical as you are on vacation.

Thank you for your time and we look forward to meeting you in December.

BASELINE

Terry O. McGowan, P. G. | **Senior Geologist/Hydrogeologist**
Environmental Division
303.940.9966 | 303-229-5496
112 N. Rubey Drive, #210, Golden, CO 80403
www.baselinecorp.com | Social Media

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From: Marty Gerace <MartyG@hardyboyplant.com>
Sent: Friday, November 22, 2024 12:42 PM
To: Gregory Himmel <Gregory_Himmel@avalonbay.com>; Nick Gerace <nickg@hardyboyplant.com>
Cc: Todd Nicotra <Todd_Nicotra@avalonbay.com>; Terry McGowan <terry.mcgowan@baselinecorp.com>; Vincent Barlock <vincent.barlock@baselinecorp.com>
Subject: Re: Environmental (additional) Site Visit & Questions

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

We are traveling out of town today and won't return until December 2 but we are available by phone during this time. If you are looking to be onsite next week you will need to notify us with enough time to coordinate with others. Friday visits are always best.
Thanks
Marty & Nick

Get Outlook for iOS

From: Gregory Himmel <Gregory_Himmel@avalonbay.com>
Sent: Friday, November 22, 2024 9:10:41 AM
To: Marty Gerace <MartyG@hardyboyplant.com>; Nick Gerace <nickg@hardyboyplant.com>
Cc: Todd Nicotra <Todd_Nicotra@avalonbay.com>; Terry McGowan <terry.mcgowan@baselinecorp.com>; Vincent Barlock <vincent.barlock@baselinecorp.com>
Subject: Environmental (additional) Site Visit & Questions

Marty and Nick,

Baseline, our environmental consultant, would like to schedule another site visit for their report. They also have a few more questions they'd like to ask that have come up in their research. I've included Terry and Vince from Baseline on this email for you all to coordinate the visit and discuss the outstanding questions.

Please let me know if I can be of any more help in coordinating this visit or answering any of these questions.

Thanks!
Greg

Greg Himmel
Director - Development

AvalonBay Communities, Inc.
5050 South Syracuse Street, Suite 1025
Denver, CO 80237
Phone: 720-245-6940
Cell: 724-344-1354
gregory_himmel@avalonbay.com

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BASELINE
Engineering · Planning · Surveying

Baseline Engineering Corporation

Phase I ESA User Questionnaire

To qualify for one of the *Landowner Liability Protections* ("LLPs") offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments"), the *User* must conduct the following inquiries required by 40 C.F.R. §§ 312.25, 312.28, 312.29, 312.30, and 312.31. The User should provide the following information to the *Environmental Professional*. Failure to conduct these inquiries could result in a determination that "*All Appropriate Inquiries*" ("AAI") is not complete.

1. **Environmental cleanup liens that are filed or recorded against the *subject property* (40 CFR 312.25).**
   Did a search of land title records (or judicial records where appropriate) identify any environmental liens filed or recorded against the *subject property* under federal, tribal, state, and/or local law? Please provide a listing of the environmental liens and any associated documentation.

   No.

*Please attach additional pages as necessary

2. **Activity and land use limitations that are in place on the subject property or that have been filed or recorded against the subject property (40 CFR 312.26).**
   Did a search of *land title records* (or judicial records where appropriate) identify any "*Activity and Use Limitations*" ("AULs"), such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the *subject property* and/or have been filed or recorded against the *subject property* under federal, tribal, state, and/or local law? Please provide a listing of the *AULs* and any associated documentation.

   None, other than typical zoning restrictions.

*Please attach additional pages as necessary

3. Specialized knowledge or experience of the person seeking to qualify for the Landowner Liability Protection (40 CFR 312.28).

As the *User* of this *Environmental Site Assessment* ("ESA"), do you have any specialized knowledge or experience related to the *subject property* or nearby properties? For example, are you involved in the same line of business as the current or former *occupants* of the *subject property*, or an adjoining property, such that you would have specialized knowledge of the chemicals and processes used by this type of business?

No.

*Please attach additional pages as necessary

4. Relationship of the purchase price to the fair market value of the *subject property* if it were not contaminated (40 CFR 312.29).

Does the purchase price being paid for the *subject property* reasonably reflect the fair market value of the *subject property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *subject property*?

Yes, the purchase price reflects a fair market value for land intended for multifamily residential development.

*Please attach additional pages as necessary

5. Commonly known or reasonably ascertainable information about the *subject property* (40 CFR 312.30).

Are you aware of commonly known or *reasonably ascertainable* information about the *subject property* that would help the *Environmental Professional* to identify conditions indicative of releases or threatened releases? For example, as the *User*:

(a.) Do you know the past uses of the *subject property*?

Property has been used as as a wholesale nursery and greenhouse for approximately 30 years.

(b.) Do you know of specific chemicals that are present or once were present at the *subject property*?

Observed several pesticide and fertilizer tanks. Also observed a waste oil above ground tank and at least one above ground diesel storage tank.

(c.) Do you know of spills or other chemical releases that have taken place at the *subject property*?

Observed soil staining below the waste oil storage tank.

(d.) Do you know of any environmental cleanups that have taken place at the subject property?

No.

6. The degree of obviousness of the presence or likely presence of contamination at the *subject property* and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).

As the *User* of this *ESA,* based on your knowledge and experience related to the *subject property*, are there any obvious indicators that point to the presence or likely presence of contamination at the *subject property*?

Oil staining below the above ground waste oil tank.

*Please attach additional pages as necessary

In addition, certain information should be collected, if available, and provided to the *Environmental Professional* selected to conduct this Phase I ESA. This information is intended to assist the *Environmental Professional*, but is not necessarily required to qualify for one of the *LLPs.* This information includes:

(a.) The reason why this Phase I ESA is being conducted for the *User.*

Purchase of the property for redevelopment as multifamily apartments.

(b.) The type of *Property* (current use, proposed use) and type of *Property* transaction; for example sale, purpose, exchange;

Current use is a wholesale nursery and greenhouse. Proposed use is 350-450 multifamily apartments. The type of transaction is fee-simple.

(c.) The complete and correct address for the subject property (a map or other documentation showing the subject property location and boundaries is helpful).

17201 W 64th Ave, Arvada CO 80007

(d.) The scope of services for this desired Phase I ESA (including whether any parties to the *subject property transaction may have a required standard scope of services on whether any considerations beyond the requirements of American Society for Testing and Materials ("ASTM") Practice E 1527 are to be considered).*

Standard scope for Phase I ESA.

(e.) Identification of all parties (*Users*) who are requesting to rely on this Phase I ESA report **(note: *all Users* must complete this questionnaire).**

AvalonBay Communities, Inc.

(f.) Identification of the current Owner, past owners, current/past tenants, *subject property* contact, and how they can be reached.

Marty Gerace & Nick Gerace
Welby Gardens LLC
17201 W 64th Ave
Arvada, CO 80007
303-288-3398
martyg@hardyboyplant.com

(g.) Any special terms and conditions that must be agreed upon by the *Environmental Professional*.

No.

(h.) Any other knowledge or experience with the subject property that may be pertinent to the Environmental Professional (for example, copies of any available prior ESA reports, geotechnical reports, documents, surveys, correspondence, etc., concerning the subject property and its environmental condition).

No.

Land Title Records (title search) including a Chain of Title is generally completed by the *User* prior to purchase. If a Title Search has been completed, this information should also be provided to the *Environmental Professional.*

Completed By: Gregory Himmel
(Print Name)

Signature: _____ Date: 11/12/24
(User)

Terry McGowan

From: WQ Records Center - CDPHE, CDPHE <cdphe.wqrecordscenter@state.co.us>
Sent: Wednesday, November 13, 2024 9:32 AM
To: Terry McGowan
Subject: Re: Welby Gardens - 17201 West 64th Avenue, Arvada, Colorado 80007

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Hi Terry,

Since this is available to the public, we generally don't do the search for you. I did look at this one, and I did not see anything.

Records containing confidential information or that are exempt from public release under open records laws may not be displayed. If there is a specific record you believe is missing, such as a hard copy document, from a search result, please send a request to cdphe.wqrecordscenter@state.co.us and provide the document type you are seeking. There is also a searchable map. It is for searching permitted sites, Permits Record Search Map.

The Colorado Department of Public Health and Environment is committed to ensuring digital accessibility for people with disabilities. If you are having issues viewing these files with assistive technology, please let us know.

Thanks,

Frank Dale
Records Manager
Business Services Unit

P 303.692.3565 | F 303.782.0390
4300 Cherry Creek Drive South, Denver, CO 80246
cdphe.wqrecordscenter@state.co.us | www.colorado.gov/cdphe/wqcd

On Tue, Nov 12, 2024 at 3:50 PM Terry McGowan <terry.mcgowan@baselinecorp.com> wrote:

> Good afternoon,
>
> Baseline is completing a Phase I Environmental Assessment for the Welby Gardens located at 17201 West 64th Avenue in Arvada, Colorado 80007. We have used the Water Quality (WTR) online portal and searched for environmental information for this site; however, no documents were found. We would like to confirm that this is truly the case.

Would you please confirm that there are no Water Quality environmental documents for this site.

Thank you.

BASELINE

Terry O. McGowan, P. G. | **Senior Geologist/Hydrogeologist**

Environmental Division

303.940.9966 | 303-229-5496

112 N. Rubey Drive, #210, Golden, CO 80403

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and please delete the original message. Thank you.

APPENDIX C

FEMA Flood Insurance Rate Map

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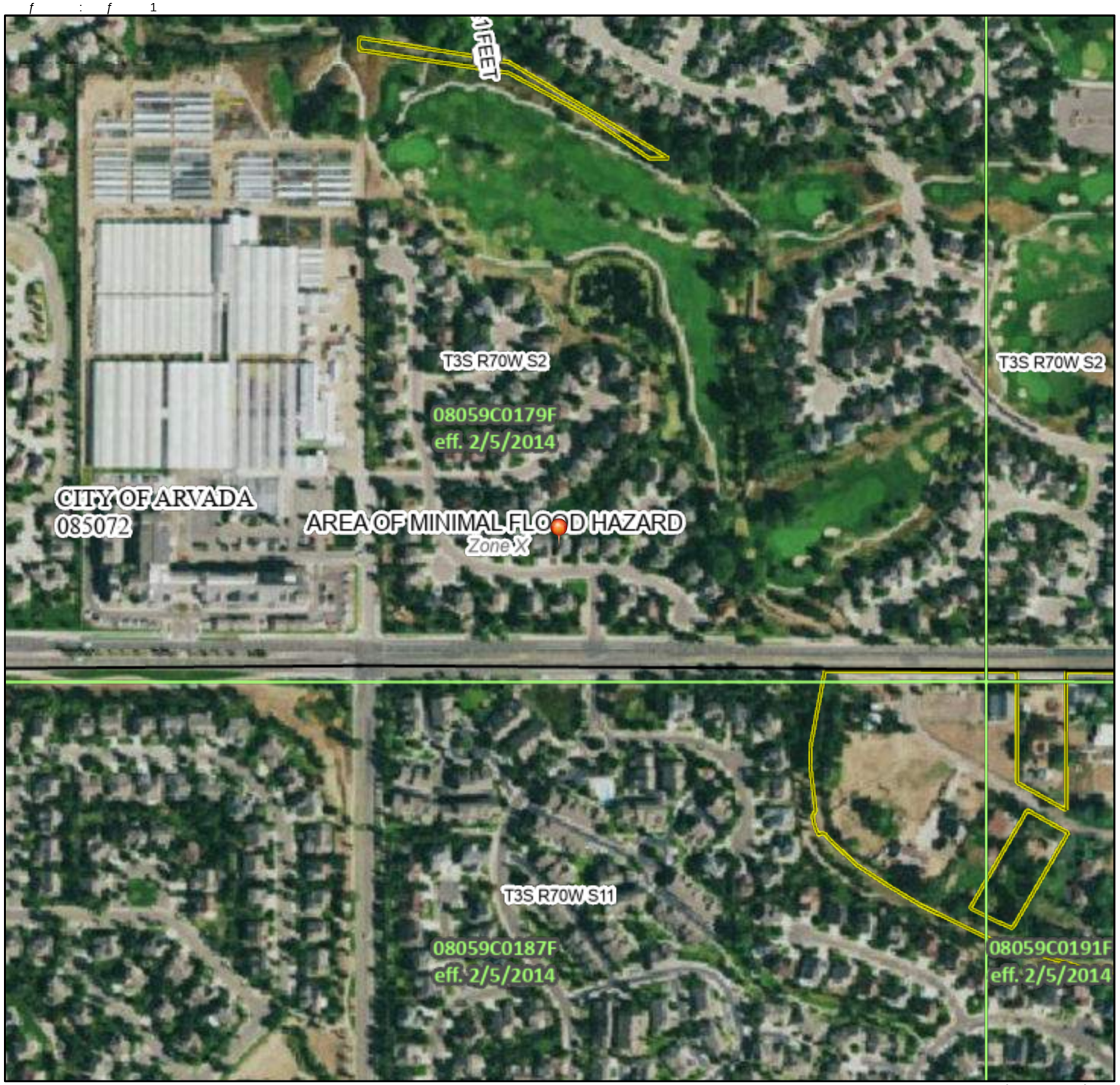

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DQ DXWKRULWDWLYH SURSHU

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WLPH 7KH 1)+/ DQG HIIHFWLYH LQIRUP
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APPENDIX D

Environmental Data Resources (EDR) Summary and Electronic File Containing All EDR Reports

Welby Gardens Phase I ESA,

17201 West 64th Avenue

Arvada, CO 80007

Inquiry Number: 7809324.8

October 31, 2024

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

10/31/24

Site Name:

Welby Gardens Phase I ESA,
17201 West 64th Avenue
Arvada, CO 80007
EDR Inquiry # 7809324.8

Client Name:

Baseline Engineering Corporation
112 North Rubey Dr Unit 210
Golden, CO 80403
Contact: Taylor Culp

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	*Scale*	*Details*	*Source*
2019	1"=500'	Flight Year: 2019	USDA/NAIP
2015	1"=500'	Flight Year: 2015	USDA/NAIP
2011	1"=500'	Flight Year: 2011	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USDA/NAIP
1999	1"=500'	Acquisition Date: October 04, 1999	USGS/DOQQ
1994	1"=500'	Flight Date: September 25, 1994	EDR Proprietary Landiscor
1983	1"=500'	Flight Date: October 05, 1983	USDA
1979	1"=500'	Flight Date: June 21, 1979	EDR Proprietary Landiscor
1971	1"=500'	Flight Date: August 06, 1971	USGS
1963	1"=500'	Flight Date: May 13, 1963	USGS
1955	1"=500'	Flight Date: July 02, 1955	USDA
1937	1"=500'	Flight Date: July 23, 1937	USDA

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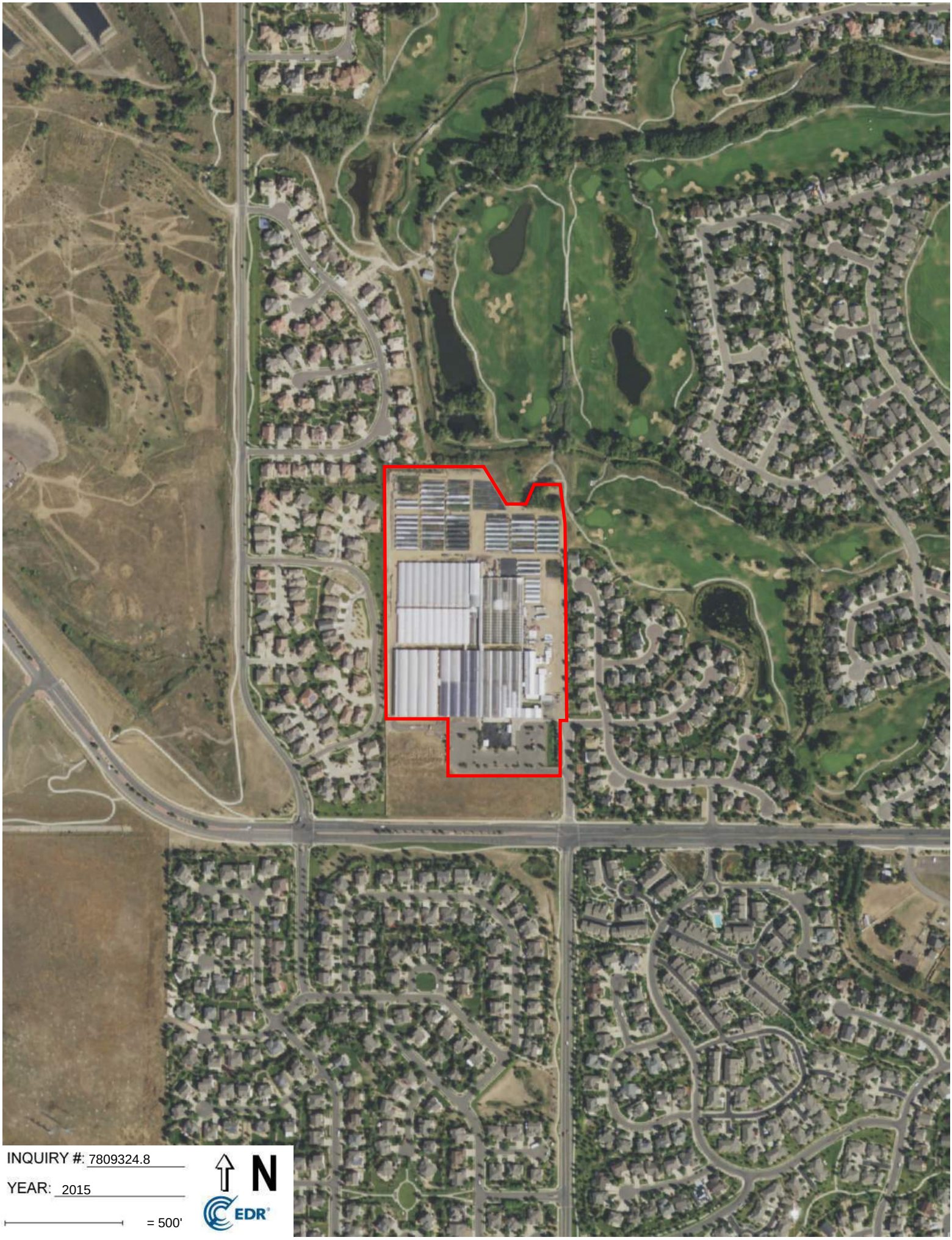
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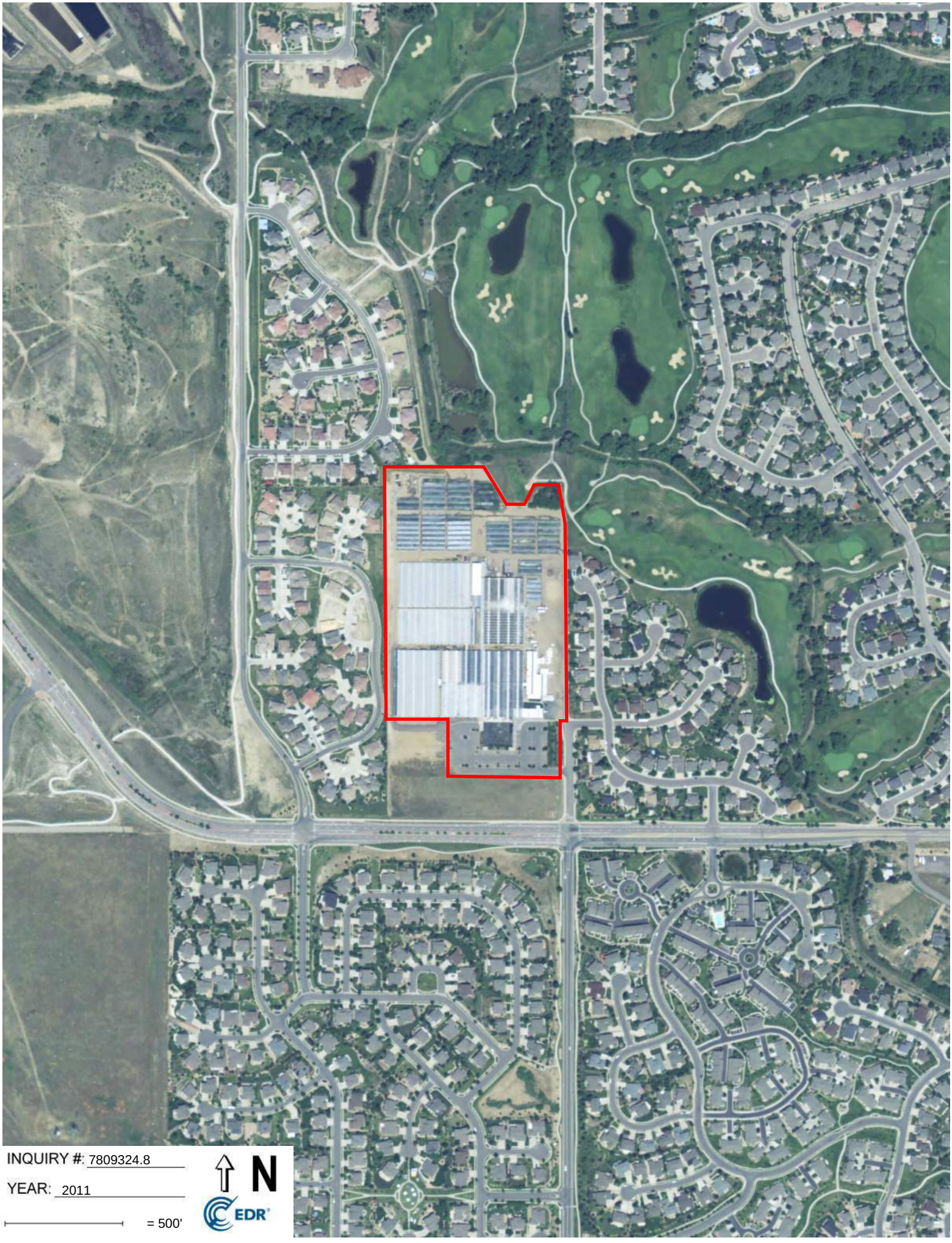
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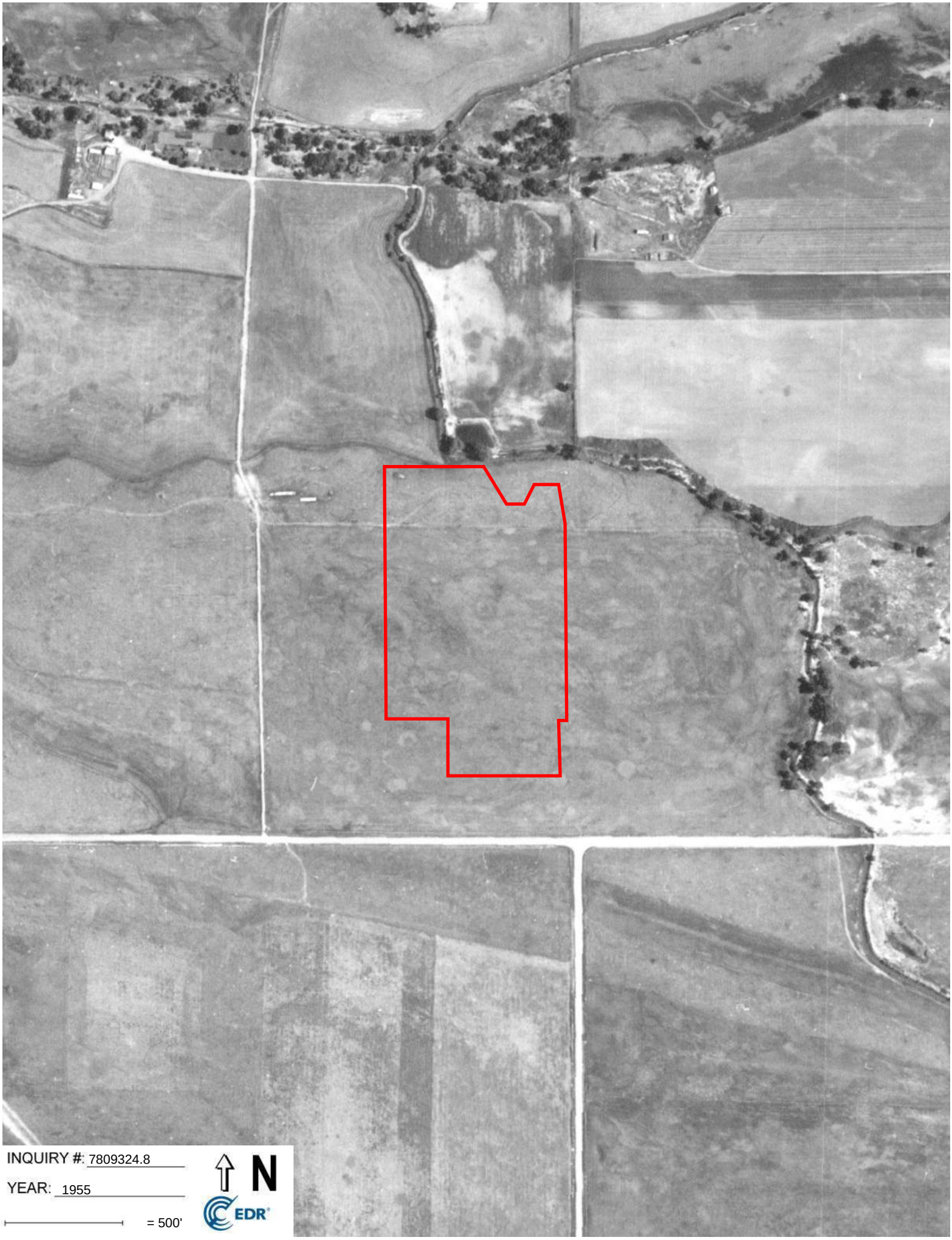
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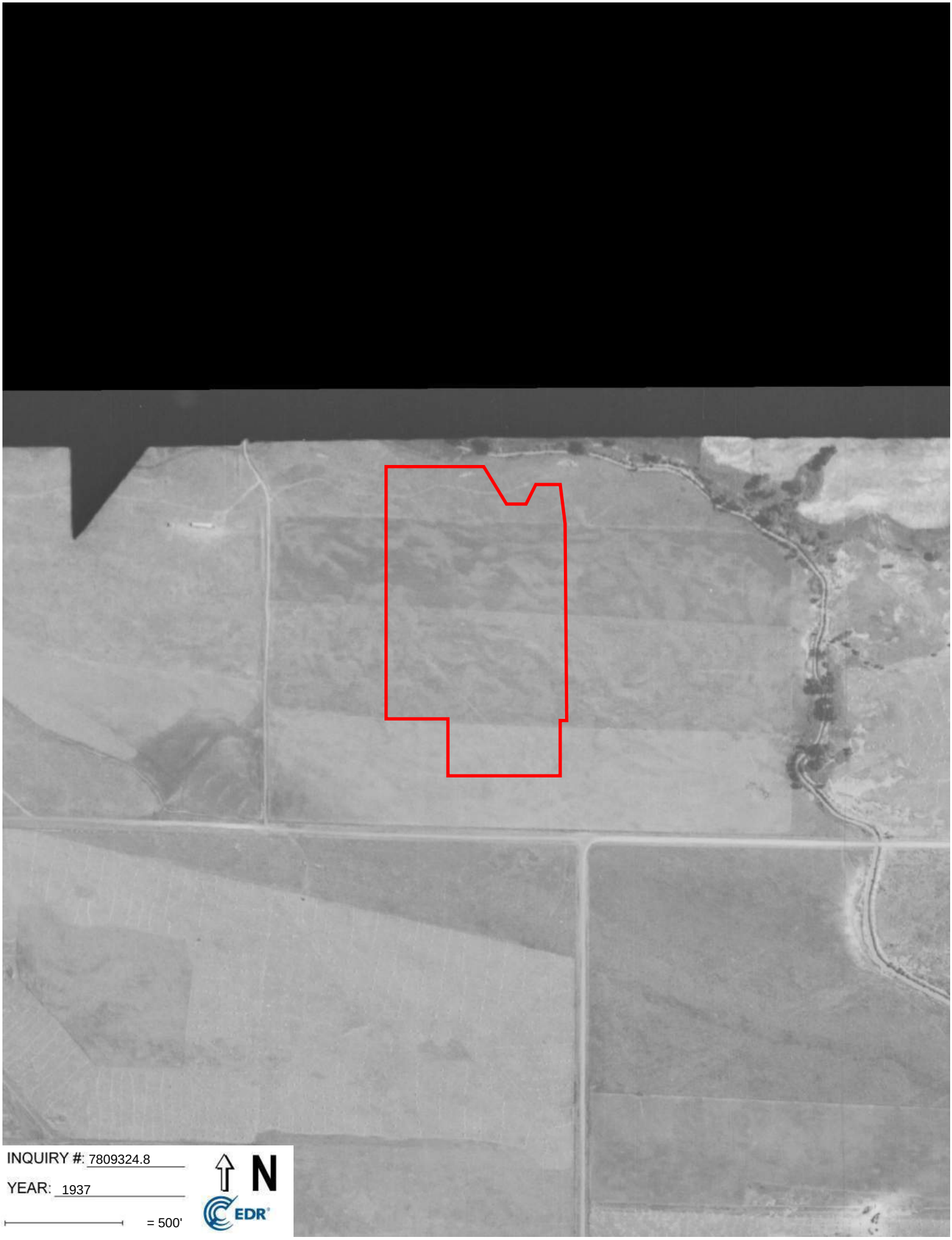

INQUIRY #: 7809324.8

YEAR: 1937

= 500'

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EDR

Welby Gardens Phase I ESA,
17201 West 64th Avenue
Arvada, CO 80007

Inquiry Number: 7809324.5
November 04, 2024

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available business directory data at approximately five year intervals.

RECORD SOURCES

The EDR City Directory Report accesses a variety of business directory sources, including Haines, InfoUSA, Polk, Cole, Bresser, and Stewart. Listings marked as EDR Digital Archive access Cole and InfoUSA records. The various directory sources enhance and complement each other to provide a more thorough and accurate report.

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	*Target Street*	*Cross Street*	*Source*
2020	☑	☐	EDR Digital Archive
2017	☑	☐	Cole Information
2014	☐	☐	Cole Information
2010	☑	☐	Cole Information
2005	☑	☐	Cole Information
2000	☑	☐	Cole Information
1995	☑	☐	Cole Information
1992	☑	☐	Cole Information
1986	☑	☐	Cole Criss-Cross Directory
1982	☑	☐	Cole Criss-Cross Directory
1977	☑	☐	Cole Criss-Cross Directory
1972	☑	☐	Bresser's Cross-Index Directory Company
1967	☐	☐	Bresser's Cross-Index Directory Company
1962	☐	☐	Bresser's Cross-Index Directory Company

FINDINGS

TARGET PROPERTY STREET

17201 West 64th Avenue
Arvada, CO 80007

Year	*CD Image*	*Source*	
W 64TH AVE			
2020	pg A2	EDR Digital Archive	
2017	pg A4	Cole Information	
2014	-	Cole Information	Target and Adjoining not listed in Source
2010	pg A5	Cole Information	
2005	pg A6	Cole Information	
2000	pg A7	Cole Information	
1995	pg A8	Cole Information	
1992	pg A9	Cole Information	
1986	pg A10	Cole Criss-Cross Directory	
1982	pg A11	Cole Criss-Cross Directory	
1977	pg A12	Cole Criss-Cross Directory	
1972	pg A13	Bresser's Cross-Index Directory Company	
1967	-	Bresser's Cross-Index Directory Company	Target and Adjoining not listed in Source
1962	-	Bresser's Cross-Index Directory Company	Target and Adjoining not listed in Source

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

W 64TH AVE 2020

17201	COUNTY FAIR GARDEN CTR ARVADA
	HARDY BOY BEDDING PLANTS
	WELBY GARDENS
17351	BERNICE DANIELS
	CAROL SMITH
	CATHERINE OLSON
	DELORES BROWN
	DIANA HILL
	DOLORES BENALLO
	DONALD BERRIDGE
	DONNA BROWN
	EDWIN HEMINGWAY
	EVELYN SCHURWONN
	FRANCES HOMSHER
	GORDON SMITH
	HELEN LOWE
	JACK LOWE
	JAMES BEERY
	JANET CLIFTON
	JANET MAVIS
	JAVONNE HARWARD
	JOSEPH SCHURWONN
	JUDY FARLEY
	JUDY PFLUM
	KAY HEMINGWAY
	LAURA BROWN
	LINDA REED
	LOUISE RUTHERFORD
	LOUISE WEBBER
	LOWELL OLSON
	LYNN BROWN
	MARGE NORTH
	MARION CLIFTON
	MARJORIE HAGIST
	MARJORIE LADUKE
	MARK CLIFTON
	MARTHA RAWLES
	NELVA ARCHER
	NEVA APPELHANS
	NORMA DELVO
	PEGGY FRANCIS
	PHIL NORTH
	PHYLLIS PUNSHON
	RICHARD SUGG
	RICHARD WEBER
	ROBERT ARCHER
	ROBERT FARLEY
	ROBERT FEAVEL
	ROBERTA MATSON
	ROSEMARIE OSBORN

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

W 64TH AVE 2020 (Cont'd)

17351 SALLIE FEAVEL
SANDRA QUICKENDEN
SHARON BEERY
SHIRLEY PETERSON
VIRGINIA SUGG
VIRGINIA WEINBERGER

Target Street	Cross Street	Source
✓	-	Cole Information

W 64TH AVE 2017

17201 COUNTRY FAIR AT WESTWOODS
WELBY GARDENS

Target Street	Cross Street	Source
✓	-	Cole Information

W 64TH AVE 2010

17201 COUNTRY FAIR AT WESTWOODS
17491 KARAS, MICHAEL

Target Street	Cross Street	Source
✓	-	Cole Information

W 64TH AVE 2005

17201 COUNTRY FAIR GARDEN CENTERS
LITTLE, S
RAGSDALE, BRENT

Target Street	Cross Street	Source
✓	-	Cole Information

W 64TH AVE 2000

17021 OCCUPANT UNKNOWN,
17060 OCCUPANT UNKNOWN,
17120 OCCUPANT UNKNOWN,
17201 GIRTEN, MICHAEL
VELDKAMPS WHOLESALE GREENHOUSES

Target Street	Cross Street	Source
✓	-	Cole Information

W 64TH AVE 1995

17201 FLORAWEST WHOLESALE GREENHOUSE
GRANT, L
TISDALE, S

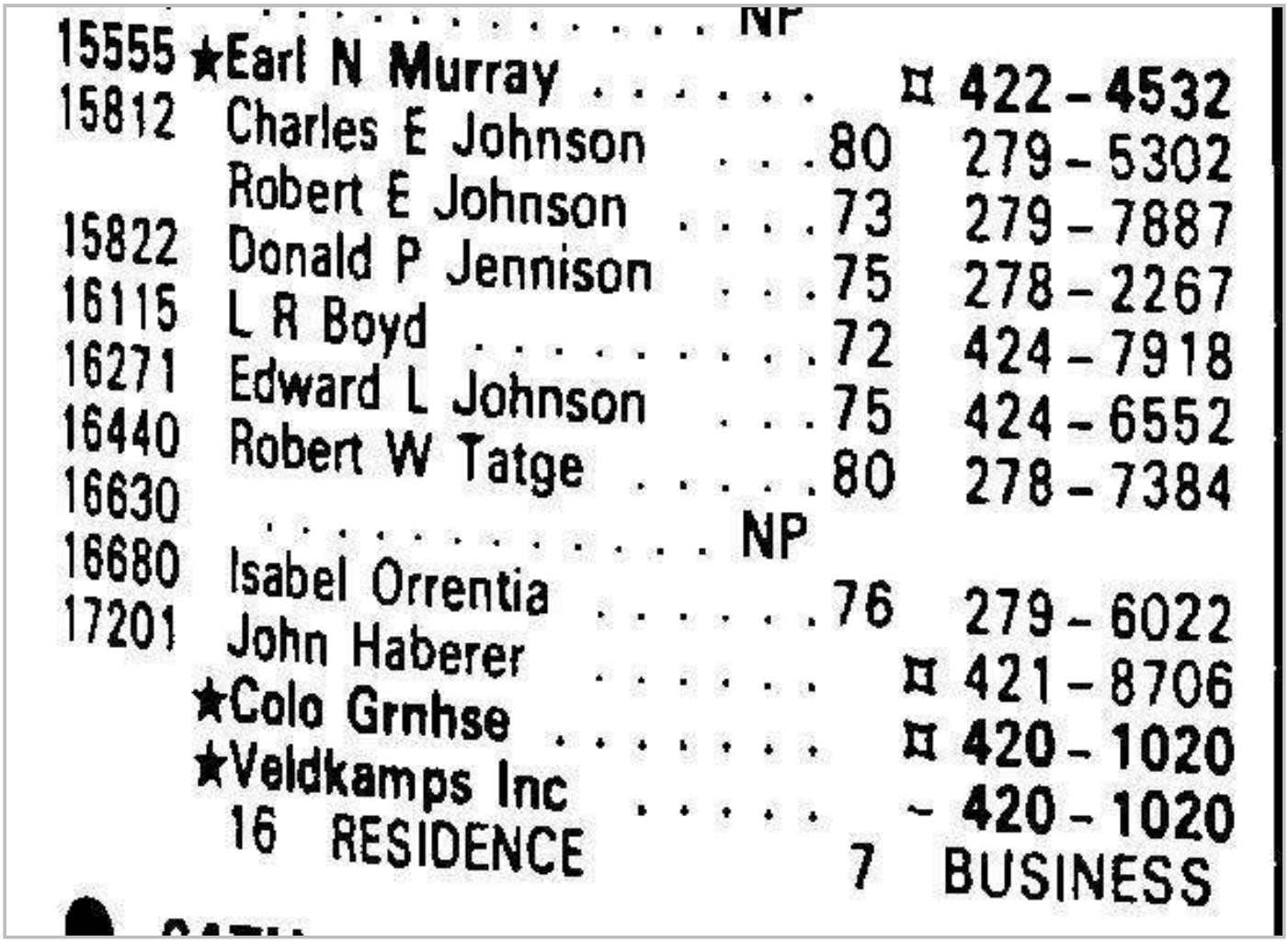
Target Street	Cross Street	Source
✓	-	Cole Information

W 64TH AVE 1992

17201 FLORA WEST WHLSL
GRANT, L
HOSTETLER, ERICH
VELDKAMPS FLOWERS

Target Street	Cross Street	Source
✓	-	Cole Criss-Cross Directory

W 64TH AVE 1986



15555 ★Earl N Murray . . . . . ¤ 422-4532
15812 Charles E Johnson . . . 80 279-5302
Robert E Johnson 73 279-7887
15822 Donald P Jennison . . . 75 278-2267
16115 L R Boyd 72 424-7918
16271 Edward L Johnson . . . 75 424-6552
16440 Robert W Tatge 80 278-7384
16630 . . . . . NP
16680 Isabel Orrentia 76 279-6022
17201 John Haberer . . . . . ¤ 421-8706
★Colo Grnhse . . . . . ¤ 420-1020
★Veldkamps Inc . . . . . ~ 420-1020
16 RESIDENCE 7 BUSINESS

Target Street	Cross Street	Source
✓	-	Cole Criss-Cross Directory

W 64TH AVE 1982

15822	Donald F Jennison	.75	278-2267
16115	L R Boyd	.72	424-7918
16271	Edward L Johnson	.75	424-6552
16440	Robert W Tatge	.80	278-7384
16630	Steve Schmidt	¤	279-9328
16680	Isabel Orrentia	.76	279-6022
17201	★**Veldkamps Greenhse**		**420-1251**
	★**Veldkamps Greenhse**		**420-2688**
	★**Veldkamps Whlsl**		**420-1020**
17555	Montie E Blunn		424-0605
	19 Residence	6 Business	

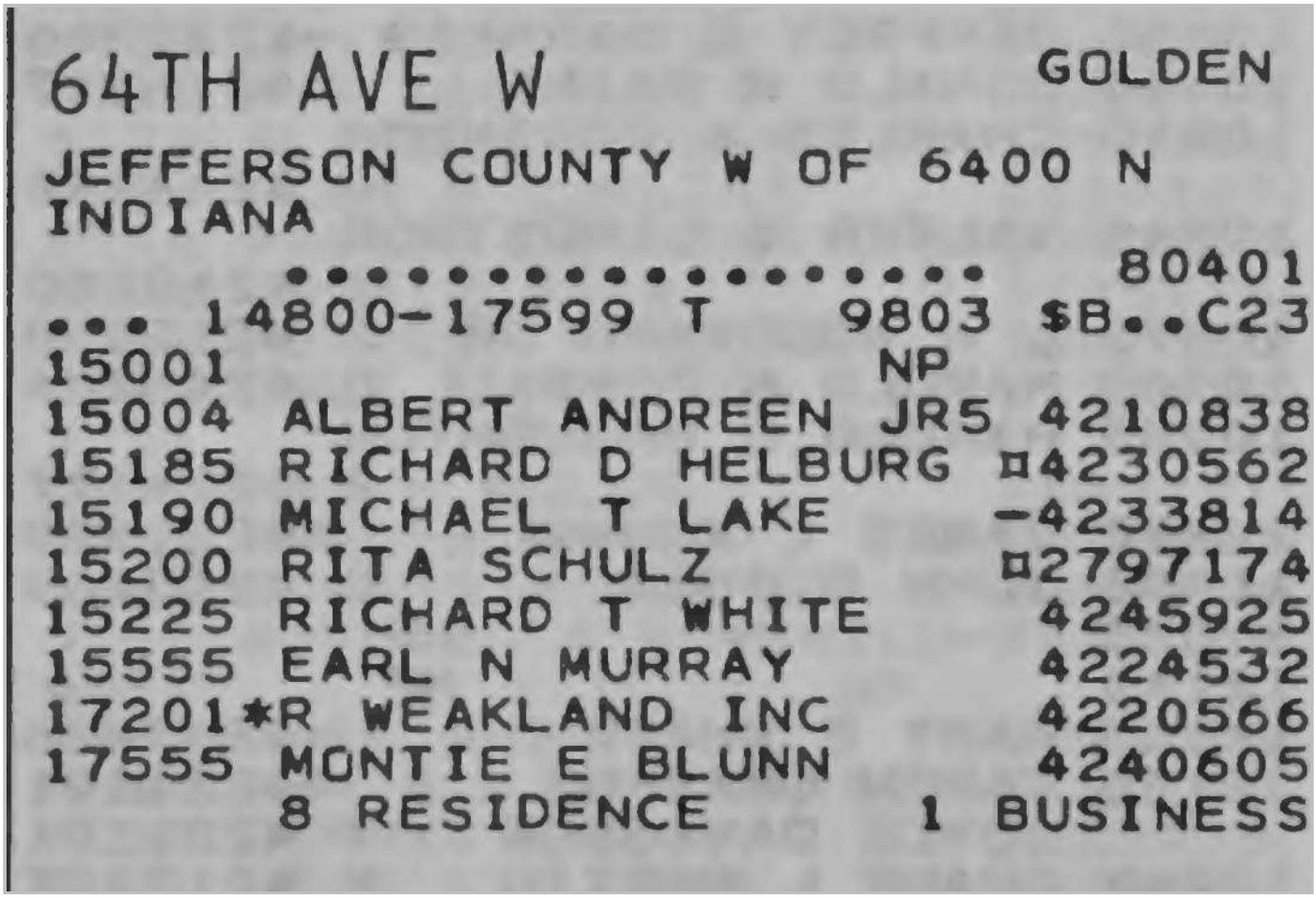
Target Street	Cross Street	Source
✓	-	Cole Criss-Cross Directory

W 64TH AVE 1977

	Earl N Murray		422-4532
15812	Robert E Johnson	3	279-7887
15822	Donald P Jennson	5	278-2267
16115	L R Boyd	2	424-7918
16271	Edward L Johnson	5	424-6552
16680	Isabel Orrenta	-	279-6022
17201 ★	Veldkamps Greenhse		422-0566
17555	Monte E Blunn		424-0605
	17 Residence	1 Business	

Target Street	Cross Street	Source
✓	-	Bresser's Cross-Index Directory

W 64TH AVE 1972



64TH AVE W GOLDEN

JEFFERSON COUNTY W OF 6400 N
INDIANA

80401

... 14800-17599 T 9803 $B..C23

15001 NP
15004 ALBERT ANDREEN JR5 4210838
15185 RICHARD D HELBURG ¤4230562
15190 MICHAEL T LAKE -4233814
15200 RITA SCHULZ ¤2797174
15225 RICHARD T WHITE 4245925
15555 EARL N MURRAY 4224532
17201*R WEAKLAND INC 4220566
17555 MONTIE E BLUNN 4240605

8 RESIDENCE 1 BUSINESS

Welby Gardens Phase I ESA,
17201 West 64th Avenue
Arvada, CO 80007

Inquiry Number: 7809324.2s
October 31, 2024

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	8
Orphan Summary	102
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-11
Physical Setting Source Map Findings	A-13
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527 - 21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247 - 16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528 - 22) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

17201 WEST 64TH AVENUE
ARVADA, CO 80007

COORDINATES

Latitude (North):	39.8152220 - 39° 48' 54.79''
Longitude (West):	105.1946750 - 105° 11' 40.83''
Universal Tranverse Mercator:	Zone 13
UTM X (Meters):	483337.5
UTM Y (Meters):	4407057.5
Elevation:	5680 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	50012209 GOLDEN, CO
Version Date:	2022

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20190919
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
17201 WEST 64TH AVENUE
ARVADA, CO 80007

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	WELBY GARDENS	17201 WEST 64TH AVEN	FTTS, HIST FTTS		TP
A2	VELDKAMPS GREENHOUSE	17201 WEST 64TH AVEN	FTTS, HIST FTTS		TP
A3	WELBY GARDENS	17201 WEST 64TH AVEN	FINDS		TP
4	ROCKY FLATS INDUSTRI	17100 - 17400 W HWY	SEMS, LIENS 2, PRP	Higher	549, 0.104, WSW
5	CITY OF ARVADA (WATE	18001 W 66TH AVE	RCRA-VSQG, FINDS, ECHO	Higher	792, 0.150, SW
6	THORO PRODUCTS COMPA	9091 UMBER CT	CORRACTS, RCRA-TSDF, RCRA NonGen / NLR, US FIN...	Higher	1194, 0.226, South
7	JEFFERSON COUNTY-CEN	701 WIER ST	RCRA NonGen / NLR, FINDS, ECHO	Higher	1257, 0.238, SSW
8	CITY OF ARVADA WATER	18001 W 66TH AVE	SHWF	Higher	2538, 0.481, West

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
WELBY GARDENS 17201 WEST 64TH AVEN ARVADA, CO 80007	FTTS Database: FTTS INSP, Date of Government Version: 04/09/2009 HIST FTTS Database: HIST FTTS INSP, Date of Government Version: 10/19/2006	N/A
VELDKAMPS GREENHOUSE 17201 WEST 64TH AVEN ARVADA, CO 80401	FTTS Database: FTTS INSP, Date of Government Version: 04/09/2009 HIST FTTS Database: HIST FTTS INSP, Date of Government Version: 10/19/2006	N/A
WELBY GARDENS 17201 WEST 64TH AVEN ARVADA, CO 80007	FINDS Registry ID:: 110020505498 Registry ID:: 110011672010	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Lists of Federal Delisted NPL sites

Delisted NPL ---------- National Priority List Deletions

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY ---------- Federal Facility Site Information listing

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

EXECUTIVE SUMMARY

Lists of Federal RCRA generators

RCRA-LQG ..... RCRA - Large Quantity Generators
RCRA-SQG ..... RCRA - Small Quantity Generators

Federal institutional controls / engineering controls registries

LUCIS ..... Land Use Control Information System
US ENG CONTROLS ..... Engineering Controls Sites List
US INST CONTROLS ..... Institutional Controls Sites List

Federal ERNS list

ERNS ..... Emergency Response Notification System

Lists of state- and tribal hazardous waste facilities

SHWS ..... This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF ..... Solid Waste Sites & Facilities

Lists of state and tribal leaking storage tanks

LTANKS ..... Petroleum Release Events Listing
LAST ..... Leaking Aboveground Storage Tank Listing
LUST ..... Leaking Underground Storage Tank List
INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land
LUST TRUST ..... RAP Site Listing

Lists of state and tribal registered storage tanks

FEMA UST ..... Underground Storage Tank Listing
UST ..... Underground Storage Tank Database
AST ..... Aboveground Tank List
INDIAN UST ..... Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

AUL ..... Environmental Covenants and Environmental Use Restrictions List

Lists of state and tribal voluntary cleanup sites

VCP ..... Voluntary Cleanup & Redevelopment Act Application Tracking Report
INDIAN VCP ..... Voluntary Cleanup Priority Listing

Lists of state and tribal brownfield sites

BROWNFIELDS ..... Brownfields Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

EXECUTIVE SUMMARY

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY ---- Registered Recyclers Listing
HIST LF ---- Historical Landfill List
INDIAN ODI ---- Report on the Status of Open Dumps on Indian Lands
ODI ---- Open Dump Inventory
DEBRIS REGION 9 ---- Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS ---- Open Dumps on Indian Land
DENVER CO HIST FILL ---- Denver City & County Historic Fill Areas

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ---- Delisted National Clandestine Laboratory Register
CDL ---- Meth Lab Locations
US CDL ---- National Clandestine Laboratory Register

Local Land Records

LIENS 2 ---- CERCLA Lien Information

Records of Emergency Release Reports

HMIRS ---- Hazardous Materials Information Reporting System
SPILLS ---- Spills Database
SPILLS 90 ---- SPILLS 90 data from FirstSearch

Other Ascertainable Records

FUDS ---- Formerly Used Defense Sites
DOD ---- Department of Defense Sites
SCRD DRYCLEANERS ---- State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ---- Financial Assurance Information
EPA WATCH LIST ---- EPA WATCH LIST
2020 COR ACTION ---- 2020 Corrective Action Program List
TSCA ---- Toxic Substances Control Act
TRIS ---- Toxic Chemical Release Inventory System
SSTS ---- Section 7 Tracking Systems
ROD ---- Records Of Decision
RMP ---- Risk Management Plans
RAATS ---- RCRA Administrative Action Tracking System
PRP ---- Potentially Responsible Parties
PADS ---- PCB Activity Database System
ICIS ---- Integrated Compliance Information System
MLTS ---- Material Licensing Tracking System
COAL ASH DOE ---- Steam-Electric Plant Operation Data
COAL ASH EPA ---- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---- PCB Transformer Registration Database
RADINFO ---- Radiation Information Database
DOT OPS ---- Incident and Accident Data
CONSENT ---- Superfund (CERCLA) Consent Decrees
INDIAN RESERV ---- Indian Reservations
FUSRAP ---- Formerly Utilized Sites Remedial Action Program
UMTRA ---- Uranium Mill Tailings Sites
LEAD SMELTERS ---- Lead Smelter Sites

US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
MINES MRDS	Mineral Resources Data System
ABANDONED MINES	Abandoned Mines
DOCKET HWC	Hazardous Waste Compliance Docket Listing
UXO	Unexploded Ordnance Sites
ECHO	Enforcement & Compliance History Information
FUELS PROGRAM	EPA Fuels Program Registered Listing
PFAS NPL	Superfund Sites with PFAS Detections Information
PFAS FEDERAL SITES	Federal Sites PFAS Information
PFAS TRIS	List of PFAS Added to the TRI
PFAS TSCA	PFAS Manufacture and Imports Information
PFAS RCRA MANIFEST	PFAS Transfers Identified In the RCRA Database Listing
PFAS ATSDR	PFAS Contamination Site Location Listing
PFAS WQP	Ambient Environmental Sampling for PFAS
PFAS PROJECT	NORTHEASTERN UNIVERSITY PFAS PROJECT
PFAS NPDES	Clean Water Act Discharge Monitoring Information
PFAS ECHO	Facilities in Industries that May Be Handling PFAS Listing
PFAS ECHO FIRE TRAIN	Facilities in Industries that May Be Handling PFAS Listing
PFAS PT 139 AIRPORT	All Certified Part 139 Airports PFAS Information Listing
AQUEOUS FOAM NRC	Aqueous Foam Related Incidents Listing
BIOSOLIDS	ICIS-NPDES Biosolids Facility Data
E MANIFEST	Hazardous Waste Electronic Manifest System
PFAS	PFAS Information Listing
AQUEOUS FOAM	Class B Firefighting Foam Contaminating PFAS Listing
AIRS	Permitted Facility & Emissions Listing
ASBESTOS	Asbestos Abatement & Demolition Projects
METHANE SITE	Methane Site Investigations - Jefferson County 1980
Methane Investig	Methane Gas & Swamp Findings
DRYCLEANERS	Drycleaner Facilities
Financial Assurance	Financial Assurance Information Listing
LEAD	LEAD
MINES	Permitted Mines Listing
NPDES	Permitted Facility Listing
UIC	Underground Injection Control
UMTRA	Uranium Mill Tailings Sites

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto	EDR Exclusive Historical Auto Stations
EDR Hist Cleaner	EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF	Recovered Government Archive Solid Waste Facilities List
RGA LUST	Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

EXECUTIVE SUMMARY

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal sites subject to CERCLA removals and CERCLA orders

SEMS: SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

A review of the SEMS list, as provided by EDR, and dated 09/25/2024 has revealed that there is 1 SEMS site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ROCKY FLATS INDUSTRI Site ID: 0800265 EPA Id: COD980807374	***17100 - 17400 W HWY***	***WSW 0 - 1/8 (0.104 mi.)***	***4***	***9***

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 06/03/2024 has revealed that there is 1 CORRACTS site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
THORO PRODUCTS COMPA EPA ID:: COD007065576	***9091 UMBER CT***	***S 1/8 - 1/4 (0.226 mi.)***	***6***	***18***

EXECUTIVE SUMMARY

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

A review of the RCRA-TSDF list, as provided by EDR, and dated 06/03/2024 has revealed that there is 1 RCRA-TSDF site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
THORO PRODUCTS COMPA EPA ID:: COD007065576	***9091 UMBER CT***	***S 1/8 - 1/4 (0.226 mi.)***	***6***	***18***

Lists of Federal RCRA generators

RCRA-VSQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

A review of the RCRA-VSQG list, as provided by EDR, and dated 06/03/2024 has revealed that there is 1 RCRA-VSQG site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CITY OF ARVADA (WATE EPA ID:: CO0000083865	***18001 W 66TH AVE***	***SW 1/8 - 1/4 (0.150 mi.)***	***5***	***16***

Lists of state and tribal landfills and solid waste disposal facilities

SHWF: A listing from the Solid Waste Information System, which is used to help administer the various programs of our solid waste and materials management program. It includes a wide variety of types of facilities and sites, and includes information obtained over several decades and numerous legacy data systems.

A review of the SHWF list, as provided by EDR, and dated 07/01/2024 has revealed that there is 1 SHWF site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CITY OF ARVADA WATER	18001 W 66TH AVE	W 1/4 - 1/2 (0.481 mi.)	8	100

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 06/03/2024 has revealed that there are 2 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

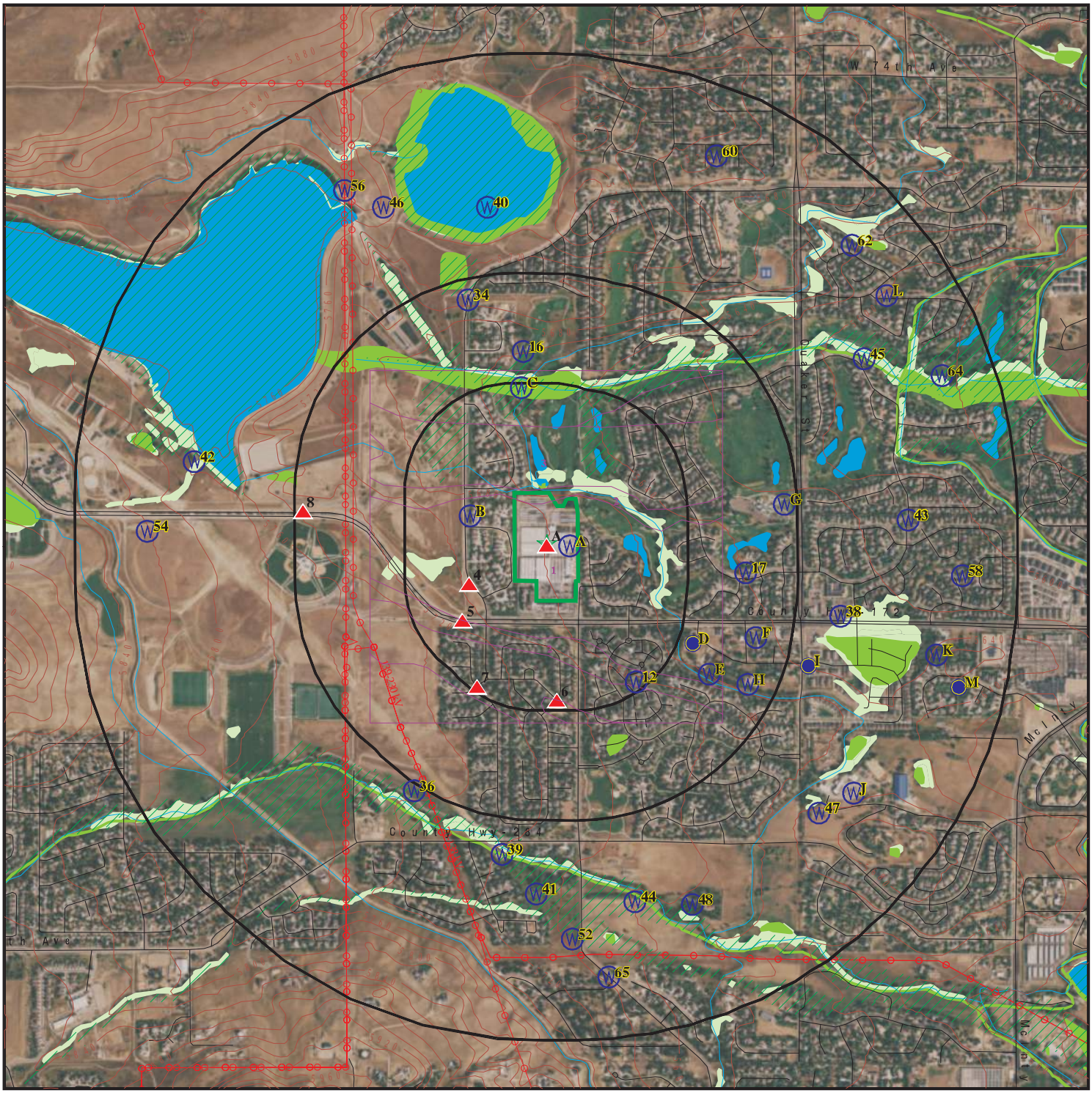
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
THORO PRODUCTS COMPA EPA ID:: COD007065576	***9091 UMBER CT***	***S 1/8 - 1/4 (0.226 mi.)***	***6***	***18***
JEFFERSON COUNTY-CEN EPA ID:: COD981549629	***701 WIER ST***	***SSW 1/8 - 1/4 (0.238 mi.)***	***7***	***96***

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 2 records.

Site Name	Database(s)
UMBER COURT ABANDONED DRUMS	SEMS-ARCHIVE
SMITH PROPERTY	VCP

OVERVIEW MAP - 7809324.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Power transmission lines

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Welby Gardens Phase I ESA,	CLIENT:	Baseline Engineering Corporation
ADDRESS:	17201 West 64th Avenue Arvada CO 80007	CONTACT:	Taylor Culp
		INQUIRY #:	7809324.2s
LAT/LONG:	39.815222 / 105.194675	DATE:	October 31, 2024 1:25 pm

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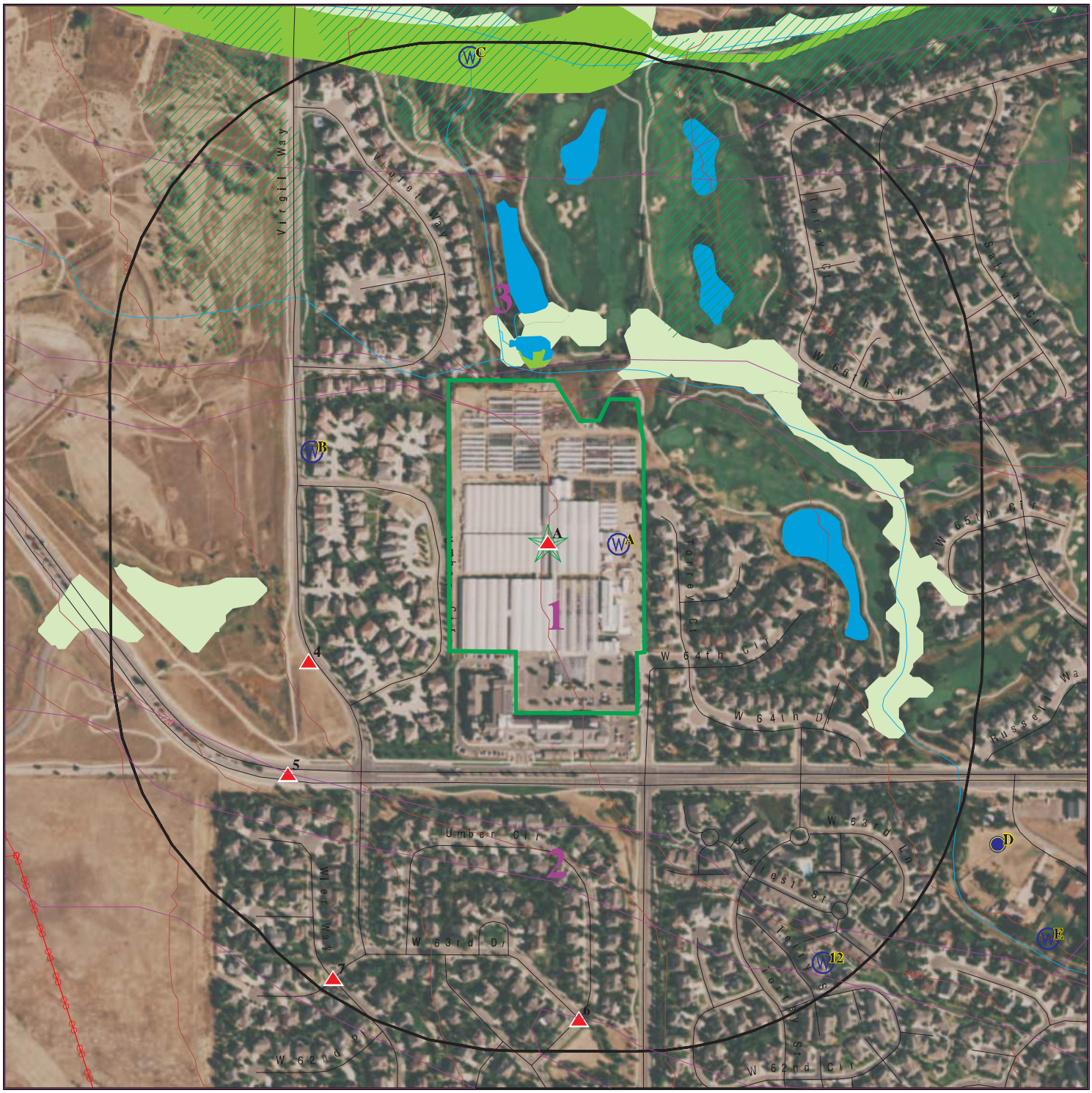
DETAIL MAP - 7809324.2S



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Welby Gardens Phase I ESA,	CLIENT:	Baseline Engineering Corporation
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LAT/LONG:	39.815222 / 105.194675	DATE:	October 31, 2024 1:25 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Lists of Federal NPL (Superfund) sites								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Lists of Federal Delisted NPL sites								
Delisted NPL	1.000		0	0	0	0	NR	0
Lists of Federal sites subject to CERCLA removals and CERCLA orders								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		1	0	0	NR	NR	1
Lists of Federal CERCLA sites with NFRAP								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA facilities undergoing Corrective Action								
CORRACTS	1.000		0	1	0	0	NR	1
Lists of Federal RCRA TSD facilities								
RCRA-TSDF	0.500		0	1	0	NR	NR	1
Lists of Federal RCRA generators								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	1	NR	NR	NR	1
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
Lists of state- and tribal hazardous waste facilities								
SHWS	N/A		N/A	N/A	N/A	N/A	N/A	N/A
Lists of state and tribal landfills and solid waste disposal facilities								
SWF/LF	0.500		0	0	0	NR	NR	0
SHWF	0.500		0	0	1	NR	NR	1
Lists of state and tribal leaking storage tanks								
LTANKS	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LAST	0.500		0	0	0	NR	NR	0
LUST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
LUST TRUST	0.500		0	0	0	NR	NR	0
Lists of state and tribal registered storage tanks								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
AUL	0.500		0	0	0	NR	NR	0
Lists of state and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
Lists of state and tribal brownfield sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
SWRCY	0.500		0	0	0	NR	NR	0
HIST LF	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
DENVER CO HIST FILL	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	0.001		0	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
SPILLS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	2	NR	NR	NR	2
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001	2	0	NR	NR	NR	NR	2
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001	2	0	NR	NR	NR	NR	2
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
MINES MRDS	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001	1	0	NR	NR	NR	NR	1
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250		0	0	NR	NR	NR	0
PFAS FEDERAL SITES	0.250		0	0	NR	NR	NR	0
PFAS TRIS	0.250		0	0	NR	NR	NR	0
PFAS TSCA	0.250		0	0	NR	NR	NR	0
PFAS RCRA MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		0	0	NR	NR	NR	0
PFAS PROJECT	0.250		0	0	NR	NR	NR	0
PFAS NPDES	0.250		0	0	NR	NR	NR	0
PFAS ECHO	0.250		0	0	NR	NR	NR	0
PFAS ECHO FIRE TRAIN	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
PFAS PT 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
BIOSOLIDS	0.001		0	NR	NR	NR	NR	0
E MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM	0.250		0	0	NR	NR	NR	0
AIRS	0.001		0	NR	NR	NR	NR	0
ASBESTOS	0.001		0	NR	NR	NR	NR	0
METHANE SITE	0.001		0	NR	NR	NR	NR	0
Methane Investig	0.001		0	NR	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
LEAD	0.001		0	NR	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		5	1	5	1	0	0	12

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

N/A = This State does not maintain a SHWS list. See the Federal CERCLIS list.

A1 **WELBY GARDENS** **FTTS** **1007992297**
Target **17201 WEST 64TH AVENUE** **HIST FTTS** **N/A**
Property **ARVADA, CO 80007**

Site 1 of 3 in cluster A

Actual:
5680 ft.

FTTS INSP:
Inspection Number: 2004030821538 3
Region: 08
Inspection Date: 03/08/04
Inspector: TERRELL, DON
Violation occurred: No
Investigation Type: Use General Agriculture
Investigation Reason: Neutral Scheme, Region
Legislation Code: FIFRA
Facility Function: User

HIST FTTS INSP:
Inspection Number: 2004030821538 3
Region: 08
Inspection Date: Not reported
Inspector: TERRELL, DON
Violation occurred: No
Investigation Type: Use General Agriculture
Investigation Reason: Neutral Scheme, Region
Legislation Code: FIFRA
Facility Function: User

A2 **VELDKAMPS GREENHOUSES** **FTTS** **1009525541**
Target **17201 WEST 64TH AVENUE** **HIST FTTS** **N/A**
Property **ARVADA, CO 80401**

Site 2 of 3 in cluster A

Actual:
5680 ft.

FTTS INSP:
Inspection Number: 199507276921 1
Region: 08
Inspection Date: 07/27/95
Inspector: COOPER
Violation occurred: No
Investigation Type: Use Restricted Non-Agriculture
Investigation Reason: Neutral Scheme, Region
Legislation Code: FIFRA
Facility Function: User

HIST FTTS INSP:
Inspection Number: 199507276921 1
Region: 08
Inspection Date: Not reported
Inspector: COOPER
Violation occurred: No
Investigation Type: Use Restricted Non-Agriculture
Investigation Reason: Neutral Scheme, Region
Legislation Code: FIFRA
Facility Function: User

A3
Target
Property

WELBY GARDENS
17201 WEST 64TH AVENUE
ARVADA, CO 80007

FINDS **1004449082**
N/A

Site 3 of 3 in cluster A

Actual:
5680 ft.

FINDS:
Registry ID: 110020505498

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The National Compliance Database (NCDB) supports implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA).
The Integrated Compliance Information System (ICIS) provides a database that, when complete, will contain integrated enforcement and compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions and a subset of the Permit Compliance System (PCS), which supports the National Pollutant Discharge Elimination System (NPDES). This information is maintained in ICIS by EPA in the Regional offices and it at Headquarters. A future release of ICIS will completely replace PCS and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities that support compliance and enforcement programs, including incident tracking, compliance assistance, and compliance monitoring.
Registry ID: 110011672010

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The National Compliance Database (NCDB) supports implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA).

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

4
WSW
< 1/8
0.104 mi.
549 ft.

ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
17100 - 17400 W HWY 72
ARVADA, CO 80403

SEMS **1000855640**
LIENS 2 **COD980807374**
PRP

Relative:
Higher

Actual:
5698 ft.

SEMS:

Site ID:	0800265
EPA ID:	COD980807374
Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
Address:	17100 - 17400 W HWY 72
Address 2:	Not reported
City,State,Zip:	ARVADA, CO 80403
Cong District:	02
FIPS Code:	08059
Latitude:	+39.858883
Longitude:	-105.194478
FF:	N
NPL:	Not on the NPL
Non NPL Status:	Remedial Activities Under EPA Enforcement

ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI) (Continued) **1000855640**

SEMS Detail:

Region:	08
Site ID:	0800265
EPA ID:	COD980807374
Site Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL:	S
FF:	N
OU:	00
Action Code:	AR
Action Name:	ADMIN REC
SEQ:	1
Start Date:	1988-08-26 04:00:00
Finish Date:	1988-10-15 04:00:00
Qual:	V
Current Action Lead:	EPA Perf

Region:	08
Site ID:	0800265
EPA ID:	COD980807374
Site Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL:	S
FF:	N
OU:	00
Action Code:	EE
Action Name:	EE/CA
SEQ:	1
Start Date:	1997-09-08 04:00:00
Finish Date:	2000-09-25 04:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf

Region:	08
Site ID:	0800265
EPA ID:	COD980807374
Site Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL:	S
FF:	N
OU:	00
Action Code:	RV
Action Name:	RMVL
SEQ:	1
Start Date:	1988-08-26 04:00:00
Finish Date:	1992-06-24 04:00:00
Qual:	S
Current Action Lead:	EPA Perf

Region:	08
Site ID:	0800265
EPA ID:	COD980807374
Site Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL:	S
FF:	N
OU:	00
Action Code:	PA
Action Name:	PA
SEQ:	1
Start Date:	1989-01-09 05:00:00

ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI) (Continued) **1000855640**

Finish Date:	1989-01-09 05:00:00
Qual:	L
Current Action Lead:	EPA Perf
Region:	08
Site ID:	0800265
EPA ID:	COD980807374
Site Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL:	S
FF:	N
OU:	00
Action Code:	BB
Action Name:	PRP RV
SEQ:	1
Start Date:	1992-06-24 04:00:00
Finish Date:	1997-01-28 05:00:00
Qual:	S
Current Action Lead:	EPA Ovrsght
Region:	08
Site ID:	0800265
EPA ID:	COD980807374
Site Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL:	S
FF:	N
OU:	00
Action Code:	DS
Action Name:	DISCVRY
SEQ:	1
Start Date:	1987-10-01 04:00:00
Finish Date:	1987-10-01 04:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf
Region:	08
Site ID:	0800265
EPA ID:	COD980807374
Site Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL:	S
FF:	N
OU:	00
Action Code:	SI
Action Name:	SI
SEQ:	1
Start Date:	1989-07-21 04:00:00
Finish Date:	1989-07-21 04:00:00
Qual:	L
Current Action Lead:	EPA Perf
Region:	08
Site ID:	0800265
EPA ID:	COD980807374
Site Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL:	S
FF:	N
OU:	00
Action Code:	MA

ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI) (Continued) **1000855640**

Action Name: ST COOP
SEQ: 1
Start Date: 2013-09-03 05:00:00
Finish Date: 2020-12-31 06:00:00
Qual: Not reported
Current Action Lead: EPA Perf

Region: 08
Site ID: 0800265
EPA ID: COD980807374
Site Name: ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL: S
FF: N
OU: 00
Action Code: TA
Action Name: TECH ASSIST
SEQ: 1
Start Date: 2006-06-13 04:00:00
Finish Date: 2013-12-31 05:00:00
Qual: Not reported
Current Action Lead: EPA Ovrsght

Region: 08
Site ID: 0800265
EPA ID: COD980807374
Site Name: ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL: S
FF: N
OU: 01
Action Code: ED
Action Name: R/H ASMT
SEQ: 1
Start Date: 1999-10-22 04:00:00
Finish Date: 2000-09-20 04:00:00
Qual: Not reported
Current Action Lead: EPA Perf

Region: 08
Site ID: 0800265
EPA ID: COD980807374
Site Name: ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL: S
FF: N
OU: 02
Action Code: RV
Action Name: RMVL
SEQ: 3
Start Date: 2001-08-08 04:00:00
Finish Date: 2006-09-26 04:00:00
Qual: C
Current Action Lead: EPA Perf

Region: 08
Site ID: 0800265
EPA ID: COD980807374
Site Name: ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL: S

ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI) (Continued) **1000855640**

FF:	N
OU:	02
Action Code:	BB
Action Name:	PRP RV
SEQ:	7
Start Date:	2002-03-13 05:00:00
Finish Date:	2011-10-24 04:00:00
Qual:	C
Current Action Lead:	EPA Ovrsght
Region:	08
Site ID:	0800265
EPA ID:	COD980807374
Site Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL:	S
FF:	N
OU:	05
Action Code:	RV
Action Name:	RMVL
SEQ:	4
Start Date:	2002-02-21 05:00:00
Finish Date:	2002-03-22 05:00:00
Qual:	C
Current Action Lead:	EPA Perf
Region:	08
Site ID:	0800265
EPA ID:	COD980807374
Site Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL:	S
FF:	N
OU:	05
Action Code:	RV
Action Name:	RMVL
SEQ:	5
Start Date:	2005-02-28 05:00:00
Finish Date:	2005-03-19 05:00:00
Qual:	C
Current Action Lead:	EPA Perf
Region:	08
Site ID:	0800265
EPA ID:	COD980807374
Site Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL:	S
FF:	N
OU:	05
Action Code:	RS
Action Name:	RV ASSESS
SEQ:	1
Start Date:	2016-06-08 04:00:00
Finish Date:	2016-06-30 04:00:00
Qual:	Not reported
Current Action Lead:	USCG
Region:	08
Site ID:	0800265

ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI) (Continued) **1000855640**

EPA ID: COD980807374
Site Name: ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL: S
FF: N
OU: 05
Action Code: BB
Action Name: PRP RV
SEQ: 4
Start Date: 2002-10-18 04:00:00
Finish Date: 2016-02-02 05:00:00
Qual: C
Current Action Lead: EPA Ovrsght

Region: 08
Site ID: 0800265
EPA ID: COD980807374
Site Name: ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
NPL: S
FF: N
OU: 06
Action Code: BB
Action Name: PRP RV
SEQ: 6
Start Date: 2002-10-18 04:00:00
Finish Date: 2012-12-18 05:00:00
Qual: C
Current Action Lead: EPA Ovrsght

LIENS 2:
Facility Name: ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
Facility Address: 17100 - 17400 W HWY 72
Facility City: ARVADA
EPA ID: COD980807374
Effective Date: Not reported
Facility State: CO
Lien: LP-1
Facility Zip: 80403
Party Name: Not reported
Reg: 08
Release Date: Not reported
Start Date: 12/14/1990
Complete Date: 07/01/2010
Party Name: Not reported
Party Name: Not reported
Party Name: Not reported
Party Name: Not reported
Party Name: Not reported
Party Name: Not reported
Party Name: Not reported
Party Name: Not reported
Party Name: Not reported
Party Name: Not reported
Party Name: Not reported
Party Name: Not reported

Facility Name: ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
Facility Address: 17100 - 17400 W HWY 72

ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI) (Continued) **1000855640**

Facility City:	ARVADA
EPA ID:	COD980807374
Effective Date:	Not reported
Facility State:	CO
Lien:	LP-2
Facility Zip:	80403
Party Name:	Not reported
Reg:	08
Release Date:	Not reported
Start Date:	12/14/1990
Complete Date:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported

Facility Name:	ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI)
Facility Address:	17100 - 17400 W HWY 72
Facility City:	ARVADA
EPA ID:	COD980807374
Effective Date:	Not reported
Facility State:	CO
Lien:	LP-3
Facility Zip:	80403
Party Name:	Not reported
Reg:	08
Release Date:	Not reported
Start Date:	11/17/2000
Complete Date:	11/20/2000
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported
Party Name:	Not reported

PRP:

PRP Name:	$1 CLEANERS
	$1 CLEANERS
	(PEPSI COLA BOTTLING CO. OF COLORADO) BOTTLING GROUP
	A 1 CLEANERS
	A 1 CLEANERS
	A 1 STOP CLEANERS
	A 1 STOP CLEANERS
	AAD DISPOSAL

ROCKY FLATS INDUSTRIAL PARK (THORO - AERRCO - GWI) (Continued) **1000855640**

AAD DISPOSAL
AAD DISPOSAL CO
ABC AUTO BODY INC
ABC AUTO BODY INC
ACCUTRONICS
ACCUTRONICS
ACCUTRONICS
ACME TOOL
ACME TOOL AND MANUFACTURING CO
ACME TOOL AND MANUFACTURING CO
ADCO SIGNS
ADCO SIGNS

Click this hyperlink while viewing on your computer to access
1370 additional PRP: record(s) in the EDR Site Report.

5
SW
1/8-1/4
0.150 mi.
792 ft.

CITY OF ARVADA (WATER TREATMENT)
18001 W 66TH AVE
GOLDEN, CO 80403

RCRA-VSQG **1004678642**
FINDS **CO0000083865**
ECHO

Relative:
Higher

Actual:
5706 ft.

RCRA Listings:

Date Form Received by Agency:	19931223
Handler Name:	City Of Arvada (Water Treatment)
Handler Address:	W 66th Ave
Handler City,State,Zip:	GOLDEN, CO 80403
EPA ID:	CO0000083865
Contact Name:	DON LEONARDO
Contact Address:	W 66TH AVE
Contact City,State,Zip:	GOLDEN, CO 80403
Contact Telephone:	303-279-5746
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	08
Land Type:	Municipal
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	W 66TH AVE
Mailing City,State,Zip:	GOLDEN, CO 80403
Owner Name:	City Of Arvada
Owner Type:	Municipal
Operator Name:	Not reported
Operator Type:	Not reported
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No

CITY OF ARVADA (WATER TREATMENT) (Continued) **1004678642**

Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20141024
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	Ignitable Waste

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: CITY OF ARVADA	
Legal Status:	Municipal
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	8001 RALSTON ROAD
Owner/Operator City,State,Zip:	ARVADA, CO 80002
Owner/Operator Telephone:	303-431-3042
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	19931223
Handler Name:	CITY OF ARVADA (WATER TREATMENT)
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No

CITY OF ARVADA (WATER TREATMENT) (Continued) **1004678642**

Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:
NAICS Codes: No NAICS Codes Found

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

FINDS:
Registry ID: 110002958498

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1004678642
Registry ID:	110002958498
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110002958498
Name:	CITY OF ARVADA (WATER TREATMENT)
Address:	18001 W 66TH AVE
City,State,Zip:	GOLDEN, CO 80403

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6 **THORO PRODUCTS COMPANY** **CORRACTS** **1000366268**
South **9091 UMBER CT** **RCRA-TSDF** **COD007065576**
1/8-1/4 **GOLDEN, CO 80401** **RCRA NonGen / NLR**
0.226 mi. **US FIN ASSUR**
1194 ft. **FINDS**
ECHO

Relative:
Higher

Actual:
5704 ft.

CORRACTS:

Name:	THORO PRODUCTS CO
Address:	9091 UMBER CT
Address 2:	Not reported
EPA ID:	COD007065576
Area Name:	ENTIRE FACILITY
Corrective Action:	OVERALL CA RANK
Actual Date:	19911218

THORO PRODUCTS COMPANY (Continued) **1000366268**

Air Release Indicator: Not reported
Groundwater Release Indicator: Y
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Name: THORO PRODUCTS CO
Address: 9091 UMBER CT
Address 2: Not reported
EPA ID: COD007065576
Area Name: ENTIRE FACILITY
Corrective Action: RFA COMPLETED
Actual Date: 19890310
Air Release Indicator: Not reported
Groundwater Release Indicator: Y
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Name: THORO PRODUCTS CO
Address: 9091 UMBER CT
Address 2: Not reported
EPA ID: COD007065576
Area Name: ENTIRE FACILITY
Corrective Action: CA PRIORITIZATION-LOW CA PRIORITY
Actual Date: 19911218
Air Release Indicator: Not reported
Groundwater Release Indicator: Y
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Name: THORO PRODUCTS CO
Address: 9091 UMBER CT
Address 2: Not reported
EPA ID: COD007065576
Area Name: ENTIRE FACILITY
Corrective Action: REGULATED UNIT
Actual Date: 19851108
Air Release Indicator: Not reported
Groundwater Release Indicator: Y
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Name: THORO PRODUCTS CO
Address: 9091 UMBER CT
Address 2: Not reported
EPA ID: COD007065576
Area Name: ENTIRE FACILITY
Corrective Action: OTHER WORKPLAN RECEIVED - OPERATION AND MAINTENANCE
Actual Date: 20060810
Air Release Indicator: Not reported
Groundwater Release Indicator: Y
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Name: THORO PRODUCTS CO
Address: 9091 UMBER CT
Address 2: Not reported
EPA ID: COD007065576

THORO PRODUCTS COMPANY (Continued) **1000366268**

Area Name: ENTIRE FACILITY
Corrective Action: OTHER WORKPLAN MODIFICATION REQUESTED
Actual Date: 20060919
Air Release Indicator: Not reported
Groundwater Release Indicator: Y
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Name: THORO PRODUCTS CO
Address: 9091 UMBER CT
Address 2: Not reported
EPA ID: COD007065576
Area Name: ENTIRE FACILITY
Corrective Action: OTHER REPORT RECEIVED
Actual Date: 20190509
Air Release Indicator: Not reported
Groundwater Release Indicator: Y
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Name: THORO PRODUCTS CO
Address: 9091 UMBER CT
Address 2: Not reported
EPA ID: COD007065576
Area Name: ENTIRE FACILITY
Corrective Action: OTHER REPORT APPROVED
Actual Date: 20190612
Air Release Indicator: Not reported
Groundwater Release Indicator: Y
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Name: THORO PRODUCTS CO
Address: 9091 UMBER CT
Address 2: Not reported
EPA ID: COD007065576
Area Name: ENTIRE FACILITY
Corrective Action: RFA COMPLETED
Actual Date: 19920115
Air Release Indicator: Not reported
Groundwater Release Indicator: Y
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Name: THORO PRODUCTS CO
Address: 9091 UMBER CT
Address 2: Not reported
EPA ID: COD007065576
Area Name: ENTIRE FACILITY
Corrective Action: DETERMINATION OF NEED FOR AN INVESTIGATION-INVESTIGATION IS NECESSARY
Actual Date: 19920115
Air Release Indicator: Not reported
Groundwater Release Indicator: Y
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Name: THORO PRODUCTS CO

THORO PRODUCTS COMPANY (Continued) **1000366268**

Address: 9091 UMBER CT
Address 2: Not reported
EPA ID: COD007065576
Area Name: ENTIRE FACILITY
Corrective Action: INVESTIGATION IMPOSITION
Actual Date: 19851108
Air Release Indicator: Not reported
Groundwater Release Indicator: Y
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Click this hyperlink while viewing on your computer to access
6 additional CORRACTS: record(s) in the EDR Site Report.

RCRA TSDF:
Treatment Storage and Disposal Type: Storage, Treatment
Full Enforcement Universe: Not reported
Corrective Action Workload Universe: No
Permit Renewals Workload Universe: Not reported
Permit Workload Universe: Not reported
Permit Progress Universe: Storage, Treatment
Post-Closure Workload Universe: Not reported
Closure Workload Universe: Not reported
Operating TSDF Universe: Not reported
Commercial TSD Indicator: No
Active Site Fed-Reg Treatment Storage and Disposal Facility: Not reported
Active Site Converter Treatment storage and Disposal Facility: Not reported
Active Site State-Reg Treatment Storage and Disposal Facility: Not reported
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: No
TSDFs Only Subject to CA under Discretionary Auth Universe: No

RCRA Listings:
Date Form Received by Agency: 19960301
Handler Name: Thoro Products Co
Handler Address: Umber Ct
Handler City,State,Zip: GOLDEN, CO 80401
EPA ID: COD007065576
Contact Name: RICHARD-E NEWMAN
Contact Address: PO BOX 504
Contact City,State,Zip: ARVADA, CO 80002
Contact Telephone: 303-422-0335
Contact Fax: Not reported
Contact Email: Not reported
Contact Title: Not reported
EPA Region: 08
Land Type: Not reported
Federal Waste Generator Description: Not a generator, verified
Non-Notifier: Not reported
Biennial Report Cycle: Not reported
Accessibility: Not reported
Active Site Indicator: Handler Activities
State District Owner: Co
State District: R
Mailing Address: PO BOX 504
Mailing City,State,Zip: ARVADA, CO 80002

THORO PRODUCTS COMPANY (Continued) **1000366268**

Owner Name:	Thoro Products Co.
Owner Type:	Private
Operator Name:	Not reported
Operator Type:	Not reported
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	Yes
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not Accomplished
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	Yes
Corrective Action Priority Ranking:	Low
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	No
Groundwater Controls Indicator:	No
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20000915
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D000
Waste Description:	Not Defined
Waste Code:	D001
Waste Description:	Ignitable Waste
Waste Code:	D002
Waste Description:	Corrosive Waste
Waste Code:	F002

THORO PRODUCTS COMPANY (Continued) **1000366268**

Waste Description: The Following Spent Halogenated Solvents: Tetrachloroethylene, Methylene Chloride, Trichloroethylene, 1,1,1-Trichloroethane, Chlorobenzene, 1,1,2-Trichloro-1,2,2-Trifluoroethane, Ortho-Dichlorobenzene, Trichlorofluoromethane, And 1,1,2, Trichloroethane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Halogenated Solvents Or Those Solvents Listed In F001, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: F005
Waste Description: The Following Spent Nonhalogenated Solvents: Toluene, Methyl Ethyl Ketone, Carbon Disulfide, Isobutanol, Pyridine, Benzene, 2-Ethoxyethanol, And 2-Nitropropane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Nonhalogenated Solvents Or Those Solvents Listed In F001, F002, Or F004; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: U213
Waste Description: Furan, Tetrahydro-(I) (Or) Tetrahydrofuran (I)

Waste Code: U226
Waste Description: Ethane, 1,1,1-Trichloro- (Or) Methyl Chloroform

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: RICHARD E NEWMAN	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	9091 UMBER COURT
Owner/Operator City,State,Zip:	GOLDEN, CO 80401
Owner/Operator Telephone:	303-422-0335
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: THORO PRODUCTS CO.	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	DATA NOT REQUESTED
Owner/Operator City,State,Zip:	DATA NOT REQUESTED, CO 99999
Owner/Operator Telephone:	999-999-9999
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	19801117
Handler Name: THORO PRODUCTS CO	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Co
Large Quantity Handler of Universal Waste:	No

THORO PRODUCTS COMPANY (Continued) **1000366268**

Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19960301
Handler Name: THORO PRODUCTS CO
Federal Waste Generator Description: Not a generator, verified
State District Owner: Co
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 325612
NAICS Description: POLISH AND OTHER SANITATION GOOD MANUFACTURING

NAICS Code: 325998
NAICS Description: ALL OTHER MISCELLANEOUS CHEMICAL PRODUCT AND PREPARATION MANUFACTURING

Has the Facility Received Notices of Violations:
Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - Financial Requirements
Date Violation was Determined:	19891107
Actual Return to Compliance Date:	19900305
Return to Compliance Qualifier:	Unverifiable
Violation Responsible Agency:	EPA
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: TSD - General
Date Violation was Determined: 19841121
Actual Return to Compliance Date: 19850321
Return to Compliance Qualifier: Unverifiable
Violation Responsible Agency: EPA
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19901211
Actual Return to Compliance Date: 19971211
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19971211

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: 001
Date of Enforcement Action: 19901211
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: NOTICE OF VIOLATION
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: TSD - General
Date Violation was Determined: 19831221
Actual Return to Compliance Date: 19840521
Return to Compliance Qualifier: Observed
Violation Responsible Agency: EPA
Scheduled Compliance Date: 19840428
Enforcement Identifier: 001
Date of Enforcement Action: 19840328
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Formal Enforcement Agreement or Order
Date Violation was Determined: 19870521
Actual Return to Compliance Date: 19901003
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19880630
Enforcement Identifier: 005
Date of Enforcement Action: 19871202
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Financial Requirements
Date Violation was Determined: 19850228
Actual Return to Compliance Date: 19850411
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19850425

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier:	002
Date of Enforcement Action:	19850405
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	19880519
Actual Return to Compliance Date:	19880619
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19880605
Enforcement Identifier:	006
Date of Enforcement Action:	19880519
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Unknown
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	19860117
Actual Return to Compliance Date:	19871202
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19860622
Enforcement Identifier:	003
Date of Enforcement Action:	19860422
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General
Date Violation was Determined: 19860117
Actual Return to Compliance Date: 19871202
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19860622
Enforcement Identifier: 003
Date of Enforcement Action: 19860422
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19901211
Actual Return to Compliance Date: 19971211
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: 000
Date of Enforcement Action: 19890730
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: CO
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: NOTICE OF VIOLATION
Enforcement Responsible Person: CO
Enforcement Responsible Sub-Organization: S
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Closure/Post-Closure
Date Violation was Determined: 20170519
Actual Return to Compliance Date: 20190619
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 2
Date of Enforcement Action: 20170907
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Yes
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: COCBR
Enforcement Responsible Sub-Organization: CA
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: 11365
Paid Amount: Not reported
Final Count: 1
Final Amount: 11365

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19901211
Actual Return to Compliance Date:	19971211
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19971211
Enforcement Identifier:	001
Date of Enforcement Action:	19901211
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	NOTICE OF VIOLATION
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Financial Requirements
Date Violation was Determined:	19860117
Actual Return to Compliance Date:	19871202
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19860622

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier:	003
Date of Enforcement Action:	19860422
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Financial Requirements
Date Violation was Determined:	19900719
Actual Return to Compliance Date:	19971211
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General
Date Violation was Determined: 19870521
Actual Return to Compliance Date: 19901003
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19880630
Enforcement Identifier: 005
Date of Enforcement Action: 19871202
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Closure/Post-Closure
Date Violation was Determined: 20170519
Actual Return to Compliance Date: 20190619
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: 2
Date of Enforcement Action: 20171120
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Yes
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: COCBR
Enforcement Responsible Sub-Organization: CA
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19901211
Actual Return to Compliance Date:	19971211
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: 000
Date of Enforcement Action: 19890730
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: CO
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: NOTICE OF VIOLATION
Enforcement Responsible Person: CO
Enforcement Responsible Sub-Organization: S
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19901211
Actual Return to Compliance Date: 19971211
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19971211
Enforcement Identifier: 001
Date of Enforcement Action: 19901211
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: NOTICE OF VIOLATION
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Financial Requirements
Date Violation was Determined: 19890126
Actual Return to Compliance Date: 19891107
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19890315
Enforcement Identifier: 007
Date of Enforcement Action: 19890202
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General
Date Violation was Determined: 19850328
Actual Return to Compliance Date: 19870419
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19860419
Enforcement Identifier: 010
Date of Enforcement Action: 19860319
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19901211
Actual Return to Compliance Date:	19971211
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19890730
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	CO
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	NOTICE OF VIOLATION
Enforcement Responsible Person:	CO
Enforcement Responsible Sub-Organization:	S
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Financial Requirements
Date Violation was Determined:	19860203
Actual Return to Compliance Date:	19860422
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19860330
Enforcement Identifier:	004
Date of Enforcement Action:	19860210
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Evaluation Action Summary:

Evaluation Date:	19911204
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COCAL
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20180924
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	CA
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20140311
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COEFT
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19960523
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	CORBE
Evaluation Responsible Sub-Organization:	S

THORO PRODUCTS COMPANY (Continued) **1000366268**

Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19860519
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COJKI
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20080929
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19891107
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	R8CL
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19900305
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19841121
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19850321
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Former Citation:	Not reported
Evaluation Date:	19890825
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	COMNE
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	19971211
Scheduled Compliance Date:	19971211
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19831221
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19840521
Scheduled Compliance Date:	19840428
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19870521
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COJKI
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	19901003
Scheduled Compliance Date:	19880630
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19850228
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COWAV
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	19850411
Scheduled Compliance Date:	19850425
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20190612
Evaluation Responsible Agency:	State
Found Violation:	No

THORO PRODUCTS COMPANY (Continued) **1000366268**

Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	CA
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19870618
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COBBO
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20160912
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19910115
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COCAL
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20030805
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COMNE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20000907
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	CORBE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20070205
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COAWI
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19880519
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	CONJA
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	19880619
Scheduled Compliance Date:	19880605
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19880126
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	COJKI
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Evaluation Date:	20020925
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19881121
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COJKI
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19880624
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	CONKO
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20130514
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COEFT
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19901218
Evaluation Responsible Agency:	EPA-Initiated Oversight/Observation/Training Actions
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	R8CL

THORO PRODUCTS COMPANY (Continued) **1000366268**

Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920220
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COMNE
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19980922
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	CORBE
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20160912
Evaluation Responsible Agency:	State
Found Violation:	Undetermined
Evaluation Type Description:	CORRECTIVE ACTION COMPLIANCE EVALUATION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	HWC
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20100913
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	CORRECTIVE ACTION COMPLIANCE EVALUATION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20100913
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930625
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COMNE
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19990401
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	CORBE
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19841121
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COWAV
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19850816
Evaluation Responsible Agency:	State

THORO PRODUCTS COMPANY (Continued) **1000366268**

Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COWAV
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19850321
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COWAV
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19860117
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COJKI
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	19871202
Scheduled Compliance Date:	19860622
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19860117
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COJKI
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	19871202
Scheduled Compliance Date:	19860622
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19891107
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	COMNE
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	19971211

THORO PRODUCTS COMPANY (Continued) **1000366268**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19910117
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	COCAL
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20120628
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20061026
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COMNE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20120404
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COEFT
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Evaluation Date:	20170519
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	CA
Actual Return to Compliance Date:	20190619
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20150311
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COEVE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19900305
Evaluation Responsible Agency:	EPA-Initiated Oversight/Observation/Training Actions
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	R8KO
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19900328
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	CONJA
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19910701
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COMNE

THORO PRODUCTS COMPANY (Continued) **1000366268**

Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19880719
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	COWAV
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19900719
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COMNE
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	19971211
Scheduled Compliance Date:	19971211
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19881018
Evaluation Responsible Agency:	EPA-Initiated Oversight/Observation/Training Actions
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	R8CL
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20120628
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	CORRECTIVE ACTION COMPLIANCE EVALUATION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19900330
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	CONJA
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19860117
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COJKI
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	19871202
Scheduled Compliance Date:	19860622
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19900719
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COMNE
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	19971211
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20190619
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	CA
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20060919
Evaluation Responsible Agency:	State

THORO PRODUCTS COMPANY (Continued) **1000366268**

Found Violation:	No
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20040927
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19870521
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COJKI
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	19901003
Scheduled Compliance Date:	19880630
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20170519
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	CA
Actual Return to Compliance Date:	20190619
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19870219
Evaluation Responsible Agency:	EPA
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	R8CL
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19910228
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COMNE
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890825
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	COMNE
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	19971211
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19891107
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	COMNE
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	19971211
Scheduled Compliance Date:	19971211
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20180924
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	CORRECTIVE ACTION COMPLIANCE EVALUATION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	CA
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Evaluation Date:	20190619
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	CA
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19890126
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COMNE
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	19891107
Scheduled Compliance Date:	19890315
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20090406
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COAWI
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19921110
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	COWAV
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19871222
Evaluation Responsible Agency:	EPA-Initiated Oversight/Observation/Training Actions
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	R8KO

THORO PRODUCTS COMPANY (Continued) **1000366268**

Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19890825
Evaluation Responsible Agency:	EPA-Initiated Oversight/Observation/Training Actions
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	R8CL
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20060926
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	OPERATION AND MAINTENANCE INSPECTION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19850328
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COWAV
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	19870419
Scheduled Compliance Date:	19860419
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19940324
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COKTE
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20080929
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	OPERATION AND MAINTENANCE INSPECTION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19900719
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COMNE
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	19971211
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19860203
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	COBBO
Evaluation Responsible Sub-Organization:	S
Actual Return to Compliance Date:	19860422
Scheduled Compliance Date:	19860330
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20140731
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20040927
Evaluation Responsible Agency:	State

THORO PRODUCTS COMPANY (Continued) **1000366268**

Found Violation:	No
Evaluation Type Description:	COMPLIANCE ASSISTANCE VISIT
Evaluation Responsible Person Identifier:	COCBR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

THORO PRODUCTS COMPANY (Continued) **1000366268**

US FIN ASSUR:
Name: THORO PRODUCTS CO
Address: 9091 UMBER CT
City,State,Zip: GOLDEN, CO 80401
EPA ID: COD007065576
County: Not reported
Mechanism type: T
Mechanism Type Description: TRUST FUND (FULLY FUNDED)
Cost estimate: 49198.53
Face value: 59481.55
Effective date: 2013-03-31 00:00:00
Provider: JPMORGAN CHASE BANK, N.A.
EPA region: 8

FINDS:
Registry ID: 110000610465

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000366268
Registry ID: 110000610465
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110000610465
Name: THORO PRODUCTS COMPANY
Address: 9091 UMBER CT
City,State,Zip: GOLDEN, CO 80401

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7 SSW 1/8-1/4 0.238 mi. 1257 ft.

JEFFERSON COUNTY-CENTRAL SHOP
701 WIER ST
GOLDEN, CO 80401

RCRA NonGen / NLR **1000228434**
FINDS **COD981549629**
ECHO

Relative: Higher

Actual: 5729 ft.

RCRA Listings:
Date Form Received by Agency: 19870618
Handler Name: Jefferson County-Central Shop
Handler Address: Wier St
Handler City,State,Zip: GOLDEN, CO 80401
EPA ID: COD981549629
Contact Name: ART STORY
Contact Address: 701 WIER ST
Contact City,State,Zip: GOLDEN, CO 80401
Contact Telephone: 303-278-5119
Contact Fax: Not reported
Contact Email: Not reported
Contact Title: Not reported
EPA Region: 08

JEFFERSON COUNTY-CENTRAL SHOP (Continued) **1000228434**

Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	WIER ST
Mailing City,State,Zip:	GOLDEN, CO 80401
Owner Name:	Jefferson County
Owner Type:	County
Operator Name:	Not reported
Operator Type:	Not reported
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20000915
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

JEFFERSON COUNTY-CENTRAL SHOP (Continued) **1000228434**

Hazardous Waste Summary:
Waste Code: D001
Waste Description: Ignitable Waste

Waste Code: F002
Waste Description: The Following Spent Halogenated Solvents: Tetrachloroethylene, Methylene Chloride, Trichloroethylene, 1,1,1-Trichloroethane, Chlorobenzene, 1,1,2-Trichloro-1,2,2-Trifluoroethane, Ortho-Dichlorobenzene, Trichlorofluoromethane, And 1,1,2, Trichloroethane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Halogenated Solvents Or Those Solvents Listed In F001, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: F004
Waste Description: The Following Spent Nonhalogenated Solvents: Cresols, Cresylic Acid, And Nitrobenzene; And The Still Bottoms From The Recovery Of These Solvents; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Nonhalogenated Solvents Or Those Solvents Listed In F001, F002, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: JEFFERSON COUNTY
Legal Status: County
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: DATA NOT REQUESTED
Owner/Operator City,State,Zip: DATA NOT REQUESTED, CO 99999
Owner/Operator Telephone: 999-999-9999
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 19870618
Handler Name: JEFFERSON COUNTY-CENTRAL SHOP
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Codes: No NAICS Codes Found

JEFFERSON COUNTY-CENTRAL SHOP (Continued) **1000228434**

Has the Facility Received Notices of Violations:
- Found Violation: No
- Agency Which Determined Violation: Not reported
- Violation Short Description: Not reported
- Date Violation was Determined: Not reported
- Actual Return to Compliance Date: Not reported
- Return to Compliance Qualifier: Not reported
- Violation Responsible Agency: Not reported
- Scheduled Compliance Date: Not reported
- Enforcement Identifier: Not reported
- Date of Enforcement Action: Not reported
- Enforcement Responsible Agency: Not reported
- Enforcement Docket Number: Not reported
- Enforcement Attorney: Not reported
- Corrective Action Component: Not reported
- Appeal Initiated Date: Not reported
- Appeal Resolution Date: Not reported
- Disposition Status Date: Not reported
- Disposition Status: Not reported
- Disposition Status Description: Not reported
- Consent/Final Order Sequence Number: Not reported
- Consent/Final Order Respondent Name: Not reported
- Consent/Final Order Lead Agency: Not reported
- Enforcement Type: Not reported
- Enforcement Responsible Person: Not reported
- Enforcement Responsible Sub-Organization: Not reported
- SEP Sequence Number: Not reported
- SEP Expenditure Amount: Not reported
- SEP Scheduled Completion Date: Not reported
- SEP Actual Date: Not reported
- SEP Defaulted Date: Not reported
- SEP Type: Not reported
- SEP Type Description: Not reported
- Proposed Amount: Not reported
- Final Monetary Amount: Not reported
- Paid Amount: Not reported
- Final Count: Not reported
- Final Amount: Not reported

Evaluation Action Summary:
- Evaluation Date: 19891129
- Evaluation Responsible Agency: State
- Found Violation: No
- Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
- Evaluation Responsible Person Identifier: CODMA
- Evaluation Responsible Sub-Organization: S
- Actual Return to Compliance Date: Not reported
- Scheduled Compliance Date: Not reported
- Date of Request: Not reported
- Date Response Received: Not reported
- Request Agency: Not reported
- Former Citation: Not reported

FINDS:
- Registry ID: 110002977182

JEFFERSON COUNTY-CENTRAL SHOP (Continued) **1000228434**

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1000228434
Registry ID:	110002977182
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110002977182
Name:	JEFFERSON COUNTY-CENTRAL SHOP
Address:	701 WIER ST
City,State,Zip:	GOLDEN, CO 80401

---

8 **CITY OF ARVADA WATER TREATMENT PLANT** **SHWF** **S128391581**
West **18001 W 66TH AVE** **N/A**
1/4-1/2 **ARVADA, CO 80007**
0.481 mi.
2538 ft.

Relative:
Higher

Actual:
5738 ft.

SHWF:

Location ID:	JFR15
Facility ID:	JFR 1826
Name:	CITY OF ARVADA WATER TREATMENT PLANT
Address:	18001 W 66TH AVE
City,State,Zip:	ARVADA, CO 80007
Activity Type:	Alum Sludge
Contact Organization:	City of Arvada Public Works and Utilities
Contact Address:	8101 Ralston Road
Contact City,State,Zip:	Arvada, CO 80001-8101
Contact Phone:	720-898-7765
Activity Status:	Not reported
Facility Status:	Operating
Commercial Status:	False
Government Facility Status:	Municipality
Title:	Not reported
Post Closure Unit:	False
Post Closure Ended:	False
Closure Units:	False
Clean Closed Units:	False
Latitude:	39.816349
Longitude:	-105.205101

Location ID:	JFR15
Facility ID:	JFR 1826
Name:	CITY OF ARVADA WATER TREATMENT PLANT
Address:	18001 W 66TH AVE
City,State,Zip:	ARVADA, CO 80007
Activity Type:	Surface Impoundment
Contact Organization:	City of Arvada Public Works and Utilities
Contact Address:	8101 Ralston Road

CITY OF ARVADA WATER TREATMENT PLANT (Continued) **S128391581**

Contact City,State,Zip:	Arvada, CO 80001-8101
Contact Phone:	720-898-7765
Activity Status:	Operating
Facility Status:	Operating
Commercial Status:	False
Government Facility Status:	Municipality
Title:	Not reported
Post Closure Unit:	False
Post Closure Ended:	False
Closure Units:	False
Clean Closed Units:	False
Latitude:	39.816349
Longitude:	-105.205101

Location ID:	JFR15
Facility ID:	JFR 1826
Name:	CITY OF ARVADA WATER TREATMENT PLANT
Address:	18001 W 66TH AVE
City,State,Zip:	ARVADA, CO 80007
Activity Type:	Surface Impoundment - Type A
Contact Organization:	City of Arvada Public Works and Utilities
Contact Address:	8101 Ralston Road
Contact City,State,Zip:	Arvada, CO 80001-8101
Contact Phone:	720-898-7765
Activity Status:	Operating
Facility Status:	Operating
Commercial Status:	False
Government Facility Status:	Municipality
Title:	Not reported
Post Closure Unit:	False
Post Closure Ended:	False
Closure Units:	False
Clean Closed Units:	False
Latitude:	39.816349
Longitude:	-105.205101

Count: 2 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ARVADA	1015754884	UMBER COURT ABANDONED DRUMS	INTERSECTION OF CO HWY 72 & UM	80007	SEMS-ARCHIVE
ARVADA	S111432349	SMITH PROPERTY	SW OF QUAKER STREET AND WEST 8	80007	VCP

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 09/25/2024
Date Data Arrived at EDR: 10/01/2024
Date Made Active in Reports: 10/23/2024
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 09/25/2024
Date Data Arrived at EDR: 10/01/2024
Date Made Active in Reports: 10/23/2024
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 09/25/2024
Date Data Arrived at EDR: 10/01/2024
Date Made Active in Reports: 10/23/2024
Number of Days to Update: 22

Source: EPA
Telephone: N/A
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 06/07/2024
Date Data Arrived at EDR: 06/25/2024
Date Made Active in Reports: 09/19/2024
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 09/24/2024
Next Scheduled EDR Contact: 01/09/2025
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 09/25/2024
Date Data Arrived at EDR: 10/01/2024
Date Made Active in Reports: 10/23/2024
Number of Days to Update: 22

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 09/25/2024
Date Data Arrived at EDR: 10/01/2024
Date Made Active in Reports: 10/23/2024
Number of Days to Update: 22

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 06/03/2024
Date Data Arrived at EDR: 06/07/2024
Date Made Active in Reports: 06/20/2024
Number of Days to Update: 13

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/17/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/03/2024
Date Data Arrived at EDR: 06/07/2024
Date Made Active in Reports: 06/20/2024
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 303-312-6149
Last EDR Contact: 09/17/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/03/2024
Date Data Arrived at EDR: 06/07/2024
Date Made Active in Reports: 06/20/2024
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 303-312-6149
Last EDR Contact: 09/17/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 06/03/2024
Date Data Arrived at EDR: 06/07/2024
Date Made Active in Reports: 06/20/2024
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 303-312-6149
Last EDR Contact: 09/17/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/03/2024
Date Data Arrived at EDR: 06/07/2024
Date Made Active in Reports: 06/20/2024
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 303-312-6149
Last EDR Contact: 09/17/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 07/15/2024
Date Data Arrived at EDR: 07/17/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 84

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 10/30/2024
Next Scheduled EDR Contact: 02/17/2025
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 07/24/2024
Date Data Arrived at EDR: 08/08/2024
Date Made Active in Reports: 08/15/2024
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/08/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 07/24/2024
Date Data Arrived at EDR: 08/08/2024
Date Made Active in Reports: 08/15/2024
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/08/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/11/2024
Date Data Arrived at EDR: 06/17/2024
Date Made Active in Reports: 09/04/2024
Number of Days to Update: 79

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 09/17/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Quarterly

Lists of state- and tribal hazardous waste facilities

SHWS: This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: Department of Public Health & Environment
Telephone: 303-692-3300
Last EDR Contact: 08/06/2024
Next Scheduled EDR Contact: 11/18/2024
Data Release Frequency: N/A

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF: Solid Waste Sites & Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/15/2024
Date Data Arrived at EDR: 05/16/2024
Date Made Active in Reports: 08/12/2024
Number of Days to Update: 88

Source: Department of Public Health & Environment
Telephone: 303-692-3300
Last EDR Contact: 08/08/2024
Next Scheduled EDR Contact: 11/18/2024
Data Release Frequency: Varies

SHWF: Solid Waste Information System Listing

A listing from the Solid Waste Information System, which is used to help administer the various programs of our solid waste and materials management program. It includes a wide variety of types of facilities and sites, and includes information obtained over several decades and numerous legacy data systems.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/25/2024
Date Made Active in Reports: 08/07/2024
Number of Days to Update: 13

Source: Department of Public Health & Environment
Telephone: 303-692-6349
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Varies

Lists of state and tribal leaking storage tanks

LUST: Leaking Underground Storage Tank List

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/07/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 27

Source: Department of Labor and Employment, Oil Inspection Section
Telephone: 303-318-8521
Last EDR Contact: 03/07/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LAST: Leaking Aboveground Storage Tank Listing
A listing of leaking aboveground storage tank sites. This list is no longer maintained. For current Leaking AST information, please see LTANKS.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/07/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 27
Source: Department of Labor & Employment
Telephone: 303-318-8525
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: No Update Planned

LTANKS: Petroleum Release Events Listing
Active and Closed OPS Petroleum Release Events in Colorado. Includes the OPS Open Event locations, but also shows locations of closed events (releases that have been issued a No Further Action determination).

Date of Government Version: 05/01/2024
Date Data Arrived at EDR: 05/29/2024
Date Made Active in Reports: 08/19/2024
Number of Days to Update: 82
Source: Department of Labor & Employment
Telephone: 303-318-8525
Last EDR Contact: 08/22/2024
Next Scheduled EDR Contact: 12/09/2024
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/07/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 05/07/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 05/07/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/11/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 05/07/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 05/07/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 05/07/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/07/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

TRUST: Lust Trust Sites
Reimbursement application package. The 1989 Colorado General Assembly established Colorado's Petroleum Storage Tank Fund. The Fund reimburses eligible applicants for allowable costs incurred in cleaning up petroleum contamination from underground and aboveground petroleum storage tanks, as well as for third-party liability expenses. Remediation of contamination caused by railroad or aircraft fuel is not eligible for reimbursement. The Fund satisfies federal Environmental Protection Agency financial assurance requirements. Monies in the Fund come from various sources, predominantly the state environmental surcharge imposed on all petroleum products except railroad or aircraft fuel.

Date of Government Version: 09/11/2024
Date Data Arrived at EDR: 09/12/2024
Date Made Active in Reports: 09/19/2024
Number of Days to Update: 7

Source: Department of Labor and Employment, Oil Inspection Section
Telephone: 303-318-8521
Last EDR Contact: 09/10/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Varies

Lists of state and tribal registered storage tanks

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 03/15/2024
Date Data Arrived at EDR: 03/19/2024
Date Made Active in Reports: 06/17/2024
Number of Days to Update: 90

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 09/25/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

UST: Underground Storage Tank Database
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 05/23/2024
Date Data Arrived at EDR: 05/24/2024
Date Made Active in Reports: 05/28/2024
Number of Days to Update: 4

Source: Department of Labor and Employment, Oil Inspection Section
Telephone: 303-318-8521
Last EDR Contact: 08/20/2024
Next Scheduled EDR Contact: 12/09/2024
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

AST: Aboveground Tank List
Aboveground storage tank locations.

Date of Government Version: 05/23/2024
Date Data Arrived at EDR: 05/24/2024
Date Made Active in Reports: 05/28/2024
Number of Days to Update: 4

Source: Department of Labor and Employment, Oil Inspection Section
Telephone: 303-318-8521
Last EDR Contact: 08/20/2024
Next Scheduled EDR Contact: 12/09/2024
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/11/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/14/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 05/14/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 05/14/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 07/29/2024
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 05/14/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/14/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 05/14/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 05/14/2024
Date Data Arrived at EDR: 05/30/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 90

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

AUL: Environmental Real Covenants List

Senate Bill 01-145 gave authority to the Colorado Department of Public Health and Environment to approve requests to restrict the future use of a property using an enforceable agreement called an environmental covenant. When a contaminated site is not cleaned up completely, land use restrictions may be used to ensure that the selected cleanup remedy is adequately protective of human health and the environment.

Date of Government Version: 07/18/2024
Date Data Arrived at EDR: 07/19/2024
Date Made Active in Reports: 10/08/2024
Number of Days to Update: 81

Source: Department of Public Health & Environment
Telephone: 303-692-3331
Last EDR Contact: 10/17/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Varies

Lists of state and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 09/10/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Varies

VCP: Voluntary Cleanup & Redevelopment Act Application Tracking Report

The Voluntary Cleanup and Redevelopment Act is intended to permit and encourage voluntary cleanups by providing a method to determine clean-up responsibilities in planning the reuse of property. The VCRA was intended for sites which were not covered by existing regulatory programs.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/02/2024
Date Made Active in Reports: 09/25/2024
Number of Days to Update: 85

Source: Department of Public Health and Environmental
Telephone: 303-692-3331
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Semi-Annually

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

Lists of state and tribal brownfield sites

BROWNFIELDS: Brownfields Sites Listing
Brownfields Sites Listing

Date of Government Version: 07/15/2024
Date Data Arrived at EDR: 07/16/2024
Date Made Active in Reports: 09/27/2024
Number of Days to Update: 73

Source: Department of Public Health & Environment
Telephone: 303-692-3331
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/10/2024
Date Data Arrived at EDR: 06/11/2024
Date Made Active in Reports: 09/04/2024
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/11/2024
Next Scheduled EDR Contact: 12/23/2024
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

HISTORICAL LANDFILL: Historical Landfill List
Abandoned/Inactive Landfills.

Date of Government Version: 01/31/1993
Date Data Arrived at EDR: 04/24/1994
Date Made Active in Reports: 05/30/1994
Number of Days to Update: 36

Source: Department of Public Health & Environment
Telephone: 303-692-3300
Last EDR Contact: 09/05/1996
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWRCY: Registered Recyclers Listing
A listing of registered recycler locations in the state of Colorado.

Date of Government Version: 06/12/2024
Date Data Arrived at EDR: 06/12/2024
Date Made Active in Reports: 06/27/2024
Number of Days to Update: 15
Source: Department of Public Health & Environment
Telephone: 303-692-3337
Last EDR Contact: 08/27/2024
Next Scheduled EDR Contact: 12/16/2024
Data Release Frequency: Semi-Annually

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52
Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/17/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Varies

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39
Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137
Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176
Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 10/10/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Varies

DENVER CO HIST FILL: Denver City & County Historic Fill Areas
This dataset denotes the approximate locations of historical fill areas within the City and County of Denver (CCoD) and with within approximately three-quarters of a mile of the CCoD boundaries. The data is of a general nature and obtained from historic and current documents that may not be accurate or precise.

Date of Government Version: 05/22/2024
Date Data Arrived at EDR: 07/02/2024
Date Made Active in Reports: 09/24/2024
Number of Days to Update: 84
Source: City & County of Denver
Telephone: 720-913-5237
Last EDR Contact: 10/03/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 05/20/2024
Date Data Arrived at EDR: 08/19/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 51

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/19/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: No Update Planned

CDL: Meth Lab Locations
Meth lab locations that were reported to the Department of Public Health & Environment.

Date of Government Version: 06/06/2024
Date Data Arrived at EDR: 06/27/2024
Date Made Active in Reports: 09/20/2024
Number of Days to Update: 85

Source: Department of Public Health and Environment
Telephone: 303-692-3023
Last EDR Contact: 09/18/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 05/20/2024
Date Data Arrived at EDR: 08/19/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 51

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/19/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 09/25/2024
Date Data Arrived at EDR: 10/01/2024
Date Made Active in Reports: 10/23/2024
Number of Days to Update: 22

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/14/2024
Date Data Arrived at EDR: 06/17/2024
Date Made Active in Reports: 06/24/2024
Number of Days to Update: 7

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 09/17/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Quarterly

SPILLS 2: Spills
A listing of spills reported to the Oil & Gas Conservation Commission

Date of Government Version: 06/17/2024
Date Data Arrived at EDR: 06/18/2024
Date Made Active in Reports: 09/10/2024
Number of Days to Update: 84

Source: Oil & Gas Conservation Commission
Telephone: 303-894-2100
Last EDR Contact: 09/19/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Quarterly

CO ERNS: Spills Database
State reported spills.

Date of Government Version: 06/06/2024
Date Data Arrived at EDR: 06/27/2024
Date Made Active in Reports: 09/20/2024
Number of Days to Update: 85

Source: Department of Public Health and Environmental
Telephone: 303-692-2000
Last EDR Contact: 09/18/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch
Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 10/15/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/06/2013
Number of Days to Update: 34

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 06/03/2024
Date Data Arrived at EDR: 06/07/2024
Date Made Active in Reports: 06/20/2024
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 303-312-6149
Last EDR Contact: 09/17/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites
The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 07/31/2024
Date Data Arrived at EDR: 08/12/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 58

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 08/12/2024
Next Scheduled EDR Contact: 11/26/2024
Data Release Frequency: Varies

DOD: Department of Defense Sites
This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 06/07/2021
Date Data Arrived at EDR: 07/13/2021
Date Made Active in Reports: 03/09/2022
Number of Days to Update: 239

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/10/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands
Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/03/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 07/30/2021
Date Data Arrived at EDR: 02/03/2023
Date Made Active in Reports: 02/10/2023
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/05/2024
Next Scheduled EDR Contact: 11/18/2024
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 06/10/2024
Date Data Arrived at EDR: 06/17/2024
Date Made Active in Reports: 09/04/2024
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 09/17/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA Watch List

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: No Update Planned

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/01/2024
Next Scheduled EDR Contact: 11/11/2024
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 06/14/2022
Date Made Active in Reports: 03/24/2023
Number of Days to Update: 283

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 10/03/2024
Next Scheduled EDR Contact: 12/23/2024
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 11/13/2023
Date Made Active in Reports: 02/07/2024
Number of Days to Update: 86

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 09/25/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 07/11/2024
Date Data Arrived at EDR: 07/11/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 1

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 08/27/2024
Date Data Arrived at EDR: 09/03/2024
Date Made Active in Reports: 09/19/2024
Number of Days to Update: 16

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 12/09/2024
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 07/12/2024
Date Data Arrived at EDR: 07/17/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 11/11/2024
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 05/23/2024
Date Data Arrived at EDR: 07/02/2024
Date Made Active in Reports: 09/26/2024
Number of Days to Update: 86

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 09/25/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 06/06/2024
Date Data Arrived at EDR: 06/07/2024
Date Made Active in Reports: 09/04/2024
Number of Days to Update: 89

Source: Nuclear Regulatory Commission
Telephone: 301-415-0717
Last EDR Contact: 10/09/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2022
Date Data Arrived at EDR: 11/27/2023
Date Made Active in Reports: 02/22/2024
Number of Days to Update: 87

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 12/09/2024
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 08/22/2024
Next Scheduled EDR Contact: 12/09/2024
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/01/2024
Next Scheduled EDR Contact: 11/11/2024
Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 09/18/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2024
Date Data Arrived at EDR: 07/08/2024
Date Made Active in Reports: 09/26/2024
Number of Days to Update: 80

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 09/25/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 03/20/2023
Number of Days to Update: 11

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/17/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/03/2023
Date Data Arrived at EDR: 03/03/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 98

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 05/08/2024
Date Data Arrived at EDR: 08/14/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 14

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 08/08/2024
Next Scheduled EDR Contact: 11/26/2024
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 09/25/2024
Date Data Arrived at EDR: 10/01/2024
Date Made Active in Reports: 10/23/2024
Number of Days to Update: 22

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 10/01/2024
Date Data Arrived at EDR: 10/02/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 7

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Quarterly

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/06/2024
Date Data Arrived at EDR: 08/14/2024
Date Made Active in Reports: 08/15/2024
Number of Days to Update: 1

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 08/14/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/02/2024
Date Data Arrived at EDR: 08/20/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 50

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/20/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/22/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 08/23/2022
Date Data Arrived at EDR: 11/22/2022
Date Made Active in Reports: 02/28/2023
Number of Days to Update: 98

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 08/22/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 06/13/2024
Date Data Arrived at EDR: 06/14/2024
Date Made Active in Reports: 09/04/2024
Number of Days to Update: 82

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 09/10/2024
Next Scheduled EDR Contact: 12/16/2024
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 08/13/2024
Date Data Arrived at EDR: 08/20/2024
Date Made Active in Reports: 08/28/2024
Number of Days to Update: 8

Source: EPA
Telephone: (303) 312-6312
Last EDR Contact: 08/20/2024
Next Scheduled EDR Contact: 12/09/2024
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 06/23/2024
Date Data Arrived at EDR: 06/28/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/06/2023
Date Data Arrived at EDR: 09/13/2023
Date Made Active in Reports: 12/11/2023
Number of Days to Update: 89

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 10/03/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 08/13/2024
Next Scheduled EDR Contact: 12/02/2024
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/13/2024
Date Data Arrived at EDR: 08/13/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 57

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/13/2024
Next Scheduled EDR Contact: 11/26/2024
Data Release Frequency: Quarterly

PFAS NPL: Superfund Sites with PFAS Detections Information

EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 703-603-8895
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PFAS FEDERAL SITES: Federal Sites PFAS Information

Several federal entities, such as the federal Superfund program, Department of Defense, National Aeronautics and Space Administration, Department of Transportation, and Department of Energy provided information for sites with known or suspected detections at federal facilities.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PFAS TRIS: List of PFAS Added to the TRI

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) immediately added certain per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and provided a framework for additional PFAS to be added to TRI on an annual basis.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-566-0250
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PFAS TSCA: PFAS Manufacture and Imports Information

EPA issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. EPA publishes non-confidential business information (non-CBI) and includes descriptive information about each site, corporate parent, production volume, other manufacturing information, and processing and use information.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PFAS RCRA MANIFEST: PFAS Transfers Identified In the RCRA Database Listing

To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: PFAS, PFOA, PFOS, PERFL, AFFF, GENX, GEN-X (plus the VT waste codes). These keywords were searched for in the following text fields: Manifest handling instructions (MANIFEST_HANDLING_INSTR), Non-hazardous waste description (NON_HAZ_WASTE_DESCRIPTION), DOT printed information (DOT_PRINTED_INFORMATION), Waste line handling instructions (WASTE_LINE_HANDLING_INSTR), Waste residue comments (WASTE_RESIDUE_COMMENTS).

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PFAS ATSDR: PFAS Contamination Site Location Listing

PFAS contamination site locations from the Department of Health & Human Services, Center for Disease Control & Prevention. ATSDR is involved at a number of PFAS-related sites, either directly or through assisting state and federal partners. As of now, most sites are related to drinking water contamination connected with PFAS production facilities or fire training areas where aqueous film-forming firefighting foam (AFFF) was regularly used.

Date of Government Version: 06/24/2020
Date Data Arrived at EDR: 03/17/2021
Date Made Active in Reports: 11/08/2022
Number of Days to Update: 601

Source: Department of Health & Human Services
Telephone: 202-741-5770
Last EDR Contact: 10/17/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Varies

PFAS WQP: Ambient Environmental Sampling for PFAS

The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PFAS PROJECT: NORTHEASTERN UNIVERSITY PFAS PROJECT

The PFAS Contamination Site Tracker records qualitative and quantitative data from each site in a chart, specifically examining discovery, contamination levels, government response, litigation, health impacts, media coverage, and community characteristics. All data presented in the chart were extracted from government websites, such as state health departments or the Environmental Protection Agency, and news articles.

Date of Government Version: 05/19/2023
Date Data Arrived at EDR: 04/05/2024
Date Made Active in Reports: 06/06/2024
Number of Days to Update: 62

Source: Social Science Environmental Health Research Institute
Telephone: N/A
Last EDR Contact: 09/05/2024
Next Scheduled EDR Contact: 12/16/2024
Data Release Frequency: Varies

PFAS NPDES: Clean Water Act Discharge Monitoring Information

Any discharger of pollutants to waters of the United States from a point source must have a National Pollutant Discharge Elimination System (NPDES) permit. The process for obtaining limits involves the regulated entity (permittee) disclosing releases in a NPDES permit application and the permitting authority (typically the state but sometimes EPA) deciding whether to require monitoring or monitoring with limits. Caveats and Limitations: Less than half of states have required PFAS monitoring for at least one of their permittees and fewer states have established PFAS effluent limits for permittees. New rulemakings have been initiated that may increase the number of facilities monitoring for PFAS in the future.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PFAS ECHO FIRE TRAIN: Facilities in Industries that May Be Handling PFAS Listing

A list of fire training sites was added to the Industry Sectors dataset using a keyword search on the permitted facilitys name to identify sites where fire-fighting foam may have been used in training exercises. Additionally, you may view an example spreadsheet of the subset of fire training facility data, as well as the keywords used in selecting or deselecting a facility for the subset. as well as the keywords used in selecting or deselecting a facility for the subset. These keywords were tested to maximize accuracy in selecting facilities that may use fire-fighting foam in training exercises, however, due to the lack of a required reporting field in the data systems for designating fire training sites, this methodology may not identify all fire training sites or may potentially misidentify them.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PFAS PT 139 AIRPORT: All Certified Part 139 Airports PFAS Information Listing

Since July 1, 2006, all certified part 139 airports are required to have fire-fighting foam onsite that meet military specifications (MIL-F-24385) (14 CFR 139.317). To date, these military specification fire-fighting foams are fluorinated and have been historically used for training and extinguishing. The 2018 FAA Reauthorization Act has a provision stating that no later than October 2021, FAA shall not require the use of fluorinated AFFF. This provision does not prohibit the use of fluorinated AFFF at Part 139 civilian airports; it only prohibits FAA from mandating its use. The Federal Aviation Administration?s document AC 150/5210-6D - Aircraft Fire Extinguishing Agents provides guidance on Aircraft Fire Extinguishing Agents, which includes Aqueous Film Forming Foam (AFFF).

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

AQUEOUS FOAM NRC: Aqueous Foam Related Incidents Listing

The National Response Center (NRC) serves as an emergency call center that fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. The spreadsheets posted to the NRC website contain initial incident data that has not been validated or investigated by a federal/state response agency. Response center calls from 1990 to the most recent complete calendar year where there was indication of Aqueous Film Forming Foam (AFFF) usage are included in this dataset. NRC calls may reference AFFF usage in the ?Material Involved? or ?Incident Description? fields.

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/01/2024
Date Made Active in Reports: 07/12/2024
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-267-2675
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 12/16/2016
Date Data Arrived at EDR: 01/06/2017
Date Made Active in Reports: 03/10/2017
Number of Days to Update: 63

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 09/25/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: No Update Planned

PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 09/25/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

BIOSOLIDS: ICIS-NPDES Biosolids Facility Data

The data reflects compliance information about facilities in the biosolids program.

Date of Government Version: 10/13/2024
Date Data Arrived at EDR: 10/16/2024
Date Made Active in Reports: 10/23/2024
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-564-4700
Last EDR Contact: 10/16/2024
Next Scheduled EDR Contact: 01/27/2025
Data Release Frequency: Varies

UST FINDER RELEASE: UST Finder Releases Database

US EPA's UST Finder data is a national composite of leaking underground storage tanks. This data contains information about, and locations of, leaking underground storage tanks. Data was collected from state sources and standardized into a national profile by EPA's Office of Underground Storage Tanks, Office of Research and Development, and the Association of State and Territorial Solid Waste Management Officials.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/31/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 79

Source: Environmental Protecton Agency
Telephone: 202-564-0394
Last EDR Contact: 08/08/2024
Next Scheduled EDR Contact: 11/18/2024
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST FINDER: UST Finder Database

EPA developed UST Finder, a web map application containing a comprehensive, state-sourced national map of underground storage tank (UST) and leaking UST (LUST) data. It provides the attributes and locations of active and closed USTs, UST facilities, and LUST sites from states and from Tribal lands and US territories . UST Finder contains information about proximity of UST facilities and LUST sites to: surface and groundwater public drinking water protection areas; estimated number of private domestic wells and number of people living nearby; and flooding and wildfires.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/04/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 106

Source: Environmental Protection Agency
Telephone: 202-564-0394
Last EDR Contact: 08/08/2024
Next Scheduled EDR Contact: 11/18/2024
Data Release Frequency: Varies

E MANIFEST: Hazardous Waste Electronic Manifest System

EPA established a national system for tracking hazardous waste shipments electronically. This system, known as ?e-Manifest,? will modernize the nation?s cradle-to-grave hazardous waste tracking process while saving valuable time, resources, and dollars for industry and states.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 04/18/2024
Date Made Active in Reports: 06/06/2024
Number of Days to Update: 49

Source: Environmental Protection Agency
Telephone: 833-501-6826
Last EDR Contact: 09/17/2024
Next Scheduled EDR Contact: 12/30/2024
Data Release Frequency: Varies

PFAS: PFAS Information Listing

A list of entities that have tested groundwater and have found PFAS chemicals, specifically PFOA and PFOS, levels above the health advisory. Potential sources of these chemicals include military bases, fire stations or training centers, landfills, industrial sites, car racetracks, and ski resorts.

Date of Government Version: 04/30/2024
Date Data Arrived at EDR: 05/02/2024
Date Made Active in Reports: 07/24/2024
Number of Days to Update: 83

Source: Department of Public Health & Environment
Telephone: 303-692-3605
Last EDR Contact: 10/15/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

AQUEOUS FOAM: Class B Firefighting Foam Contaminating PFAS Listing

Class B foams put out fires caused by flammable liquids like gasoline, oil, and jet fuel. They may contain PFAS chemicals. Anyone using or storing Class B firefighting foam containing these chemicals must register through the Certificate of Registration Program.303-692-38

Date of Government Version: 07/01/2024
Date Data Arrived at EDR: 07/02/2024
Date Made Active in Reports: 09/24/2024
Number of Days to Update: 84

Source: Department of Public Health & Environment
Telephone: 303-692-3605
Last EDR Contact: 10/01/2024
Next Scheduled EDR Contact: 01/13/2025
Data Release Frequency: Varies

AIRS: Permitted Facility & Emissions Listing

A listing of Air Pollution Control Division permits and emissions data.

Date of Government Version: 05/23/2024
Date Data Arrived at EDR: 05/23/2024
Date Made Active in Reports: 08/20/2024
Number of Days to Update: 89

Source: Department of Public Health & Environment
Telephone: 303-692-3213
Last EDR Contact: 08/20/2024
Next Scheduled EDR Contact: 12/09/2024
Data Release Frequency: Varies

ASBESTOS: Asbestos Abatement & Demolition Projects

Asbestos abatement and demolition projects by the contractor.

Date of Government Version: 11/10/2023
Date Data Arrived at EDR: 04/26/2024
Date Made Active in Reports: 07/22/2024
Number of Days to Update: 87

Source: Department of Public Health & Environment
Telephone: 303-692-3100
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Semi-Annually

METHANE SITE: Methane Site Investigations - Jefferson County 1980

The objectives of the study are to define as closely as possible the boundaries of methane producing solid waste landfills.

Date of Government Version: 12/31/1980
Date Data Arrived at EDR: 02/13/1995
Date Made Active in Reports: 04/04/1995
Number of Days to Update: 50

Source: Jefferson County Health Department
Telephone: 303-239-7175
Last EDR Contact: 01/27/1995
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

METHANE INVESTIG: Methane Gas & Swamp Findings

The primary objective of this study was to assess methane gas related hazards at selected landfill sites in Colorado. These sites were selected by the Colorado Department of Health following evaluation of responses received from County and Municipal agencies about completed and existing landfills within their jurisdiction.

Date of Government Version: 03/15/1979
Date Data Arrived at EDR: 02/13/1995
Date Made Active in Reports: 04/04/1995
Number of Days to Update: 50

Source: Department of Health
Telephone: 303-640-3335
Last EDR Contact: 01/27/1995
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DRYCLEANERS: Drycleaner Facilities

A listing of drycleaning facilities.

Date of Government Version: 05/23/2024
Date Data Arrived at EDR: 05/23/2024
Date Made Active in Reports: 08/19/2024
Number of Days to Update: 88

Source: Department of Public Health & Environment
Telephone: 303-692-3213
Last EDR Contact: 08/20/2024
Next Scheduled EDR Contact: 12/09/2024
Data Release Frequency: Varies

FIN ASSURANCE 1: Financial Assurance Information Listing

A listing of financial assurance information for hazardous waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 07/02/2024
Date Data Arrived at EDR: 07/02/2024
Date Made Active in Reports: 07/08/2024
Number of Days to Update: 6

Source: Department of Public Health & Environment
Telephone: 303-692-3350
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Varies

FIN ASSURANCE 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 06/30/2024
Date Data Arrived at EDR: 07/08/2024
Date Made Active in Reports: 09/27/2024
Number of Days to Update: 81

Source: Department of Public Health & Environment
Telephone: 303-392-3350
Last EDR Contact: 10/02/2024
Next Scheduled EDR Contact: 01/06/2025
Data Release Frequency: Quarterly

LEAD: Lead Abatement Permit Listing

Lead inspection

Date of Government Version: 11/10/2023
Date Data Arrived at EDR: 04/26/2024
Date Made Active in Reports: 07/22/2024
Number of Days to Update: 87

Source: Department of Publich Health & Environment
Telephone: 303-692-2000
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/10/2025
Data Release Frequency: Varies

MINES: Permitted Mines Listing

This dataset represents permitted mines in the State of Colorado

Date of Government Version: 07/08/2024
Date Data Arrived at EDR: 07/09/2024
Date Made Active in Reports: 09/27/2024
Number of Days to Update: 80

Source: Division of Reclamation Mining and safety
Telephone: 303-866-3567
Last EDR Contact: 10/04/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Semi-Annually

NPDES: Permitted Facility Listing

A listing of permitted facilities from the Water Quality Control Division.

Date of Government Version: 06/10/2024
Date Data Arrived at EDR: 07/23/2024
Date Made Active in Reports: 10/09/2024
Number of Days to Update: 78

Source: Department of Public Health & Environment
Telephone: 303-692-3611
Last EDR Contact: 10/22/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Varies

UIC: Underground Injection Control

A list of underground injection wells and their locations.

Date of Government Version: 02/05/2024
Date Data Arrived at EDR: 02/06/2024
Date Made Active in Reports: 02/27/2024
Number of Days to Update: 21

Source: Oil & Gas Conservation Commission
Telephone: 303-894-2100
Last EDR Contact: 10/30/2024
Next Scheduled EDR Contact: 02/17/2025
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

There were nine uranium mill tailings sites in Colorado designated for cleanup under the federal Uranium Mill Tailings Radiation Control Act. These nine sites, know commonly as UMTRA sites, were remediated jointly by the State of Colorado and the U.S. Department of Energy during the late 1980's and early 1990's. Mill tailings were removed from 8 of the mill sites and relocated in engineered disposal cells. A disposal cell is designed to encapsulate the material, reduce radon emanation, and prevent the movement of water through the material. At one site, Maybell, CO, the tailings were stabilized in-place at the mill site. After remediation of the tailings was completed, the State and DOE began to investigate the residual impacts to groundwater at the mill sites. The groundwater phase of the UMTRA program is on-going.

Date of Government Version: 05/15/2024
Date Data Arrived at EDR: 05/16/2024
Date Made Active in Reports: 08/13/2024
Number of Days to Update: 89

Source: Department of Public Health & Environment
Telephone: 970-248-7164
Last EDR Contact: 08/15/2024
Next Scheduled EDR Contact: 11/26/2024
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Public Health & Environment in Colorado.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/15/2014
Number of Days to Update: 198

Source: Department of Public Health & Environment
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Labor and Employment, Oil Inspection Section in Colorado.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/02/2014
Number of Days to Update: 185

Source: Department of Labor and Employment, Oil Inspection Section
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COUNTY RECORDS

ADAMS COUNTY:

LF ADAMS: Summary Report on Methane Gas Hazards and Surveys Conducted on Domestic and Demolition Landfills in Adams County
As of May 8, 1978, all known landfills or dumping sites in the Adams County area have been surveyed.

Date of Government Version: 05/08/1978
Date Data Arrived at EDR: 02/16/1995
Date Made Active in Reports: 04/04/1995
Number of Days to Update: 47

Source: Tri-County Health Department
Telephone: 303-761-1340
Last EDR Contact: 01/27/1995
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

ARAPAHOE COUNTY:

LF ARAPAHOE: A Survey of Landfills in Arapahoe County
A survey of Arapahoe County was conducted from August through November, 1977, of all open and closed landfills and dumpsites in the county. Each of the sites found was classified as domestic or demolition.

Date of Government Version: 12/31/1978
Date Data Arrived at EDR: 02/16/1995
Date Made Active in Reports: 04/04/1995
Number of Days to Update: 47

Source: Tri-County Health Department
Telephone: 303-761-1340
Last EDR Contact: 01/27/1995
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

BOULDER COUNTY:

LF BOULDER: Old Landfill Sites
Landfill sites in Boulder county.

Date of Government Version: 05/01/1986
Date Data Arrived at EDR: 11/14/1995
Date Made Active in Reports: 12/07/1995
Number of Days to Update: 23

Source: Boulder County Health Department
Telephone: 303-441-1182
Last EDR Contact: 01/30/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DENVER COUNTY:

LF DENVER: Landfills in Denver County
Landfill sites in the city and county of Denver.

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 06/23/2017
Date Made Active in Reports: 09/06/2017
Number of Days to Update: 75

Source: City and County of Denver
Telephone: 720-913-4839
Last EDR Contact: 09/11/2024
Next Scheduled EDR Contact: 12/23/2024
Data Release Frequency: No Update Planned

LF DENVER CO METHANE: Investigation of Methane Gas Hazards
The purpose of this study was to assess the actual and potential generation, migration, explosive and related problem associated with specified old landfills, and to identify existing and potential problems, suggested strategies to prevent, abate, and control such problems and recommend investigative and monitoring functions as may be deemed necessary. Eight sites determined to be priorities due to population density and potential hazards to population and property were selected by the Colorado Department of Health.

Date of Government Version: 01/01/1981
Date Data Arrived at EDR: 01/29/2013
Date Made Active in Reports: 03/08/2013
Number of Days to Update: 38

Source: City and County of Denver Department of Environmental Health
Telephone: 720-865-5522
Last EDR Contact: 01/15/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DOUGLAS COUNTY:

LF DOUGLAS: Douglas County Landfill Key
Landfill sites in Douglas county.

Date of Government Version: 06/12/1991
Date Data Arrived at EDR: 02/16/1995
Date Made Active in Reports: 04/04/1995
Number of Days to Update: 47

Source: Tri-County Health Department
Telephone: 303-761-1340
Last EDR Contact: 01/27/1995
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

PUEBLO COUNTY:

LF PUEBLO: Designated Disposal & Landfill Sites
Only inert materials. Asphalt, cement, dirt & rock unless otherwise specified. These sites are no longer active.

Date of Government Version: 04/30/1990
Date Data Arrived at EDR: 11/16/1995
Date Made Active in Reports: 12/07/1995
Number of Days to Update: 21

Source: Pueblo City-County Health Department
Telephone: 719-583-4300
Last EDR Contact: 11/13/1995
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

TRI COUNTY:

LF TRI: Tri-County Area Solid Waste Facilities List (Adams, Arapahoe and Douglas Counties)
Closed Domestic Landfills in Adams County, Closed Domestic Landfills in Arapahoe County, Closed Demolition Landfills in Arapahoe County, Closed Domestic Landfills in Douglas County.

Date of Government Version: 10/15/1983
Date Data Arrived at EDR: 02/16/1995
Date Made Active in Reports: 04/04/1995
Number of Days to Update: 47

Source: Tri-County Health Department
Telephone: 303-761-1340
Last EDR Contact: 01/27/1995
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

WELD COUNTY:

LF WELD: Solid Waste Facilities in Weld County
Solid Waste Facilities in Weld County.

Date of Government Version: 01/16/2018
Date Data Arrived at EDR: 02/09/2018
Date Made Active in Reports: 02/23/2018
Number of Days to Update: 14

Source: Weld County Department of Public Health
Telephone: 970-304-6415
Last EDR Contact: 08/01/2024
Next Scheduled EDR Contact: 11/11/2024
Data Release Frequency: No Update Planned

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 08/05/2024
Date Data Arrived at EDR: 08/06/2024
Date Made Active in Reports: 10/25/2024
Number of Days to Update: 80

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/06/2024
Next Scheduled EDR Contact: 11/18/2024
Data Release Frequency: No Update Planned

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 12/01/2023
Number of Days to Update: 1

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 10/24/2024
Next Scheduled EDR Contact: 02/03/2025
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/03/2024
Next Scheduled EDR Contact: 01/20/2025
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 08/28/2024
Next Scheduled EDR Contact: 12/16/2024
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data

Source: Endeavor Business Media

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.
Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.
Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.
Daycare Centers: Daycare Listing
Source: Department of Human Services
Telephone: 303-866-5958

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Riparian Vegetation Data
Source: Division of Wildlife
Telephone: 970-416-3360

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

WELBY GARDENS PHASE I ESA,
17201 WEST 64TH AVENUE
ARVADA, CO 80007

TARGET PROPERTY COORDINATES

Latitude (North):	39.815222 - 39° 48' 54.80''
Longitude (West):	105.194675 - 105° 11' 40.83''
Universal Tranverse Mercator:	Zone 13
UTM X (Meters):	483337.5
UTM Y (Meters):	4407057.5
Elevation:	5680 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	50012209 GOLDEN, CO
Version Date:	2022

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

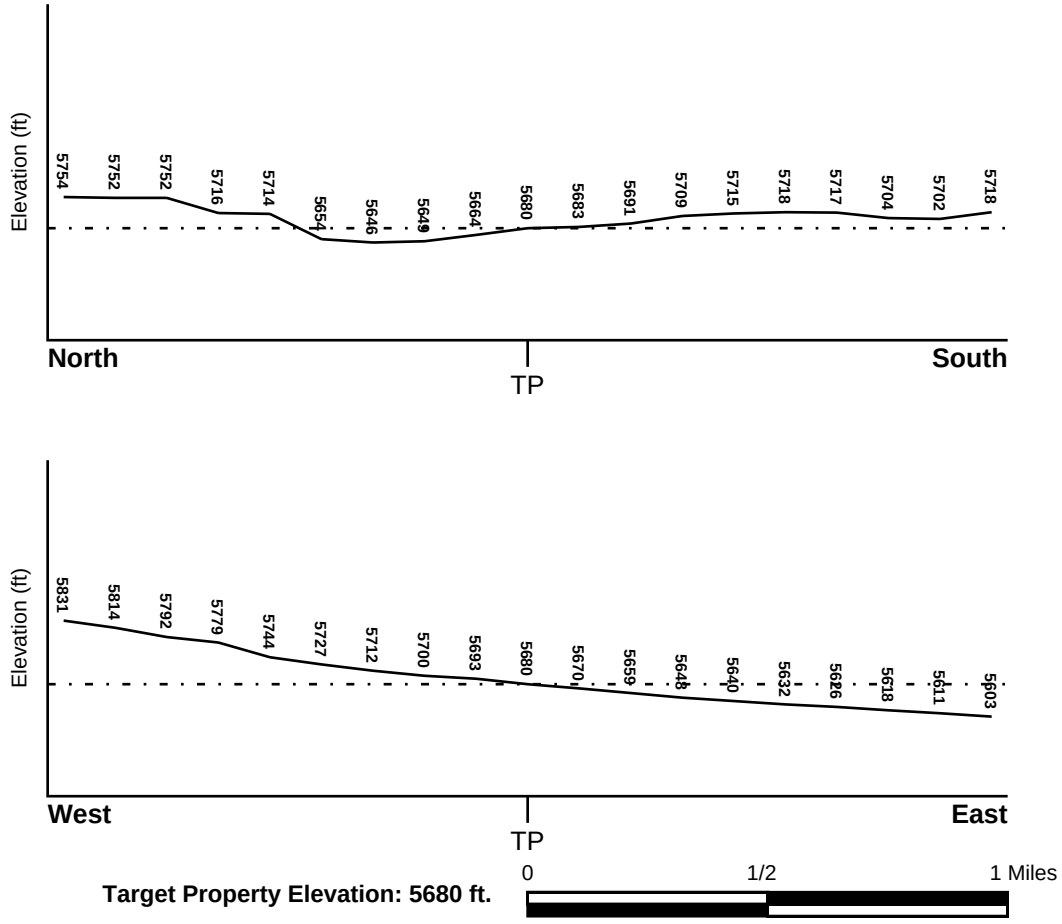
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General NE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
08059C0179F	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
08059C0183F	FEMA FIRM Flood data
08059C0187F	FEMA FIRM Flood data
08059C0191F	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
GOLDEN	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

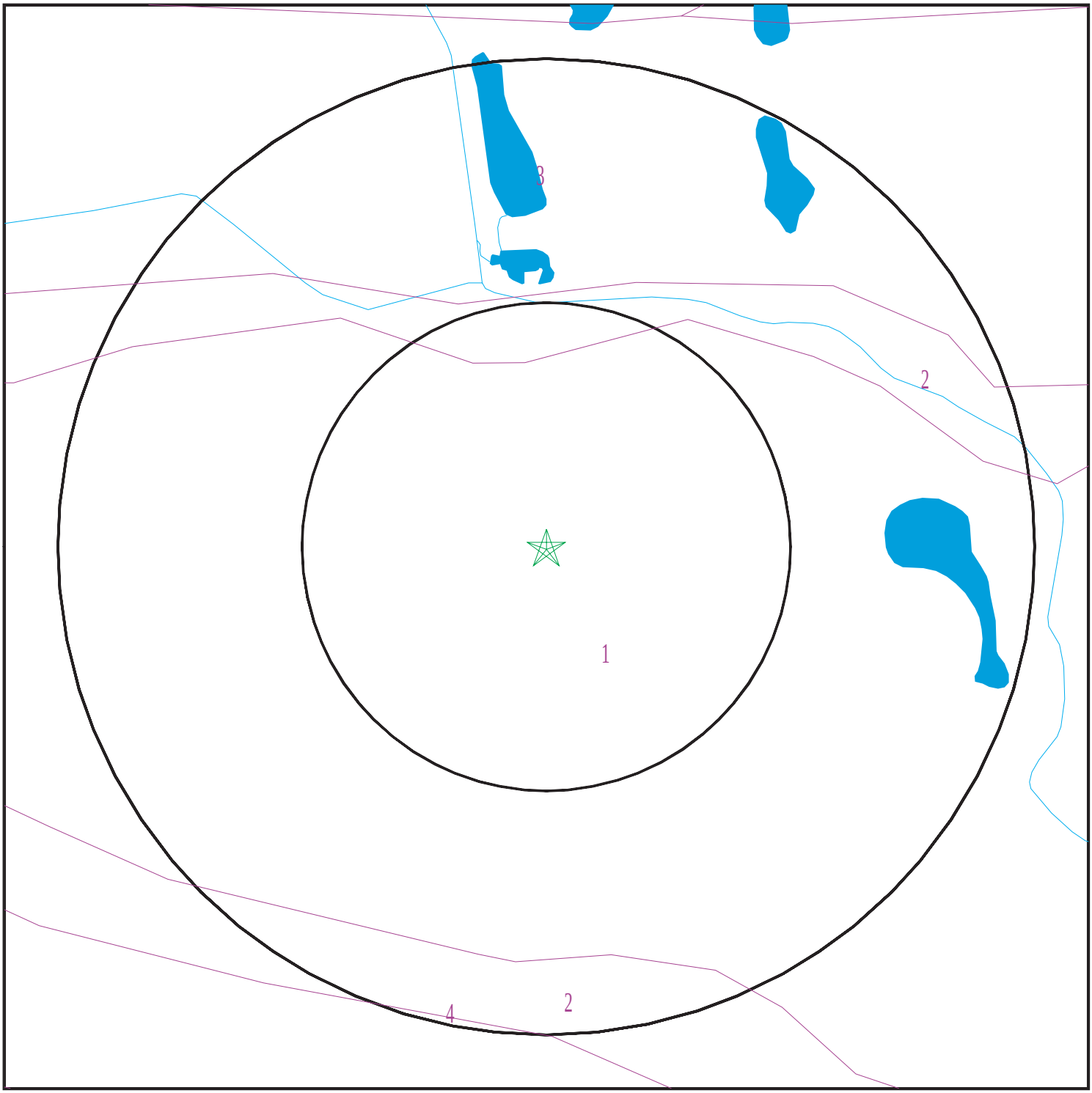
Era:	Mesozoic
System:	Cretaceous
Series:	Navarro Group
Code:	uK4 *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 7809324.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Welby Gardens Phase I ESA,	CLIENT:	Baseline Engineering Corporation
ADDRESS:	17201 West 64th Avenue	CONTACT:	Taylor Culp
	Arvada CO 80007	INQUIRY #:	7809324.2s
LAT/LONG:	39.815222 / 105.194675	DATE:	October 31, 2024 1:25 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Veldkamp

Soil Surface Texture: very cobbly sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	3 inches	very cobbly sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 42.34 Min: 4.23	Max: 7.8 Min: 6.6
2	3 inches	20 inches	very cobbly clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 42.34 Min: 4.23	Max: 7.8 Min: 6.6
3	20 inches	59 inches	very cobbly sandy clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 42.34 Min: 4.23	Max: 7.8 Min: 6.6

Soil Map ID: 2

Soil Component Name: Willowman

Soil Surface Texture: cobbly loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	cobbly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 42.34 Min: 14.11	Max: 8.4 Min: 7.9
2	5 inches	9 inches	very gravelly sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 42.34 Min: 14.11	Max: 8.4 Min: 7.9
3	9 inches	59 inches	very gravelly sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 42.34 Min: 14.11	Max: 8.4 Min: 7.9

Soil Map ID: 3

Soil Component Name: Standley

Soil Surface Texture: gravelly clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	gravelly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 0.42	Max: 8.4 Min: 7.9
2	9 inches	22 inches	gravelly clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 0.42	Max: 8.4 Min: 7.9
3	22 inches	59 inches	gravelly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14.11 Min: 0.42	Max: 8.4 Min: 7.9

Soil Map ID: 4

Soil Component Name: Valmont

Soil Surface Texture: clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	3 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Gravels, Clean gravels, Poorly Graded Gravel. COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel.	Max: 42.34 Min: 4.23	Max: 8.4 Min: 7.9
2	3 inches	31 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Gravels, Clean gravels, Poorly Graded Gravel. COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel.	Max: 42.34 Min: 4.23	Max: 8.4 Min: 7.9
3	31 inches	59 inches	very gravelly loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Gravels, Clean gravels, Poorly Graded Gravel. COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel.	Max: 42.34 Min: 4.23	Max: 8.4 Min: 7.9

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
D14	USGS40000212255	1/4 - 1/2 Mile ESE
I35	USGS40000212248	1/2 - 1 Mile ESE
40	USGS40000212513	1/2 - 1 Mile North
45	USGS40000212406	1/2 - 1 Mile ENE
46	USGS40000212514	1/2 - 1 Mile NNW
56	USGS40000212536	1/2 - 1 Mile NNW
L59	USGS40000212458	1/2 - 1 Mile NE
L61	USGS40000212454	1/2 - 1 Mile NE
M63	USGS40000212226	1/2 - 1 Mile ESE
64	USGS40000212399	1/2 - 1 Mile ENE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

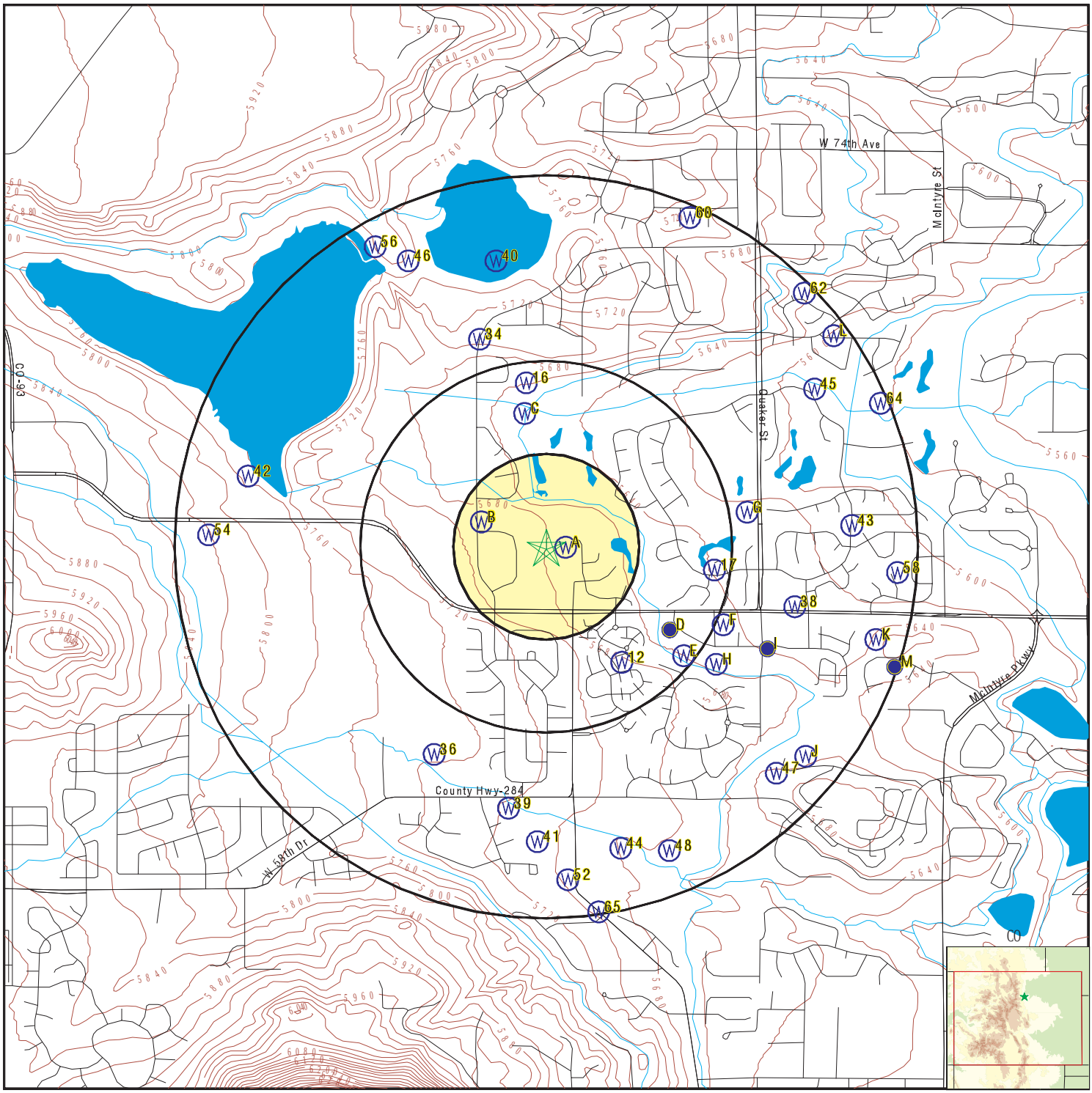
MAP ID	WELL ID	LOCATION FROM TP
A1	CO9000000400013	0 - 1/8 Mile East
A2	CO9000000579354	0 - 1/8 Mile East
A3	CO9000000021984	0 - 1/8 Mile ESE
B4	CO9000000014239	1/8 - 1/4 Mile WNW
B5	CO9000000018573	1/8 - 1/4 Mile WNW
C6	CO9000000210132	1/4 - 1/2 Mile North
C7	CO9000000181443	1/4 - 1/2 Mile North
C8	CO9000000231316	1/4 - 1/2 Mile North
C9	CO9000000265819	1/4 - 1/2 Mile North
C10	CO9000000253811	1/4 - 1/2 Mile North
C11	CO9000000577929	1/4 - 1/2 Mile North
12	CO9000000402178	1/4 - 1/2 Mile SSE
D13	CO9000000405288	1/4 - 1/2 Mile ESE
D15	CO9000000262546	1/4 - 1/2 Mile SE
16	CO9000000401869	1/4 - 1/2 Mile North
17	CO9000000398676	1/4 - 1/2 Mile East

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
E18	CO9000000572803	1/4 - 1/2 Mile SE
E19	CO9000000572804	1/4 - 1/2 Mile SE
F20	CO9000000577402	1/2 - 1 Mile ESE
F21	CO9000000202294	1/2 - 1 Mile ESE
F22	CO9000000030612	1/2 - 1 Mile ESE
F23	CO9000000202293	1/2 - 1 Mile ESE
G24	CO9000000407599	1/2 - 1 Mile ENE
H25	CO9000000398317	1/2 - 1 Mile SE
H26	CO9000000399364	1/2 - 1 Mile SE
H27	CO9000000400535	1/2 - 1 Mile SE
H28	CO9000000372509	1/2 - 1 Mile SE
H29	CO9000000372510	1/2 - 1 Mile SE
H30	CO9000000372511	1/2 - 1 Mile SE
G31	CO9000000099813	1/2 - 1 Mile East
H32	CO9000000372508	1/2 - 1 Mile ESE
H33	CO9000000404719	1/2 - 1 Mile SE
34	CO9000000018572	1/2 - 1 Mile NNW
36	CO9000000060640	1/2 - 1 Mile SSW
I37	CO9000000186658	1/2 - 1 Mile ESE
38	CO9000000404343	1/2 - 1 Mile ESE
39	CO9000000569901	1/2 - 1 Mile South
41	CO9000000570494	1/2 - 1 Mile South
42	CO9000000060638	1/2 - 1 Mile WNW
43	CO9000000019430	1/2 - 1 Mile East
44	CO9000000060667	1/2 - 1 Mile SSE
47	CO9000000407199	1/2 - 1 Mile SE
48	CO9000000281781	1/2 - 1 Mile SSE
J49	CO9000000297698	1/2 - 1 Mile SE
J50	CO9000000397134	1/2 - 1 Mile SE
J51	CO9000000399533	1/2 - 1 Mile SE
52	CO9000000557124	1/2 - 1 Mile South
K53	CO9000000342784	1/2 - 1 Mile ESE
54	CO9000000039915	1/2 - 1 Mile West
K55	CO9000000309996	1/2 - 1 Mile ESE
K57	CO9000000327916	1/2 - 1 Mile ESE
58	CO9000000108053	1/2 - 1 Mile East
60	CO9000000079706	1/2 - 1 Mile NNE
62	CO9000000397046	1/2 - 1 Mile NE
65	CO9000000558488	1/2 - 1 Mile South
M66	CO9000000085365	1/2 - 1 Mile ESE
M67	CO9000000300534	1/2 - 1 Mile ESE
M68	CO9000000525415	1/2 - 1 Mile ESE

PHYSICAL SETTING SOURCE MAP - 7809324.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- Oil, gas or related wells

SITE NAME:	Welby Gardens Phase I ESA,	CLIENT:	Baseline Engineering Corporation
ADDRESS:	17201 West 64th Avenue Arvada CO 80007	CONTACT:	Taylor Culp
		INQUIRY #:	7809324.2s
LAT/LONG:	39.815222 / 105.194675	DATE:	October 31, 2024 1:25 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A1
East
0 - 1/8 Mile
Lower

CO WELLS **CO9000000400013**

Permit #:	20627-F	CD DWR ID #:	0705732
Well Status:	Permit Canceled	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Commercial	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ARAPAHOE
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	60
Yrly Appropriation:	0	Issued Date:	1976-03-03
Expiration Date:	2013-05-22	Construction Date:	1976-05-14
Start Use Date:	1977-08-12	Pump Install Date:	1977-08-12
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	1071	Top of 1st Perf Casing:	850
Bot of Last Perf Casing:	1071	Yield (gpm):	15
Static Water Depth (ft):	340	Applicant:	YWAM, FOUNDATION
OGCC ID:	Not Reported	Comment:	Also See #055438-F
URL:	https://dwr.state.co.us/Tools/WellPermits/9027429		

A2
East
0 - 1/8 Mile
Lower

CO WELLS **CO9000000579354**

Permit #:	84879-F	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	94CW0164	Parcel Size:	0
Well Use:	Augmentation	Addtl Well Use:	Commercial
Special Use:	Not Reported	Primary Aquifer:	Not Reported
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2020-11-10
Expiration Date:	Not Reported	Construction Date:	1976-05-14
Start Use Date:	Not Reported	Pump Install Date:	1977-08-12
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	1071	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	15
Static Water Depth (ft):	340	Applicant:	YWAM FOUNDATION (WARREN, PETER)
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/10006837		

A3
ESE
0 - 1/8 Mile
Lower

CO WELLS **CO9000000021984**

Permit #:	9390-AD	CD DWR ID #:	Not Reported
Well Status:	Application Denied	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Commercial	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS

Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	VELDKAMP, BEN
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0021234		

B4
WNW
1/8 - 1/4 Mile
Higher

CO WELLS **CO9000000014239**

Permit #:	15511-MH	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Monitoring/Sampling	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1989-10-12
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	ARVADA CITY OF
OGCC ID:	Not Reported	Comment:	No Data
URL:	https://dwr.state.co.us/Tools/WellPermits/0015511		

B5
WNW
1/8 - 1/4 Mile
Higher

CO WELLS **CO9000000018573**

Permit #:	18609-MH	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Monitoring/Sampling	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1992-01-27
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	VELDKAMP, FLOWERS
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0018609B		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

C6
North
1/4 - 1/2 Mile
Lower

CO WELLS **CO9000000210132**

Permit #:	47828-F	CD DWR ID #:	Not Reported
Well Status:	Permit Expired	Well Name:	0
Water Court Case #:	W8366-79	Parcel Size:	80
Well Use:	Commercial	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	LARAMIE FOX HILLS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1997-01-28
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	BOWES, DOROTHY M
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0410429B		

C7
North
1/4 - 1/2 Mile
Lower

CO WELLS **CO9000000181443**

Permit #:	44016-F	CD DWR ID #:	0705794
Well Status:	Permit Expired	Well Name:	0
Water Court Case #:	W8366-79	Parcel Size:	0
Well Use:	Commercial	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	LARAMIE-FOX HILLS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1994-09-13
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	BOWES, DOROTHY M
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0371390		

C8
North
1/4 - 1/2 Mile
Lower

CO WELLS **CO9000000231316**

Permit #:	51400-F	CD DWR ID #:	Not Reported
Well Status:	Permit Expired	Well Name:	0
Water Court Case #:	94CW0164	Parcel Size:	0
Well Use:	Commercial	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	LARAMIE FOX HILLS

Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1999-03-01
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	WRWC LLC % DOROTHY M BOWES
OGCC ID:	Not Reported	Comment:	Also See #51400-F
URL:	https://dwr.state.co.us/Tools/WellPermits/0440534		

C9
North
1/4 - 1/2 Mile
Lower

CO WELLS **CO9000000265819**

Permit #:	57785-F	CD DWR ID #:	Not Reported
Well Status:	Permit Expired	Well Name:	0
Water Court Case #:	W8366	Parcel Size:	80
Well Use:	Augmentation	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	LARAMIE FOX HILLS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2002-07-03
Expiration Date:	2003-07-08	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	WRWC LLC
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0493154		

C10
North
1/4 - 1/2 Mile
Lower

CO WELLS **CO9000000253811**

Permit #:	55438-F	CD DWR ID #:	Not Reported
Well Status:	Permit Expired	Well Name:	0
Water Court Case #:	94CW0164	Parcel Size:	80
Well Use:	Augmentation	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	LARAMIE FOX HILLS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2001-03-08
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	WRWC LLC
OGCC ID:	Not Reported	Comment:	Also See 57785-F
URL:	https://dwr.state.co.us/Tools/WellPermits/0472970		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

C11
North
1/4 - 1/2 Mile
Lower

CO WELLS **CO9000000577929**

Permit #:	84878-F	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	94CW0164	Parcel Size:	0
Well Use:	Augmentation	Addtl Well Use:	Commercial
Special Use:	Not Reported	Primary Aquifer:	LARAMIE-FOX HILLS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	14.39999962	Issued Date:	2020-11-10
Expiration Date:	2021-11-09	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	YWAM FOUNDATION (WARREN, PETER)
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/10006836		

12
SSE
1/4 - 1/2 Mile
Higher

CO WELLS **CO9000000402178**

Permit #:	43001-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	1970-09-13	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	BUER KATHY MISS
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9029575		

D13
ESE
1/4 - 1/2 Mile
Lower

CO WELLS **CO9000000405288**

Permit #:	83089-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS

Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1976-03-09
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	1964-05-31	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	TINDELL, SUSAN
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9032464		

D14
ESE
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000212255**

Organization ID:	USGS-CO	Organization Name:	USGS Colorado Water Science Center
Monitor Location:	SC00307011AAB1 M RICH	Type:	Well
Description:	Not Reported	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Alluvium, Flood Plain
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

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D15
SE
1/4 - 1/2 Mile
Lower

CO WELLS **CO9000000262546**

Permit #:	240108-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	.75
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	QUATERNARY ALLUVIUM
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2002-04-15
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	1956-05-30	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	22	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	ZIMMER FAMILY TRUST
OGCC ID:	Not Reported		
Comment:	Property Address Is 16620 W. 63rd Pl., Golden, Co 80403;		
URL:	https://dwr.state.co.us/Tools/WellPermits/0487624		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

16
North
1/4 - 1/2 Mile
Lower

CO WELLS **CO9000000401869**

Permit #:	39340-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	1969-10-20
Start Use Date:	1969-10-20	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	60	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	24	Applicant:	WEALAND, R L
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9029274		

17
East
1/4 - 1/2 Mile
Lower

CO WELLS **CO9000000398676**

Permit #:	9688-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ARAPAHOE
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	1961-09-20
Start Use Date:	1961-09-20	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	507	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	40	Applicant:	GILKINSON JIM & JIM G
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9026155		

E18
SE
1/4 - 1/2 Mile
Lower

CO WELLS **CO9000000572803**

Permit #:	318043-	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Fire
Special Use:	Not Reported	Primary Aquifer:	QUATERNARY ALLUVIUM

Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	10000
Yrly Appropriation:	1	Issued Date:	2020-07-22
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	CHITIKILA, RAJ
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/10004123		

E19
SE
1/4 - 1/2 Mile
Lower

CO WELLS **CO9000000572804**

Permit #:	318043-	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Fire
Special Use:	Not Reported	Primary Aquifer:	QUATERNARY ALLUVIUM
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	10000
Yrly Appropriation:	1	Issued Date:	2020-07-22
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	SEIDMAN, KIMBERLY
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/10004123		

F20
ESE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000577402**

Permit #:	35046-	CD DWR ID #:	Not Reported
Well Status:	Permit Canceled	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1968-08-23
Expiration Date:	Not Reported	Construction Date:	1968-08-15
Start Use Date:	1968-08-10	Pump Install Date:	2020-09-11
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	28	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	11
Static Water Depth (ft):	22	Applicant:	BLAUBHAN, BENNIE
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9028922		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

F21
ESE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000202294**

Permit #:	96145-VE	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ARAPAHOE
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1996-05-02
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	DUERKSEN, GEROLD
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0399734A		

F22
ESE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000030612**

Permit #:	96142-VE	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1996-04-30
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	DUERKSEN, JEROLD R
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0028015		

F23
ESE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000202293**

Permit #:	196465-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	1
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	LARAMIE FOX HILLS

Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1996-07-10
Expiration Date:	Not Reported	Construction Date:	1996-05-07
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	5640
Well Depth:	485	Top of 1st Perf Casing:	260
Bot of Last Perf Casing:	485	Yield (gpm):	0
Static Water Depth (ft):	190	Applicant:	DUERKSEN, JERROLD R
OGCC ID:	Not Reported	Comment:	Also Lot 6 96145ve
URL:	https://dwr.state.co.us/Tools/WellPermits/0399734		

G24
ENE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000407599**

Permit #:	126139-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	1978-10-23	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	METZINGER, DON
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9034955		

H25
SE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000398317**

Permit #:	7172-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	1960-10-20	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	ADAMS, MAX
OGCC ID:	Not Reported		
Comment:	Dry Well; Property Address Is 16690 W. 63rd Pl.;		

URL: https://dwr.state.co.us/Tools/WellPermits/9025797

H26
SE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000399364**

Permit #:	14791-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	LARAMIE FOX HILLS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	1963-05-20
Start Use Date:	1963-05-20	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	1244	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	975	Applicant:	KOUMAN, IDA M
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9026809		

H27
SE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000400535**

Permit #:	26162-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	1965-12-29	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	MCATER, G A
OGCC ID:	Not Reported		
Comment:	Property Address Is 16720 W. 63rd Pl.; Dry Hole/Filled;		
URL:	https://dwr.state.co.us/Tools/WellPermits/9027919		

H28
SE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000372509**

Permit #:	304039--A	CD DWR ID #:	Not Reported
Well Status:	Permit Extended	Well Name:	0

Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	1
Yrly Appropriation:	0	Issued Date:	2016-12-28
Expiration Date:	2018-12-24	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	COOK, JARED
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/3677656B		

H29
SE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000372510**

Permit #:	304039--A	CD DWR ID #:	Not Reported
Well Status:	Permit Extended	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	1
Yrly Appropriation:	0	Issued Date:	2016-12-28
Expiration Date:	2019-12-30	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	COOK, JARED
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/3677656B		

H30
SE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000372511**

Permit #:	304039--A	CD DWR ID #:	Not Reported
Well Status:	Permit Extended	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	1
Yrly Appropriation:	0	Issued Date:	2016-12-28
Expiration Date:	2020-12-28	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0

Static Water Depth (ft):	0	Applicant:	COOK, JARED
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/3677656B		

G31
East
1/2 - 1 Mile
Lower

CO WELLS **CO9000000099813**

Permit #:	126139--A	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1982-06-23
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	METZINGER, D
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0226606		

H32
ESE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000372508**

Permit #:	304039-	CD DWR ID #:	Not Reported
Well Status:	Well Abandoned	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	1
Yrly Appropriation:	0	Issued Date:	2016-12-28
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	1970-12-31	Pump Install Date:	Not Reported
Well Plug Date:	2017-04-14	Well Elevation:	0
Well Depth:	100	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	COOK, JARED
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/3677656A		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

H33
SE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000404719**

Permit #:	76233-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	DENVER
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	1975-09-04
Start Use Date:	1975-09-04	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	150	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	20	Applicant:	LANGREHR, ERIC
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9031936		

34
NNW
1/2 - 1 Mile
Higher

CO WELLS **CO9000000018572**

Permit #:	18609-MH	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Monitoring/Sampling	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1992-01-27
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	VELDKAMP, FLOWERS
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0018609A		

I35
ESE
1/2 - 1 Mile
Lower

FED USGS **USGS40000212248**

Organization ID:	USGS-CO	Organization Name:	USGS Colorado Water Science Center
Monitor Location:	SC00307011AA G-13	Type:	Well
Description:	Not Reported	HUC:	10190004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported

Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	1244	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

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36
SSW
1/2 - 1 Mile
Higher

CO WELLS **CO9000000060640**

Permit #:	51647-MH	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Monitoring/Sampling	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2013-06-20
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	DENVER WATER
OGCC ID:	Not Reported	Comment:	One (1) Hole To Be Constructed
URL:	https://dwr.state.co.us/Tools/WellPermits/0051647		

I37
ESE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000186658**

Permit #:	184293-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ARAPAHOE
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1994-12-28
Expiration Date:	Not Reported	Construction Date:	1995-03-21
Start Use Date:	Not Reported	Pump Install Date:	1995-04-07
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	116	Applicant:	BOYD LAURETTA RUTH ESTATE OF
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0378188		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

38
ESE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000404343**

Permit #:	71568-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	DENVER
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1973-09-24
Expiration Date:	Not Reported	Construction Date:	1975-06-11
Start Use Date:	1975-06-11	Pump Install Date:	1975-06-11
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	26	Applicant:	JOHNSON, EDWARD L
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9031590		

39
South
1/2 - 1 Mile
Higher

CO WELLS **CO9000000569901**

Permit #:	60489-DW	CD DWR ID #:	Not Reported
Well Status:	Well Abandoned	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Dewatering	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2020-02-12
Expiration Date:	Not Reported	Construction Date:	2020-02-18
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	2020-07-08	Well Elevation:	0
Well Depth:	27	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	SJ LOUIS
OGCC ID:	Not Reported		
Comment:	8/25/2020 Received 8 Well Abandonment Reports.		
URL:	https://dwr.state.co.us/Tools/WellPermits/0060489		

40
North
1/2 - 1 Mile
Higher

FED USGS **USGS40000212513**

Organization ID:	USGS-CO	Organization Name:	USGS Colorado Water Science Center
Monitor Location:	SC00307026BAC1	Type:	Well
Description:	Not Reported	HUC:	10190004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported

Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19590101
Well Depth:	26	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1959-07-13
Feet below surface:	4.00	Feet to sea level:	Not Reported
Note:	Not Reported		

41
South
1/2 - 1 Mile
Higher

CO WELLS **CO9000000570494**

Permit #:	60625-DW	CD DWR ID #:	Not Reported
Well Status:	Well Abandoned	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Dewatering	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	Not Reported
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2020-03-26
Expiration Date:	Not Reported	Construction Date:	2020-04-02
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	2020-05-13	Well Elevation:	5701
Well Depth:	27	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	SJ LOUIS
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0060625		

42
WNW
1/2 - 1 Mile
Higher

CO WELLS **CO9000000060638**

Permit #:	51645-MH	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Monitoring/Sampling	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2013-06-20
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	DENVER WATER
OGCC ID:	Not Reported	Comment:	One (1) Hole To Be Constructed
URL:	https://dwr.state.co.us/Tools/WellPermits/0051645		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

43
East
1/2 - 1 Mile
Lower

CO WELLS **CO9000000019430**

Permit #:	19211-MH	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Monitoring/Sampling	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1992-06-02
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	ARVADA CITY OF
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0019211		

44
SSE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000060667**

Permit #:	51688-MH	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Monitoring/Sampling	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2013-07-11
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	DENVER WATER
OGCC ID:	Not Reported	Comment:	One (1) Hole To Be Constructed
URL:	https://dwr.state.co.us/Tools/WellPermits/0051688		

45
ENE
1/2 - 1 Mile
Lower

FED USGS **USGS40000212406**

Organization ID:	USGS-CO	Organization Name:	USGS Colorado Water Science Center
Monitor Location:	SC00307025CBA1	Type:	Well
Description:	Not Reported	HUC:	10190004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported

Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	31.3	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1958-08-15
Feet below surface:	22.50	Feet to sea level:	Not Reported
Note:	Not Reported		

46
NNW
1/2 - 1 Mile
Higher

FED USGS **USGS40000212514**

Organization ID:	USGS-CO	Organization Name:	USGS Colorado Water Science Center
Monitor Location:	SC00307026BCB	Type:	Well
Description:	Not Reported	HUC:	10190004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19550101
Well Depth:	56	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1958-08-15
Feet below surface:	36.80	Feet to sea level:	Not Reported
Note:	Not Reported		

47
SE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000407199**

Permit #:	103998-	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Stock
Special Use:	Not Reported	Primary Aquifer:	LARAMIE FOX HILLS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1978-12-27
Expiration Date:	Not Reported	Construction Date:	1979-05-23
Start Use Date:	Not Reported	Pump Install Date:	1979-05-31
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	1200	Top of 1st Perf Casing:	920
Bot of Last Perf Casing:	1200	Yield (gpm):	14
Static Water Depth (ft):	340	Applicant:	RYAN LEE & SON
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9034572		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

48
SSE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000281781**

Permit #:	Not Reported	CD DWR ID #:	Not Reported
Well Status:	Application Information Requested		
Well Name:	0	Water Court Case #:	Not Reported
Parcel Size:	60.88999939	Well Use:	Irrigation
Addtl Well Use:	Not Reported	Special Use:	Not Reported
Primary Aquifer:	UPPER ARAPAHOE	Addtl Aquifer:	Not Reported
Division:	1	Water District:	7
Mgmt District:	Not Reported	Ground Water Basin:	Not Reported
Irrigation Area:	0	Yrly Appropriation:	14.30000019
Issued Date:	Not Reported	Expiration Date:	Not Reported
Construction Date:	Not Reported	Start Use Date:	Not Reported
Pump Install Date:	Not Reported	Well Plug Date:	Not Reported
Well Elevation:	0	Well Depth:	0
Top of 1st Perf Casing:	0	Bot of Last Perf Casing:	0
Yield (gpm):	0	Static Water Depth (ft):	0
Applicant:	KELLER, WILLIAM J	OGCC ID:	Not Reported
Comment:	Not Reported		
URL:	https://dwr.state.co.us/Tools/WellPermits/0520282		

J49
SE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000297698**

Permit #:	4529-	CD DWR ID #:	Not Reported
Well Status:	Permit Canceled	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	RYAN, LEE
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0900590		

J50
SE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000397134**

Permit #:	786-RN	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported

Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	1958-04-21
Start Use Date:	1958-04-21	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	535	Top of 1st Perf Casing:	347
Bot of Last Perf Casing:	535	Yield (gpm):	0
Static Water Depth (ft):	110	Applicant:	RYAN LEE & SON
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9024657		

J51
SE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000399533**

Permit #:	15955-R	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Industrial	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	1957-04-27
Start Use Date:	1958-04-21	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	350	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	90	Applicant:	RYAN LEE & SON
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9026973		

52
South
1/2 - 1 Mile
Higher

CO WELLS **CO9000000557124**

Permit #:	59391-MH	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Monitoring/Sampling	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	Not Reported
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2019-03-07
Expiration Date:	Not Reported	Construction Date:	2019-03-22
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	25	Top of 1st Perf Casing:	14
Bot of Last Perf Casing:	25	Yield (gpm):	0
Static Water Depth (ft):	13	Applicant:	SJ LOUIS
OGCC ID:	Not Reported		

Comment:	4/17/2019 Received 3 Well Construction Reports.
URL:	https://dwr.state.co.us/Tools/WellPermits/0059391

K53
ESE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000342784**

Permit #:	69085-F	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	2.17000008
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	LOWER ARAPAHOE
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	1
Yrly Appropriation:	0	Issued Date:	2010-03-31
Expiration Date:	Not Reported	Construction Date:	2011-01-24
Start Use Date:	Not Reported	Pump Install Date:	2011-03-17
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	402	Top of 1st Perf Casing:	110
Bot of Last Perf Casing:	402	Yield (gpm):	9
Static Water Depth (ft):	141	Applicant:	RICHARDSON, LARK
OGCC ID:	Not Reported		
Comment:	Aquifer Interval To Be Amended To Show 110-350 Feet Below The Ground Surface With Sump To 390 Feet Based On Geophysical Logging Mps 01/24/2011		
URL:	https://dwr.state.co.us/Tools/WellPermits/3642073		

54
West
1/2 - 1 Mile
Higher

CO WELLS **CO9000000039915**

Permit #:	35903-MH	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Monitoring/Sampling	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1999-06-16
Expiration Date:	Not Reported	Construction Date:	1999-04-29
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	385	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	20	Applicant:	GOLDEN PROPERTIES LTD
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0035903		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K55
ESE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000309996**

Permit #:	110951-	CD DWR ID #:	Not Reported
Well Status:	Permit Expired	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	1.14999998
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	SCOTT, JON L
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0913637		

56
NNW
1/2 - 1 Mile
Higher

FED USGS **USGS40000212536**

Organization ID:	USGS-CO	Organization Name:	USGS Colorado Water Science Center
Monitor Location:	SC00307027ADA	Type:	Well
Description:	Not Reported	HUC:	10190004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19540101
Well Depth:	100	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

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K57
ESE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000327916**

Permit #:	66100-F	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	2.20000005
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	LOWER ARAPAHOE
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	1
Yrly Appropriation:	0	Issued Date:	2007-08-08
Expiration Date:	2008-07-28	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	5650
Well Depth:	0	Top of 1st Perf Casing:	0

Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	KITOWSKI, PATRICK
OGCC ID:	Not Reported		
Comment:	Log Waiver Request Denied 7/14/08 Dam.		
URL:	https://dwr.state.co.us/Tools/WellPermits/3610207		

58
East
1/2 - 1 Mile
Lower

CO WELLS **CO9000000108053**

Permit #:	133759-	CD DWR ID #:	Not Reported
Well Status:	Permit Issued	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Commercial	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1983-11-29
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	MCKEE, ENTERPR
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0240108		

L59
NE
1/2 - 1 Mile
Lower

FED USGS **USGS40000212458**

Organization ID:	USGS-CO	Organization Name:	USGS Colorado Water Science Center
Monitor Location:	SC00307025BCA1	Type:	Well
Description:	Not Reported	HUC:	10190004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19180101
Well Depth:	33	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1958-08-01
Feet below surface:	31.00	Feet to sea level:	Not Reported
Note:	Not Reported		

60
NNE
1/2 - 1 Mile
Higher

CO WELLS **CO9000000079706**

Permit #:	106896-	CD DWR ID #:	Not Reported
Well Status:	Permit Expired	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0

Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ARAPAHOE
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1979-05-30
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	THIAVILLE GARY & LURAY
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0102520		

L61
NE
1/2 - 1 Mile
Lower

FED USGS **USGS40000212454**

Organization ID:	USGS-CO	Organization Name:	USGS Colorado Water Science Center
Monitor Location:	SC00307025BCD2 USGS 394924105104501		
Type:	Well	Description:	Not Reported
HUC:	10190004	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Not Reported
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19530101	Well Depth:	44
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1958-08-01
Feet below surface:	19.00	Feet to sea level:	Not Reported
Note:	Not Reported		

62
NE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000397046**

Permit #:	361-	CD DWR ID #:	0705477
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	LARAMIE FOX HILLS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	1957-10-01	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	NEWMAN, R E
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/9024570		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

M63
ESE
1/2 - 1 Mile
Lower

FED USGS **USGS40000212226**

Organization ID:	USGS-CO	Organization Name:	USGS Colorado Water Science Center
Monitor Location:	SC00307012BDB1	Type:	Well
Description:	Not Reported	HUC:	10190004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Laramie Formation
Aquifer Type:	Not Reported	Construction Date:	19690423
Well Depth:	1172	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:		2	Level reading date:	1978-06-26
Feet below surface:	431.10		Feet to sea level:	Not Reported
Note:	Not Reported			
Level reading date:	1969-04-28		Feet below surface:	354.00
Feet to sea level:	Not Reported		Note:	Not Reported

64
ENE
1/2 - 1 Mile
Lower

FED USGS **USGS40000212399**

Organization ID:	USGS-CO	Organization Name:	USGS Colorado Water Science Center
Monitor Location:	SC00307025CAA1	Type:	Well
Description:	Not Reported	HUC:	10190004
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	7	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:		1	Level reading date:	1958-07-29
Feet below surface:	3.00		Feet to sea level:	Not Reported
Note:	Not Reported			

65
South
1/2 - 1 Mile
Higher

CO WELLS **CO9000000558488**

Permit #:	59581-MH	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Monitoring/Sampling	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	Not Reported
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	2019-05-02
Expiration Date:	Not Reported	Construction Date:	2019-05-14

Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	5699
Well Depth:	40	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	DENVER WATER (HAAS, RYAN)
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0059581		

M66
ESE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000085365**

Permit #:	Not Reported	CD DWR ID #:	Not Reported
Well Status:	Application Information Requested		
Well Name:	0	Water Court Case #:	Not Reported
Parcel Size:	0	Well Use:	Domestic
Addtl Well Use:	Not Reported	Special Use:	Not Reported
Primary Aquifer:	ARAPAHOE	Addtl Aquifer:	Not Reported
Division:	1	Water District:	7
Mgmt District:	Not Reported	Ground Water Basin:	Not Reported
Irrigation Area:	0	Yrly Appropriation:	0
Issued Date:	Not Reported	Expiration Date:	Not Reported
Construction Date:	Not Reported	Start Use Date:	Not Reported
Pump Install Date:	Not Reported	Well Plug Date:	Not Reported
Well Elevation:	0	Well Depth:	0
Top of 1st Perf Casing:	0	Bot of Last Perf Casing:	0
Yield (gpm):	0	Static Water Depth (ft):	0
Applicant:	SCOTT, JON L	OGCC ID:	Not Reported
Comment:	Not Reported		
URL:	https://dwr.state.co.us/Tools/WellPermits/0111101		

M67
ESE
1/2 - 1 Mile
Lower

CO WELLS **CO9000000300534**

Permit #:	42406-	CD DWR ID #:	Not Reported
Well Status:	Permit Canceled	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	Not Reported
Expiration Date:	Not Reported	Construction Date:	Not Reported
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	0	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	BARTLETT, RICHARD S
OGCC ID:	Not Reported	Comment:	Not Reported
URL:	https://dwr.state.co.us/Tools/WellPermits/0903597		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
M68 **ESE** **1/2 - 1 Mile** **Lower**	**CO WELLS**	**CO9000000525415**

Permit #:	579-WCB	CD DWR ID #:	Not Reported
Well Status:	Well Constructed	Well Name:	0
Water Court Case #:	Not Reported	Parcel Size:	0
Well Use:	Domestic	Addtl Well Use:	Not Reported
Special Use:	Not Reported	Primary Aquifer:	ALL UNNAMED AQUIFERS
Addtl Aquifer:	Not Reported	Division:	1
Water District:	7	Mgmt District:	Not Reported
Ground Water Basin:	Not Reported	Irrigation Area:	0
Yrly Appropriation:	0	Issued Date:	1955-06-16
Expiration Date:	Not Reported	Construction Date:	1955-05-24
Start Use Date:	Not Reported	Pump Install Date:	Not Reported
Well Plug Date:	Not Reported	Well Elevation:	0
Well Depth:	500	Top of 1st Perf Casing:	0
Bot of Last Perf Casing:	0	Yield (gpm):	0
Static Water Depth (ft):	0	Applicant:	HAPKE, DONALD
OGCC ID:	Not Reported	Comment:	Dry Hole
URL:	https://dwr.state.co.us/Tools/WellPermits/C300579		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for JEFFERSON County: 1

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for JEFFERSON COUNTY, CO

Number of sites tested: 62

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	3.993 pCi/L	64%	36%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	5.565 pCi/L	50%	47%	3%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Riparian Vegetation Data
Source: Division of Wildlife
Telephone: 970-416-3360

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Colorado GIS Well Database
Source: Office of State Engineer, Division of Water Resources
Telephone: 303-866-3581
The GIS Well database includes all wells that the Division of Water Resources permits.

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Locations
Source: Department of Natural Resources
Telephone: 303-894-2100

RADON

State Database: CO Radon
Source: Department of Public Health & Environment
Telephone: 303-692-3090
Radon Study in Colorado

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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Welby Gardens Phase I ESA,
17201 West 64th Avenue
Arvada, CO 80007

Inquiry Number: 7809324.3
October 31, 2024

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

10/31/24

Site Name:

Welby Gardens Phase I ESA,
17201 West 64th Avenue
Arvada, CO 80007
EDR Inquiry # 7809324.3

Client Name:

Baseline Engineering Corporation
112 North Rubey Dr Unit 210
Golden, CO 80403
Contact: Taylor Culp

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The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # CB3E-4B9D-B7D0

PO # 45033

Project Phase I ESA, 17201 W 64th Ave

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: CB3E-4B9D-B7D0

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- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

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Welby Gardens Phase I ESA,
17201 West 64th Avenue
Arvada, CO 80007

Inquiry Number: 7809324.4
October 31, 2024

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

10/31/24

Site Name:

Welby Gardens Phase I ESA,
17201 West 64th Avenue
Arvada, CO 80007
EDR Inquiry # 7809324.4

Client Name:

Baseline Engineering Corporation
112 North Rubey Dr Unit 210
Golden, CO 80403
Contact: Taylor Culp

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Baseline Engineering Corporation were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# 45033

Project: Phase I ESA, 17201 W 64th Av

Coordinates:

Latitude:	39.815222 39° 48' 55" North
Longitude:	-105.194675 -105° 11' 41" West
UTM Zone:	Zone 13 North
UTM X Meters:	483337.89
UTM Y Meters:	4407267.12
Elevation:	5679.49' above sea level

Maps Provided:

2022	1957
2019	1944
2016	1942
2013	1939
1994	1899
1980	
1971	
1965	

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2022 Source Sheets

Golden
2022
7.5-minute, 24000

2019 Source Sheets

Golden
2019
7.5-minute, 24000

2016 Source Sheets

Golden
2016
7.5-minute, 24000

2013 Source Sheets

Golden
2013
7.5-minute, 24000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1994 Source Sheets

Golden
1994
7.5-minute, 24000
Aerial Photo Revised 1990

1980 Source Sheets

Golden
1980
7.5-minute, 24000
Aerial Photo Revised 1978

1971 Source Sheets

Golden
1971
7.5-minute, 24000
Aerial Photo Revised 1971

1965 Source Sheets

Golden
1965
7.5-minute, 24000
Aerial Photo Revised 1964

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1957 Source Sheets

Golden
1957
7.5-minute, 24000
Aerial Photo Revised 1955

1944 Source Sheets

Golden
1944
7.5-minute, 31680

1942 Source Sheets

Golden
1942
7.5-minute, 31680

1939 Source Sheets

Golden
1939
7.5-minute, 24000

Topo Sheet Key

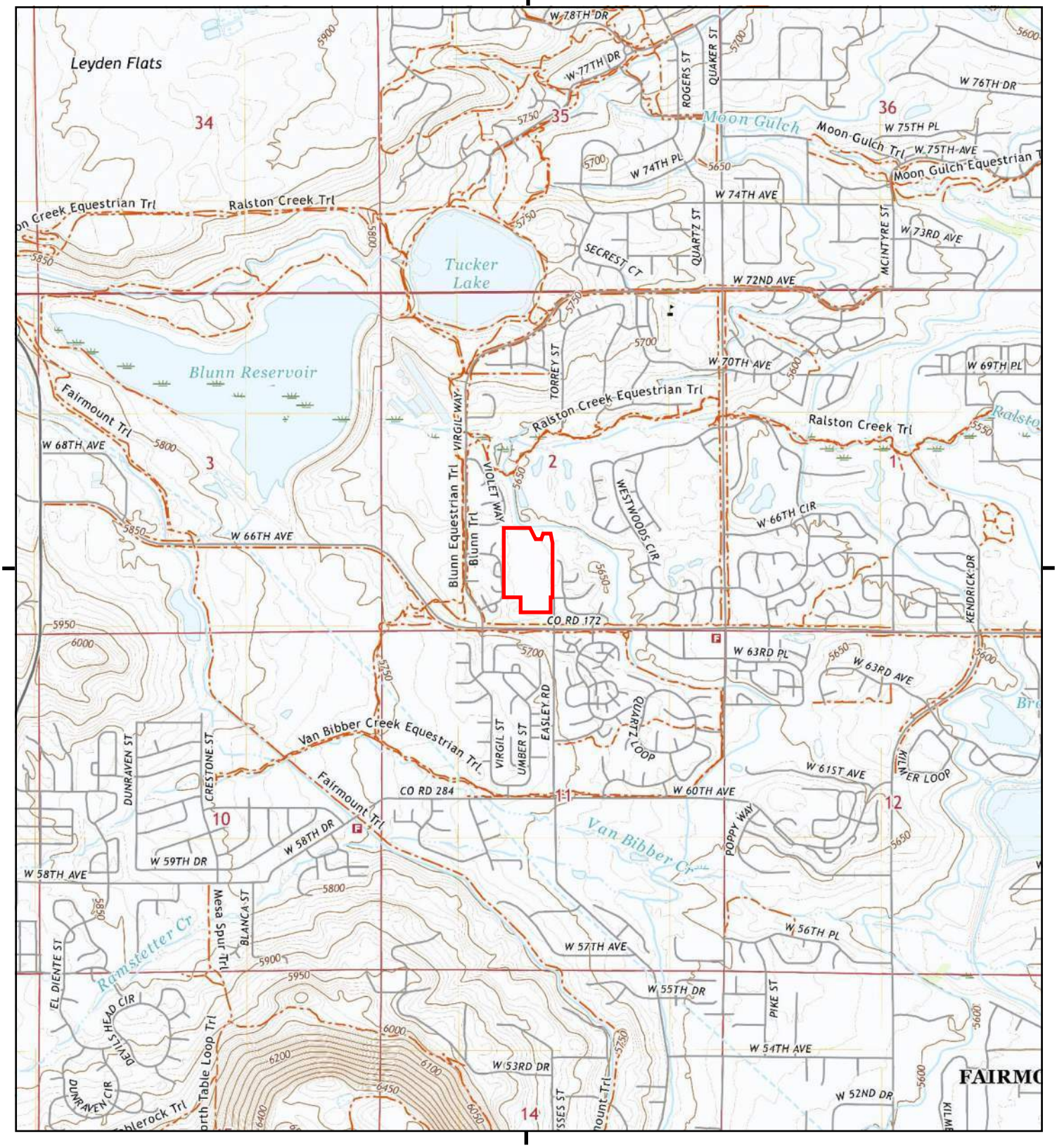
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1899 Source Sheets

West Denver
1899
30-minute, 125000

Historical Topo Map

2022



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

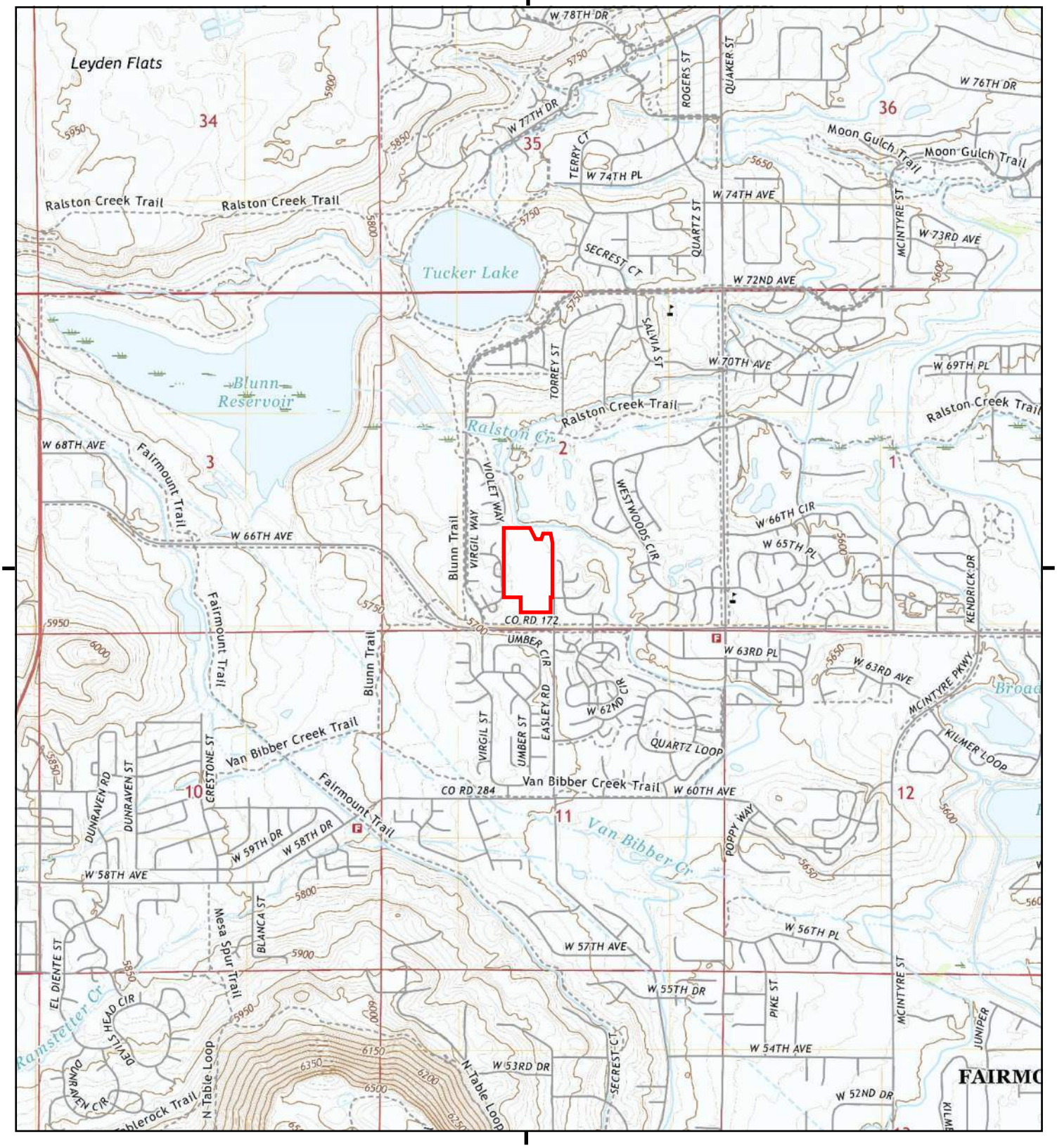
TP, Golden, 2022, 7.5-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

N

Historical Topo Map

2019



This report includes information from the following map sheet(s).

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NW N NE
W E
SW S SE

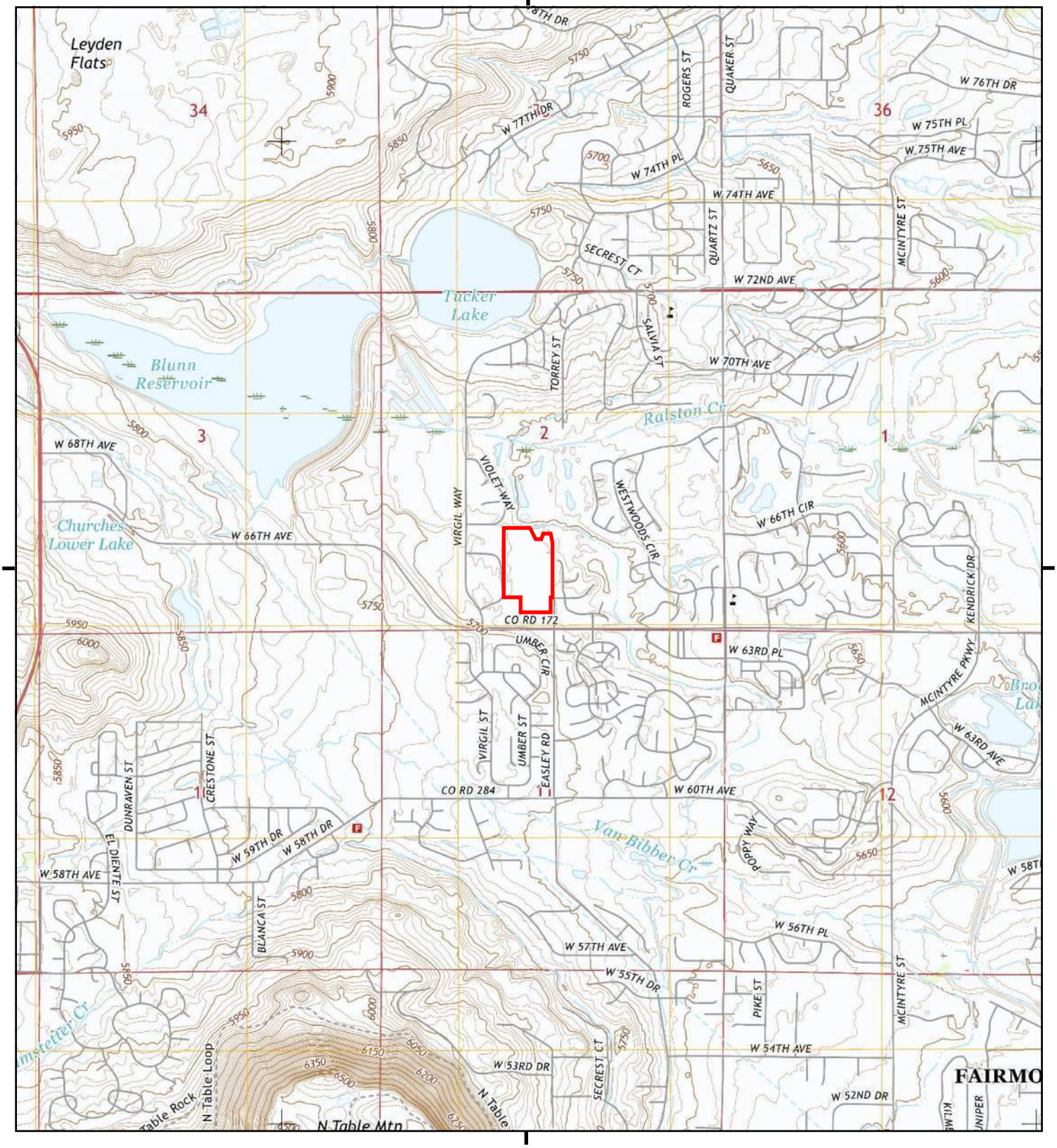
TP, Golden, 2019, 7.5-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

N

Historical Topo Map

2016



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NW N NE
W E
SW S SE

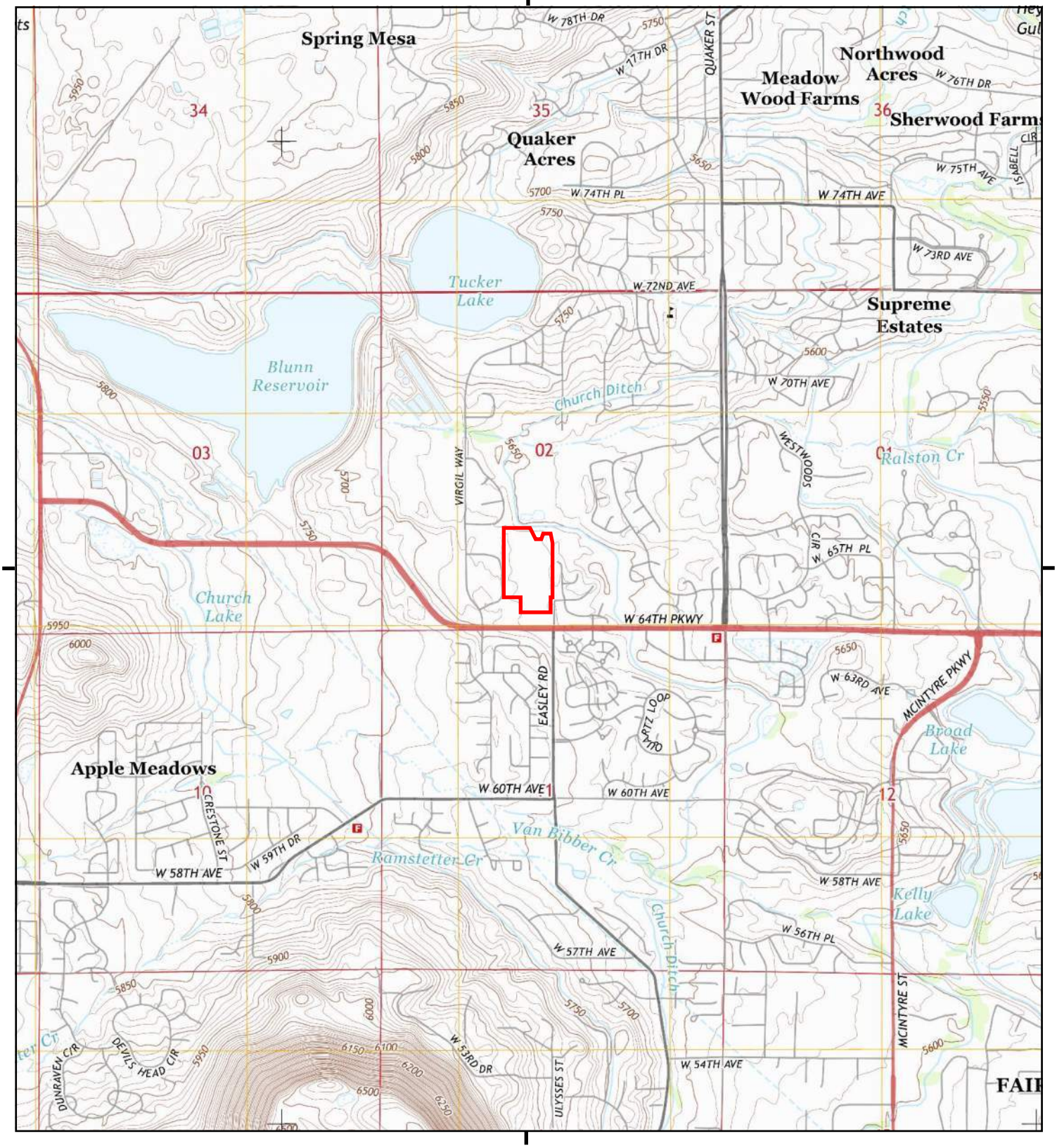
TP, Golden, 2016, 7.5-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

N

Historical Topo Map

2013



This report includes information from the following map sheet(s).

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NW N NE
W E
SW S SE

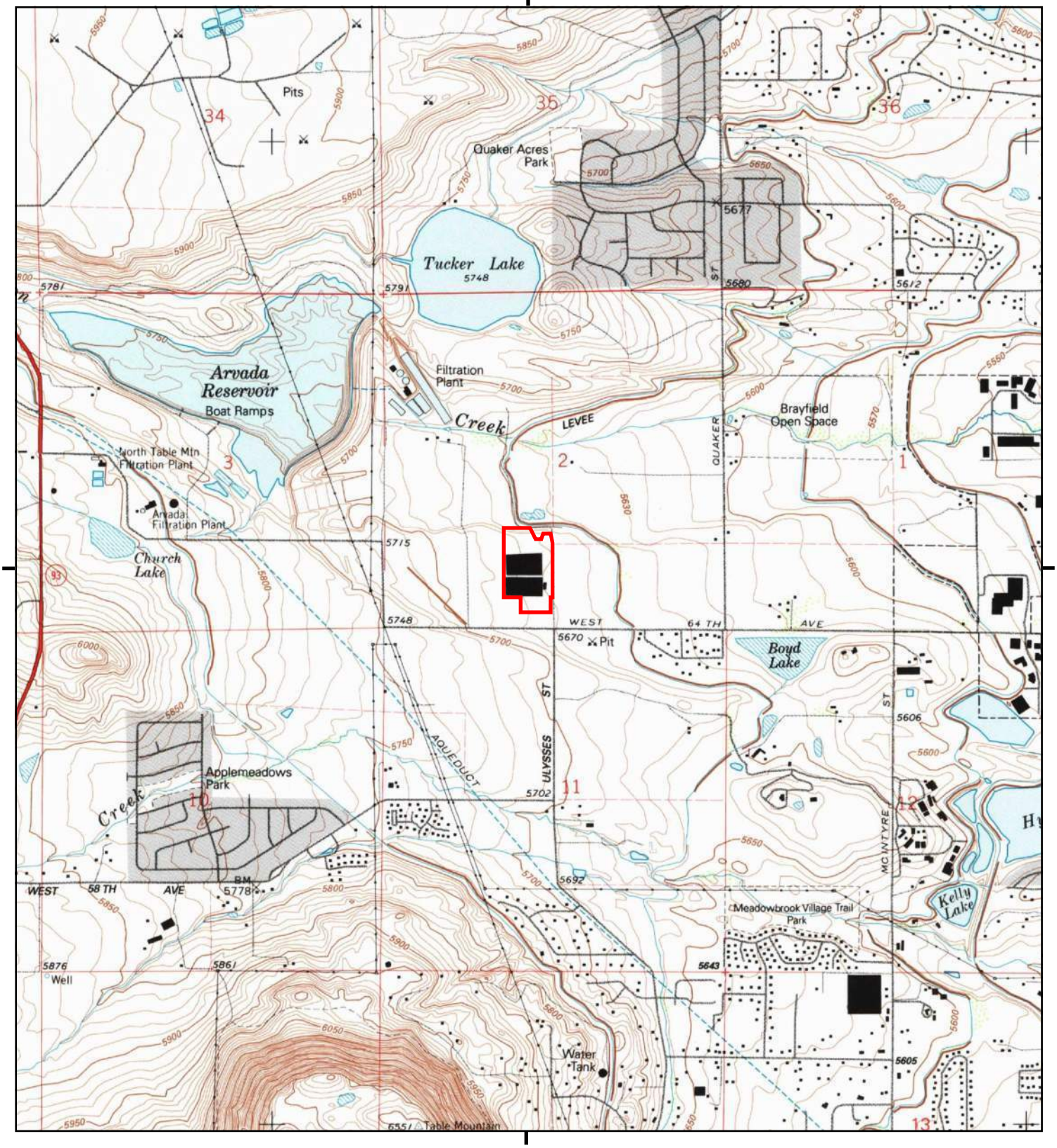
TP, Golden, 2013, 7.5-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

N

Historical Topo Map

1994



This report includes information from the following map sheet(s).

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NW N NE
W E
SW S SE

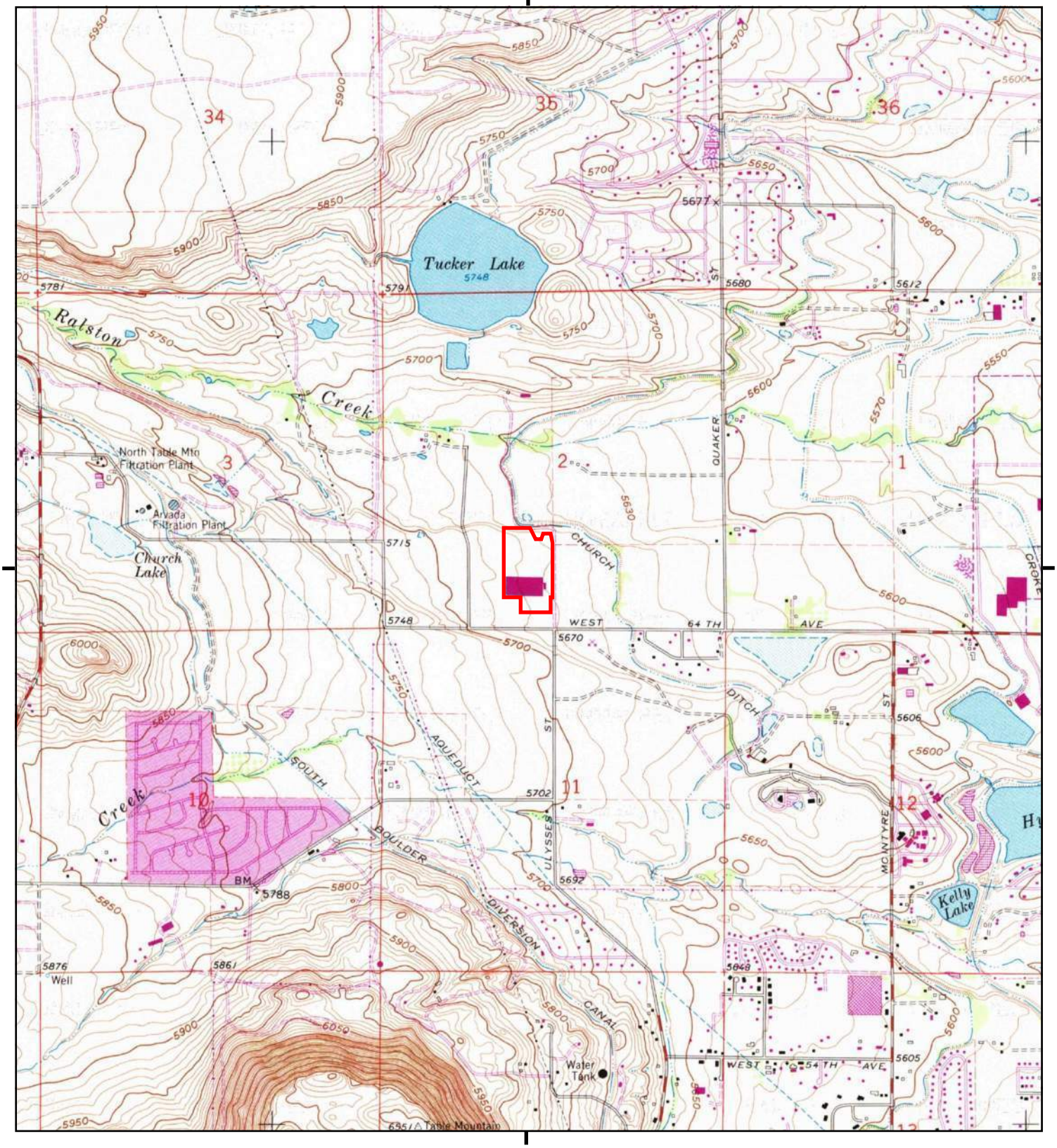
TP, Golden, 1994, 7.5-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

N

Historical Topo Map

1980



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

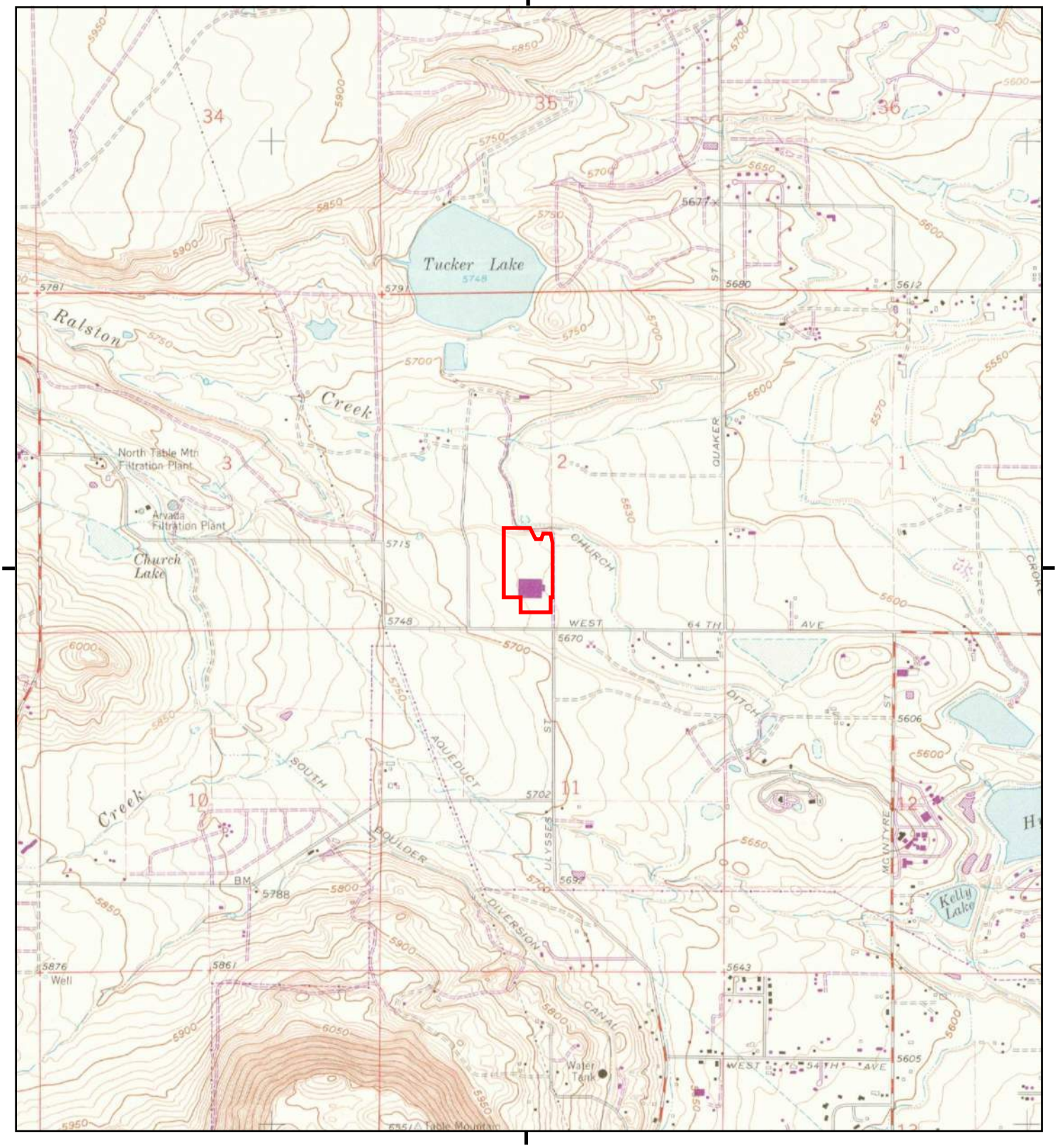
TP, Golden, 1980, 7.5-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

N

Historical Topo Map

1971



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0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

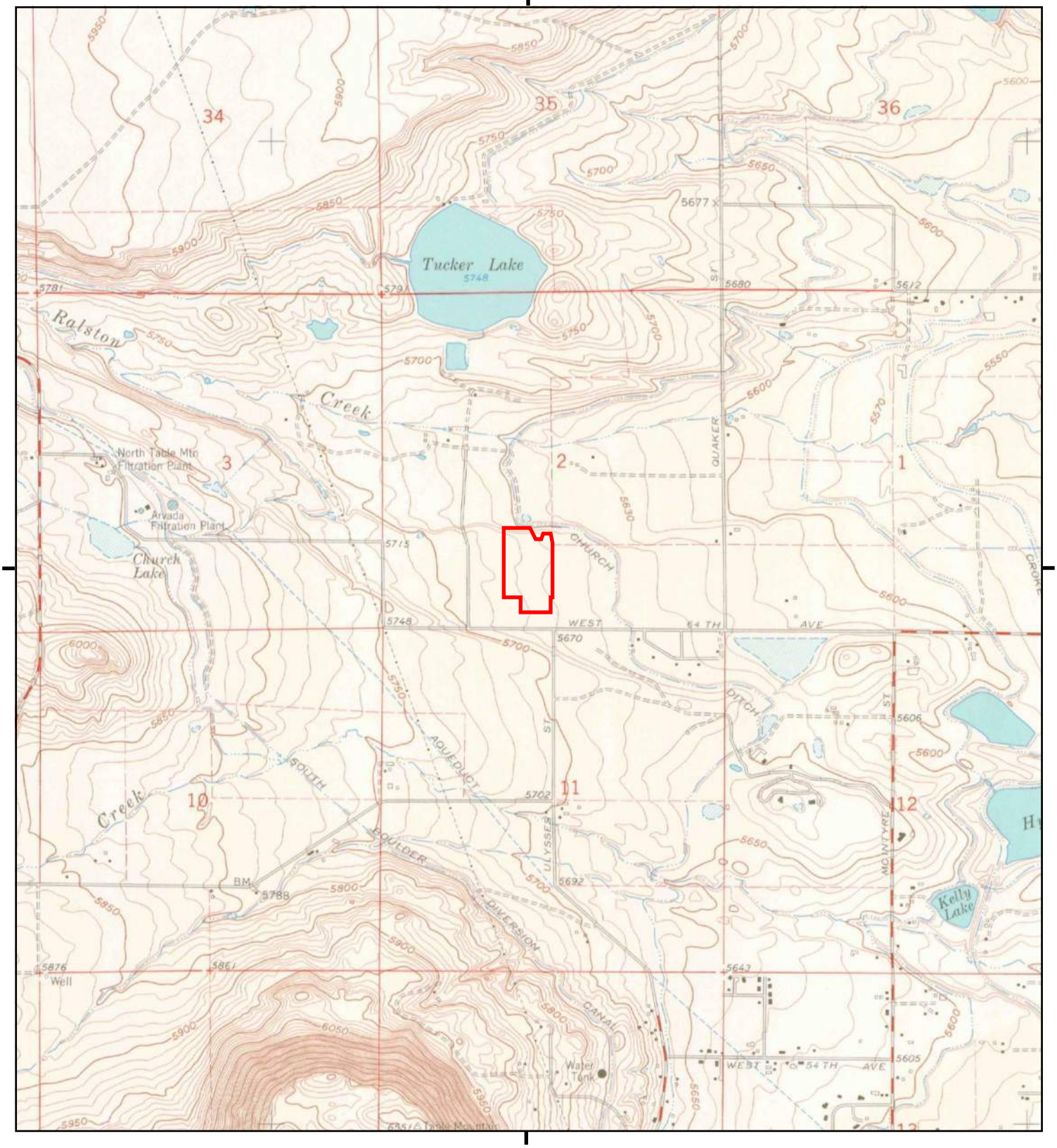
TP, Golden, 1971, 7.5-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

N

Historical Topo Map

1965



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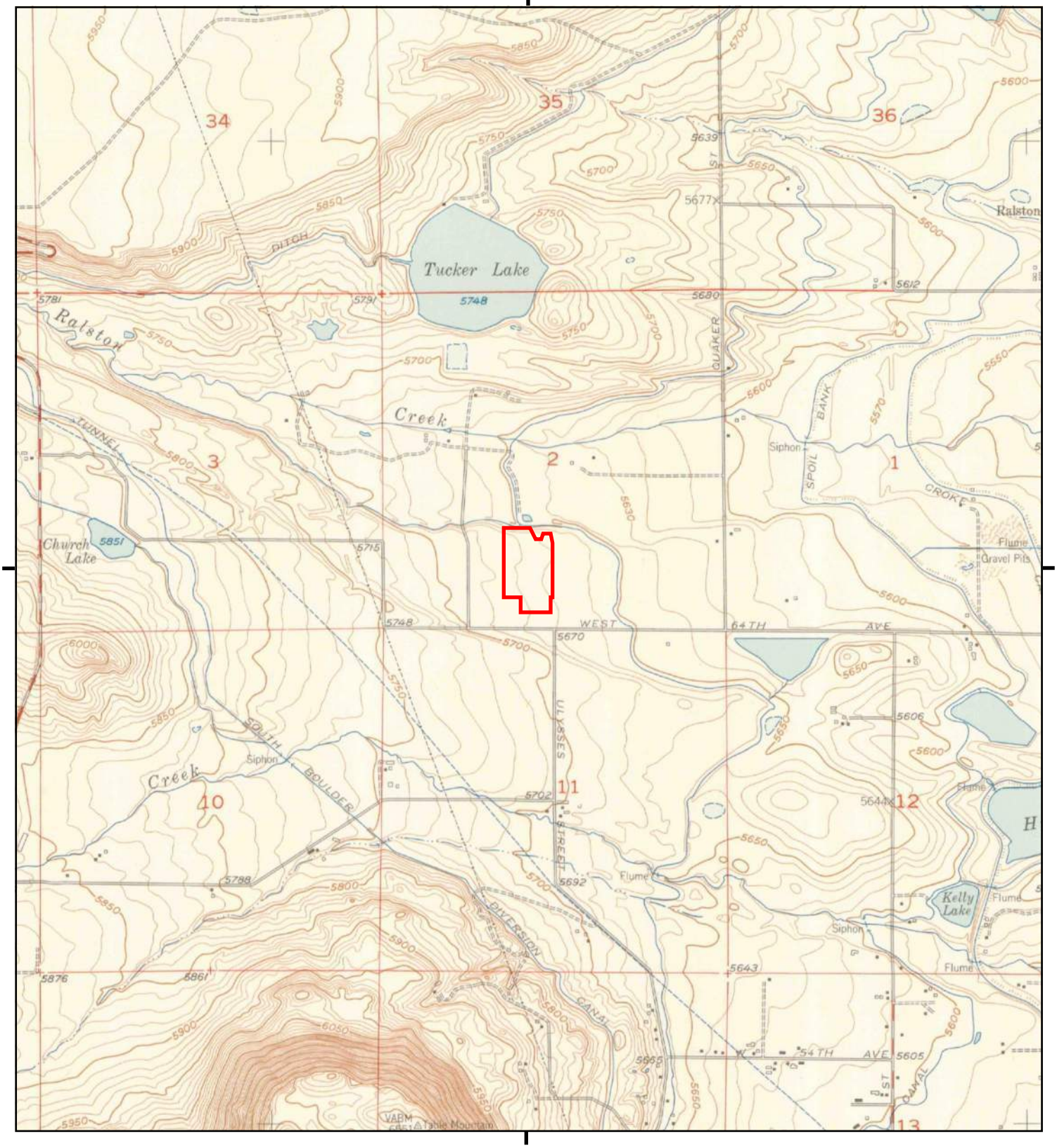
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Golden, 1965, 7.5-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

N



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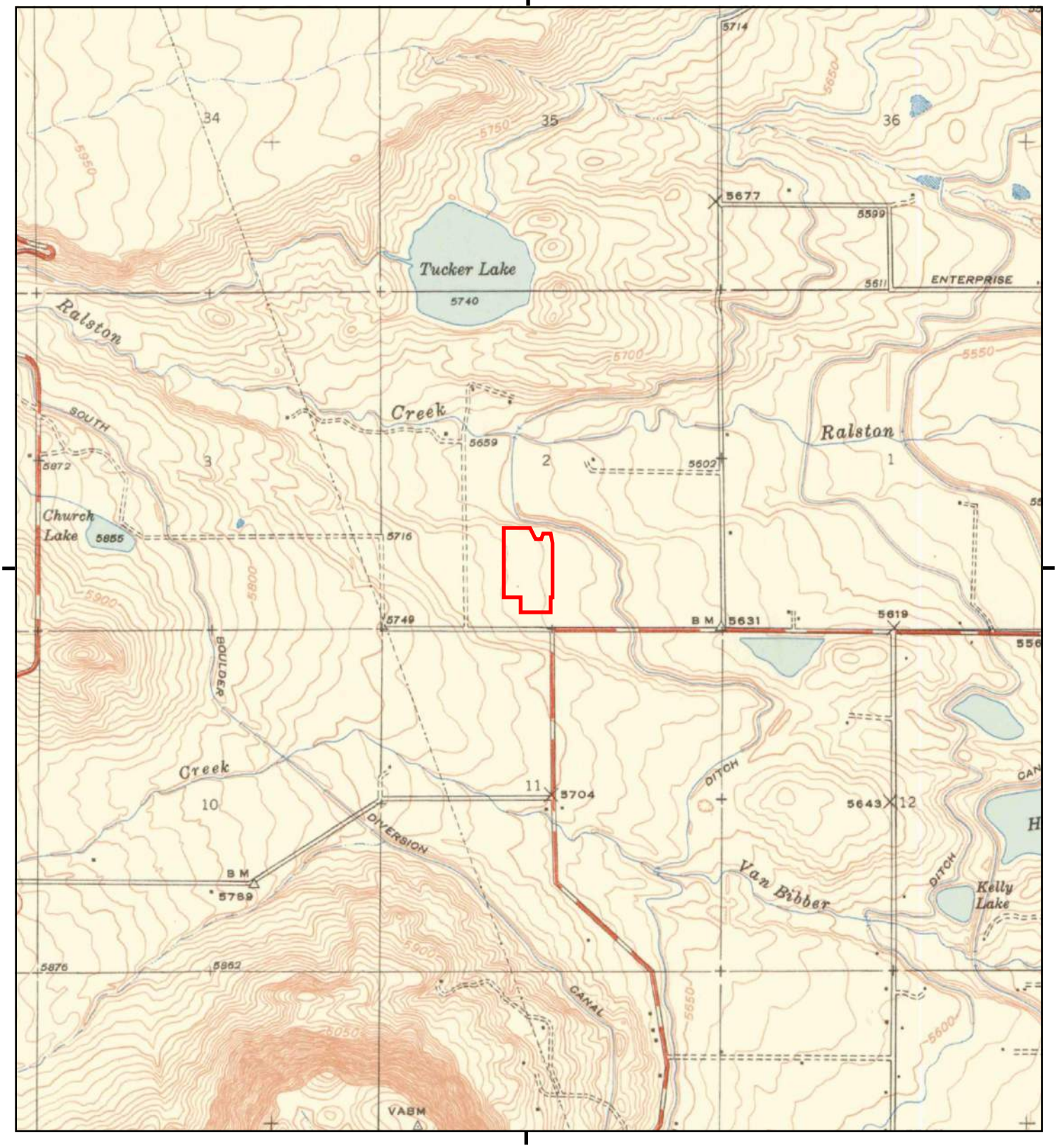
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Golden, 1957, 7.5-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

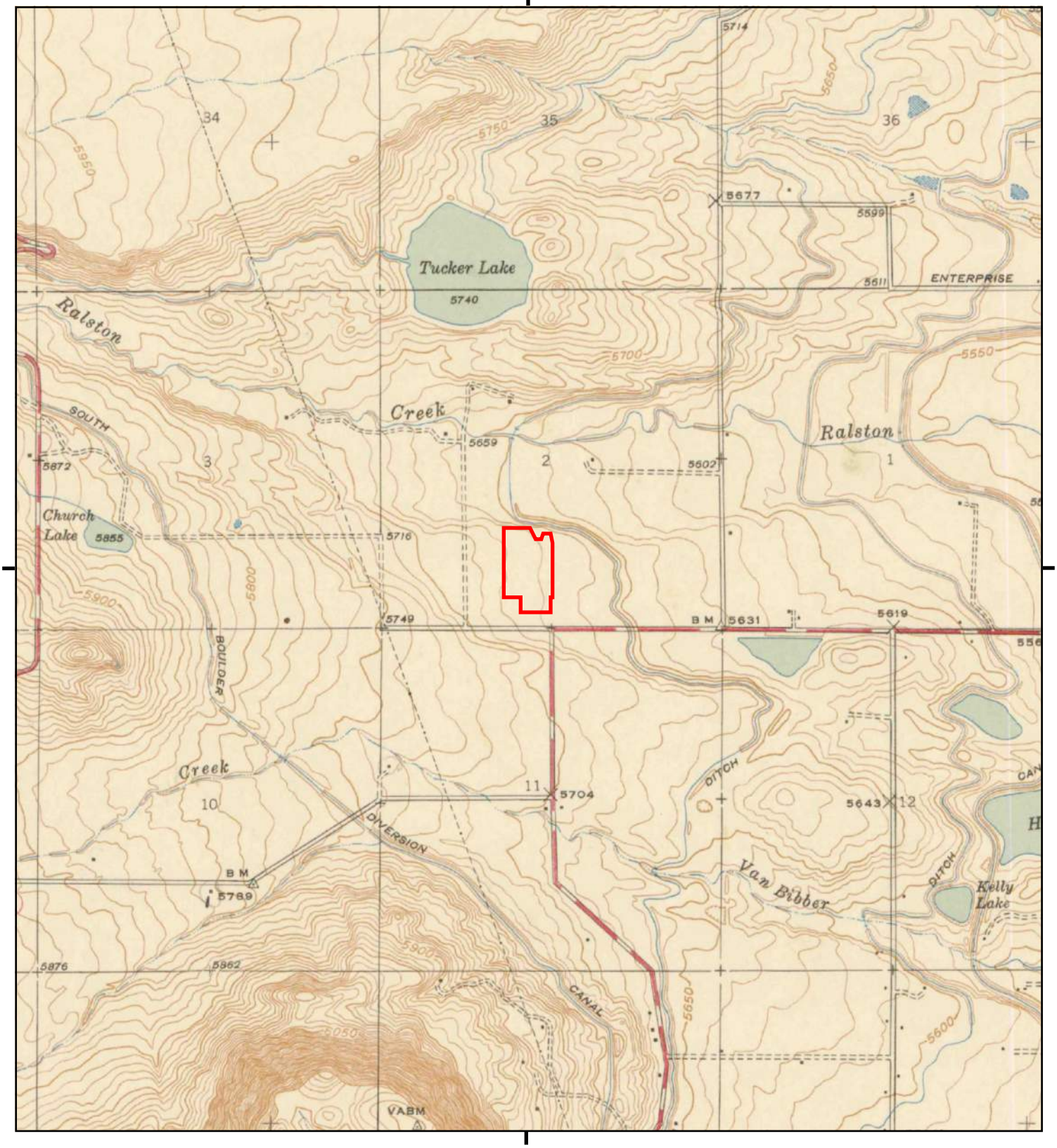
TP, Golden, 1944, 7.5-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

N

Historical Topo Map

1942



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0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

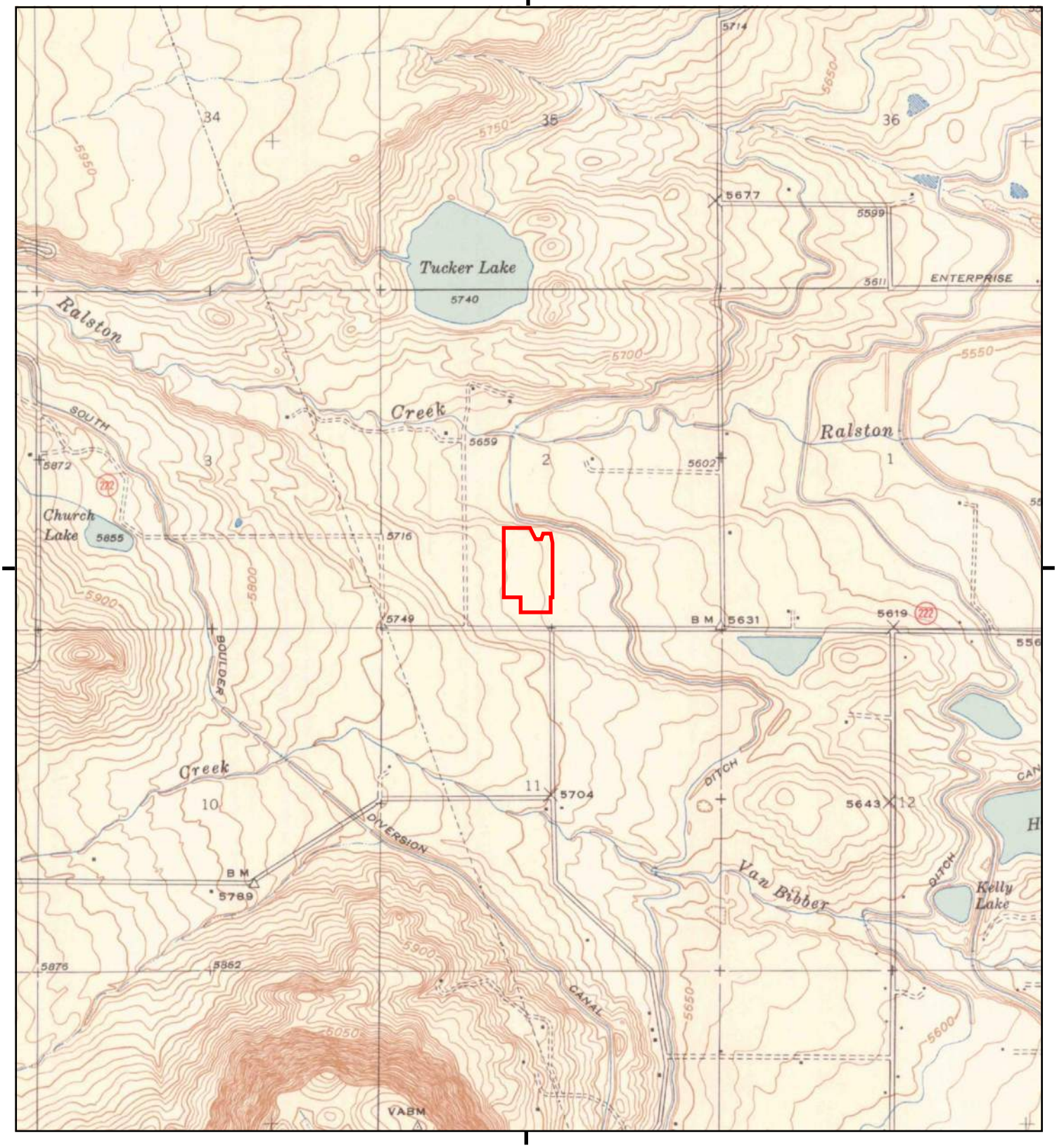
TP, Golden, 1942, 7.5-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

N

Historical Topo Map

1939



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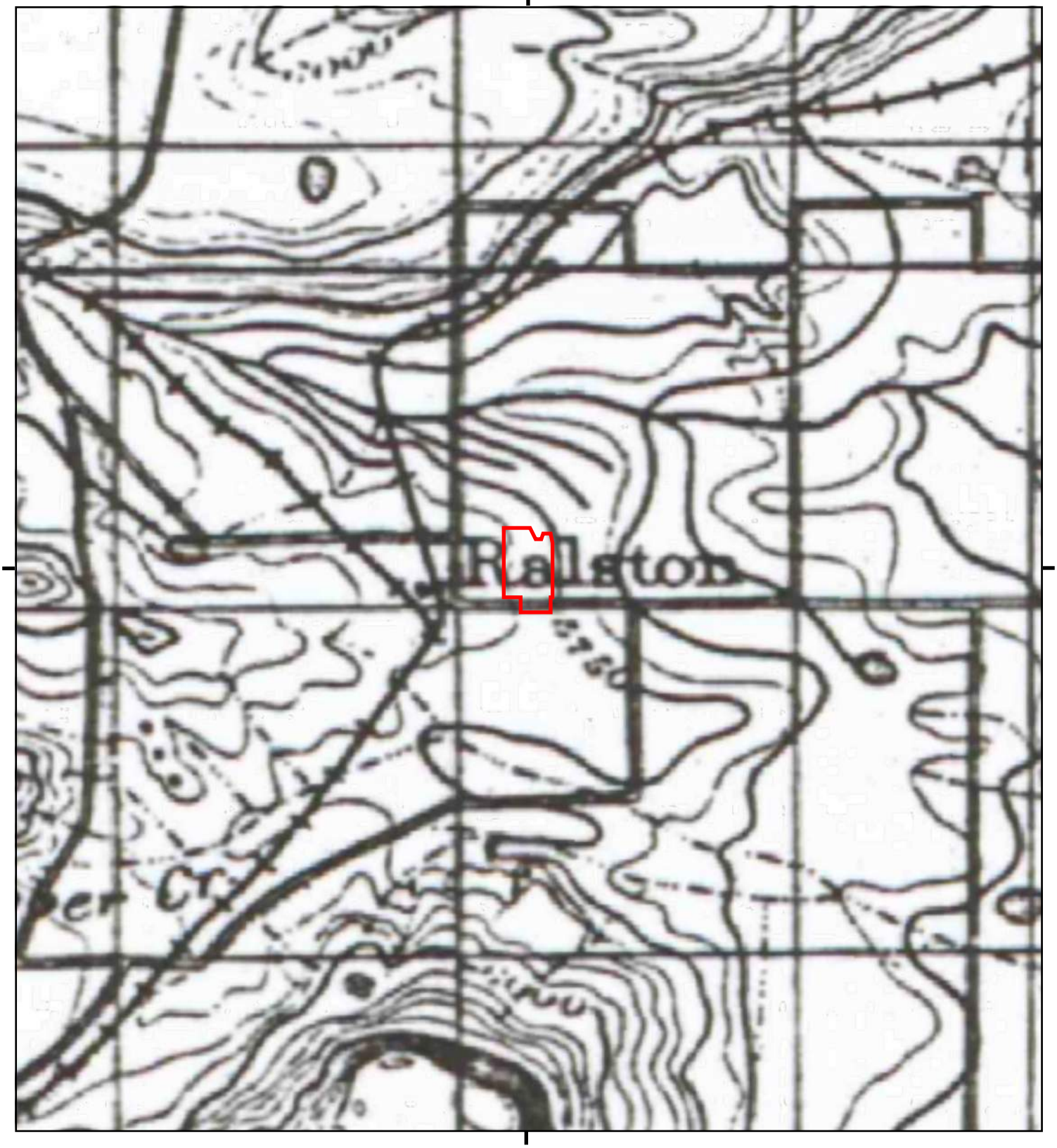
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Golden, 1939, 7.5-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, West Denver, 1899, 30-minute

SITE NAME: Welby Gardens Phase I ESA,
ADDRESS: 17201 West 64th Avenue
Arvada, CO 80007
CLIENT: Baseline Engineering Corporation

N

APPENDIX E

Water Well Information

COLORADO
Division of Water Resources
Department of Natural Resources

WELL PERMIT NUMBER 84879-F
RECEIPT NUMBER 10006837

ORIGINAL PERMIT APPLICANT(S)

YWAM FOUNDATION (WARREN, PETER)

APPROVED WELL LOCATION

Water Division: 1 Water District: 7
Designated Basin: N/A
Management District: N/A
County: JEFFERSON
Parcel Name: N/A
Physical Address: N/A

SE 1/4 SW 1/4 Section 2 Township 3.0 S Range 70.0 W Sixth P.M.

UTM COORDINATES (Meters, Zone: 13, NAD83)

Easting: 483423.0 Northing: 4407275.0

PERMIT TO USE AN EXISTING WELL

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT

CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.

2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.

3) Approved pursuant to CRS 37-90-137(4) and the decree granted in case nos. W-8366-76 and W-8366-79, expanded in case no. 94CW164 Division 1 Water Court. The operation of this well is subject to the terms and conditions of said decrees.

4) Approved for the expansion of use of an existing well permitted under permit no. 20627-F (decreed by the Division 1 Water Court as Veldkamp Well No. 1-020627-F, case no. W-8366-76 and W-8366-79, expanded in case no. 94CW164). Upon issuance of this permit well permit no. 20627-F was canceled by the order of the State Engineer.

5) The use of groundwater from this well combined with well no. 84878-F is limited to commercial, replacement and augmentation purposes.

6) Production is limited to the Laramie-Fox Hills aquifer.

7) The pumping rate of this well shall not exceed 150 GPM (as decreed in case no. 94CW164).

8) The average annual amount of groundwater to be withdrawn by this well in combination with well no. 84878-F shall not exceed 14.4 acre-feet and the total volume of groundwater to be withdrawn shall not exceed 1,440 acre-feet.

9) The owner shall mark the well in a conspicuous location with well permit number(s), name of the aquifer, and court case number(s) as appropriate. The owner shall take necessary means and precautions to preserve these markings.

10) A totalizing flow meter must be installed on this well and maintained in good working order. Permanent records of all diversions must be maintained by the well owner (recorded at least annually) and submitted to the Division Engineer upon request.

11) This well shall be located more than 600 feet from any existing well, completed in the same aquifer, that is not owned by the applicant.

12) This well shall be located not more than 200 feet from the location specified on this permit and not more than 200 feet from the location decreed for Veldkamp Well No. 1 in case nos. W-8366-76 and W-8366-79 (decreed location is 1,000 feet from the South section line and 2,520 feet from the West section line).

13) This well is subject to administration by the Division Engineer in accordance with applicable decrees, statutes, rules, and regulations.

NOTE: This well is withdrawing water from a non-renewable aquifer. While the withdrawals from this aquifer are administered based on a 100 year aquifer life, water level declines may prevent this well from diverting the permitted amounts for that 100 years.

WELL PERMIT NUMBER 84879-F **RECEIPT NUMBER 10006837**

Issued By IOANA COMANICIU

Date Issued: 11/10/2020

Expiration Date: N/A

COLORADO
Division of Water Resources
Department of Natural Resources

WELL PERMIT NUMBER 84878-F
RECEIPT NUMBER 10006836

ORIGINAL PERMIT APPLICANT(S)

YWAM FOUNDATION (PETER WARREN)

APPROVED WELL LOCATION

Water Division: 1 Water District: 7
Designated Basin: N/A
Management District: N/A
County: JEFFERSON
Parcel Name: N/A
Physical Address: N/A

SE 1/4 NW 1/4 Section 2 Township 3.0 S Range 70.0 W Sixth P.M.

UTM COORDINATES (Meters, Zone:13, NAD83)

Easting: 483238.0 Northing: 4407850.0

PERMIT TO CONSTRUCT A NEW WELL

ISSUANCE OF THIS PERMIT DOES NOT CONFER A WATER RIGHT
CONDITIONS OF APPROVAL

1) This well shall be used in such a way as to cause no material injury to existing water rights. The issuance of this permit does not ensure that no injury will occur to another vested water right or preclude another owner of a vested water right from seeking relief in a civil court action.
2) The construction of this well shall be in compliance with the Water Well Construction Rules 2 CCR 402-2, unless approval of a variance has been granted by the State Board of Examiners of Water Well Construction and Pump Installation Contractors in accordance with Rule 18.
3) Approved pursuant to CRS 37-90-137(4) and the decree granted in case no. 94CW164 Division 1 Water Court, as an additional well to well no. 20627-F (canceled and re-permitted under permit no. 84879-F; decreed by the Division 1 Water Court as Veldkamp Well No. 1-020627-F, case nos. W-8366-76 and W-8366-79, expanded in case no. 94CW164). The operation of this well is subject to the terms and conditions of said decree.
4) The use of groundwater from this well combined with well no. 84879-F is limited to commercial, replacement and augmentation purposes.
5) Production is limited to the Laramie-Fox Hills aquifer which is located approximately 900 feet below ground surface and extends to a depth of approximately 1150 feet. In accordance with Rule 10.4.8 of the Water Well Construction Rules, plain steel casing must be installed and grouted from the top of the permitted production zone up to at least ten feet above the base of the surface casing, or to the depth required by Rule 10.5.2.1, if no surface casing is installed. (NOTE: If coals and/or carbonaceous shales are encountered in the borehole, plain casing and grout should be installed through these intervals to exclude poor quality water from entering the well.)
6) The pumping rate of this well shall not exceed 150 GPM (as decreed in case no. 94CW164).
7) The average annual amount of groundwater to be withdrawn by this well in combination with well no. 84879-F shall not exceed 14.4 acre-feet and the total volume of groundwater to be withdrawn shall not exceed 1,440 acre-feet.
8) The entire length of the hole shall be geophysically logged as required by Rule 9 of the Statewide Nontributary Ground Water Rules prior to installing casing.
9) The owner shall mark the well in a conspicuous location with well permit number(s), name of the aquifer, and court case number(s) as appropriate. The owner shall take necessary means and precautions to preserve these markings.
10) A totalizing flow meter must be installed on this well and maintained in good working order. Permanent records of all diversions must be maintained by the well owner (recorded at least annually) and submitted to the Division Engineer upon request.
11) This well shall be constructed more than 600 feet from any existing well, completed in the same aquifer, that is not owned by the applicant.
12) This well shall be constructed not more than 200 feet from the location specified on this permit and not more than 200 feet from the location specified in case no. 94CW164 (2,860 feet from the South section line and 1,960 feet from the West section line).
13) This well is subject to administration by the Division Engineer in accordance with applicable decrees, statutes, rules, and regulations.

WELL PERMIT NUMBER 84878-F **RECEIPT NUMBER 10006836**

14) ADVANCE NOTICE REQUIRED - Pursuant to Construction Rule 6.2.2.1 (2 CCR 402-2), licensed or private drillers and pump installers must provide advance notification (by 11:59 pm the day before) to the State Engineer prior to each of the following for this well: the start of well construction, the initial installation of the first permanent pump, and the initial installation of a cistern connected to the water well supply system. Any change in the date of construction/installation must be re-noticed prior to the activity (by 11:59 pm the day before). Information regarding the notification process and a link to the electronic notification form can be found on the Division of Water Resources website at dwr.colorado.gov

NOTE: This well is withdrawing water from a non-renewable aquifer. While the withdrawals from this aquifer are administered based on a 100 year aquifer life, water level declines may prevent this well from diverting the permitted amounts for that 100 years.

NOTE: To ensure a maximum productive life of this well, perforated casing should be set through the entire producing interval of the approved zone or aquifer indicated above.

NOTE: This permit will expire on the expiration date unless the well is constructed and a pump is installed by that date. A Well Construction and Yield Estimate Report (GWS-31) and Pump Installation and Production Equipment Test Report (GWS-32) must be submitted to the Division of Water Resources to verify the well has been constructed and the pump has been installed. A one-time extension of the expiration date may be available. Contact the DWR for additional information or refer to the extension request form (GWS-64) available at: dwr.colorado.gov

NOTE: A hydrogeologic aquifer evaluation has been completed for this permit and the details of the evaluation can be viewed in the hydrogeologic aquifer evaluation imaged document and the original permit file.

NOTE: Permit no. 57785-F previously issued for this well was expired by the order of the State Engineer.

Issued By IOANA COMANICIU

Date Issued: 11/10/2020

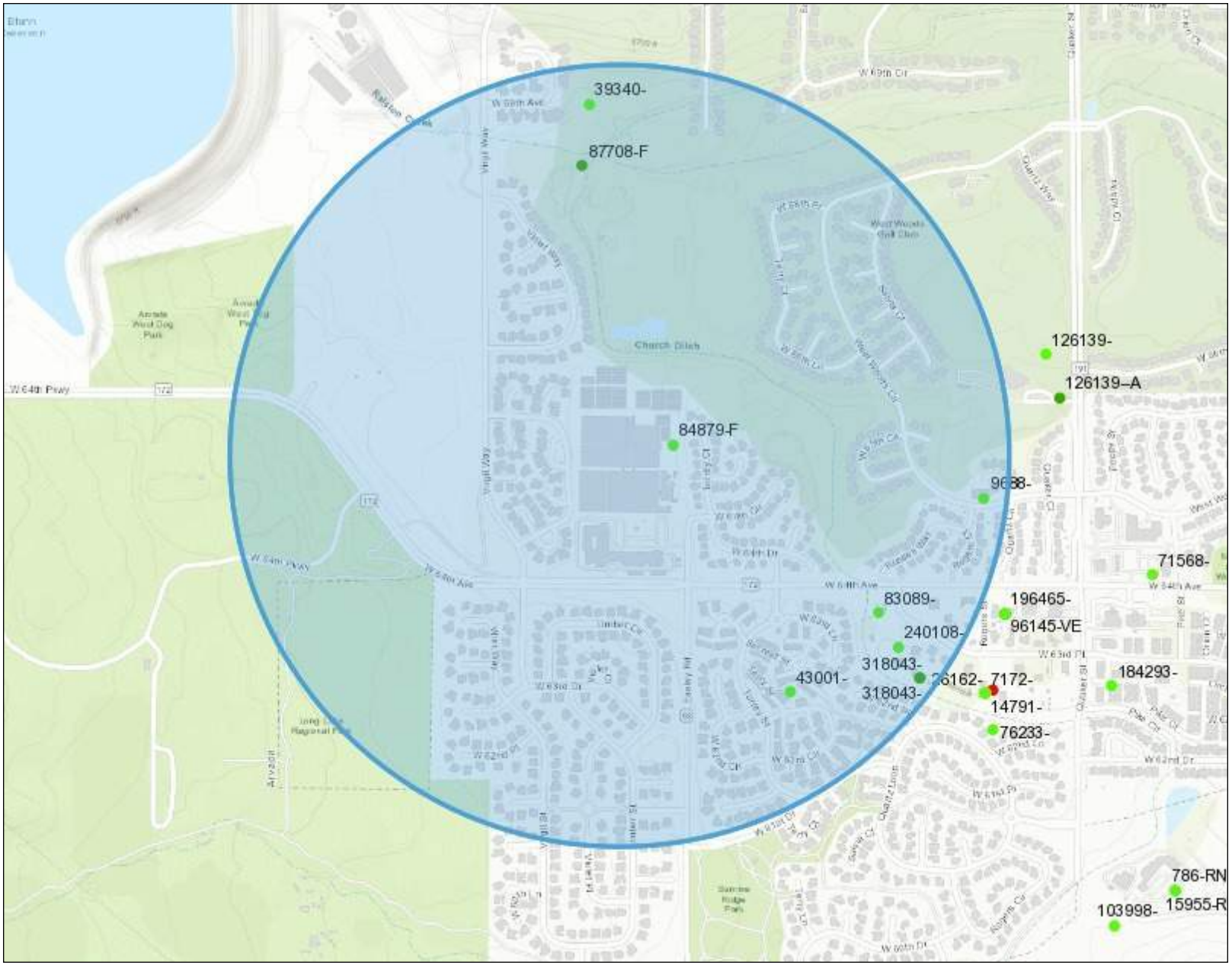
Expiration Date: 11/10/2022

PERMIT HISTORY

12-15-2022	PERMIT EXPIRED (SEE PERMIT NO. 87708-F)
11-09-2021	PERMIT EXTENDED

COLORADO'S
Decision Support Systems
CWCB / DWR

0.5 Mile Radius Map



Legend

- Well Constructed
- Permit Issued
- Well Abandoned
- OGCC Well
- Final Permit
- County
- Superfund Sites

Location

Notes

2,000 0 1,000 2,000 Feet

1: 12,000

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

Date Prepared: 11/20/2024 9:56:06 AM

TABLE E-1

CONSTRUCTED AND PERMITTED WELLS WITHIN ONE-HALF MILE OF THE SUBJECT PROPERTY
WELBY GARDENS
17201 WEST 64TH AVENUE, ARVADA, COLORADO 80007

Permit #	Current Status	Township	Range	Section	Q160	Q40	UTMX	UTMY	LatDecDeg	LongDecDeg	Use1	Use2	Aquifer1	WellConstructed	FirstBeneficial	PumpInstalled	WellDepth	Yield	StaticWL	ApplicantName
39340-	Well Constructed	3 S	70 W	2	NW	SE	483253.2	4407976.9	39.821622	-105.195692	Domestic		ALL UNNAMED AQUIFERS	10/20/1969	10/20/1969		60		24	WEALAND, R L
83089-	Well Constructed	3 S	70 W	11	NE	NW	483848.1	4406929.3	39.812192	-105.188717	Domestic		ALL UNNAMED AQUIFERS		5/31/1964					TINDELL, SUSAN
9688-	Well Constructed	3 S	70 W	2	SE	SE	484066.1	4407164.7	39.814319	-105.186175	Domestic		ARAPAHOE	9/20/1961	9/20/1961		507		40	GILKINSON JIM & JIM G
240108-	Well Constructed	3 S	70 W	11	NE	NE	483887.2	4406858.9	39.811562	-105.18826	Domestic		QUATERNARY ALLUVIUM		5/30/1956		22			ZIMMER FAMILY TRUST
43001-	Well Constructed	3 S	70 W	11	NE	NW	483664.2	4406766	39.810719	-105.19086	Domestic		ALL UNNAMED AQUIFERS		9/13/1970					BUER KATHY MISS
84879-F	Well Constructed	3 S	70 W	2	SW	SE	483423	4407275	39.815301	-105.193691	Augmentation	Commercial		5/14/1976		8/12/1977	1071	15	340	YWAM FOUNDATION (WARREN, PETER)

Permit #	Current Status	Township	Range	Section	Q160	Q40	UTMX	UTMY	LatDecDeg	LongDecDeg	Use1	Use2	Aquifer1	PermIssued	PermExpires	PumpInstalled	WellDepth	Yield	StaticWL	ApplicantName
318043-	Permit Issued	3 S	70 W	11	NE	NE	483932	4406794	39.810977	-105.187732	Domestic	Fire	QUATERNARY ALLUVIUM	7/22/2020						CHITIKILA, RAJ
318043-	Permit Issued	3 S	70 W	11	NE	NE	483932	4406794	39.810977	-105.187732	Domestic	Fire	QUATERNARY ALLUVIUM	7/22/2020						SEIDMAN, KIMBERLY
87708-F	Permit Issued	3 S	70 W	2	NW	SE	483238	4407850	39.820478	-105.195867	Augmentation	Commercial	LARAMIE-FOX HILLS	12/15/2022	11/20/2023					GREEK ORTHODOX METROPOLIS OF DENVER (HALAX, BILLY)

APPENDIX F

Site Photographs

SITE:	Welby Gardens	BASELINE	PROJECT NO.:	45033.02
LOCATION:	17201 W. 64th Avenue, Arvada, Colorado		VISIT DATE:	December 6, 2024

PHOTO NO. 1 DESCRIPTION:	Above Ground Storage Tank (AST) farm located on southeast side of the Subject Property. View is looking west from the east Subject Property boundary.

PHOTO NO. 2 DESCRIPTION:	North end of AST farm. These 4 ASTs are not in use. The 3 ASTs on the left formerly contained water from the deep well located onsite. Former gasoline AST on the right.

SITE:	Welby Gardens	BASELINE	PROJECT NO.:	45033.02
LOCATION:	17201 W. 64th Avenue, Arvada, Colorado		VISIT DATE:	December 6, 2024

PHOTO NO. 3 DESCRIPTION:	Former gasoline AST and dispenser. Not used since Welby Gardens' purchase in 2003. No visible evidence of spillage, View is to the east.

PHOTO NO. 4 DESCRIPTION:	Former diesel dispenser located on the west side of the 12,000 gallon diesel AST, west side of tank farm.

SITE:	Welby Gardens	BASELINE	PROJECT NO.:	45033.02
LOCATION:	17201 W. 64th Avenue, Arvada, Colorado		VISIT DATE:	December 6, 2024

PHOTO NO. 5 DESCRIPTION:	Diesel staining beneath former dispenser, west side of tank farm.

PHOTO NO. 6 DESCRIPTION:	Mobile 250-gallon diesel AST. Located on the west side of the tank farm.

PHOTO NO. 7 DESCRIPTION:	Main natural gas entry to Boiler Room. Located to the west of the tank farm.

PHOTO NO. 8 DESCRIPTION:	Storage of old tires, batteries, and empty 5-gallon buckets. Located outside the maintenance shop on the east side of the Subject Property. No staining evident.

PHOTO NO. 9 DESCRIPTION:	5-gallon buckets containing waste oil or hydraulic oil. Limited staining evident.

PHOTO NO. 10 DESCRIPTION:	Propane storage area. Used for space heating.

PHOTO NO. 11 DESCRIPTION:	55-gallon transmission/hydraulic oil.

PHOTO NO. 12 DESCRIPTION:	500 gallon waste oil AST located in the northwest portion of the Subject Property.

PHOTO NO. 13 DESCRIPTION:	Waste oil staining near 500-gallon AST.

PHOTO NO. 14 DESCRIPTION:	Miscellaneous metal storage located in the northwest corner of the Subject Property. View is to the north.

PHOTO NO. 15 DESCRIPTION:	Closeup of miscellaneous metal storage located in the northwest corner of the Subject Property.

PHOTO NO. 16 DESCRIPTION:	Miscellaneous metal storage located in the northwest corner of the Subject Property. View is to the west.

PHOTO NO. 17 DESCRIPTION:	Miscellaneous metal and plastic storage located along the west boundary of the Subject Property. View is to the north.

PHOTO NO. 18 DESCRIPTION:	Miscellaneous metal and plastic storage located along the west boundary of the Subject Property. View is to the south.

PHOTO NO. 19 DESCRIPTION:	Miscellaneous metal and plastic sprinkler storage located in the northwest area of the Subject Property. View is to the south.

PHOTO NO. 20 DESCRIPTION:	Plastic panel sheet storage in an area between the north green house and hoop houses. North side of the Subject Property.

PHOTO NO. 21 DESCRIPTION:	Miscellaneous electrical parts. West side of the Subject Property.

PHOTO NO. 22 DESCRIPTION:	Hurst natural gas boiler. Water heated and then moved throughout the green house complex for heat. Boiler room located on the east side of the Subject Property.

PHOTO NO. 23 DESCRIPTION:	Two of the older boiler units and pumping equipment.

PHOTO NO. 24 DESCRIPTION:	Indoor 12,000 gallon water AST located in the boiler room. Water supplied by the City of Arvada.

PHOTO NO. 25 DESCRIPTION:	Example of safety postings.

PHOTO NO. 26 DESCRIPTION:	Example of safety postings.

PHOTO NO. 27 DESCRIPTION:	Example of safety postings.

PHOTO NO. 28 DESCRIPTION:	Condensate tank.

PHOTO NO. 29 DESCRIPTION:	Dosing/mixing tank near northern most septic system.

PHOTO NO. 30 DESCRIPTION:	Emergency backup electric generator.

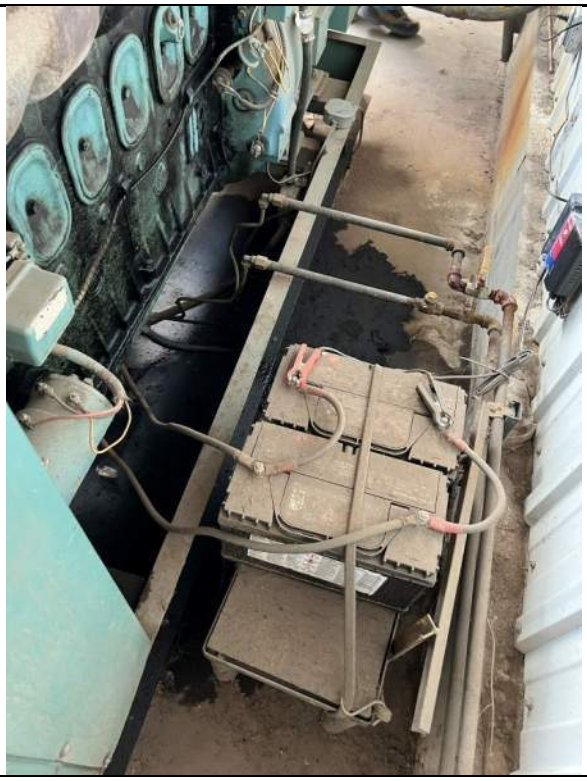


PHOTO NO. 31 DESCRIPTION:	Backup generator batteries and oil spill on concrete.

PHOTO NO. 32 DESCRIPTION:	Fertilizer storage and mixing units.

PHOTO NO. 33 DESCRIPTION:	Manifold for mixed fertilizer and water distribution.

PHOTO NO. 34 DESCRIPTION:	Manifold for mixed fertilizer and water distribution.

PHOTO NO. 35 DESCRIPTION:	Large air compressors for distributing the fertilizer/water mixture to the green houses.

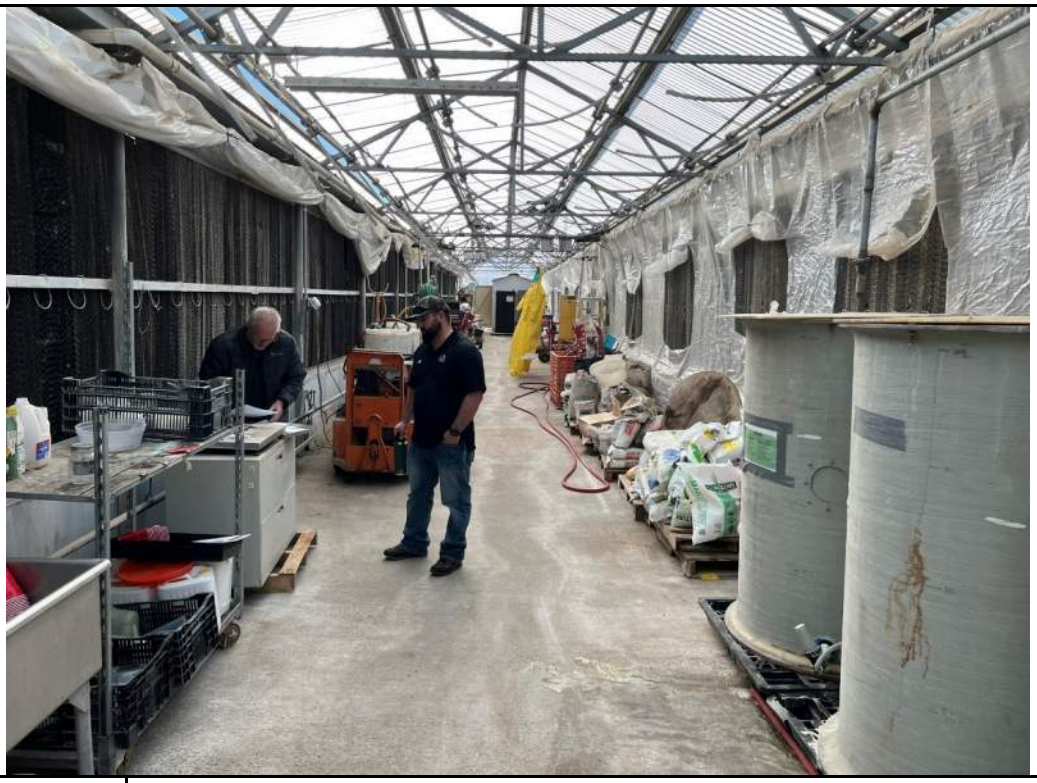


PHOTO NO. 36 DESCRIPTION:	Pesticide and herbicide mixing area.

PHOTO NO. 37 DESCRIPTION:	Broken bags of fertilizer.

PHOTO NO. 38 DESCRIPTION:	Fertilizer storage.

PHOTO NO. 39 DESCRIPTION:	Fertilizer mixing area.

PHOTO NO. 40 DESCRIPTION:	Drainage cut into the concrete foundation in the fertilizer mixing area. Note greenish color of sediment.

PHOTO NO. 41 DESCRIPTION:	Herbicide mixing area.

PHOTO NO. 42 DESCRIPTION:	Herbicide/pesticide mixing area.

PHOTO NO. 43 DESCRIPTION:	Herbicide and cleaning storage.

PHOTO NO. 44 DESCRIPTION:	Pesticide and herbicides stored on shelving inside containment/storage shed.

PHOTO NO. 45 DESCRIPTION:	Pesticide and herbicides stored on shelving inside containment/storage shed.

PHOTO NO. 46 DESCRIPTION:	Plant potting - production area.

PHOTO NO. 47 DESCRIPTION:	Plant potting equipment.

PHOTO NO. 48 DESCRIPTION:	Plant potting equipment.

PHOTO NO. 49 DESCRIPTION:	Hinged plastic panels for water cooling of green houses

PHOTO NO. 50 DESCRIPTION:	Water collection sump from water cooling (swamp cooler) system.

PHOTO NO. 51 DESCRIPTION:	Water collection sump from water cooling (swamp cooler) system.

PHOTO NO. 52 DESCRIPTION:	Water collection grate in foundation floor.

PHOTO NO. 53 DESCRIPTION:	Example of green house watering system. Tubing hanging down is a spray for smaller potted plant. Tubing on the table is for watering individual large plants.

PHOTO NO. 54 DESCRIPTION:	Maintenance room.

PHOTO NO. 55 DESCRIPTION:	Maintenance room. Flammable storage cabinet on left.

PHOTO NO. 56 DESCRIPTION:	Maintenance room. Absorbent spill cleanup material on floor.

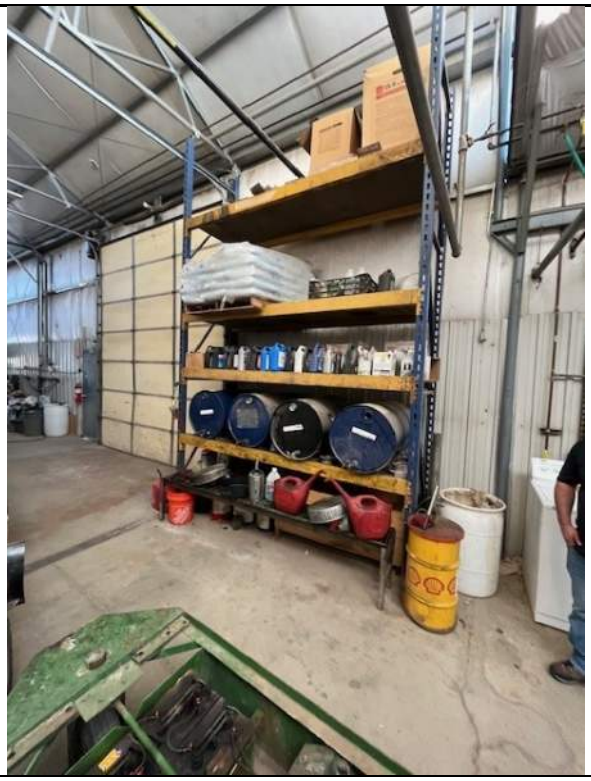


PHOTO NO. 57 DESCRIPTION:	Maintenance room 55-gallon drums of hydraulic oil, smaller containers of oil, oil change pans, etc.

PHOTO NO. 58 DESCRIPTION:	Maintenance room. Minor oil staining.

PHOTO NO. 59 DESCRIPTION:	Maintenance room.

PHOTO NO. 60 DESCRIPTION:	Break room.

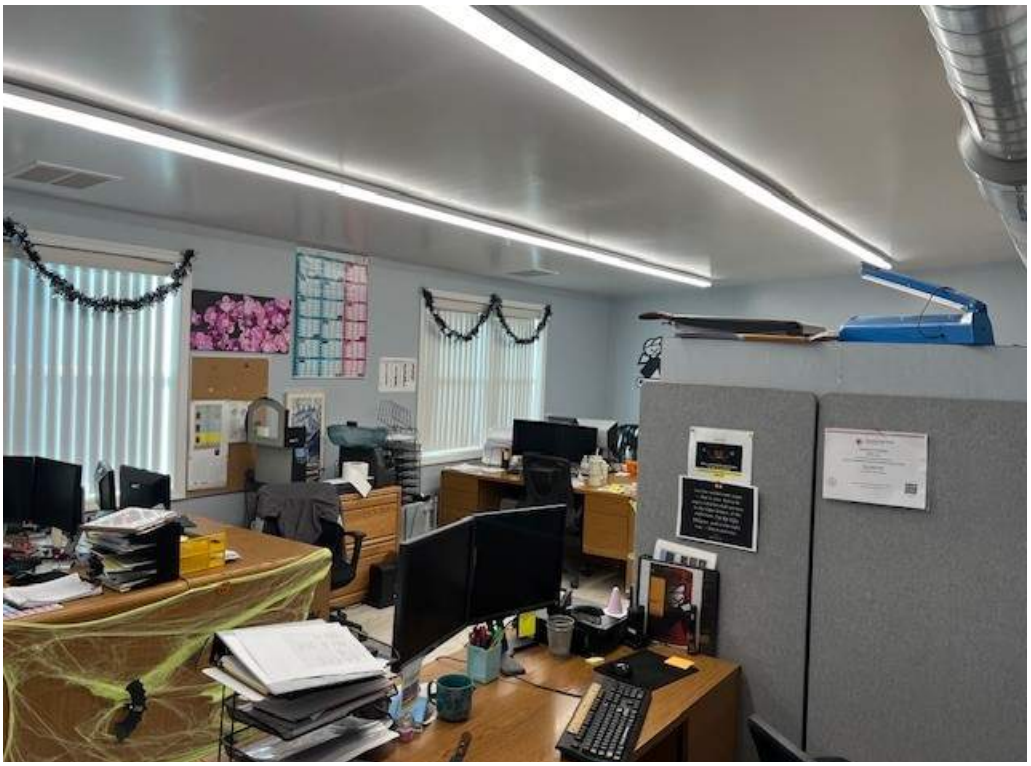


PHOTO NO. 61 DESCRIPTION:	Office – sales area.

PHOTO NO. 62 DESCRIPTION:	Stormwater runoff ditch and grate.

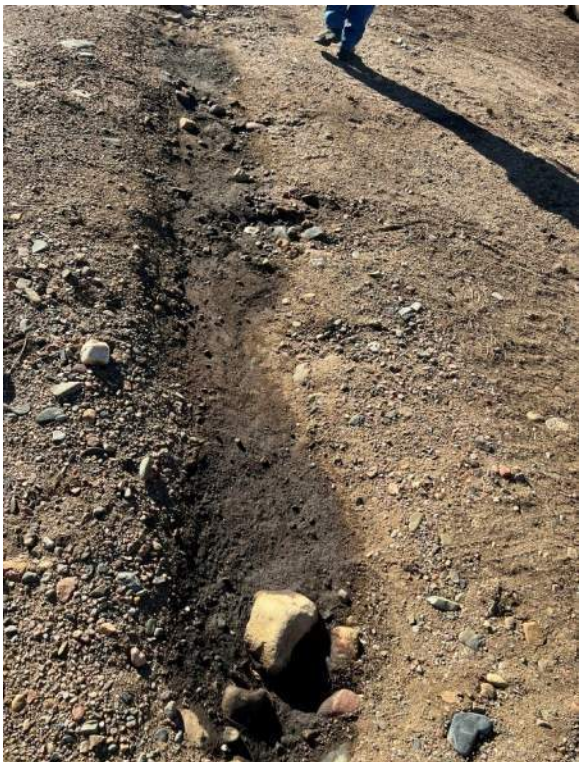


PHOTO NO. 63 DESCRIPTION:	Stormwater runoff ditch showing oil staining. Near 500-gallon waste oil AST on the northwest side of the Subject Property.

PHOTO NO. 64 DESCRIPTION:	Stormwater collection grate to underground system.

SITE:	Welby Gardens	BASELINE	PROJECT NO.:	45033.02
LOCATION:	17201 W. 64th Avenue, Arvada, Colorado		VISIT DATE:	December 6, 2024

PHOTO NO. 65 DESCRIPTION:	Stormwater collection grate to underground system.

PHOTO NO. 66 DESCRIPTION:	Main retention pond area in the northeast corner.

PHOTO NO. 67 DESCRIPTION:	Retention pond between green houses with wetland vegetation.

PHOTO NO. 68 DESCRIPTION:	Pad mounted transformer near the front office and break room area.

PHOTO NO. 69 DESCRIPTION:	Pole mounted transformers.

PHOTO NO. 70 DESCRIPTION:	Creosote coating on electrical power pole.

PHOTO NO. 71 DESCRIPTION:	Example of potential asbestos-containing material on piping.

PHOTO NO. 72 DESCRIPTION:	Example of potential asbestos-containing material on piping.

PHOTO NO. 73 DESCRIPTION:	Fire hydrant on west boundary of the Subject Property. The main fire line runs north-south along the west side.

PHOTO NO. 74 DESCRIPTION:	Fire hydrant on southwest corner of the Subject Property.

SITE:	Welby Gardens	BASELINE	PROJECT NO.:	45033.02
LOCATION:	17201 W. 64th Avenue, Arvada, Colorado		VISIT DATE:	December 6, 2024

PHOTO NO. 75 DESCRIPTION:	Manhole to former septic system that serviced the offices.

APPENDIX G

Resumes of Environmental Professionals

TERRY MCGOWAN, PG

SENIOR CONSULTANT

EXPERTISE

Site Assessment and Characteri zation
Groundwater Assessment & Redmediation
Hazardous & Solid Waste Management
Phase I/II Enviromental Site Assessments
Project Specific Health & Safety Issues
Regulatory Compliance

EDUCATION:

BS in Geology
Colorado State University, Fort Collins, CO

CERTIFICATIONS:

40 HAZWOPER Certified

REGISTRATIONS:

State of Wisconsin
Professional Geologist
Registration No. 912

State of Wyoming
Professional Geologist
Registration No. PG-662

State of Colorado
Professional Environmental Scientist
Registration No. 5223

BASELINE ENGINEERING CORPORATION
112 N. Rubey Drive, #210
Golden, Colorado 80403
303.940.9966
www.baselinecorp.com

SUMMARY

Terry has over 40 years of professional experience in hydrogeology and geology. His experience includes site assessment and characterization; design and implementation of surface-water, groundwater, and stormwater monitoring programs; groundwater assessment and remediation; hazardous and solid waste management; Phase I/II Environmental Site Assessments; project specific health and safety issues; and regulatory compliance. As a result of the numerous projects completed, Terry has considerable experience in interfacing and negotiations with city, county, state, and federal regulatory personnel.

PROJECT EXPERIENCE

Casey Resources Inc. | Wheat Ridge, Colorado

Terry served as a project manager for investigations at a former dry cleaning operation located in a strip mall adjacent to a large grocery market. Terry designed and completed the site investigations which included installation of boreholes and monitoring wells in fractured and weathered bedrock units. An Integrated Corrective Action Plan (ICAP) was prepared and approved by the Colorado Department of Public Health and Environment (CDPHE). Indoor soil removal was completed in 2006 and in-situ oxidation of groundwater and soil impacts was completed in May 2007.

Brighton Boulevard | Wheat Ridge, Colorado

Terry completed limited Phase II ESA subsurface investigations for potential development property along Brighton Boulevard. The project included drilling of soil borings, installation of monitoring wells, and collection of soil and groundwater samples for laboratory analysis. The results of the field program indicated that the site is underlain by fill materials that contain elevated metal concentrations as well as polynuclear aromatic hydrocarbons (PAHs). Recommendations to the developer were either to cap the site (ground level parking with slab on grade construction), or if underground parking was constructed, to properly dispose the excavated materials at a Subtitle D facility, and that a VCUP should be prepared in order to obtain CDPHE approval of the remedial action, which would assist in acquiring financing for the project.

William's Creek | Wheat Ridge, Colorado

Project manager and principal investigator for investigations at a former ranch that formerly used pesticides for cattle pest control and a leaking underground storage tank. Field investigations were completed to define the areal extent and depth of both soil and groundwater contamination. The field investigations included the drilling of soil borings, installation of monitoring wells, and collection of surface soil, surface water, and subsurface soil samples. Based on these investigations, CRI established the following: 1) petroleum and organochlorine pesticides had not impacted the adjacent Williams Creek, 2) the organochlorine pesticide impact was limited in depth and areal extent and could be managed (remediated) onsite, and 3) the petroleum hydrocarbon impact was naturally degrading with time. A Voluntary Cleanup Plan Application was prepared and submitted to the Colorado Department of Public Health and Environment (CDPHE) and outlined the capping of organochlorine pesticide soils and monitoring of the petroleum impact to show that the impact is naturally degrading. Approval of the Application was received from CDPHE; however, the VCUP implementation was completed by others.

VINCENT BARLOCK, CPG
ENVIRONMENTAL DIVISION MANAGER

EXPERTISE
Strategic Planning & Business Development in Environmental Remediation
Technical Proficiency in Groundwater Treatment & Remediation Technologies
Leadership & Management of Multidisciplinary Teams
Innovation & Implementation of Cost-Saving Strategies in Project Management

EDUCATION:
MS in Geology
San Jose State University & Joint Thesis Program with Stanford University, CA

BA in Geology
University of Northern Colorado, Greeley, CO

CERTIFICATIONS:
MSHA: New Miner Orientation Certification No. 9832: 2020
Technical Erosion Control Supervisor Certification (TECS) No. 5C88A5C8. 2020
PEC Premier: Safe Land Oil &Gas Safety Certification #100128200, 2011
HAZWOPER 8-Hour OSHA Supervisors Certification, 1993
HAZWOPER 40-Hour OSHA Health & Safety Certification (29 CFR 1910.120e), 1990
HAZWOPER 8-Hour OSHA Refresher Certification, 2023

REGISTRATIONS:
State of California, Professional Geologist Registration No. 6391
State of Louisiana, Professional Geologist Registration No. 238
State of Nebraska. Professional Geologist Registration No. G-0290
State of Texas, Professional Geologist Registration No. 10007

BASELINE ENGINEERING CORPORATION
112 N. Rubey Drive, #210
Golden, Colorado 80403
303.940.9966
www.baselinecorp.com

SUMMARY
Vincent is a licensed professional geologist with over 35 years of professional consulting and management experience in the environmental arena. His experience covers the full spectrum of environmental and hydrogeologic remediation services for private, industrial, solid waste, mining, construction, brownfield, and oil & gas (O&G) industries. Exhibiting remarkable leadership and expertise in environmental remediation, Vincent has seamlessly navigated various roles with ingenuity and vision. He spearheaded the expansion of business segments in mining and O&G industries, driving substantial revenue growth and project success through adept staff management and strategic planning. At other organizations, he demonstrated his proficiency in establishing and expanding divisions, fostering revenue streams, and implementing innovative technologies to optimize operations and elevate profitability. Moreover, his tenure underscored his strategic acumen, leading to significant staff and revenue growth, pioneering new service lines, and securing major projects through collaborative initiatives and technological advancements. Throughout his career, he has consistently showcased a dedication to excellence, innovation, and client satisfaction, positioning himself as a visionary leader within the environmental remediation sector.

PROJECT EXPERIENCE
Weaver Consultants Group LLC | Denver, Colorado
As director, Vincent was responsible for the oversight of senior management, technical staff, budgets, and support on corporate strategic planning, as well as providing remedial guidance and direction on the enhanced in-situ reductive dechlorination cleanup associated with chlorinated solvent, haloether, and heavy metal release sites in complex hydrogeologic settings in Puerto Rico, Arkansas, and Colorado.

Iron Woman Construction & Environmental Services LLC | Centennial, Colorado
As director, Vincent expanded the environmental services and remediation division, increasing win-ratios for contracts through strategic marketing and enhanced technical proposal writing. He also developed a new environmental permitting and compliance group, contributing to the success of high-profile projects. He also managed the pre-construction permitting and coordination for the $4.3M closure of the Adams County Shooting Range and Landfill.

USA Environment LP | Golden, Colorado
As regional manager, he took charge of pioneering new business segments tailored for the mining and O&G sectors within the Western Region. Through strategic initiatives, including staff training and skill enhancement, he facilitated the successful execution of multimillion-dollar projects, resulting in notable revenue growth. His proactive leadership not only optimized project outcomes but also strengthened the company's position within the industry, solidifying its reputation for delivering exceptional environmental remediation solutions.

Vista GeoScience | Golden, Colorado
As director of remediation and hydrogeologic services, he established a new division catering to the O&G industry, driving additional revenue streams and expanding the company's remedial technologies suite.

Pelorus Environmental & Biotechnology Corporation | Evergreen, Colorado
As director, he created a Remediation and Groundwater Treatment Services Division, increasing revenue and expanding staff significantly while implementing cost-saving project management strategies.

SECOR International | Denver, Colorado
As principal-in-charge, he effectively managed significant growth, expanded service lines, and secured major projects through innovative approaches, earning recognition for outstanding leadership and performance.

PREPARED FOR:
AVALONBAY COMMUNITIES, INC.
C/O ANDREW JOHNSON - SENIOR DEVELOPMENT MANAGER
5050 SOUTH SYRACUSE STREET, SUITE 1025
DENVER, CO. 80237

LIMITED PHASE II INVESTIGATION REPORT

WELBY GARDENS WHOLESALE CENTER

17201 WEST 64TH AVE.,
ARVADA, CO. 80007

PREPARED BY:
BASELINE ENGINEERING CORPORATION
112 N. RUBEY DRIVE, SUITE 210
GOLDEN, CO 80403

October 17, 2025

JOB # 45038-003

BASELINE

TABLE OF CONTENTS

SECTION **PAGE**

1.0 INTRODUCTION 1
2.0 INTENT OF THE INVESTIGATION 1
3.0 PROPERTY INFORMATION 2
4.0 SITE HISTORY 2
5.0 FIELD INVESTIGATION PROCEDURES 3
5.1 UTILITY LOCATES 3
5.2 PERMITTING 3
5.3 SOIL BORING PROCEDURES 3
5.3.1 Track-Mounted Drilling Rig - Soil Boring Procedures 5
5.3.2 Hand Augered Soil Boring Procedures 6
5.3.3 Post-Hole Power Auger Soil Boring Procedures 6
5.4 FIELD SCREENING OF SOIL 6
5.5 SOIL SAMPLE ANALYSIS 6
5.6 GROUNDWATER MONITORING WELLS 8
5.6.1 Monitoring Well Installation 8
5.6.2 Monitoring Well Sampling 8
6.0 FIELD INVESTIGATION RESULTS 9
6.1 PHYSICAL RESULTS 9
6.1.1 Lithology 10
6.1.2 Field Screening Results 10
6.1.3 Groundwater Occurrence 11
6.1.4 Groundwater Quality Field Parameters 11
6.2 SOIL SAMPLE ANALYTICAL RESULTS 12
6.2.1 Pesticides 12
6.2.2 Chlorinated Acid Herbicides 13
6.2.3 RCRA 8 Metals 13
6.2.4 Volatile Organic Compounds (VOCs) 13

TABLE OF CONTENTS

SECTION **PAGE**

6.2.5 Total Petroleum Hydrocarbons (TPH) 13
6.2.6 pH, Nitrate as N, and Sulfate 14
6.3 GROUNDWATER SAMPLE ANALYTICAL RESULTS 14
6.3.1 Dissolved RCRA 8 Metals 14
6.3.2 Nitrate and Sulfate 15
6.3.3 PFAS (Perfluoroalkyl or Polyfluoroalkyl Substances) 15
6.4 DISPOSITION OF INVESTIGATION DERIVED WASTES 16
7.0 CONCLUSIONS 16
8.0 REFERENCES 18

LIST OF TABLES

Table 1 Groundwater and Bedrock Elevation Data
Table 2-A Soil Analytical Results - Pesticides
Table 2-B Soil Analytical Results - Pesticides
Table 2-C Soil Analytical Results - Pesticides
Table 2-D Soil Analytical Results - Pesticides
Table 2-E Soil Analytical Results - Pesticides
Table 2-F Soil Analytical Results - Pesticides
Table 3-A Soil Analytical Results – Chlorinated Acid Herbicides
Table 3-B Soil Analytical Results – Chlorinated Acid Herbicides
Table 3-C Soil Analytical Results – Chlorinated Acid Herbicides
Table 3-D Soil Analytical Results – Chlorinated Acid Herbicides
Table 3-E Soil Analytical Results – Chlorinated Acid Herbicides
Table 3-F Soil Analytical Results – Chlorinated Acid Herbicides
Table 4-A Soil Analytical Results – Resource Conservation and Recovery Act (RCRA) Metals
Table 4-B Soil Analytical Results – Resource Conservation and Recovery Act (RCRA) Metals
Table 4-C Soil Analytical Results – Resource Conservation and Recovery Act (RCRA) Metals
Table 4-D Soil Analytical Results – Resource Conservation and Recovery Act (RCRA) Metals
Table 5 Soil Analytical Results - Volatile Organic Compounds
Table 6 Soil Analytical Results – Total Petroleum Hydrocarbons
Table 7 Soil Analytical Results – pH, Nitrate as N, and Sulfate
Table 8 Groundwater Analytical Results - Pesticides
Table 9 Groundwater Analytical Results – Chlorinated Acid Herbicides

LIST OF TABLES (Continued)

Table 10 Groundwater Analytical Results - Volatile Organic Compounds and 1,4 Dioxane
Table 11 Groundwater Analytical Results - Resource Conservation and Recovery Act (RCRA) Metals
Table 12 Groundwater Analytical Results – Cations and Anions

LIST OF FIGURES

Figure 1 Site Vicinity Map
Figure 2 Property Map
Figure 3 Soil Boring and Monitoring Well Location Map
Figure 4 Bedrock Elevation Contour Map
Figure 5 Groundwater Elevation Contour Map for January 23, 2025
Figure 6 Dieldrin Concentrations in Soil

LIST OF APPENDICES

Appendix A State Engineer Records
Appendix B Borehole Log/Monitoring Well Completion Diagrams
Appendix C Development, Purge, and Sampling Records
Appendix D Laboratory Analytical Reports for Soil Samples
Appendix E Laboratory Analytical Reports for Groundwater Samples
Appendix F Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) Sampling Protocol

LIST OF ACRONYMS AND DEFINITIONS

ACM	Asbestos-Containing Material
AMSL	Above Mean Sea Level
AST	Above Ground Storage Tank
AvalonBay	AvalonBay Communities, Inc.
Baseline	Baseline Engineering Corporation
bgs	Below Ground Surface
CDPHE	Colorado Department of Public Health and Environment
COC	Chain of Custody
Cole Garner	Cole Garner Geotechnical
CGS	Colorado Groundwater Standards
DOT	Department of Transportation
4,4-DDE	Dichlorodiphenyldichloroethylene, p,p'
2,4-D	Dichlorophenoxyacetic Acid
DRO	Diesel Range Organics
DWS	Drinking Water Standards
EPA	United States Environmental Protection Agency
ESA	Environmental Site Assessment
ft^2	Square Feet
GPRS	GPRS, Inc.
GRO	Gasoline Range Organics
Herbicides	Chlorinated Acid Herbicides
IDW	Investigation Derived Waste
J	An Estimated Concentration
MDL	Method Detection Limit
mg/kg	Milligram per Kilogram
mg/L	Milligram per Liter
MTBE	Methyl Tert-Butyl Ether
ng/L	Nanogram per Liter
Not detected	Detected concentration is less than the laboratory MDL
ORO	Oil Range Organics
Pace	Pace Analytical
PFAS	Perfluoroalkyl and Polyfluoroalkyl Substances
PFHxS	Perfluorohexanesulfonic acid
PFOS	Perfluorooctane sulfonate
PID	Photo-Ionization Detector
ppm	Parts Per Million
Property	17201 West 64th Avenue, Arvada, Colorado

LIST OF ACRONYMS AND DEFINITIONS (Continued)

PVC	Polyvinyl Chloride
QA/QC	Quality Assurance/Quality Controls
RCRA	Resource Conservation And Recovery Act
REC	Recognized Environmental Conditions
RL	Reporting Limit
RSL	Regional Screening Level
Site Services	Site Services Drilling, LLC
SSGWS	Site-Specific Groundwater Standard
TPH	Total Petroleum Hydrocarbons
UNCC	Utility Notification Center of Colorado
VOC	Volatile Organic Compounds
Welby Gardens	Welby Garden Wholesale Center

1.0 INTRODUCTION

AvalonBay Communities, Inc. (AvalonBay) retained Baseline Engineering Corporation (Baseline) to complete a Limited Phase II investigation of the Welby Garden Wholesale Center (Welby Gardens) located at 17201 West 64th Avenue (the "Property"), in Arvada, Colorado (Figure 1).

This report was prepared at the direction and for the exclusive use of AvalonBay and its successors and/or assigns. AvalonBay and Baseline are bound by the terms and conditions enumerated in the Consulting Services Agreement fully executed on October 24, 2024. No other party should rely on the information contained herein without prior written consent from AvalonBay and Baseline.

2.0 INTENT OF THE INVESTIGATION

The intent of the Limited Phase II investigation was to evaluate the recognized environmental conditions (RECs) identified during a Phase I Environmental Site Assessment (ESA) completed at the Property (Baseline: December 2024) through characterization of the subsurface soil conditions. Characterization was completed by collecting soil and groundwater samples and analyzing these samples for compounds associated with the Property operations.

The Phase I ESA identified eight RECs related to the Property and no adjacent or upgradient RECs. The eight RECs included:

- The storage, mixing, and use of large quantities of fertilizer, herbicides, and pesticides.
- The storage and use of motor oil, hydraulic oil, and water chemicals.
- The storage, use, and former use of diesel and gasoline above ground storage tanks (ASTs).
- The use of waste oil and grease containers and ASTs.
- The evidence of past spills from the gasoline and diesel dispensers.
- The evidence of past spills from stored containers and waste oil AST.
- Surface drainages from the fertilizer, herbicide, and pesticide mixing areas.
- Areas of historical use of septic systems.

3.0 PROPERTY INFORMATION

The Property consists of approximately 20.05-acres of land that is developed with an operating wholesale plant nursery (Figure 2). According to the Jefferson County Assessor's Office, the Property consists of:

- Nine main structures that occupy approximately 324,175 square feet (ft^2). In addition, there are approximately 27,985 ft^2 of minor structures (outbuildings or sheds); 65,880 ft^2 of asphalt parking and road; and 4,280 ft^2 of concrete sidewalks and pads. Jefferson County Assessor's Office noted the nine structures were constructed from 1976 to 1990 and include:
  - Two storage warehouses,
  - Five greenhouse buildings (note that there are six greenhouse buildings present on the Property), and
  - Two utility buildings noted as light commercial.

The minor outbuildings or sheds represent the approximately 60 hoop houses that are located mainly on the north half of the Property.

The Property has a stormwater collection system that includes man-made ponds between several of the greenhouses and a stormwater retention pond in the northeast corner. Over time, wetland grasses and cattails have grown in the ponds between the greenhouses establishing likely non-jurisdictional wetlands.

4.0 SITE HISTORY

Based on aerial photography cited in the Phae I ESA, the Property was vacant undeveloped land until approximately 1971, when the first greenhouse and office were constructed in the southeast area of the Property. By 1979, two additional greenhouses had been constructed west of the first greenhouse and one to the north. By 1983, five greenhouse structures had been built along with two utility buildings. Development continued through 2005 when the entire Property area was occupied by greenhouse buildings and support structures.

Limited Property ownership information was available from the Jefferson County Assessor's Office. Welby Gardens purchased the Property in November 2013 from Veldkamps Real Estate Inc. The date Veldkamps Real Estate Inc. purchased the Property was not listed.

According to the current owner, the first greenhouse on the southeast – Southern Greenhouse No.1 (Figure 2) and adjacent buildings to the east burned down and were replaced prior to the current ownership. Southern Greenhouse No. 3 was severely damaged by weather prior to the current ownership and was torn down and rebuilt. The date this occurred was not known by the current owner.

5.0 FIELD INVESTIGATION PROCEDURES

The subsurface investigation completed at the Property included the advancement of seven outdoor soil borings with a track-mounted drilling rig using solid stem auger and direct push drilling technologies. Five of these seven soil borings were converted to temporary groundwater monitoring wells. Fifteen soil borings were drilled using a hand auger (11 soil borings) and a post-hole power auger (four soil borings). Soil samples were collected from each soil boring and groundwater samples were collected from the five monitoring wells for laboratory analysis. The procedures used for these activities are detailed in the following sections.

5.1 UTILITY LOCATES

Prior to initiation of the drilling program at the Property, the drilling contractor, Site Services Drilling, LLC (Site Services) contacted the Utility Notification Center of Colorado (UNCC) and requested that all known utilities be identified and located across the Property.

Because UNCC contractors do not locate on private property, only identifying utilities entering a private property, Baseline contracted with GPRS, Inc. (GPRS) to complete geophysical investigations (ground penetrating radar) along with other typical utility locating devices at the proposed soil boring locations to identify the potential of any private utilities, shallow pipelines, and/or structures. GPRS did not identify any underground features conflicting with the proposed drilling locations.

5.2 PERMITTING

In accordance with Section 14.2.1 of the "Rules and Regulations for Water Well Construction, Pump Installation, Cistern Installation, and Monitoring and Observation Hole/Well Construction", the Office of the State Engineer was notified of the intent to construct monitoring wells on the Property. The Office of the State Engineer issued temporary permit numbers (4002254-MH and 4002255-MH) for the installation of the groundwater monitoring wells (Appendix A). This temporary permit is valid for a period of 18 months at which time the monitoring wells must be properly abandoned, or a permanent permit obtained. AvalonBay, as the owner of the groundwater monitoring wells, will need to arrange for the abandonment or permitting of the monitoring wells by June 2 and 3, 2026.

Following installation, a "Well Construction and Yield Estimate Report" Form No. GWS-31 was completed for each new monitoring well as required by the Water Well Construction Rules (Colorado Division of Water Resources, 2018). The required forms were submitted to the Office of the State Engineer and copies are provided in Appendix A.

5.3 SOIL BORING PROCEDURES

As noted previously, the soil borings were drilled using either 1) a track-mounted Geoprobe 7822 drilling rig, 2) a hand auger, or 3) a post-hole power auger. The soil borings were drilled by Site Services of Golden,

Colorado, under supervision of a Baseline geologist. Seven outdoor soil boring locations were advanced using the track-mounted drilling rig (MW-01 through MW-05 and WGB-01 and WGB-02). Two additional outdoor soil boring locations (WGB-09 and WGB-10) were advanced with a hand auger as these locations were scheduled for shallow sampling (oil spill and pond sediment). The track-mounted drilling rig was too large to access the interior of the buildings and greenhouses. As a result, indoor soil boring locations, 13 in total, were advanced with either a hand auger or a post-hole power auger. The unconsolidated deposits at the Property consist of sand, gravel, and cobbles. The hand auger could only be advanced to approximately two-feet below ground surface (bgs). A post-hole power auger was then used in an attempt at advancing the soil borings to four-feet bgs; however, these soil borings also could not be advanced past approximately two-feet bgs due to large cobbles.

A consolidated table of all sample locations and depths is presented below:

Name	Nomenclature	Method	Max Depth (feet bgs)	Composite Sample Depth or Interval (feet)
Outdoor Sampling Locations				
MW-01	Monitoring Well	Track-Mounted Drilling Rig	19.0	1.0 - 2.0
MW-02	Monitoring Well	Track-Mounted Drilling Rig	15.3	1.0 - 2.0
MW-03	Monitoring Well	Track-Mounted Drilling Rig	16.0	1.0 - 2.0
MW-04	Monitoring Well	Track-Mounted Drilling Rig	20.42	1.0 - 3.0
MW-05	Monitoring Well	Track-Mounted Drilling Rig	16.5	1.0 - 2.0
WGB-01	Welby Garden Boring	Track-Mounted Drilling Rig	14.0	1.0 - 2.0
WGB-01-A	Welby Garden Boring	Track-Mounted Drilling Rig	14.0	8.7
WGB-02	Welby Garden Boring	Track-Mounted Drilling Rig	14.5	1.0 - 2.0
WGB-09	Welby Garden Boring	Hand Auger	~1.0	0.0 - 1.0
WGB-10	Welby Garden Boring	Hand Auger	~1.0	0.0 - 1.0
Indoor Sampling Locations				
GHS1-3A	Greenhouse South 1	Hand Auger	~1.0-2.0	0.0 - 1.0
GHS1-3B	Greenhouse South 1	Hand Auger	~1.0-2.0	0.0 - 1.0
GHS2-2A	Greenhouse South 2	Hand Auger	~1.0-2.0	0.0 - 1.0
GHS2-2B	Greenhouse South 2	Hand Auger	~1.0-2.0	0.0 - 1.0
GHS3-1A	Greenhouse South 3	Hand Auger	~1.0-2.0	0.0 - 1.0
GHS3-1B	Greenhouse South 3	Hand Auger	~1.0-2.0	0.0 - 1.0
GHN1-2A	Greenhouse North 1	Hand Auger	~1.0-2.0	0.0 - 1.0
GHN2-5A	Greenhouse North 2	Hand Auger	~1.0-2.0	0.0 - 1.0
GHN3-5A	Greenhouse North 3	Hand Auger	~1.0-2.0	0.0 - 1.0
GHS1-3C	Greenhouse South 1	Post-Hole Power Auger	~2.0	0.0 - 1.0 /1.0 - 1.5 /1.5 - 2.0
GHS2-1A	Greenhouse South 2	Post-Hole Power Auger	~2.0	0.0 - 1.0 /1.0 - 2.0
GHN1-1A	Greenhouse North 1	Post-Hole Power Auger	~2.0	0.0 - 1.0 /1.0 - 2.0
GHS3-1C	Greenhouse South 3	Post-Hole Power Auger	~2.0	0.0 - 1.0 /1.0 - 1.5 /1.5 - 2.0

The nomenclature for the soil boring locations is as follows:

Outdoor sample locations:

MW = Monitoring Well; soil boring location later converted to a monitoring well.
WGB = Welby Garden Boring; soil borings advanced using a drilling rig or hand auger.

Indoor sample locations:

GH = Greenhouse, N = North; S = South; 1, 2, 3 = assigned building number, 1-10 = row number inside the greenhouse; A, B, C = first, second, and third sample collected. Examples: GHN1-2A and GHS2-2A.

The procedures used to complete the 22 soil borings advanced on the Property are discussed in the following sections.

5.3.1 Track-Mounted Drilling Rig - Soil Boring Procedures

The track-mounted drilling rig was utilized for seven outdoor soil borings on the Property on January 2 and 3, 2025. These seven outdoor soil boring locations are shown on Figure 3 and include soil boring numbers MW-01 through MW-05, WGB-01, and WGB-02. A soil boring was attempted at location WGB-03; however, a concrete slab was encountered at approximately 1.0-foot bgs.

These soil borings were generally advanced as follows:

- Hand augering was initially used from the ground surface to depths up to 5.0-feet bgs to confirm no utilities were present. Hand augering was difficult due to cobbles and gravels. Only at location MW-02 and MW-03 did the hand augering reach a depth of 5.0-feet bgs;
- Hydraulic direct push-probe technology was then used, with soils continuously cored until direct-push refusal; followed by
- Four-inch diameter solid stem auger drilling to ream and prepare the soil boring for monitoring well installation.

Soil borings MW-01 through MW-05 and WGB-01 and WGB-02 were drilled into competent bedrock with the soil borings terminated at depths ranging from 14.0 to 20.42 feet bgs. Soil samples were collected from the hand auger cutting head and the continuous push-probe sampler.

Downhole drilling equipment was decontaminated between soil boring locations using a steam cleaner and smaller, individual components, cleaned with an Alconox® wash and clean water rinse. Decontamination water was contained in Department of Transportation (DOT)-approved 55-gallon drums, which were stored on the northeast side of the Property.

Soil cuttings were placed in DOT-approved 55-gallon drums which were also stored on the west and northeast sides of the Property.

5.3.2 Hand Augered Soil Boring Procedures

Eleven of the 22 soil borings (Figure 3) were advanced using a five-foot long stainless-steel hand auger with 3-inch diameter cutting head. These soil borings include nine indoor boring locations and two outdoor boring locations (WGB-09 and WGB-10). These soil borings ranged in depth from approximately 1.0-foot bgs to 2.0-feet bgs. These soil borings could not be advanced further due to large cobbles. Soil samples were collected from the hand auger cutting head as the soil boring was advanced. The hand auger rod and cutting head were decontaminated between soil boring locations using an Alconox® wash and clean water rinse with the decontamination water placed in the 55-gallon water drum. Soil cuttings from soil borings WGB-09 and WGB-10 were placed in one of the 55-gallon soil drums. Soil cuttings from the remaining soil borings (indoor locations) were placed back into the soil boring annulus.

5.3.3 Post-Hole Power Auger Soil Boring Procedures

Four of the 22 soil borings (Figure 3) were drilled using a 4.0-foot-long post-hole power auger. These soil borings were advanced to approximately 2.0-feet bgs, where a cobble layer prevented further advancement. Soil samples were collected from the bottom of the soil boring as the soil boring was advanced using a stainless steel sampling spoon. The auger flight, sampling spoon, and other equipment used were decontaminated between soil boring locations using an Alconox® wash and clean water rinse with the decontamination water placed in the 55-gallon water drum. Soil cuttings were placed back into the soil boring annulus.

5.4 FIELD SCREENING OF SOIL

As the soil borings were advanced, soil samples were collected and field screened for the potential occurrence of contamination using both visual and olfactory observations. The soil samples were collected from intervals of approximately 1.0-foot up to 2.5-feet with the recovered material placed in both a laboratory-provided sample jar and a sealable plastic bag with each labeled for location and depth. Upon completion of each soil boring, and after allowing the bagged soil to warm for approximately 10 minutes, the head space within each bag was measured with a photo-ionization detector (PID) to assess total volatile vapor concentration. If an elevated PID reading was noted, the soil sample jar from that interval was selected for laboratory analysis. The PID reading was considered elevated if the measured concentration was greater than 10 ppm.

5.5 SOIL SAMPLE ANALYSIS

A total of 28 soil samples were collected from the sample locations for laboratory analysis.

Soil samples for laboratory analysis were collected from seven of the nine outdoor soil boring locations (MW-01 through MW-5, WGB-01, and WGB-02) from the interval between the ground surface to approximately 3.0-feet bgs as it was anticipated that any impacts associated with greenhouse operations would concentrate in that interval. At outdoor soil borings WGB-09 and WGB-10, the soil samples were collected from the ground surface to 1.0-foot bgs interval. The nine soil samples collected from the outdoor soil boring locations were analyzed for pesticides and chlorinated acid herbicides by United States Environmental Protection Agency (EPA) Methods 8081 and 8151A, respectively; Resource Conservation and Recovery Act (RCRA) 8 metals by EPA Methods 6010D/7471B; nitrate as N and sulfate by EPA Method 9056A; and pH by EPA Method 9045D.

Nine hand augered soil samples for laboratory analysis collected from inside the buildings were composited from the ground surface to 1.0-foot bgs interval. These nine soil samples were analyzed for pesticides, chlorinated acid herbicides, RCRA metals, and nitrate as N and sulfate, using the same EPA Methods presented previously.

Ten soil samples collected using the post-hole power auger were composited from the ground surface to 1.0-foot bgs interval, 1.0-foot to 1.5-foot bgs interval, and the 1.5-foot to 2.0-foot bgs interval at two locations (GHS1 and GHS3), with sampling for GHS2 and GHN1 composited from the ground surface to 1.0-foot bgs and 1.0-foot to 2.0-foot bgs. These 10 soil samples were analyzed only for pesticides and chlorinated acid herbicides by EPA Methods 8081 and 8151A, respectively. RCRA 8 metals, nitrate as N, sulfate, and pH were not analyzed as previous soil samples collected and analyzed for these constituents indicated that the concentrations detected were less than the EPA Regional Screening Levels (RSLs) for Residential soil.

In addition to analytical testing listed above, at locations WGB-01 (AST), WGB-09 (waste oil AST), and WGB-10 (pond sediment), petroleum impact was suspected during field screening. Soil grab samples from these locations were also analyzed for volatile organic compounds (VOCs) by EPA Method 8260D and total petroleum hydrocarbons (TPH) low fraction [represents Diesel Range Organics (DRO) and Oil Range Organics (ORO)], and Gasoline Range Organics (GRO) by EPA Method 8015D/GRO.

Each soil sample was packed into laboratory-provided glassware, sealed, individually labeled, and placed in a cooler with ice to achieve and maintain sample temperatures at 4 $\pm$ 2 °C until delivery to the analytical laboratory. The samples were delivered on the same day as sampling to the Pace Analytical (Pace) sample drop-off facility located in Lakewood, Colorado under an executed Chain of Custody (COC) document. The sample coolers were then packaged and sent overnight by the Pace drop-off facility to the Pace laboratory in Mount Juliet, Tennessee.

5.6 GROUNDWATER MONITORING WELLS

The procedures used to install and sample the five monitoring wells are discussed in the following sections.

5.6.1 Monitoring Well Installation

Groundwater monitoring wells were constructed with two-inch diameter, Schedule 40, polyvinyl chloride (PVC) casing and factory-slotted screen. Each monitoring well was completed with 10 feet of #10 factory-slotted screen and solid PVC casing ranging in length from 3.5 feet to 10 feet. The annulus between the PVC casing and the soil boring wall was filled with #10/20 silica sand to approximately one to two feet above the screened interval. The remaining annular space was filled with medium bentonite chips to a depth of approximately 1.0-foot bgs and then hydrated. An expandable J-plug was used to seal the top of each well casing and each well was completed at the surface with a flush-mount traffic rated well vault anchored in concrete. Details of well construction are included on the Borehole Log/Monitoring Well Completion Diagrams included as Appendix B.

5.6.2 Monitoring Well Sampling

Prior to groundwater development/purging and sampling, the groundwater level and monitoring well depth were gauged (measured) in each monitoring well with an electronic water level meter. The groundwater volume within the monitoring well casing was then calculated and recorded on Purge and Sampling forms. Specific conductance, temperature, and pH were measured and recorded during development/purging and recorded on the Purge and Sampling forms (Appendix C). The monitoring wells were developed/purged and sampled using disposable polyethylene bailers. The discharge water was contained in the 55-gallon water drum.

Each groundwater sample was packed into laboratory-provided glassware or specified container, sealed, individually labeled, and placed in a cooler with ice to achieve and maintain sample temperatures at 4 $\pm$ 2 °C until delivery to the analytical laboratory. Groundwater samples were delivered on the same day as sampling to the Pace sample drop-off facility located in Lakewood, Colorado under an executed COC document. The sample coolers were then packaged and sent overnight by the Pace drop-off facility to the Pace laboratory in Mount Juliet, Tennessee

Monitoring Wells MW-01, MW-03, and MW-04

Monitoring wells MW-01, MW-03, and MW-04 were developed/purged on January 8, 2025 and sampled the same day. A minimum of 10 casing volumes of groundwater were removed from monitoring wells MW-01, MW-03, and MW-04 prior to sampling. The samples were submitted to Pace for analysis of pesticides by EPA Method 8081B; chlorinated acid herbicides by EPA Method 8151A; RCRA 8 metals by EPA Methods 6010D and 7470A; VOCs using EPA Method 8260B; sulfate and nitrate by EPA Method 9056A; 1,4-Dioxane by EPA Method 8270-SIM; and perfluoroalkyl and polyfluoroalkyl substances

(PFAS) by EPA Method 1633 (DRAFT).

Although not requested on the COC, Pace also analyzed alkalinity by EPA Method 2320 B-2011, ammonia nitrogen by EPA Method 350.1, total phosphorus by EPA Method 365.4, pH by EPA Method 4500 H+B-2011, sulfide by EPA Method 4500S2 D-2011, and sulfite by EPA Method 4500SO3 B-2011.

Due to laboratory issues, Pace did not analyze for 1,4-dioxane even though it was requested on the COC. As a result, monitoring wells MW-01, MW-03, and MW-04 were resampled on January 23, 2025 following the same procedures previously discussed with the exception that three casing volumes of groundwater were removed from the monitoring wells and that only 1,4-dioxane was requested for analysis.

Monitoring well MW-04 was re-sampled on February 3, 2025, for analysis of PFAS by EPA Method 1633 (FINAL) to confirm initial results. Prior to sampling, three casing volumes of groundwater were removed from the monitoring well.

Monitoring Well MW-02

Monitoring well MW-02 was initially dry; however, by January 23, 2025 the monitoring well had accumulated a couple feet of groundwater. This was 21 days after the monitoring well had been constructed. This monitoring well was sampled on January 24, 2025. The monitoring well was not developed or purged prior to sampling due to the extremely slow recharge. The groundwater sample was submitted to Pace for analysis of pesticides by EPA Method 8081B; chlorinated acid herbicides by EPA Method 8151A; RCRA 8 metals by EPA Methods 6010D and 7470A; VOCs using EPA Method 8260B; 1,4-dioxane by EPA Method 8270-SIM; and sulfate and nitrate by EPA Method 9056A. Insufficient sample volume remained to fill PFAS sample bottles.

Monitoring Well MW-05

Monitoring well MW-05 remained dry during the investigation period and groundwater was not sampled at this location.

6.0 FIELD INVESTIGATION RESULTS

Both physical and analytical laboratory results were obtained during the subsurface investigation. The results are discussed in the following sections.

6.1 PHYSICAL RESULTS

The physical results obtained during the drilling and sampling program include lithologic conditions of the subsurface materials, field screening results, groundwater occurrence, and subsurface volatile vapor concentrations.

6.1.1 Lithology

The lithology of soil borings MW-01 through MW-05, WGB-01, WGB-02, WGB-09, and WGB-10 (see Figure 3), along with PID screening results, were recorded on "Borehole Log/Monitoring Well Completion Diagrams", which are included as Appendix B. Lithologic logs were not prepared for the indoor shallow soil borings. The lithology encountered during the drilling of the soil borings is generally described as follows:

- **Gravel Road Base (GW)** – At locations MW-01, MW-03, and MW-04, a 0.5-foot layer of gravel road base was present at the ground surface.
- **Fill, Gravel and/or Sand** – Dark to light brown, fine to coarse sandy gravel (GP) was encountered at locations MW-01, MW-02, MW-04,and MW-05, and ranged up to 5.0 feet in thickness. At all of the indoor shallow soil boring locations, this unit consisted of dark brown to olive grey, medium to coarse-grained sand with large gravel to cobbles. At locations MW-03, WGB-01, WGB-02, WGB-09, and WGB-10, this unit consisted of silty/clayey sand (SW - SM/SC) and ranged up to 8.5 feet in thickness.
- **Native Gravel, Sand and Clay** - Native unconsolidated gravel, sand, and clay was encountered beneath the fill materials. These native materials consisted of light brown, fine to course sandy gravel (GP); light brown to tan, fine to medium gravelly sand (SW); reddish brown to light brown, fine- to coarse-grained sand (SP) and silty sand (SM); dark brown to olive grey, fine- to coarse-grained silty sand (SM); and olive brown, low plasticity clay (CL). The native materials ranged in thickness from 2.5 feet at location MW-05 to 13.5 feet at location MW-01.
- **Bedrock, Claystone and Sandstone** – Olive grey, claystone with iron-oxide staining on partings encountered between 5.5-feet bgs (location MW-05) and 16.0-feet bgs at location MW-01. Yellowish tan to light brown, fine-grained sandstone, with iron-oxide staining on partings encountered at 15.5-feet bgs at locations MW-03 and MW-04.

Figure 4 is a contour map of the inferred bedrock surface underlying the Property which was developed from the current drilling information (Baseline) and from geotechnical investigations conducted in October 2024 by Cole Garner Geotechnical (Cole Garner). As shown in Figure 4, bedrock dips to the east on the northern half of the Property at a gradient of approximately 0.03 feet per foot. On the southern half of the Property the bedrock dips to the southeast at a gradient of approximately 0.02 feet per foot. A bedrock ridge (higher elevation) separates the northern and southern portions of the Property and trends southeast from monitoring well MW-05 on the northwest to monitoring well MW-02 on the southeast.

6.1.2 Field Screening Results

The PID measurements collected from soil samples during drilling activities are shown on the lithologic

logs in Appendix B. PID measurements recorded for the soil borings were generally less than 2.0 part per million (ppm). The highest PID reading was 4.0 ppm at soil boring location WGB-01 (AST) and soil boring location WGB-09. As noted previously, a PID reading greater than 10 ppm is generally considered elevated.

6.1.3 Groundwater Occurrence

Groundwater level measurements were collected from the monitoring wells several times during the investigation. Recorded groundwater levels and the associated elevation measured in feet above mean sea level (AMSL) are presented on Table 1. As noted in Section 5.6.2. The coordinates of the borings and wells, along with ground surface and top-of-casing elevation were surveyed by a Colorado licensed land surveyor from Baseline's survey division on January 22, 2025. The horizontal datum used is Colorado state plane coordinates central zone, NAD 83 datum. Vertical datum control is based on NAVD 88. Monitoring well MW-02 was initially dry but accumulated measurable groundwater by January 23, 2025, which was 21 days after the monitoring well had been constructed. Monitoring well MW-05 has remained dry since installation. Groundwater depths across the Property ranged from 11.06 feet to 14.79 feet below the top of the PVC casing.

Figure 5 is a groundwater elevation contour map that illustrates the groundwater elevation for the four monitoring wells that contained groundwater on January 23. 2025. On the northern half of the Property, the groundwater flow direction is to the east-southeast with a gradient of approximately 0.019 feet per foot. Groundwater flow direction beneath the southern half of the Property is to the northeast with a gradient of approximately 0.013 feet per foot.

6.1.4 Groundwater Quality Field Parameters

Field parameter measurements were recorded during the pre-sample development and purging of monitoring wells MW-01, MW-03 and MW-04. There was not sufficient groundwater volume in monitoring well MW-02 to measure field parameters. Recorded field parameter measurements on January 23, 2025 are as follows:

Field Parameter	MW-01	MW-03	MW-04
pH (pH units)	7.78	7.41	7.48
Temperature (°C)	13.0	12.6	13.7
Specific Conductance (µS/cm)	-32	-12	-15

pH = Potential of hydrogen
°C = Degrees Centigrade
µS/cm = Microsiemens per centimeter

6.2 SOIL SAMPLE ANALYTICAL RESULTS

As noted in Section 5.5, 28 soil samples were collected from the soil borings drilled during the subsurface investigations. Soil samples were collected at various depths from shallow soil between ground surface and 3.0-feet bgs. At soil boring WGB-01 (AST) a second deeper sample was collected from the 8.5-feet to 9.0-feet bgs interval. This sample was analyzed only for VOCs and TPH.

The analytical results for the soil samples were compared to the EPA RSLs for both Residential and Industrial land use (EPA, 2024). The soil sample results and the RSLs are summarized on Tables 2 through 7; and the analytical laboratory reports are provided in Appendix D. Results for each specific analytical category are discussed in the following sections.

6.2.1 Pesticides

Pesticides were analyzed in 28 soil samples submitted to the laboratory. Pesticide results are presented in Table 2 and discussed below.

Dieldrin was detected in 17 out of the 28 soil samples. Dieldrin was detected in soil samples collected from outdoor soil boring locations (MW-02, WGB-01, WGB-02) and from certain locations inside the greenhouses. Figure 6 shows the dieldrin concentrations detected at the Property, with these concentrated in the oldest greenhouses in the southern portion of the Property. Detections are as follows:

- At soil boring locations WGB-01, GHS2-1A-1 0-1.0, GHS2-1A-2 1-2, GHS3-1C-1 0-1, and GHS3-1C-2 1-1.5 (each located in the southern (oldest) portion of the Property), dieldrin was detected at concentrations ranging from 0.161 micrograms per kilogram (mg/kg) to 0.321 mg/kg with these concentrations exceeding the EPA Industrial RSL of 0.14 mg/kg.

- At soil boring locations GHS1-3B, GHS3-1A, GHA3-1B, and GHS1-3C-1 0-1.0, the dieldrin concentrations ranged from 0.0341 mg/kg to 0.0734 mg/kg and exceeded the EPA Residential RSL of 0.034 mg/kg but were less than the EPA Industrial RSL of 0.14 mg/kg.

- At soil boring locations MW-02, WGB-02, GHN3-5A, GHS1-3C-3 1.5-2.0, GHS3-1C-3 1.5-2, and GHN1-1A-1 0-1 dieldrin concentrations were detected by the laboratory, but below quantitative limits and therefore are qualified by the laboratory as estimated (J) values. At soil boring location GHS1-3C-2 1-1.5 and GHN1-1A-2 1-2, dieldrin was detected at 0.0261mg/kg and 0.0270 mg/kg, respectively. These sample results for dieldrin are less than the EPA Residential RSL of 0.034 mg/kg.

The pesticides Endosulfan I, Endosulfan II, and Endosulfan Sulfate were detected in the indoor soil boring locations GHS1-3B, GHS2-2B, GHS3-1B and GHN3-5A at concentrations less than the respective EPA

Residential RSLs. In addition, 4,4-DDE (Dichlorodiphenyldichloroethylene, p,p') was detected in the soil samples collected from soil boring locations GHS1-3A and GHS1-3B, also at concentrations less than the respective EPA Residential RSL.

6.2.2 Chlorinated Acid Herbicides

Chlorinated acid herbicides (herbicides) were analyzed for 28 soil samples submitted to the laboratory. Herbicides were detected in only four of these soil samples as presented in Table 3 and discussed below. The herbicide 2,4-D (Dichlorophenoxyacetic acid) was detected at soil boring location MW-04 at an estimated concentration of 0.0315 J mg/kg. The herbicide Dicamba was detected at soil boring locations MW-03 (0.0333 J mg/kg), MW-04 (0.0605 J mg/kg), and GHS1-3A (0.0903 mg/kg) at concentrations less than the EPA Residential RSL of 1,900 mg/kg.

6.2.3 RCRA 8 Metals

The RCRA 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) were analyzed in 18 soil samples submitted to the laboratory as shown on Table 4. The concentrations reported for the RCRA 8 metals were less than the respective EPA Residential RSLs for those metals, with the exception of the arsenic concentrations. In 2014, based on regional background levels, the Colorado Department of Public Health and Environment (CDPHE) established a concentration standard of 11 mg/kg for arsenic for the Colorado Front Range (CDPHE, 2014).

6.2.4 Volatile Organic Compounds (VOCs)

Soil grab samples from soil boring locations WGB-01, WGB-01-A, WGB-09, and WGB-10 were submitted to the laboratory for analysis of VOCs. VOC results are presented in Table 5. VOCs were not detected at soil boring locations WGB-01, WGB-01-A, and WGB-10. At soil boring location WGB-09, methyl tert-butyl ether (MTBE) and total xylene were detected at estimated (J) concentrations. Both of these compounds are associated with gasoline. The concentrations reported are less than the EPA Residential RSLs for these compounds.

6.2.5 Total Petroleum Hydrocarbons (TPH)

Soil samples from soil boring locations WGB-01 (two soil samples), WGB-09, and WGB-10 were also submitted to the laboratory for analysis of TPH, inclusive of DRO, ORO, and GRO. TPH results are presented on Table 6. As shown, petroleum compounds were detected in all four samples. At soil boring locations WGB-01 (AST) and WGB-10, the ORO concentrations reported at 22.5 mg/kg and 172 mg/kg respectively, were greater than the EPA Residential RSL concentration of 18 mg/kg. For soil sample WGB-01-A (AST), the DRO concentration of 1,240 mg/kg was greater than the EPA Industrial RSL of 440 mg/kg. At soil boring location WGB-09 (waste oil AST), concentrations for both DRO (11,200 mg/kg) and ORO (41,200 mg/kg) exceeded the EPA Industrial RSLs of 440 mg/kg and 220 mg/kg, respectively, for those

compounds.

6.2.6 pH, Nitrate as N, and Sulfate

pH, nitrate as N, and sulfate results are presented on Table 7. Eighteen soil samples were submitted for analysis of these compounds (See section 5.5).

6.3 GROUNDWATER ANALYTICAL RESULTS

As noted in Section 5.6, groundwater samples were collected from the four of the five soil boring locations that were converted to monitoring wells. Monitoring well MW-05 has remained dry since installation on January 2, 2025. The groundwater samples collected from the four monitoring wells were analyzed for pesticides, herbicides, RCRA 8 metals, VOCs, and cations and anions. The compounds 1,4-dioxane and certain PFAS were also analyzed in the groundwater samples collected from MW-01, MW-03, and MW-04, and 1,4-dioxane in MW-02. The analytical laboratory reports are provided in Appendix E.

Pesticides, herbicides, VOCs, and 1,4-dioxane were not detected in any of the groundwater samples. The analytical results and the respective Colorado Groundwater Standard (CGS; CDPHE, 2020a) are presented on Tables 8, 9, and 10, respectively. As noted, some of the laboratory detection limits for pesticides and VOCs exceeded the CGS due to the extremely low CGS values, which are not attainable by most environmental laboratories.

Results for the RCRA 8 metals and sulfate and nitrate are presented in Tables 11 and 12 with these compounds discussed in the following sections. The analytical results for RCRA 8 metals and cations and anions were compared to the CGS where appropriate. The PFAS results were compared to the Colorado Water Quality Control Commission translation values of 70 nanograms per liter (ng/L) or parts per trillion (ppt) for PFOS and PFOA individually or combined (CDPHE, 2020b).

6.3.1 Dissolved RCRA 8 Metals

The analytical results for dissolved RCRA 8 metals in the groundwater samples collected from monitoring wells MW-01, MW-02, MW-03, and MW-04 are presented on Table 11. All detections were below the applicable CGS. A summary of the results is as follows:

- Dissolved arsenic and dissolved lead were not detected in the groundwater samples.
- Dissolved barium concentrations were detected in the four groundwater samples and ranged in concentration from 0.0644 milligrams per liter (mg/L) to 0.736 mg/L, all of which were less than the CGS of 2.0 mg/L.
- Dissolved cadmium and dissolved chromium were both detected in the groundwater samples collected from MW-03 and MW-04, respectively, at concentrations below 0.00219 mg/L for both

constituents. These concentrations were less than the CGS of 0.005 mg/L for cadmium and 0.100 mg/L for chromium.

- Dissolved mercury at 0.0690 mg/L and dissolved selenium at 0.0000913 J mg/L were detected in the groundwater sample collected from monitoring well MW-02 The CGS for mercury is 0.002 mg/L and the CGS for selenium is 0.050 mg/L.
- Dissolved silver was detected in the groundwater samples collected from monitoring wells MW-01 and MW04 at 0.00314 J mg/L and 0.00531 mg/L, respectively. The CGS for dissolved silver is 0.050 mg/L.

6.3.2 Nitrate and Sulfate

As noted in Section 5.6, the laboratory reported concentrations for a number of cations and anions that were not requested on the COC. Sulfate and nitrate as N were the compounds requested. The cation and anion results are listed on Table 12; however, only sulfate and nitrate as N are discussed in this section. The nitrate as N concentrations were qualified by the laboratory as being analyzed too close to the sample expiration date (qualifier T8); however, these data are considered useable.

As shown on Table 12, the concentration of 436 mg/L for sulfate exceeded the CGS of 250 mg/L at monitoring well MW-01. Nitrate as N concentrations exceeded the CGS of 10 mg/L at monitoring wells MW-02, MW-03, and MW-04 (43.9 mg/L, 97.6 T8 mg/L, and 414 T8 mg/L, respectively).

6.3.3 PFAS (Perfluoroalkyl or Polyfluoroalkyl Substances)

The groundwater samples collected on January 8, 2025, from monitoring wells MW-01, MW-03, and MW-04 were analyzed for certain PFAS utilizing EPA Method 1633-DRAFT. PFAS were not detected in monitoring wells MW-01 and MW-03. Groundwater from monitoring well MW-04 contained 270 ng/L of perfluorohexanesulfonic acid (PFHxS) and 129 ng/L of perfluorooctane sulfonate (PFOS).

Due to anomalous results, monitoring well MW-04 was resampled on February 3, 2025, along with the collection of quality assurance/quality controls (QA/QC) samples that included three rinse blank samples (sampling reel, twine used for lowering the bailer, and bailer) and a field blank sample. These QA/QC samples were collected using certified PFAS free deionized water. Sampling personnel also followed suggested sampling protocols adopted by the CDPHE. These protocols can be found in Appendix F. Pace reported these samples were analyzed by EPA Method 1633.

The PFAS results in the second groundwater sample from monitoring well MW-04 were as follows: PFBS 3.9 ng/L; PFHxA 2.1 ng/L; PFBA 13.0 ng/L; PFOS 3.6 ng/L; and PFOA 4.0 ng/L. PFAS were not detected in any of the QA/QC samples. The PFOS and PFOA concentrations were below the State of Colorado's translation value of 70 ng/L for PFOS or PFOA, individually or combined.

6.4 DISPOSITION OF INVESTIGATION DERIVED WASTES

Soil cuttings and decontamination water generated during drilling activities were placed in DOT-approved 55-gallon drums. The investigation derived waste (IDW) drums were staged at two locations on the Property. Soils generated from soil boring locations MW-01 and MW-05 were staged on the west side of the Property near soil boring MW-05. Soil from the remaining outdoor soil boring locations were placed in two IDW drums staged on the northeast corner of the Property. One IDW water drum was also staged at that location.

Based on the analytical data for the soil and groundwater samples, the soil cuttings and decontamination and sampling water are considered special solid wastes which require disposal at a licensed Class D landfill.

7.0 CONCLUSIONS

Conclusions that can be made based on the Phase I ESA and the results of this investigation are summarized below.

- Herbicides, RCRA metals, and VOCs concentrations in soil are were either not detected or detected at concentrations less than the EPA RSLs for residential use.

- Soils with dieldrin concentrations greater than the EPA RSL for residential use of 0.034 mg/kg will need to be managed appropriately. These soils are located within the footprint of the oldest greenhouses at the southern end of the Property. If the soils are to be removed from the Property, the soils will need to be disposed of at a licensed Class D landfill.

- Petroleum impacts identified near the ASTs at soil boring location WGB-01 at 8.5-feet to 9.0-feet bgs and in near surface soils at soil boring location WGB-09 should, if removed, also be managed as special solid waste and disposed of at a licensed Class D landfill.

- Based on groundwater results, the groundwater has not been impacted by the greenhouse operations with the exceptions of nitrate and sulfate impacts likely associated with fertilizer use or storage. The elevated sulfate concentration of 436 mg/L appears to be limited to the upgradient monitoring well MW-01 location. Elevated concentrations of nitrate as N ranging from 43.9 mg/L to 414 T8 mg/L were detected in the downgradient monitoring wells MW-02, MW-03, and MW-04. Although the concentrations for sulfate and nitrate as N exceed their respective CGS concentrations of 250 mg/L and 10 mg/L the impact is limited in aerial extent and will likely dissipate over time once greenhouse operations cease.

- PFAS results from monitoring well MW-4 differed from the first round of sampling to the second round when more rigorous sampling procedures were utilized. PFAS are prevalent in the

environment (air, soil, groundwater and many materials). Further evaluation of PFAS may be warranted if groundwater at the Property were to be used for domestic purposes.

8.0 REFERENCES

Baseline Engineering Corporation (Baseline), 2024. Phase I Environmental Site Assessment, Welby Gardens, 17201 West 64th Avenue, Arvada, Colorado 80007. Dated December 26, 2024.

Cole Garner Geotechnical (Cole Garner), 2024. Draft Preliminary Geotechnical Engineering Report Proposed Multi-Family Development, 17201 W 64th Avenue, Arvada, Colorado. CGG Project No.: 24.22.209. Dated November 20, 2024.

Colorado Department of Public Health and Environment (CDPHE), 2020a. *The Basic Standards for Ground Water, CDPHE Water Quality Control Division, 5 CCR 1002-41, Regulation No. 41*. Current Version Effective Date June 30, 2020.

Colorado Department of Public Health and Environment (CDPHE), 2020b. *Policy for Interpreting the Narrative Water Quality Standards for Per- and Polyfluoroalkyl Substances (PFAS), CDPHE Water Quality Control Commission, Policy 20-1*. Date July 14, 2020.

Colorado Department of Public Health and Environment (CDPHE), 2014. Risk Management Guidance for Evaluating Arsenic Concentrations in Soil. Revision July 2014.

Colorado Division of Water Resources, 2018. *Rules and Regulations for Water Well Construction, Pump Installation, Cistern Installation, and Monitoring and Observation Well/Hole Construction (Construction Rules), 2 CCR 402-2*. Current Version Effective Date July 1, 2018.

United States Environmental Protection Agency (EPA), 2024. *Regional Screening Level (RSL) Summary Table.* November 2024.

TABLES

TABLE 1

GROUNDWATER AND BEDROCK ELEVATION DATA
PHASE II INVESTIGATION
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE, ARVADA, COLORADO

Monitor Well & Boring ID	Date	Depth to Water	Groundwater Elevation	Survey Information: Ground Surface Elevation	Survey Information: Top-of-PVC Casing Elevation	Total Casing Length	Bottom of Casing Elevation	Depth to Bedrock	Bedrock Elevation	Comments
	(mm/dd/yy)	(Ft. btoc)	(FT - amsl)	(Ft - amsl)	(Ft - amsl)	(Ft. btoc)	(Ft - amsl)	(Ft. -bgs)	(Ft. -amsl)	
MW-01				5681.5	5681.32					
	1/6/2025	14.76	5666.56			18.42	5662.9	16	5665.5	
	1/8/2025	14.76	5666.56							
	1/23/2025	14.79	**5666.53**							
MW-02				5669.9	5669.51					
	1/6/2025	DRY	DRY			14.91	5654.6	10	5659.9	
	1/8/2025	DRY	DRY							
	2/3/2025	12.91	**5656.60**							
MW-03				5668.4	5668.24					
	1/6/2025	11.06	5657.18			15.03	5653.21	15.5	5652.9	
	1/8/2025	10.85	5657.39							
	1/23/2025	11.16	**5657.08**							
MW-04				5669.9	5669.44					
	1/6/2025	13.15	5656.29			19.96	5649.48	15.5	5654.4	
	1/8/2025	13.16	5656.28							
	1/23/2025	13.24	**5656.2**							
MW-05				5680.9	5680.47					
	1/6/2025	DRY	DRY			13.45	5667.02	5.5	5675.4	
	1/8/2025	DRY	DRY							
	1/23/2025	DRY	DRY							
WGB-01				5671.5						
	1/6/2025							9	5662.5	
WGB-02				5670.7						
	1/6/2025							12.9	5657.8	

Notes

1.) Survey conducted by

Ft. - amsl Feet above mean-sea-level

Ft. - btoc Feet below top-of-casing

Ft. -bgs Feet below ground surface

TABLE 2-A

SOIL ANALYTICAL RESULTS - PESTICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		MW-01	MW-02	MW-03	MW-04	MW-05		
		1' - 2'	1' - 2'	1' - 2'	1' - 3'	1' - 2'		
		1/2/2025	1/2/2025	1/2/2025	1/2/2025	1/2/2025	Residential	Industrial
4,4-DDD (Dichlorodiphenyldichloroethane, p,p')	mg/kg	< 0.0069	< 0.0069	< 0.0069	< 0.0069	< 0.0069	2.3	9.6
4,4-DDE (Dichlorodiphenyldichloroethylene, p,p')	mg/kg	< 0.00673	< 0.00673	< 0.00673	< 0.00673	< 0.00673	2.0	9
4,4-DDT (Dichlorodiphenyltrichloroethane, p,p')	mg/kg	< 0.00766	< 0.00766	< 0.00766	< 0.00766	< 0.00766	1.9	8.5
Aldrin	mg/kg	< 0.00645	< 0.00645	< 0.00645	< 0.00645	< 0.00645	0.039	0.18
Alpha BHC (alpha-Hexachlorocyclohexane)	mg/kg	< 0.00637	< 0.00637	< 0.00637	< 0.00637	< 0.00637	0.086	0.36
Beta BHC (beta-Hexachlorocyclohexane)	mg/kg	< 0.0063	< 0.0063	< 0.0063	< 0.0063	< 0.0063	0.3	1.3
Chlordane	mg/kg	< 0.099	< 0.099	< 0.099	< 0.099	< 0.099	1.7	7.7
Delta BHC (delta-Hexachlorocyclohexane)	mg/kg	< 0.00635	< 0.00635	< 0.00635	< 0.00635	< 0.00635	0.0038	0.49
Dieldrin	mg/kg	< 0.00697	**0.0152 J**	< 0.00697	< 0.00697	< 0.00697	0.034	0.14
Endosulfan I	mg/kg	< 0.00604	< 0.00604	< 0.00604	< 0.00604	< 0.00604	470	7,000
Endosulfan II	mg/kg	< 0.00661	< 0.00661	< 0.00661	< 0.00661	< 0.00661	470	7,000
Endosulfan sulfate	mg/kg	< 0.00642	< 0.00642	< 0.00642	< 0.00642	< 0.00642	380	4,900
Endrin	mg/kg	< 0.00746	< 0.00746	< 0.00746	< 0.00746	< 0.00746	19	250
Endrin aldehyde	mg/kg	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	NE	NE
Endrin ketone	mg/kg	< 0.00695	< 0.00695	< 0.00695	< 0.00695	< 0.00695	NE	NE
Gamma BHC (gamma-Hexachlorocyclohexane)	mg/kg	< 0.00676	< 0.00676	< 0.00676	< 0.00676	< 0.00676	0.057	0.80
Heptachlor	mg/kg	< 0.00693	< 0.00693	< 0.00693	< 0.00693	< 0.00693	0.13	0.63
Heptachlor epoxide	mg/kg	< 0.0065	< 0.0065	< 0.0065	< 0.0065	< 0.0065	0.70	0.33
Hexachlorobenzene	mg/kg	< 0.00608	< 0.00608	< 0.00608	< 0.00608	< 0.00608	160	2,300
Methoxychlor	mg/kg	< 0.00806	< 0.00806	< 0.00806	< 0.00806	< 0.00806	320	4,100
Toxaphene	mg/kg	< 0.214	< 0.214	< 0.214	< 0.214	< 0.214	0.49	2.1

Pesticides were analyzed by EPA Method 8081B.

Orange highlighted values indicate the reported concentration meets or exceeds the Residential and Industrial RSLs.

Blue bolded values indicate the reported concentration meets or exceeds the Residential RSL.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram. NE = Not established.

J = The reported value is an estimate.

P = Relative Percent Difference between the primary and confirmatory analysis exceeded 40%.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 2-B

SOIL ANALYTICAL RESULTS - PESTICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		WGB-01	WGB-02	WGB-09	WGB-10	GHS1-3A		
		1' - 2'	1' - 2'	1' - 2'	1' - 2'	0' - 1'		
		1/3/2025	1/3/2025	1/3/2025	1/3/2025	1/3/2025		
4,4-DDD (Dichlorodiphenyldichloroethane, p,p')	mg/kg	< 0.0069	< 0.0069	< 0.0069	< 0.0069	< 0.0069	2.3	9.6
4,4-DDE (Dichlorodiphenyldichloroethylene, p,p')	mg/kg	< 0.00673	< 0.00673	< 0.00673	< 0.00673	**0.015 J**	2.0	9
4,4-DDT (Dichlorodiphenyltrichloroethane, p,p')	mg/kg	< 0.00766	< 0.00766	< 0.00766	< 0.00766	< 0.00766	1.9	8.5
Aldrin	mg/kg	< 0.00645	< 0.00645	< 0.00645	< 0.00645	< 0.00645	0.039	0.18
Alpha BHC (alpha-Hexachlorocyclohexane)	mg/kg	< 0.00637	< 0.00637	< 0.00637	< 0.00637	< 0.00637	0.086	0.36
Beta BHC (beta-Hexachlorocyclohexane)	mg/kg	< 0.0063	< 0.0063	< 0.0063	< 0.0063	< 0.0063	0.3	1.3
Chlordane	mg/kg	< 0.099	< 0.099	< 0.099	< 0.099	< 0.099	1.7	7.7
Delta BHC (delta-Hexachlorocyclohexane)	mg/kg	< 0.00635	< 0.00635	< 0.00635	< 0.00635	< 0.00635	0.0038	0.49
Dieldrin	mg/kg	**0.321**	**0.0125 J**	< 0.00697	< 0.00697	< 0.00697	0.034	0.14
Endosulfan I	mg/kg	< 0.00604	< 0.00604	< 0.00604	< 0.00604	< 0.00604	470	7,000
Endosulfan II	mg/kg	< 0.00661	< 0.00661	< 0.00661	< 0.00661	< 0.00661	470	7,000
Endosulfan sulfate	mg/kg	< 0.00642	< 0.00642	< 0.00642	< 0.00642	< 0.00642	380	4,900
Endrin	mg/kg	< 0.00746	< 0.00746	< 0.00746	< 0.00746	< 0.00746	19	250
Endrin aldehyde	mg/kg	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	NE	NE
Endrin ketone	mg/kg	< 0.00695	< 0.00695	< 0.00695	< 0.00695	< 0.00695	NE	NE
Gamma BHC (gamma-Hexachlorocyclohexane)	mg/kg	< 0.00676	< 0.00676	< 0.00676	< 0.00676	< 0.00676	0.057	0.80
Heptachlor	mg/kg	< 0.00693	< 0.00693	< 0.00693	< 0.00693	< 0.00693	0.13	0.63
Heptachlor epoxide	mg/kg	< 0.0065	< 0.0065	< 0.0065	< 0.0065	< 0.0065	0.70	0.33
Hexachlorobenzene	mg/kg	< 0.00608	< 0.00608	< 0.00608	< 0.00608	< 0.00608	160	2,300
Methoxychlor	mg/kg	< 0.00806	< 0.00806	< 0.00806	< 0.00806	< 0.00806	320	4,100
Toxaphene	mg/kg	< 0.214	< 0.214	< 0.214	< 0.214	< 0.214	0.49	2.1

Pesticides were analyzed by EPA Method 8081B.

Orange highlighted values indicate the reported concentration meets or exceeds the Residential and Industrial RSLs.

Blue bolded values indicate the reported concentration meets or exceeds the Residential RSL.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram. NE = Not established.

J = The reported value is an estimate.

P = Relative Percent Difference between the primary and confirmatory analysis exceeded 40%.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 2-C

SOIL ANALYTICAL RESULTS - PESTICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		GHS1-3B	GHS2-2A	GHS2-2B	GHS3-1A	GHS3-1B		
		0' - 1'	0' - 1'	0' - 1'	0' - 1'	0' - 1'		
		1/3/2025	1/3/2025	1/3/2025	1/3/2025	1/3/2025		
4,4-DDD (Dichlorodiphenyldichloroethane, p,p')	mg/kg	< 0.0069	< 0.0069	< 0.0069	< 0.0069	< 0.0069	2.3	9.6
4,4-DDE (Dichlorodiphenyldichloroethylene, p,p')	mg/kg	**0.0726 P**	< 0.00673	< 0.00673	< 0.00673	< 0.00673	2.0	9.3
4,4-DDT (Dichlorodiphenyltrichloroethane, p,p')	mg/kg	< 0.00766	< 0.00766	< 0.00766	< 0.00766	< 0.00766	1.9	8.5
Aldrin	mg/kg	< 0.00645	< 0.00645	< 0.00645	< 0.00645	< 0.00645	0.039	0.18
Alpha BHC (alpha-Hexachlorocyclohexane)	mg/kg	< 0.00637	< 0.00637	< 0.00637	< 0.00637	< 0.00637	0.086	0.36
Beta BHC (beta-Hexachlorocyclohexane)	mg/kg	< 0.0063	< 0.0063	< 0.0063	< 0.0063	< 0.0063	0.3	1.3
Chlordane	mg/kg	< 0.099	< 0.099	< 0.099	< 0.099	< 0.099	1.7	7.7
Delta BHC (delta-Hexachlorocyclohexane)	mg/kg	< 0.00635	< 0.00635	< 0.00635	< 0.00635	< 0.00635	0.0038	0.49
Dieldrin	mg/kg	**0.0734**	< 0.00697	< 0.00697	**0.038**	**0.0402**	0.034	0.14
Endosulfan I	mg/kg	< 0.00604	< 0.00604	**0.00969 J**	< 0.00604	< 0.00604	470	7,000
Endosulfan II	mg/kg	**0.00782 J**	< 0.00661	< 0.00661	< 0.00661	**0.0349**	470	7,000
Endosulfan sulfate	mg/kg	< 0.00642	< 0.00642	< 0.00642	< 0.00642	**0.0204**	380	4,900
Endrin	mg/kg	< 0.00746	< 0.00746	< 0.00746	< 0.00746	< 0.00746	19	250
Endrin aldehyde	mg/kg	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	NE	NE
Endrin ketone	mg/kg	< 0.00695	< 0.00695	< 0.00695	< 0.00695	< 0.00695	NE	NE
Gamma BHC (gamma-Hexachlorocyclohexane)	mg/kg	< 0.00676	< 0.00676	< 0.00676	< 0.00676	< 0.00676	0.057	0.80
Heptachlor	mg/kg	< 0.00693	< 0.00693	< 0.00693	< 0.00693	< 0.00693	0.13	0.63
Heptachlor epoxide	mg/kg	< 0.0065	< 0.0065	< 0.0065	< 0.0065	< 0.0065	0.70	0.33
Hexachlorobenzene	mg/kg	< 0.00608	< 0.00608	< 0.00608	< 0.00608	< 0.00608	160	2,300
Methoxychlor	mg/kg	< 0.00806	< 0.00806	< 0.00806	< 0.00806	< 0.00806	320	4,100
Toxaphene	mg/kg	< 0.214	< 0.214	< 0.214	< 0.214	< 0.214	0.49	2.1

Pesticides were analyzed by EPA Method 8081B.

Orange highlighted values indicate the reported concentration meets or exceeds the Residential and Industrial RSLs.

Blue bolded values indicate the reported concentration meets or exceeds the Residential RSL.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram. NE = Not established.

J = The reported value is an estimate.

P = Relative Percent Difference between the primary and confirmatory analysis exceeded 40%.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 2-D

SOIL ANALYTICAL RESULTS - PESTICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		GHN1-2A	GHN2-5A	GHN3-5A	GHS1-3C-1 0-1.0	GHS1-3C-2 1-1.5		
		0' - 1'	0' - 1'	0' - 1'	0' - 1'	1' - 1.5'		
		1/3/2025	1/3/2025	1/3/2025	2/18/2025	2/18/2025	Residential	Industrial
4,4-DDD (Dichlorodiphenyldichloroethane, p,p')	mg/kg	< 0.0069	< 0.0069	< 0.0069	< 0.0069	< 0.0069	2.3	9.6
4,4-DDE (Dichlorodiphenyldichloroethylene, p,p')	mg/kg	< 0.00673	< 0.00673	< 0.00673	< 0.00673	< 0.00673	2.0	9.3
4,4-DDT (Dichlorodiphenyltrichloroethane, p,p')	mg/kg	< 0.00766	< 0.00766	< 0.00766	< 0.00766	< 0.00766	1.9	8.5
Aldrin	mg/kg	< 0.00645	< 0.00645	< 0.00645	< 0.00645	< 0.00645	0.039	0.18
Alpha BHC (alpha-Hexachlorocyclohexane)	mg/kg	< 0.00637	< 0.00637	< 0.00637	< 0.00637	< 0.00637	0.086	0.36
Beta BHC (beta-Hexachlorocyclohexane)	mg/kg	< 0.0063	< 0.0063	< 0.0063	< 0.0063	< 0.0063	0.3	1.3
Chlordane	mg/kg	< 0.099	< 0.099	< 0.099	< 0.099	< 0.099	1.7	7.7
Delta BHC (delta-Hexachlorocyclohexane)	mg/kg	< 0.00635	< 0.00635	< 0.00635	< 0.00635	< 0.00635	0.0038	0.49
Dieldrin	mg/kg	< 0.00697	< 0.00697	**0.0155 J**	**0.0341**	**0.0261**	0.034	0.14
Endosulfan I	mg/kg	< 0.00604	< 0.00604	< 0.00604	< 0.00604	< 0.00604	470	7,000
Endosulfan II	mg/kg	< 0.00661	< 0.00661	**0.0123 J**	< 0.00661	< 0.00661	470	7,000
Endosulfan sulfate	mg/kg	< 0.00642	< 0.00642	**0.0288**	< 0.00642	< 0.00642	380	4,900
Endrin	mg/kg	< 0.00746	< 0.00746	< 0.00746	< 0.00746	< 0.00746	19	250
Endrin aldehyde	mg/kg	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	NE	NE
Endrin ketone	mg/kg	< 0.00695	< 0.00695	< 0.00695	< 0.00695	< 0.00695	NE	NE
Gamma BHC (gamma-Hexachlorocyclohexane)	mg/kg	< 0.00676	< 0.00676	< 0.00676	< 0.00676	< 0.00676	0.057	0.80
Heptachlor	mg/kg	< 0.00693	< 0.00693	< 0.00693	< 0.00693	< 0.00693	0.13	0.63
Heptachlor epoxide	mg/kg	< 0.0065	< 0.0065	< 0.0065	< 0.0065	< 0.0065	0.70	0.33
Hexachlorobenzene	mg/kg	< 0.00608	< 0.00608	< 0.00608	< 0.00608	< 0.00608	160	2,300
Methoxychlor	mg/kg	< 0.00806	< 0.00806	< 0.00806	< 0.00806	< 0.00806	320	4,100
Toxaphene	mg/kg	< 0.214	< 0.214	< 0.214	< 0.214	< 0.214	0.49	2.1

Pesticides were analyzed by EPA Method 8081B.

Orange highlighted values indicate the reported concentration meets or exceeds the Residential and Industrial RSLs.

Blue bolded values indicate the reported concentration meets or exceeds the Residential RSL.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram. NE = Not established.

J = The reported value is an estimate.

P = Relative Percent Difference between the primary and confirmatory analysis exceeded 40%.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 2-E

SOIL ANALYTICAL RESULTS - PESTICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		GHS1-3C-31.5-2.0	GHS2-1A-1 0-1.0	GHS2-1A-2 1-2	GHS3-1C-1 0-1	GHS3-1C-2 1-1.5		
		1.5' - 2'	0' - 1'	1' - 2'	0' - 1'	1' - 1.5'		
		2/18/2025	2/18/2025	2/18/2025	2/18/2025	2/18/2025	Residential	Industrial
4,4-DDD (Dichlorodiphenyldichloroethane, p,p')	mg/kg	< 0.0069	< 0.0069	< 0.0069	< 0.0069	< 0.0069	2.3	9.6
4,4-DDE (Dichlorodiphenyldichloroethylene, p,p')	mg/kg	< 0.00673	< 0.00673	< 0.00673	< 0.00673	< 0.00673	2.0	9.3
4,4-DDT (Dichlorodiphenyltrichloroethane, p,p')	mg/kg	< 0.00766	< 0.00766	< 0.00766	< 0.00766	< 0.00766	1.9	8.5
Aldrin	mg/kg	< 0.00645	< 0.00645	< 0.00645	< 0.00645	< 0.00645	0.039	0.18
Alpha BHC (alpha-Hexachlorocyclohexane)	mg/kg	< 0.00637	< 0.00637	< 0.00637	< 0.00637	< 0.00637	0.086	0.36
Beta BHC (beta-Hexachlorocyclohexane)	mg/kg	< 0.0063	< 0.0063	< 0.0063	< 0.0063	< 0.0063	0.3	1.3
Chlordane	mg/kg	< 0.099	< 0.099	< 0.099	< 0.099	< 0.099	1.7	7.7
Delta BHC (delta-Hexachlorocyclohexane)	mg/kg	< 0.00635	< 0.00635	< 0.00635	< 0.00635	< 0.00635	0.0038	0.49
Dieldrin	mg/kg	**0.0188 J**	**0.256**	**0.161**	**0.198**	**0.184**	0.034	0.14
Endosulfan I	mg/kg	< 0.00604	< 0.00604	< 0.00604	< 0.00604	< 0.00604	470	7,000
Endosulfan II	mg/kg	< 0.00661	< 0.00661	< 0.00661	< 0.00661	< 0.00661	470	7,000
Endosulfan sulfate	mg/kg	< 0.00642	< 0.00642	< 0.00642	< 0.00642	< 0.00642	380	4,900
Endrin	mg/kg	< 0.00746	< 0.00746	< 0.00746	< 0.00746	< 0.00746	19	250
Endrin aldehyde	mg/kg	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059	NE	NE
Endrin ketone	mg/kg	< 0.00695	< 0.00695	< 0.00695	< 0.00695	< 0.00695	NE	NE
Gamma BHC (gamma-Hexachlorocyclohexane)	mg/kg	< 0.00676	< 0.00676	< 0.00676	< 0.00676	< 0.00676	0.057	0.80
Heptachlor	mg/kg	< 0.00693	< 0.00693	< 0.00693	< 0.00693	< 0.00693	0.13	0.63
Heptachlor epoxide	mg/kg	< 0.0065	< 0.0065	< 0.0065	< 0.0065	< 0.0065	0.70	0.33
Hexachlorobenzene	mg/kg	< 0.00608	< 0.00608	< 0.00608	< 0.00608	< 0.00608	160	2,300
Methoxychlor	mg/kg	< 0.00806	< 0.00806	< 0.00806	< 0.00806	< 0.00806	320	4,100
Toxaphene	mg/kg	< 0.214	< 0.214	< 0.214	< 0.214	< 0.214	0.49	2.1

Pesticides were analyzed by EPA Method 8081B.

Orange highlighted values indicate the reported concentration meets or exceeds the Residential and Industrial RSLs.

Blue bolded values indicate the reported concentration meets or exceeds the Residential RSL.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram. NE = Not established.

J = The reported value is an estimate.

P = Relative Percent Difference between the primary and confirmatory analysis exceeded 40%.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 2-F

SOIL ANALYTICAL RESULTS - PESTICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling			Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		GHS3-1C-3 1.5-2	GHN1-1A-1 0-1	GHN1-1A-2 1-2		
		1.5' - 2'	0' - 1'	1' - 2'		
		2/18/2025	2/18/2025	2/18/2025	Residential	Industrial
4,4-DDD (Dichlorodiphenyldichloroethane, p,p')	mg/kg	< 0.0069	< 0.0069	< 0.0069	2.3	9.6
4,4-DDE (Dichlorodiphenyldichloroethylene, p,p')	mg/kg	< 0.00673	< 0.00673	< 0.00673	2.0	9.3
4,4-DDT (Dichlorodiphenyltrichloroethane, p,p')	mg/kg	< 0.00766	< 0.00766	< 0.00766	1.9	8.5
Aldrin	mg/kg	< 0.00645	< 0.00645	< 0.00645	0.039	0.18
Alpha BHC (alpha-Hexachlorocyclohexane)	mg/kg	< 0.00637	< 0.00637	< 0.00637	0.086	0.36
Beta BHC (beta-Hexachlorocyclohexane)	mg/kg	< 0.0063	< 0.0063	< 0.0063	0.3	1.3
Chlordane	mg/kg	< 0.099	< 0.099	< 0.099	1.7	7.7
Delta BHC (delta-Hexachlorocyclohexane)	mg/kg	< 0.00635	< 0.00635	< 0.00635	0.0038	0.49
Dieldrin	mg/kg	**0.00790 J**	**0.0171 J**	**0.0270**	0.034	0.14
Endosulfan I	mg/kg	< 0.00604	< 0.00604	< 0.00604	470	7,000
Endosulfan II	mg/kg	< 0.00661	< 0.00661	< 0.00661	470	7,000
Endosulfan sulfate	mg/kg	< 0.00642	< 0.00642	< 0.00642	380	4,900
Endrin	mg/kg	< 0.00746	< 0.00746	< 0.00746	19	250
Endrin aldehyde	mg/kg	< 0.0059	< 0.0059	< 0.0059	NE	NE
Endrin ketone	mg/kg	< 0.00695	< 0.00695	< 0.00695	NE	NE
Gamma BHC (gamma-Hexachlorocyclohexane)	mg/kg	< 0.00676	< 0.00676	< 0.00676	0.057	0.80
Heptachlor	mg/kg	< 0.00693	< 0.00693	< 0.00693	0.13	0.63
Heptachlor epoxide	mg/kg	< 0.0065	< 0.0065	< 0.0065	0.70	0.33
Hexachlorobenzene	mg/kg	< 0.00608	< 0.00608	< 0.00608	160	2,300
Methoxychlor	mg/kg	< 0.00806	< 0.00806	< 0.00806	320	4,100
Toxaphene	mg/kg	< 0.214	< 0.214	< 0.214	0.49	2.1

Pesticides were analyzed by EPA Method 8081B.

Orange highlighted values indicate the reported concentration meets or exceeds the Residential and Industrial RSLs.

Blue bolded values indicate the reported concentration meets or exceeds the Residential RSL.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram. NE = Not established.

J = The reported value is an estimate.

P = Relative Percent Difference between the primary and confirmatory analysis exceeded 40%.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 3-A

SOIL ANALYTICAL RESULTS
CHLORINCATED ACID HERBICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		MW-01	MW-02	MW-03	MW-04	MW-05		
		1' - 2'	1' - 2'	1' - 2'	1' - 3'	1' - 2'		
		1/2/2025	1/2/2025	1/2/2025	1/2/2025	1/2/2025	Residential	Industrial
2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	< 0.0236	< 0.0236	< 0.0236	< 0.0236	< 0.0236	63	820
2,4,5-TP (Silvex) (trichlorophenoxypropionic)	mg/kg	< 0.0187	< 0.0187	< 0.0187	< 0.0187	< 0.0187	510	6,600
2,4-D (Dichlorophenoxyacetic acid)	mg/kg	< 0.0257	< 0.0257	< 0.0257	**0.0315 J**	< 0.0257	700	9,600
2,4-DB (Dichlorophenoxy Acetic Acid, 2,4-)	mg/kg	< 0.0186	< 0.0186	< 0.0186	< 0.0186	< 0.0186	700	9,600
Dalapon	mg/kg	< 0.0440	< 0.0440	< 0.0440	< 0.0440	< 0.0440	1,900	25,000
Dicamba	mg/kg	< 0.0226	< 0.0226	**0.0333 J**	**0.0605 J**	< 0.0226	1,900	25,000
Dichloroprop	mg/kg	< 0.0183	< 0.0183	< 0.0183	< 0.0183	< 0.0183	NE	NE
Dinoseb	mg/kg	< 0.0255	< 0.0255	< 0.0255	< 0.0255	< 0.0255	63	820
MCPA	mg/kg	< 1.86	< 1.86	< 1.86	< 1.86	< 1.86	32	410
MCPP	mg/kg	< 2.03	< 2.03	< 2.03	< 2.03	< 2.03	63	820

Herbicides were analyzed by EPA Method 8151A.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram.

J = The reported value is an estimate.

NE = Not established.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 3-B

SOIL ANALYTICAL RESULTS
CHLORINCATED ACID HERBICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		WGB-01	WGB-02	WGB-09	WGB-10	GHS1-3A		
		1' - 2'	1' - 2'	1' - 2'	1' - 2'	0' - 1'		
		1/3/2025	1/3/2025	1/3/2025	1/3/2025	1/3/2025		
2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	< 0.0236	< 0.0236	< 0.0236	< 0.0713	< 0.0236	63	820
2,4,5-TP (Silvex) (trichlorophenoxypropionic)	mg/kg	< 0.0187	< 0.0187	< 0.0187	< 0.0565	< 0.0187	510	6,600
2,4-D (Dichlorophenoxyacetic acid)	mg/kg	< 0.0257	< 0.0257	< 0.0257	< 0.0776	< 0.0257	700	9,600
2,4-DB (Dichlorophenoxy Acetic Acid, 2,4-)	mg/kg	< 0.0186	< 0.0186	< 0.0186	< 0.0562	< 0.0186	700	9,600
Dalapon	mg/kg	< 0.0440	< 0.0440	< 0.0440	< 0.0440	< 0.0440	1,900	25,000
Dicamba	mg/kg	< 0.0226	< 0.0226	< 0.0226	< 0.0683	**0.0903**	1,900	25,000
Dichloroprop	mg/kg	< 0.0183	< 0.0183	< 0.0183	< 0.0553	< 0.0183	NE	NE
Dinoseb	mg/kg	< 0.0255	< 0.0255	< 0.0255	< 0.077	< 0.0255	63	820
MCPA	mg/kg	< 1.86	< 1.86	< 1.86	< 5.62	< 1.86	32	410
MCPP	mg/kg	< 2.03	< 2.03	< 2.03	< 6.13	< 2.03	63	820

Herbicides were analyzed by EPA Method 8151A.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram.

J = The reported value is an estimate.

NE = Not established.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 3-C

SOIL ANALYTICAL RESULTS
CHLORINCATED ACID HERBICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		GHS1-3B	GHS2-2A	GHS2-2B	GHS3-1A	GHS3-1B		
		0' - 1'	0' - 1'	0' - 1'	0' - 1'	0' - 1'		
		1/3/2025	1/3/2025	1/3/2025	1/3/2025	1/3/2025		
2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	< 0.0236	< 0.0236	< 0.0236	< 0.0236	< 0.0236	63	820
2,4,5-TP (Silvex) (trichlorophenoxypropionic)	mg/kg	< 0.0187	< 0.0187	< 0.0187	< 0.0187	< 0.0187	510	6,600
2,4-D (Dichlorophenoxyacetic acid)	mg/kg	< 0.0257	< 0.0257	< 0.0257	< 0.0257	< 0.0257	700	9,600
2,4-DB (Dichlorophenoxy Acetic Acid, 2,4-)	mg/kg	< 0.0186	< 0.0186	< 0.0186	< 0.0186	< 0.0186	700	9,600
Dalapon	mg/kg	< 0.0440	< 0.0440	< 0.0440	< 0.0440	< 0.0440	1,900	25,000
Dicamba	mg/kg	< 0.0226	< 0.0226	< 0.0226	< 0.0226	< 0.0226	1,900	25,000
Dichloroprop	mg/kg	< 0.0183	< 0.0183	< 0.0183	< 0.0183	< 0.0183	NE	NE
Dinoseb	mg/kg	< 0.0255	< 0.0255	< 0.0255	< 0.0255	< 0.0255	63	820
MCPA	mg/kg	< 1.86	< 1.86	< 1.86	< 1.86	< 1.86	32	410
MCPP	mg/kg	< 2.03	< 2.03	< 2.03	< 2.03	< 2.03	63	820

Herbicides were analyzed by EPA Method 8151A.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram.

J = The reported value is an estimate.

NE = Not established.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 3-D

SOIL ANALYTICAL RESULTS
CHLORINCATED ACID HERBICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		GHN1-2A	GHN2-5A	GHN3-5A	GHS1-3C-1 0-1.0	GHS1-3C-2 1-1.5		
		0' - 1'	0' - 1'	0' - 1'	0' - 1'	1' - 1.5'		
		1/3/2025	1/3/2025	1/3/2025	2/18/2025	2/18/2025	Residential	Industrial
2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	< 0.0236	< 0.0236	< 0.0236	< 0.0236	< 0.0236	63	820
2,4,5-TP (Silvex) (trichlorophenoxypropionic)	mg/kg	< 0.0187	< 0.0187	< 0.0187	< 0.0187	< 0.0187	510	6,600
2,4-D (Dichlorophenoxyacetic acid)	mg/kg	< 0.0257	< 0.0257	< 0.0257	< 0.0257	< 0.0257	700	9,600
2,4-DB (Dichlorophenoxy Acetic Acid, 2,4-)	mg/kg	< 0.0186	< 0.0186	< 0.0186	< 0.0186	< 0.0186	700	9,600
Dalapon	mg/kg	< 0.0440	< 0.0440	< 0.0440	< 0.0440	< 0.0440	1,900	25,000
Dicamba	mg/kg	< 0.0226	< 0.0226	< 0.0226	< 0.0226	< 0.0226	1,900	25,000
Dichloroprop	mg/kg	< 0.0183	< 0.0183	< 0.0183	< 0.0183	< 0.0183	NE	NE
Dinoseb	mg/kg	< 0.0255	< 0.0255	< 0.0255	< 0.0255	< 0.0255	63	820
MCPA	mg/kg	< 1.86	< 1.86	< 1.86	< 1.86	< 1.86	32	410
MCPP	mg/kg	< 2.03	< 2.03	< 2.03	< 2.03	< 2.03	63	820

Herbicides were analyzed by EPA Method 8151A.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram.

J = The reported value is an estimate.

NE = Not established.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 3-E

SOIL ANALYTICAL RESULTS
CHLORINCATED ACID HERBICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		GHS1-3C-31.5-2.0	GHS2-1A-1 0-1.0	GHS2-1A-2 1-2	GHS3-1C-1 0-1	GHS3-1C-2 1-1.5		
		1.5' - 2'	0' - 1'	1' - 2'	0' - 1'	1' - 1.5'		
		2/18/2025	2/18/2025	2/18/2025	2/18/2025	2/18/2025	Residential	Industrial
2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	< 0.0236	< 0.0236	< 0.0236	< 0.0236	< 0.0236	63	820
2,4,5-TP (Silvex) (trichlorophenoxypropionic)	mg/kg	< 0.0187	< 0.0187	< 0.0187	< 0.0187	< 0.0187	510	6,600
2,4-D (Dichlorophenoxyacetic acid)	mg/kg	< 0.0257	< 0.0257	< 0.0257	< 0.0257	< 0.0257	700	9,600
2,4-DB (Dichlorophenoxy Acetic Acid, 2,4-)	mg/kg	< 0.0186	< 0.0186	< 0.0186	< 0.0186	< 0.0186	700	9,600
Dalapon	mg/kg	< 0.0440	< 0.0440	< 0.0440	< 0.0440	< 0.0440	1,900	25,000
Dicamba	mg/kg	< 0.0226	< 0.0226	< 0.0226	< 0.0226	< 0.0226	1,900	25,000
Dichloroprop	mg/kg	< 0.0183	< 0.0183	< 0.0183	< 0.0183	< 0.0183	NE	NE
Dinoseb	mg/kg	< 0.0255	< 0.0255	< 0.0255	< 0.0255	< 0.0255	63	820
MCPA	mg/kg	< 1.86	< 1.86	< 1.86	< 1.86	< 1.86	32	410
MCPP	mg/kg	< 2.03	< 2.03	< 2.03	< 2.03	< 2.03	63	820

Herbicides were analyzed by EPA Method 8151A.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram.

J = The reported value is an estimate.

NE = Not established.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 3-F

SOIL ANALYTICAL RESULTS
CHLORINCATED ACID HERBICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling			Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		GHS3-1C-3 1.5-2	GHN1-1A-1 0-1	GHN1-1A-2 1-2		
		1.5' - 2'	0' - 1'	1' - 2'		
		2/18/2025	2/18/2025	2/18/2025	Residential	Industrial
2,4,5-T (Trichlorophenoxyacetic acid)	mg/kg	< 0.0236	< 0.0236	< 0.0236	63	820
2,4,5-TP (Silvex) (trichlorophenoxypropionic)	mg/kg	< 0.0187	< 0.0187	< 0.0187	510	6,600
2,4-D (Dichlorophenoxyacetic acid)	mg/kg	< 0.0257	< 0.0257	< 0.0257	700	9,600
2,4-DB (Dichlorophenoxy Acetic Acid, 2,4-)	mg/kg	< 0.0186	< 0.0186	< 0.0186	700	9,600
Dalapon	mg/kg	< 0.0440	< 0.0440	< 0.0440	1,900	25,000
Dicamba	mg/kg	< 0.0226	< 0.0226	< 0.0226	1,900	25,000
Dichloroprop	mg/kg	< 0.0183	< 0.0183	< 0.0183	NE	NE
Dinoseb	mg/kg	< 0.0255	< 0.0255	< 0.0255	63	820
MCPA	mg/kg	< 1.86	< 1.86	< 1.86	32	410
MCPP	mg/kg	< 2.03	< 2.03	< 2.03	63	820

Herbicides were analyzed by EPA Method 8151A.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram.

J = The reported value is an estimate.

NE = Not established.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 4-A

SOIL ANALYTICAL RESULTS - RESOURCE CONSERVATION RECOVERY ACT (RCRA) METALS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		MW-01	MW-02	MW-03	MW-04	MW-05		
		1' - 2'	1' - 2'	1' - 2'	1' - 3'	1' - 2'		
		1/2/2025	1/2/2025	1/2/2025	1/2/2025	1/2/2025	Residential	Industrial
Arsenic	mg/kg	**3.28**	**2.53**	**4.05**	**1.72 J**	**2.87**	11*	11*
Barium	mg/kg	**89.4**	**78.4**	**127**	**76.1**	**75.4**	15,000	220,000
Cadmium	mg/kg	**0.126 J**	**0.141 J**	**0.221 J**	**0.0746 J**	**0.174**	7.1	100
Chromium	mg/kg	**61.8**	**46.6**	**44.6**	**45.8**	**31.1**	85,000	360,000
Lead	mg/kg	**15.5**	**12.5**	**17.4**	**6.7**	**13.2**	200	800
Selenium	mg/kg	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	390	5,800
Silver	mg/kg	**0.53 J**	< 0.127	**0.393 J**	**0.214 J**	< 0.127	390	5,800
Mercury	mg/kg	< 0.0206	< 0.0206	< 0.0206	< 0.0206	< 0.0206	7.1	30

Resource Conservation and Recovery Act (RCRA) Metals were analyzed by EPA Methods 6010D and 7471B.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram.

J = The reported value is an estimate.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

*The CDPHE has established a background concentration for arsenic of 11 mg/kg for Colorado soils.

TABLE 4-B

SOIL ANALYTICAL RESULTS - RESOURCE CONSERVATION RECOVERY ACT (RCRA) METALS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		WGB-01	WGB-02	WGB-09	WGB-10	GHS1-3A		
		1' - 2'	1' - 2'	1' - 2'	1' - 2'	0' - 1'		
		1/3/2025	1/3/2025	1/3/2025	1/3/2025	1/3/2025	Residential	Industrial
Arsenic	mg/kg	**2.57**	**2.79**	**2.85**	**3.24**	**4.68**	11*	11*
Barium	mg/kg	**77.3**	**71.9**	**73.8**	**72.5**	**68.4**	15,000	220,000
Cadmium	mg/kg	**0.36 J**	**0.306 J**	**0.077 J**	**0.57**	**0.211**	7.1	100
Chromium	mg/kg	**50.9**	**35.9**	**31.4**	**24.4**	**32.7**	85,000	360,000
Lead	mg/kg	**24.6**	**19.4**	**17**	**20.3**	**12.7**	200	800
Selenium	mg/kg	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	390	5,800
Silver	mg/kg	< 0.127	< 0.127	< 0.127	< 0.127	< 0.127	390	5,800
Mercury	mg/kg	< 0.0206	< 0.0206	< 0.0206	< 0.0206	< 0.0206	7.1	30

Resource Conservation and Recovery Act (RCRA) Metals were analyzed by EPA Methods 6010D and 7471B.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram.

J = The reported value is an estimate.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

*The CDPHE has established a background concentration for arsenic of 11 mg/kg for Colorado soils.

TABLE 4-C

SOIL ANALYTICAL RESULTS - RESOURCE CONSERVATION RECOVERY ACT (RCRA) METALS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		GHS1-3B	GHS2-2A	GHS2-2B	GHS3-1A	GHS3-1B		
		0' - 1'	0' - 1'	0' - 1'	0' - 1'	0' - 1'		
		1/3/2025	1/3/2025	1/3/2025	1/3/2025	1/3/2025	Residential	Industrial
Arsenic	mg/kg	< 0.837	**4.35**	**3.27**	**< 0.837**	**2.46**	11*	11*
Barium	mg/kg	**25.8**	**140**	**111**	**31.8**	**59.7**	15,000	220,000
Cadmium	mg/kg	**0.246**	**0.145 J**	**0.194 J**	**0.0931 J**	**0.235 J**	7.1	100
Chromium	mg/kg	**17.4**	**71.8**	**74.6**	**8.35**	**45.3 J6**	85,000	360,000
Lead	mg/kg	**9.23**	**18.3**	**14**	**7.06**	**21.3 O1**	200	800
Selenium	mg/kg	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	390	5,800
Silver	mg/kg	< 0.127	**0.145 J**	< 0.127	< 0.127	**2.33**	390	5,800
Mercury	mg/kg	< 0.0206	< 0.0206	< 0.0206	< 0.0206	< 0.0206	7.1	30

Resource Conservation and Recovery Act (RCRA) Metals were analyzed by EPA Methods 6010D and 7471B.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram.

J = The reported value is an estimate.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

*The CDPHE has established a background concentration for arsenic of 11 mg/kg for Colorado soils.

TABLE 4-D

SOIL ANALYTICAL RESULTS - RESOURCE CONSERVATION RECOVERY ACT (RCRA) METALS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling			Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		GHN1-2A	GHN2-5A	GHN3-5A		
		0' - 1'	0' - 1'	0' - 1'		
		1/3/2025	1/3/2025	1/3/2025	Residential	Industrial
Arsenic	mg/kg	**1.72 J**	**0.977 J**	**3.18**	11*	11*
Barium	mg/kg	**72.5**	**50.6**	**113**	15,000	220,000
Cadmium	mg/kg	**0.3 J**	**0.163 J**	**0.419 J**	7.1	100
Chromium	mg/kg	**13.2**	**11.5**	**68.9**	85,000	360,000
Lead	mg/kg	**14.9**	**11.9**	**25.4**	200	800
Selenium	mg/kg	< 1.07	< 1.07	**1.15 J**	390	5,800
Silver	mg/kg	< 0.127	< 0.127	< 0.127	390	5,800
Mercury	mg/kg	< 0.0206	< 0.0206	< 0.0206	7.1	30

Resource Conservation and Recovery Act (RCRA) Metals were analyzed by EPA Methods 6010D and 7471B.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram.

J = The reported value is an estimate.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

*The CDPHE has established a background concentration for arsenic of 11 mg/kg for Colorado soils.

TABLE 5

SOIL ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling				Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		WGB-01	WGB-01-A	WGB-09	WGB-10		
		1' - 2'	8.7'	1' - 2'	1' - 2'		
		1/3/2025	1/3/2025	1/3/2025	1/3/2025	Residential	Industrial
1,1,1,2-Tetrachloroethane	mg/kg	< 0.000948	< 0.000948	< 0.000948	< 0.000948	2.0	8.8
1,1,1-Trichloroethane	mg/kg	< 0.000923	< 0.000923	< 0.000923	< 0.000923	8,100	36,000
1,1,2,2-Tetrachloroethane	mg/kg	< 0.000695	< 0.000695	< 0.000695	< 0.000695	0.6	2.7
1,1,2-Trichloroethane	mg/kg	< 0.000597	< 0.000597	< 0.000597	< 0.000597	1.1	5.0
1,1,2-Trichlorotrifluoroethane	mg/kg	< 0.000754	< 0.000754	< 0.000754	< 0.000754	NE	NE
1,1-Dichloroethane	mg/kg	< 0.000491	< 0.000491	< 0.000491	< 0.000491	3.6	16
1,1-Dichloroethene	mg/kg	< 0.000606	< 0.000606	< 0.000606	< 0.000606	4.8	20
1,1-Dichloropropene	mg/kg	< 0.000809	< 0.000809	< 0.000809	< 0.000809	NE	NE
1,2,3-Trichlorobenzene	mg/kg	< 0.00733	< 0.00733	< 0.00733	< 0.00733	63	930
1,2,3-Trichloropropane	mg/kg	< 0.00162	< 0.00162	< 0.00162	< 0.00162	0.0051	0.11
1,2,3-Trimethylbenzene	mg/kg	< 0.00158	< 0.00158	< 0.00158	< 0.00158	340	2,000
1,2,4-Trichlorobenzene	mg/kg	< 0.0044	< 0.0044	< 0.0044	< 0.0044	24	110
1,2,4-Trimethylbenzene	mg/kg	< 0.00158	< 0.00158	< 0.00158	< 0.00158	300	1,800
1,2-Dibromo-3-Chloropropane	mg/kg	< 0.0039	< 0.0039	< 0.0039	< 0.0039	0.0053	0.064
1,2-Dibromoethane	mg/kg	< 0.000648	< 0.000648	< 0.000648	< 0.000648	0.036	0.16
1,2-Dichlorobenzene	mg/kg	< 0.000425	< 0.000425	< 0.000425	< 0.000425	1,800	9,300
1,2-Dichloroethane	mg/kg	< 0.000649	< 0.000649	< 0.000649	< 0.000649	0.46	2.0
1,2-Dichloropropane	mg/kg	< 0.00142	< 0.00142	< 0.00142	< 0.00142	2.5	11
1,3,5-Trimethylbenzene	mg/kg	< 0.002	< 0.002	< 0.002	< 0.002	270	1,500
1,3-Dichlorobenzene	mg/kg	< 0.0006	< 0.0006	< 0.0006	< 0.0006	NE	NE
1,3-Dichloropropane	mg/kg	< 0.000501	< 0.000501	< 0.000501	< 0.000501	1,600	23,000
1,4-Dichlorobenzene	mg/kg	< 0.0007	< 0.0007	< 0.0007	< 0.0007	2.6	11
2,2-Dichloropropane	mg/kg	< 0.00138	< 0.00138	< 0.00138	< 0.00138	NE	NE
2-Butanone (MEK = Methyl ethyl ketone)	mg/kg	< 0.0635	< 0.0635	< 0.0635	< 0.0635	27,000	190,000
2-Chlorotoluene	mg/kg	< 0.000865	< 0.000865	< 0.000865	< 0.000865	1,600	23,000
4-Chlorotoluene	mg/kg	< 0.00045	< 0.00045	< 0.00045	< 0.00045	1,600	23,000
4-Methyl-2-pentanone (MIBK)	mg/kg	< 0.00228	< 0.00228	< 0.00228	< 0.00228	33,000	140,000

TABLE 5 (Continued)

SOIL ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling				Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		WGB-01	WGB-01-A	WGB-09	WGB-10		
		1' - 2'	8.7'	1' - 2'	1' - 2'		
		1/3/2025	1/3/2025	1/3/2025	1/3/2025	Residential	Industrial
Acetone	mg/kg	< 0.0365	< 0.0365	< 0.0365	< 0.0365	70,000	1,100,000
Acrylonitrile	mg/kg	< 0.00361	< 0.00361	< 0.00361	< 0.00361	0.25	1.1
Benzene	mg/kg	< 0.000467	< 0.000467	< 0.000467	< 0.000467	1.2	5.1
Bromobenzene	mg/kg	< 0.0009	< 0.0009	< 0.0009	< 0.0009	290	1,800
Bromodichloromethane	mg/kg	< 0.000725	< 0.000725	< 0.000725	< 0.000725	0.29	1.3
Bromoform	mg/kg	< 0.00117	< 0.00117	< 0.00117	< 0.00117	19	86
Bromomethane	mg/kg	< 0.00197	< 0.00197	< 0.00197	< 0.00197	6.8	30
Carbon tetrachloride	mg/kg	< 0.000898	< 0.000898	< 0.000898	< 0.000898	0.65	2.9
Chlorobenzene	mg/kg	< 0.00021	< 0.00021	< 0.00021	< 0.00021	280	1,300
Chlorodibromomethane	mg/kg	< 0.000612	< 0.000612	< 0.000612	< 0.000612	8.3	39
Chloroethane	mg/kg	< 0.0017	< 0.0017	< 0.0017	< 0.0017	5,400	23,000
Chloroform	mg/kg	< 0.00103	< 0.00103	< 0.00103	< 0.00103	0.32	1.4
Chloromethane	mg/kg	< 0.00435	< 0.00435	< 0.00435	< 0.00435	110	460
cis-1,2-Dichloroethene	mg/kg	< 0.000734	< 0.000734	< 0.000734	< 0.000734	0.46	2.0
cis-1,3-Dichloropropene	mg/kg	< 0.000757	< 0.000757	< 0.000757	< 0.000757	1.8	8.2
Di-isopropyl ether	mg/kg	< 0.00041	< 0.00041	< 0.00041	< 0.00041	2,200	9,400
Dibromomethane	mg/kg	< 0.00075	< 0.00075	< 0.00075	< 0.00075	24	99
Dichlorodifluoromethane	mg/kg	< 0.00161	< 0.00161	< 0.00161	< 0.00161	NE	NE
Ethylbenzene	mg/kg	< 0.000737	< 0.000737	< 0.000737	< 0.000737	5.8	25
Hexachloro-1,3-butadiene	mg/kg	< 0.006	< 0.006	< 0.006	< 0.006	1.2	5.3
Isopropylbenzene	mg/kg	< 0.000425	< 0.000425	< 0.000425	< 0.000425	1,900	9,900
Methyl tert-butyl ether	mg/kg	< 0.00035	< 0.00035	**0.000475 J**	< 0.00035	47	210
Methylene Chloride	mg/kg	< 0.00664	< 0.00664	< 0.00664	< 0.00664	57	1,000
n-Butylbenzene	mg/kg	< 0.00525	< 0.00525	< 0.00525	< 0.00525	3,900	58,000
n-Propylbenzene	mg/kg	< 0.00095	< 0.00095	< 0.00095	< 0.00095	3,800	24,000
Naphthalene	mg/kg	< 0.00488	< 0.00488	< 0.00488	< 0.00488	2.0	8.6
p-Isopropyltoluene	mg/kg	< 0.00255	< 0.00255	< 0.00255	< 0.00255	170	1,100

TABLE 5 (Continued)

SOIL ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling				Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		WGB-01	WGB-01-A	WGB-09	WGB-10		
		1' - 2'	8.7'	1' - 2'	1' - 2'		
		1/3/2025	1/3/2025	1/3/2025	1/3/2025	Residential	Industrial
sec-Butylbenzene	mg/kg	< 0.00288	< 0.00288	< 0.00288	< 0.00288	7,800	120,000
Styrene	mg/kg	< 0.000229	< 0.000229	< 0.000229	< 0.000229	6,000	35,000
tert-Butylbenzene	mg/kg	< 0.00195	< 0.00195	< 0.00195	< 0.00195	7,800	120,000
Tetrachloroethene	mg/kg	< 0.000896	< 0.000896	< 0.000896	< 0.000896	24	100
Toluene	mg/kg	< 0.0013	< 0.0013	< 0.0013	< 0.0013	4,900	47,000
trans-1,2-Dichloroethene	mg/kg	< 0.00104	< 0.00104	< 0.00104	< 0.00104	70	300
trans-1,3-Dichloropropene	mg/kg	< 0.00114	< 0.00114	< 0.00114	< 0.00114	NE	NE
Trichloroethene	mg/kg	< 0.000584	< 0.000584	< 0.000584	< 0.000584	0.94	6.0
Trichlorofluoromethane	mg/kg	< 0.000827	< 0.000827	< 0.000827	< 0.000827	23,000	350,000
Vinyl chloride	mg/kg	< 0.00116	< 0.00116	< 0.00116	< 0.00116	0.059	1.7
Xylenes, Total	mg/kg	< 0.00088	< 0.00088	**0.00239 J**	< 0.00088	580	2,500

Volatile Organic Compounds (VOCs) were analyzed by EPA Method 8260B.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram.

J = The identification of the analyte is acceptable; the reported value is an estimate.

MIBK = Methyl isobutyl ketone

NE = Not established

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 6

SOIL ANALYTICAL RESULTS - TOTAL PETROLEUM HYDROCARBONS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling				Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		WGB-01	WGB-01A	WGB-09	WGB-10		
		1' - 2'	8.7'	1' - 2'	1' - 2'		
		1/3/2025	1/3/2025	1/3/2025	1/3/2025	Residential	Industrial
C10-C28 Diesel Range Organics (DRO)	mg/kg	**17.8**	**1,240**	**11,200**	**64.4**	96	440
C28-C40 Oil Range Organics (ORO)	mg/kg	**22.5**	**13.7 J**	**41,200**	**172**	18	220
Gasoline Range Organics (GRO)	mg/kg	**0.0632 B J**	**0.126 B**	**0.0966 B J**	**0.115 B**	96	440

DRO and ORO were analyzed by EPA Method 8015 (TPH (GC/FID) Low Fraction).

GRO was analyzed by EPA Method 8015D/GRO.

Orange highlighted values indicate the reported concentration meets or exceeds the Residential and Industrial RSLs.

Blue bolded values indicate the reported concentration meets or exceeds the Residential RSL.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/kg = Milligrams per kilogram.

B = The same analyte was found in the associated blank.

J = The reported value is an estimate.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

Industrial RSLs apply to both Commercial and Industrial use.

TABLE 7-A

SOIL ANALYTICAL RESULTS - pH, NITRATE AS N, AND SULFATE
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling					Environmental Protection Agency (EPA) Regional Screening Level (RSL)	
		MW-01	MW-02	MW-03	MW-04	MW-05		
		1' - 2'	1' - 2'	1' - 2'	1' - 3'	1' - 2'		
		1/2/2025	1/2/2025	1/2/2025	1/2/2025	1/2/2025	Residential	Industrial
pH	su	**8.12 T8**	**7.50 T8**	**8.81 T8**	**7.62 T8**	**8.24 T8**	NE	NE
Nitrate as N	mg/kg	**3.21 J**	**6.02 J**	**21.2**	**5.19 J**	**5.48 J**	130,000	1,900,000
Sulfate	mg/kg	**14.1 J**	**17.9 J**	**95.1**	**10.8 J**	**10.9 J**	NE	NE

Nitrate as N and Sulfate were analyzed by EPA Methods 9056A.

pH was analyzed by EPA Methods 9045D.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Residential RSL.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

su = Standard units.

mg/kg = Milligrams per kilogram.

NE = Not established.

T8 = Sample received too close to holding time expiration.

J = The reported value is an estimate.

P1 = RPD value not applicable for sample concentrations less than 5 times the reporting limit.

EPA RSLs per "Summary Table" - Dated November 2024. The CDPHE currently refers to the RSLs for soil cleanup in Colorado.

TABLE 8

GROUNDWATER ANALYTICAL RESULTS - PESTICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling				Colorado Groundwater Standard
		MW-01	MW-02	MW-03	MW-04	
		1/8/2025	1/24/2025	1/8/2025	1/8/2025	
4,4-DDD (Dichlorodiphenyldichloroethane, p,p')	µg/L	< 0.0297	< 0.0297	< 0.0297	< 0.0297	0.15
4,4-DDE (Dichlorodiphenyldichloroethylene, p,p')	µg/L	< 0.0276	< 0.0276	< 0.0276	< 0.0276	0.1
4,4-DDT (Dichlorodiphenyltrichloroethane, p,p')	µg/L	< 0.0211	< 0.0211	< 0.0211	< 0.0211	0.1
Aldrin	µg/L	< 0.0249	< 0.0249	< 0.0249	< 0.0249	0.0021 *
Alpha BHC (alpha-Hexachlorocyclohexane)	µg/L	< 0.0277	< 0.0277	< 0.0277	< 0.0277	0.0056 *
Beta BHC (beta-Hexachlorocyclohexane)	µg/L	< 0.0326	< 0.0326	< 0.0326	< 0.0326	NE
Chlordane	µg/L	< 0.7	< 0.7	< 0.7	< 0.7	0.10 to 2 *
Delta BHC (delta-Hexachlorocyclohexane)	µg/L	< 0.0403	< 0.0403	< 0.0403	< 0.0403	NE
Dieldrin	µg/L	< 0.0298	< 0.0298	< 0.0298	< 0.0298	0.002 *
Endosulfan I	µg/L	< 0.0306	< 0.0306	< 0.0306	< 0.0306	42
Endosulfan II	µg/L	< 0.0311	< 0.0311	< 0.0311	< 0.0311	42
Endosulfan sulfate	µg/L	< 0.0306	< 0.0306	< 0.0306	< 0.0306	42
Endrin	µg/L	< 0.0329	< 0.0329	< 0.0329	< 0.0329	2
Endrin aldehyde	µg/L	< 0.0358	< 0.0358	< 0.0358	< 0.0358	2.1
Endrin ketone	µg/L	< 0.0322	< 0.0322	< 0.0322	< 0.0322	NE
Gamma BHC (gamma-Hexachlorocyclohexane)	µg/L	< 0.0267	< 0.0267	< 0.0267	< 0.0267	0.2
Heptachlor	µg/L	< 0.029	< 0.029	< 0.029	< 0.029	0.008 to 0.4 *
Heptachlor epoxide	µg/L	< 0.0307	< 0.0307	< 0.0307	< 0.0307	0.004 to 0.2 *
Hexachlorobenzene	µg/L	< 0.0425	< 0.0425	< 0.0425	< 0.0425	0.022 to 1.0 *
Methoxychlor	µg/L	< 0.04	< 0.04	< 0.04	< 0.04	35 to 40
Toxaphene	µg/L	< 0.4	< 0.4	< 0.4	< 0.4	0.032 to 3 *

Pesticides were analyzed by EPA Method 8081B.

µg/L = Micrograms per liter.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

NE = Not established.

Groundwater Standard = Colorado Department of Public Health and Environment, Water Quality Control Commission, Regulation 41 - The Basic Standards for Ground Water, dated June 30, 2020. Whenever a range of standards is listed, the first number in the range is strictly a human health-based standard. The second number in the range is a maximum contaminant level, and determined to be in public water supplies, an acceptable level of this chemical taking treatability and laboratory detection limits into account.

* The laboratory MDL is greater than the listed groundwater standard.

TABLE 9

GROUNDWATER ANALYTICAL RESULTS
CHLORINCATED ACID HERBICIDES
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling				Colorado Groundwater Standard
		MW-01	MW-02	MW-03	MW-04	
		1/8/2025	1/24/2025	1/8/2025	1/8/2025	
2,4,5-T (Trichlorophenoxyacetic acid)	µg/L	< 0.858	< 0.858	< 0.858	< 0.858	NE
2,4,5-TP (Silvex) (trichlorophenoxypropionic)	µg/L	< 0.505	< 0.505	< 0.505	< 0.505	50
2,4-D (Dichlorophenoxyacetic acid)	µg/L	< 0.671	< 0.671	< 0.671	< 0.671	70
2,4-DB (Dichlorophenoxy Acetic Acid, 2,4-)	µg/L	< 0.686	< 0.686	< 0.686	< 0.686	NE
Dalapon	µg/L	< 0.734	< 0.734	< 0.734	< 0.734	200
Dicamba	µg/L	< 0.395	< 0.395	< 0.395	< 0.395	210
Dichloroprop	µg/L	< 0.954	< 0.954	< 0.954	< 0.954	NE
Dinoseb	µg/L	< 0.455	< 0.455	< 0.455	< 0.455	7
MCPA	µg/L	< 85.8	< 85.8	< 85.8	< 85.8	NE
MCPP	µg/L	< 74.3	< 74.3	< 74.3	< 74.3	NE

Herbicides were analyzed by EPA Method 8151A.

µg/L = Micrograms per liter.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

NE = Not established.

Groundwater Standard = Colorado Department of Public Health and Environment, Water Quality Control Commission, Regulation 41 - The Basic Standards for Ground Water, dated June 30, 2020. Whenever a range of standards is listed, the first number in the range is strictly a human health-based standard. The second number in the range is a maximum contaminant level, and determined to be in public water supplies, an acceptable level of this chemical taking treatability and laboratory detection limits into account.

TABLE 10

GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS AND 1,4 DIOXANE
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling				Colorado Groundwater Standard
		MW-01	MW-02	MW-03	MW-04	
		1/8 & 23/2025	1/24/2025	1/8 & 23/2025	1/8 & 23/2025	
1,1,1,2-Tetrachloroethane	µg/L	< 0.147	< 0.147	< 0.147	< 0.147	0.18
1,1,1-Trichloroethane	µg/L	< 0.149	< 0.149	< 0.149	< 0.149	14,000 or 200
1,1,2,2-Tetrachloroethane	µg/L	< 0.133	< 0.133	< 0.133	< 0.133	0.18
1,1,2-Trichloroethane	µg/L	< 0.158	< 0.158	< 0.158	< 0.158	2.8 to 5
1,1,2-Trichlorotrifluoroethane	µg/L	< 0.18	< 0.18	< 0.18	< 0.18	NE
1,1-Dichloroethane	µg/L	< 0.1	< 0.1	< 0.1	< 0.1	NE
1,1-Dichloroethene	µg/L	< 0.188	< 0.188	< 0.188	< 0.188	7
1,1-Dichloropropene	µg/L	< 0.142	< 0.142	< 0.142	< 0.142	NE
1,2,3-Trichlorobenzene	µg/L	< 0.23	< 0.23	< 0.23	< 0.23	NE
1,2,3-Trichloropropane	µg/L	< 0.237	< 0.237	< 0.237	< 0.237	0.00037
1,2,3-Trimethylbenzene	µg/L	< 0.104	< 0.104	< 0.104	< 0.104	67
1,2,4-Trichlorobenzene	µg/L	< 0.481	< 0.481	< 0.481	< 0.481	70
1,2,4-Trimethylbenzene	µg/L	< 0.322	< 0.322	< 0.322	< 0.322	67
1,2-Dibromo-3-Chloropropane	µg/L	< 0.276	< 0.276	< 0.276	< 0.276	0.2 *
1,2-Dibromoethane	µg/L	< 0.126	< 0.126	< 0.126	< 0.126	0.018 *
1,2-Dichlorobenzene	µg/L	< 0.107	< 0.107	< 0.107	< 0.107	600
1,2-Dichloroethane	µg/L	< 0.0819	< 0.0819	< 0.0819	< 0.0819	0.38 to 5
1,2-Dichloropropane	µg/L	< 0.149	< 0.149	< 0.149	< 0.149	0.52 to 5
1,3,5-Trimethylbenzene	µg/L	< 0.104	< 0.104	< 0.104	< 0.104	67
1,3-Dichlorobenzene	µg/L	< 0.11	< 0.11	< 0.11	< 0.11	94
1,3-Dichloropropane	µg/L	< 0.11	< 0.11	< 0.11	< 0.11	NE
1,4-Dichlorobenzene	µg/L	< 0.12	< 0.12	< 0.12	< 0.12	75
2,2-Dichloropropane	µg/L	< 0.161	< 0.161	< 0.161	< 0.161	NE
2-Butanone (MEK = Methyl ethyl ketone)	µg/L	< 1.19	< 1.19	< 1.19	< 1.19	NE
2-Chlorotoluene	µg/L	< 0.106	< 0.106	< 0.106	< 0.106	NE
4-Chlorotoluene	µg/L	< 0.114	< 0.114	< 0.114	< 0.114	NE
4-Methyl-2-pentanone (MIBK)	µg/L	< 0.478	< 0.478	< 0.478	< 0.478	NE

TABLE 10 (Continued)

GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS AND 1,4 DIOXANE
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling				Colorado Groundwater Standard
		MW-01	MW-02	MW-03	MW-04	
		1/8 & 23/2025	1/24/2025	1/8 & 23/2025	1/8 & 23/2025	
Acetone	µg/L	< 11.3	< 11.3	< 11.3	< 11.3	6,300
Acrolein	µg/L	< 2.54	< 2.54	< 2.54	< 2.54	3.5
Acrylonitrile	µg/L	< 0.671	< 0.671	< 0.671	< 0.671	0.065 *
Benzene	µg/L	< 0.0941	< 0.0941	< 0.0941	< 0.0941	5.0
Bromobenzene	µg/L	< 0.118	< 0.118	< 0.118	< 0.118	56
Bromodichloromethane	µg/L	< 0.136	< 0.136	< 0.136	< 0.136	0.56
Bromoform	µg/L	< 0.129	< 0.129	< 0.129	< 0.129	4
Bromomethane	µg/L	< 0.605	< 0.605	< 0.605	< 0.605	NE
Carbon tetrachloride	µg/L	< 0.128	< 0.128	< 0.128	< 0.128	0.5 to 5
Chlorobenzene	µg/L	< 0.116	< 0.116	< 0.116	< 0.116	100
Chlorodibromomethane	µg/L	< 0.14	< 0.14	< 0.14	< 0.14	14
Chloroethane	µg/L	< 0.192	< 0.192	< 0.192	< 0.192	NE
Chloroform	µg/L	< 0.111	< 0.111	< 0.111	< 0.111	3.5
Chloromethane	µg/L	< 0.96	< 0.96	< 0.96	< 0.96	NE
cis-1,2-Dichloroethene	µg/L	< 0.126	< 0.126	< 0.126	< 0.126	14 to 70
cis-1,3-Dichloropropene	µg/L	< 0.111	< 0.111	< 0.111	< 0.111	NE
Di-isopropyl ether	µg/L	< 0.122	< 0.122	< 0.122	< 0.122	NE
Dibromomethane	µg/L	< 0.374	< 0.374	< 0.374	< 0.374	NE
Dichlorodifluoromethane	µg/L	< 0.105	< 0.105	< 0.105	< 0.105	NE
Ethylbenzene	µg/L	< 0.137	< 0.137	< 0.137	< 0.137	700
Hexachloro-1,3-butadiene	µg/L	< 0.337	< 0.337	< 0.337	< 0.337	0.5
Isopropylbenzene	µg/L	< 0.105	< 0.105	< 0.105	< 0.105	NE
Methyl tert-butyl ether	µg/L	< 0.101	< 0.101	< 0.101	< 0.101	NE
Methylene Chloride	µg/L	< 0.43	< 0.43	< 0.43	< 0.43	5.6 or 5
n-Butylbenzene	µg/L	< 0.157	< 0.157	< 0.157	< 0.157	NE
n-Propylbenzene	µg/L	< 0.0993	< 0.0993	< 0.0993	< 0.0993	NE
Naphthalene	µg/L	< 1.0	< 1.0	< 1.0	< 1.0	140

TABLE 10 (Continued)

GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS AND 1,4 DIOXANE
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification, Sample Depth, and Date of Sampling				Colorado Groundwater Standard
		MW-01	MW-02	MW-03	MW-04	
		1/8 & 23/2025	1/24/2025	1/8 & 23/2025	1/8 & 23/2025	
p-Isopropyltoluene	µg/L	< 0.12	< 0.12	< 0.12	< 0.12	NE
sec-Butylbenzene	µg/L	< 0.125	< 0.125	< 0.125	< 0.125	NE
Styrene	µg/L	< 0.118	< 0.118	< 0.118	< 0.118	100
tert-Butylbenzene	µg/L	< 0.127	< 0.127	< 0.127	< 0.127	NE
Tetrachloroethene	µg/L	< 0.3	< 0.3	< 0.3	< 0.3	17 or 5
Toluene	µg/L	< 0.278	< 0.278	< 0.278	< 0.278	560 to 1,000
trans-1,2-Dichloroethene	µg/L	< 0.149	< 0.149	< 0.149	< 0.149	140 or 100
trans-1,3-Dichloropropene	µg/L	< 0.118	< 0.118	< 0.118	< 0.118	NE
Trichloroethene	µg/L	< 0.19	< 0.19	< 0.19	< 0.19	5.0
Trichlorofluoromethane	µg/L	< 0.16	< 0.16	< 0.16	< 0.16	NE
Vinyl chloride	µg/L	< 0.234	< 0.234	< 0.234	< 0.234	0.023 to 2 *
Xylenes, Total	µg/L	< 0.174	< 0.174	< 0.174	< 0.174	1,400 to 10,000
1,4-Dioxane	µg/L	< 0.3	< 0.3	< 0.3	< 0.3	0.35

Volatile Organic Compounds (VOCs) were analyzed by EPA Method 8260B.

1.4 Dioxane was analyzed by EPA Method 8270E-SIM. 1,4 Dioxane sampled on 01/23/2025 in monioring wells MW-01, MW-03, and MW-04,

µg/L = Micrograms per liter.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

NE = Not established.

Groundwater Standard = Colorado Department of Public Health and Environment, Water Quality Control Commission, Regulation 41 - The Basic Standards for Ground Water, dated June 30, 2020. Whenever a range of standards is listed, the first number in the range is strictly a human health-based standard. The second number in the range is a maximum contaminant level, and determined to be in public water supplies, an acceptable level of this chemical taking treatability and laboratory detection limits into account.

* The laboratory MDL is greater than the listed groundwater standard.

TABLE 11

GROUNDWATER ANALYTICAL RESULTS
RESOURCE CONSERVATION RECOVERY ACT (RCRA) METALS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification - Date of Sampling				Colorado Groundwater Standard
		MW-01	MW-02	MW-03	MW-04	
		1/8/2025	1/24/2025	1/8/2025	1/8/2025	
Arsenic	mg/L	< 0.00783	< 0.00783	< 0.00783	< 0.00783	0.010
Barium	mg/L	**0.241**	**0.0644**	**0.276**	**0.736**	2.0
Cadmium	mg/L	< 0.000538	< 0.000538	**0.00125 B J**	**0.00218 B**	0.005
Chromium	mg/L	< 0.00151	< 0.00151	**0.00162 J**	**0.00155 J**	0.100
Lead	mg/L	< 0.00243	< 0.00243	< 0.00243	< 0.00243	0.050
Selenium	mg/L	< 0.00616	**0.0690**	< 0.00616	< 0.00616	0.050
Silver	mg/L	**0.00314 J**	< 0.00289	< 0.00289	**0.00531**	0.050
Mercury	mg/L	< 0.00007	**0.0000913 J**	< 0.00007	< 0.00007	0.002

Resource Conservation and Recovery Act (RCRA) Metals were analyzed by EPA Methods 6010D and 7471B.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Colorado Groundwater Standard.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/L = Milligrams per liter

B = The same analyte was found in the associated blank.

J = The reported value is an estimate.

Groundwater Standard = Colorado Department of Public Health and Environment, Water Quality Control Commission, Regulation 41 - The Basic Standards for Ground Water, dated June 30, 2020. Whenever a range of standards is listed, the first number in the range is strictly a human health-based standard. The second number in the range is a maximum contaminant level, and determined to be in public water supplies, an acceptable level of this chemical taking treatability and laboratory detection limits into account.

TABLE 12

GROUNDWATER ANALYTICAL RESULTS
CATIONS AND ANIONS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification - Date of Sampling				Colorado Groundwater Standard
		MW-01	MW-02	MW-03	MW-04	
		1/8/2025	1/24/2025	1/8/2025	1/8/2025	
Alkalinity	mg/L	**402**	NA	**145**	**221**	NE
Ammonia Nitrogen	mg/L	< 0.0539	NA	**8.68**	**0.059 J**	NE
Phosphorus, Total	mg/L	**0.163 B**	NA	**0.115 B P1**	**0.0568 B J**	NE
pH	mg/L	**7.74 T8**	NA	**7.45 T8**	**7.29 T8**	6.5 - 8.5
Sulfide	mg/L	< 0.0255	NA	< 0.0255	< 0.0255 J6	NE
Sulfite	mg/L	**10 J T8**	NA	**2 J T8**	**10 J T8**	NE
Nitrite as N	mg/L	< 0.397 T8	NA	< 0.0794 T8	**0.451 T8**	1.0
Chloride	mg/L	**41.6**	NA	**27.6**	**16.6**	250
Sulfate	mg/L	**436**	< 0.637	**89.1**	**43.6**	250
Nitrate as N	mg/L	< 0.442 T8	**43.9**	**97.6 T8**	**414 T8**	10

Sulfate and nitrate as N analyzed by EPA Method 9056A, alkalinity by EPA Method 2320 B-2011, ammonia nitrogen by EPA Method 350.1, total phosphorus by EPA Method 365.4, pH by EPA Method 4500 H+B-2011, sulfide by EPA Method 4500S2 D-2011, and sulfite by EPA Method 4500SO3 B-2011.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Colorado Groundwater Standard.

Blue Bolded values indicate the compound was detected by the laboratory at a concentration greater than the Colorado Groundwater Standard.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/L = Milligrams per liter.

B = The same analyte was found in the associated blank.

J = The reported value is an estimate.

J6 = The sample matrix interfered with the ability to make any accurate determination; spike value is low

P1 = Relative Percent Difference value not applicable for sample concentrations less than 5 times the reporting limit.

T8 = Sample(s) received past/too close to holding time expiration.

NE = Not established. NA = Compound not analyzed.

Groundwater Standard = Colorado Department of Public Health and Environment, Water Quality Control Commission, Regulation 41 - The Basic Standards for Ground Water, dated June 30, 2020. Whenever a range of standards is listed, the first number in the range is strictly a human health-based standard. The second number in the range is a maximum contaminant level, and determined to be in public water supplies, an acceptable level of this chemical taking

TABLE 12

GROUNDWATER ANALYTICAL RESULTS
CATIONS AND ANIONS
WELBY GARDENS PROPERTY
17201 WEST 64th AVENUE
ARVADA, COLORADO

Analyte	Units	Sample Identification - Date of Sampling				Colorado Groundwater Standard
		MW-01	MW-02	MW-03	MW-04	
		1/8/2025	1/24/2025	1/8/2025	1/8/2025	
Alkalinity	mg/L	**402**	NA	**145**	**221**	NE
Ammonia Nitrogen	mg/L	< 0.0539	NA	**8.68**	**0.059 J**	NE
Phosphorus, Total	mg/L	**0.163 B**	NA	**0.115 B P1**	**0.0568 B J**	NE
pH	mg/L	**7.74 T8**	NA	**7.45 T8**	**7.29 T8**	6.5 - 8.5
Sulfide	mg/L	< 0.0255	NA	< 0.0255	< 0.0255 J6	NE
Sulfite	mg/L	**10 J T8**	NA	**2 J T8**	**10 J T8**	NE
Nitrite as N	mg/L	< 0.397 T8	NA	< 0.0794 T8	**0.451 T8**	1.0
Chloride	mg/L	**41.6**	NA	**27.6**	**16.6**	250
Sulfate	mg/L	**436**	< 0.637	**89.1**	**43.6**	250
Nitrate as N	mg/L	< 0.442 T8	**43.9**	**97.6 T8**	**414 T8**	10

Sulfate and nitrate as N analyzed by EPA Method 9056A, alkalinity by EPA Method 2320 B-2011, ammonia nitrogen by EPA Method 350.1, total phosphorus by EPA Method 365.4, pH by EPA Method 4500 H+B-2011, sulfide by EPA Method 4500S2 D-2011, and sulfite by EPA Method 4500SO3 B-2011.

Bolded values indicate the compound was detected by the laboratory at a concentration less than the Colorado Groundwater Standard.

Blue Bolded values indicate the compound was detected by the laboratory at a concentration greater than the Colorado Groundwater Standard.

< = Not detected at or above the laboratory Method Detection Limit (MDL). The MDL is listed.

mg/L = Milligrams per liter.

B = The same analyte was found in the associated blank.

J = The reported value is an estimate.

J6 = The sample matrix interfered with the ability to make any accurate determination; spike value is low

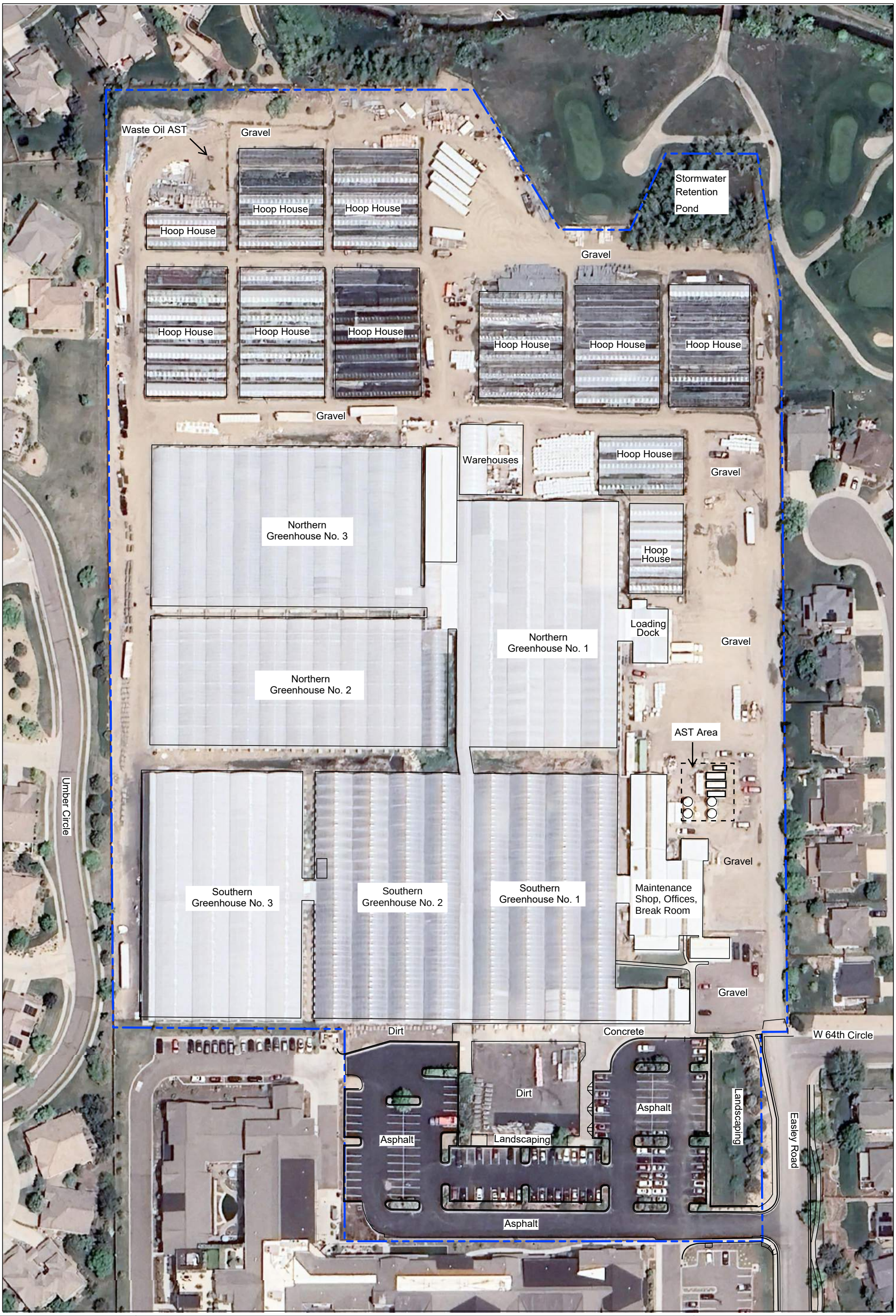
P1 = Relative Percent Difference value not applicable for sample concentrations less than 5 times the reporting limit.

T8 = Sample(s) received past/too close to holding time expiration.

NE = Not established. NA = Compound not analyzed.

Groundwater Standard = Colorado Department of Public Health and Environment, Water Quality Control Commission, Regulation 41 - The Basic Standards for Ground Water, dated June 30, 2020. Whenever a range of standards is listed, the first number in the range is strictly a human health-based standard. The second number in the range is a maximum contaminant level, and determined to be in public water supplies, an acceptable level of this chemical taking treatability and laboratory detection limits into account.

FIGURES



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BASELINE
Engineering · Planning · Surveying

112 N. Rubey Drive, Suite 210
Golden, CO 80403

LEGEND

Property Boundary

N

0 50 100

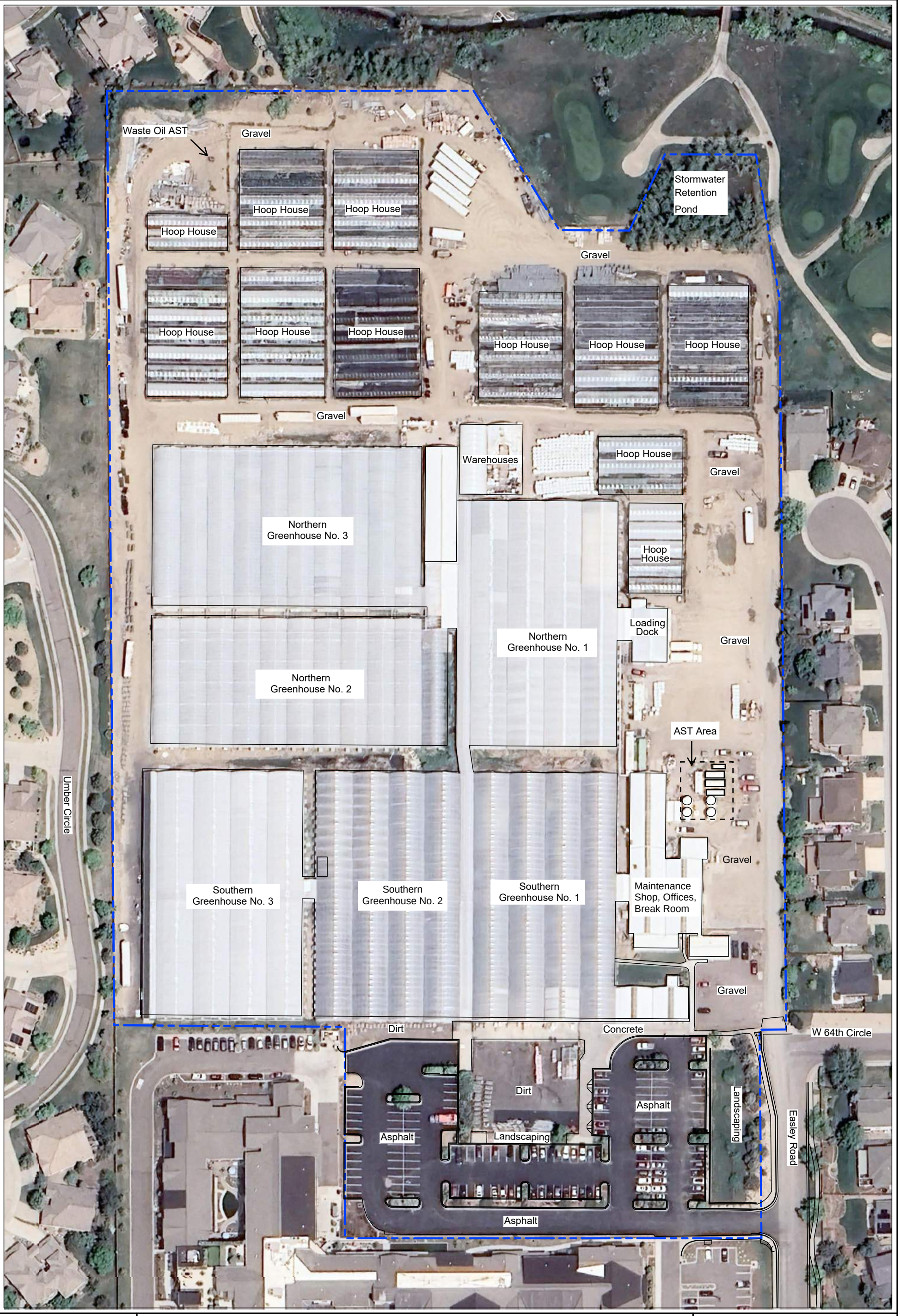
SCALE IN FEET

PROJECT:	45033.02
DATE:	12/20/2024
DRAWN:	J.G.M.
CHECKED:	T.O.M.

FIGURE 2
Facility Map

Welby Gardens Development
Limited Phase II Investigation
AvalonBay Communities Inc.

17201 W 64th Ave
Arvada, Colorado 80007



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BASELINE
Engineering · Planning · Surveying

112 N. Rubey Drive, Suite 210
Golden, CO 80403

LEGEND

Property Boundary

N

0 50 100

SCALE IN FEET

PROJECT:	45033.02
DATE:	12/20/2024
DRAWN:	J.G.M.
CHECKED:	T.O.M.

FIGURE 2

Property Map

Welby Gardens Development
Limited Phase II Investigation
AvalonBay Communities Inc.

17201 W 64th Ave
Arvada, Colorado 80007

WGB-09
MW-03
MW-05
Northern Greenhouse No. 3
GHN3-5A
Septic
Fertilizer Mixing
MW-04
10 9 8 7 6 5 4 3 2 1
Northern Greenhouse No. 1
GHN2-5A
GHN1-2A
GHN1-1A
Northern Greenhouse No. 2
WGB-03 Terminated @ 1-Foot
4 3 2 1
WGB-02
WGB-10
MW-02
GHS3-1B
GHS2-2B
GHS1-3B
Pesticide/ herbicide Mixing
WGB-01
Southern Greenhouse No. 3
Southern Greenhouse No. 2
Southern Greenhouse No. 1
GHS1-3C
GHS3-1C
Pesticide/ herbicide Mixing
GHS2-1A
MW-01
GHS3-1A
GHS2-2A
GHS1-3A
4 3 2 1 4 3 2 1 4 3 2 1

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BASELINE
Engineering · Planning · Surveying

112 N. Rubey Drive, Suite 210
Golden, CO 80403

LEGEND

GHN1-2A Hand Auger Soil Boring Location (BEC 2025): GH= Green House; N = North; S = South; 1, 2, 3 = Bldg. No.; 1-10 = Row No. Inside Green House; A = First Sample Collected; B = Second Sample Collected

GHS2-1A Post-Hole Power Auger Soil Boring Location (BEC 2025) : same numbering as above

WGB-01 Drilling Rig Soil Boring Location: WGB = Welby Garden Boring (BEC 2025)

MW-1 Drilling Rig Soil Boring and Monitoring Well Location (BEC 2025)

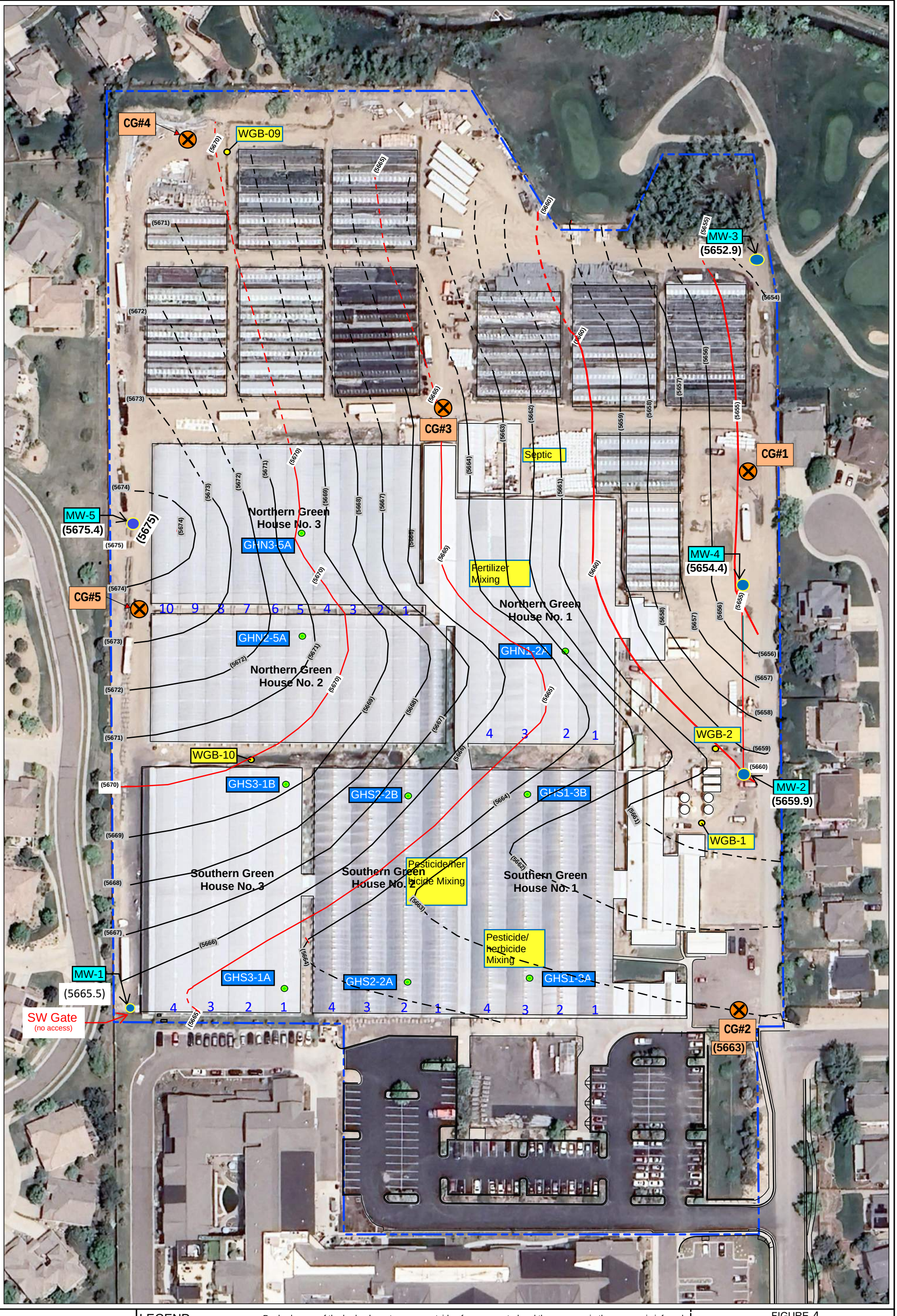
Property Boundary

N

0 50 100
SCALE IN FEET

PROJECT: 45038.2
DATE: 01/06/25
DRAWN: VEB
CHECKED: VEB

FIGURE 3
Soil Boring and Monitoring Well Location Map
Welby Gardens Development
Limited Phase II Investigation
AvalonBay Communities Inc.
17201 W 64th Ave
Arvada, Colorado 80007



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Golden, CO 80403

LEGEND

- Dashed areas of the bedrock contours are outside of survey control and the accuracy in these areas is inferred.
- GHN1-2A — Grab Soil Sample Location (BEC 2025): GH= Green House; N = North; S = South; 1, 2, 3 = Bldg. No.; 1-10 = Row No. Inside Green House; A = First Sample Collected; B = Second Sample Collected
- Property Boundary
- (5620) Bedrock Elevation & Contour Line (Interval 5-foot)
- WGB-1 — WGB-1 Welby Garden Boring Location (BEC 2025)
- MW-1 — Monitoring Well Location (BEC 2025)
- Geotechnical Boring Location (Cole Garner Geotechnical: Nov 2024)

N

0 50 100
SCALE IN FEET

PROJECT: 45038.2
DATE: 02/04/25
DRAWN: VEB
CHECKED: VEB

FIGURE 4

Bedrock Contour Map
Welby Gardens Development
Limited Phase II Investigation
AvalonBay Communities Inc.

17201 W 64th Ave
Arvada, Colorado 80007

WGB-8
WGB-09
(5657.08)
(5657)
MW-3
(5605)
(5656)
(5658)
(5659)
(5660)
(5607)
Septic
(5661)
MW-5
(Dry)
Northern Green House No. 3
GHN3-5A
(5662)
Fertilizer Mixing
MW-4
(5656.20)
10 9 8 7 6 5 4 3
(5663)
Northern Green House No. 1
GHN2-5A
(5642)
GHN1-2A
Northern Green House No. 2
(5666)
(5665)
4 3 2 1
WGB-2
WGB-10
MW-2
(5656.60)
GHS3-1B
GHS2-2B
GHS1-3B
(5656)
(5657)
Pesticide/ herbicide Mixing
(5658)
WGB-1
(5659)
Southern Green House No. 3
Southern Green House No. 2
Southern Green House No. 1
(5660)
(5619)
Pesticide/ herbicide Mixing
(5666.53)
MW-1
(5663)
(5662)
GHS3-1A
GHS2-2A
GHS1-3A
4 (5665) 2 (5664) 4 3 2 1 4 3 2 1
SW Gate
(no access)
(5666)

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0 50 100
SCALE IN FEET

112 N. Rubey Drive, Suite 210
Golden, CO 80403

LEGEND

(5614) Groundwater Contour (Interval 1-foot; dashed where inferred & queried where uncertain)

GHN1-2A Grab Soil Sample Location (BEC 2025): GH= Green House; N = North; S = South; 1, 2, 3 = Bldg. No.; 1-10 = Row No. Inside Green House; A = First Sample Collected; B = Second Sample Collected

Property Boundary

WGB-3 WGB-3 Proposed Welby Garden Boring Location Not Sampled (BEC 2025)

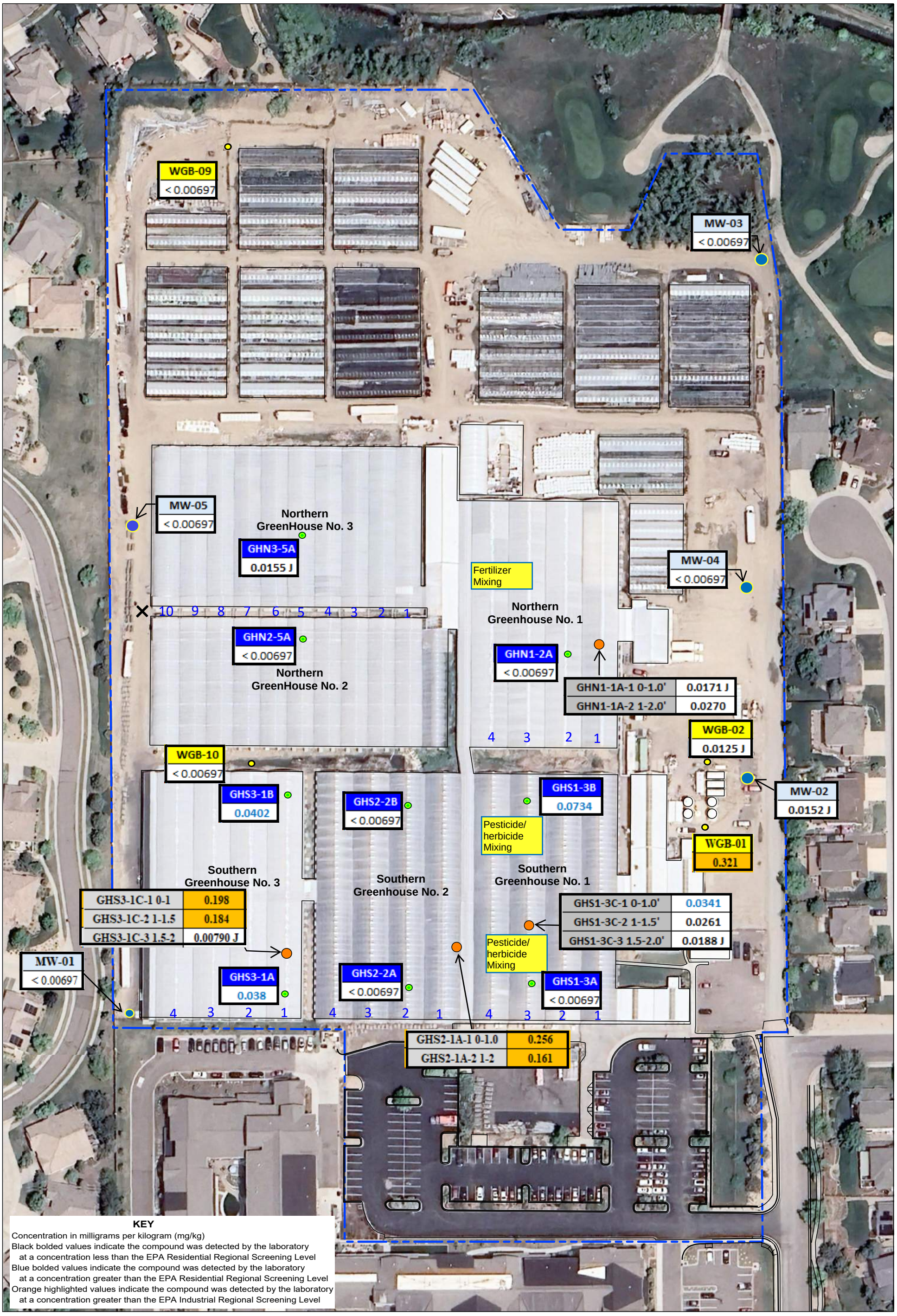
WGB-1 WGB-1 Welby Garden Boring Location (BEC 2025)

MW-1 Monitoring Well Location (BEC 2025)

N

PROJECT: 45038.2
DATE: 06/24/25
DRAWN: VEB
CHECKED: VEB

FIGURE 5
Groundwater Elevation Contour Map for January 23, 2025
Welby Gardens Development
Limited Phase II Investigation
AvalonBay Communities Inc.
17201 W 64th Ave
Arvada, Colorado 80007



KEY

Concentration in milligrams per kilogram (mg/kg)
Black bolded values indicate the compound was detected by the laboratory at a concentration less than the EPA Residential Regional Screening Level
Blue bolded values indicate the compound was detected by the laboratory at a concentration greater than the EPA Residential Regional Screening Level
Orange highlighted values indicate the compound was detected by the laboratory at a concentration greater than the EPA Industrial Regional Screening Level

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112 N. Rubey Drive, Suite 210
Golden, CO 80403

LEGEND

- GHN1-2A — Grab Soil Sample Location (1-3-2025): GH= Green House; N = North; S = South; 1, 2, 3 = Bldg. No.; 1-10 = Row No. Inside Green House; A = First Sample Collected; B = Second Sample Collected
- Property Boundary
- GHS1-3C — Grab Soil Sample (2-18-2025)
- WGB-01 — WGB-1 Welby Garden Boring Location (BEC 2025)
- MW-01 — Monitoring Well Location (BEC 2025)

N

0 50 100
SCALE IN FEET

PROJECT: 45038.2
DATE: 06/24/25
DRAWN: TOM
CHECKED: VEB

FIGURE 6
Dieldrin Concentrations in Soil
Welby Gardens Development Limited
Phase II Investigation
AvalonBay Communities Inc.

17201 W 64th Ave
Arvada, Colorado 80007

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APPENDIX A
State Engineer Records

Notice of Intent to Construct Monitoring Holes or Dewatering Wells (also Test Holes Penetrating Through a Confining Layer)

COLORADO
Division of Water Resources
Department of Natural Resources

Form Ref Num: 35906
Date Submitted: 12/29/2024 2:33:55 PM
Application Type: Applications, Filings, and Submittals (No Fee)

Applicant Information

- *Well Owner(s):*

#	Name	Organization	Address	Phone	Email
1	GREGORY HIMMEL	AVALONBAY COMMUNITIES, INC.	5050 S. SYRACUSE ST., SUITE 1025 DENVER, COLORADO 80237	720-245-6941	GREGORY_HIMMEL@AVALONBAY.COM

- *Contact/Consultant(s) to be listed on this application:*

#	Type	Name	Organization	Address	Phone	Email
1	CONSULTANT	TERRY MCGOWAN	BASELINE ENGINEERING CORP	112 N. RUBEY DRIVE GOLDEN, CO 80403	3032295496	TERRY.MCGOWAN@BASELINECORP.COM

Notice Type

- *Specify which notice type.* **Monitoring and observation hole**

Monitoring and observation hole

- *What is the purpose of the hole(s)/well(s):** **Monitoring of groundwater levels and groundwater quality**
- *Anticipated date construction will start (mm/dd/yyyy):** **1/2/2025**
- *Anticipated date construction will be completed (mm/dd/yyyy):** **1/3/2025**

Well Location

- *Locations currently listed on this application:*

#	Q40	Q160	Section	Township	Range	Principal Meridian	Number Holes(Wells)
1	SE	SW	2	3 S	70 W	S	5

Property Owner Contact Information

- *Is the property owner different from the well owner:* **Yes**
- *Prefix* **Mr**
- *First Name* **Nick**
- *Middle Name* **N/A**
- *Last Name* **Gerace**
- *Suffix* **N/A**
- *Organization* **Welby Gardens, LLC**
- *Address* **17201 W. 64th Avenue**
- *City* **ARVADA**
- *State* **CO**
- *Zip* **80007**
- *Phone* **303-288-3398**
- *Email* **nickg@hardyboyplant.com**

Proposed Well Data

- *What is the maximum anticipated depth of the hole(s)/well(s):* **20**
- *In what aquifer will the hole(s)/well(s) be completed:* **ALLUVIAL**
- *In what aquifer type will the hole(s)/well(s) be completed:* **Type 3 (Alluvial)**

Proposed Well Driller

- *Who will be constructing the hole(s)/well(s):* **Professional Geologist as defined in section 23-41-208(b), C.R.S.**
- *Select driller* **N/A**

Constructor Contact Information

- *Prefix* **Mr**
- *First Name* **Terry**
- *Middle Name* **N/A**
- *Last Name* **McGowan**
- *Suffix* **N/A**
- *Organization* **Baseline Engineering Corp**
- *Address* **112 N. Rubey Drive**
- *City* **Golden**
- *State* **CO**
- *Zip* **80403**
- *Country* **United States**
- *Phone* **3032295496**
- *Email* **terry.mcgowan@baselinecorp.com**

Additional Information

- *Please provide any additional information that will assist us in the processing of your submission* **Looks like one of the monitoring wells is located in the NESW, so I will submit a second form.**

Signature and Certification

1. The making of false statements herein constitutes perjury in the second degree, which is punishable as a class 1 misdemeanor pursuant to C.R.S. 24-4-104(13)(a). I have read the statements herein, know the contents thereof and state that they are true to my knowledge.
2. I understand that the applicant(s) listed have permission to construct the hole(s)/well(s) at the location specified on this Notice of Intent.
3. I understand that a change to the specified section or an increase in the number or depth of proposed holes/wells will require a new Notice of Intent to be filed.

- *I've read and agree to the Terms and Conditions listed above* **Yes**
- *Organization:* **Baseline Engineering Corp**
- *Name:* **Terry McGowan**
- *Email Address:* **terry.mcgowan@baselinecorp.com**

COLORADO
Division of Water Resources
Department of Natural Resources

ACKNOWLEDGEMENT NUMBER 4002254-MH
RECEIPT NUMBER 04002254

HOLE/WELL OWNER(S)

AVALONBAY COMMUNITIES, INC. (GREGORY HIMMEL)

CONTACT/CONSULTANT(S)

BASELINE ENGINEERING CORP (MCGOWAN, TERRY)

Proposed Hole/Well Information

Number of holes/wells: 5
Maximum Depth: 20 FT
Aquifer: ALLUVIAL
Aquifer Type: Type 3 (Alluvial)

APPROVED HOLE/WELL LOCATION

Water Division: 1 Water District: 7
Designated Basin: N/A
Management District: N/A
County: JEFFERSON

Section 2 Township 3.0 S Range 70.0 W Sixth P.M.

Purpose of holes/wells: Monitoring and observation hole
Anticipated Construction Start Date: 1/2/2025

Acknowledgment From State Engineer's Office

ACKNOWLEDGEMENT OF THIS NOTICE DOES NOT CONFER A WATER RIGHT

CONDITIONS OF ACKNOWLEDGEMENT

1) In accordance with Rule 6.3 of the Water Well Construction Rules (2 CCR 402-2), a Notice of Intent was provided to the State Engineer at least 72 hours prior to construction of monitoring & observation hole(s).

2) Construction of the monitoring and observation hole(s) must be completed within 90 days of the date the Notice of Intent was submitted to the State Engineer. Testing and/or pumping shall not exceed a total of 200 hours unless prior written approval is obtained from the State Engineer. Water diverted during testing must not be used for beneficial purposes. The owner of the monitoring and observation hole(s) is responsible for obtaining permit(s) and complying with all rules and regulations pertaining to the discharge of fluids produced during testing.

3) All work must comply with the Water Well Construction Rules, 2 CCR 402-2. Well Construction and Yield Estimate Reports (GWS-31) must be completed for each monitoring and observation hole drilled. The licensed contractor or authorized individual must submit the completed forms to DwrPermitsOnline@state.co.us within 60 days of monitoring and observation hole completion. Aquifer testing information must be submitted on Well Yield Test Report (GWS-39). Forms are available at: https://dwr.state.co.us/eforms

4) Unless a well permit is obtained or variance approved, the monitoring and observation hole(s) must be plugged and sealed within eighteen (18) months after construction. A Well Abandonment Report e-Form available at: https://dwr.state.co.us/eforms must be submitted within 60 days of plugging & sealing to confirm the monitoring and observation hole is no longer in existence. The MH acknowledgement number, owner's structure name, and owner's name and address must be provided on all well permit application(s), well construction, and abandonment reports.

5) A MONITORING AND OBSERVATION HOLE CANNOT BE CONVERTED TO A PRODUCTION WATER WELL, except for purposes of remediation (recovery), or as a permanent dewatering system, if constructed in accordance with the Water Well Construction Rules and if such conversion is approved and permitted by the State Engineer.

6) A copy of the acknowledgement (or the notice, if not acknowledged within 3 days of submittal) must be available at the drilling site.

7) This acknowledgement of notice does not indicate that well permit(s) can be approved.

8) If monitoring and observation holes will not be constructed under this notice within 90 days, please indicate “No holes constructed” in an email with the MH acknowledgement number and send to: DwrPermitsOnline@state.co.us

Issued By: ANITIA ARCHULETA

Date Notice received by DWR: 12/29/2024
Notice Expiration Date: 3/29/2025

COLORADO
Division of Water Resources
Department of Natural Resources

ACKNOWLEDGEMENT NUMBER 4002255-MH
RECEIPT NUMBER 04002255

HOLE/WELL OWNER(S)

AVALONBAY COMMUNITIES, INC. (GREGORY HIMMEL)

CONTACT/CONSULTANT(S)

BASELINE ENGINEERING CORP (MCGOWAN, TERRY)

Proposed Hole/Well Information

Number of holes/wells: 1
Maximum Depth: 20 FT
Aquifer: ALLUVIAL
Aquifer Type: Type 3 (Alluvial)

APPROVED HOLE/WELL LOCATION

Water Division: 1 Water District: 7
Designated Basin: N/A
Management District: N/A
County: JEFFERSON

Section 2 Township 3.0 S Range 70.0 W Sixth P.M.

Purpose of holes/wells: Monitoring and observation hole
Anticipated Construction Start Date: 1/2/2025

Acknowledgment From State Engineer's Office

ACKNOWLEDGEMENT OF THIS NOTICE DOES NOT CONFER A WATER RIGHT

CONDITIONS OF ACKNOWLEDGEMENT

1) In accordance with Rule 6.3 of the Water Well Construction Rules (2 CCR 402-2), a Notice of Intent was provided to the State Engineer at least 72 hours prior to construction of monitoring & observation hole(s).

2) Construction of the monitoring and observation hole(s) must be completed within 90 days of the date the Notice of Intent was submitted to the State Engineer. Testing and/or pumping shall not exceed a total of 200 hours unless prior written approval is obtained from the State Engineer. Water diverted during testing must not be used for beneficial purposes. The owner of the monitoring and observation hole(s) is responsible for obtaining permit(s) and complying with all rules and regulations pertaining to the discharge of fluids produced during testing.

3) All work must comply with the Water Well Construction Rules, 2 CCR 402-2. Well Construction and Yield Estimate Reports (GWS-31) must be completed for each monitoring and observation hole drilled. The licensed contractor or authorized individual must submit the completed forms to DwrPermitsOnline@state.co.us within 60 days of monitoring and observation hole completion. Aquifer testing information must be submitted on Well Yield Test Report (GWS-39). Forms are available at: https://dwr.state.co.us/eforms

4) Unless a well permit is obtained or variance approved, the monitoring and observation hole(s) must be plugged and sealed within eighteen (18) months after construction. A Well Abandonment Report e-Form available at: https://dwr.state.co.us/eforms must be submitted within 60 days of plugging & sealing to confirm the monitoring and observation hole is no longer in existence. The MH acknowledgement number, owner's structure name, and owner's name and address must be provided on all well permit application(s), well construction, and abandonment reports.

5) A MONITORING AND OBSERVATION HOLE CANNOT BE CONVERTED TO A PRODUCTION WATER WELL, except for purposes of remediation (recovery), or as a permanent dewatering system, if constructed in accordance with the Water Well Construction Rules and if such conversion is approved and permitted by the State Engineer.

6) A copy of the acknowledgement (or the notice, if not acknowledged within 3 days of submittal) must be available at the drilling site.

7) This acknowledgement of notice does not indicate that well permit(s) can be approved.

8) If monitoring and observation holes will not be constructed under this notice within 90 days, please indicate “No holes constructed” in an email with the MH acknowledgement number and send to: DwrPermitsOnline@state.co.us

Issued By: ANITIA ARCHULETA

Date Notice received by DWR: 12/29/2024
Notice Expiration Date: 3/29/2025

Form No. GWS-31 02/2024	**WELL CONSTRUCTION AND YIELD ESTIMATE REPORT** State of Colorado, Office of the State Engineer 1313 Sherman St., Room 818, Denver, CO 80203 303.866.3581 dwr.colorado.gov and dwrpermitsonline@state.co.us	For Office Use Only

1. Well Permit Number: 4002254-MH **Receipt Number:** 4002254

2. Owner's Well Designation: MW-1

3. Well Owner Name: AvalonBay Communities, Inc.

4. Well Location Street Address: 5050 S. Syracuise Street, Suite 1025 Denver, CO 80237

5. As Built GPS Well Location (required): ☐ Zone 12 ☒ Zone 13 Easting: 483228.0 Northing: 4407143.19

6. Legal Well Location: SE 1/4, SW 1/4, Sec., 2 Twp. 3 ☐ N or S ☒, Range 70 ☐ E or W ☒, 6th P.M.
County: Jefferson
Subdivision: _____, Lot ____, Block ____, Filing (Unit) ____

7. Ground Surface Elevation: 5681.5 feet **Date Completed:** 01/03/2025 **Drilling Method:** Track-mounted Auger

8. Completed Aquifer Name : Alluvial **Total Depth:** 19.0 feet **Depth Completed:** 19.0 feet

9. Advance Notification: Was Notification Required Prior to Construction? ☐ Yes ☒ No, Date Notification Given: _____

10. Aquifer Type: (Check one)
☐ Type I (One Confining Layer) ☐ Type I (Multiple Confining Layers) ☐ Laramie-Fox Hills
☐ Type II (Not overlain by Type III) ☐ Type II (Overlain by Type III) ☒ Type III (alluvial/colluvial)

11. Geologic Log:

Depth	Type	Grain Size	Color	Water Loc.
0.0	0.5	GW (Rd Base)	Brn	
0.5	2.5	GP (Fill)	Dk Brn	
2.5	16.0	GP	Lt Brn	15.0
16.0	19.0	Claystone	Olive Grey	

12. Hole Diameter (in.)

	From (ft)	To (ft)
4.0	0.0	19.0

13. Plain Casing

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.0	PVC	0.154	0.5	9.0

Perforated Casing Screen Slot Size (in): 0.010

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.0	PVC	0.154	9.0	19.0

14. Filter Pack:
Material: Silica sand
Size: #10/20
Interval: 7.0' - 19.0'

15. Packer Placement:
Type: NA
Depth: _____

16. Grouting Record

Material	Amount	Density	Interval	Method
Bentonite	Not recorded	Not recorded	1.0-7.0'	Gravity Pour
Concrete	0.5 bag	Not recorded	0.0-1.0'	Gravity Pour

Remarks:

17. Disinfection: Type NA Amt. Used

18. Well Yield Estimate Data: ☐ Check box if Test Data is submitted on Form Number GWS-39, Well Yield Test Report
Well Yield Estimate Method: _____
Static Level: 5666.53
Date/Time measured: 01/23/2025
Estimated Yield (gpm) _____
Estimate Length (hrs) _____
☐ Dry Hole, Keep Permit Active
☐ Dry Hole, Mark "Well Constructed"

Remarks:

19. I have read the statements made herein and know the contents thereof, and they are true to my knowledge. This document is signed (or name entered if filing online) and certified in accordance with Rule 17.4 of the Water Well Construction Rules, 2 CCR 402 2. The filing of a document that contains false statements is a violation of section 37 91 108(1)(e), C.R.S., and is punishable by fines up to $1,000 and/or revocation of the contracting license. If filing online the State Engineer considers the entry of the licensed contractor's name to be compliance with Rule 17.4.

Company Name:	Email:	Phone w/area code:	License Number:
Baseline Engineering Corporation	terry.mcgowan@baselinecorp.com	(303) 940-9966	

Mailing Address: 112 N. Rubey Drive, #210, Golden, CO 80403

Sign (or enter name if filing online)	Print Name and Title	Date:
Terry O. McGowan	Terry O. McGowan/Senior Project Manager	04/06/2025

Form No. GWS-31 02/2024	**WELL CONSTRUCTION AND YIELD ESTIMATE REPORT** State of Colorado, Office of the State Engineer 1313 Sherman St., Room 818, Denver, CO 80203 303.866.3581 dwr.colorado.gov and dwrpermitsonline@state.co.us	For Office Use Only

1. Well Permit Number: 4002254-MH **Receipt Number:** 4002254

2. Owner's Well Designation: MW-2

3. Well Owner Name: AvalonBay Communities, Inc.

4. Well Location Street Address: 5050 S. Syracuise Street, Suite 1025 Denver, CO 80237

5. As Built GPS Well Location (required): ☐ Zone 12 ☒ Zone 13 Easting: 483437.4 Northing: 4407220.43

6. Legal Well Location: SE 1/4, SW 1/4, Sec., 2 Twp. 3 ☐ N or S ☒, Range 70 ☐ E or W ☒, 6th P.M.

County: Jefferson

Subdivision: _____, Lot ____, Block ____, Filing (Unit) ____

7. Ground Surface Elevation: 5669.9 feet **Date Completed:** 01/02/2025 **Drilling Method:** Track-mounted Auger

8. Completed Aquifer Name : Alluvial **Total Depth:** 19.0 feet **Depth Completed:** 19.0 feet

9. Advance Notification: Was Notification Required Prior to Construction? ☐ Yes ☒ No, Date Notification Given: _____

10. Aquifer Type: (Check one) ☐ Type I (One Confining Layer) ☐ Type I (Multiple Confining Layers) ☐ Laramie-Fox Hills ☐ Type II (Not overlain by Type III) ☐ Type II (Overlain by Type III) ☒ Type III (alluvial/colluvial)

11. Geologic Log:

Depth	Type	Grain Size	Color	Water Loc.
0.0	5.0	GP (Fill)	Dk Brn	
5.0	8.0	SW	Lt Brn	
8.0	10.0	SP/SM	Reddish Brn	8.5-9.0'
10.0	15.3	Claystone	Olive Grey	

12. Hole Diameter (in.)

From (ft)	To (ft)
0.0	15.3

13. Plain Casing

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.0	PVC	0.154	0.5	9.0

Perforated Casing Screen Slot Size (in): 0.010

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.0	PVC	0.154	5.3	15.3

14. Filter Pack:

Material: Silica sand

Size: #10/20

Interval: 4.0' - 15.3'

15. Packer Placement:

Type: NA

Depth: _____

16. Grouting Record

Material	Amount	Density	Interval	Method
Bentonite	Not recorded	Not recorded	1.0-4.0'	Gravity Pour
Concrete	0.5 bag	Not recorded	0.0-1.0'	Gravity Pour

Remarks: Monitoring well was dry until 02/03/2025

17. Disinfection: Type NA Amt. Used

18. Well Yield Estimate Data: ☐ Check box if Test Data is submitted on Form Number GWS-39, Well Yield Test Report

Well Yield Estimate Method: _____

Static Level: 5656.50 Estimated Yield (gpm) _____ ☐ Dry Hole, Keep Permit Active

Date/Time measured: 02/03/2025 Estimate Length (hrs) _____ ☐ Dry Hole, Mark "Well Constructed"

Remarks:

19. I have read the statements made herein and know the contents thereof, and they are true to my knowledge. This document is signed (or name entered if filing online) and certified in accordance with Rule 17.4 of the Water Well Construction Rules, 2 CCR 402 2. The filing of a document that contains false statements is a violation of section 37 91 108(1)(e), C.R.S., and is punishable by fines up to $1,000 and/or revocation of the contracting license. If filing online the State Engineer considers the entry of the licensed contractor's name to be compliance with Rule 17.4.

Company Name:	Email:	Phone w/area code:	License Number:
Baseline Engineering Corporation	terry.mcgowan@baselinecorp.com	(303) 940-9966	

Mailing Address: 112 N. Rubey Drive, #210, Golden, CO 80403

Sign (or enter name if filing online)	Print Name and Title	Date:
Terry O. McGowan	Terry O. McGowan/Senior Project Manager	04/06/2025

Form No. GWS-31
02/2024

WELL CONSTRUCTION AND YIELD ESTIMATE REPORT

State of Colorado, Office of the State Engineer
1313 Sherman St., Room 818, Denver, CO 80203 303.866.3581
dwr.colorado.gov and dwrpermitsonline@state.co.us

For Office Use Only

1. Well Permit Number: 4002255-MH **Receipt Number:** 4002255

2. Owner's Well Designation: MW-3

3. Well Owner Name: AvalonBay Communities, Inc.

4. Well Location Street Address: 5050 S. Syracuse Street, Suite 1025 Denver, CO 80237

5. As Built GPS Well Location (required): ☐ Zone 12 ☒ Zone 13 Easting: 483445.7 Northing: 4407398.00

6. Legal Well Location: NE 1/4, SW 1/4, Sec., 2 Twp. 3 ☐ N or S ☒, Range 70 ☐ E or W ☒, 6th P.M.
County: Jefferson
Subdivision: _____, Lot ____, Block ____, Filing (Unit) ____

7. Ground Surface Elevation: 5668.4 feet **Date Completed:** 01/02/2025 **Drilling Method:** Track-mounted Auger

8. Completed Aquifer Name : Alluvial **Total Depth:** 16.0 feet **Depth Completed:** 16.0 feet

9. Advance Notification: Was Notification Required Prior to Construction? ☐ Yes ☒ No, Date Notification Given: _____

10. Aquifer Type: (Check one)
☐ Type I (One Confining Layer) ☐ Type I (Multiple Confining Layers) ☐ Laramie-Fox Hills
☐ Type II (Not overlain by Type III) ☐ Type II (Overlain by Type III) ☒ Type III (alluvial/colluvial)

11. Geologic Log:

Depth	Type	Grain Size	Color	Water Loc.
0.0	0.5	GW (Rd Base)	Brn	
0.5	3.5	SW (Fill)	Dk Brn	
3.5	5.5	GP	Lt Brn	
5.5	10.5	SM/SP	Lt Brn	
10.5	11.5	CL	Olive Grey	
11.5	15.5	SM	Lt Brn	11.5
15.5	16.0	Sandstone	Yel. Tan	

12. Hole Diameter (in.)

	From (ft)	To (ft)
4.0	0.0	16.0

13. Plain Casing

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.0	PVC	0.154	0.5	6.0

Perforated Casing Screen Slot Size (in): 0.010

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.0	PVC	0.154	6.0	16.0

14. Filter Pack:
Material: Silica sand
Size: #10/20
Interval: 3.5' - 16.0'

15. Packer Placement:
Type: NA
Depth: _____

16. Grouting Record

Material	Amount	Density	Interval	Method
Bentonite	Not recorded	Not recorded	1.0-3.5'	Gravity Pour
Concrete	0.5 bag	Not recorded	0.0-1.0'	Gravity Pour

Remarks:

17. Disinfection: Type NA Amt. Used

18. Well Yield Estimate Data: ☐ Check box if Test Data is submitted on Form Number GWS-39, Well Yield Test Report
Well Yield Estimate Method: _____
Static Level: 5657.08
Date/Time measured: 01/23/2025
Estimated Yield (gpm) _____
Estimate Length (hrs) _____
☐ Dry Hole, Keep Permit Active
☐ Dry Hole, Mark "Well Constructed"

Remarks:

19. I have read the statements made herein and know the contents thereof, and they are true to my knowledge. This document is signed (or name entered if filing online) and certified in accordance with Rule 17.4 of the Water Well Construction Rules, 2 CCR 402 2. The filing of a document that contains false statements is a violation of section 37 91 108(1)(e), C.R.S., and is punishable by fines up to $1,000 and/or revocation of the contracting license. If filing online the State Engineer considers the entry of the licensed contractor's name to be compliance with Rule 17.4.

Company Name:	Email:	Phone w/area code:	License Number:
Baseline Engineering Corporation	terry.mcgowan@baselinecorp.com	(303) 940-9966	

Mailing Address: 112 N. Rubey Drive, #210, Golden, CO 80403

Sign (or enter name if filing online)	Print Name and Title	Date:
Terry O. McGowan	Terry O. McGowan/Senior Project Manager	04/06/2025

Form No. GWS-31
02/2024

WELL CONSTRUCTION AND YIELD ESTIMATE REPORT

State of Colorado, Office of the State Engineer
1313 Sherman St., Room 818, Denver, CO 80203 303.866.3581
dwr.colorado.gov and dwrpermitsonline@state.co.us

For Office Use Only

1. Well Permit Number: 4002254-MH **Receipt Number:** 4002254

2. Owner's Well Designation: MW-4

3. Well Owner Name: AvalonBay Communities, Inc.

4. Well Location Street Address: 5050 S. Syracuse Street, Suite 1025 Denver, CO 80237

5. As Built GPS Well Location (required): ☐ Zone 12 ☒ Zone 13 Easting: 483437.2 Northing: 4407285.16

6. Legal Well Location: SE 1/4, SW 1/4, Sec., 2 Twp. 3 ☐ N or S ☒, Range 70 ☐ E or W ☒, 6th P.M.
County: Jefferson
Subdivision: _____, Lot ____, Block ____, Filing (Unit) ____

7. Ground Surface Elevation: 5669.9 feet **Date Completed:** 01/02/2025 **Drilling Method:** Track-mounted Auger

8. Completed Aquifer Name : Alluvial **Total Depth:** 20.42 feet **Depth Completed:** 20.42 feet

9. Advance Notification: Was Notification Required Prior to Construction? ☐ Yes ☒ No, Date Notification Given: _____

10. Aquifer Type: (Check one)
☐ Type I (One Confining Layer) ☐ Type I (Multiple Confining Layers) ☐ Laramie-Fox Hills
☐ Type II (Not overlain by Type III) ☐ Type II (Overlain by Type III) ☒ Type III (alluvial/colluvial)

11. Geologic Log:

Depth	Type	Grain Size	Color	Water Loc.
0.0	0.5	GW (Rd Base)	Brn	
0.5	3.0	GP (Fill)	Lt Brn	
3.0	7.0	GP	Lt Brn	
7.0	10.0	SP	Lt Brn	
10.5	13.5	CL	Olive Grey	
13.5	15.5	SP	Lt Brn	13.5'
15.5	20.42	Sandstone	Lt Brn	

12. Hole Diameter (in.)

	From (ft)	To (ft)
4.0	0.0	20.42

13. Plain Casing

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.0	PVC	0.154	0.5	10.42

Perforated Casing Screen Slot Size (in): 0.010

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.0	PVC	0.154	10.42	20.42

14. Filter Pack:
Material: Silica sand
Size: #10/20
Interval: 8.0' - 20.42'

15. Packer Placement:
Type: NA
Depth: _____

16. Grouting Record

Material	Amount	Density	Interval	Method
Bentonite	Not recorded	Not recorded	1.0-8.0'	Gravity Pour
Concrete	0.5 bag	Not recorded	0.0-1.0'	Gravity Pour

Remarks:

17. Disinfection: Type NA Amt. Used

18. Well Yield Estimate Data: ☐ Check box if Test Data is submitted on Form Number GWS-39, Well Yield Test Report
Well Yield Estimate Method: _____
Static Level: 5656.20
Date/Time measured: 01/23/2025
Estimated Yield (gpm) _____
Estimate Length (hrs) _____
☐ Dry Hole, Keep Permit Active
☐ Dry Hole, Mark "Well Constructed"

Remarks:

19. I have read the statements made herein and know the contents thereof, and they are true to my knowledge. This document is signed (or name entered if filing online) and certified in accordance with Rule 17.4 of the Water Well Construction Rules, 2 CCR 402 2. The filing of a document that contains false statements is a violation of section 37 91 108(1)(e), C.R.S., and is punishable by fines up to $1,000 and/or revocation of the contracting license. If filing online the State Engineer considers the entry of the licensed contractor's name to be compliance with Rule 17.4.

Company Name:	Email:	Phone w/area code:	License Number:
Baseline Engineering Corporation	terry.mcgowan@baselinecorp.com	(303) 940-9966	

Mailing Address: 112 N. Rubey Drive, #210, Golden, CO 80403

Sign (or enter name if filing online)	Print Name and Title	Date:
Terry O. McGowan	Terry O. McGowan/Senior Project Manager	04/06/2025

Form No. GWS-31
02/2024

WELL CONSTRUCTION AND YIELD ESTIMATE REPORT

State of Colorado, Office of the State Engineer
1313 Sherman St., Room 818, Denver, CO 80203 303.866.3581
dwr.colorado.gov and dwrpermitsonline@state.co.us

For Office Use Only

1. Well Permit Number: 4002254-MH **Receipt Number:** 4002254

2. Owner's Well Designation: MW-5

3. Well Owner Name: AvalonBay Communities, Inc.

4. Well Location Street Address: 5050 S. Syracuse Street, Suite 1025 Denver, CO 80237

5. As Built GPS Well Location (required): ☐ Zone 12 ☒ Zone 13 Easting: 48322.8 Northing: 4407285.16

6. Legal Well Location: SE 1/4, SW 1/4, Sec., 2 Twp. 3 ☐ N or S ☒, Range 70 ☐ E or W ☒, 6th P.M.
County: Jefferson
Subdivision: _____, Lot ____, Block ____, Filing (Unit) ____

7. Ground Surface Elevation: 5680.9 feet **Date Completed:** 01/02/2025 **Drilling Method:** Track-mounted Auger

8. Completed Aquifer Name : Alluvial **Total Depth:** 16.5 feet **Depth Completed:** 14.0 feet

9. Advance Notification: Was Notification Required Prior to Construction? ☐ Yes ☒ No, Date Notification Given: _____

10. Aquifer Type: (Check one)
☐ Type I (One Confining Layer) ☐ Type I (Multiple Confining Layers) ☐ Laramie-Fox Hills
☐ Type II (Not overlain by Type III) ☐ Type II (Overlain by Type III) ☒ Type III (alluvial/colluvial)

11. Geologic Log:

Depth	Type	Grain Size	Color	Water Loc.
0.0	2.0	GP (Fill)	Lt Brn	
2.0	5.5	SW	Lt-Dk Brn	
5.5	16.5	Claystone	Dk Grey	

12. Hole Diameter (in.)

	From (ft)	To (ft)
4.0	0.0	16.5

13. Plain Casing

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.0	PVC	0.154	0.5	4.0

Perforated Casing Screen Slot Size (in): 0.010

OD (in)	Kind	Wall Size (in)	From (ft)	To (ft)
2.0	PVC	0.154	4.0	14.0

14. Filter Pack:
Material: Silica sand
Size: #10/20
Interval: 3.5' - 14.0'

15. Packer Placement:
Type: NA
Depth: _____

16. Grouting Record

Material	Amount	Density	Interval	Method
Bentonite	Not recorded	Not recorded	1.0-3.5'	Gravity Pour
Concrete	0.5 bag	Not recorded	0.0-1.0'	Gravity Pour

Remarks:

17. Disinfection: Type NA Amt. Used

18. Well Yield Estimate Data: ☐ Check box if Test Data is submitted on Form Number GWS-39, Well Yield Test Report
Well Yield Estimate Method: _____
Static Level: Dry
Date/Time measured: 01/23/2025
Estimated Yield (gpm) _____
Estimate Length (hrs) _____
☑ Dry Hole, Keep Permit Active
☐ Dry Hole, Mark "Well Constructed"

Remarks:

19. I have read the statements made herein and know the contents thereof, and they are true to my knowledge. This document is signed (or name entered if filing online) and certified in accordance with Rule 17.4 of the Water Well Construction Rules, 2 CCR 402 2. The filing of a document that contains false statements is a violation of section 37 91 108(1)(e), C.R.S., and is punishable by fines up to $1,000 and/or revocation of the contracting license. If filing online the State Engineer considers the entry of the licensed contractor's name to be compliance with Rule 17.4.

Company Name:	Email:	Phone w/area code:	License Number:
Baseline Engineering Corporation	terry.mcgowan@baselinecorp.com	(303) 940-9966	

Mailing Address: 112 N. Rubey Drive, #210, Golden, CO 80403

Sign (or enter name if filing online)	Print Name and Title	Date:
Terry O. McGowan	Terry O. McGowan/Senior Project Manager	04/06/2025

tomcgowan1@comcast.net

From: erica.gutierrez@state.co.us on behalf of DWR - DNR, Permitsonline <dnr_dwrpermitsonline@state.co.us>
Sent: Monday, April 7, 2025 9:30 AM
To: Terry McGowan
Cc: dwrpermitsonline@state.co.us; Vincent Barlock
Subject: Re: Submittal of 5 GWS-31 Well Construction and Yield Estimate Reports for 5 Monitoring Wells

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Thank you for your form submission. These forms do not require payment of a fee.

If you would like to check the status of a well permit application, please use this website: Well Permit Search.

DWR forms are available via the eForms Dashboard.
Questions can be submitted through our AskDWR Portal.

Thank You,

P 303.866.3581x0
DWRPermitsOnline@state.co.us | dwr.colorado.gov/

On Sun, Apr 6, 2025 at 5:56 PM Terry McGowan <terry.mcgowan@baselinecorp.com> wrote:

> To whom it may concern:
>
> Baseline Engineering Corporation installed five monitoring wells at the Welby Gardens property located at 17201 W. 64th Avenue, Arvada, CO on January 2 and 3, 2025 under permits 4002254-MH and 4002255-MH. The completed GWS-31 forms are attached.
>
> Please contact me should you have any questions.
>
> Regards,

Terry O. McGowan, P. G. | **Senior Geologist/Hydrogeologist**

Environmental Division

303.940.9966 | 303-229-5496

112 N. Rubey Drive, #210, Golden, CO 80403

www.baselinecorp.com | Social Media

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only for the use of the individual or entity to which it is addressed, and may contain information that is privileged or confidential. If the reader of this message is not the intended recipient, or the employee, or an agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by return e-mail

and please delete the original message. Thank you.

Notice of Intent to Construct Monitoring Holes or Dewatering Wells (also Test Holes Penetrating Through a Confining Layer)

COLORADO
Division of Water Resources
Department of Natural Resources

Form Ref Num: 35908
Date Submitted: 12/29/2024 2:44:56 PM
Application Type: Applications, Filings, and Submittals (No Fee)

Applicant Information

- *Well Owner(s):*

#	Name	Organization	Address	Phone	Email
1	GREGORY HIMMEL	AVALONBAY COMMUNITIES, INC.	5050 S. SYRACUSE STREET, SUITE 1025 DENVER, CO 80237	720-245-6941	GREGORY_HIMMEL@AVALONBAY.COM

- *Contact/Consultant(s) to be listed on this application:*

#	Type	Name	Organization	Address	Phone	Email
1	CONSULTANT	TERRY MCGOWAN	BASELINE ENGINEERING CORP	112 N. RUBEY DRIVE GOLDEN, CO 80403	303-229-5496	TERRY.MCGOWAN@BASELINECORP.COM

Notice Type

- *Specify which notice type.* **Monitoring and observation hole**

Monitoring and observation hole

- *What is the purpose of the hole(s)/well(s):** **Monitoring of groundwater levels and groundwater quality**
- *Anticipated date construction will start (mm/dd/yyyy):** **1/2/2025**
- *Anticipated date construction will be completed (mm/dd/yyyy):** **1/3/2025**

Well Location

- *Locations currently listed on this application:*

#	Q40	Q160	Section	Township	Range	Principal Meridian	Number Holes(Wells)
1	NE	SW	2	3 S	70 W	S	1

Property Owner Contact Information

- *Is the property owner different from the well owner:* **Yes**
- *Prefix* **Mr**
- *First Name* **Nick**
- *Middle Name* **N/A**
- *Last Name* **Gerace**
- *Suffix* **N/A**
- *Organization* **Welby Gardens, LLC**
- *Address* **17201 W. 64th Avenue**
- *City* **ARVADA**
- *State* **CO**
- *Zip* **80007**
- *Phone* **303-288-3398**
- *Email* **nickg@hardyboyplant.com**

Proposed Well Data

- *What is the maximum anticipated depth of the hole(s)/well(s):* **20**
- *In what aquifer will the hole(s)/well(s) be completed:* **ALLUVIAL**
- *In what aquifer type will the hole(s)/well(s) be completed:* **Type 3 (Alluvial)**

Proposed Well Driller

- *Who will be constructing the hole(s)/well(s):* **Professional Geologist as defined in section 23-41-208(b), C.R.S.**
- *Select driller* **N/A**

Constructor Contact Information

- *Prefix* **Mr**
- *First Name* **Terry**
- *Middle Name* **N/A**
- *Last Name* **McGowan**
- *Suffix* **N/A**
- *Organization* **Baseline Engineering Corp**
- *Address* **112 N. Rubey Drive**
- *City* **Golden**
- *State* **CO**
- *Zip* **80403**
- *Country* **United States**
- *Phone* **3032295496**
- *Email* **terry.mcgowan@baselinecorp.com**

Additional Information

- *Please provide any additional information that will assist us in the processing of your submission* **N/A**

Signature and Certification

1. The making of false statements herein constitutes perjury in the second degree, which is punishable as a class 1 misdemeanor pursuant to C.R.S. 24-4-104(13)(a). I have read the statements herein, know the contents thereof and state that they are true to my knowledge.
2. I understand that the applicant(s) listed have permission to construct the hole(s)/well(s) at the location specified on this Notice of Intent.
3. I understand that a change to the specified section or an increase in the number or depth of proposed holes/wells will require a new Notice of Intent to be filed.

- *I've read and agree to the Terms and Conditions listed above* **Yes**
- *Organization:* **Baseline Engineering Corp**
- *Name:* **Terry McGowan**
- *Email Address:* **terry.mcgowan@baselinecorp.com**

APPENDIX B
Borehole Log/Monitoring Well Completion Diagrams

BASELINE
Engineering · Planning · Surveying

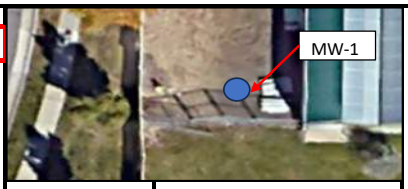
LOG OF EXPLORATORY BORING

Project No.	45038.Phase 002
Project Name:	AvalonBay: Welby Gardens Phase II Investigation
Logged By:	VEB
Date:	1/2/2025
Job: Location:	17201 W. 64th Ave., Arvada, CO

Boring No.
Monitor Well ID: MW-01
Type Temp ☒ Perm ☐
Coordinates: (approximate) **Longitude:** -105.1959 **Latitude:** 39.81410979

Well Construction Details

TOC Elevation	5681.32	Ft- MSL	Boring Diameter (inches)	4.00	
Ground Elevation	5681.5	Ft- MSL	Casing Diameter (inches)	2	
Total Boring Depth	19.00	Ft bgs	-0.18		
Total Casing Length	18.42	(feet)			
Screen Interval	17.99	to 8.44 ft	**Slot Size**	0.010 inches	
Filter Pack Interval	19	to 7 ft	**Sand Size**	#10/20 Silica	
Bentonite Seal	7	to 1 ft	**Type:** Bentonite: Chips or Granules		
Surface Seal	1	to 0 ft	**Type:** Conc. w. 8-in Flush-mount Vault box		



Depth (Ft- bgs) & TIME	Sampler Type & Run (ft)	% Recovery (ft/ft)	Relative Density (blows/ft)	PID (ppm)	Sample Collected At	Saturation Degree	Fracture Intensity	USCS Symbol ( )	Lithographic Column	SOIL/ROCK DESCRIPTION	WELL DETAIL
	DPT: 2.5 - 5.0 ft. runs	5 ft. of 5 ft. = 100%			(s) soil; @ rock	Dry / Moist / Wet	Massive (>3.0 ft) / Slightly (1 - 3 ft) / Moderately (0.5-1 ft) / Intensely (0.1- 0.5 ft) / Crushed (<0.1-foot)				
0 17:00										**Well / Boring / DPT Location:** **See GPS Longitude and Latitude Coordinates above.**	BORE BACKFILLED W/ BENTONITE CHIPS
1	2.5/2.5		0.0					GW		**0 - 0.5' Road Base- Gravel. GW**	2.0-in.-diam. Blank PVC Casing
17:05 2			0.1					GP		**@ 0.5 - 2.5 - FILL: SANDY GRAVEL with Cobbles (GP):** Dark brown; well-graded: 30 - 40 % fine to medium gravel; 30 - 40 % (F:M:C = 1:2:1) angular to sub-angular sand; 15% cobbles (>5-in.); 5% fines; moist; no staining; no odor; no PID hits. Collected soil jar samples for Pesticides/Herbicides/SO_4 & NO_2 / RCRA-8 .	
		100%	0.1								
3	2.5/2.5									**@2.5 - 16': ALLUVIUM: SANDY GRAVEL with Cobbles (GP):** Light brown; well-graded: 30 - 40% fine to medium gravel; 40 - 50% (F:M:C = 1:2:1) angular to sub-angular sand; 10% cobbles (>5-in.); 10% fines; moist; no staining; no odor; no PID hits.	
4											
5		0%									
6	2.5/5.0		0.2							**@ 5.0 to 10.0':** as above. Moist to dry, no staining, no odor.	
7			0.1								
8			0.3								
9		NR	0.2								
10 17:5		50%								**@ 10.0': Stop for the night, resume drilling (01/03/25) @ 8:25 am.**	
8:25 11	3.0/5.0		0.0					GP			
12			0.0							@15.2 - 17.5': **CLAY (CL):** Olive brown; low-plasticity; stiff; moist; no odor, no staining, no PID hits.	
13			0.0				13'				
14		NR								@ 13.0 ': Driller noted very soft drilling and no-recovery on DPT sampler.	
15		60%					14.76 (01/08/25)			@ 15.0 - 16.0': First Encountered Groundwater; moderate recharge GP -As above; no staining, no odor, no PID hits.	
16	5.0/5.0		0.0				15.5 Static (01/02/25)				
17			0.0								
18			0.0					CLST		**@16.0 - 19.0': BEDROCK: CLAYSTONE (CLST):** olive grey; 90% fines: 10% very fine-grained sand; Fe-O_2-staining on partings; moderate pedocal structure development; Dry. No Odor, No Staining. **Base of well casing at ~ 18.8-ft. bgs.** **Boring Terminated at ~19.0-ft. bgs.**	
19		100%									
9:30 20											

Soil Sample : MW-01
Interval: 1 - 2 ft.- bgs
Lab ID: :L1815155-19

Boring Remarks: Boring drilled using a Direct Push Rig: 7822DPT: rubber track-mounted. Soil core collected using 3.0-inch O.D Open Drive Rod, with Acetate inner-liners. Rods advanced at either 5- or 2.5-feet runs, as dictated by recovery rate and geologist's recommendations to driller.
PVC casing was installed (2.0-in. O.D / 1.5-in. I.D) as a temporary well using both blank PVC and machine-slotted 0.010-inch casing.

BASELINE
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LOG OF EXPLORATORY BORING

Project No.	45038.Phase 002	**Boring No.**	
Project Name:	AvalonBay: Welby Gardens Phase II Investigation	**Monitor Well ID:**	**MW-02**
Logged By:	VEB	Type	Temp ☒ Perm
Date:	1/2/2025	**Coordinates: (approximate) Longitude:**	-105.193496119 **Latitude:** 39.8147864
Job: Location:	17201 W. 64th Ave., Arvada, CO		

Well Construction Details

TOC Elevation	5669.51	Ft- MSL	Boring Diameter (inches)	4.00
Ground Elevation	5669.9	Ft- MSL	Casing Diameter (inches)	2.0
Total Boring Depth	15.3	Ft bgs	-0.39	
Total Casing Length	14.9	(feet)		
Screen Interval	14.72 to 5.17 ft		**Slot Size**	0.010 inches
Filter Pack Interval	15.3 to 4 ft		**Sand Size**	#10/20 Silica
Bentonite Seal	4 to 1 ft		**Type:** Bentonite: Chips or Granules	
Surface Seal	1 to 0 ft		**Type:** Conc. w. 8-in Flush-mount Vault box	

Depth (Ft- bgs)	& TIME	Sampler Type & Run (ft)	% Recovery (ft/ft)	Relative Density (blows/ft)	PID (ppm)	Sample Collected At (s) soil; @ rock	Saturation Degree: Dry	Saturation Degree: Moist	Saturation Degree: Wet	Fracture Intensity: Massive (>3.0 ft)	Fracture Intensity: Slightly (1 - 3 ft)	Fracture Intensity: Moderately (0.5-1 ft)	Fracture Intensity: Intensely (0.1- 0.5 ft)	Fracture Intensity: Crushed (<0.1-foot)	USCS Symbol ( )	Lithographic Column	SOIL/ROCK DESCRIPTION	WELL DETAIL
0	11:00	DPT: 2.5 - 5.0 ft. runs	5 ft. of 5 ft. = 100%														**Well / Boring / DPT Location:** See GPS Longitude and Latitude Coordinates above. Hand-auger each boring location to approximately 4 - to 5-feet bgs. Borehole Dry on Jan, 6, 2025. Dry Jan 8, 2025	BORE BACKFILLED W/ BENTONITE CHIPS
	1		5.0/5.0		0.1										GP		**@ 0.0 - 5.0 - FILL: SANDY GRAVEL with Cobbles (GP):** Dark grey to 1-foot then change to dark brown; poorly-graded: 10- to 15% cobbles (3- to >5-in.); subrounded; 30 - 40 % medium to coarse gravel; angular to sub-angular sand; 40 - 45% med. to coarse sand; angular; Fe-O2-staining on grains; loose;10-20% fines; moist to dry; no staining; no odor; no PID hits. **@1 - 2.0':** Collected soil jar samples for Pesticides/Herbicides/SO_4 & NO_3 / RCRA-8 .	2.0-in.-diam. Blank PVC Casing
	11:05				0.5	☒												
	2				1.3	☒												
					1.7													
	3				1.1													
	4																	
5			100%															
	6				0.6										SW		**@5.0 - 8': ALLUVIUM: GRAVELLY SAND (SW):** Light brown to tan; well-graded: 85% (F:M:C = 1:2:1) sand, sub-angular; 15% fine to medium gravel; loose; moist; no staining; no odor; no PID hits.	
					0.7													
	7		2.5/5.0		0.7													
					0.7													
	8																	
	9		NR														**@8.0 - 10.0': SAND TO SILTYSAND (SP_SM):** Reddish brown; 80% fine sand, 20% silty fines; loose; no staining; no odor; no PID hits. Wet. **@ 8.5 - 9.0':** First Encountered Groundwater; slight coating of water on sand grains; very minimal appearance and saturation of pore spaces.	
10	17:50		50%															
	8:25																	
	11		5.0/5.0		0.7										CLST		**@10.0 - 15.3': BEDROCK: CLAYSTONE (CLST):** olive grey to dark grey; weathered; 90% fines: 10% very fine-grained sand; Fe-O_2-staining on partings; moderate pedocal structure development between 10.5 to 12.5 feet; Dry. No Odor, No Staining.	
	12				0.6													
	13																	
	14				0.7													
15			100%		0.6										CLST		**Boring Terminated at ~15.3-ft. bgs.**	
	11:45																**Base of well casing at ~ 15.3ft. bgs.**	
	16																	
	17																**BORING DRY after 5 days. Groundwater sample collected on Jan 24, 2025.** Well yield low. Groundwater capable of supporting minimal sampling.	
	18																	
	19																	
20																		

Soil Sample : MW-02
Date: 01/09/25
Interval: 1 - 2 ft.- bgs

8.5' (01/03/25)

Boring Remarks: Boring drilled using a Direct Push Rig: 7822DPT: rubber track-mounted. Soil core collected using 3.0-inch O.D Open Drive Rod, with Acetate inner-liners. Rods advanced at either 5- or 2.5-feet runs, as dictated by recovery rate and geologist's recommendations to driller.
PVC casing was installed (2.0-in. O.D / 1.5-in. I.D) as a temporary well using both blank PVC and machine-slotted 0.010-inch casing.

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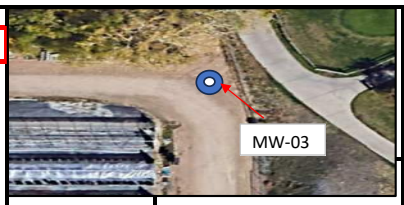
LOG OF EXPLORATORY BORING

Project No.	45038.Phase 002	**Boring No.**	
Project Name:	AvalonBay: Welby Gardens Phase II Investigation	**Monitor Well ID:**	**MW-03**
Logged By:	VEB	Type	Temp ☒ Perm
Date:	1/2/2025	**Coordinates: (approximate) Longitude:**	-105.1959 **Latitude:** 39.81410979
Job: Location:	17201 W. 64th Ave., Arvada, CO		

Well Construction Details

TOC Elevation	5668.24	Ft- MSL	Boring Diameter (inches)	4.00
Ground Elevation	5668.4	Ft- MSL	Casing Diameter (inches)	2
Total Boring Depth	16.00	Ft bgs	-0.16	
Total Casing Length	15.23	(feet)		
Screen Interval	5.3 to 14.85 ft		**Slot Size**	0.010 inches
Filter Pack Interval	16 to 3.5 ft		**Sand Size**	#10/20 Silica
Bentonite Seal	3.5 to 1 ft		**Type:**	Bentonite: Chips or Granules
Surface Seal	1 to 0 ft		**Type:**	Conc. w. 8-in Flush-mount Vault box



Depth (Ft- bgs)	& TIME	Sampler Type & Run (ft)	% Recovery (ft/ft)	Relative Density (blows/ft) or Pocket Penetrometer No.	PID (ppm)	Sample Collected At (s) soil; ® rock	Saturation Degree (Dry / Moist / Wet)	Fracture Intensity (Massive (>3.0 ft) / Slightly (1 - 3 ft) / Moderately (0.5-1 ft) / Intensely (0.1- 0.5 ft) / Crushed (<0.1-foot))	USCS Symbol ( )	Lithographic Column	SOIL/ROCK DESCRIPTION	WELL DETAIL
0	13:00	DPT: 2.5 - 5.0 ft. runs	5 ft. of 5 ft. = 100%								**Well / Boring / DPT Location:** See GPS Longitude and Latitude Coordinates above.	BORE BACKFILLED W/ BENTONITE CHIPS
			5.0/5.0						GW		0 - 0.5' Road Base- Gravel, GW	
	1					☒			SW		**@ 0.5 - 3.5 - FILL: GRAVELLY SAND (SW):** Dark brown; 20 - 30% find, sub-angular gravel; 65 - 70 % (M:C = 2:1) angular to sub-angular sand; 5% fines; moist; no staining; no odor; no PID hits.	
	2				1.4	☒					**@1 .0 - 2.0':** Collected soil jar samples for Pesticides/Herbicides/SO_4 & NO_3 / RCRA-8 .	2.0-in.-diam. Blank PVC Casing
	3											
	4											
5			100%		0.6				GP		**@3.5 - 5.5': ALLUVIUM: SANDY GRAVEL (GP):** Light brown; poorly-graded: 60% fine to coarse gravel; 30% (M:C = 2:1) angular to sub-angular sand; loose; 10% silty; moist; no staining; no odor; no PID hits.	
	6		3.25/5.0								**@ 5.5 to 10.5': SILTY SAND TO SAND (SM-SP):** Light brown; 45% -55% fine sand; 45% - 55% silty fines; moist; no staining; no odor.	
	7											
	8											
	9		NR									
10	13:45		65%									
					0.75							
	11		2.0/5.0	4.5	0.0				CL			
				4.25								
	12				0.0			11.5 - 12.0 (1/2/25)			**@ 10.5 to 11.5: SILTY CLAY (CL):** olive grey; 85% clayey fines; 15% silty fines; very hard; stiff; moist; no staining; no odor.	
	13							13.15 (1/6/25)			**@11.5 to 15.5': SILTY SAND (SM):** Light brown; 65% -75% fine sand; 25% - 35% silty fines; moist; no staining; no odor. Collected 2-ounce Jar sample - on hold.	
	14		NR									
15			40%					14.76 (01/08/25)			**@ 11.5 - 12.0': First Encountered Groundwater**; very slow recharge.	
	13:50		1.0/1.0		0.0							
	16		100%		0.0				SS		**@15.5 - 16.0': BEDROCK: SANDSTONE (SS):** yellowish tan; 80% fine-grained sandstone with 20% silty fines; Fe-O_2-staining on partings; Wet. No Odor, No Staining.	
	17											
	18											
	19										**Boring Terminated at ~16.0-ft. bgs.** **Base of well at approx. 15.39-ft.-bgs.**	
20	9:30											

Soil Sample : MW-03
Date: 01/09/25
Interval: 1 - 2 ft.- bgs

Boring Remarks: Boring drilled using a Direct Push Rig: 7822DPT: rubber track-mounted. Soil core collected using 3.0-inch O.D Open Drive Rod, with Acetate inner-liners. Rods advanced at either 5- or 2.5-feet runs, as dictated by recovery rate and geologist's recommendations to driller.
PVC casing was installed (2.0-in. O.D / 1.5-in. I.D) as a temporary well using both blank PVC and machine-slotted 0.010-inch casing.

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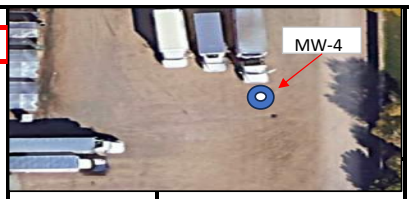
LOG OF EXPLORATORY BORING

Project No. 45038.Phase 002
Project Name: AvalonBay: Welby Gardens Phase II Investigation
Logged By: VEB
Date: 1/2/2025
Job: Location: 17201 W. 64th Ave., Arvada, CO

Boring No.
Monitor Well ID: MW-04
Type Temp ☒ Perm ☐
Coordinates: (approximate) Longitude: -105.193496866 **Latitude:** 39.815391502

Well Construction Details

TOC Elevation	5669.44	Ft- MSL	Boring Diameter (inches)		4.00
Ground Elevation	5669.9	Ft- MSL	Casing Diameter (inches)		2
Total Boring Depth	20.42	Ft bgs	-0.46		
Total Casing Length	19.96	(feet)			
Screen Interval	10.33	to 19.88 ft	**Slot Size**	0.010	inches
Filter Pack Interval	8	to 20.46 ft	**Sand Size**	#10/20	Silica
Bentonite Seal	1	to 8 ft	**Type:** Bentonite: Chips or Granules		
Surface Seal	0	to 1 ft	**Type:** Conc. w. 8-in Flush-mount Vault box		



Depth (Ft- bgs) & TIME	Sampler Type & Run (ft)	% Recovery (ft/ft)	Relative Density (blows/ft) or Pocket Penetrometer No.	PID (ppm)	Sample Collected At	Saturation Degree: Dry / Moist / Wet	Fracture Intensity: Massive (>3.0 ft) / Slightly (1 - 3 ft) / Moderately (0.5-1 ft) / Intensely (0.1- 0.5 ft) / Crushed (<0.1-foot)	USCS Symbol ( )	Lithographic Column	SOIL/ROCK DESCRIPTION	WELL DETAIL
0 8:30	DPT: 2.5 - 5.0 ft. runs	5 ft. of 5 ft. = 100%			(s) soil; ® rock					**Well / Boring / DPT Location:** **See GPS Longitude and Latitude Coordinates above.**	BORE BACKFILLED W/ BENTONITE CHIPS
1	3.0/3.0		0.2	☒				GW		**0 - 0.5' Road Base- Gravel. GW**	2.0-in.-diam. Blank PVC Casing
2	100%		0.3	☒				GP		**@ 0.5 - 3.0 - FILL: SANDY GRAVEL (GP):** Light brown; poorly-graded; 10% cobbles (1 - >4-in); angular to sub-rounded; 40 - 45% fine to medium gravel, moderately rounded; 50 - 55% (M:C = 2:1) angular to sub-angular sand; loose; 5% fines; dry; no staining; no odor; no PID hits. **@1 .0 - 3.0':** Collected soil jar samples for Pesticides/Herbicides/SO_4 & NO_3 / RCRA-8 .	
8:45											
3			0.2	☒							
4	Solid Stem									**@3.0 - 5.0':** Needed solid stem to get through large cobbles in fill. Appears to be same material as above.	
9:00		NR					NR				
5											
6			0.2					GP		**@5.0': ALLUVIUM: SANDY GRAVEL (GP):** Light brown; poorly-graded: 60% fine to coarse gravel; 30% (M:C = 2:1) angular to sub-angular sand; loose; 10% silty; moist; no staining; no odor; no PID hits.	
7	2.0/4.0		0.4								
8		40%						SP		**@7.0 to 10.0':** High Slough Zone, no recovery. **@ 7.0 to 10.0': SAND (SP):** Light brown; 50% medium sand; 40 % coarse sand, sub-angular; loose; 10% silty fines; trace fine gravel; Fe-O_2 staining; dry; no staining; no odor.	
9		NR									
10 9:15	PUSH	NR									
11	5.0/5.0		0.5					CL		**@ 10.5 to 13.5': CLAY (CL); olive grey;** 90-95% clayey fines; 5-10% very fine sand; stiff; low-plasticity; moist; no staining; no odor; no PID hits	
12			0.6								
13	100%		0.6								
14			0.4					SP		**@ 13.5 ': First Encountered Groundwater**. Slow to moderate recharge. **@ 13.5 to 15.5: SAND (SP)** light brown; poorly-graded; 90%fine to medium-grained sand; angular to sub-angular; thinly laminated; no odor; moist grading to wet. Driller noticed DPT drive-rod refusal at ~ 15.5'.	
15			0.7								
9:20	0.0/5.0							SS		**@15.5': BEDROCK: SANDSTONE (SS):** Light brown; fine-grained sand; highly-weathered; slight to moderate formation of pedocals with FE-O2 staining on partings: moist; no hydrocarbon or other staining; no odor.	
16	Solid Stem										
17											
18		0%									
19	Solid Stem							SS		**@15.0 to 20.4':** Solid Stem Auger from 15 to 20.4 to build well. Shoe of Augers still in Sandstone. **Base of Casing at ~20.42 ft. bgs.** **Boring Terminated at ~20.42 ft. bgs.**	
20											

Soil Sample : MW-04
Date: 01/06/25
Interval: 1 - 3 ft.- bgs

13.5 (1/2/25) 13.15 (1/6/25)

Boring Remarks: Boring drilled using a Direct Push Rig: 7822DPT: rubber track-mounted. Soil core collected using 3.0-inch O.D Open Drive Rod, with Acetate inner-liners. Rods advanced at either 5- or 2.5-feet runs, as dictated by recovery rate and geologist's recommendations to driller.
PVC casing was installed (2.0-in. O.D / 1.5-in. I.D) as a temporary well using both blank PVC and machine-slotted 0.010-inch casing.

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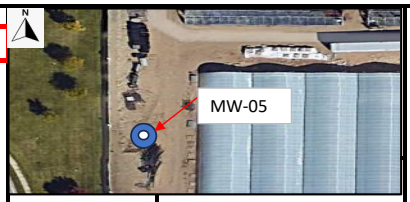
LOG OF EXPLORATORY BORING

Project No. 45038.Phase 002
Project Name: AvalonBay: Welby Gardens Phase II Investigation
Logged By: VEB
Date: 1/2/2025
Job: Location: 17201 W. 64th Ave., Arvada, CO

Boring No.
Monitor Well ID: MW-05
Type Temp ☒ Perm ☐
Coordinates: (approximate) **Longitude:** -105.195948551 **Latitude:** 39.81555228



Well Construction Details

TOC Elevation	5680.47	Ft- MSL	Boring Diameter (inches)		4.00
Ground Elevation	5680.9	Ft- MSL	Casing Diameter (inches)		2
Total Boring Depth	16.50	Ft bgs	-0.43		
Total Casing Length	13.45	(feet)			
Screen Interval	3.75	to 13.30 ft	**Slot Size**	0.010	inches
Filter Pack Interval	3	to 14 ft	**Sand Size**	#10/20	Silica
Bentonite Seal	1	to 3 ft	**Type:** Bentonite: Chips or Granules		
Surface Seal	0	to 1 ft	**Type:** Conc. w. 8-in Flush-mount Vault box		

Depth (Ft- bgs) & TIME | Sampler Type & Run (ft) | % Recovery (ft/ft) | Relative Density (blows/ft) or Pocket Penetrometer No. | PID (ppm) | Sample Collected At | Saturation Degree (Dry / Moist / Wet) | Fracture Intensity (Massive (>3.0 ft) / Slightly (1 - 3 ft) / Moderately (0.5-1 ft) / Intensely (0.1- 0.5 ft) / Crushed (<0.1-foot)) | USCS Symbol ( ) | Lithographic Column | SOIL/ROCK DESCRIPTION | WELL DETAIL

Well / Boring / DPT Location:
See GPS Longitude and Latitude Coordinates above.

WELL DETAIL: BORE BACKFILLED W/ BENTONITE CHIPS; 2.0-in.-diam. Blank PVC Casing

0

DPT: 2.5 - 5.0 ft. runs; 5 ft. of 5 ft. = 100%; (s) soil; @ rock

1 — 2.0/2.0 — 100% — PID 0.0, 0.1, 0.1, 0.1 — Saturation: Moist — Fracture Intensity: Massive (>3.0 ft) — USCS: GP

Soil Sample : MW-05
Date: 01/09/25
Interval: 1 - 2 ft.- bgs
Lab ID: L1815155-03

@ 0.5 - 3.0 - FILL: SANDY GRAVEL with COBBLES (GP): Light brown; poorly-graded; 70% fine to medium gravel, angular to sub-rounded; 25-30% (M:C = 2:1) angular to sub-angular sand; loose; with 5% cobbles (>5-in); dry; no staining; no odor; no PID hits.

2 — 100% — PID 0.1

8:45

3 — 3.0/3.0 — Solid Stem — NR

4 — NR — Saturation: Dry — USCS: SW

@1 .0 - 2.0': Collected soil jar samples for Pesticides/Herbicides/SO_4 & NO_3 / RCRA-8 .

@2.0 - 5.0': Alluvium: GRAVELLY SAND (SW); MOTTLED LIGHT TO DARK BROWN; 80% F-M sand, sub-angular; 20% fine gravel, sub-rounded; loose; moist; no staining; no odor; no PID hits.

5

@5.0 - 5.5': Gradational contact with bedrock

6 — PID 0.2

7 — 3.0/5.0 — PID 0.1

8 — 60% — 2

9 — NR

10 — 3

@5.5': BEDROCK: CLAYSTONE (CLST); dark grey; highly weathered 5.0 to 7.0 feet; Fe-O2-staining speckled throughout; pedocals more developed with depth; more competent with depth; very hard; dry; no staining; no odor; no PID hits.

11 — 5.0/5.0 — 4 — PID 0.1

12 — PID 0.1

13 — 100% — 4 — PID 0.1

14 — PID 0.1

15 — 4.5 — PID 0.1, 0.1

Base of Casing at ~13.88 ft. -bgs.

@16.5': Drill-rig refusal.

16 — 1.5/1.5 — 4.5 — PID 0.1 — 100%

Boring Terminated at ~16.5 ft. bgs.

17

18

19 — USCS: SS

20

Boring Remarks: Boring drilled using a Direct Push Rig: 7822DPT: rubber track-mounted. Soil core collected using 3.0-inch O.D Open Drive Rod, with Acetate inner-liners. Rods advanced at either 5- or 2.5-feet runs, as dictated by recovery rate and geologist's recommendations to driller.
PVC casing was installed (2.0-in. O.D / 1.5-in. I.D) as a temporary well using both blank PVC and machine-slotted 0.010-inch casing.

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LOG OF EXPLORATORY BORING

Project No. 45038.Phase 002
Project Name: AvalonBay: Welby Gardens Phase II Investigation
Logged By: VEB
Date: 1/3/2025
Job: Location: 17201 W. 64th Ave., Arvada, CO

Boring No. WGB-01
Monitor Well ID:
Type Temp ☒ Perm ☐
Coordinates: (approximate) N 1721763.89 E 3086053.63

Well Construction Details

TOC Elevation	NA	Ft- MSL	Boring Diameter (inches)	4.00	
Ground Elevation	5671.5	Ft- MSL	Casing Diameter (inches)	0	
Total Boring Depth	14.00	Ft bgs			
Total Casing Length		(feet)			
Screen Interval		to ft	Slot Size		inches
Filter Pack Interval		to ft	Sand Size		Silica
Bentonite Seal	0	to 14 ft	Type: Bentonite: Chips or Granules		
Surface Seal		to ft	Type:		

Depth (Ft- bgs) & TIME	Sampler Type & Run (ft)	% Recovery (ft/ft)	Relative Density (blows/ft) or Pocket Penetrometer No.	PID (ppm)	Sample Collected At	Saturation Degree: Dry / Moist / Wet	Fracture Intensity: Massive (>3.0 ft) / Slightly (1 - 3 ft) / Moderately (0.5-1 ft) / Intensely (0.1- 0.5 ft) / Crushed (<0.1-foot)	USCS Symbol ( )	Lithographic Column	SOIL/ROCK DESCRIPTION	WELL DETAIL
0	DPT: 2.5 - 5.0 ft. runs	5 ft. of 5 ft. = 100%			(s) soil; @ rock					**Well / Boring / DPT Location:** See GPS Longitude and Latitude Coordinates above.	BORE BACKFILLED W/ BENTONITE CHIPS
12:20 1	2.0/2.0							SW		**@ 0.0 - 2.5' - FILL: GRAVELLY SAND (SW)** dark brown; well-graded; 70% fine to coarse sand; 25% fine gravel, angular to sub-rounded; 5% fines; dry; no staining; no odor; no PID hits. **@1 .0 - 2.0':** Collected soil jar samples for Pesticides/Herbicides/SO_4 & NO_3 / RCRA 8 .	
2	100%		0.2	☒							
12:30 3	3.0/3.0							GP-GW		**@2.5 - 9.0':** Alluvium: SANDY GRAVEL with COBBLES (GP-GW); mottled white to tan and red; 20% cobbles (>5-inch); 40% f:M:C sand; 40% fine gravel, sub-angular, sub-rounded; loose; moist; no staining; no odor; no PID hits.	
4	Solid Stem NR					NR					
5											
6			0.5								
	4.0/5.0		0.2								
7			0.3							**@7.0 - 7.5': GRAVELLY SAND (SW):** color as above; 55-60 very fine to coarse sand; 30-35% fine gravel; trace coarse; 5-10% silty fines: loose; moist; no staining; no odor; no PID hits.	
8	80%		2.0							**@9.0': Contact w/ bedrock.** Wet, very minimal, barely visible water coating grains and filling pore spaces. Highly unlikely to produce any water at volumes suitable for sampling.	
9			4.0	☒		~9.0 (01/03/25)					
13:00 10	NR										
11	5.0/5.0									**@9.5': BEDROCK: CLAYSTONE (CLST);** dark olive grey; highly weathered 80% clay fines; 20% very fine sand; thinly laminated; weathered with traces of Fe-O2-staining speckled throughout; pedocals more developed with depth; more competent with depth; very hard; dry; no staining; no odor; no PID hits.	
12											
13	100%										
14											
15										**@14.0': Drill rig refusal.**	
16								SS		**Boring Terminated at ~14.0 ft. bgs.** Boring backfilled to ground surface with 1/4 - 1/2-inch bentonite granules.	
17											
18											
19											
20											

Soil Sample : WGB-01
Date: 01/09/25
Interval: 1 - 2 ft.- bgs
Lab ID: :L1815155-01

Soil Sample WGB-01 -A
Date: 01/09/25
Interval: 8.7 ft.- bgs
Lab ID: L1815155-22

Boring Remarks: Boring drilled using a Direct Push Rig: 7822DPT: rubber track-mounted. Soil core collected using 3.0-inch O.D Open Drive Rod, with Acetate inner-liners. Rods advanced at either 5- or 2.5-feet runs, as dictated by recovery rate and geologist's recommendations to driller.

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LOG OF EXPLORATORY BORING

Project No. 45038.Phase 002
Project Name: AvalonBay: Welby Gardens Phase II Investigation
Logged By: VEB
Date: 1/3/2025
Job: Location: 17201 W. 64th Ave., Arvada, CO

Boring No. WGB-02
Monitor Well ID:
Type Temp ☒ Perm ☐
Coordinates: (approximate) N 1721843.82 E 3086085.02

Well Construction Details

TOC Elevation	NA	Ft- MSL	Boring Diameter (inches)	4.00	
Ground Elevation	5670.7	Ft- MSL	Casing Diameter (inches)	0	
Total Boring Depth	14.50	Ft bgs			
Total Casing Length		(feet)			
Screen Interval		to ft	Slot Size	inches	
Filter Pack Interval		to ft	Sand Size	Silica	
Bentonite Seal	0	to 14.5 ft	Type: Bentonite: Chips or Granules		
Surface Seal		to ft	Type:		

Depth (Ft- bgs) & TIME	Sampler Type & Run (ft)	% Recovery (ft/ft)	Relative Density (blows/ft) or Pocket Penetrometer No.	PID (ppm)	Sample Collected At	Saturation Degree	Fracture Intensity	USCS Symbol ( )	Lithographic Column	SOIL/ROCK DESCRIPTION	WELL DETAIL
	DPT: 2.5 - 5.0 ft. runs	5 ft. of 5 ft. = 100%			(s) soil; ® rock	Dry / Moist / Wet	Massive (>3.0 ft) / Slightly (1 - 3 ft) / Moderately (0.5-1 ft) / Intensely (0.1- 0.5 ft) / Crushed (<0.1-foot)				BORE BACKFILLED W/ BENTONITE CHIPS
0										**Well / Boring / DPT Location:** See GPS Longitude and Latitude Coordinates above.	
13:00 1		3.0/3.0		0.5	☒			SM		**@ 0.0 - 8.5' - FILL: SILTY SAND (SM) with GRAVEL** Mottled dark brown to olive grey; 70% fine- medium-coarse sand, sub-angular; 20% fine gravel, angular to sub-rounded; trace to 5% cobbles; trace to 5% fines; dry; no staining; no odor; no PID hits.	
2		100%		0.4	☒					**@1 .0 - 2.0':** Collected soil jar samples for Pesticides/Herbicides/SO_4 & NO_3 / RCRA-8 .	
13:32 3											
4		Solid Stem									
5 13:45		NR									
6				0.3							
7		4.0/5.0		0.3							
8				0.6							
9		80%		0.5				CL		**@8.5 - 9.0':** Alluvium: **SANDY CLAY (CLs):** Light brown; 80-90% clayey fines; 10-20% very fine sand; stiff; moist; no staining; no odor; no PID hits.	
10 13:48		NR						GW-SW		**@9.0 - 11.5': SANDY GRAVEL to GRAVELLY SAND (GW-SW):** Light brown; 45-55% fine to medium sand; 45-55% fine to coarse gravel; loose; moist; no staining; no odor; no PID hits.	
11		4.5/5.0		0.3				CL		**@11.5 ' - 12.0': CLAY (CL)** olive grey; very stiff; dry.	
12				0.6				GW			
13		90%		0.5				SW		**@12.0 - 12.5': SANDY GRAVEL (GW)** as above at 9.0'; dry no staining; no odor; no PID hits.	
14				0.0				CLST		**@12.5' - 13.0': GRAVELLY SAND (SW):** light brown: 55-65% fine to med sand; 35-45% fine to medium gravel; dry no staining; no odor; no PID hits.	
15 14:10											
16										**BEDROCK: CLAYSTONE (CLST);** dark olive grey; highly weathered from 13 to 14 ft.; stiff; hard to 14.5'; 90% clay fines; 10% very fine sand; thinly laminated; weathered with traces of Fe-O2-staining speckled throughout; pedocals more developed with depth; more competent with depth; very hard; dry; no staining; no odor; no PID hits.	
17											
18											
19										**@14.5': Drill rig refusal.** **Boring Terminated at ~14.5 ft. bgs.** Boring backfilled to ground surface with 1/4 - 1/2-inch bentonite granules.	
20											

Soil Sample : WGB-02
Date: 01/09/25
Interval: 1 - 2 ft.- bgs
Lab ID: :L1815155-23

Boring Remarks: Boring drilled using a Direct Push Rig: 7822DPT: rubber track-mounted. Soil core collected using 3.0-inch O.D Open Drive Rod, with Acetate inner-liners. Rods advanced at either 5- or 2.5-feet runs, as dictated by recovery rate and geologist's recommendations to driller.

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LOG OF EXPLORATORY BORING

Project No. 45038.Phase 002
Project Name: AvalonBay: Welby Gardens Phase II Investigation
Logged By: VEB
Date: 1/3/2025
Job: Location: 17201 W. 64th Ave., Arvada, CO

Boring No. WGB-09
Monitor Well ID:
Type Temp Perm
Coordinates: (approximate) N 1722523.19 E 3085522.0100

Well Construction Details

TOC Elevation	NA	Ft- MSL	Boring Diameter (inches)	4.00	
Ground Elevation	5676.9	Ft- MSL	Casing Diameter (inches)	0	
Total Boring Depth	1.00	Ft bgs			
Total Casing Length		(feet)			
Screen Interval		to ft	Slot Size	inches	
Filter Pack Interval		to ft	Sand Size	Silica	
Bentonite Seal	0	to 1 ft	Type: Bentonite: Chips or Granules		
Surface Seal		to ft	Type:		

Depth (Ft- bgs)	Depth (0.10-foot bgs)	Sampler Type & Run (ft)	% Recovery (ft/ft)	Relative Density (blows/ft) or Pocket Penetrometer No.	PID (ppm)	Sample Collected At	Saturation Degree: Dry	Saturation Degree: Moist	Saturation Degree: Wet	Fracture Intensity: Massive (>3.0 ft)	Fracture Intensity: Slightly (1 - 3 ft)	Fracture Intensity: Moderately (0.5-1 ft)	Fracture Intensity: Intensely (0.1- 0.5 ft)	Fracture Intensity: Crushed (<0.1-foot)	USCS Symbol ( )	Lithographic Column	SOIL/ROCK DESCRIPTION	WELL DETAIL
0.0		DPT: 2.5 - 5.0 ft. runs	5 ft. of 5 ft. = 100%			(s) soil; @ rock											**Well / Boring / DPT Location:** See GPS Longitude and Latitude Coordinates above.	BORE BACKFILLED W/ BENTONITE CHIPS
	0.1		0.5/0.5															
	0.2		100%		0.2	☒ ☒												
	0.3				0.5													
	0.4				0.2	☒ ☒									SC-SM			
0.5					0.3													
	0.6				0.2													
	0.7		0.5/0.5		0.2													
	0.8		100%		2.0													
	0.9				4.0													
1.0					0.7													
	1.1																	
	1.2																	
	1.3																	
	1.4																	
1.5																		
	1.6																	
	1.7																	
	1.8																	
	1.9																	
2.0																		

Soil Sample : WGB-09
Date: 01/09/25
Interval: 0 - 1.0 ft.- bgs
Lab ID: L1815155-20

@ 0.0 - 1.0' - FILL: CLAYEY SAND (SC) TO SILTY SAND (SM)
Mottled dark brown; 60-65% fine to medium sand; 10-15% fine gravel, angular to sub-rounded; trace to 5% cobbles (>3-in), angular to sub-angular; loose; trace to 15-25% clayey to silty fines; dry; no staining; no odor; no PID hits.

@0.0 - 0.5': Collected soil jar samples for Pesticides/Herbicides/SO_4 & NO_3 / RCRA-8 and TEPH .

HAND Boring Terminated at ~1.0 ft. bgs. Boring backfilled to ground surface with 1/4 - 1/2-inch bentonite granules.

Boring Remarks: Boring advanced in 6-inch (0.5-foot) increments using a decontaminated stainless-steel hand-auger.

BASELINE
Engineering · Planning · Surveying

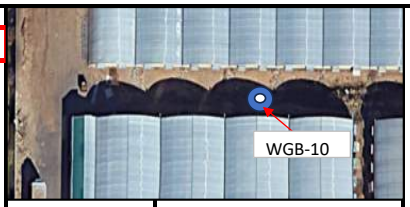
LOG OF EXPLORATORY BORING

Project No. 45038.Phase 002
Project Name: AvalonBay: Welby Gardens Phase II Investigation
Logged By: VEB
Date: 1/3/2025
Job: Location: 17201 W. 64th Ave., Arvada, CO

Boring No. WGB-10
Monitor Well ID:
Type Temp Perm
Coordinates: (approximate) N 1721837.48 W 3085494.3400

Well Construction Details

TOC Elevation	NA	Ft- MSL	Boring Diameter (inches)	4.00	
Ground Elevation	5676.2	Ft- MSL	Casing Diameter (inches)	0	
Total Boring Depth	1.00	Ft bgs			
Total Casing Length		(feet)			
Screen Interval		to ft	**Slot Size**	inches	
Filter Pack Interval		to ft	**Sand Size**	Silica	
Bentonite Seal	0	to 1 ft	**Type:** Bentonite: Chips or Granules		
Surface Seal		to ft	**Type:**		



Saturation Degree: Dry | Moist | Wet
Fracture Intensity: Massive (>3.0 ft) | Slightly (1 - 3 ft) | Moderately (0.5-1 ft) | Intensely (0.1- 0.5 ft) | Crushed (<0.1-foot)

Depth (Ft- bgs)	Depth (0.01-foot bgs)	Sampler Type & Run (ft)	% Recovery (ft/ft)	Relative Density (blows/ft) or Pocket Penetrometer No.	PID (ppm)	Sample Collected At (s) soil; @ rock	USCS Symbol ( )	Lithographic Column	SOIL/ROCK DESCRIPTION	WELL DETAIL
0.0		DPT: 2.5 - 5.0 ft. runs	5 ft. of 5 ft. = 100%						**Well / Boring / DPT Location:** See GPS Longitude and Latitude Coordinates above.	BORE BACKFILLED W/ BENTONITE CHIPS
	0.1		0.5/0.5		0.1	☒			**@ 0.0 - 1.0' - FILL: CLAYEY SAND (SC) TO SILTY SAND (SM)** Mottled dark brown; 55-60% fine to medium sand; 5-10% fine gravel, angular to sub-rounded; angular to sub-angular; loose; trace to 30-35% clayey to silty fines; dry; no staining; no odor; no PID hits.	
	0.2		100%			☒			**@0.0 - 0.5':** Collected soil jar samples for Pesticides/Herbicides/SO_4 & NO_3 / RCRA-8 and TEPH .	
	0.3				0.1					
	0.4					☒	SC-SM			
0.5					0.2	☒				
	0.6									
	0.7		0.5/0.5		0.1					
	0.8		100%							
	0.9									
1.0					0.1				**HAND Boring Terminated at ~1.0 ft. bgs.** Boring backfilled to ground surface with 1/4 - 1/2-inch bentonite granules.	
	1.1									
	1.2									
	1.3									
	1.4									
1.5										
	1.6									
	1.7									
	1.8									
	1.9									
2.0										

Soil Sample : WGB-10
Date: 01/09/25
Interval: 0 - 1.0 ft.- bgs
Lab ID: L1815155-04

Boring Remarks: Boring advanced in 6-inch (0.5-foot) increments using a decontaminated stainless-steel hand-auger.

MONITORING WELL CONSTRUCTION DETAILS

FACILITY/PROJECT NAME: AvalonBay: Welby Gardens: Phase II Inv.

LOCATION 17201 W. 64th Ave., Arvada, CO.

TYPE OF WELL Temporary Monitoring Well

PERMIT NO.

CASING DIAMETER 2.0 **INCHES**

BORING DIAMTER 4.0 **INCHES**

WELL NAME/ID: MW-01

A GROUND SURFACE ELEVATION 5681.5 FT.-AMSL

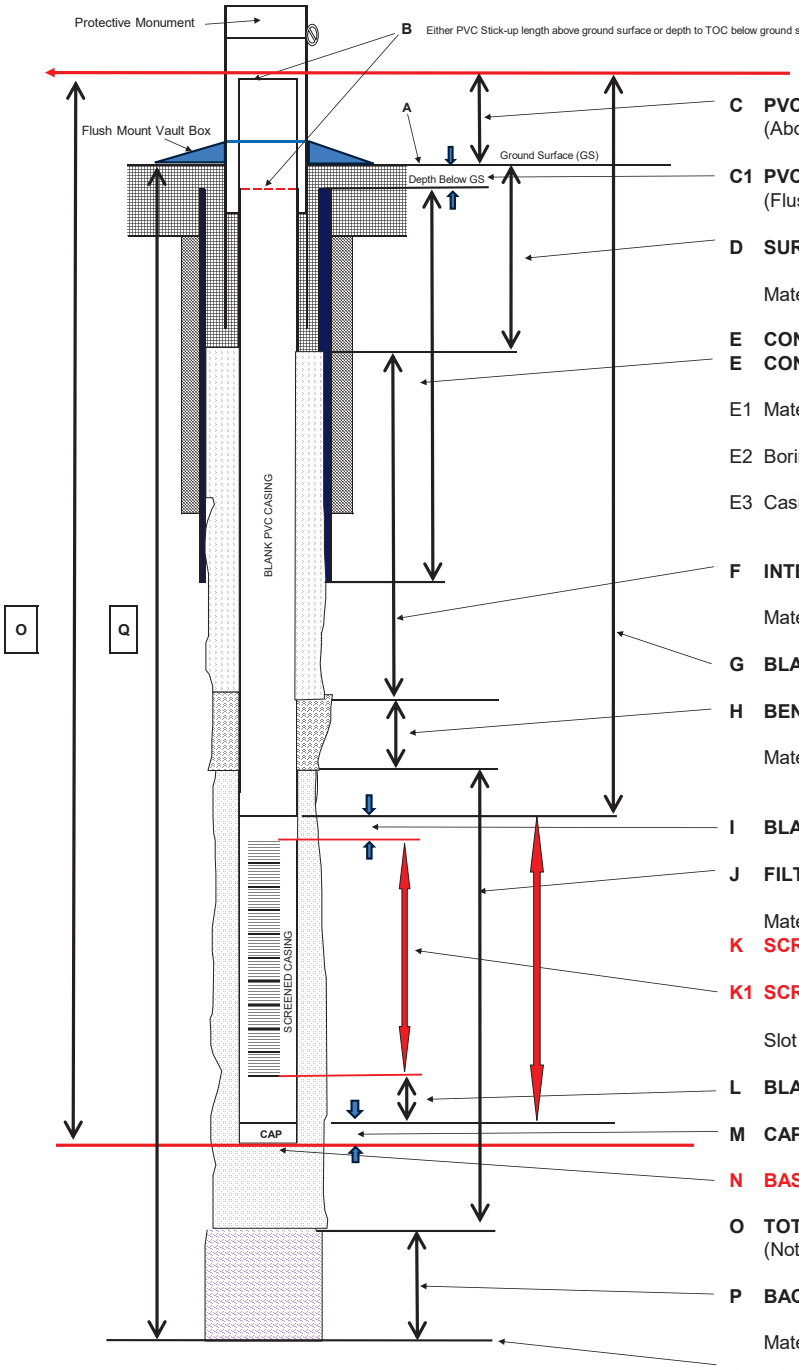
B TOP OF CASING ELEVATION 5681.32 FT.-AMSL

LATITUDE: 39.814109794 FEET

LONGITUDE: -105.195946959 FEET

DATE DRILLED 01/02/25

DATE INSTALLED 01/03/25



C PVC-STICK-UP : GROUND _____ T.O.C _____ INTERVAL _____ FEET
(Above Ground Monument Used)

C1 PVC CUT OFF GROUND 5681.5 T.O.C 5681.32 INTERVAL 0.15 FEET
(Flush-Mount Vault Box Used)

D SURFACE SEAL : BOT. 1 TOP 0 INTERVAL 1.0 FEET

Material Type/ Quantity: Concrete w/ 8-inch Diameter Flush-mount vault box

E CONDUCTOR YES _____ NO X

E CONDUCTOR BOT. _____ TOP _____ INTERVAL _____ FEET

E1 Material Type: _____

E2 Boring Diameter: _____ inches

E3 Casing Diameter: _____ inches

F INTERMEDIATE SEAL: BOT. 7.0 TOP 1.0 INTERVAL 6.0 FEET

Material Type/ Quantity: Bentonite: Chips or Granules

G BLANK CASING: BOT. 8.27 TOP 0.15 INTERVAL 8.09 FEET

H BENTONITE SEAL: BOT. NA TOP NA INTERVAL NA FEET

Material Type/ Quantity: NA

I BLANK SCREEN: TOP SLOT TO JOINT 0.20 FEET

J FILTER PACK: BOT. 19.0 TOP 7 INTERVAL 12 FEET

Material Type/ Quantity: # 10/20 Silica Sand

K SCREEN CASING: BOT. 17.67 TOP 7.67 INTERVAL 10.0 FEET

K1 SCREEN INTERVAL: BOT. 18.02 TOP 8.47 INTERVAL 9.55 FEET

Slot Size & Type: 0.010-inch machine-slotted

L BLANK SCREEN: JOINT TO BOTTOM SLOT 0.25 FEET

M CAP LENGTH 0.33 FEET

N BASE OF WELL CASING AT: 18.6 FEET

O TOTAL CASING LENGTH: 18.42 FEET
(Note: ADD: M +L +K+ I + G)

P BACKFILL MATERIAL: BOT. _____ TOP _____ INTERVAL 0 FEET

Material Type/ Quantity: NA

Q TOTAL BORING DEPTH: 19.0 FEET

DRILLED BY: Site Services LLC.
LOGGED BY: Vince Barlock C.P.G
DRILLING METHOD **H.S.A or DPT** [X] **ROTARY** [ ]

SAMPLER TYPE & DIMENSIONS 3-inch x 5' DPT Drive rod w/ accetate liners.

MAP OF WELL LOCATION OF GENERAL NOTES:

See map on boring log. Well located in SW corner of property just north inside access gate.

Well top-of-casing, ground surface elevations, and coordinates surveyed by Baseline Engineering Corp. (January, 2025).

I hearby certify that the information on this form is true and correct to the best of my knowledge

SIGNATURE **FIRM**

VERSION 1.0

MONITORING WELL CONSTRUCTION DETAILS

FACILITY/PROJECT NAME: AvalonBay: Welby Gardens Phase II Inv. 45038. Phase 002

LOCATION 17201 W. 64th Ave., Arvada, CO.

TYPE OF WELL Temporary Monitoring Well

PERMIT NO.

CASING DIAMETER 2.0 INCHES

BORING DIAMTER 4.0 INCHES

WELL NAME/ID: MW-02

A GROUND SURFACE ELEVATION 5669.9 FT.-AMSL

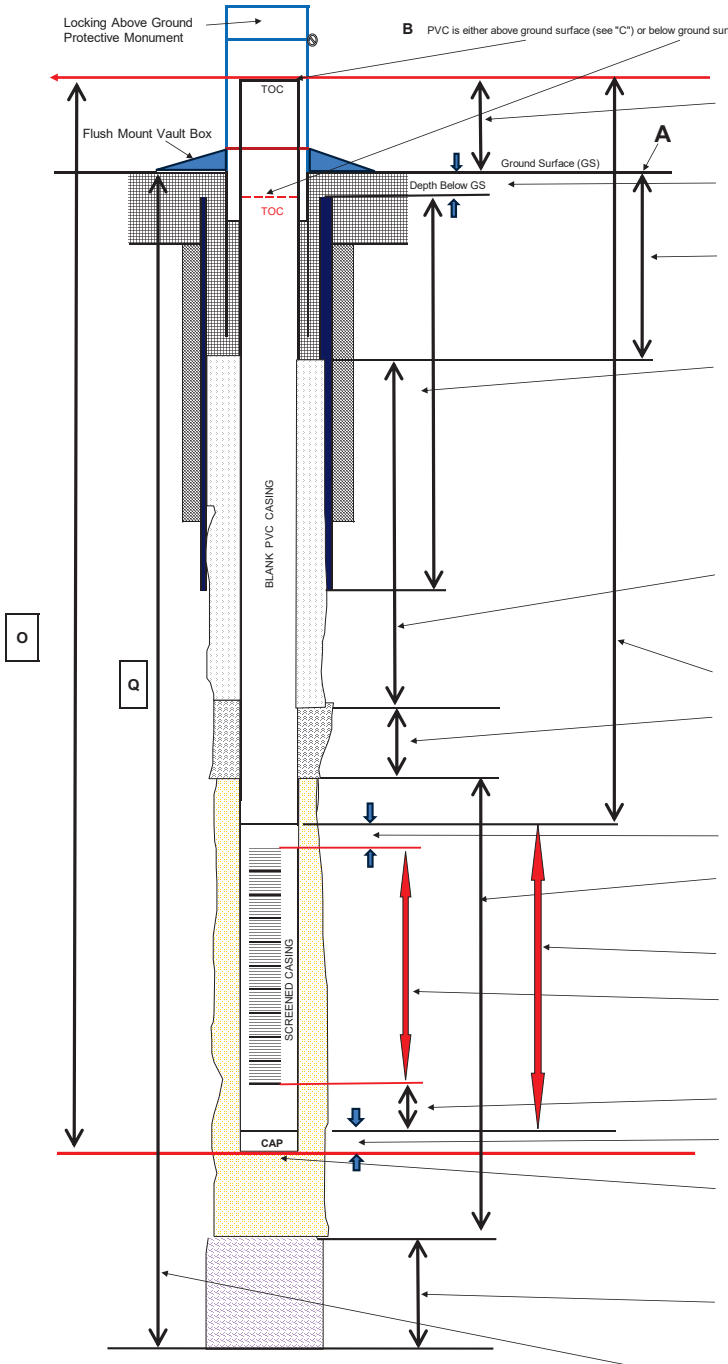
B TOP OF CASING ELEVATION 5669.51 FT.-AMSL

LATITUDE: 39.814786397 FEET

LONGITUDE: -105.193496119 FEET

DATE DRILLED 01/02/25

DATE INSTALLED 01/02/25



C PVC-STICK-UP : GROUND ____ T.O.C ____ INTERVAL ____ FEET
(Above Ground Monument Used)

C1 DEPTH TO TOC GROUND 5669.9 T.O.C 5669.51 INTERVAL 0.4 FEET
(Flush-Mount Vault Box Used)

D SURFACE SEAL : BOT. 1.0 TOP 0.0 INTERVAL 1.0 FEET
Material Type/ Quantity: Concrete w/ 8-inch diameter flush-mount vault box

E CONDUCTOR YES [ ] NO [X]

E CONDUCTOR BOT. ____ TOP ____ INTERVAL ____ FEET

E1 Material Type: ____

E2 Boring Diameter: ____ inches

E3 Casing Diameter: ____ inches

F INTERMEDIATE SEAL: BOT. 4.0 TOP 1.0 INTERVAL 3.0 FEET
Material Type/ Quantity: Bentonite: Chips or Granules

G BLANK CASING: BOT. 4.97 TOP -0.4 INTERVAL 4.57 FEET

H BENTONITE SEAL: BOT. NA TOP NA INTERVAL NA FEET
Material Type/ Quantity: NA

I BLANK SCREEN: TOP SLOT TO JOINT 0.2 FEET

J FILTER PACK: BOT. 15.3 TOP 4.0 INTERVAL 11.3 FEET
Material Type/ Quantity: #10/20 Silica Sand

K SCREEN CASING: BOT. 14.97 TOP 4.77 INTERVAL 10.0 FEET

K1 SCREEN INTERVAL: BOT. 14.72 TOP 5.17 INTERVAL 9.55 FEET
Slot Size & Type: 0.010-inch machine-slotted

L BLANK SCREEN: JOINT TO BOTTOM SLOT 0.25 FEET

M CAP LENGTH 0.33 FEET

N BASE OF WELL CASING AT: 15.3 FEET

O TOTAL CASING LENGTH: 14.9 FEET
(Note: ADD: M +L +K+ I + G)

P BACKFILL MATERIAL: BOT. NA TOP NA INTERVAL NA FEET
Material Type/ Quantity: NA

Q TOTAL BORING DEPTH: 15.3 FEET

DRILLED BY: Site Services LLC
LOGGED BY: Vincent Barlock C.P.G
DRILLING METHOD **H.S.A or DPT** [X] **ROTARY** [ ]

SAMPLER TYPE & DIMENSIONS 3-inch x 5' DPT Drive rod w/ accetate liners.

MAP OF WELL LOCATION OF GENERAL NOTES:

See map /photo on boring log. Well located east of ASTs north of front access gate.

Well top-of-casing, ground surface elevations, and coordinates surveyed by Baseline Engineering Corp. (January, 2025).

I hearby certify that the information on this form is true and correct to the best of my knowledge

SIGNATURE **FIRM**

MONITORING WELL CONSTRUCTION DETAILS

FACILITY/PROJECT NAME: AvalonBay: Welby Gardens Phase II Inv. 45038. Phase 002

LOCATION 17201 W. 64th Ave., Arvada, CO.

TYPE OF WELL Temporary Monitoring Well

PERMIT NO.

CASING DIAMETER 2.0 INCHES

BORING DIAMTER 4.0 INCHES

WELL NAME/ID: MW-03

A GROUND SURFACE ELEVATION 5668.4 FT.-AMSL

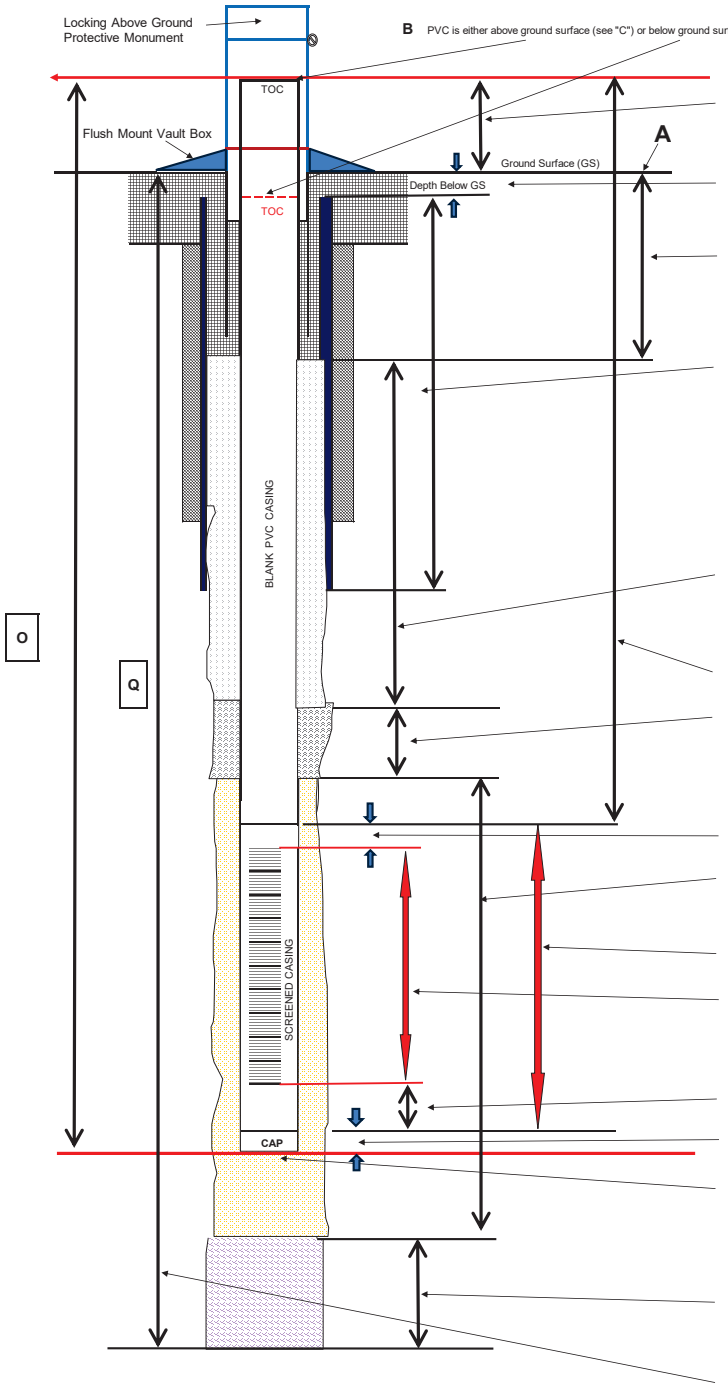
B TOP OF CASING ELEVATION 5668.24 FT.-AMSL

LATITUDE: 39.816405683 FEET

LONGITUDE: -105.193406672 FEET

DATE DRILLED 01/02/25

DATE INSTALLED 01/02/25



C PVC-STICK-UP : GROUND _____ T.O.C _____ INTERVAL _____ FEET
(Above Ground Monument Used)

C1 DEPTH TO TOC GROUND 5668.4 T.O.C 5668.24 INTERVAL 0.16 FEET
(Flush-Mount Vault Box Used)

D SURFACE SEAL : BOT. 1.0 TOP 0.0 INTERVAL 1.0 FEET
Material Type/ Quantity: Concrete w/ 8-inch diameter flush-mount vault box

E CONDUCTOR YES [ ] NO [X]

E CONDUCTOR BOT. _____ TOP _____ INTERVAL _____ FEET

E1 Material Type: _____

E2 Boring Diameter: _____ inches

E3 Casing Diameter: _____ inches

F INTERMEDIATE SEAL: BOT. 3.5 TOP 1.0 INTERVAL 2.5 FEET
Material Type/ Quantity: Bentonite: Chips or Granules

G BLANK CASING: BOT. 5.06 TOP 0.16 INTERVAL 4.90 FEET

H BENTONITE SEAL: BOT. NA TOP NA INTERVAL NA FEET
Material Type/ Quantity: NA

I BLANK SCREEN: TOP SLOT TO JOINT 0.2 FEET

J FILTER PACK: BOT. 16.0 TOP 3.5 INTERVAL 12.5 FEET
Material Type/ Quantity:

K SCREEN CASING: BOT. 15.06 TOP 5.06 INTERVAL 10.0 FEET

K1 SCREEN INTERVAL: BOT. 14.81 TOP 5.26 INTERVAL 9.55 FEET
Slot Size & Type: 0.010-inch machine-slotted

L BLANK SCREEN: JOINT TO BOTTOM SLOT 0.25 FEET

M CAP LENGTH 0.33 FEET

N BASE OF WELL CASING AT: 15.39 FEET

O TOTAL CASING LENGTH: 15.23 FEET
(Note: ADD: M +L +K+ I + G)

P BACKFILL MATERIAL: BOT. NA TOP NA INTERVAL NA FEET
Material Type/ Quantity: NA

Q TOTAL BORING DEPTH: 16.0 FEET

DRILLED BY: Site Services LLC
LOGGED BY: Vincent Barlock C.P.G
DRILLING METHOD **H.S.A or DPT** [X] **ROTARY** [ ]

SAMPLER TYPE & DIMENSIONS 3-inch x 5' DPT Drive rod w/ accetate liners.

MAP OF WELL LOCATION OF GENERAL NOTES:

See map /photo on boring log. Well located east of ASTs north of front access gate.
Well top-of-casing, ground surface elevations, and coordinates surveyed by Baseline Engineering Corp. (January, 2025).

I hearby certify that the information on this form is true and correct to the best of my knowledge

SIGNATURE **FIRM**

MONITORING WELL CONSTRUCTION DETAILS

FACILITY/PROJECT NAME: AvalonBay: Welby Gardens Phase II Inv. 45038. Phase 002

LOCATION 17201 W. 64th Ave., Arvada, CO.

TYPE OF WELL Temporary Monitoring Well

PERMIT NO.

CASING DIAMETER 2.0 INCHES

BORING DIAMTER 4.0 INCHES

WELL NAME/ID: MW-04

A GROUND SURFACE ELEVATION 5669.9 FT.-AMSL

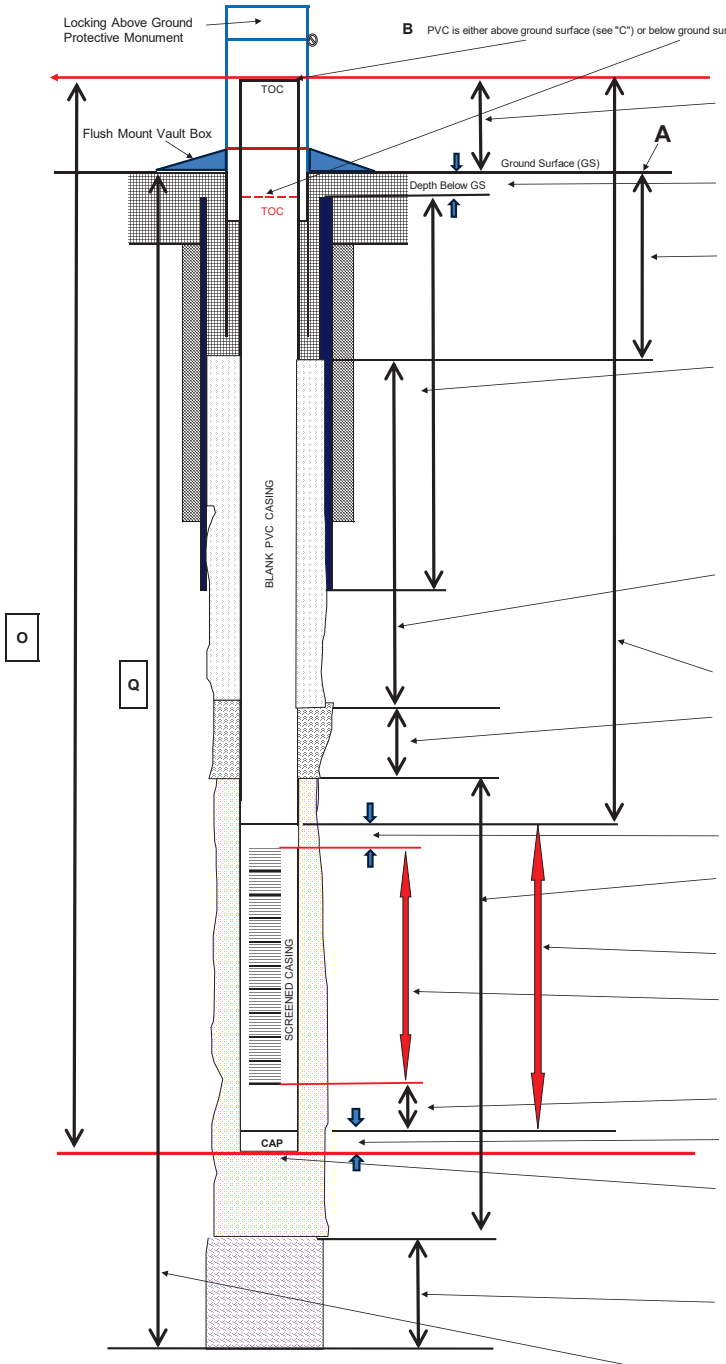
B TOP OF CASING ELEVATION 5669.44 FT.-AMSL

LATITUDE: 39.815391502 FEET

LONGITUDE: -105.193496866 FEET

DATE DRILLED 01/02/25

DATE INSTALLED 01/02/25



C PVC-STICK-UP : GROUND ____ T.O.C ____ INTERVAL ____ FEET
(Above Ground Monument Used)

C1 DEPTH TO TOC GROUND 5669.9 T.O.C 5669.44 INTERVAL 0.46c FEET
(Flush-Mount Vault Box Used)

D SURFACE SEAL : BOT. 1.0 TOP 0.0 INTERVAL 1.0 FEET
Material Type/ Quantity: Concrete w/ 8-inch diameter flush-mount vault box

E CONDUCTOR YES [ ] NO [X]

E CONDUCTOR BOT. ____ TOP ____ INTERVAL ____ FEET

E1 Material Type: ____

E2 Boring Diameter: ____ inches

E3 Casing Diameter: ____ inches

F INTERMEDIATE SEAL: BOT. 8.0 TOP 1.0 INTERVAL 7.0 FEET
Material Type/ Quantity: Bentonite: Chips or Granules

G BLANK CASING: BOT. 10.09 TOP 0.46 INTERVAL 9.63 FEET

H BENTONITE SEAL: BOT. NA TOP NA INTERVAL NA FEET
Material Type/ Quantity: NA

I BLANK SCREEN: TOP SLOT TO JOINT 0.2 FEET

J FILTER PACK: BOT. 20.42 TOP 8 INTERVAL 12.46 FEET
Material Type/ Quantity:

K SCREEN CASING: BOT. 20.09 TOP 10.09 INTERVAL 10.0 FEET

K1 SCREEN INTERVAL: BOT. 19.84 TOP 10.29 INTERVAL 9.55 FEET
Slot Size & Type: 0.010-inch machine-slotted

L BLANK SCREEN: JOINT TO BOTTOM SLOT 0.25 FEET

M CAP LENGTH 0.33 FEET

N BASE OF WELL CASING AT: 20.42 FEET

O TOTAL CASING LENGTH: 19.96 FEET
(Note: ADD: M +L +K+ I + G)

P BACKFILL MATERIAL: BOT. NA TOP NA INTERVAL NA FEET
Material Type/ Quantity: NA

Q TOTAL BORING DEPTH: 20.42 FEET

DRILLED BY: Site Services LLC
LOGGED BY: Vincent Barlock C.P.G
DRILLING METHOD **H.S.A or DPT** [X] **ROTARY** [ ]

SAMPLER TYPE & DIMENSIONS 3-inch x 5' DPT Drive rod w/ accetate liners.

MAP OF WELL LOCATION OF GENERAL NOTES:
See map /photo on boring log. Well located west of access road in truck loading bay area just west and north of exposed storm-water drain.
Well top-of-casing, ground surface elevations, and coordinates surveyed by Baseline Engineering Corp. (January, 2025).

I hearby certify that the information on this form is true and correct to the best of my knowledge

SIGNATURE **FIRM**

MONITORING WELL CONSTRUCTION DETAILS

FACILITY/PROJECT NAME: AvalonBay: Welby Gardens Phase II Inv. 45038. Phase 002

LOCATION 17201 W. 64th Ave., Arvada, CO.

TYPE OF WELL Temporary Monitoring Well

PERMIT NO.

CASING DIAMETER 2.0 INCHES

BORING DIAMTER 4.0 INCHES

WELL NAME/ID: MW-05

A GROUND SURFACE ELEVATION 5680.9 FT.-AMSL

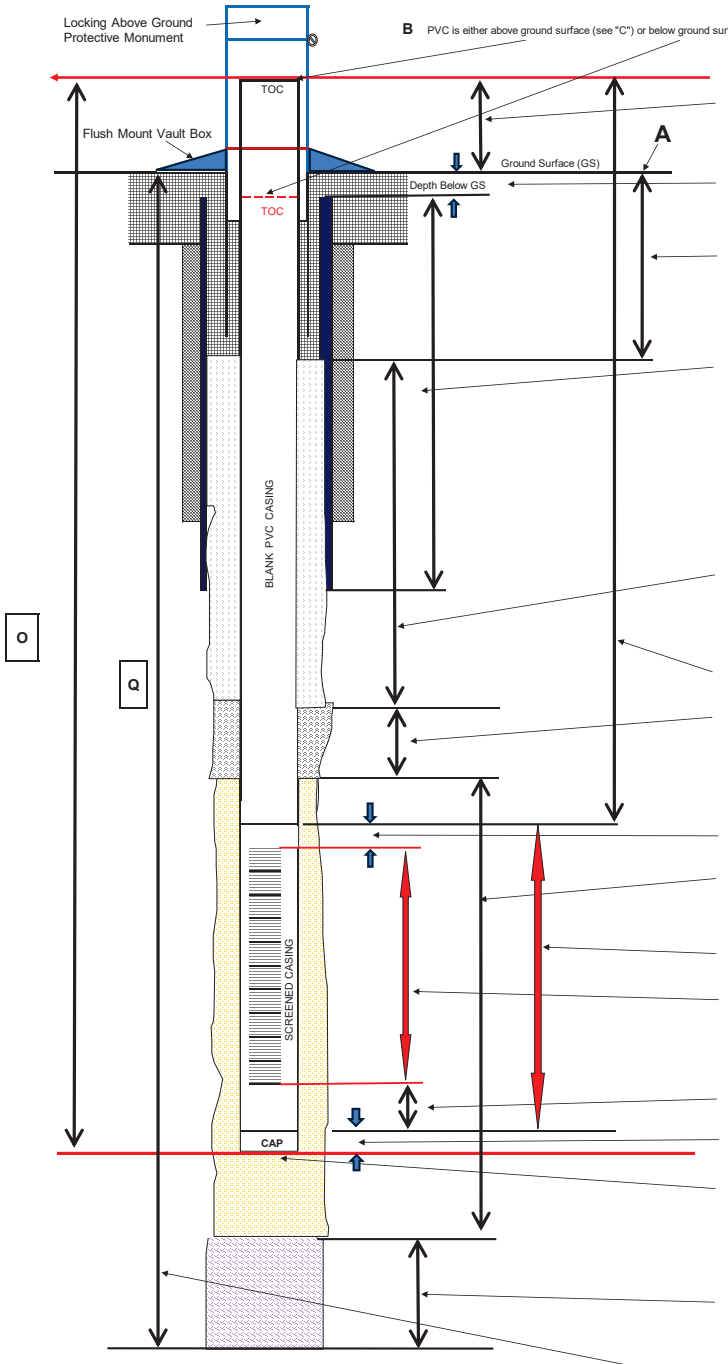
B TOP OF CASING ELEVATION 5680.47 FT.-AMSL

LATITUDE: 39.815552282 FEET

LONGITUDE: -105.195948551 FEET

DATE DRILLED 01/02/25

DATE INSTALLED 01/02/25



C PVC-STICK-UP : GROUND _____ T.O.C _____ INTERVAL _____ FEET
(Above Ground Monument Used)

C1 DEPTH TO TOC GROUND 5680.9 T.O.C 5680.47 INTERVAL 0.43 FEET
(Flush-Mount Vault Box Used)

D SURFACE SEAL : BOT. 1.0 TOP 0.0 INTERVAL 1.0 FEET
Material Type/ Quantity: Concrete w/ 8-inch diameter flush-mount vault box

E CONDUCTOR YES [ ] NO [X]

E CONDUCTOR BOT. _____ TOP _____ INTERVAL _____ FEET

E1 Material Type: _____

E2 Boring Diameter: _____ inches

E3 Casing Diameter: _____ inches

F INTERMEDIATE SEAL: BOT. 3.5 TOP 1.0 INTERVAL 2.5 FEET
Material Type/ Quantity: Bentonite: Chips or Granules

G BLANK CASING: BOT. 3.55 TOP 0.43 INTERVAL 3.12 FEET

H BENTONITE SEAL: BOT. NA TOP NA INTERVAL NA FEET
Material Type/ Quantity: NA

I BLANK SCREEN: TOP SLOT TO JOINT 0.2 FEET

J FILTER PACK: BOT. 14.0 TOP 3 INTERVAL 11.0 FEET
Material Type/ Quantity:

K SCREEN CASING: BOT. 13.55 TOP 3.55 INTERVAL 10.0 FEET

K1 SCREEN INTERVAL: BOT. 13.30 TOP 3.75 INTERVAL 9.55 FEET
Slot Size & Type: 0.010-inch machine-slotted

L BLANK SCREEN: JOINT TO BOTTOM SLOT 0.25 FEET

M CAP LENGTH 0.33 FEET

N BASE OF WELL CASING AT: 13.88 FEET

O TOTAL CASING LENGTH: 13.45 FEET
(Note: ADD: M +L +K+ I + G)

P BACKFILL MATERIAL: BOT. 16.5 TOP 14.0 INTERVAL 2.5 FEET
Material Type/ Quantity: slough

Q TOTAL BORING DEPTH: 16.5 FEET

DRILLED BY: Site Services LLC
LOGGED BY: Vincent Barlock C.P.G
DRILLING METHOD **H.S.A or DPT** [X] **ROTARY** [ ]

SAMPLER TYPE & DIMENSIONS 3-inch x 5' DPT Drive rod w/ accetate liners.

MAP OF WELL LOCATION OF GENERAL NOTES:
See map /photo on boring log. Well located on west side of property near perimeter wall, approximately 1/2-way north of southern access gate
Well top-of-casing, ground surface elevations, and coordinates surveyed by Baseline Engineering Corp. (January, 2025).

I hearby certify that the information on this form is true and correct to the best of my knowledge

SIGNATURE **FIRM**

APPENDIX C
Development, Purge, and Sampling Records

GROUNDWATER SAMPLING DATA SHEET

BASELINE Engineering · Planning · Surveying

Project Name: AvalonBay, Welby Garden, Phase II Inv.	Sampler Name(s): V.E.B / T.O.M
Project Number: 45038. Phase 002	Date: 01/08/2025
Monitoring Well I.D.: MW-01	Weather Conditions: 30 ~ °F Sunny
Wellhead Inspection (note conditions): New 8-inch Steel, flush-mount vault Box with new J-plug cap.	

Groundwater Measurements and Purge Data:

Water Column Height = h
h = bottom of casing (ft.) minus static water level (ft.) = 3.7 ft.

1. Static Water Level[1] (±0.01ft.)	14.76	8. Purge Equipment Used	Disposable Bailer
2. Bottom of Casing[1] (±0.01ft.)	18.42	9. Dedicated? (Yes or No)	No, disposable
3. Casing Diameter (in.)	2.0	10. Purge Rate (if pump used)	N/A
4. Casing Volume (gallons)	0.60	11. Time to Purge Well (min)	~33
5. 3 x Casing Volume (gallons)	1.8	12. Immiscible Layer Observed (yes or no)	N/A
6. Actual Volume of Water Purged	9.8	13. Thickness if Immiscible layer (if present)	N/A
7. Water Level Measuring Equip.	100-ft WLI	[1]Measured from a defined point on the edge of casing (surveyed top of casing)	

Purge Parameters:

1 millivolt = 1 microseimen/cm

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (uS/cm)	Relative Turbidity	Other
01/08/25	12:00	2.8	12.6	7.9	-38	High	Brown
01/08/25	12:22	4.0	12.4	7.7	-33	High	Lt.brown
01/08/25	12:33	3.0	13.9	7.9	-36	Moderate	Lt.brown

Well Evacuated to Dryness? (Yes or No) _____ Time to recharge? Approximately 8-10 min.

Groundwater Sample Information:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (S/cm)	Relative Turbidity	Other
01/08/25	16:20	9.8	13.85	7.8	-34	Moderate	

1. Sampling Equipment Used	Disposable biler				**Other Information:**	
2. Pump Rate	N/A				**Decontamination Procedures**	Alconox, DI rinse
3. Sample Appearance:	clear ☐	low ☐	medium ☒	high ☐		
Color	Dark brown changing to light tan				**Instrument Calibrations**	pH, conductivity
4. Odor	none					
5. Method of Sample Preservation	~~H_2SO_4~~, ~~HNO_3~~, none				**Unusual Occurrences**	none

2-inch Casing Vol. = $\frac{7.48 \times 3.14 \times H}{144}$ = 0.60 gallons

2-inch Casing Vol. = 0.0218 ft^3 = 0.163 gallons
4-inch Casing Vol. = 0.0873 ft^3 = 0.683 gallons

7.48 gallons/cubic foot
Vol ft^3 = 3.14 x (r^2) ft^2 x h ft

GROUNDWATER SAMPLING DATA SHEET

BASELINE Engineering · Planning · Surveying

Project Name: AvalonBay, Welby Garden, Phase II Inv.	Sampler Name(s): V.E.B / T.O.M
Project Number: 45038. Phase 002	Date: 01/08/2025
Monitoring Well I.D.: MW-03	Weather Conditions: 36 °F Sunny
Wellhead Inspection (note conditions): New 8-inch Steel, flush-mount vault Box with new J-plug cap.	

Groundwater Measurements and Purge Data:

Water Column Height = h

h = bottom of casing (ft.) minus static water level (ft.) = 4.18 ft.

1. Static Water Level[1] (±0.01ft.)	10.85	8. Purge Equipment Used	Disposable Bailer
2. Bottom of Casing[1] (±0.01ft.)	15.03	9. Dedicated? (Yes or No)	No, disposable
3. Casing Diameter (in.)	2.0	10. Purge Rate (if pump used)	N/A
4. Casing Volume (gallons)	0.68	11. Time to Purge Well (min)	~ 32
5. 3 x Casing Volume (gallons)	2.4	12. Immiscible Layer Observed (yes or no)	N/A
6. Actual Volume of Water Purged	10.0	13. Thickness if Immiscible layer (if present)	N/A
7. Water Level Measuring Equip.	100-ft WLI	[1]Measured from a defined point on the edge of casing (surveyed top of casing)	

Purge Parameters:

1 millivolt = 1 microseimen/cm

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (uS/cm)	Relative Turbidity	Other
01/08/25	13:00	4.0	14.2	7.60	-22	High	Dark Brown
01/08/25	13:30	4.0	14.0	7.70	-11	Moderate	Lt. brown
01/08/25	14:00	2.0	13.9	7.50	-11	Moderate	Lt.tan

Well Evacuated to Dryness? (Yes or No) _____ Time to recharge? Approximately 10 min.

Groundwater Sample Information:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (S/cm)	Relative Turbidity	Other
01/08/25	15:40	10.0	13.3	7.50	-11	Moderate	

1. Sampling Equipment Used	Disposable biler				**Other Information:**	
2. Pump Rate	N/A				**Decontamination Procedures**	Alconox, DI rinse
3. Sample Appearance:	clear ☐	low ☒	medium ☐	high ☐		
Color	light tan				**Instrument Calibrations**	pH, conductivity
4. Odor	none					
5. Method of Sample Preservation	~~H_2SO_4~~, ~~HNO_3~~, none				**Unusual Occurrences**	none

2-inch Casing Vol. = $\frac{7.48 \times 3.14 \times h}{144}$ = 0.68 gallons

2-inch Casing Vol. = 0.0218 ft^3 = 0.163 gallons

4-inch Casing Vol. = 0.0873 ft^3 = 0.683 gallons

7.48 gallons/cubic foot

Vol ft^3 = 3.14 x (r^2) ft^2 x h ft

GROUNDWATER SAMPLING DATA SHEET

BASELINE Engineering · Planning · Surveying

Project Name: AvalonBay, Welby Garden, Phase II Inv.	Sampler Name(s): V.E.B / T.O.M
Project Number: 45038. Phase 002	Date: 01/08/2025
Monitoring Well I.D.: MW-04	Weather Conditions: 30 ~ °F Sunny
Wellhead Inspection (note conditions): New 8-inch Steel, flush-mount vault Box with new J-plug cap.	

Groundwater Measurements and Purge Data:

Water Column Height = h

h = bottom of casing (ft.) minus static water level (ft.) = 6.8 ft.

1. Static Water Level[1] (±0.01ft.)	13.16	8. Purge Equipment Used	Disposable Bailer
2. Bottom of Casing[1] (±0.01ft.)	19.96	9. Dedicated? (Yes or No)	No, disposable
3. Casing Diameter (in.)	2.0	10. Purge Rate (if pump used)	N/A
4. Casing Volume (gallons)	1.1	11. Time to Purge Well (min)	~ 32
5. 3 x Casing Volume (gallons)	3.3	12. Immiscible Layer Observed (yes or no)	N/A
6. Actual Volume of Water Purged	5.5	13. Thickness if Immiscible layer (if present)	N/A
7. Water Level Measuring Equip.	100-ft WLI	[1]Measured from a defined point on the edge of casing (surveyed top of casing)	

Purge Parameters:

1 millivolt = 1 microseimen/cm

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (uS/cm)	Relative Turbidity	Other
01/08/25	14:20	0.5	20	7.55	-7	Moderate	Brown
01/08/25	14:45	3.0	15.4	7.44	-12	High	Lt.tan
01/08/25	14:50	1.0	15.5	7.53	-15	Moderate	Lt.tan
01/08/25	14:52	1.0	15.3	7.53	-15	Moderate	Lt.tan

Well Evacuated to Dryness? (Yes or No) _____ Time to recharge? Approximately 30 min.

Groundwater Sample Information:

Date	Time	Volume Purged (gallons)	Temp (°C)	pH	Specific Conductivity (S/cm)	Relative Turbidity	Other
01/08/25	15:00	5.5	15.3	7.54	-15	clear	

1. Sampling Equipment Used	Disposable biler				**Other Information:**	
2. Pump Rate	N/A				**Decontamination Procedures**	Alconox, DI rinse
3. Sample Appearance:	clear ☒	low ☐	medium ☐	high ☐		
Color	clear to very light tan				**Instrument Calibrations**	pH, conductivity
4. Odor	none					
5. Method of Sample Preservation	H_2SO_4, ~~HNO_3~~, none				**Unusual Occurrences**	none

2-inch Casing Vol. = $\frac{7.48 \times 3.14 \times h}{144}$ = 1.1 gallons

2-inch Casing Vol. = 0.0218 ft^3

4-inch Casing Vol. = 0.0873 ft^3

7.48 gallons/cubic foot

Vol ft^3 = 3.14 x (r^2) ft^2 x h ft

PURGE AND SAMPLING RECORD

Project Name: Welby Gardens **Well ID:** MW-02

Project Number: 45038.002 **Purging Method:** Pump (Bailer) Check Valve Other

Sampler's Name: Terry McGowan ~~Taylor Twohig~~

BASELINE Engineering · Planning · Surveying

Date	Time	Initial Water Level	pH	Temp. °C	Specific Conductance (m-S or µ-S)	Dissolved Oxygen (ppm)/%	ORP (mV)	Volume Removed (gallons)	Casing Volumes Removed	Comments (Color, turbidity, odor, free products, etc.)
1-24-25	11:30	12.91	/	/	/	/	/			0.1 ppm PFP, full VOC, 1,4-D, Pest., Metals (No preservative)
				Did not purge due to very slow recovery						nitrate/sulfate, and Herbs
										0.8 full before going dry
										Clear, no silts, Did not
1-23-25	1630	13.03	Note WL rose 0.12 feet overnight; considerable							purge, No enough water
			snow melt occurring							for field parameters
										12:05 Sample time
										2-100 ml amber for 1,4-dioxane
										2-100 ml amber for pesticides
					Dumped out ~~Rinsed~~ the and triple rinse w/ DI water. LAB needs		HNO3 bottle	→		1-250 HDPE for RCRA 8 metals
										3-40ml vials for VOCs
					to filter.					1-125 HDPE for Nitrate+Sulfate
										1-liter amber for herbicides

Casing Volume = 0.163 (for 2" diameter wells)x(Total depth of well at measuring point 14.91 - Initial Water Depth_____) = ____x 3 well volumes = ____. Use 0.653 for 4" diameter wells or 1.469 for 6" diameter wells). Use 0.04 for 1" diameter wells.

PURGE AND SAMPLING RECORD

Project Name: Welby Gardens

Well ID: MW-61

Project Number: 45038.002

Purging Method: Pump (Bailer) Check Valve Other

Sampler's Name: Terry McGowan ~~Taylor Twohig~~

BASELINE Engineering · Planning · Surveying

Date	Time	Initial Water Level	pH	Temp. °C	Specific Conductance (m-S or µ-S)	Dissolved Oxygen (ppm)/%	ORP (mV)	Volume Removed (gallons)	Casing Volumes Removed	Comments (Color, turbidity, odor, free products, etc.)
1-23-25	15:05	14.79						0	0	
	15:15		7.73	12.8	-29	—	~~-29~~	0	0	DK br to brown, no odors or sheen, plenty of silt
			7.73	12.9	-29	—	—	0.75	>1	lt br, less silt, no odor or sheen
	1525		7.77	13.1	-31	—	—	1.5	<3	lt br SAA
	1525		7.78	13.0	-32	—	—	2.25	>2	SAA, clearing
										Sample 15:35
										1-23-25
										2 100 ml amber
										bottles for 1,4-dioxane

Casing Volume = 0.163 (for 2" diameter wells)x(Total depth of well at measuring point 19.35 - Initial Water Depth 14.79) = 0.583 well volumes = 1.74 Use 0.653 for 4" diameter wells or 1.469 for 6" diameter wells). Use 0.04 for 1" diameter wells.

3.58

PURGE AND SAMPLING RECORD

Project Name: Welby Gardens **Well ID:** MW-3

Project Number: 45038.002 **Purging Method:** Pump (Bailer) Check Valve Other

Sampler's Name: Terry McGowan ~~Taylor Twohig~~

BASELINE Engineering · Planning · Surveying

Date	Time	Initial Water Level	pH	Temp. °C	Specific Conductance (m-S or µ-S)	Dissolved Oxygen (ppm)/%	ORP (mV)	Volume Removed (gallons)	Casing Volumes Removed	Comments (Color, turbidity, odor, free products, etc.)
1-23-25	14:15	11.16								
	1430		7.32	12.1	-7 mv	✓	✓	0		Brown silty no odor. No sheen
			7.42	12.6	-12	✓	✓	2.75	2 1.2	Lt brown to brown silty (cloudy) no odor or sheen
			7.41	12.6	-12	✓	✓	4.5	~2.2	~1/3 bailer, SAA
	1440		7.41	12.6	-12	✓	✓	22.0	~3.1	SAA, let sit
										Sample @ 1600
										1-23-25
										2-100 ml amber bottles
										for 1,4-Dioxane

Casing Volume = 0.163 (for 2" diameter wells)x(Total depth of well at measuring point 15.02 - Initial Water Depth 11.16) = 3.86 x 3 well volumes = 1.89. Use 0.653 for 4" diameter wells or 1.469 for 6" diameter wells). Use 0.04 for 1" diameter wells.

PURGE AND SAMPLING RECORD

Project Name: Welby Gardens **Well ID:** MW-4

Project Number: 45038.002 **Purging Method:** Pump (Bailer) Check Valve Other

Sampler's Name: Terry M°Go ~~Taylor Twohig~~

BASELINE Engineering · Planning · Surveying

Date	Time	Initial Water Level	pH	Temp. °C	Specific Conductance (m-S or µ-S)	Dissolved Oxygen (ppm)/%	ORP (mV)	Volume Removed (gallons)	Casing Volumes Removed	Comments (Color, turbidity, odor, free products, etc.)
01-23-25	1330	13.24	7.36	13.9	-13 MV	/	/	0		slightly cloudy no odor no sheen
			7.25	14.5	-2	/	/	~1		SAA
			7.55	13.9	-20	/	/	~1.5		Well going dry, barely any water
	1400		7.48	13.7	15	/	/			
										Sample 1620
										1-23-25
										2-100 ml amber bottles
										for 1,4-dioxane

Casing Volume = (0.163) (for 2" diameter wells) x (Total depth of well at measuring point 19.92 Initial Water Depth 13.24) = 1.08 x 3 well volumes = 3.24 Use 0.653 for 4" diameter wells or 1.469 for 6" diameter wells). Use 0.04 for 1" diameter wells.

TD 19.92

6.68 X .163

APPENDIX D
Laboratory Analytical Reports for Soil Samples

ANALYTICAL REPORT

January 20, 2025

Baseline Engineering

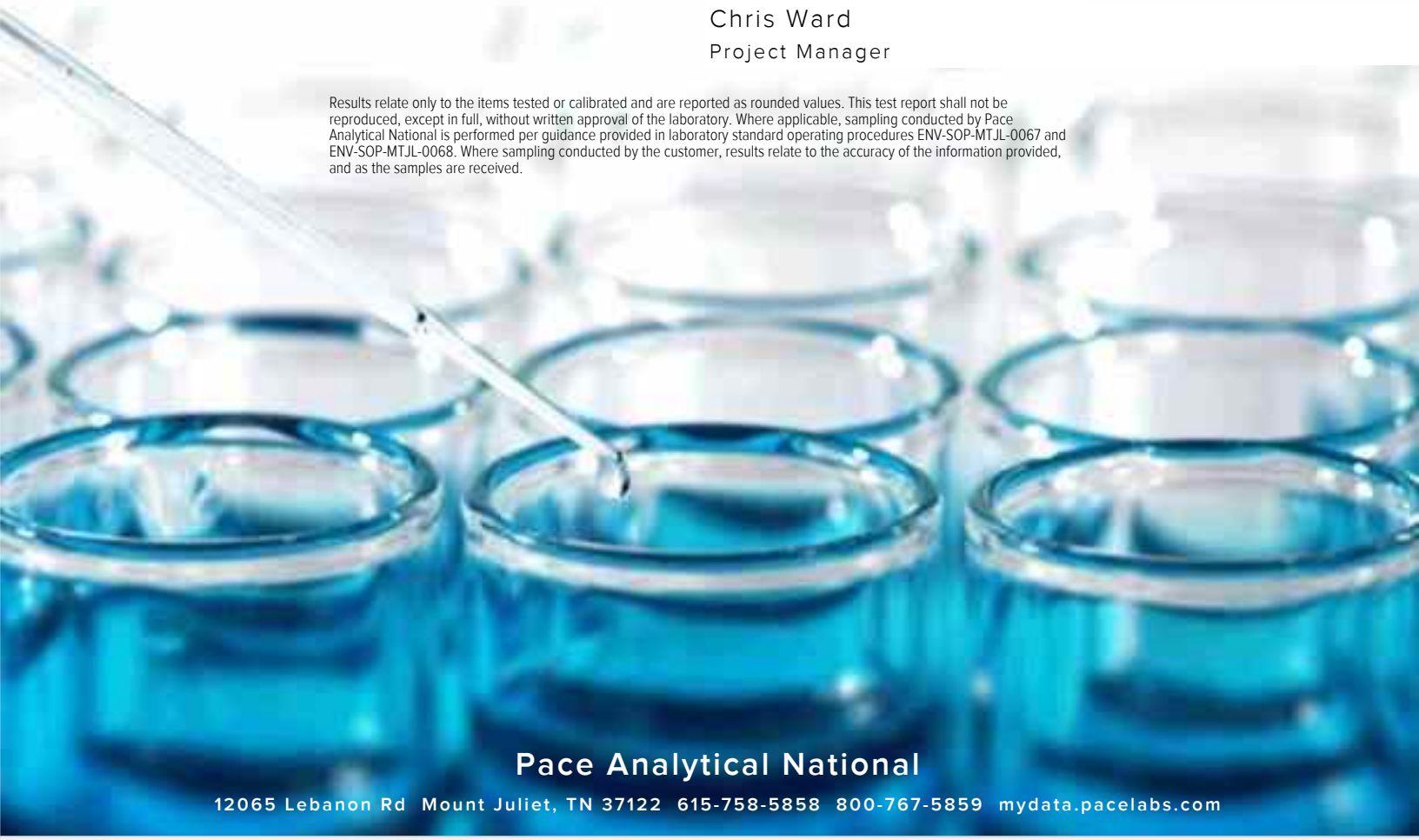
Sample Delivery Group:	L1815155
Samples Received:	01/07/2025
Project Number:	45038-001
Description:	Welby Gardens, Arvada, Colorodo
Site:	WELBY GARDENS
Report To:	Vincent Barlock 112 N Rubey Dr. , Unit 210 Golden, CO 80403

Entire Report Reviewed By:

Chris Ward

Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National

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TABLE OF CONTENTS

Cp: Cover Page 1

Tc: Table of Contents 2

Ss: Sample Summary 3

Cn: Case Narrative 8

Sr: Sample Results 9

MW-04 L1815155-01 9

MW-03 L1815155-02 11

MW-05 L1815155-03 13

WGB-10 L1815155-04 15

GHS1-3A L1815155-05 18

GHS1-3B L1815155-06 20

GHS2-2B L1815155-07 22

GHS2-2A L1815155-08 24

GHS3-1A L1815155-09 26

GHS3-1B L1815155-10 28

GHS1-2A L1815155-11 30

MW-02 L1815155-18 32

MW-01 L1815155-19 34

WGB-09 L1815155-20 36

WGB-01 L1815155-21 39

WGB-01-A L1815155-22 42

WGB-02 L1815155-23 44

GHN2-5A L1815155-24 46

GHN3-5A L1815155-25 48

Qc: Quality Control Summary 50

Wet Chemistry by Method 9045D 50

Wet Chemistry by Method 9056A 51

Mercury by Method 7471B 52

Metals (ICP) by Method 6010D 54

Volatile Organic Compounds (GC) by Method 8015D/GRO 55

Volatile Organic Compounds (GC/MS) by Method 8260B 56

Semi-Volatile Organic Compounds (GC) by Method 8015 60

Chlorinated Acid Herbicides (GC) by Method 8151A 61

Pesticides (GC) by Method 8081B 65

Gl: Glossary of Terms 69

Al: Accreditations & Locations 70

Sc: Sample Chain of Custody 71

MW-04 L1815155-01 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/02/25 08:45	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 13:08	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 13:22	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:14	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 18:06	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430776	1	01/09/25 09:21	01/10/25 03:41	MEW	Mt. Juliet, TN

MW-03 L1815155-02 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/02/25 13:30	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 14:19	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 13:25	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:15	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:41	01/14/25 18:16	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430776	1	01/09/25 09:21	01/10/25 04:00	MEW	Mt. Juliet, TN

MW-05 L1815155-03 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/02/25 14:57	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 14:37	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 13:27	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:17	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:41	01/14/25 18:26	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430776	1	01/09/25 09:21	01/10/25 02:46	MEW	Mt. Juliet, TN

WGB-10 L1815155-04 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/03/25 10:05	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 14:55	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 13:30	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:22	MAP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2431468	1	01/09/25 11:51	01/09/25 22:28	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2431247	1	01/09/25 11:51	01/09/25 18:01	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG2430762	40	01/09/25 08:00	01/09/25 18:20	KDB	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	3.02	01/12/25 14:41	01/14/25 18:36	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430776	1	01/09/25 09:21	01/10/25 04:19	MEW	Mt. Juliet, TN

GHS1-3A L1815155-05 Solid

Collected by	Collected date/time	Received date/time
VB/TM	01/03/25 14:45	01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 15:13	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	5	01/09/25 09:39	01/09/25 15:31	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 13:32	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:24	MAP	Mt. Juliet, TN

GHS1-3A L1815155-05 Solid

Collected by: VB/TM | Collected date/time: 01/03/25 14:45 | Received date/time: 01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 18:46	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430776	1	01/09/25 09:21	01/10/25 03:51	MEW	Mt. Juliet, TN

GHS1-3B L1815155-06 Solid

Collected by: VB/TM | Collected date/time: 01/03/25 14:50 | Received date/time: 01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 15:49	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	5	01/09/25 09:39	01/09/25 16:07	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 13:35	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:25	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 19:26	HLA	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	2	01/12/25 14:40	01/15/25 06:13	BMC	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430776	1	01/09/25 09:21	01/10/25 04:09	MEW	Mt. Juliet, TN

GHS2-2B L1815155-07 Solid

Collected by: VB/TM | Collected date/time: 01/03/25 15:10 | Received date/time: 01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1.01	01/09/25 09:39	01/09/25 16:24	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	5.05	01/09/25 09:39	01/09/25 16:42	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 13:42	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:27	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 19:37	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430776	1	01/09/25 09:21	01/10/25 03:13	MEW	Mt. Juliet, TN

GHS2-2A L1815155-08 Solid

Collected by: VB/TM | Collected date/time: 01/03/25 15:20 | Received date/time: 01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 17:36	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 13:45	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:29	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 19:47	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430776	1	01/09/25 09:21	01/10/25 03:23	MEW	Mt. Juliet, TN

GHS3-1A L1815155-09 Solid

Collected by: VB/TM | Collected date/time: 01/03/25 15:45 | Received date/time: 01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1.04	01/09/25 09:39	01/09/25 17:54	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 13:47	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:30	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 19:57	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430776	1	01/09/25 09:21	01/10/25 03:32	MEW	Mt. Juliet, TN

GHS3-1B L1815155-10 Solid

Collected by: VB/TM | Collected date/time: 01/03/25 15:55 | Received date/time: 01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1.01	01/09/25 09:39	01/09/25 18:12	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 14:07	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:05	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 20:07	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/09/25 19:04	LTB	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/12/25 15:17	NWH	Mt. Juliet, TN

GHS1-2A L1815155-11 Solid

Collected by: VB/TM | Collected date/time: 01/03/25 16:10 | Received date/time: 01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	52	01/09/25 09:39	01/13/25 10:23	ZSA	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 14:09	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:32	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 20:17	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/09/25 19:13	LTB	Mt. Juliet, TN

MW-02 L1815155-18 Solid

Collected by: VB/TM | Collected date/time: 01/02/25 11:05 | Received date/time: 01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 19:41	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430631	1	01/09/25 09:50	01/09/25 14:12	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:34	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 20:27	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/09/25 19:23	HCS	Mt. Juliet, TN

MW-01 L1815155-19 Solid

Collected by: VB/TM | Collected date/time: 01/02/25 17:05 | Received date/time: 01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1.02	01/09/25 09:39	01/09/25 19:59	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430720	1	01/09/25 10:59	01/11/25 17:08	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:35	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 20:37	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/09/25 22:10	HCS	Mt. Juliet, TN

WGB-09 L1815155-20 Solid

Collected by: VB/TM | Collected date/time: 01/03/25 11:05 | Received date/time: 01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	5	01/09/25 09:39	01/09/25 20:17	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430720	1	01/09/25 10:59	01/11/25 17:11	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:37	MAP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2431468	1	01/09/25 11:51	01/09/25 22:50	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2431247	1	01/09/25 11:51	01/09/25 18:20	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG2430762	100	01/09/25 08:00	01/09/25 17:27	SGB	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

WGB-09 L1815155-20 Solid

Collected by: VB/TM | Collected date/time: 01/03/25 11:05 | Received date/time: 01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi-Volatile Organic Compounds (GC) by Method 8015	WG2430762	500	01/09/25 08:00	01/09/25 21:53	JDJ	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 20:47	HLA	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/15/25 06:02	BMC	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/09/25 21:33	HCS	Mt. Juliet, TN

WGB-01 L1815155-21 Solid

Collected by: VB/TM | Collected date/time: 01/03/25 12:30 | Received date/time: 01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 20:35	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430720	1	01/09/25 10:59	01/11/25 17:13	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:42	MAP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2431468	1	01/09/25 11:51	01/09/25 23:13	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2431247	1	01/09/25 11:51	01/09/25 18:39	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG2430762	1	01/09/25 08:00	01/09/25 21:27	KDB	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2430807	1	01/12/25 14:40	01/14/25 20:57	HLA	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/09/25 19:32	HCS	Mt. Juliet, TN

WGB-01-A L1815155-22 Solid

Collected by: VB/TM | Collected date/time: 01/03/25 13:00 | Received date/time: 01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2431468	1	01/09/25 11:51	01/09/25 23:35	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2431247	1	01/09/25 11:51	01/09/25 18:59	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG2430762	5	01/09/25 08:00	01/09/25 15:30	KDB	Mt. Juliet, TN

WGB-02 L1815155-23 Solid

Collected by: VB/TM | Collected date/time: 01/03/25 13:32 | Received date/time: 01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 20:53	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430720	1	01/09/25 10:59	01/11/25 17:21	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:44	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2431927	1	01/14/25 07:05	01/15/25 15:14	HMH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/09/25 21:23	HCS	Mt. Juliet, TN

GHN2-5A L1815155-24 Solid

Collected by: VB/TM | Collected date/time: 01/03/25 16:20 | Received date/time: 01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1.03	01/09/25 09:39	01/09/25 21:47	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430720	1	01/09/25 10:59	01/11/25 17:24	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:46	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2431927	1	01/14/25 07:05	01/15/25 15:24	HMH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/09/25 19:41	LTB	Mt. Juliet, TN

SAMPLE SUMMARY

GHN3-5A L1815155-25 Solid

Collected by: VB/TM
Collected date/time: 01/03/25 16:30
Received date/time: 01/07/25 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG2430703	1	01/08/25 19:15	01/09/25 09:28	RJP	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	1	01/09/25 09:39	01/09/25 22:05	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2430732	5	01/09/25 09:39	01/09/25 22:23	DLH	Mt. Juliet, TN
Mercury by Method 7471B	WG2430720	1	01/09/25 10:59	01/11/25 17:27	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2430992	1	01/09/25 10:25	01/09/25 18:47	MAP	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2431927	1	01/14/25 07:05	01/15/25 15:34	HMH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/09/25 19:51	LTB	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2430824	1	01/09/25 07:33	01/12/25 15:26	NWH	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris Ward
Project Manager

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.62	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-01 WG2430703: 7.62 at 19.7C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Nitrate as (N)	5.19	J	0.952	10.0	1	01/09/2025 13:08	WG2430732
Sulfate	10.8	J	8.24	50.0	1	01/09/2025 13:08	WG2430732

Mercury by Method 7471B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0206	0.0400	1	01/09/2025 13:22	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	1.72	J	0.837	2.00	1	01/09/2025 18:14	WG2430992
Barium	76.1		0.0850	0.500	1	01/09/2025 18:14	WG2430992
Cadmium	0.0746	J	0.0653	0.500	1	01/09/2025 18:14	WG2430992
Chromium	45.8		0.214	1.00	1	01/09/2025 18:14	WG2430992
Lead	6.70		0.326	0.500	1	01/09/2025 18:14	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:14	WG2430992
Silver	0.214	J	0.127	1.00	1	01/09/2025 18:14	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	0.0315	J	0.0257	0.0700	1	01/14/2025 18:06	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 18:06	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 18:06	WG2430807
Dicamba	0.0605	J	0.0226	0.0700	1	01/14/2025 18:06	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 18:06	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 18:06	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 18:06	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 18:06	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 18:06	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 18:06	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*63.9*			*22.0-132*		*01/14/2025 18:06*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	01/10/2025 03:41	WG2430776
Alpha BHC	U		0.00637	0.0200	1	01/10/2025 03:41	WG2430776
Beta BHC	U		0.00630	0.0200	1	01/10/2025 03:41	WG2430776
Delta BHC	U		0.00635	0.0200	1	01/10/2025 03:41	WG2430776
Gamma BHC	U		0.00676	0.0200	1	01/10/2025 03:41	WG2430776
Chlordane	U		0.0990	0.300	1	01/10/2025 03:41	WG2430776
4,4-DDD	U		0.00690	0.0200	1	01/10/2025 03:41	WG2430776
4,4-DDE	U		0.00673	0.0200	1	01/10/2025 03:41	WG2430776

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
4,4-DDT	U		0.00766	0.0200	1	01/10/2025 03:41	WG2430776
Dieldrin	U		0.00697	0.0200	1	01/10/2025 03:41	WG2430776
Endosulfan I	U		0.00604	0.0200	1	01/10/2025 03:41	WG2430776
Endosulfan II	U		0.00661	0.0200	1	01/10/2025 03:41	WG2430776
Endosulfan sulfate	U		0.00642	0.0200	1	01/10/2025 03:41	WG2430776
Endrin	U		0.00746	0.0200	1	01/10/2025 03:41	WG2430776
Endrin aldehyde	U		0.00590	0.0200	1	01/10/2025 03:41	WG2430776
Endrin ketone	U		0.00695	0.0200	1	01/10/2025 03:41	WG2430776
Hexachlorobenzene	U		0.00608	0.0200	1	01/10/2025 03:41	WG2430776
Heptachlor	U		0.00693	0.0200	1	01/10/2025 03:41	WG2430776
Heptachlor epoxide	U		0.00650	0.0200	1	01/10/2025 03:41	WG2430776
Methoxychlor	U		0.00806	0.0200	1	01/10/2025 03:41	WG2430776
Toxaphene	U		0.214	0.400	1	01/10/2025 03:41	WG2430776
(S) Decachlorobiphenyl	*71.8*			*10.0-135*		*01/10/2025 03:41*	WG2430776
(S) Tetrachloro-m-xylene	*82.7*			*10.0-139*		*01/10/2025 03:41*	WG2430776

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.81	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-02 WG2430703: 8.81 at 19.9C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Nitrate as (N)	21.2		0.952	10.0	1	01/09/2025 14:19	WG2430732
Sulfate	95.1		8.24	50.0	1	01/09/2025 14:19	WG2430732

Mercury by Method 7471B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0206	0.0400	1	01/09/2025 13:25	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	4.05		0.837	2.00	1	01/09/2025 18:15	WG2430992
Barium	127		0.0850	0.500	1	01/09/2025 18:15	WG2430992
Cadmium	0.221	J	0.0653	0.500	1	01/09/2025 18:15	WG2430992
Chromium	44.6		0.214	1.00	1	01/09/2025 18:15	WG2430992
Lead	17.4		0.326	0.500	1	01/09/2025 18:15	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:15	WG2430992
Silver	0.393	J	0.127	1.00	1	01/09/2025 18:15	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	01/14/2025 18:16	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 18:16	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 18:16	WG2430807
Dicamba	0.0333	J	0.0226	0.0700	1	01/14/2025 18:16	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 18:16	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 18:16	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 18:16	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 18:16	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 18:16	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 18:16	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*58.7*			*22.0-132*		*01/14/2025 18:16*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	01/10/2025 04:00	WG2430776
Alpha BHC	U		0.00637	0.0200	1	01/10/2025 04:00	WG2430776
Beta BHC	U		0.00630	0.0200	1	01/10/2025 04:00	WG2430776
Delta BHC	U		0.00635	0.0200	1	01/10/2025 04:00	WG2430776
Gamma BHC	U		0.00676	0.0200	1	01/10/2025 04:00	WG2430776
Chlordane	U		0.0990	0.300	1	01/10/2025 04:00	WG2430776
4,4-DDD	U		0.00690	0.0200	1	01/10/2025 04:00	WG2430776
4,4-DDE	U		0.00673	0.0200	1	01/10/2025 04:00	WG2430776

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4,4-DDT	U		0.00766	0.0200	1	01/10/2025 04:00	WG2430776
Dieldrin	U		0.00697	0.0200	1	01/10/2025 04:00	WG2430776
Endosulfan I	U		0.00604	0.0200	1	01/10/2025 04:00	WG2430776
Endosulfan II	U		0.00661	0.0200	1	01/10/2025 04:00	WG2430776
Endosulfan sulfate	U		0.00642	0.0200	1	01/10/2025 04:00	WG2430776
Endrin	U		0.00746	0.0200	1	01/10/2025 04:00	WG2430776
Endrin aldehyde	U		0.00590	0.0200	1	01/10/2025 04:00	WG2430776
Endrin ketone	U		0.00695	0.0200	1	01/10/2025 04:00	WG2430776
Hexachlorobenzene	U		0.00608	0.0200	1	01/10/2025 04:00	WG2430776
Heptachlor	U		0.00693	0.0200	1	01/10/2025 04:00	WG2430776
Heptachlor epoxide	U		0.00650	0.0200	1	01/10/2025 04:00	WG2430776
Methoxychlor	U		0.00806	0.0200	1	01/10/2025 04:00	WG2430776
Toxaphene	U		0.214	0.400	1	01/10/2025 04:00	WG2430776
(S) Decachlorobiphenyl	*75.2*			*10.0-135*		*01/10/2025 04:00*	WG2430776
(S) Tetrachloro-m-xylene	*81.0*			*10.0-139*		*01/10/2025 04:00*	WG2430776

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.24	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-03 WG2430703: 8.24 at 19.8C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Nitrate as (N)	5.48	J	0.952	10.0	1	01/09/2025 14:37	WG2430732
Sulfate	10.9	J	8.24	50.0	1	01/09/2025 14:37	WG2430732

Mercury by Method 7471B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0206	0.0400	1	01/09/2025 13:27	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	2.87		0.837	2.00	1	01/09/2025 18:17	WG2430992
Barium	75.4		0.0850	0.500	1	01/09/2025 18:17	WG2430992
Cadmium	0.174	J	0.0653	0.500	1	01/09/2025 18:17	WG2430992
Chromium	31.1		0.214	1.00	1	01/09/2025 18:17	WG2430992
Lead	13.2		0.326	0.500	1	01/09/2025 18:17	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:17	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:17	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	01/14/2025 18:26	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 18:26	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 18:26	WG2430807
Dicamba	U		0.0226	0.0700	1	01/14/2025 18:26	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 18:26	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 18:26	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 18:26	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 18:26	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 18:26	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 18:26	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*45.9*			*22.0-132*		*01/14/2025 18:26*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	01/10/2025 02:46	WG2430776
Alpha BHC	U		0.00637	0.0200	1	01/10/2025 02:46	WG2430776
Beta BHC	U		0.00630	0.0200	1	01/10/2025 02:46	WG2430776
Delta BHC	U		0.00635	0.0200	1	01/10/2025 02:46	WG2430776
Gamma BHC	U		0.00676	0.0200	1	01/10/2025 02:46	WG2430776
Chlordane	U		0.0990	0.300	1	01/10/2025 02:46	WG2430776
4,4-DDD	U		0.00690	0.0200	1	01/10/2025 02:46	WG2430776
4,4-DDE	U		0.00673	0.0200	1	01/10/2025 02:46	WG2430776

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4,4-DDT	U		0.00766	0.0200	1	01/10/2025 02:46	WG2430776
Dieldrin	U		0.00697	0.0200	1	01/10/2025 02:46	WG2430776
Endosulfan I	U		0.00604	0.0200	1	01/10/2025 02:46	WG2430776
Endosulfan II	U		0.00661	0.0200	1	01/10/2025 02:46	WG2430776
Endosulfan sulfate	U		0.00642	0.0200	1	01/10/2025 02:46	WG2430776
Endrin	U		0.00746	0.0200	1	01/10/2025 02:46	WG2430776
Endrin aldehyde	U		0.00590	0.0200	1	01/10/2025 02:46	WG2430776
Endrin ketone	U		0.00695	0.0200	1	01/10/2025 02:46	WG2430776
Hexachlorobenzene	U		0.00608	0.0200	1	01/10/2025 02:46	WG2430776
Heptachlor	U		0.00693	0.0200	1	01/10/2025 02:46	WG2430776
Heptachlor epoxide	U		0.00650	0.0200	1	01/10/2025 02:46	WG2430776
Methoxychlor	U		0.00806	0.0200	1	01/10/2025 02:46	WG2430776
Toxaphene	U		0.214	0.400	1	01/10/2025 02:46	WG2430776
(S) Decachlorobiphenyl	*94.5*			*10.0-135*		*01/10/2025 02:46*	WG2430776
(S) Tetrachloro-m-xylene	*96.7*			*10.0-139*		*01/10/2025 02:46*	WG2430776

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.85	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:
L1815155-04 WG2430703: 7.85 at 19.7C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Nitrate as (N)	U		0.952	10.0	1	01/09/2025 14:55	WG2430732
Sulfate	9.54	J	8.24	50.0	1	01/09/2025 14:55	WG2430732

Mercury by Method 7471B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0206	0.0400	1	01/09/2025 13:30	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	3.24		0.837	2.00	1	01/09/2025 18:22	WG2430992
Barium	72.5		0.0850	0.500	1	01/09/2025 18:22	WG2430992
Cadmium	0.570		0.0653	0.500	1	01/09/2025 18:22	WG2430992
Chromium	24.4		0.214	1.00	1	01/09/2025 18:22	WG2430992
Lead	20.3		0.326	0.500	1	01/09/2025 18:22	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:22	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:22	WG2430992

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.115	B	0.0217	0.100	1	01/09/2025 22:28	WG2431468
(S) a,a,a-Trifluorotoluene(FID)	*93.6*			*77.0-120*		*01/09/2025 22:28*	WG2431468

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0365	0.0500	1	01/09/2025 18:01	WG2431247
Acrylonitrile	U		0.00361	0.0125	1	01/09/2025 18:01	WG2431247
Benzene	U		0.000467	0.00100	1	01/09/2025 18:01	WG2431247
Bromobenzene	U		0.000900	0.0125	1	01/09/2025 18:01	WG2431247
Bromodichloromethane	U		0.000725	0.00250	1	01/09/2025 18:01	WG2431247
Bromoform	U		0.00117	0.0250	1	01/09/2025 18:01	WG2431247
Bromomethane	U		0.00197	0.0125	1	01/09/2025 18:01	WG2431247
n-Butylbenzene	U		0.00525	0.0125	1	01/09/2025 18:01	WG2431247
sec-Butylbenzene	U		0.00288	0.0125	1	01/09/2025 18:01	WG2431247
tert-Butylbenzene	U		0.00195	0.00500	1	01/09/2025 18:01	WG2431247
Carbon tetrachloride	U		0.000898	0.00500	1	01/09/2025 18:01	WG2431247
Chlorobenzene	U		0.000210	0.00250	1	01/09/2025 18:01	WG2431247
Chlorodibromomethane	U		0.000612	0.00250	1	01/09/2025 18:01	WG2431247
Chloroethane	U		0.00170	0.00500	1	01/09/2025 18:01	WG2431247
Chloroform	U		0.00103	0.00250	1	01/09/2025 18:01	WG2431247
Chloromethane	U		0.00435	0.0125	1	01/09/2025 18:01	WG2431247
2-Chlorotoluene	U		0.000865	0.00250	1	01/09/2025 18:01	WG2431247

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4-Chlorotoluene	U		0.000450	0.00500	1	01/09/2025 18:01	WG2431247
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	01/09/2025 18:01	WG2431247
1,2-Dibromoethane	U		0.000648	0.00250	1	01/09/2025 18:01	WG2431247
Dibromomethane	U		0.000750	0.00500	1	01/09/2025 18:01	WG2431247
1,2-Dichlorobenzene	U		0.000425	0.00500	1	01/09/2025 18:01	WG2431247
1,3-Dichlorobenzene	U		0.000600	0.00500	1	01/09/2025 18:01	WG2431247
1,4-Dichlorobenzene	U		0.000700	0.00500	1	01/09/2025 18:01	WG2431247
Dichlorodifluoromethane	U		0.00161	0.00500	1	01/09/2025 18:01	WG2431247
1,1-Dichloroethane	U		0.000491	0.00250	1	01/09/2025 18:01	WG2431247
1,2-Dichloroethane	U		0.000649	0.00250	1	01/09/2025 18:01	WG2431247
1,1-Dichloroethene	U		0.000606	0.00250	1	01/09/2025 18:01	WG2431247
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	01/09/2025 18:01	WG2431247
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	01/09/2025 18:01	WG2431247
1,2-Dichloropropane	U		0.00142	0.00500	1	01/09/2025 18:01	WG2431247
1,1-Dichloropropene	U		0.000809	0.00250	1	01/09/2025 18:01	WG2431247
1,3-Dichloropropane	U		0.000501	0.00500	1	01/09/2025 18:01	WG2431247
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	01/09/2025 18:01	WG2431247
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	01/09/2025 18:01	WG2431247
2,2-Dichloropropane	U		0.00138	0.00250	1	01/09/2025 18:01	WG2431247
Di-isopropyl ether	U		0.000410	0.00100	1	01/09/2025 18:01	WG2431247
Ethylbenzene	U		0.000737	0.00250	1	01/09/2025 18:01	WG2431247
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	01/09/2025 18:01	WG2431247
Isopropylbenzene	U		0.000425	0.00250	1	01/09/2025 18:01	WG2431247
p-Isopropyltoluene	U		0.00255	0.00500	1	01/09/2025 18:01	WG2431247
2-Butanone (MEK)	U		0.0635	0.100	1	01/09/2025 18:01	WG2431247
Methylene Chloride	U		0.00664	0.0250	1	01/09/2025 18:01	WG2431247
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	01/09/2025 18:01	WG2431247
Methyl tert-butyl ether	U		0.000350	0.00100	1	01/09/2025 18:01	WG2431247
Naphthalene	U		0.00488	0.0125	1	01/09/2025 18:01	WG2431247
n-Propylbenzene	U		0.000950	0.00500	1	01/09/2025 18:01	WG2431247
Styrene	U		0.000229	0.0125	1	01/09/2025 18:01	WG2431247
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	01/09/2025 18:01	WG2431247
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	01/09/2025 18:01	WG2431247
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	01/09/2025 18:01	WG2431247
Tetrachloroethene	U		0.000896	0.00250	1	01/09/2025 18:01	WG2431247
Toluene	U		0.00130	0.00500	1	01/09/2025 18:01	WG2431247
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	01/09/2025 18:01	WG2431247
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	01/09/2025 18:01	WG2431247
1,1,1-Trichloroethane	U		0.000923	0.00250	1	01/09/2025 18:01	WG2431247
1,1,2-Trichloroethane	U		0.000597	0.00250	1	01/09/2025 18:01	WG2431247
Trichloroethene	U		0.000584	0.00100	1	01/09/2025 18:01	WG2431247
Trichlorofluoromethane	U		0.000827	0.00250	1	01/09/2025 18:01	WG2431247
1,2,3-Trichloropropane	U		0.00162	0.0125	1	01/09/2025 18:01	WG2431247
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	01/09/2025 18:01	WG2431247
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	01/09/2025 18:01	WG2431247
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	01/09/2025 18:01	WG2431247
Vinyl chloride	U		0.00116	0.00250	1	01/09/2025 18:01	WG2431247
Xylenes, Total	U		0.000880	0.00650	1	01/09/2025 18:01	WG2431247
(S) Toluene-d8	*97.4*			*75.0-131*		*01/09/2025 18:01*	WG2431247
(S) 4-Bromofluorobenzene	*98.8*			*67.0-138*		*01/09/2025 18:01*	WG2431247
(S) 1,2-Dichloroethane-d4	*94.6*			*70.0-130*		*01/09/2025 18:01*	WG2431247

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	U		64.4	160	40	01/09/2025 18:20	WG2430762
C28-C40 Oil Range	172		11.0	160	40	01/09/2025 18:20	WG2430762
(S) o-Terphenyl	*0.000*	J7		*18.0-148*		*01/09/2025 18:20*	WG2430762

Sample Narrative:

L1815155-04 WG2430762: Cannot run at lower dilution due to viscosity of extract.

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0776	0.211	3.02	01/14/2025 18:36	WG2430807
Dalapon	U		0.133	0.211	3.02	01/14/2025 18:36	WG2430807
2,4-DB	U		0.0562	0.211	3.02	01/14/2025 18:36	WG2430807
Dicamba	U		0.0683	0.211	3.02	01/14/2025 18:36	WG2430807
Dichloroprop	U		0.0553	0.211	3.02	01/14/2025 18:36	WG2430807
Dinoseb	U		0.0770	0.211	3.02	01/14/2025 18:36	WG2430807
MCPA	U		5.62	19.6	3.02	01/14/2025 18:36	WG2430807
MCPP	U		6.13	19.6	3.02	01/14/2025 18:36	WG2430807
2,4,5-T	U		0.0713	0.211	3.02	01/14/2025 18:36	WG2430807
2,4,5-TP (Silvex)	U		0.0565	0.211	3.02	01/14/2025 18:36	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*58.0*			*22.0-132*		*01/14/2025 18:36*	WG2430807

Sample Narrative:

L1815155-04 WG2430807: Dilution due to matrix impact during extraction procedure. Surrogate failure due to matrix.

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	01/10/2025 04:19	WG2430776
Alpha BHC	U		0.00637	0.0200	1	01/10/2025 04:19	WG2430776
Beta BHC	U		0.00630	0.0200	1	01/10/2025 04:19	WG2430776
Delta BHC	U		0.00635	0.0200	1	01/10/2025 04:19	WG2430776
Gamma BHC	U		0.00676	0.0200	1	01/10/2025 04:19	WG2430776
Chlordane	U		0.0990	0.300	1	01/10/2025 04:19	WG2430776
4,4-DDD	U		0.00690	0.0200	1	01/10/2025 04:19	WG2430776
4,4-DDE	U		0.00673	0.0200	1	01/10/2025 04:19	WG2430776
4,4-DDT	U		0.00766	0.0200	1	01/10/2025 04:19	WG2430776
Dieldrin	U		0.00697	0.0200	1	01/10/2025 04:19	WG2430776
Endosulfan I	U		0.00604	0.0200	1	01/10/2025 04:19	WG2430776
Endosulfan II	U		0.00661	0.0200	1	01/10/2025 04:19	WG2430776
Endosulfan sulfate	U		0.00642	0.0200	1	01/10/2025 04:19	WG2430776
Endrin	U		0.00746	0.0200	1	01/10/2025 04:19	WG2430776
Endrin aldehyde	U		0.00590	0.0200	1	01/10/2025 04:19	WG2430776
Endrin ketone	U		0.00695	0.0200	1	01/10/2025 04:19	WG2430776
Hexachlorobenzene	U		0.00608	0.0200	1	01/10/2025 04:19	WG2430776
Heptachlor	U		0.00693	0.0200	1	01/10/2025 04:19	WG2430776
Heptachlor epoxide	U		0.00650	0.0200	1	01/10/2025 04:19	WG2430776
Methoxychlor	U		0.00806	0.0200	1	01/10/2025 04:19	WG2430776
Toxaphene	U		0.214	0.400	1	01/10/2025 04:19	WG2430776
(S) Decachlorobiphenyl	*62.8*			*10.0-135*		*01/10/2025 04:19*	WG2430776
(S) Tetrachloro-m-xylene	*77.4*			*10.0-139*		*01/10/2025 04:19*	WG2430776

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.08	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:
L1815155-05 WG2430703: 7.08 at 19.6C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Nitrate as (N)	292		4.76	50.0	5	01/09/2025 15:31	WG2430732
Sulfate	50.1		8.24	50.0	1	01/09/2025 15:13	WG2430732

Mercury by Method 7471B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0206	0.0400	1	01/09/2025 13:32	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	4.68		0.837	2.00	1	01/09/2025 18:24	WG2430992
Barium	68.4		0.0850	0.500	1	01/09/2025 18:24	WG2430992
Cadmium	0.211	J	0.0653	0.500	1	01/09/2025 18:24	WG2430992
Chromium	32.7		0.214	1.00	1	01/09/2025 18:24	WG2430992
Lead	12.7		0.326	0.500	1	01/09/2025 18:24	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:24	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:24	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	01/14/2025 18:46	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 18:46	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 18:46	WG2430807
Dicamba	0.0903		0.0226	0.0700	1	01/14/2025 18:46	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 18:46	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 18:46	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 18:46	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 18:46	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 18:46	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 18:46	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*45.7*			*22.0-132*		*01/14/2025 18:46*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	01/10/2025 03:51	WG2430776
Alpha BHC	U		0.00637	0.0200	1	01/10/2025 03:51	WG2430776
Beta BHC	U		0.00630	0.0200	1	01/10/2025 03:51	WG2430776
Delta BHC	U		0.00635	0.0200	1	01/10/2025 03:51	WG2430776
Gamma BHC	U		0.00676	0.0200	1	01/10/2025 03:51	WG2430776
Chlordane	U		0.0990	0.300	1	01/10/2025 03:51	WG2430776
4,4-DDD	U		0.00690	0.0200	1	01/10/2025 03:51	WG2430776
4,4-DDE	0.0150	J	0.00673	0.0200	1	01/10/2025 03:51	WG2430776

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
4,4-DDT	U		0.00766	0.0200	1	01/10/2025 03:51	WG2430776
Dieldrin	U		0.00697	0.0200	1	01/10/2025 03:51	WG2430776
Endosulfan I	U		0.00604	0.0200	1	01/10/2025 03:51	WG2430776
Endosulfan II	U		0.00661	0.0200	1	01/10/2025 03:51	WG2430776
Endosulfan sulfate	U		0.00642	0.0200	1	01/10/2025 03:51	WG2430776
Endrin	U		0.00746	0.0200	1	01/10/2025 03:51	WG2430776
Endrin aldehyde	U		0.00590	0.0200	1	01/10/2025 03:51	WG2430776
Endrin ketone	U		0.00695	0.0200	1	01/10/2025 03:51	WG2430776
Hexachlorobenzene	U		0.00608	0.0200	1	01/10/2025 03:51	WG2430776
Heptachlor	U		0.00693	0.0200	1	01/10/2025 03:51	WG2430776
Heptachlor epoxide	U		0.00650	0.0200	1	01/10/2025 03:51	WG2430776
Methoxychlor	U		0.00806	0.0200	1	01/10/2025 03:51	WG2430776
Toxaphene	U		0.214	0.400	1	01/10/2025 03:51	WG2430776
(S) Decachlorobiphenyl	*82.8*			*10.0-135*		*01/10/2025 03:51*	WG2430776
(S) Tetrachloro-m-xylene	*86.4*			*10.0-139*		*01/10/2025 03:51*	WG2430776

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.00	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:
L1815155-06 WG2430703: 7 at 19.5C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Nitrate as (N)	117		4.76	50.0	5	01/09/2025 16:07	WG2430732
Sulfate	66.5		8.24	50.0	1	01/09/2025 15:49	WG2430732

Mercury by Method 7471B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0206	0.0400	1	01/09/2025 13:35	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	U		0.837	2.00	1	01/09/2025 18:25	WG2430992
Barium	25.8		0.0850	0.500	1	01/09/2025 18:25	WG2430992
Cadmium	0.246	J	0.0653	0.500	1	01/09/2025 18:25	WG2430992
Chromium	17.4		0.214	1.00	1	01/09/2025 18:25	WG2430992
Lead	9.23		0.326	0.500	1	01/09/2025 18:25	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:25	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:25	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	01/14/2025 19:26	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 19:26	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 19:26	WG2430807
Dicamba	0.164		0.0452	0.140	2	01/15/2025 06:13	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 19:26	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 19:26	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 19:26	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 19:26	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 19:26	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 19:26	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*88.9*			*22.0-132*		*01/14/2025 19:26*	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*74.7*			*22.0-132*		*01/15/2025 06:13*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	01/10/2025 04:09	WG2430776
Alpha BHC	U		0.00637	0.0200	1	01/10/2025 04:09	WG2430776
Beta BHC	U		0.00630	0.0200	1	01/10/2025 04:09	WG2430776
Delta BHC	U		0.00635	0.0200	1	01/10/2025 04:09	WG2430776
Gamma BHC	U		0.00676	0.0200	1	01/10/2025 04:09	WG2430776
Chlordane	U		0.0990	0.300	1	01/10/2025 04:09	WG2430776

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4,4-DDD	U		0.00690	0.0200	1	01/10/2025 04:09	WG2430776
4,4-DDE	0.0726	P	0.00673	0.0200	1	01/10/2025 04:09	WG2430776
4,4-DDT	U		0.00766	0.0200	1	01/10/2025 04:09	WG2430776
Dieldrin	0.0734		0.00697	0.0200	1	01/10/2025 04:09	WG2430776
Endosulfan I	U		0.00604	0.0200	1	01/10/2025 04:09	WG2430776
Endosulfan II	0.00782	J	0.00661	0.0200	1	01/10/2025 04:09	WG2430776
Endosulfan sulfate	U		0.00642	0.0200	1	01/10/2025 04:09	WG2430776
Endrin	U		0.00746	0.0200	1	01/10/2025 04:09	WG2430776
Endrin aldehyde	U		0.00590	0.0200	1	01/10/2025 04:09	WG2430776
Endrin ketone	U		0.00695	0.0200	1	01/10/2025 04:09	WG2430776
Hexachlorobenzene	U		0.00608	0.0200	1	01/10/2025 04:09	WG2430776
Heptachlor	U		0.00693	0.0200	1	01/10/2025 04:09	WG2430776
Heptachlor epoxide	U		0.00650	0.0200	1	01/10/2025 04:09	WG2430776
Methoxychlor	U		0.00806	0.0200	1	01/10/2025 04:09	WG2430776
Toxaphene	U		0.214	0.400	1	01/10/2025 04:09	WG2430776
(S) Decachlorobiphenyl	*85.1*			*10.0-135*		*01/10/2025 04:09*	WG2430776
(S) Tetrachloro-m-xylene	*89.2*			*10.0-139*		*01/10/2025 04:09*	WG2430776

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.18	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:
L1815155-07 WG2430703: 7.18 at 19.6C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Nitrate as (N)	115		4.81	50.5	5.05	01/09/2025 16:42	WG2430732
Sulfate	59.6		8.32	50.5	1.01	01/09/2025 16:24	WG2430732

Mercury by Method 7471B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0206	0.0400	1	01/09/2025 13:42	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	3.27		0.837	2.00	1	01/09/2025 18:27	WG2430992
Barium	111		0.0850	0.500	1	01/09/2025 18:27	WG2430992
Cadmium	0.194	J	0.0653	0.500	1	01/09/2025 18:27	WG2430992
Chromium	74.6		0.214	1.00	1	01/09/2025 18:27	WG2430992
Lead	14.0		0.326	0.500	1	01/09/2025 18:27	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:27	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:27	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	01/14/2025 19:37	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 19:37	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 19:37	WG2430807
Dicamba	U		0.0226	0.0700	1	01/14/2025 19:37	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 19:37	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 19:37	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 19:37	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 19:37	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 19:37	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 19:37	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*45.2*			*22.0-132*		*01/14/2025 19:37*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	01/10/2025 03:13	WG2430776
Alpha BHC	U		0.00637	0.0200	1	01/10/2025 03:13	WG2430776
Beta BHC	U		0.00630	0.0200	1	01/10/2025 03:13	WG2430776
Delta BHC	U		0.00635	0.0200	1	01/10/2025 03:13	WG2430776
Gamma BHC	U		0.00676	0.0200	1	01/10/2025 03:13	WG2430776
Chlordane	U		0.0990	0.300	1	01/10/2025 03:13	WG2430776
4,4-DDD	U		0.00690	0.0200	1	01/10/2025 03:13	WG2430776
4,4-DDE	U		0.00673	0.0200	1	01/10/2025 03:13	WG2430776

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
4,4-DDT	U		0.00766	0.0200	1	01/10/2025 03:13	WG2430776
Dieldrin	U		0.00697	0.0200	1	01/10/2025 03:13	WG2430776
Endosulfan I	0.00969	J	0.00604	0.0200	1	01/10/2025 03:13	WG2430776
Endosulfan II	U		0.00661	0.0200	1	01/10/2025 03:13	WG2430776
Endosulfan sulfate	U		0.00642	0.0200	1	01/10/2025 03:13	WG2430776
Endrin	U		0.00746	0.0200	1	01/10/2025 03:13	WG2430776
Endrin aldehyde	U		0.00590	0.0200	1	01/10/2025 03:13	WG2430776
Endrin ketone	U		0.00695	0.0200	1	01/10/2025 03:13	WG2430776
Hexachlorobenzene	U		0.00608	0.0200	1	01/10/2025 03:13	WG2430776
Heptachlor	U		0.00693	0.0200	1	01/10/2025 03:13	WG2430776
Heptachlor epoxide	U		0.00650	0.0200	1	01/10/2025 03:13	WG2430776
Methoxychlor	U		0.00806	0.0200	1	01/10/2025 03:13	WG2430776
Toxaphene	U		0.214	0.400	1	01/10/2025 03:13	WG2430776
(S) Decachlorobiphenyl	*70.3*			*10.0-135*		*01/10/2025 03:13*	WG2430776
(S) Tetrachloro-m-xylene	*83.3*			*10.0-139*		*01/10/2025 03:13*	WG2430776

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.39	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:
L1815155-08 WG2430703: 7.39 at 19.4C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Nitrate as (N)	51.3		0.952	10.0	1	01/09/2025 17:36	WG2430732
Sulfate	44.2	J	8.24	50.0	1	01/09/2025 17:36	WG2430732

Mercury by Method 7471B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0206	0.0400	1	01/09/2025 13:45	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	4.35		0.837	2.00	1	01/09/2025 18:29	WG2430992
Barium	140		0.0850	0.500	1	01/09/2025 18:29	WG2430992
Cadmium	0.145	J	0.0653	0.500	1	01/09/2025 18:29	WG2430992
Chromium	71.8		0.214	1.00	1	01/09/2025 18:29	WG2430992
Lead	18.3		0.326	0.500	1	01/09/2025 18:29	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:29	WG2430992
Silver	0.145	J	0.127	1.00	1	01/09/2025 18:29	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	01/14/2025 19:47	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 19:47	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 19:47	WG2430807
Dicamba	U		0.0226	0.0700	1	01/14/2025 19:47	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 19:47	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 19:47	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 19:47	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 19:47	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 19:47	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 19:47	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*67.1*			*22.0-132*		*01/14/2025 19:47*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	01/10/2025 03:23	WG2430776
Alpha BHC	U		0.00637	0.0200	1	01/10/2025 03:23	WG2430776
Beta BHC	U		0.00630	0.0200	1	01/10/2025 03:23	WG2430776
Delta BHC	U		0.00635	0.0200	1	01/10/2025 03:23	WG2430776
Gamma BHC	U		0.00676	0.0200	1	01/10/2025 03:23	WG2430776
Chlordane	U		0.0990	0.300	1	01/10/2025 03:23	WG2430776
4,4-DDD	U		0.00690	0.0200	1	01/10/2025 03:23	WG2430776
4,4-DDE	U		0.00673	0.0200	1	01/10/2025 03:23	WG2430776

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
4,4-DDT	U		0.00766	0.0200	1	01/10/2025 03:23	WG2430776
Dieldrin	U		0.00697	0.0200	1	01/10/2025 03:23	WG2430776
Endosulfan I	U		0.00604	0.0200	1	01/10/2025 03:23	WG2430776
Endosulfan II	U		0.00661	0.0200	1	01/10/2025 03:23	WG2430776
Endosulfan sulfate	U		0.00642	0.0200	1	01/10/2025 03:23	WG2430776
Endrin	U		0.00746	0.0200	1	01/10/2025 03:23	WG2430776
Endrin aldehyde	U		0.00590	0.0200	1	01/10/2025 03:23	WG2430776
Endrin ketone	U		0.00695	0.0200	1	01/10/2025 03:23	WG2430776
Hexachlorobenzene	U		0.00608	0.0200	1	01/10/2025 03:23	WG2430776
Heptachlor	U		0.00693	0.0200	1	01/10/2025 03:23	WG2430776
Heptachlor epoxide	U		0.00650	0.0200	1	01/10/2025 03:23	WG2430776
Methoxychlor	U		0.00806	0.0200	1	01/10/2025 03:23	WG2430776
Toxaphene	U		0.214	0.400	1	01/10/2025 03:23	WG2430776
(S) Decachlorobiphenyl	*69.2*			*10.0-135*		*01/10/2025 03:23*	WG2430776
(S) Tetrachloro-m-xylene	*83.5*			*10.0-139*		*01/10/2025 03:23*	WG2430776

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.93	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:
L1815155-09 WG2430703: 6.93 at 19.5C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Nitrate as (N)	17.6		0.990	10.4	1.04	01/09/2025 17:54	WG2430732
Sulfate	16.8	J	8.57	52.0	1.04	01/09/2025 17:54	WG2430732

Mercury by Method 7471B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0206	0.0400	1	01/09/2025 13:47	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	U		0.837	2.00	1	01/09/2025 18:30	WG2430992
Barium	31.8		0.0850	0.500	1	01/09/2025 18:30	WG2430992
Cadmium	0.0931	J	0.0653	0.500	1	01/09/2025 18:30	WG2430992
Chromium	8.35		0.214	1.00	1	01/09/2025 18:30	WG2430992
Lead	7.06		0.326	0.500	1	01/09/2025 18:30	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:30	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:30	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	01/14/2025 19:57	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 19:57	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 19:57	WG2430807
Dicamba	U		0.0226	0.0700	1	01/14/2025 19:57	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 19:57	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 19:57	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 19:57	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 19:57	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 19:57	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 19:57	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*77.3*			*22.0-132*		*01/14/2025 19:57*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	01/10/2025 03:32	WG2430776
Alpha BHC	U		0.00637	0.0200	1	01/10/2025 03:32	WG2430776
Beta BHC	U		0.00630	0.0200	1	01/10/2025 03:32	WG2430776
Delta BHC	U		0.00635	0.0200	1	01/10/2025 03:32	WG2430776
Gamma BHC	U		0.00676	0.0200	1	01/10/2025 03:32	WG2430776
Chlordane	U		0.0990	0.300	1	01/10/2025 03:32	WG2430776
4,4-DDD	U		0.00690	0.0200	1	01/10/2025 03:32	WG2430776
4,4-DDE	U		0.00673	0.0200	1	01/10/2025 03:32	WG2430776

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
4,4-DDT	U		0.00766	0.0200	1	01/10/2025 03:32	WG2430776
Dieldrin	0.0380		0.00697	0.0200	1	01/10/2025 03:32	WG2430776
Endosulfan I	U		0.00604	0.0200	1	01/10/2025 03:32	WG2430776
Endosulfan II	U		0.00661	0.0200	1	01/10/2025 03:32	WG2430776
Endosulfan sulfate	U		0.00642	0.0200	1	01/10/2025 03:32	WG2430776
Endrin	U		0.00746	0.0200	1	01/10/2025 03:32	WG2430776
Endrin aldehyde	U		0.00590	0.0200	1	01/10/2025 03:32	WG2430776
Endrin ketone	U		0.00695	0.0200	1	01/10/2025 03:32	WG2430776
Hexachlorobenzene	U		0.00608	0.0200	1	01/10/2025 03:32	WG2430776
Heptachlor	U		0.00693	0.0200	1	01/10/2025 03:32	WG2430776
Heptachlor epoxide	U		0.00650	0.0200	1	01/10/2025 03:32	WG2430776
Methoxychlor	U		0.00806	0.0200	1	01/10/2025 03:32	WG2430776
Toxaphene	U		0.214	0.400	1	01/10/2025 03:32	WG2430776
(S) Decachlorobiphenyl	*89.4*			*10.0-135*		*01/10/2025 03:32*	WG2430776
(S) Tetrachloro-m-xylene	*92.6*			*10.0-139*		*01/10/2025 03:32*	WG2430776

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.11	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-10 WG2430703: 7.11 at 19.8C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Nitrate as (N)	86.3		0.962	10.1	1.01	01/09/2025 18:12	WG2430732
Sulfate	35.1	J	8.32	50.5	1.01	01/09/2025 18:12	WG2430732

Mercury by Method 7471B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0206	0.0400	1	01/09/2025 14:07	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	2.46		0.837	2.00	1	01/09/2025 18:05	WG2430992
Barium	59.7		0.0850	0.500	1	01/09/2025 18:05	WG2430992
Cadmium	0.235	J	0.0653	0.500	1	01/09/2025 18:05	WG2430992
Chromium	45.3	J6	0.214	1.00	1	01/09/2025 18:05	WG2430992
Lead	21.3	O1	0.326	0.500	1	01/09/2025 18:05	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:05	WG2430992
Silver	2.33		0.127	1.00	1	01/09/2025 18:05	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	01/14/2025 20:07	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 20:07	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 20:07	WG2430807
Dicamba	U		0.0226	0.0700	1	01/14/2025 20:07	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 20:07	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 20:07	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 20:07	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 20:07	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 20:07	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 20:07	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*94.0*			*22.0-132*		*01/14/2025 20:07*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	01/09/2025 19:04	WG2430824
Alpha BHC	U		0.00637	0.0200	1	01/09/2025 19:04	WG2430824
Beta BHC	U		0.00630	0.0200	1	01/09/2025 19:04	WG2430824
Delta BHC	U		0.00635	0.0200	1	01/12/2025 15:17	WG2430824
Gamma BHC	U		0.00676	0.0200	1	01/09/2025 19:04	WG2430824
Chlordane	U		0.0990	0.300	1	01/09/2025 19:04	WG2430824
4,4-DDD	U		0.00690	0.0200	1	01/09/2025 19:04	WG2430824
4,4-DDE	U		0.00673	0.0200	1	01/09/2025 19:04	WG2430824

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4,4-DDT	U		0.00766	0.0200	1	01/09/2025 19:04	WG2430824
Dieldrin	0.0402		0.00697	0.0200	1	01/09/2025 19:04	WG2430824
Endosulfan I	U		0.00604	0.0200	1	01/09/2025 19:04	WG2430824
Endosulfan II	0.0349		0.00661	0.0200	1	01/09/2025 19:04	WG2430824
Endosulfan sulfate	0.0204		0.00642	0.0200	1	01/09/2025 19:04	WG2430824
Endrin	U		0.00746	0.0200	1	01/09/2025 19:04	WG2430824
Endrin aldehyde	U		0.00590	0.0200	1	01/09/2025 19:04	WG2430824
Endrin ketone	U		0.00695	0.0200	1	01/09/2025 19:04	WG2430824
Hexachlorobenzene	U		0.00608	0.0200	1	01/09/2025 19:04	WG2430824
Heptachlor	U		0.00693	0.0200	1	01/09/2025 19:04	WG2430824
Heptachlor epoxide	U		0.00650	0.0200	1	01/09/2025 19:04	WG2430824
Methoxychlor	U		0.00806	0.0200	1	01/09/2025 19:04	WG2430824
Toxaphene	U		0.214	0.400	1	01/09/2025 19:04	WG2430824
(S) Decachlorobiphenyl	*60.0*			*10.0-135*		*01/12/2025 15:17*	WG2430824
(S) Decachlorobiphenyl	*55.4*			*10.0-135*		*01/09/2025 19:04*	WG2430824
(S) Tetrachloro-m-xylene	*58.4*			*10.0-139*		*01/09/2025 19:04*	WG2430824
(S) Tetrachloro-m-xylene	*58.5*			*10.0-139*		*01/12/2025 15:17*	WG2430824

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.79	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-11 WG2430703: 6.79 at 19.9C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Nitrate as (N)	2160	P1	49.5	520	52	01/13/2025 10:23	WG2430732
Sulfate	978	J P1	428	2600	52	01/13/2025 10:23	WG2430732

Sample Narrative:

L1815155-11 WG2430732: Dilution due to matrix impact on instrumentation at lower dilution

Mercury by Method 7471B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0206	0.0400	1	01/09/2025 14:09	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	1.72	J	0.837	2.00	1	01/09/2025 18:32	WG2430992
Barium	72.5		0.0850	0.500	1	01/09/2025 18:32	WG2430992
Cadmium	0.300	J	0.0653	0.500	1	01/09/2025 18:32	WG2430992
Chromium	13.2		0.214	1.00	1	01/09/2025 18:32	WG2430992
Lead	14.9		0.326	0.500	1	01/09/2025 18:32	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:32	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:32	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	01/14/2025 20:17	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 20:17	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 20:17	WG2430807
Dicamba	U		0.0226	0.0700	1	01/14/2025 20:17	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 20:17	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 20:17	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 20:17	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 20:17	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 20:17	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 20:17	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*82.3*			*22.0-132*		*01/14/2025 20:17*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	01/09/2025 19:13	WG2430824
Alpha BHC	U		0.00637	0.0200	1	01/09/2025 19:13	WG2430824
Beta BHC	U		0.00630	0.0200	1	01/09/2025 19:13	WG2430824
Delta BHC	U		0.00635	0.0200	1	01/09/2025 19:13	WG2430824
Gamma BHC	U		0.00676	0.0200	1	01/09/2025 19:13	WG2430824

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Chlordane	U		0.0990	0.300	1	01/09/2025 19:13	WG2430824
4,4-DDD	U		0.00690	0.0200	1	01/09/2025 19:13	WG2430824
4,4-DDE	U		0.00673	0.0200	1	01/09/2025 19:13	WG2430824
4,4-DDT	U		0.00766	0.0200	1	01/09/2025 19:13	WG2430824
Dieldrin	U		0.00697	0.0200	1	01/09/2025 19:13	WG2430824
Endosulfan I	U		0.00604	0.0200	1	01/09/2025 19:13	WG2430824
Endosulfan II	U		0.00661	0.0200	1	01/09/2025 19:13	WG2430824
Endosulfan sulfate	U		0.00642	0.0200	1	01/09/2025 19:13	WG2430824
Endrin	U		0.00746	0.0200	1	01/09/2025 19:13	WG2430824
Endrin aldehyde	U		0.00590	0.0200	1	01/09/2025 19:13	WG2430824
Endrin ketone	U		0.00695	0.0200	1	01/09/2025 19:13	WG2430824
Hexachlorobenzene	U		0.00608	0.0200	1	01/09/2025 19:13	WG2430824
Heptachlor	U		0.00693	0.0200	1	01/09/2025 19:13	WG2430824
Heptachlor epoxide	U		0.00650	0.0200	1	01/09/2025 19:13	WG2430824
Methoxychlor	U		0.00806	0.0200	1	01/09/2025 19:13	WG2430824
Toxaphene	U		0.214	0.400	1	01/09/2025 19:13	WG2430824
(S) Decachlorobiphenyl	*68.3*			*10.0-135*		*01/09/2025 19:13*	WG2430824
(S) Tetrachloro-m-xylene	*82.2*			*10.0-139*		*01/09/2025 19:13*	WG2430824

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.50	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-18 WG2430703: 7.5 at 19.6C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Nitrate as (N)	6.02	J	0.952	10.0	1	01/09/2025 19:41	WG2430732
Sulfate	17.9	J	8.24	50.0	1	01/09/2025 19:41	WG2430732

Mercury by Method 7471B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0206	0.0400	1	01/09/2025 14:12	WG2430631

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	2.53		0.837	2.00	1	01/09/2025 18:34	WG2430992
Barium	78.4		0.0850	0.500	1	01/09/2025 18:34	WG2430992
Cadmium	0.141	J	0.0653	0.500	1	01/09/2025 18:34	WG2430992
Chromium	46.6		0.214	1.00	1	01/09/2025 18:34	WG2430992
Lead	12.5		0.326	0.500	1	01/09/2025 18:34	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:34	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:34	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	01/14/2025 20:27	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 20:27	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 20:27	WG2430807
Dicamba	U		0.0226	0.0700	1	01/14/2025 20:27	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 20:27	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 20:27	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 20:27	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 20:27	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 20:27	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 20:27	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*66.7*			*22.0-132*		*01/14/2025 20:27*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	01/09/2025 19:23	WG2430824
Alpha BHC	U		0.00637	0.0200	1	01/09/2025 19:23	WG2430824
Beta BHC	U		0.00630	0.0200	1	01/09/2025 19:23	WG2430824
Delta BHC	U		0.00635	0.0200	1	01/09/2025 19:23	WG2430824
Gamma BHC	U		0.00676	0.0200	1	01/09/2025 19:23	WG2430824
Chlordane	U		0.0990	0.300	1	01/09/2025 19:23	WG2430824
4,4-DDD	U		0.00690	0.0200	1	01/09/2025 19:23	WG2430824
4,4-DDE	U		0.00673	0.0200	1	01/09/2025 19:23	WG2430824

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
4,4-DDT	U		0.00766	0.0200	1	01/09/2025 19:23	WG2430824
Dieldrin	0.0152	J	0.00697	0.0200	1	01/09/2025 19:23	WG2430824
Endosulfan I	U		0.00604	0.0200	1	01/09/2025 19:23	WG2430824
Endosulfan II	U		0.00661	0.0200	1	01/09/2025 19:23	WG2430824
Endosulfan sulfate	U		0.00642	0.0200	1	01/09/2025 19:23	WG2430824
Endrin	U		0.00746	0.0200	1	01/09/2025 19:23	WG2430824
Endrin aldehyde	U		0.00590	0.0200	1	01/09/2025 19:23	WG2430824
Endrin ketone	U		0.00695	0.0200	1	01/09/2025 19:23	WG2430824
Hexachlorobenzene	U		0.00608	0.0200	1	01/09/2025 19:23	WG2430824
Heptachlor	U		0.00693	0.0200	1	01/09/2025 19:23	WG2430824
Heptachlor epoxide	U		0.00650	0.0200	1	01/09/2025 19:23	WG2430824
Methoxychlor	U		0.00806	0.0200	1	01/09/2025 19:23	WG2430824
Toxaphene	U		0.214	0.400	1	01/09/2025 19:23	WG2430824
(S) Decachlorobiphenyl	*69.2*			*10.0-135*		*01/09/2025 19:23*	WG2430824
(S) Tetrachloro-m-xylene	*80.4*			*10.0-139*		*01/09/2025 19:23*	WG2430824

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.12	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:

L1815155-19 WG2430703: 8.12 at 19.5C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Nitrate as (N)	3.21	J	0.971	10.2	1.02	01/09/2025 19:59	WG2430732
Sulfate	14.1	J	8.40	51.0	1.02	01/09/2025 19:59	WG2430732

Mercury by Method 7471B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0206	0.0400	1	01/11/2025 17:08	WG2430720

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	3.28		0.837	2.00	1	01/09/2025 18:35	WG2430992
Barium	89.4		0.0850	0.500	1	01/09/2025 18:35	WG2430992
Cadmium	0.126	J	0.0653	0.500	1	01/09/2025 18:35	WG2430992
Chromium	61.8		0.214	1.00	1	01/09/2025 18:35	WG2430992
Lead	15.5		0.326	0.500	1	01/09/2025 18:35	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:35	WG2430992
Silver	0.530	J	0.127	1.00	1	01/09/2025 18:35	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	01/14/2025 20:37	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 20:37	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 20:37	WG2430807
Dicamba	U		0.0226	0.0700	1	01/14/2025 20:37	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 20:37	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 20:37	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 20:37	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 20:37	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 20:37	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 20:37	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*64.8*			*22.0-132*		*01/14/2025 20:37*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	01/09/2025 22:10	WG2430824
Alpha BHC	U		0.00637	0.0200	1	01/09/2025 22:10	WG2430824
Beta BHC	U		0.00630	0.0200	1	01/09/2025 22:10	WG2430824
Delta BHC	U		0.00635	0.0200	1	01/09/2025 22:10	WG2430824
Gamma BHC	U		0.00676	0.0200	1	01/09/2025 22:10	WG2430824
Chlordane	U		0.0990	0.300	1	01/09/2025 22:10	WG2430824
4,4-DDD	U		0.00690	0.0200	1	01/09/2025 22:10	WG2430824
4,4-DDE	U		0.00673	0.0200	1	01/09/2025 22:10	WG2430824

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
4,4-DDT	U		0.00766	0.0200	1	01/09/2025 22:10	WG2430824
Dieldrin	U		0.00697	0.0200	1	01/09/2025 22:10	WG2430824
Endosulfan I	U		0.00604	0.0200	1	01/09/2025 22:10	WG2430824
Endosulfan II	U		0.00661	0.0200	1	01/09/2025 22:10	WG2430824
Endosulfan sulfate	U		0.00642	0.0200	1	01/09/2025 22:10	WG2430824
Endrin	U		0.00746	0.0200	1	01/09/2025 22:10	WG2430824
Endrin aldehyde	U		0.00590	0.0200	1	01/09/2025 22:10	WG2430824
Endrin ketone	U		0.00695	0.0200	1	01/09/2025 22:10	WG2430824
Hexachlorobenzene	U		0.00608	0.0200	1	01/09/2025 22:10	WG2430824
Heptachlor	U		0.00693	0.0200	1	01/09/2025 22:10	WG2430824
Heptachlor epoxide	U		0.00650	0.0200	1	01/09/2025 22:10	WG2430824
Methoxychlor	U		0.00806	0.0200	1	01/09/2025 22:10	WG2430824
Toxaphene	U		0.214	0.400	1	01/09/2025 22:10	WG2430824
(S) Decachlorobiphenyl	*57.2*			*10.0-135*		*01/09/2025 22:10*	WG2430824
(S) Tetrachloro-m-xylene	*74.4*			*10.0-139*		*01/09/2025 22:10*	WG2430824

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.20	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:
L1815155-20 WG2430703: 7.2 at 20.6C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Nitrate as (N)	U		4.76	50.0	5	01/09/2025 20:17	WG2430732
Sulfate	U		41.2	250	5	01/09/2025 20:17	WG2430732

Sample Narrative:
L1815155-20 WG2430732: Dilution due to matrix impact on instrumentation at lower dilution

Mercury by Method 7471B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0206	0.0400	1	01/11/2025 17:11	WG2430720

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	2.85		0.837	2.00	1	01/09/2025 18:37	WG2430992
Barium	73.8		0.0850	0.500	1	01/09/2025 18:37	WG2430992
Cadmium	0.0770	J	0.0653	0.500	1	01/09/2025 18:37	WG2430992
Chromium	31.4		0.214	1.00	1	01/09/2025 18:37	WG2430992
Lead	17.0		0.326	0.500	1	01/09/2025 18:37	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:37	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:37	WG2430992

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0966	B J	0.0217	0.100	1	01/09/2025 22:50	WG2431468
(S) a,a,a-Trifluorotoluene(FID)	*91.0*			*77.0-120*		*01/09/2025 22:50*	WG2431468

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0365	0.0500	1	01/09/2025 18:20	WG2431247
Acrylonitrile	U		0.00361	0.0125	1	01/09/2025 18:20	WG2431247
Benzene	U		0.000467	0.00100	1	01/09/2025 18:20	WG2431247
Bromobenzene	U		0.000900	0.0125	1	01/09/2025 18:20	WG2431247
Bromodichloromethane	U		0.000725	0.00250	1	01/09/2025 18:20	WG2431247
Bromoform	U		0.00117	0.0250	1	01/09/2025 18:20	WG2431247
Bromomethane	U		0.00197	0.0125	1	01/09/2025 18:20	WG2431247
n-Butylbenzene	U		0.00525	0.0125	1	01/09/2025 18:20	WG2431247
sec-Butylbenzene	U		0.00288	0.0125	1	01/09/2025 18:20	WG2431247
tert-Butylbenzene	U		0.00195	0.00500	1	01/09/2025 18:20	WG2431247
Carbon tetrachloride	U		0.000898	0.00500	1	01/09/2025 18:20	WG2431247
Chlorobenzene	U		0.000210	0.00250	1	01/09/2025 18:20	WG2431247
Chlorodibromomethane	U		0.000612	0.00250	1	01/09/2025 18:20	WG2431247
Chloroethane	U		0.00170	0.00500	1	01/09/2025 18:20	WG2431247

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloroform	U		0.00103	0.00250	1	01/09/2025 18:20	WG2431247
Chloromethane	U		0.00435	0.0125	1	01/09/2025 18:20	WG2431247
2-Chlorotoluene	U		0.000865	0.00250	1	01/09/2025 18:20	WG2431247
4-Chlorotoluene	U		0.000450	0.00500	1	01/09/2025 18:20	WG2431247
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	01/09/2025 18:20	WG2431247
1,2-Dibromoethane	U		0.000648	0.00250	1	01/09/2025 18:20	WG2431247
Dibromomethane	U		0.000750	0.00500	1	01/09/2025 18:20	WG2431247
1,2-Dichlorobenzene	U		0.000425	0.00500	1	01/09/2025 18:20	WG2431247
1,3-Dichlorobenzene	U		0.000600	0.00500	1	01/09/2025 18:20	WG2431247
1,4-Dichlorobenzene	U		0.000700	0.00500	1	01/09/2025 18:20	WG2431247
Dichlorodifluoromethane	U		0.00161	0.00500	1	01/09/2025 18:20	WG2431247
1,1-Dichloroethane	U		0.000491	0.00250	1	01/09/2025 18:20	WG2431247
1,2-Dichloroethane	U		0.000649	0.00250	1	01/09/2025 18:20	WG2431247
1,1-Dichloroethene	U		0.000606	0.00250	1	01/09/2025 18:20	WG2431247
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	01/09/2025 18:20	WG2431247
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	01/09/2025 18:20	WG2431247
1,2-Dichloropropane	U		0.00142	0.00500	1	01/09/2025 18:20	WG2431247
1,1-Dichloropropene	U		0.000809	0.00250	1	01/09/2025 18:20	WG2431247
1,3-Dichloropropane	U		0.000501	0.00500	1	01/09/2025 18:20	WG2431247
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	01/09/2025 18:20	WG2431247
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	01/09/2025 18:20	WG2431247
2,2-Dichloropropane	U		0.00138	0.00250	1	01/09/2025 18:20	WG2431247
Di-isopropyl ether	U		0.000410	0.00100	1	01/09/2025 18:20	WG2431247
Ethylbenzene	U		0.000737	0.00250	1	01/09/2025 18:20	WG2431247
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	01/09/2025 18:20	WG2431247
Isopropylbenzene	U		0.000425	0.00250	1	01/09/2025 18:20	WG2431247
p-Isopropyltoluene	U		0.00255	0.00500	1	01/09/2025 18:20	WG2431247
2-Butanone (MEK)	U		0.0635	0.100	1	01/09/2025 18:20	WG2431247
Methylene Chloride	U		0.00664	0.0250	1	01/09/2025 18:20	WG2431247
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	01/09/2025 18:20	WG2431247
Methyl tert-butyl ether	0.000475	J	0.000350	0.00100	1	01/09/2025 18:20	WG2431247
Naphthalene	U		0.00488	0.0125	1	01/09/2025 18:20	WG2431247
n-Propylbenzene	U		0.000950	0.00500	1	01/09/2025 18:20	WG2431247
Styrene	U		0.000229	0.0125	1	01/09/2025 18:20	WG2431247
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	01/09/2025 18:20	WG2431247
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	01/09/2025 18:20	WG2431247
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	01/09/2025 18:20	WG2431247
Tetrachloroethene	U		0.000896	0.00250	1	01/09/2025 18:20	WG2431247
Toluene	U		0.00130	0.00500	1	01/09/2025 18:20	WG2431247
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	01/09/2025 18:20	WG2431247
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	01/09/2025 18:20	WG2431247
1,1,1-Trichloroethane	U		0.000923	0.00250	1	01/09/2025 18:20	WG2431247
1,1,2-Trichloroethane	U		0.000597	0.00250	1	01/09/2025 18:20	WG2431247
Trichloroethene	U		0.000584	0.00100	1	01/09/2025 18:20	WG2431247
Trichlorofluoromethane	U		0.000827	0.00250	1	01/09/2025 18:20	WG2431247
1,2,3-Trichloropropane	U		0.00162	0.0125	1	01/09/2025 18:20	WG2431247
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	01/09/2025 18:20	WG2431247
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	01/09/2025 18:20	WG2431247
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	01/09/2025 18:20	WG2431247
Vinyl chloride	U		0.00116	0.00250	1	01/09/2025 18:20	WG2431247
Xylenes, Total	0.00239	J	0.000880	0.00650	1	01/09/2025 18:20	WG2431247
(S) Toluene-d8	*99.2*			*75.0-131*		*01/09/2025 18:20*	WG2431247
(S) 4-Bromofluorobenzene	*101*			*67.0-138*		*01/09/2025 18:20*	WG2431247
(S) 1,2-Dichloroethane-d4	*91.1*			*70.0-130*		*01/09/2025 18:20*	WG2431247

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	11200	J3 V	161	400	100	01/09/2025 17:27	WG2430762
C28-C40 Oil Range	41200		137	2000	500	01/09/2025 21:53	WG2430762
(S) o-Terphenyl	*0.000*	J7		*18.0-148*		*01/09/2025 21:53*	WG2430762
(S) o-Terphenyl	*0.000*	J7		*18.0-148*		*01/09/2025 17:27*	WG2430762

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	01/14/2025 20:47	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 20:47	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 20:47	WG2430807
Dicamba	U		0.0226	0.0700	1	01/14/2025 20:47	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 20:47	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 20:47	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 20:47	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 20:47	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 20:47	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/15/2025 06:02	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*70.6*			*22.0-132*		*01/14/2025 20:47*	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*90.2*			*22.0-132*		*01/15/2025 06:02*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	01/09/2025 21:33	WG2430824
Alpha BHC	U		0.00637	0.0200	1	01/09/2025 21:33	WG2430824
Beta BHC	U		0.00630	0.0200	1	01/09/2025 21:33	WG2430824
Delta BHC	U		0.00635	0.0200	1	01/09/2025 21:33	WG2430824
Gamma BHC	U		0.00676	0.0200	1	01/09/2025 21:33	WG2430824
Chlordane	U		0.0990	0.300	1	01/09/2025 21:33	WG2430824
4,4-DDD	U		0.00690	0.0200	1	01/09/2025 21:33	WG2430824
4,4-DDE	U		0.00673	0.0200	1	01/09/2025 21:33	WG2430824
4,4-DDT	U		0.00766	0.0200	1	01/09/2025 21:33	WG2430824
Dieldrin	U		0.00697	0.0200	1	01/09/2025 21:33	WG2430824
Endosulfan I	U		0.00604	0.0200	1	01/09/2025 21:33	WG2430824
Endosulfan II	U		0.00661	0.0200	1	01/09/2025 21:33	WG2430824
Endosulfan sulfate	U		0.00642	0.0200	1	01/09/2025 21:33	WG2430824
Endrin	U		0.00746	0.0200	1	01/09/2025 21:33	WG2430824
Endrin aldehyde	U		0.00590	0.0200	1	01/09/2025 21:33	WG2430824
Endrin ketone	U		0.00695	0.0200	1	01/09/2025 21:33	WG2430824
Hexachlorobenzene	U		0.00608	0.0200	1	01/09/2025 21:33	WG2430824
Heptachlor	U		0.00693	0.0200	1	01/09/2025 21:33	WG2430824
Heptachlor epoxide	U		0.00650	0.0200	1	01/09/2025 21:33	WG2430824
Methoxychlor	U		0.00806	0.0200	1	01/09/2025 21:33	WG2430824
Toxaphene	U		0.214	0.400	1	01/09/2025 21:33	WG2430824
(S) Decachlorobiphenyl	*83.4*			*10.0-135*		*01/09/2025 21:33*	WG2430824
(S) Tetrachloro-m-xylene	*87.2*			*10.0-139*		*01/09/2025 21:33*	WG2430824

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.74	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:
L1815155-21 WG2430703: 7.74 at 20C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Nitrate as (N)	37.0		0.952	10.0	1	01/09/2025 20:35	WG2430732
Sulfate	61.4		8.24	50.0	1	01/09/2025 20:35	WG2430732

Mercury by Method 7471B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0206	0.0400	1	01/11/2025 17:13	WG2430720

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	2.57		0.837	2.00	1	01/09/2025 18:42	WG2430992
Barium	77.3		0.0850	0.500	1	01/09/2025 18:42	WG2430992
Cadmium	0.360	J	0.0653	0.500	1	01/09/2025 18:42	WG2430992
Chromium	50.9		0.214	1.00	1	01/09/2025 18:42	WG2430992
Lead	24.6		0.326	0.500	1	01/09/2025 18:42	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:42	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:42	WG2430992

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.0632	B J	0.0217	0.100	1	01/09/2025 23:13	WG2431468
(S) a,a,a-Trifluorotoluene(FID)	*94.3*			*77.0-120*		*01/09/2025 23:13*	WG2431468

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0365	0.0500	1	01/09/2025 18:39	WG2431247
Acrylonitrile	U		0.00361	0.0125	1	01/09/2025 18:39	WG2431247
Benzene	U		0.000467	0.00100	1	01/09/2025 18:39	WG2431247
Bromobenzene	U		0.000900	0.0125	1	01/09/2025 18:39	WG2431247
Bromodichloromethane	U		0.000725	0.00250	1	01/09/2025 18:39	WG2431247
Bromoform	U		0.00117	0.0250	1	01/09/2025 18:39	WG2431247
Bromomethane	U		0.00197	0.0125	1	01/09/2025 18:39	WG2431247
n-Butylbenzene	U		0.00525	0.0125	1	01/09/2025 18:39	WG2431247
sec-Butylbenzene	U		0.00288	0.0125	1	01/09/2025 18:39	WG2431247
tert-Butylbenzene	U		0.00195	0.00500	1	01/09/2025 18:39	WG2431247
Carbon tetrachloride	U		0.000898	0.00500	1	01/09/2025 18:39	WG2431247
Chlorobenzene	U		0.000210	0.00250	1	01/09/2025 18:39	WG2431247
Chlorodibromomethane	U		0.000612	0.00250	1	01/09/2025 18:39	WG2431247
Chloroethane	U		0.00170	0.00500	1	01/09/2025 18:39	WG2431247
Chloroform	U		0.00103	0.00250	1	01/09/2025 18:39	WG2431247
Chloromethane	U		0.00435	0.0125	1	01/09/2025 18:39	WG2431247
2-Chlorotoluene	U		0.000865	0.00250	1	01/09/2025 18:39	WG2431247

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4-Chlorotoluene	U		0.000450	0.00500	1	01/09/2025 18:39	WG2431247
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	01/09/2025 18:39	WG2431247
1,2-Dibromoethane	U		0.000648	0.00250	1	01/09/2025 18:39	WG2431247
Dibromomethane	U		0.000750	0.00500	1	01/09/2025 18:39	WG2431247
1,2-Dichlorobenzene	U		0.000425	0.00500	1	01/09/2025 18:39	WG2431247
1,3-Dichlorobenzene	U		0.000600	0.00500	1	01/09/2025 18:39	WG2431247
1,4-Dichlorobenzene	U		0.000700	0.00500	1	01/09/2025 18:39	WG2431247
Dichlorodifluoromethane	U		0.00161	0.00500	1	01/09/2025 18:39	WG2431247
1,1-Dichloroethane	U		0.000491	0.00250	1	01/09/2025 18:39	WG2431247
1,2-Dichloroethane	U		0.000649	0.00250	1	01/09/2025 18:39	WG2431247
1,1-Dichloroethene	U		0.000606	0.00250	1	01/09/2025 18:39	WG2431247
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	01/09/2025 18:39	WG2431247
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	01/09/2025 18:39	WG2431247
1,2-Dichloropropane	U		0.00142	0.00500	1	01/09/2025 18:39	WG2431247
1,1-Dichloropropene	U		0.000809	0.00250	1	01/09/2025 18:39	WG2431247
1,3-Dichloropropane	U		0.000501	0.00500	1	01/09/2025 18:39	WG2431247
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	01/09/2025 18:39	WG2431247
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	01/09/2025 18:39	WG2431247
2,2-Dichloropropane	U		0.00138	0.00250	1	01/09/2025 18:39	WG2431247
Di-isopropyl ether	U		0.000410	0.00100	1	01/09/2025 18:39	WG2431247
Ethylbenzene	U		0.000737	0.00250	1	01/09/2025 18:39	WG2431247
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	01/09/2025 18:39	WG2431247
Isopropylbenzene	U		0.000425	0.00250	1	01/09/2025 18:39	WG2431247
p-Isopropyltoluene	U		0.00255	0.00500	1	01/09/2025 18:39	WG2431247
2-Butanone (MEK)	U		0.0635	0.100	1	01/09/2025 18:39	WG2431247
Methylene Chloride	U		0.00664	0.0250	1	01/09/2025 18:39	WG2431247
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	01/09/2025 18:39	WG2431247
Methyl tert-butyl ether	U		0.000350	0.00100	1	01/09/2025 18:39	WG2431247
Naphthalene	U		0.00488	0.0125	1	01/09/2025 18:39	WG2431247
n-Propylbenzene	U		0.000950	0.00500	1	01/09/2025 18:39	WG2431247
Styrene	U		0.000229	0.0125	1	01/09/2025 18:39	WG2431247
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	01/09/2025 18:39	WG2431247
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	01/09/2025 18:39	WG2431247
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	01/09/2025 18:39	WG2431247
Tetrachloroethene	U		0.000896	0.00250	1	01/09/2025 18:39	WG2431247
Toluene	U		0.00130	0.00500	1	01/09/2025 18:39	WG2431247
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	01/09/2025 18:39	WG2431247
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	01/09/2025 18:39	WG2431247
1,1,1-Trichloroethane	U		0.000923	0.00250	1	01/09/2025 18:39	WG2431247
1,1,2-Trichloroethane	U		0.000597	0.00250	1	01/09/2025 18:39	WG2431247
Trichloroethene	U		0.000584	0.00100	1	01/09/2025 18:39	WG2431247
Trichlorofluoromethane	U		0.000827	0.00250	1	01/09/2025 18:39	WG2431247
1,2,3-Trichloropropane	U		0.00162	0.0125	1	01/09/2025 18:39	WG2431247
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	01/09/2025 18:39	WG2431247
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	01/09/2025 18:39	WG2431247
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	01/09/2025 18:39	WG2431247
Vinyl chloride	U		0.00116	0.00250	1	01/09/2025 18:39	WG2431247
Xylenes, Total	U		0.000880	0.00650	1	01/09/2025 18:39	WG2431247
(S) Toluene-d8	*97.5*			*75.0-131*		*01/09/2025 18:39*	WG2431247
(S) 4-Bromofluorobenzene	*99.4*			*67.0-138*		*01/09/2025 18:39*	WG2431247
(S) 1,2-Dichloroethane-d4	*95.6*			*70.0-130*		*01/09/2025 18:39*	WG2431247

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	17.8		1.61	4.00	1	01/09/2025 21:27	WG2430762
C28-C40 Oil Range	22.5		0.274	4.00	1	01/09/2025 21:27	WG2430762
(S) o-Terphenyl	*84.4*			*18.0-148*		*01/09/2025 21:27*	WG2430762

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	01/14/2025 20:57	WG2430807
Dalapon	U		0.0440	0.0700	1	01/14/2025 20:57	WG2430807
2,4-DB	U		0.0186	0.0700	1	01/14/2025 20:57	WG2430807
Dicamba	U		0.0226	0.0700	1	01/14/2025 20:57	WG2430807
Dichloroprop	U		0.0183	0.0700	1	01/14/2025 20:57	WG2430807
Dinoseb	U		0.0255	0.0700	1	01/14/2025 20:57	WG2430807
MCPA	U		1.86	6.50	1	01/14/2025 20:57	WG2430807
MCPP	U		2.03	6.50	1	01/14/2025 20:57	WG2430807
2,4,5-T	U		0.0236	0.0700	1	01/14/2025 20:57	WG2430807
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/14/2025 20:57	WG2430807
(S) 2,4-Dichlorophenyl Acetic Acid	*66.7*			*22.0-132*		*01/14/2025 20:57*	WG2430807

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	01/09/2025 19:32	WG2430824
Alpha BHC	U		0.00637	0.0200	1	01/09/2025 19:32	WG2430824
Beta BHC	U		0.00630	0.0200	1	01/09/2025 19:32	WG2430824
Delta BHC	U		0.00635	0.0200	1	01/09/2025 19:32	WG2430824
Gamma BHC	U		0.00676	0.0200	1	01/09/2025 19:32	WG2430824
Chlordane	U		0.0990	0.300	1	01/09/2025 19:32	WG2430824
4,4-DDD	U		0.00690	0.0200	1	01/09/2025 19:32	WG2430824
4,4-DDE	U		0.00673	0.0200	1	01/09/2025 19:32	WG2430824
4,4-DDT	U		0.00766	0.0200	1	01/09/2025 19:32	WG2430824
Dieldrin	0.321		0.00697	0.0200	1	01/09/2025 19:32	WG2430824
Endosulfan I	U		0.00604	0.0200	1	01/09/2025 19:32	WG2430824
Endosulfan II	U		0.00661	0.0200	1	01/09/2025 19:32	WG2430824
Endosulfan sulfate	U		0.00642	0.0200	1	01/09/2025 19:32	WG2430824
Endrin	U		0.00746	0.0200	1	01/09/2025 19:32	WG2430824
Endrin aldehyde	U		0.00590	0.0200	1	01/09/2025 19:32	WG2430824
Endrin ketone	U		0.00695	0.0200	1	01/09/2025 19:32	WG2430824
Hexachlorobenzene	U		0.00608	0.0200	1	01/09/2025 19:32	WG2430824
Heptachlor	U		0.00693	0.0200	1	01/09/2025 19:32	WG2430824
Heptachlor epoxide	U		0.00650	0.0200	1	01/09/2025 19:32	WG2430824
Methoxychlor	U		0.00806	0.0200	1	01/09/2025 19:32	WG2430824
Toxaphene	U		0.214	0.400	1	01/09/2025 19:32	WG2430824
(S) Decachlorobiphenyl	*61.1*			*10.0-135*		*01/09/2025 19:32*	WG2430824
(S) Tetrachloro-m-xylene	*71.5*			*10.0-139*		*01/09/2025 19:32*	WG2430824

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.126	B	0.0217	0.100	1	01/09/2025 23:35	WG2431468
(S) a,a,a-Trifluorotoluene(FID)	*93.5*			*77.0-120*		*01/09/2025 23:35*	WG2431468

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acetone	U		0.0365	0.0500	1	01/09/2025 18:59	WG2431247
Acrylonitrile	U		0.00361	0.0125	1	01/09/2025 18:59	WG2431247
Benzene	U		0.000467	0.00100	1	01/09/2025 18:59	WG2431247
Bromobenzene	U		0.000900	0.0125	1	01/09/2025 18:59	WG2431247
Bromodichloromethane	U		0.000725	0.00250	1	01/09/2025 18:59	WG2431247
Bromoform	U		0.00117	0.0250	1	01/09/2025 18:59	WG2431247
Bromomethane	U		0.00197	0.0125	1	01/09/2025 18:59	WG2431247
n-Butylbenzene	U		0.00525	0.0125	1	01/09/2025 18:59	WG2431247
sec-Butylbenzene	U		0.00288	0.0125	1	01/09/2025 18:59	WG2431247
tert-Butylbenzene	U		0.00195	0.00500	1	01/09/2025 18:59	WG2431247
Carbon tetrachloride	U		0.000898	0.00500	1	01/09/2025 18:59	WG2431247
Chlorobenzene	U		0.000210	0.00250	1	01/09/2025 18:59	WG2431247
Chlorodibromomethane	U		0.000612	0.00250	1	01/09/2025 18:59	WG2431247
Chloroethane	U		0.00170	0.00500	1	01/09/2025 18:59	WG2431247
Chloroform	U		0.00103	0.00250	1	01/09/2025 18:59	WG2431247
Chloromethane	U		0.00435	0.0125	1	01/09/2025 18:59	WG2431247
2-Chlorotoluene	U		0.000865	0.00250	1	01/09/2025 18:59	WG2431247
4-Chlorotoluene	U		0.000450	0.00500	1	01/09/2025 18:59	WG2431247
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250	1	01/09/2025 18:59	WG2431247
1,2-Dibromoethane	U		0.000648	0.00250	1	01/09/2025 18:59	WG2431247
Dibromomethane	U		0.000750	0.00500	1	01/09/2025 18:59	WG2431247
1,2-Dichlorobenzene	U		0.000425	0.00500	1	01/09/2025 18:59	WG2431247
1,3-Dichlorobenzene	U		0.000600	0.00500	1	01/09/2025 18:59	WG2431247
1,4-Dichlorobenzene	U		0.000700	0.00500	1	01/09/2025 18:59	WG2431247
Dichlorodifluoromethane	U		0.00161	0.00500	1	01/09/2025 18:59	WG2431247
1,1-Dichloroethane	U		0.000491	0.00250	1	01/09/2025 18:59	WG2431247
1,2-Dichloroethane	U		0.000649	0.00250	1	01/09/2025 18:59	WG2431247
1,1-Dichloroethene	U		0.000606	0.00250	1	01/09/2025 18:59	WG2431247
cis-1,2-Dichloroethene	U		0.000734	0.00250	1	01/09/2025 18:59	WG2431247
trans-1,2-Dichloroethene	U		0.00104	0.00500	1	01/09/2025 18:59	WG2431247
1,2-Dichloropropane	U		0.00142	0.00500	1	01/09/2025 18:59	WG2431247
1,1-Dichloropropene	U		0.000809	0.00250	1	01/09/2025 18:59	WG2431247
1,3-Dichloropropane	U		0.000501	0.00500	1	01/09/2025 18:59	WG2431247
cis-1,3-Dichloropropene	U		0.000757	0.00250	1	01/09/2025 18:59	WG2431247
trans-1,3-Dichloropropene	U		0.00114	0.00500	1	01/09/2025 18:59	WG2431247
2,2-Dichloropropane	U		0.00138	0.00250	1	01/09/2025 18:59	WG2431247
Di-isopropyl ether	U		0.000410	0.00100	1	01/09/2025 18:59	WG2431247
Ethylbenzene	U		0.000737	0.00250	1	01/09/2025 18:59	WG2431247
Hexachloro-1,3-butadiene	U		0.00600	0.0250	1	01/09/2025 18:59	WG2431247
Isopropylbenzene	U		0.000425	0.00250	1	01/09/2025 18:59	WG2431247
p-Isopropyltoluene	U		0.00255	0.00500	1	01/09/2025 18:59	WG2431247
2-Butanone (MEK)	U		0.0635	0.100	1	01/09/2025 18:59	WG2431247
Methylene Chloride	U		0.00664	0.0250	1	01/09/2025 18:59	WG2431247
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250	1	01/09/2025 18:59	WG2431247
Methyl tert-butyl ether	U		0.000350	0.00100	1	01/09/2025 18:59	WG2431247
Naphthalene	U		0.00488	0.0125	1	01/09/2025 18:59	WG2431247
n-Propylbenzene	U		0.000950	0.00500	1	01/09/2025 18:59	WG2431247
Styrene	U		0.000229	0.0125	1	01/09/2025 18:59	WG2431247
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250	1	01/09/2025 18:59	WG2431247

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250	1	01/09/2025 18:59	WG2431247
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250	1	01/09/2025 18:59	WG2431247
Tetrachloroethene	U		0.000896	0.00250	1	01/09/2025 18:59	WG2431247
Toluene	U		0.00130	0.00500	1	01/09/2025 18:59	WG2431247
1,2,3-Trichlorobenzene	U		0.00733	0.0125	1	01/09/2025 18:59	WG2431247
1,2,4-Trichlorobenzene	U		0.00440	0.0125	1	01/09/2025 18:59	WG2431247
1,1,1-Trichloroethane	U		0.000923	0.00250	1	01/09/2025 18:59	WG2431247
1,1,2-Trichloroethane	U		0.000597	0.00250	1	01/09/2025 18:59	WG2431247
Trichloroethene	U		0.000584	0.00100	1	01/09/2025 18:59	WG2431247
Trichlorofluoromethane	U		0.000827	0.00250	1	01/09/2025 18:59	WG2431247
1,2,3-Trichloropropane	U		0.00162	0.0125	1	01/09/2025 18:59	WG2431247
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	01/09/2025 18:59	WG2431247
1,2,3-Trimethylbenzene	U		0.00158	0.00500	1	01/09/2025 18:59	WG2431247
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	01/09/2025 18:59	WG2431247
Vinyl chloride	U		0.00116	0.00250	1	01/09/2025 18:59	WG2431247
Xylenes, Total	U		0.000880	0.00650	1	01/09/2025 18:59	WG2431247
(S) Toluene-d8	*99.4*			*75.0-131*		*01/09/2025 18:59*	WG2431247
(S) 4-Bromofluorobenzene	*102*			*67.0-138*		*01/09/2025 18:59*	WG2431247
(S) 1,2-Dichloroethane-d4	*98.4*			*70.0-130*		*01/09/2025 18:59*	WG2431247

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	1240		8.05	20.0	5	01/09/2025 15:30	WG2430762
C28-C40 Oil Range	13.7	J	1.37	20.0	5	01/09/2025 15:30	WG2430762
(S) o-Terphenyl	*71.9*			*18.0-148*		*01/09/2025 15:30*	WG2430762

Sample Narrative:

L1815155-22 WG2430762: Dilution due to matrix.

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.99	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:
L1815155-23 WG2430703: 7.99 at 19.9C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Nitrate as (N)	20.4		0.952	10.0	1	01/09/2025 20:53	WG2430732
Sulfate	55.8		8.24	50.0	1	01/09/2025 20:53	WG2430732

Mercury by Method 7471B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0206	0.0400	1	01/11/2025 17:21	WG2430720

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	2.79		0.837	2.00	1	01/09/2025 18:44	WG2430992
Barium	71.9		0.0850	0.500	1	01/09/2025 18:44	WG2430992
Cadmium	0.306	J	0.0653	0.500	1	01/09/2025 18:44	WG2430992
Chromium	35.9		0.214	1.00	1	01/09/2025 18:44	WG2430992
Lead	19.4		0.326	0.500	1	01/09/2025 18:44	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:44	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:44	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	01/15/2025 15:14	WG2431927
Dalapon	U		0.0440	0.0700	1	01/15/2025 15:14	WG2431927
2,4-DB	U		0.0186	0.0700	1	01/15/2025 15:14	WG2431927
Dicamba	U		0.0226	0.0700	1	01/15/2025 15:14	WG2431927
Dichloroprop	U		0.0183	0.0700	1	01/15/2025 15:14	WG2431927
Dinoseb	U		0.0255	0.0700	1	01/15/2025 15:14	WG2431927
MCPA	U		1.86	6.50	1	01/15/2025 15:14	WG2431927
MCPP	U		2.03	6.50	1	01/15/2025 15:14	WG2431927
2,4,5-T	U		0.0236	0.0700	1	01/15/2025 15:14	WG2431927
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/15/2025 15:14	WG2431927
(S) 2,4-Dichlorophenyl Acetic Acid	*90.9*			*22.0-132*		*01/15/2025 15:14*	WG2431927

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	01/09/2025 21:23	WG2430824
Alpha BHC	U		0.00637	0.0200	1	01/09/2025 21:23	WG2430824
Beta BHC	U		0.00630	0.0200	1	01/09/2025 21:23	WG2430824
Delta BHC	U		0.00635	0.0200	1	01/09/2025 21:23	WG2430824
Gamma BHC	U		0.00676	0.0200	1	01/09/2025 21:23	WG2430824
Chlordane	U		0.0990	0.300	1	01/09/2025 21:23	WG2430824
4,4-DDD	U		0.00690	0.0200	1	01/09/2025 21:23	WG2430824
4,4-DDE	U		0.00673	0.0200	1	01/09/2025 21:23	WG2430824

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
4,4-DDT	U		0.00766	0.0200	1	01/09/2025 21:23	WG2430824
Dieldrin	0.0125	J	0.00697	0.0200	1	01/09/2025 21:23	WG2430824
Endosulfan I	U		0.00604	0.0200	1	01/09/2025 21:23	WG2430824
Endosulfan II	U		0.00661	0.0200	1	01/09/2025 21:23	WG2430824
Endosulfan sulfate	U		0.00642	0.0200	1	01/09/2025 21:23	WG2430824
Endrin	U		0.00746	0.0200	1	01/09/2025 21:23	WG2430824
Endrin aldehyde	U		0.00590	0.0200	1	01/09/2025 21:23	WG2430824
Endrin ketone	U		0.00695	0.0200	1	01/09/2025 21:23	WG2430824
Hexachlorobenzene	U		0.00608	0.0200	1	01/09/2025 21:23	WG2430824
Heptachlor	U		0.00693	0.0200	1	01/09/2025 21:23	WG2430824
Heptachlor epoxide	U		0.00650	0.0200	1	01/09/2025 21:23	WG2430824
Methoxychlor	U		0.00806	0.0200	1	01/09/2025 21:23	WG2430824
Toxaphene	U		0.214	0.400	1	01/09/2025 21:23	WG2430824
(S) Decachlorobiphenyl	*72.6*			*10.0-135*		*01/09/2025 21:23*	WG2430824
(S) Tetrachloro-m-xylene	*79.9*			*10.0-139*		*01/09/2025 21:23*	WG2430824

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.06	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:
L1815155-24 WG2430703: 8.06 at 19.6C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Nitrate as (N)	6.76	J	0.980	10.3	1.03	01/09/2025 21:47	WG2430732
Sulfate	U		8.49	51.5	1.03	01/09/2025 21:47	WG2430732

Mercury by Method 7471B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0206	0.0400	1	01/11/2025 17:24	WG2430720

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	0.977	J	0.837	2.00	1	01/09/2025 18:46	WG2430992
Barium	50.6		0.0850	0.500	1	01/09/2025 18:46	WG2430992
Cadmium	0.163	J	0.0653	0.500	1	01/09/2025 18:46	WG2430992
Chromium	11.5		0.214	1.00	1	01/09/2025 18:46	WG2430992
Lead	11.9		0.326	0.500	1	01/09/2025 18:46	WG2430992
Selenium	U		1.07	2.00	1	01/09/2025 18:46	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:46	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	01/15/2025 15:24	WG2431927
Dalapon	U		0.0440	0.0700	1	01/15/2025 15:24	WG2431927
2,4-DB	U		0.0186	0.0700	1	01/15/2025 15:24	WG2431927
Dicamba	U		0.0226	0.0700	1	01/15/2025 15:24	WG2431927
Dichloroprop	U		0.0183	0.0700	1	01/15/2025 15:24	WG2431927
Dinoseb	U		0.0255	0.0700	1	01/15/2025 15:24	WG2431927
MCPA	U		1.86	6.50	1	01/15/2025 15:24	WG2431927
MCPP	U		2.03	6.50	1	01/15/2025 15:24	WG2431927
2,4,5-T	U		0.0236	0.0700	1	01/15/2025 15:24	WG2431927
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/15/2025 15:24	WG2431927
(S) 2,4-Dichlorophenyl Acetic Acid	*72.9*			*22.0-132*		*01/15/2025 15:24*	WG2431927

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	01/09/2025 19:41	WG2430824
Alpha BHC	U		0.00637	0.0200	1	01/09/2025 19:41	WG2430824
Beta BHC	U		0.00630	0.0200	1	01/09/2025 19:41	WG2430824
Delta BHC	U		0.00635	0.0200	1	01/09/2025 19:41	WG2430824
Gamma BHC	U		0.00676	0.0200	1	01/09/2025 19:41	WG2430824
Chlordane	U		0.0990	0.300	1	01/09/2025 19:41	WG2430824
4,4-DDD	U		0.00690	0.0200	1	01/09/2025 19:41	WG2430824
4,4-DDE	U		0.00673	0.0200	1	01/09/2025 19:41	WG2430824

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
4,4-DDT	U		0.00766	0.0200	1	01/09/2025 19:41	WG2430824
Dieldrin	U		0.00697	0.0200	1	01/09/2025 19:41	WG2430824
Endosulfan I	U		0.00604	0.0200	1	01/09/2025 19:41	WG2430824
Endosulfan II	U		0.00661	0.0200	1	01/09/2025 19:41	WG2430824
Endosulfan sulfate	U		0.00642	0.0200	1	01/09/2025 19:41	WG2430824
Endrin	U		0.00746	0.0200	1	01/09/2025 19:41	WG2430824
Endrin aldehyde	U		0.00590	0.0200	1	01/09/2025 19:41	WG2430824
Endrin ketone	U		0.00695	0.0200	1	01/09/2025 19:41	WG2430824
Hexachlorobenzene	U		0.00608	0.0200	1	01/09/2025 19:41	WG2430824
Heptachlor	U		0.00693	0.0200	1	01/09/2025 19:41	WG2430824
Heptachlor epoxide	U		0.00650	0.0200	1	01/09/2025 19:41	WG2430824
Methoxychlor	U		0.00806	0.0200	1	01/09/2025 19:41	WG2430824
Toxaphene	U		0.214	0.400	1	01/09/2025 19:41	WG2430824
(S) Decachlorobiphenyl	*54.4*			*10.0-135*		*01/09/2025 19:41*	WG2430824
(S) Tetrachloro-m-xylene	*64.9*			*10.0-139*		*01/09/2025 19:41*	WG2430824

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.61	T8	1	01/09/2025 09:28	WG2430703

Sample Narrative:
L1815155-25 WG2430703: 6.61 at 19.4C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Nitrate as (N)	255		4.76	50.0	5	01/09/2025 22:23	WG2430732
Sulfate	62.1		8.24	50.0	1	01/09/2025 22:05	WG2430732

Mercury by Method 7471B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	U		0.0206	0.0400	1	01/11/2025 17:27	WG2430720

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Arsenic	3.18		0.837	2.00	1	01/09/2025 18:47	WG2430992
Barium	113		0.0850	0.500	1	01/09/2025 18:47	WG2430992
Cadmium	0.419	J	0.0653	0.500	1	01/09/2025 18:47	WG2430992
Chromium	68.9		0.214	1.00	1	01/09/2025 18:47	WG2430992
Lead	25.4		0.326	0.500	1	01/09/2025 18:47	WG2430992
Selenium	1.15	J	1.07	2.00	1	01/09/2025 18:47	WG2430992
Silver	U		0.127	1.00	1	01/09/2025 18:47	WG2430992

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	01/15/2025 15:34	WG2431927
Dalapon	U		0.0440	0.0700	1	01/15/2025 15:34	WG2431927
2,4-DB	U		0.0186	0.0700	1	01/15/2025 15:34	WG2431927
Dicamba	U		0.0226	0.0700	1	01/15/2025 15:34	WG2431927
Dichloroprop	U		0.0183	0.0700	1	01/15/2025 15:34	WG2431927
Dinoseb	U		0.0255	0.0700	1	01/15/2025 15:34	WG2431927
MCPA	U		1.86	6.50	1	01/15/2025 15:34	WG2431927
MCPP	U		2.03	6.50	1	01/15/2025 15:34	WG2431927
2,4,5-T	U		0.0236	0.0700	1	01/15/2025 15:34	WG2431927
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	01/15/2025 15:34	WG2431927
(S) 2,4-Dichlorophenyl Acetic Acid	*123*			*22.0-132*		*01/15/2025 15:34*	WG2431927

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	01/09/2025 19:51	WG2430824
Alpha BHC	U		0.00637	0.0200	1	01/09/2025 19:51	WG2430824
Beta BHC	U		0.00630	0.0200	1	01/09/2025 19:51	WG2430824
Delta BHC	U		0.00635	0.0200	1	01/12/2025 15:26	WG2430824
Gamma BHC	U		0.00676	0.0200	1	01/09/2025 19:51	WG2430824
Chlordane	U		0.0990	0.300	1	01/09/2025 19:51	WG2430824
4,4-DDD	U		0.00690	0.0200	1	01/09/2025 19:51	WG2430824
4,4-DDE	U		0.00673	0.0200	1	01/09/2025 19:51	WG2430824

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
4,4-DDT	U		0.00766	0.0200	1	01/09/2025 19:51	WG2430824
Dieldrin	0.0155	J	0.00697	0.0200	1	01/09/2025 19:51	WG2430824
Endosulfan I	U		0.00604	0.0200	1	01/09/2025 19:51	WG2430824
Endosulfan II	0.0123	J	0.00661	0.0200	1	01/09/2025 19:51	WG2430824
Endosulfan sulfate	0.0288		0.00642	0.0200	1	01/09/2025 19:51	WG2430824
Endrin	U		0.00746	0.0200	1	01/09/2025 19:51	WG2430824
Endrin aldehyde	U		0.00590	0.0200	1	01/09/2025 19:51	WG2430824
Endrin ketone	U		0.00695	0.0200	1	01/09/2025 19:51	WG2430824
Hexachlorobenzene	U		0.00608	0.0200	1	01/09/2025 19:51	WG2430824
Heptachlor	U		0.00693	0.0200	1	01/09/2025 19:51	WG2430824
Heptachlor epoxide	U		0.00650	0.0200	1	01/09/2025 19:51	WG2430824
Methoxychlor	U		0.00806	0.0200	1	01/09/2025 19:51	WG2430824
Toxaphene	U		0.214	0.400	1	01/09/2025 19:51	WG2430824
(S) Decachlorobiphenyl	*55.9*			*10.0-135*		*01/09/2025 19:51*	WG2430824
(S) Decachlorobiphenyl	*68.7*			*10.0-135*		*01/12/2025 15:26*	WG2430824
(S) Tetrachloro-m-xylene	*65.1*			*10.0-139*		*01/12/2025 15:26*	WG2430824
(S) Tetrachloro-m-xylene	*67.9*			*10.0-139*		*01/09/2025 19:51*	WG2430824

L1815155-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1815155-02 01/09/25 09:28 • (DUP) R4165745-2 01/09/25 09:28

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.81	8.80	1	0.114		1

Sample Narrative:

OS: 8.81 at 19.9C

DUP: 8.8 at 20.1C

L1815155-18 Original Sample (OS) • Duplicate (DUP)

(OS) L1815155-18 01/09/25 09:28 • (DUP) R4165745-3 01/09/25 09:28

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.50	7.50	1	0.000		1

Sample Narrative:

OS: 7.5 at 19.6C

DUP: 7.5 at 19.6C

Laboratory Control Sample (LCS)

(LCS) R4165745-1 01/09/25 09:28

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	9.97	99.7	99.0-101	

Sample Narrative:

LCS: 9.97 at 19.7C

Method Blank (MB)

(MB) R4166077-1 01/09/25 12:32

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Nitrate as (N)	U		0.952	10.0
Sulfate	U		8.24	50.0

L1815155-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1815155-01 01/09/25 13:08 • (DUP) R4166077-3 01/09/25 13:25

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate as (N)	5.19	5.26	1	1.29	J	15
Sulfate	10.8	10.8	1	0.119	J	15

L1815155-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1815155-11 01/13/25 10:23 • (DUP) R4166490-1 01/13/25 10:39

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate as (N)	2160	1370	51.5	44.5	P1	15
Sulfate	978	659	51.5	38.9	J P1	15

Sample Narrative:

OS: Dilution due to matrix impact on instrumentation at lower dilution

Laboratory Control Sample (LCS)

(LCS) R4166077-2 01/09/25 12:50

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Nitrate as (N)	20.0	18.2	91.1	80.0-120	
Sulfate	200	195	97.4	80.0-120	

L1815155-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815155-01 01/09/25 13:08 • (MS) R4166077-4 01/09/25 13:43 • (MSD) R4166077-5 01/09/25 14:01

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Nitrate as (N)	20.0	5.19	23.6	24.0	92.1	94.0	1	80.0-120			1.56	15
Sulfate	200	10.8	202	203	95.7	96.0	1	80.0-120			0.304	15

Method Blank (MB)

(MB) R4165938-1 01/09/25 13:02

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0206	0.0400

Laboratory Control Sample (LCS)

(LCS) R4165938-2 01/09/25 13:05

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.500	0.546	109	80.0-120	

L1815312-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815312-03 01/09/25 13:12 • (MS) R4165938-4 01/09/25 13:17 • (MSD) R4165938-5 01/09/25 13:20

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.500	U	0.543	0.647	109	129	1	75.0-125		J5	17.5	20

Method Blank (MB)

(MB) R4166204-1 01/11/25 16:52

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0206	0.0400

Laboratory Control Sample (LCS)

(LCS) R4166204-2 01/11/25 16:54

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.500	0.502	100	80.0-120	

L1815409-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815409-06 01/11/25 16:57 • (MS) R4166204-4 01/11/25 17:02 • (MSD) R4166204-5 01/11/25 17:05

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.500	0.361	0.722	1.18	72.2	163	1	75.0-125	J6	J3 J5	48.0	20

Method Blank (MB)

(MB) R4166009-1 01/09/25 18:02

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.837	2.00
Barium	U		0.0850	0.500
Cadmium	U		0.0653	0.500
Chromium	0.411	J	0.214	1.00
Lead	U		0.326	0.500
Selenium	U		1.07	2.00
Silver	U		0.127	1.00

Laboratory Control Sample (LCS)

(LCS) R4166009-2 01/09/25 18:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	106	106	80.0-120	
Barium	100	108	108	80.0-120	
Cadmium	100	103	103	80.0-120	
Chromium	100	106	106	80.0-120	
Lead	100	104	104	80.0-120	
Selenium	100	104	104	80.0-120	
Silver	20.0	21.1	105	80.0-120	

L1815155-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815155-10 01/09/25 18:05 • (MS) R4166009-5 01/09/25 18:10 • (MSD) R4166009-6 01/09/25 18:12

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	2.46	99.8	97.9	97.3	95.4	1	75.0-125			1.89	20
Barium	100	59.7	153	144	93.0	83.9	1	75.0-125			6.13	20
Cadmium	100	0.235	95.9	92.8	95.7	92.5	1	75.0-125			3.33	20
Chromium	100	45.3	130	120	84.6	74.4	1	75.0-125		J6	8.21	20
Lead	100	21.3	119	117	98.0	96.0	1	75.0-125			1.71	20
Selenium	100	U	96.7	94.4	96.7	94.4	1	75.0-125			2.47	20
Silver	20.0	2.33	22.2	21.7	99.6	96.9	1	75.0-125			2.41	20

Method Blank (MB)

(MB) R4166170-3 01/09/25 20:58

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0667	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*94.7*			*77.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4166170-1 01/09/25 19:50 • (LCSD) R4166170-2 01/09/25 20:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.00	4.94	4.96	98.8	99.2	72.0-127			0.404	20
(S) a,a,a-Trifluorotoluene(FID)				*100*	*101*	*77.0-120*				

Method Blank (MB)

(MB) R4165906-3 01/09/25 11:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0365	0.0500
Acrylonitrile	U		0.00361	0.0125
Benzene	U		0.000467	0.00100
Bromobenzene	U		0.000900	0.0125
Bromodichloromethane	U		0.000725	0.00250
Bromoform	U		0.00117	0.0250
Bromomethane	U		0.00197	0.0125
n-Butylbenzene	U		0.00525	0.0125
sec-Butylbenzene	U		0.00288	0.0125
tert-Butylbenzene	U		0.00195	0.00500
Carbon tetrachloride	U		0.000898	0.00500
Chlorobenzene	U		0.000210	0.00250
Chlorodibromomethane	U		0.000612	0.00250
Chloroethane	U		0.00170	0.00500
Chloroform	U		0.00103	0.00250
Chloromethane	U		0.00435	0.0125
2-Chlorotoluene	U		0.000865	0.00250
4-Chlorotoluene	U		0.000450	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250
1,2-Dibromoethane	U		0.000648	0.00250
Dibromomethane	U		0.000750	0.00500
1,2-Dichlorobenzene	U		0.000425	0.00500
1,3-Dichlorobenzene	U		0.000600	0.00500
1,4-Dichlorobenzene	U		0.000700	0.00500
Dichlorodifluoromethane	U		0.00161	0.00500
1,1-Dichloroethane	U		0.000491	0.00250
1,2-Dichloroethane	U		0.000649	0.00250
1,1-Dichloroethene	U		0.000606	0.00250
cis-1,2-Dichloroethene	U		0.000734	0.00250
trans-1,2-Dichloroethene	U		0.00104	0.00500
1,2-Dichloropropane	U		0.00142	0.00500
1,1-Dichloropropene	U		0.000809	0.00250
1,3-Dichloropropane	U		0.000501	0.00500
cis-1,3-Dichloropropene	U		0.000757	0.00250
trans-1,3-Dichloropropene	U		0.00114	0.00500
2,2-Dichloropropane	U		0.00138	0.00250
Di-isopropyl ether	U		0.000410	0.00100
Ethylbenzene	U		0.000737	0.00250
Hexachloro-1,3-butadiene	U		0.00600	0.0250
Isopropylbenzene	U		0.000425	0.00250

Method Blank (MB)

(MB) R4165906-3 01/09/25 11:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
p-Isopropyltoluene	U		0.00255	0.00500
2-Butanone (MEK)	U		0.0635	0.100
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250
Methyl tert-butyl ether	U		0.000350	0.00100
Naphthalene	U		0.00488	0.0125
n-Propylbenzene	U		0.000950	0.00500
Styrene	U		0.000229	0.0125
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250
Tetrachloroethene	U		0.000896	0.00250
Toluene	U		0.00130	0.00500
1,2,3-Trichlorobenzene	U		0.00733	0.0125
1,2,4-Trichlorobenzene	U		0.00440	0.0125
1,1,1-Trichloroethane	U		0.000923	0.00250
1,1,2-Trichloroethane	U		0.000597	0.00250
Trichloroethene	U		0.000584	0.00100
Trichlorofluoromethane	U		0.000827	0.00250
1,2,3-Trichloropropane	U		0.00162	0.0125
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,2,3-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
Vinyl chloride	U		0.00116	0.00250
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*97.8*			*75.0-131*
(S) 4-Bromofluorobenzene	*101*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*91.9*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4165906-1 01/09/25 10:03 • (LCSD) R4165906-2 01/09/25 10:23

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.625	0.649	0.559	104	89.4	10.0-160			14.9	31
Acrylonitrile	0.625	0.691	0.649	111	104	45.0-153			6.27	22
Benzene	0.125	0.129	0.125	103	100	70.0-123			3.15	20
Bromobenzene	0.125	0.124	0.121	99.2	96.8	73.0-121			2.45	20
Bromodichloromethane	0.125	0.131	0.126	105	101	73.0-121			3.89	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4165906-1 01/09/25 10:03 • (LCSD) R4165906-2 01/09/25 10:23

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromoform	0.125	0.122	0.120	97.6	96.0	64.0-132			1.65	20
Bromomethane	0.125	0.103	0.119	82.4	95.2	56.0-147			14.4	20
n-Butylbenzene	0.125	0.125	0.118	100	94.4	68.0-135			5.76	20
sec-Butylbenzene	0.125	0.120	0.120	96.0	96.0	74.0-130			0.000	20
tert-Butylbenzene	0.125	0.119	0.115	95.2	92.0	75.0-127			3.42	20
Carbon tetrachloride	0.125	0.121	0.125	96.8	100	66.0-128			3.25	20
Chlorobenzene	0.125	0.124	0.121	99.2	96.8	76.0-128			2.45	20
Chlorodibromomethane	0.125	0.131	0.131	105	105	74.0-127			0.000	20
Chloroethane	0.125	0.120	0.121	96.0	96.8	61.0-134			0.830	20
Chloroform	0.125	0.120	0.119	96.0	95.2	72.0-123			0.837	20
Chloromethane	0.125	0.116	0.118	92.8	94.4	51.0-138			1.71	20
2-Chlorotoluene	0.125	0.110	0.111	88.0	88.8	75.0-124			0.905	20
4-Chlorotoluene	0.125	0.124	0.123	99.2	98.4	75.0-124			0.810	20
1,2-Dibromo-3-Chloropropane	0.125	0.119	0.110	95.2	88.0	59.0-130			7.86	20
1,2-Dibromoethane	0.125	0.128	0.121	102	96.8	74.0-128			5.62	20
Dibromomethane	0.125	0.125	0.130	100	104	75.0-122			3.92	20
1,2-Dichlorobenzene	0.125	0.121	0.115	96.8	92.0	76.0-124			5.08	20
1,3-Dichlorobenzene	0.125	0.120	0.119	96.0	95.2	76.0-125			0.837	20
1,4-Dichlorobenzene	0.125	0.121	0.118	96.8	94.4	77.0-121			2.51	20
Dichlorodifluoromethane	0.125	0.120	0.117	96.0	93.6	43.0-156			2.53	20
1,1-Dichloroethane	0.125	0.128	0.129	102	103	70.0-127			0.778	20
1,2-Dichloroethane	0.125	0.132	0.127	106	102	65.0-131			3.86	20
1,1-Dichloroethene	0.125	0.117	0.112	93.6	89.6	65.0-131			4.37	20
cis-1,2-Dichloroethene	0.125	0.126	0.124	101	99.2	73.0-125			1.60	20
trans-1,2-Dichloroethene	0.125	0.127	0.126	102	101	71.0-125			0.791	20
1,2-Dichloropropane	0.125	0.132	0.129	106	103	74.0-125			2.30	20
1,1-Dichloropropene	0.125	0.124	0.119	99.2	95.2	73.0-125			4.12	20
1,3-Dichloropropane	0.125	0.123	0.121	98.4	96.8	80.0-125			1.64	20
cis-1,3-Dichloropropene	0.125	0.131	0.130	105	104	76.0-127			0.766	20
trans-1,3-Dichloropropene	0.125	0.120	0.116	96.0	92.8	73.0-127			3.39	20
2,2-Dichloropropane	0.125	0.137	0.133	110	106	59.0-135			2.96	20
Di-isopropyl ether	0.125	0.142	0.139	114	111	60.0-136			2.14	20
Ethylbenzene	0.125	0.120	0.116	96.0	92.8	74.0-126			3.39	20
Hexachloro-1,3-butadiene	0.125	0.116	0.114	92.8	91.2	57.0-150			1.74	20
Isopropylbenzene	0.125	0.127	0.122	102	97.6	72.0-127			4.02	20
p-Isopropyltoluene	0.125	0.123	0.119	98.4	95.2	72.0-133			3.31	20
2-Butanone (MEK)	0.625	0.708	0.739	113	118	30.0-160			4.28	24
Methylene Chloride	0.125	0.124	0.125	99.2	100	68.0-123			0.803	20
4-Methyl-2-pentanone (MIBK)	0.625	0.666	0.629	107	101	56.0-143			5.71	20
Methyl tert-butyl ether	0.125	0.146	0.135	117	108	66.0-132			7.83	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4165906-1 01/09/25 10:03 • (LCSD) R4165906-2 01/09/25 10:23

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Naphthalene	0.125	0.120	0.115	96.0	92.0	59.0-130			4.26	20
n-Propylbenzene	0.125	0.123	0.119	98.4	95.2	74.0-126			3.31	20
Styrene	0.125	0.126	0.123	101	98.4	72.0-127			2.41	20
1,1,1,2-Tetrachloroethane	0.125	0.127	0.118	102	94.4	74.0-129			7.35	20
1,1,2,2-Tetrachloroethane	0.125	0.125	0.121	100	96.8	68.0-128			3.25	20
1,1,2-Trichlorotrifluoroethane	0.125	0.120	0.117	96.0	93.6	61.0-139			2.53	20
Tetrachloroethene	0.125	0.120	0.116	96.0	92.8	70.0-136			3.39	20
Toluene	0.125	0.124	0.118	99.2	94.4	75.0-121			4.96	20
1,2,3-Trichlorobenzene	0.125	0.116	0.110	92.8	88.0	59.0-139			5.31	20
1,2,4-Trichlorobenzene	0.125	0.119	0.116	95.2	92.8	62.0-137			2.55	20
1,1,1-Trichloroethane	0.125	0.125	0.125	100	100	69.0-126			0.000	20
1,1,2-Trichloroethane	0.125	0.120	0.115	96.0	92.0	78.0-123			4.26	20
Trichloroethene	0.125	0.126	0.124	101	99.2	76.0-126			1.60	20
Trichlorofluoromethane	0.125	0.106	0.105	84.8	84.0	61.0-142			0.948	20
1,2,3-Trichloropropane	0.125	0.123	0.117	98.4	93.6	67.0-129			5.00	20
1,2,4-Trimethylbenzene	0.125	0.125	0.119	100	95.2	70.0-126			4.92	20
1,2,3-Trimethylbenzene	0.125	0.126	0.121	101	96.8	74.0-124			4.05	20
1,3,5-Trimethylbenzene	0.125	0.123	0.118	98.4	94.4	73.0-127			4.15	20
Vinyl chloride	0.125	0.109	0.116	87.2	92.8	63.0-134			6.22	20
Xylenes, Total	0.375	0.378	0.359	101	95.7	72.0-127			5.16	20
(S) Toluene-d8				*96.9*	*97.0*	*75.0-131*				
(S) 4-Bromofluorobenzene				*101*	*101*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*107*	*105*	*70.0-130*				

Method Blank (MB)

(MB) R4165909-1 01/09/25 13:19

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*80.3*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R4165909-2 01/09/25 13:32

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	43.4	86.8	50.0-150	
(S) o-Terphenyl			*107*	*18.0-148*	

L1815155-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815155-20 01/09/25 17:27 • (MS) R4165909-3 01/09/25 17:40 • (MSD) R4165909-4 01/09/25 17:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.7	11200	7950	6190	0.000	0.000	100	50.0-150	V	J3 V	24.9	20
(S) o-Terphenyl					*0.000*	*0.000*		*18.0-148*	J7	J7		

Method Blank (MB)

(MB) R4166968-1 01/14/25 16:04

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
2,4-D	U		0.0257	0.0700
Dalapon	U		0.0440	0.0700
2,4-DB	U		0.0186	0.0700
Dicamba	U		0.0226	0.0700
Dichloroprop	U		0.0183	0.0700
Dinoseb	U		0.0255	0.0700
MCPA	U		1.86	6.50
MCPP	U		2.03	6.50
2,4,5-T	U		0.0236	0.0700
2,4,5-TP (Silvex)	U		0.0187	0.0700
(S) 2,4-Dichlorophenyl Acetic Acid	*59.0*			*22.0-132*

Laboratory Control Sample (LCS)

(LCS) R4166968-2 01/14/25 16:14

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
2,4-D	0.0833	0.0657	78.9	40.0-120	
Dalapon	0.0833	0.0274	0.000	15.0-120	
2,4-DB	0.0833	0.0613	73.6	25.0-143	
Dicamba	0.0833	0.0641	77.0	43.0-120	
Dichloroprop	0.0833	0.0588	70.6	32.0-129	
Dinoseb	0.0833	0.00834	0.000	10.0-120	
MCPA	8.33	4.34	52.1	31.0-121	
MCPP	8.33	5.24	62.9	28.0-133	
2,4,5-T	0.0833	0.0575	69.0	41.0-120	
2,4,5-TP (Silvex)	0.0833	0.0598	71.8	42.0-120	
(S) 2,4-Dichlorophenyl Acetic Acid			*58.6*	*22.0-132*	

L1815763-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815763-01 01/14/25 16:55 • (MS) R4166968-3 01/14/25 17:05 • (MSD) R4166968-4 01/14/25 17:15

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
2,4-D	0.0825	U	0.0507	0.0499	61.5	60.5	1	10.0-160			1.59	24
Dalapon	0.0825	U	U	U	0.000	0.000	1	10.0-121			0.000	27
2,4-DB	0.0825	U	0.0502	0.0486	60.8	58.9	1	10.0-160			3.24	22
Dicamba	0.0825	U	0.0625	0.0481	75.8	58.3	1	10.0-154		J3	26.0	21

L1815763-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815763-01 01/14/25 16:55 • (MS) R4166968-3 01/14/25 17:05 • (MSD) R4166968-4 01/14/25 17:15

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Dichloroprop	0.0825	U	0.0496	0.0441	60.1	53.5	1	10.0-158			11.7	20
Dinoseb	0.0825	U	0.0337	U	40.8	0.000	1	10.0-120		J3	200	40
MCPA	8.25	U	4.50	4.12	54.5	49.9	1	10.0-160			8.82	40
MCPP	8.25	U	4.97	4.77	60.2	57.8	1	10.0-160			4.11	40
2,4,5-T	0.0825	U	0.0461	0.0453	55.9	54.9	1	10.0-157			1.75	20
2,4,5-TP (Silvex)	0.0825	U	0.0464	0.0439	56.2	53.2	1	10.0-156			5.54	20
(S) 2,4-Dichlorophenyl Acetic Acid					*58.5*	*53.4*		*22.0-132*				

Method Blank (MB)

(MB) R4167588-1 01/15/25 14:13

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
2,4-D	U		0.0257	0.0700
Dalapon	U		0.0440	0.0700
2,4-DB	U		0.0186	0.0700
Dicamba	U		0.0226	0.0700
Dichloroprop	U		0.0183	0.0700
Dinoseb	U		0.0255	0.0700
MCPA	U		1.86	6.50
MCPP	U		2.03	6.50
2,4,5-T	U		0.0236	0.0700
2,4,5-TP (Silvex)	U		0.0187	0.0700
(S) 2,4-Dichlorophenyl Acetic Acid	*62.3*			*22.0-132*

Laboratory Control Sample (LCS)

(LCS) R4167588-2 01/15/25 14:23

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
2,4-D	0.0833	0.0646	77.6	40.0-120	
Dalapon	0.0833	0.0232	0.000	15.0-120	
2,4-DB	0.0833	0.0616	73.9	25.0-143	
Dicamba	0.0833	0.0622	74.7	43.0-120	
Dichloroprop	0.0833	0.0634	76.1	32.0-129	
Dinoseb	0.0833	0.0231	0.000	10.0-120	
MCPA	8.33	4.85	58.2	31.0-121	
MCPP	8.33	6.23	74.8	28.0-133	
2,4,5-T	0.0833	0.0613	73.6	41.0-120	
2,4,5-TP (Silvex)	0.0833	0.0638	76.6	42.0-120	
(S) 2,4-Dichlorophenyl Acetic Acid			*69.5*	*22.0-132*	

L1815463-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815463-01 01/15/25 16:35 • (MS) R4167588-3 01/15/25 16:45 • (MSD) R4167588-4 01/15/25 16:55

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
2,4-D	0.0823	U	0.0410	0.0454	49.8	55.2	1	10.0-160	J	J	10.2	24
Dalapon	0.0823	U	U	U	0.000	0.000	1	10.0-121	J	J J3	0.000	27
2,4-DB	0.0823	U	0.0951	0.0440	116	53.5	1	10.0-160	P	J J3	73.5	22
Dicamba	0.0823	U	0.0555	0.0524	67.4	63.7	1	10.0-154	J	J	5.75	21

L1815463-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815463-01 01/15/25 16:35 • (MS) R4167588-3 01/15/25 16:45 • (MSD) R4167588-4 01/15/25 16:55

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Dichloroprop	0.0823	U	0.0540	0.0678	65.6	82.4	1	10.0-158	J	J J3	22.7	20
Dinoseb	0.0823	U	U	0.0291	0.000	35.4	1	10.0-120	J	J	200	40
MCPA	8.23	U	2.95	3.72	35.8	45.2	1	10.0-160	J	J	23.1	40
MCPP	8.23	U	7.88	4.86	95.7	59.1	1	10.0-160	P	J J3	47.4	40
2,4,5-T	0.0823	U	0.0371	0.0365	45.1	44.3	1	10.0-157	J	J	1.63	20
2,4,5-TP (Silvex)	0.0823	U	0.0359	0.0387	43.6	47.0	1	10.0-156	J	J	7.51	20
(S) 2,4-Dichlorophenyl Acetic Acid					*47.0*	*69.1*		*22.0-132*				

QUALITY CONTROL SUMMARY

L1815155-01,02,03,04,05,06,07,08,09

Method Blank (MB)

(MB) R4166208-1 01/10/25 02:27

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Aldrin	U		0.00645	0.0200
Alpha BHC	U		0.00637	0.0200
Beta BHC	U		0.00630	0.0200
Delta BHC	U		0.00635	0.0200
Gamma BHC	U		0.00676	0.0200
Chlordane	U		0.0990	0.300
4,4-DDD	U		0.00690	0.0200
4,4-DDE	U		0.00673	0.0200
4,4-DDT	U		0.00766	0.0200
Dieldrin	U		0.00697	0.0200
Endosulfan I	U		0.00604	0.0200
Endosulfan II	U		0.00661	0.0200
Endosulfan sulfate	U		0.00642	0.0200
Endrin	U		0.00746	0.0200
Endrin aldehyde	U		0.00590	0.0200
Endrin ketone	U		0.00695	0.0200
Hexachlorobenzene	U		0.00608	0.0200
Heptachlor	U		0.00693	0.0200
Heptachlor epoxide	U		0.00650	0.0200
Methoxychlor	U		0.00806	0.0200
Toxaphene	U		0.214	0.400
(S) Decachlorobiphenyl	*90.2*			*10.0-135*
(S) Tetrachloro-m-xylene	*92.6*			*10.0-139*

Laboratory Control Sample (LCS)

(LCS) R4166208-2 01/10/25 02:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aldrin	0.0666	0.0681	102	34.0-136	
Alpha BHC	0.0666	0.0696	105	34.0-139	
Beta BHC	0.0666	0.0656	98.5	34.0-133	
Delta BHC	0.0666	0.0578	86.8	34.0-135	
Gamma BHC	0.0666	0.0693	104	34.0-136	
4,4-DDD	0.0666	0.0733	110	33.0-141	
4,4-DDE	0.0666	0.0696	105	34.0-134	
4,4-DDT	0.0666	0.0689	103	30.0-143	
Dieldrin	0.0666	0.0723	109	35.0-137	
Endosulfan I	0.0666	0.0690	104	34.0-134	

Laboratory Control Sample (LCS)

(LCS) R4166208-2 01/10/25 02:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Endosulfan II	0.0666	0.0705	106	35.0-132	
Endosulfan sulfate	0.0666	0.0678	102	35.0-132	
Endrin	0.0666	0.0705	106	34.0-137	
Endrin aldehyde	0.0666	0.0469	70.4	23.0-121	
Endrin ketone	0.0666	0.0734	110	35.0-144	
Hexachlorobenzene	0.0666	0.0626	94.0	33.0-129	
Heptachlor	0.0666	0.0665	99.8	36.0-141	
Heptachlor epoxide	0.0666	0.0681	102	36.0-134	
Methoxychlor	0.0666	0.0691	104	28.0-150	
(S) Decachlorobiphenyl			*94.7*	*10.0-135*	
(S) Tetrachloro-m-xylene			*94.6*	*10.0-139*	

L1815155-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815155-03 01/10/25 02:46 • (MS) R4166208-3 01/10/25 02:55 • (MSD) R4166208-4 01/10/25 03:04

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aldrin	0.0646	U	0.0691	0.0574	107	87.5	1	20.0-135			18.5	37
Alpha BHC	0.0646	U	0.0713	0.0716	110	109	1	27.0-140			0.420	35
Beta BHC	0.0646	U	0.0665	0.0673	103	103	1	23.0-141			1.20	37
Delta BHC	0.0646	U	0.0593	0.0595	91.8	90.7	1	21.0-138			0.337	35
Gamma BHC	0.0646	U	0.0710	0.0714	110	109	1	27.0-137			0.562	36
4,4-DDD	0.0646	U	0.0743	0.0657	115	100	1	15.0-152			12.3	39
4,4-DDE	0.0646	U	0.0701	0.0596	109	90.9	1	10.0-152			16.2	40
4,4-DDT	0.0646	U	0.0718	0.0595	111	90.7	1	10.0-151			18.7	40
Dieldrin	0.0646	U	0.0737	0.0677	114	103	1	17.0-145			8.49	37
Endosulfan I	0.0646	U	0.0702	0.0656	109	100	1	20.0-137			6.77	36
Endosulfan II	0.0646	U	0.0717	0.0684	111	104	1	15.0-141			4.71	37
Endosulfan sulfate	0.0646	U	0.0695	0.0678	108	103	1	15.0-143			2.48	38
Endrin	0.0646	U	0.0717	0.0651	111	99.2	1	19.0-143			9.65	37
Endrin aldehyde	0.0646	U	0.0623	0.0577	96.4	88.0	1	10.0-139			7.67	40
Endrin ketone	0.0646	U	0.0746	0.0733	115	112	1	17.0-149			1.76	38
Hexachlorobenzene	0.0646	U	0.0637	0.0567	98.6	86.4	1	25.0-126			11.6	35
Heptachlor	0.0646	U	0.0679	0.0600	105	91.5	1	22.0-138			12.4	37
Heptachlor epoxide	0.0646	U	0.0697	0.0649	108	98.9	1	22.0-138			7.13	36
Methoxychlor	0.0646	U	0.0716	0.0619	111	94.4	1	10.0-159			14.5	40
(S) Decachlorobiphenyl					*93.8*	*80.9*		*10.0-135*				
(S) Tetrachloro-m-xylene					*94.3*	*87.3*		*10.0-139*				

QUALITY CONTROL SUMMARY

L1815155-10,11,18,19,20,21,23,24,25

Method Blank (MB)

(MB) R4166214-1 01/09/25 18:36

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Aldrin	U		0.00645	0.0200
Alpha BHC	U		0.00637	0.0200
Beta BHC	U		0.00630	0.0200
Delta BHC	U		0.00635	0.0200
Gamma BHC	U		0.00676	0.0200
Chlordane	U		0.0990	0.300
4,4-DDD	U		0.00690	0.0200
4,4-DDE	U		0.00673	0.0200
4,4-DDT	U		0.00766	0.0200
Dieldrin	U		0.00697	0.0200
Endosulfan I	U		0.00604	0.0200
Endosulfan II	U		0.00661	0.0200
Endosulfan sulfate	U		0.00642	0.0200
Endrin	U		0.00746	0.0200
Endrin aldehyde	U		0.00590	0.0200
Endrin ketone	U		0.00695	0.0200
Hexachlorobenzene	U		0.00608	0.0200
Heptachlor	U		0.00693	0.0200
Heptachlor epoxide	U		0.00650	0.0200
Methoxychlor	U		0.00806	0.0200
Toxaphene	U		0.214	0.400
(S) Decachlorobiphenyl	*58.3*			*10.0-135*
(S) Tetrachloro-m-xylene	*61.6*			*10.0-139*

Laboratory Control Sample (LCS)

(LCS) R4166214-2 01/09/25 18:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aldrin	0.0666	0.0491	73.7	34.0-136	
Alpha BHC	0.0666	0.0516	77.5	34.0-139	
Beta BHC	0.0666	0.0483	72.5	34.0-133	
Delta BHC	0.0666	0.0413	62.0	34.0-135	
Gamma BHC	0.0666	0.0510	76.6	34.0-136	
4,4-DDD	0.0666	0.0498	74.8	33.0-141	
4,4-DDE	0.0666	0.0467	70.1	34.0-134	
4,4-DDT	0.0666	0.0472	70.9	30.0-143	
Dieldrin	0.0666	0.0489	73.4	35.0-137	
Endosulfan I	0.0666	0.0516	77.5	34.0-134	

Laboratory Control Sample (LCS)

(LCS) R4166214-2 01/09/25 18:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Endosulfan II	0.0666	0.0484	72.7	35.0-132	
Endosulfan sulfate	0.0666	0.0455	68.3	35.0-132	
Endrin	0.0666	0.0486	73.0	34.0-137	
Endrin aldehyde	0.0666	0.0254	38.1	23.0-121	
Endrin ketone	0.0666	0.0488	73.3	35.0-144	
Hexachlorobenzene	0.0666	0.0462	69.4	33.0-129	
Heptachlor	0.0666	0.0453	68.0	36.0-141	
Heptachlor epoxide	0.0666	0.0481	72.2	36.0-134	
Methoxychlor	0.0666	0.0451	67.7	28.0-150	
(S) Decachlorobiphenyl			*60.1*	*10.0-135*	
(S) Tetrachloro-m-xylene			*69.1*	*10.0-139*	

L1815155-19 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815155-19 01/09/25 22:10 • (MS) R4166214-5 01/09/25 22:19 • (MSD) R4166214-6 01/09/25 22:28

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aldrin	0.0653	U	0.0433	0.0347	66.3	53.1	1	20.0-135			22.1	37
Alpha BHC	0.0653	U	0.0496	0.0395	76.0	60.5	1	27.0-140			22.7	35
Beta BHC	0.0653	U	0.0435	0.0343	66.6	52.5	1	23.0-141			23.7	37
Delta BHC	0.0653	U	0.0377	0.0295	57.7	45.2	1	21.0-138			24.4	35
Gamma BHC	0.0653	U	0.0491	0.0386	75.2	59.1	1	27.0-137			23.9	36
4,4-DDD	0.0653	U	0.0425	0.0338	65.1	51.8	1	15.0-152			22.8	39
4,4-DDE	0.0653	U	0.0401	0.0322	61.4	49.3	1	10.0-152			21.9	40
4,4-DDT	0.0653	U	0.0388	0.0304	59.4	46.6	1	10.0-151			24.3	40
Dieldrin	0.0653	U	0.0428	0.0333	65.5	51.0	1	17.0-145			25.0	37
Endosulfan I	0.0653	U	0.0457	0.0362	70.0	55.4	1	20.0-137			23.2	36
Endosulfan II	0.0653	U	0.0412	0.0321	63.1	49.2	1	15.0-141			24.8	37
Endosulfan sulfate	0.0653	U	0.0412	0.0319	63.1	48.9	1	15.0-143			25.4	38
Endrin	0.0653	U	0.0425	0.0335	65.1	51.3	1	19.0-143			23.7	37
Endrin aldehyde	0.0653	U	0.0351	0.0272	53.8	41.7	1	10.0-139			25.4	40
Endrin ketone	0.0653	U	0.0417	0.0329	63.9	50.4	1	17.0-149			23.6	38
Hexachlorobenzene	0.0653	U	0.0437	0.0353	66.9	54.1	1	25.0-126			21.3	35
Heptachlor	0.0653	U	0.0446	0.0357	68.3	54.7	1	22.0-138			22.2	37
Heptachlor epoxide	0.0653	U	0.0430	0.0339	65.8	51.9	1	22.0-138			23.7	36
Methoxychlor	0.0653	U	0.0385	0.0301	59.0	46.1	1	10.0-159			24.5	40
(S) Decachlorobiphenyl					*49.2*	*41.2*		*10.0-135*				
(S) Tetrachloro-m-xylene					*65.2*	*51.8*		*10.0-139*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
P	RPD between the primary and confirmatory analysis exceeded 40%.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Baseline Engineering

112 N Rubey Dr
Unit 210
Golden, CO 80403

Billing Information:
Tiffany Love
PO Box 312
Broomfield, CO 80403

Pres Chk

Report to:
Vincent Barlock

Email To:
vincentbarlock@baselinecorp.com;terry.mcgowan@baselinecorp.com

Project Description: **Welby Gardens, Arvada, Colorado**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **303-940-9966**

Client Project # **45038-001**

Lab Project #

Collected by (print): Vincent Barlock/Terry McGowan

Site/Facility ID # Welby Gardens

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed STD

Analysis / Container / Preservative

Chain of Custody Page 1 of 2

Pace
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MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
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SDG # L1515555

Table #

Acctnum: **BASENGGCO**
Template: **T266091**
Prelogin: **P1123675**
PM: **824 - Chris Ward**
PB:

Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Sulfate, Nitrate - 4 oz jar	Pesticides - 4 oz jar	Chlorinated Herbicies - 4 oz jar	RCRA 8 Metals and pH/Alk - 2 oz jar	Volatile Organic Compounds - 2 oz jar	GRO/DRO/ORO - 4 oz jar	TCLP - 1 Liter jar 1) HOLD				Remarks	Sample # (lab only)
MW-04	Grab	SS	1-3'	01-02-2025	08:45	5	X	X	X	X			X 1					-01
MW-02	Grab	SS	1-2'	01-02-2025	11:05	5	X	X	X	X			X 1					
MW-03	Grab	SS	1-2'	01-02-2025	13:30	5	X	X	X	X			X 1					-02
MW-05	Grab	SS	1-2'	01-02-2025	14:57	5	X	X	X	X			X 1					-03
MW-01	Grab	SS	1-2'	01-02-2025	17:05	5	X	X	X	X			X 1					
WGB-10	Grab	SS	1-2'	01-03-2025	10:05	7	X	X	X	X	X	X	X 1					-04
WGB-09	Grab	SS	1-2'	01-03-2025	11:05	7	X	X	X	X	X	X	X 1					
WGB-01	Grab	SS	1-2'	01-03-2025	12:30	7	X	X	X	X	X	X	X 1					
WGB-01-A	Grab	SS	8.7'	01-03-2025	13:00	1					X	X					1 - 4 oz jar	
WGB-02	Grab	SS	1-2'	01-03-2025	13:32	5	X	X	X	X			X 1					

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:1) HOLD = Please report preliminary metal results to see if TCLP is necessary

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Terry O. McGowan	1-26-25	10:30		—	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 55	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Dewan G	Date: 1.7.25 Time: 1000	Hold: Condition: NCF / OK

Company Name/Address:
Baseline Engineering

112 N Rubey Dr
Unit 210
Golden. CO 80403

Billing Information:
Tiffany Love
PO Box 312
Broomfield, CO 80403

Pres Chk

Report to: **Vincent Barlock**

Email To: vincentbarlock@baselinecorp.com;terry.mcgowan@baselinecorp.com

Project Description: **Welby Gardens, Arvada, Colorado**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **303-940-9966**

Client Project # **45038-001**

Lab Project #

Collected by (print): Vincent Barlock/Terry McGowan

Site/Facility ID # Welby Gardens

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: STD

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Sulfate, Nitrate - 4 oz jar	Pesticides - 4 oz jar	Chlorinated Herbicies - 4 oz jar	RCRA 8 Metals and pH/Alk - 2 oz jar	Volatile Organic Compounds - 2 oz jar	GRO/DRO/ORO - 4 oz jar	TCLP - 1 Liter jar 1) HOLD				Remarks	Sample # (lab only)
GHS1-3A	Comp	SS	0-1'	01-03-2025	14:45	5	X	X	X	X			X 1					-05
GHS1-3B	Comp	SS	0-1'	01-03-2025	14:50	5	X	X	X	X			X 1					-06
GHS2-2B	Comp	SS	0-1'	01-03-2025	15:10	5	X	X	X	X			X 1					-07
GHS2-2A	Comp	SS	0-1'	01-03-2025	15:20	5	X	X	X	X			X 1					-08
GHS3-1A	Comp	SS	0-1'	01-03-2025	15:45	5	X	X	X	X			X 1					-09
GHS3-1B	Comp	SS	0-1'	01-03-2025	15:55	5	X	X	X	X			X 1					-10
GHN1-2A	Comp	SS	0-1'	01-03-2025	16:10	5	X	X	X	X			X 1					-11
GHN2-5A	Comp	SS	0-1'	01-03-2025	16:20	5	X	X	X	X			X 1					
GHN3-5A	Comp	SS	0-1'	01-03-2025	16:30	5	X	X	X	X			X 1					

Chain of Custody Page 2 of 2

Pace
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SDG # L1815155

Table #

Acctnum: **BASENGGCO**
Template: **T266091**
Prelogin: **P1123675**
PM: **824 - Chris Ward**
PB:

Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:1) HOLD = Please report preliminary metal results to see if TCLP is necessary

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
Tiffany McGowan	1-6-25	10:30			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 55	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Dongan G	Date: 1-7-25 Time: 1000	Hold: Condition: NCF / OK

L# L5151155

Fed Ex tracking #	Gun ID	Temperature
425709361078	TL1C	2.1 to 2.1
425709361089	TL15	1.0 to 1.0

Deryn G
Name

1.7.25
Date

Company Name/Address:
Baseline Engineering
112 N Rubey Dr
Unit 210
Golden. CO 80403

Billing Information:
Tiffany Love
PO Box 312
Broomfield, CO 80403

Pres Chk

Report to: **Vincent Barlock**

Email To: vincentbarlock@baselinecorp.com;terry.mcgowan@baselinecorp.com

Project Description: **Welby Gardens, Arvada, Colorado**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **303-940-9966**

Client Project # **45038-001**

Lab Project #

Collected by (print): Vincent Barlock/Terry McGowan

Site/Facility ID # Welby Gardens

P.O. #

Collected by (signature): Vincent E Barlock Terry O. McGowan

Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: STD

Analysis / Container / Preservative

Chain of Custody Page 1 of 2

Pace PEOPLE ADVANCING SCIENCE

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SDG # L1815755

Table #

Acctnum: **BASENGGCO**
Template: **T266091**
Prelogin: **P1123675**
PM: **824 - Chris Ward**
PB:
Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Sulfate, Nitrate - 4 oz jar	Pesticides - 4 oz jar	Chlorinated Herbicies - 4 oz jar	RCRA 8 Metals and pH/Alk - 2 oz jar	Volatile Organic Compounds - 2 oz jar	GRO/DRO/ORO - 4 oz jar	TCLP - 1 Liter jar 1) HOLD	Remarks	Sample # (lab only)
MW-04	Grab	SS	1-3'	01-02-2025	08:45	1 ~~5~~	X	X	X	X			X 1		
MW-02	Grab	SS	1-2'	01-02-2025	11:05	5	X	X	X	X			X 1		-18
MW-03	Grab	SS	1-2'	01-02-2025	13:30	1 ~~5~~	X	X	X	X			X 1		
MW-05	Grab	SS	1-2'	01-02-2025	14:57	5	X	X	X	X			X 1		
MW-01	Grab	SS	1-2'	01-02-2025	17:05	5	X	X	X	X			X 1		-19
WGB-10	Grab	SS	1-2'	01-03-2025	10:05	7	X	X	X	X	X	X	X 1		
WGB-09	Grab	SS	1-2'	01-03-2025	11:05	7	X	X	X	X	X	X	X 1		-20
WGB-01	Grab	SS	1-2'	01-03-2025	12:30	7	X	X	X	X	X	X	X 1		-21
WGB-01-A	Grab	SS	8.7'	01-03-2025	13:00	1					X	X		1 - 4 oz jar	-22
WGB-02	Grab	SS	1-2'	01-03-2025	13:32	5	X	X	X	X			X 1		-23

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:1) HOLD = Please report preliminary metal results to see if TCLP is necessary

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Terry O. McGowan	06 JB 1-~~06~~-25	10:30	[signature]	
[signature]	1-06-25	18:00	Fedex	Temp: °C Bottles Received: 42
			Received for lab by: (Signature) [signature]	Date: 1/8/25 Time: 9:30

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Company Name/Address:
Baseline Engineering

112 N Rubey Dr
Unit 210
Golden. CO 80403

Billing Information:
Tiffany Love
PO Box 312
Broomfield, CO 80403

Pres Chk

Report to:
Vincent Barlock

Email To:
vincentbarlock@baselinecorp.com;terry.mcgowan@baselinecorp.com

Project Description: **Welby Gardens, Arvada, Colorado**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **303-940-9966**

Client Project # **45038-001**

Lab Project #

Collected by (print): Vincent Barlock/Terry McGowan

Site/Facility ID # Welby Gardens

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: STD

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Sulfate, Nitrate - 4 oz jar	Pesticides - 4 oz jar	Chlorinated Herbicies - 4 oz jar	RCRA 8 Metals and pH/Alk - 2 oz jar	Volatile Organic Compounds - 2 oz jar	GRO/DRO/ORO - 4 oz jar	TCLP - 1 Liter jar 1) HOLD				Remarks	Sample # (lab only)
GHS1-3A	Comp	SS	0-1'	01-03-2025	14:45	5	X	X	X	X			X 1					
GHS1-3B	Comp	SS	0-1'	01-03-2025	14:50	5	X	X	X	X			X 1					
GHS2-2B	Comp	SS	0-1'	01-03-2025	15:10	5	X	X	X	X			X 1					
GHS2-2A	Comp	SS	0-1'	01-03-2025	15:20	5	X	X	X	X			X 1					
GHS3-1A	Comp	SS	0-1'	01-03-2025	15:45	5	X	X	X	X			X 1					
GHS3-1B	Comp	SS	0-1'	01-03-2025	15:55	5	X	X	X	X			X 1					
GHN1-2A	Comp	SS	0-1'	01-03-2025	16:10	5	X	X	X	X			X 1					
GHN2-5A	Comp	SS	0-1'	01-03-2025	16:20	5	X	X	X	X			X 1					-24
GHN3-5A	Comp	SS	0-1'	01-03-2025	16:30	5	X	X	X	X			X 1					-25

Chain of Custody Page 2 of 2

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SDG # L1815155

Table #

Acctnum: **BASENGGCO**
Template: **T266091**
Prelogin: **P1123675**
PM: **824 - Chris Ward**
PB:

Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:1) HOLD = Please report preliminary metal results to see if TCLP is necessary

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP (Y) __N
COC Signed/Accurate: (Y) __N
Bottles arrive intact: (Y) __N
Correct bottles used: (Y) __N
Sufficient volume sent: (Y) __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: (Y) __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Terry O. McGowan	1-6-25	10:30	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	1-6-25	14:00	FedEx
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / (No) HCL / MeoH TBR

Temp: °C Bottles Received: 40

Date: 1/8/25 Time: 9:30

If preservation required by Login: Date/Time

Hold:

Condition: (NCF) / OK

4/8/2015

Fed Ex tracking #	Gun ID	Temperature
4257 0936 1104	MS A9	0.7+0 = 0.7
4257 0936 1090	MS A9	1.6+0 = 1.6

Name

Date

1/7-NCF-BASENGGCO L1815155

R5

Time estimate: oh **Time spent:** oh

Members

Hailey Robertson (responsible) CW Chris Ward

Due on *10 January 2025 8:00 AM* for target *Done*

- [ ] Login Clarification needed
- [ ] Chain of custody is incomplete
- [ ] Please specify Metals requested
- [ ] Please specify TCLP requested
- [ ] Received additional samples not listed on COC
- [ ] Sample IDs on containers do not match IDs on COC
- [ ] Client did not "X" analysis
- [x] Chain of Custody is missing
- [x] If no COC: Received by:_Deryan G._____
- [x] If no COC: Date/Time:_1/7/25 @ 1000_____
- [x] If no COC: Temp./Cont.Rec./pH:_2.1, 1.0_____
- [x] If no COC: Carrier:_FedEx_____
- [x] If no COC: Tracking #:_425709361078, 425709361089_____
- [ ] Client informed by call
- [ ] Client informed by Email
- [ ] Client informed by Voicemail
- [ ] Date/Time:_____
- [ ] PM initials:_____
- [ ] Client Contact:_____Tery McGowan_____

Comments

Hailey Robertson *7 January 2025 1:44 PM*

Received the attached IDs and containers with no COC. Containers list P1123675 on the containers.

Chris Ward *7 January 2025 1:58 PM*

Reached out to the client, do the container count/types match the P# as well?

Chris Ward *7 January 2025 2:00 PM*

COC attached

Hailey Robertson *8 January 2025 8:31 AM*

I logged what we have and will add the rest when we received the missing IDS.

Troy Dunlap *8 January 2025 11:16 AM*

Missing cooler received. Samples added to SDG.

ANALYTICAL REPORT

February 27, 2025

Baseline Engineering

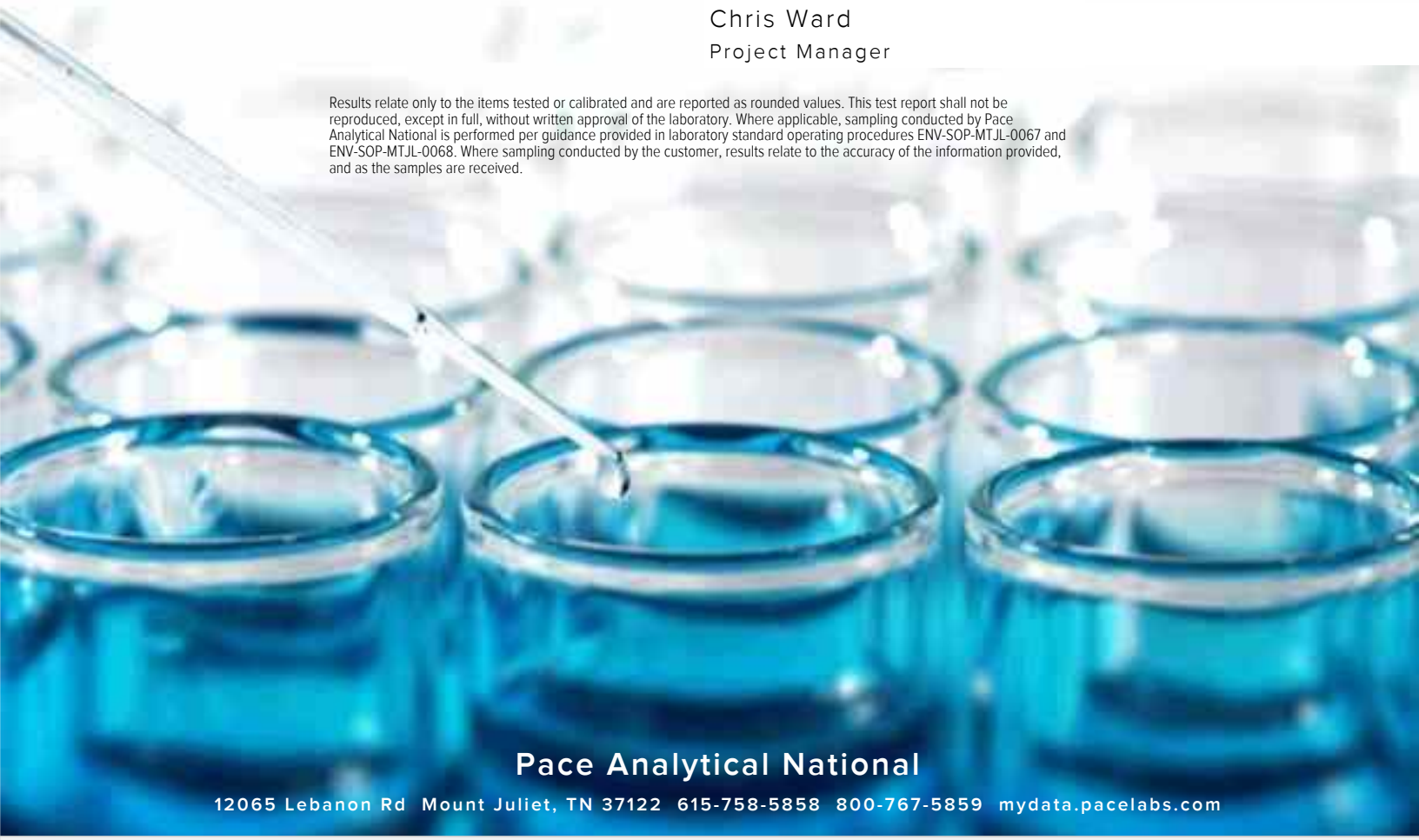
Sample Delivery Group:	L1828335
Samples Received:	02/20/2025
Project Number:	45038.002b
Description:	Welby Gardens - Add. Soil Sampling
Site:	WELBY GARDENS
Report To:	Vincent Barlock 112 N Rubey Dr. , Unit 210 Golden, CO 80403

Entire Report Reviewed By:

Chris Ward

Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

TABLE OF CONTENTS

Cp: Cover Page 1

Tc: Table of Contents 2

Ss: Sample Summary 3

Cn: Case Narrative 5

Sr: Sample Results 6

GHS1-3C-1 0-1.0 L1828335-01 6

GHS1-3C-2 1-1.5 L1828335-02 7

GHS1-3C-3 1.5-2.0 L1828335-03 8

GHS2-1A-1 0-1.0 L1828335-04 9

GHS2-1A-2 1-2 L1828335-05 10

GHS3-1C-1 0-1 L1828335-06 11

GHS3-1C-2 1-1.5 L1828335-07 12

GHS3-1C-3 1.5-2 L1828335-08 13

GHN1-1A-1 0-1 L1828335-09 14

GHN1-1A-2 1-2 L1828335-10 15

Qc: Quality Control Summary 16

Chlorinated Acid Herbicides (GC) by Method 8151A 16

Pesticides (GC) by Method 8081B 18

Gl: Glossary of Terms 20

Al: Accreditations & Locations 21

Sc: Sample Chain of Custody 22

GHS1-3C-1 0-1.0 L1828335-01 Solid

Collected by	Collected date/time	Received date/time
	02/18/25 09:24	02/20/25 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2456610	1	02/25/25 14:43	02/26/25 15:38	NWH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2456512	1	02/25/25 06:29	02/25/25 18:46	HCS	Mt. Juliet, TN

GHS1-3C-2 1-1.5 L1828335-02 Solid

Collected by	Collected date/time	Received date/time
	02/18/25 09:42	02/20/25 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2456610	1	02/25/25 14:43	02/26/25 15:49	NWH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2456512	1	02/25/25 06:29	02/25/25 18:55	HCS	Mt. Juliet, TN

GHS1-3C-3 1.5-2.0 L1828335-03 Solid

Collected by	Collected date/time	Received date/time
	02/18/25 09:58	02/20/25 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2456610	1	02/25/25 14:43	02/26/25 15:59	NWH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2456512	1	02/25/25 06:29	02/25/25 19:03	HCS	Mt. Juliet, TN

GHS2-1A-1 0-1.0 L1828335-04 Solid

Collected by	Collected date/time	Received date/time
	02/18/25 10:35	02/20/25 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2456610	1	02/25/25 14:43	02/26/25 16:09	NWH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2456512	1	02/25/25 06:29	02/25/25 19:12	HCS	Mt. Juliet, TN

GHS2-1A-2 1-2 L1828335-05 Solid

Collected by	Collected date/time	Received date/time
	02/18/25 10:52	02/20/25 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2456610	1	02/25/25 14:43	02/26/25 16:19	NWH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2456512	1	02/25/25 06:29	02/25/25 19:21	HCS	Mt. Juliet, TN

GHS3-1C-1 0-1 L1828335-06 Solid

Collected by	Collected date/time	Received date/time
	02/18/25 11:20	02/20/25 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2456610	1	02/25/25 14:43	02/26/25 16:29	NWH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2456512	1	02/25/25 06:29	02/25/25 19:30	HCS	Mt. Juliet, TN

GHS3-1C-2 1-1.5 L1828335-07 Solid

Collected by	Collected date/time	Received date/time
	02/18/25 11:36	02/20/25 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2456610	1	02/25/25 14:43	02/26/25 16:40	NWH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2456512	1	02/25/25 06:29	02/25/25 19:39	HCS	Mt. Juliet, TN

GHS3-1C-3 1.5-2 L1828335-08 Solid

Collected by	Collected date/time	Received date/time
	02/18/25 11:44	02/20/25 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2456610	1	02/25/25 14:43	02/26/25 17:10	NWH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2456512	1	02/25/25 06:29	02/25/25 19:48	HCS	Mt. Juliet, TN

GHN1-1A-1 0-1 L1828335-09 Solid

Collected by	Collected date/time	Received date/time
	02/18/25 12:15	02/20/25 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2456610	1	02/25/25 14:43	02/26/25 17:51	NWH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2456512	1	02/25/25 06:29	02/25/25 19:57	HCS	Mt. Juliet, TN

GHN1-1A-2 1-2 L1828335-10 Solid

Collected by	Collected date/time	Received date/time
	02/18/25 12:30	02/20/25 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2456610	1	02/25/25 14:43	02/26/25 18:01	NWH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2456512	1	02/25/25 06:29	02/25/25 20:05	HCS	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris Ward
Project Manager

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	02/26/2025 15:38	WG2456610
Dalapon	U		0.0440	0.0700	1	02/26/2025 15:38	WG2456610
2,4-DB	U		0.0186	0.0700	1	02/26/2025 15:38	WG2456610
Dicamba	U		0.0226	0.0700	1	02/26/2025 15:38	WG2456610
Dichloroprop	U		0.0183	0.0700	1	02/26/2025 15:38	WG2456610
Dinoseb	U		0.0255	0.0700	1	02/26/2025 15:38	WG2456610
MCPA	U		1.86	6.50	1	02/26/2025 15:38	WG2456610
MCPP	U		2.03	6.50	1	02/26/2025 15:38	WG2456610
2,4,5-T	U		0.0236	0.0700	1	02/26/2025 15:38	WG2456610
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	02/26/2025 15:38	WG2456610
(S) 2,4-Dichlorophenyl Acetic Acid	*89.7*			*22.0-132*		*02/26/2025 15:38*	WG2456610

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	02/25/2025 18:46	WG2456512
Alpha BHC	U		0.00637	0.0200	1	02/25/2025 18:46	WG2456512
Beta BHC	U		0.00630	0.0200	1	02/25/2025 18:46	WG2456512
Delta BHC	U		0.00635	0.0200	1	02/25/2025 18:46	WG2456512
Gamma BHC	U		0.00676	0.0200	1	02/25/2025 18:46	WG2456512
Chlordane	U		0.0990	0.300	1	02/25/2025 18:46	WG2456512
4,4-DDD	U		0.00690	0.0200	1	02/25/2025 18:46	WG2456512
4,4-DDE	U		0.00673	0.0200	1	02/25/2025 18:46	WG2456512
4,4-DDT	U		0.00766	0.0200	1	02/25/2025 18:46	WG2456512
Dieldrin	0.0341		0.00697	0.0200	1	02/25/2025 18:46	WG2456512
Endosulfan I	U		0.00604	0.0200	1	02/25/2025 18:46	WG2456512
Endosulfan II	U		0.00661	0.0200	1	02/25/2025 18:46	WG2456512
Endosulfan sulfate	U		0.00642	0.0200	1	02/25/2025 18:46	WG2456512
Endrin	U		0.00746	0.0200	1	02/25/2025 18:46	WG2456512
Endrin aldehyde	U		0.00590	0.0200	1	02/25/2025 18:46	WG2456512
Endrin ketone	U		0.00695	0.0200	1	02/25/2025 18:46	WG2456512
Hexachlorobenzene	U		0.00608	0.0200	1	02/25/2025 18:46	WG2456512
Heptachlor	U		0.00693	0.0200	1	02/25/2025 18:46	WG2456512
Heptachlor epoxide	U		0.00650	0.0200	1	02/25/2025 18:46	WG2456512
Methoxychlor	U		0.00806	0.0200	1	02/25/2025 18:46	WG2456512
Toxaphene	U		0.214	0.400	1	02/25/2025 18:46	WG2456512
(S) Decachlorobiphenyl	*61.9*			*10.0-135*		*02/25/2025 18:46*	WG2456512
(S) Tetrachloro-m-xylene	*77.3*			*10.0-139*		*02/25/2025 18:46*	WG2456512

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	02/26/2025 15:49	WG2456610
Dalapon	U		0.0440	0.0700	1	02/26/2025 15:49	WG2456610
2,4-DB	U		0.0186	0.0700	1	02/26/2025 15:49	WG2456610
Dicamba	U		0.0226	0.0700	1	02/26/2025 15:49	WG2456610
Dichloroprop	U		0.0183	0.0700	1	02/26/2025 15:49	WG2456610
Dinoseb	U		0.0255	0.0700	1	02/26/2025 15:49	WG2456610
MCPA	U		1.86	6.50	1	02/26/2025 15:49	WG2456610
MCPP	U		2.03	6.50	1	02/26/2025 15:49	WG2456610
2,4,5-T	U		0.0236	0.0700	1	02/26/2025 15:49	WG2456610
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	02/26/2025 15:49	WG2456610
(S) 2,4-Dichlorophenyl Acetic Acid	*73.3*			*22.0-132*		*02/26/2025 15:49*	WG2456610

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	02/25/2025 18:55	WG2456512
Alpha BHC	U		0.00637	0.0200	1	02/25/2025 18:55	WG2456512
Beta BHC	U		0.00630	0.0200	1	02/25/2025 18:55	WG2456512
Delta BHC	U		0.00635	0.0200	1	02/25/2025 18:55	WG2456512
Gamma BHC	U		0.00676	0.0200	1	02/25/2025 18:55	WG2456512
Chlordane	U		0.0990	0.300	1	02/25/2025 18:55	WG2456512
4,4-DDD	U		0.00690	0.0200	1	02/25/2025 18:55	WG2456512
4,4-DDE	U		0.00673	0.0200	1	02/25/2025 18:55	WG2456512
4,4-DDT	U		0.00766	0.0200	1	02/25/2025 18:55	WG2456512
Dieldrin	0.0261		0.00697	0.0200	1	02/25/2025 18:55	WG2456512
Endosulfan I	U		0.00604	0.0200	1	02/25/2025 18:55	WG2456512
Endosulfan II	U		0.00661	0.0200	1	02/25/2025 18:55	WG2456512
Endosulfan sulfate	U		0.00642	0.0200	1	02/25/2025 18:55	WG2456512
Endrin	U		0.00746	0.0200	1	02/25/2025 18:55	WG2456512
Endrin aldehyde	U		0.00590	0.0200	1	02/25/2025 18:55	WG2456512
Endrin ketone	U		0.00695	0.0200	1	02/25/2025 18:55	WG2456512
Hexachlorobenzene	U		0.00608	0.0200	1	02/25/2025 18:55	WG2456512
Heptachlor	U		0.00693	0.0200	1	02/25/2025 18:55	WG2456512
Heptachlor epoxide	U		0.00650	0.0200	1	02/25/2025 18:55	WG2456512
Methoxychlor	U		0.00806	0.0200	1	02/25/2025 18:55	WG2456512
Toxaphene	U		0.214	0.400	1	02/25/2025 18:55	WG2456512
(S) Decachlorobiphenyl	*59.6*			*10.0-135*		*02/25/2025 18:55*	WG2456512
(S) Tetrachloro-m-xylene	*79.3*			*10.0-139*		*02/25/2025 18:55*	WG2456512

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	02/26/2025 15:59	WG2456610
Dalapon	U		0.0440	0.0700	1	02/26/2025 15:59	WG2456610
2,4-DB	U		0.0186	0.0700	1	02/26/2025 15:59	WG2456610
Dicamba	U		0.0226	0.0700	1	02/26/2025 15:59	WG2456610
Dichloroprop	U		0.0183	0.0700	1	02/26/2025 15:59	WG2456610
Dinoseb	U		0.0255	0.0700	1	02/26/2025 15:59	WG2456610
MCPA	U		1.86	6.50	1	02/26/2025 15:59	WG2456610
MCPP	U		2.03	6.50	1	02/26/2025 15:59	WG2456610
2,4,5-T	U		0.0236	0.0700	1	02/26/2025 15:59	WG2456610
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	02/26/2025 15:59	WG2456610
(S) 2,4-Dichlorophenyl Acetic Acid	*78.2*			*22.0-132*		*02/26/2025 15:59*	WG2456610

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	02/25/2025 19:03	WG2456512
Alpha BHC	U		0.00637	0.0200	1	02/25/2025 19:03	WG2456512
Beta BHC	U		0.00630	0.0200	1	02/25/2025 19:03	WG2456512
Delta BHC	U		0.00635	0.0200	1	02/25/2025 19:03	WG2456512
Gamma BHC	U		0.00676	0.0200	1	02/25/2025 19:03	WG2456512
Chlordane	U		0.0990	0.300	1	02/25/2025 19:03	WG2456512
4,4-DDD	U		0.00690	0.0200	1	02/25/2025 19:03	WG2456512
4,4-DDE	U		0.00673	0.0200	1	02/25/2025 19:03	WG2456512
4,4-DDT	U		0.00766	0.0200	1	02/25/2025 19:03	WG2456512
Dieldrin	0.0188	J	0.00697	0.0200	1	02/25/2025 19:03	WG2456512
Endosulfan I	U		0.00604	0.0200	1	02/25/2025 19:03	WG2456512
Endosulfan II	U		0.00661	0.0200	1	02/25/2025 19:03	WG2456512
Endosulfan sulfate	U		0.00642	0.0200	1	02/25/2025 19:03	WG2456512
Endrin	U		0.00746	0.0200	1	02/25/2025 19:03	WG2456512
Endrin aldehyde	U		0.00590	0.0200	1	02/25/2025 19:03	WG2456512
Endrin ketone	U		0.00695	0.0200	1	02/25/2025 19:03	WG2456512
Hexachlorobenzene	U		0.00608	0.0200	1	02/25/2025 19:03	WG2456512
Heptachlor	U		0.00693	0.0200	1	02/25/2025 19:03	WG2456512
Heptachlor epoxide	U		0.00650	0.0200	1	02/25/2025 19:03	WG2456512
Methoxychlor	U		0.00806	0.0200	1	02/25/2025 19:03	WG2456512
Toxaphene	U		0.214	0.400	1	02/25/2025 19:03	WG2456512
(S) Decachlorobiphenyl	*59.8*			*10.0-135*		*02/25/2025 19:03*	WG2456512
(S) Tetrachloro-m-xylene	*77.7*			*10.0-139*		*02/25/2025 19:03*	WG2456512

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	02/26/2025 16:09	WG2456610
Dalapon	U		0.0440	0.0700	1	02/26/2025 16:09	WG2456610
2,4-DB	U		0.0186	0.0700	1	02/26/2025 16:09	WG2456610
Dicamba	U		0.0226	0.0700	1	02/26/2025 16:09	WG2456610
Dichloroprop	U		0.0183	0.0700	1	02/26/2025 16:09	WG2456610
Dinoseb	U		0.0255	0.0700	1	02/26/2025 16:09	WG2456610
MCPA	U		1.86	6.50	1	02/26/2025 16:09	WG2456610
MCPP	U		2.03	6.50	1	02/26/2025 16:09	WG2456610
2,4,5-T	U		0.0236	0.0700	1	02/26/2025 16:09	WG2456610
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	02/26/2025 16:09	WG2456610
(S) 2,4-Dichlorophenyl Acetic Acid	*70.9*			*22.0-132*		*02/26/2025 16:09*	WG2456610

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	02/25/2025 19:12	WG2456512
Alpha BHC	U		0.00637	0.0200	1	02/25/2025 19:12	WG2456512
Beta BHC	U		0.00630	0.0200	1	02/25/2025 19:12	WG2456512
Delta BHC	U		0.00635	0.0200	1	02/25/2025 19:12	WG2456512
Gamma BHC	U		0.00676	0.0200	1	02/25/2025 19:12	WG2456512
Chlordane	U		0.0990	0.300	1	02/25/2025 19:12	WG2456512
4,4-DDD	U		0.00690	0.0200	1	02/25/2025 19:12	WG2456512
4,4-DDE	U		0.00673	0.0200	1	02/25/2025 19:12	WG2456512
4,4-DDT	U		0.00766	0.0200	1	02/25/2025 19:12	WG2456512
Dieldrin	0.256		0.00697	0.0200	1	02/25/2025 19:12	WG2456512
Endosulfan I	U		0.00604	0.0200	1	02/25/2025 19:12	WG2456512
Endosulfan II	U		0.00661	0.0200	1	02/25/2025 19:12	WG2456512
Endosulfan sulfate	U		0.00642	0.0200	1	02/25/2025 19:12	WG2456512
Endrin	U		0.00746	0.0200	1	02/25/2025 19:12	WG2456512
Endrin aldehyde	U		0.00590	0.0200	1	02/25/2025 19:12	WG2456512
Endrin ketone	U		0.00695	0.0200	1	02/25/2025 19:12	WG2456512
Hexachlorobenzene	U		0.00608	0.0200	1	02/25/2025 19:12	WG2456512
Heptachlor	U		0.00693	0.0200	1	02/25/2025 19:12	WG2456512
Heptachlor epoxide	U		0.00650	0.0200	1	02/25/2025 19:12	WG2456512
Methoxychlor	U		0.00806	0.0200	1	02/25/2025 19:12	WG2456512
Toxaphene	U		0.214	0.400	1	02/25/2025 19:12	WG2456512
(S) Decachlorobiphenyl	*59.8*			*10.0-135*		*02/25/2025 19:12*	WG2456512
(S) Tetrachloro-m-xylene	*74.8*			*10.0-139*		*02/25/2025 19:12*	WG2456512

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	02/26/2025 16:19	WG2456610
Dalapon	U		0.0440	0.0700	1	02/26/2025 16:19	WG2456610
2,4-DB	U		0.0186	0.0700	1	02/26/2025 16:19	WG2456610
Dicamba	U		0.0226	0.0700	1	02/26/2025 16:19	WG2456610
Dichloroprop	U		0.0183	0.0700	1	02/26/2025 16:19	WG2456610
Dinoseb	U		0.0255	0.0700	1	02/26/2025 16:19	WG2456610
MCPA	U		1.86	6.50	1	02/26/2025 16:19	WG2456610
MCPP	U		2.03	6.50	1	02/26/2025 16:19	WG2456610
2,4,5-T	U		0.0236	0.0700	1	02/26/2025 16:19	WG2456610
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	02/26/2025 16:19	WG2456610
(S) 2,4-Dichlorophenyl Acetic Acid	*102*			*22.0-132*		*02/26/2025 16:19*	WG2456610

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	02/25/2025 19:21	WG2456512
Alpha BHC	U		0.00637	0.0200	1	02/25/2025 19:21	WG2456512
Beta BHC	U		0.00630	0.0200	1	02/25/2025 19:21	WG2456512
Delta BHC	U		0.00635	0.0200	1	02/25/2025 19:21	WG2456512
Gamma BHC	U		0.00676	0.0200	1	02/25/2025 19:21	WG2456512
Chlordane	U		0.0990	0.300	1	02/25/2025 19:21	WG2456512
4,4-DDD	U		0.00690	0.0200	1	02/25/2025 19:21	WG2456512
4,4-DDE	U		0.00673	0.0200	1	02/25/2025 19:21	WG2456512
4,4-DDT	U		0.00766	0.0200	1	02/25/2025 19:21	WG2456512
Dieldrin	0.161		0.00697	0.0200	1	02/25/2025 19:21	WG2456512
Endosulfan I	U		0.00604	0.0200	1	02/25/2025 19:21	WG2456512
Endosulfan II	U		0.00661	0.0200	1	02/25/2025 19:21	WG2456512
Endosulfan sulfate	U		0.00642	0.0200	1	02/25/2025 19:21	WG2456512
Endrin	U		0.00746	0.0200	1	02/25/2025 19:21	WG2456512
Endrin aldehyde	U		0.00590	0.0200	1	02/25/2025 19:21	WG2456512
Endrin ketone	U		0.00695	0.0200	1	02/25/2025 19:21	WG2456512
Hexachlorobenzene	U		0.00608	0.0200	1	02/25/2025 19:21	WG2456512
Heptachlor	U		0.00693	0.0200	1	02/25/2025 19:21	WG2456512
Heptachlor epoxide	U		0.00650	0.0200	1	02/25/2025 19:21	WG2456512
Methoxychlor	U		0.00806	0.0200	1	02/25/2025 19:21	WG2456512
Toxaphene	U		0.214	0.400	1	02/25/2025 19:21	WG2456512
(S) Decachlorobiphenyl	*62.9*			*10.0-135*		*02/25/2025 19:21*	WG2456512
(S) Tetrachloro-m-xylene	*80.1*			*10.0-139*		*02/25/2025 19:21*	WG2456512

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	02/26/2025 16:29	WG2456610
Dalapon	U		0.0440	0.0700	1	02/26/2025 16:29	WG2456610
2,4-DB	U		0.0186	0.0700	1	02/26/2025 16:29	WG2456610
Dicamba	U		0.0226	0.0700	1	02/26/2025 16:29	WG2456610
Dichloroprop	U		0.0183	0.0700	1	02/26/2025 16:29	WG2456610
Dinoseb	U		0.0255	0.0700	1	02/26/2025 16:29	WG2456610
MCPA	U		1.86	6.50	1	02/26/2025 16:29	WG2456610
MCPP	U		2.03	6.50	1	02/26/2025 16:29	WG2456610
2,4,5-T	U		0.0236	0.0700	1	02/26/2025 16:29	WG2456610
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	02/26/2025 16:29	WG2456610
(S) 2,4-Dichlorophenyl Acetic Acid	*127*			*22.0-132*		*02/26/2025 16:29*	WG2456610

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	02/25/2025 19:30	WG2456512
Alpha BHC	U		0.00637	0.0200	1	02/25/2025 19:30	WG2456512
Beta BHC	U		0.00630	0.0200	1	02/25/2025 19:30	WG2456512
Delta BHC	U		0.00635	0.0200	1	02/25/2025 19:30	WG2456512
Gamma BHC	U		0.00676	0.0200	1	02/25/2025 19:30	WG2456512
Chlordane	U		0.0990	0.300	1	02/25/2025 19:30	WG2456512
4,4-DDD	U		0.00690	0.0200	1	02/25/2025 19:30	WG2456512
4,4-DDE	U		0.00673	0.0200	1	02/25/2025 19:30	WG2456512
4,4-DDT	U		0.00766	0.0200	1	02/25/2025 19:30	WG2456512
Dieldrin	0.198		0.00697	0.0200	1	02/25/2025 19:30	WG2456512
Endosulfan I	U		0.00604	0.0200	1	02/25/2025 19:30	WG2456512
Endosulfan II	U		0.00661	0.0200	1	02/25/2025 19:30	WG2456512
Endosulfan sulfate	U		0.00642	0.0200	1	02/25/2025 19:30	WG2456512
Endrin	U		0.00746	0.0200	1	02/25/2025 19:30	WG2456512
Endrin aldehyde	U		0.00590	0.0200	1	02/25/2025 19:30	WG2456512
Endrin ketone	U		0.00695	0.0200	1	02/25/2025 19:30	WG2456512
Hexachlorobenzene	U		0.00608	0.0200	1	02/25/2025 19:30	WG2456512
Heptachlor	U		0.00693	0.0200	1	02/25/2025 19:30	WG2456512
Heptachlor epoxide	U		0.00650	0.0200	1	02/25/2025 19:30	WG2456512
Methoxychlor	U		0.00806	0.0200	1	02/25/2025 19:30	WG2456512
Toxaphene	U		0.214	0.400	1	02/25/2025 19:30	WG2456512
(S) Decachlorobiphenyl	*57.8*			*10.0-135*		*02/25/2025 19:30*	WG2456512
(S) Tetrachloro-m-xylene	*73.1*			*10.0-139*		*02/25/2025 19:30*	WG2456512

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	02/26/2025 16:40	WG2456610
Dalapon	U	J3	0.0440	0.0700	1	02/26/2025 16:40	WG2456610
2,4-DB	U		0.0186	0.0700	1	02/26/2025 16:40	WG2456610
Dicamba	U		0.0226	0.0700	1	02/26/2025 16:40	WG2456610
Dichloroprop	U		0.0183	0.0700	1	02/26/2025 16:40	WG2456610
Dinoseb	U		0.0255	0.0700	1	02/26/2025 16:40	WG2456610
MCPA	U		1.86	6.50	1	02/26/2025 16:40	WG2456610
MCPP	U		2.03	6.50	1	02/26/2025 16:40	WG2456610
2,4,5-T	U		0.0236	0.0700	1	02/26/2025 16:40	WG2456610
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	02/26/2025 16:40	WG2456610
(S) 2,4-Dichlorophenyl Acetic Acid	*70.9*			*22.0-132*		*02/26/2025 16:40*	WG2456610

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	02/25/2025 19:39	WG2456512
Alpha BHC	U		0.00637	0.0200	1	02/25/2025 19:39	WG2456512
Beta BHC	U		0.00630	0.0200	1	02/25/2025 19:39	WG2456512
Delta BHC	U		0.00635	0.0200	1	02/25/2025 19:39	WG2456512
Gamma BHC	U		0.00676	0.0200	1	02/25/2025 19:39	WG2456512
Chlordane	U		0.0990	0.300	1	02/25/2025 19:39	WG2456512
4,4-DDD	U		0.00690	0.0200	1	02/25/2025 19:39	WG2456512
4,4-DDE	U		0.00673	0.0200	1	02/25/2025 19:39	WG2456512
4,4-DDT	U		0.00766	0.0200	1	02/25/2025 19:39	WG2456512
Dieldrin	0.184		0.00697	0.0200	1	02/25/2025 19:39	WG2456512
Endosulfan I	U		0.00604	0.0200	1	02/25/2025 19:39	WG2456512
Endosulfan II	U		0.00661	0.0200	1	02/25/2025 19:39	WG2456512
Endosulfan sulfate	U		0.00642	0.0200	1	02/25/2025 19:39	WG2456512
Endrin	U		0.00746	0.0200	1	02/25/2025 19:39	WG2456512
Endrin aldehyde	U		0.00590	0.0200	1	02/25/2025 19:39	WG2456512
Endrin ketone	U		0.00695	0.0200	1	02/25/2025 19:39	WG2456512
Hexachlorobenzene	U		0.00608	0.0200	1	02/25/2025 19:39	WG2456512
Heptachlor	U		0.00693	0.0200	1	02/25/2025 19:39	WG2456512
Heptachlor epoxide	U		0.00650	0.0200	1	02/25/2025 19:39	WG2456512
Methoxychlor	U		0.00806	0.0200	1	02/25/2025 19:39	WG2456512
Toxaphene	U		0.214	0.400	1	02/25/2025 19:39	WG2456512
(S) Decachlorobiphenyl	*59.7*			*10.0-135*		*02/25/2025 19:39*	WG2456512
(S) Tetrachloro-m-xylene	*79.1*			*10.0-139*		*02/25/2025 19:39*	WG2456512

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	02/26/2025 17:10	WG2456610
Dalapon	U		0.0440	0.0700	1	02/26/2025 17:10	WG2456610
2,4-DB	U		0.0186	0.0700	1	02/26/2025 17:10	WG2456610
Dicamba	U		0.0226	0.0700	1	02/26/2025 17:10	WG2456610
Dichloroprop	U		0.0183	0.0700	1	02/26/2025 17:10	WG2456610
Dinoseb	U		0.0255	0.0700	1	02/26/2025 17:10	WG2456610
MCPA	U		1.86	6.50	1	02/26/2025 17:10	WG2456610
MCPP	U		2.03	6.50	1	02/26/2025 17:10	WG2456610
2,4,5-T	U		0.0236	0.0700	1	02/26/2025 17:10	WG2456610
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	02/26/2025 17:10	WG2456610
(S) 2,4-Dichlorophenyl Acetic Acid	*93.9*			*22.0-132*		*02/26/2025 17:10*	WG2456610

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	02/25/2025 19:48	WG2456512
Alpha BHC	U		0.00637	0.0200	1	02/25/2025 19:48	WG2456512
Beta BHC	U		0.00630	0.0200	1	02/25/2025 19:48	WG2456512
Delta BHC	U		0.00635	0.0200	1	02/25/2025 19:48	WG2456512
Gamma BHC	U		0.00676	0.0200	1	02/25/2025 19:48	WG2456512
Chlordane	U		0.0990	0.300	1	02/25/2025 19:48	WG2456512
4,4-DDD	U		0.00690	0.0200	1	02/25/2025 19:48	WG2456512
4,4-DDE	U		0.00673	0.0200	1	02/25/2025 19:48	WG2456512
4,4-DDT	U		0.00766	0.0200	1	02/25/2025 19:48	WG2456512
Dieldrin	0.00790	J	0.00697	0.0200	1	02/25/2025 19:48	WG2456512
Endosulfan I	U		0.00604	0.0200	1	02/25/2025 19:48	WG2456512
Endosulfan II	U		0.00661	0.0200	1	02/25/2025 19:48	WG2456512
Endosulfan sulfate	U		0.00642	0.0200	1	02/25/2025 19:48	WG2456512
Endrin	U		0.00746	0.0200	1	02/25/2025 19:48	WG2456512
Endrin aldehyde	U		0.00590	0.0200	1	02/25/2025 19:48	WG2456512
Endrin ketone	U		0.00695	0.0200	1	02/25/2025 19:48	WG2456512
Hexachlorobenzene	U		0.00608	0.0200	1	02/25/2025 19:48	WG2456512
Heptachlor	U		0.00693	0.0200	1	02/25/2025 19:48	WG2456512
Heptachlor epoxide	U		0.00650	0.0200	1	02/25/2025 19:48	WG2456512
Methoxychlor	U		0.00806	0.0200	1	02/25/2025 19:48	WG2456512
Toxaphene	U		0.214	0.400	1	02/25/2025 19:48	WG2456512
(S) Decachlorobiphenyl	*57.4*			*10.0-135*		*02/25/2025 19:48*	WG2456512
(S) Tetrachloro-m-xylene	*74.6*			*10.0-139*		*02/25/2025 19:48*	WG2456512

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0257	0.0700	1	02/26/2025 17:51	WG2456610
Dalapon	U		0.0440	0.0700	1	02/26/2025 17:51	WG2456610
2,4-DB	U		0.0186	0.0700	1	02/26/2025 17:51	WG2456610
Dicamba	U		0.0226	0.0700	1	02/26/2025 17:51	WG2456610
Dichloroprop	U		0.0183	0.0700	1	02/26/2025 17:51	WG2456610
Dinoseb	U		0.0255	0.0700	1	02/26/2025 17:51	WG2456610
MCPA	U		1.86	6.50	1	02/26/2025 17:51	WG2456610
MCPP	U		2.03	6.50	1	02/26/2025 17:51	WG2456610
2,4,5-T	U		0.0236	0.0700	1	02/26/2025 17:51	WG2456610
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	02/26/2025 17:51	WG2456610
(S) 2,4-Dichlorophenyl Acetic Acid	*114*			*22.0-132*		*02/26/2025 17:51*	WG2456610

Pesticides (GC) by Method 8081B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00645	0.0200	1	02/25/2025 19:57	WG2456512
Alpha BHC	U		0.00637	0.0200	1	02/25/2025 19:57	WG2456512
Beta BHC	U		0.00630	0.0200	1	02/25/2025 19:57	WG2456512
Delta BHC	U		0.00635	0.0200	1	02/25/2025 19:57	WG2456512
Gamma BHC	U		0.00676	0.0200	1	02/25/2025 19:57	WG2456512
Chlordane	U		0.0990	0.300	1	02/25/2025 19:57	WG2456512
4,4-DDD	U		0.00690	0.0200	1	02/25/2025 19:57	WG2456512
4,4-DDE	U		0.00673	0.0200	1	02/25/2025 19:57	WG2456512
4,4-DDT	U		0.00766	0.0200	1	02/25/2025 19:57	WG2456512
Dieldrin	0.0171	J	0.00697	0.0200	1	02/25/2025 19:57	WG2456512
Endosulfan I	U		0.00604	0.0200	1	02/25/2025 19:57	WG2456512
Endosulfan II	U		0.00661	0.0200	1	02/25/2025 19:57	WG2456512
Endosulfan sulfate	U		0.00642	0.0200	1	02/25/2025 19:57	WG2456512
Endrin	U		0.00746	0.0200	1	02/25/2025 19:57	WG2456512
Endrin aldehyde	U		0.00590	0.0200	1	02/25/2025 19:57	WG2456512
Endrin ketone	U		0.00695	0.0200	1	02/25/2025 19:57	WG2456512
Hexachlorobenzene	U		0.00608	0.0200	1	02/25/2025 19:57	WG2456512
Heptachlor	U		0.00693	0.0200	1	02/25/2025 19:57	WG2456512
Heptachlor epoxide	U		0.00650	0.0200	1	02/25/2025 19:57	WG2456512
Methoxychlor	U		0.00806	0.0200	1	02/25/2025 19:57	WG2456512
Toxaphene	U		0.214	0.400	1	02/25/2025 19:57	WG2456512
(S) Decachlorobiphenyl	*58.1*			*10.0-135*		*02/25/2025 19:57*	WG2456512
(S) Tetrachloro-m-xylene	*72.6*			*10.0-139*		*02/25/2025 19:57*	WG2456512

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
2,4-D	U		0.0257	0.0700	1	02/26/2025 18:01	WG2456610
Dalapon	U		0.0440	0.0700	1	02/26/2025 18:01	WG2456610
2,4-DB	U		0.0186	0.0700	1	02/26/2025 18:01	WG2456610
Dicamba	U		0.0226	0.0700	1	02/26/2025 18:01	WG2456610
Dichloroprop	U		0.0183	0.0700	1	02/26/2025 18:01	WG2456610
Dinoseb	U		0.0255	0.0700	1	02/26/2025 18:01	WG2456610
MCPA	U		1.86	6.50	1	02/26/2025 18:01	WG2456610
MCPP	U		2.03	6.50	1	02/26/2025 18:01	WG2456610
2,4,5-T	U		0.0236	0.0700	1	02/26/2025 18:01	WG2456610
2,4,5-TP (Silvex)	U		0.0187	0.0700	1	02/26/2025 18:01	WG2456610
(S) 2,4-Dichlorophenyl Acetic Acid	*38.1*			*22.0-132*		*02/26/2025 18:01*	WG2456610

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.00645	0.0200	1	02/25/2025 20:05	WG2456512
Alpha BHC	U		0.00637	0.0200	1	02/25/2025 20:05	WG2456512
Beta BHC	U		0.00630	0.0200	1	02/25/2025 20:05	WG2456512
Delta BHC	U		0.00635	0.0200	1	02/25/2025 20:05	WG2456512
Gamma BHC	U		0.00676	0.0200	1	02/25/2025 20:05	WG2456512
Chlordane	U		0.0990	0.300	1	02/25/2025 20:05	WG2456512
4,4-DDD	U		0.00690	0.0200	1	02/25/2025 20:05	WG2456512
4,4-DDE	U		0.00673	0.0200	1	02/25/2025 20:05	WG2456512
4,4-DDT	U		0.00766	0.0200	1	02/25/2025 20:05	WG2456512
Dieldrin	0.0270		0.00697	0.0200	1	02/25/2025 20:05	WG2456512
Endosulfan I	U		0.00604	0.0200	1	02/25/2025 20:05	WG2456512
Endosulfan II	U		0.00661	0.0200	1	02/25/2025 20:05	WG2456512
Endosulfan sulfate	U		0.00642	0.0200	1	02/25/2025 20:05	WG2456512
Endrin	U		0.00746	0.0200	1	02/25/2025 20:05	WG2456512
Endrin aldehyde	U		0.00590	0.0200	1	02/25/2025 20:05	WG2456512
Endrin ketone	U		0.00695	0.0200	1	02/25/2025 20:05	WG2456512
Hexachlorobenzene	U		0.00608	0.0200	1	02/25/2025 20:05	WG2456512
Heptachlor	U		0.00693	0.0200	1	02/25/2025 20:05	WG2456512
Heptachlor epoxide	U		0.00650	0.0200	1	02/25/2025 20:05	WG2456512
Methoxychlor	U		0.00806	0.0200	1	02/25/2025 20:05	WG2456512
Toxaphene	U		0.214	0.400	1	02/25/2025 20:05	WG2456512
(S) Decachlorobiphenyl	*61.3*			*10.0-135*		*02/25/2025 20:05*	WG2456512
(S) Tetrachloro-m-xylene	*75.2*			*10.0-139*		*02/25/2025 20:05*	WG2456512

Method Blank (MB)

(MB) R4180611-1 02/26/25 14:27

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
2,4-D	U		0.0257	0.0700
Dalapon	U		0.0440	0.0700
2,4-DB	U		0.0186	0.0700
Dicamba	U		0.0226	0.0700
Dichloroprop	U		0.0183	0.0700
Dinoseb	U		0.0255	0.0700
MCPA	U		1.86	6.50
MCPP	U		2.03	6.50
2,4,5-T	U		0.0236	0.0700
2,4,5-TP (Silvex)	U		0.0187	0.0700
(S) 2,4-Dichlorophenyl Acetic Acid	*80.2*			*22.0-132*

Laboratory Control Sample (LCS)

(LCS) R4180611-2 02/26/25 14:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
2,4-D	0.0833	0.0739	88.7	40.0-120	
Dalapon	0.0833	0.0323	38.8	15.0-120	
2,4-DB	0.0833	0.101	121	25.0-143	
Dicamba	0.0833	0.0665	79.8	43.0-120	
Dichloroprop	0.0833	0.0707	84.9	32.0-129	
Dinoseb	0.0833	0.0229	27.5	10.0-120	
MCPA	8.33	7.05	84.6	31.0-121	
MCPP	8.33	8.92	107	28.0-133	
2,4,5-T	0.0833	0.0707	84.9	41.0-120	
2,4,5-TP (Silvex)	0.0833	0.0696	83.6	42.0-120	
(S) 2,4-Dichlorophenyl Acetic Acid			*81.4*	*22.0-132*	

L1828335-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1828335-07 02/26/25 16:40 • (MS) R4180611-3 02/26/25 16:50 • (MSD) R4180611-4 02/26/25 17:00

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
2,4-D	0.0818	U	0.0845	0.0972	103	119	1	10.0-160		P	14.0	24
Dalapon	0.0818	U	U	0.0442	38.3	54.0	1	10.0-121	J	J J3	34.2	27
2,4-DB	0.0818	U	0.0887	0.0810	108	99.0	1	10.0-160			9.07	22
Dicamba	0.0818	U	0.0600	0.0580	73.3	70.9	1	10.0-154	J	J	3.39	21

L1828335-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1828335-07 02/26/25 16:40 • (MS) R4180611-3 02/26/25 16:50 • (MSD) R4180611-4 02/26/25 17:00

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Dichloroprop	0.0818	U	0.0873	0.0798	107	97.6	1	10.0-158	P	P	8.98	20
Dinoseb	0.0818	U	0.0451	0.0373	55.1	45.6	1	10.0-120	J	J	18.9	40
MCPA	8.18	U	6.30	6.86	77.0	83.9	1	10.0-160	J		8.51	40
MCPP	8.18	U	11.3	8.39	138	103	1	10.0-160			29.6	40
2,4,5-T	0.0818	U	0.0625	0.0570	76.4	69.7	1	10.0-157	J	J	9.21	20
2,4,5-TP (Silvex)	0.0818	U	0.0605	0.0550	74.0	67.2	1	10.0-156	J	J	9.52	20
(S) 2,4-Dichlorophenyl Acetic Acid					*82.3*	*78.7*		*22.0-132*				

Method Blank (MB)

(MB) R4180406-1 02/25/25 17:44

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Aldrin	U		0.00645	0.0200
Alpha BHC	U		0.00637	0.0200
Beta BHC	U		0.00630	0.0200
Delta BHC	U		0.00635	0.0200
Gamma BHC	U		0.00676	0.0200
Chlordane	U		0.0990	0.300
4,4-DDD	U		0.00690	0.0200
4,4-DDE	U		0.00673	0.0200
4,4-DDT	U		0.00766	0.0200
Dieldrin	U		0.00697	0.0200
Endosulfan I	U		0.00604	0.0200
Endosulfan II	U		0.00661	0.0200
Endosulfan sulfate	U		0.00642	0.0200
Endrin	U		0.00746	0.0200
Endrin aldehyde	U		0.00590	0.0200
Endrin ketone	U		0.00695	0.0200
Hexachlorobenzene	U		0.00608	0.0200
Heptachlor	U		0.00693	0.0200
Heptachlor epoxide	U		0.00650	0.0200
Methoxychlor	U		0.00806	0.0200
Toxaphene	U		0.214	0.400
(S) Decachlorobiphenyl	*53.2*			*10.0-135*
(S) Tetrachloro-m-xylene	*62.0*			*10.0-139*

Laboratory Control Sample (LCS)

(LCS) R4180406-2 02/25/25 17:53

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aldrin	0.0666	0.0521	78.2	34.0-136	
Alpha BHC	0.0666	0.0531	79.7	34.0-139	
Beta BHC	0.0666	0.0513	77.0	34.0-133	
Delta BHC	0.0666	0.0485	72.8	34.0-135	
Gamma BHC	0.0666	0.0544	81.7	34.0-136	
4,4-DDD	0.0666	0.0537	80.6	33.0-141	
4,4-DDE	0.0666	0.0548	82.3	34.0-134	
4,4-DDT	0.0666	0.0547	82.1	30.0-143	
Dieldrin	0.0666	0.0525	78.8	35.0-137	
Endosulfan I	0.0666	0.0497	74.6	34.0-134	

Laboratory Control Sample (LCS)

(LCS) R4180406-2 02/25/25 17:53

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Endosulfan II	0.0666	0.0520	78.1	35.0-132	
Endosulfan sulfate	0.0666	0.0501	75.2	35.0-132	
Endrin	0.0666	0.0537	80.6	34.0-137	
Endrin aldehyde	0.0666	0.0420	63.1	23.0-121	
Endrin ketone	0.0666	0.0520	78.1	35.0-144	
Hexachlorobenzene	0.0666	0.0497	74.6	33.0-129	
Heptachlor	0.0666	0.0536	80.5	36.0-141	
Heptachlor epoxide	0.0666	0.0519	77.9	36.0-134	
Methoxychlor	0.0666	0.0535	80.3	28.0-150	
(S) Decachlorobiphenyl			*61.9*	*10.0-135*	
(S) Tetrachloro-m-xylene			*70.3*	*10.0-139*	

L1828022-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1828022-01 02/25/25 18:02 • (MS) R4180406-3 02/25/25 18:10 • (MSD) R4180406-4 02/25/25 18:19

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aldrin	0.0633	U	0.0491	0.0433	77.6	68.4	1	20.0-135			12.6	37
Alpha BHC	0.0633	U	0.0514	0.0459	81.2	72.5	1	27.0-140			11.3	35
Beta BHC	0.0633	U	0.0486	0.0438	76.8	69.2	1	23.0-141			10.4	37
Delta BHC	0.0633	U	0.0455	0.0408	71.9	64.5	1	21.0-138			10.9	35
Gamma BHC	0.0633	U	0.0512	0.0465	80.9	73.5	1	27.0-137			9.62	36
4,4-DDD	0.0633	U	0.0501	0.0443	79.1	70.0	1	15.0-152			12.3	39
4,4-DDE	0.0633	U	0.0511	0.0451	80.7	71.2	1	10.0-152			12.5	40
4,4-DDT	0.0633	U	0.0525	0.0453	82.9	71.6	1	10.0-151			14.7	40
Dieldrin	0.0633	U	0.0491	0.0442	77.6	69.8	1	17.0-145			10.5	37
Endosulfan I	0.0633	U	0.0475	0.0427	75.0	67.5	1	20.0-137			10.6	36
Endosulfan II	0.0633	U	0.0485	0.0437	76.6	69.0	1	15.0-141			10.4	37
Endosulfan sulfate	0.0633	U	0.0468	0.0422	73.9	66.7	1	15.0-143			10.3	38
Endrin	0.0633	U	0.0503	0.0448	79.5	70.8	1	19.0-143			11.6	37
Endrin aldehyde	0.0633	U	0.0461	0.0419	72.8	66.2	1	10.0-139			9.55	40
Endrin ketone	0.0633	U	0.0482	0.0436	76.1	68.9	1	17.0-149			10.0	38
Hexachlorobenzene	0.0633	U	0.0467	0.0418	73.8	66.0	1	25.0-126			11.1	35
Heptachlor	0.0633	U	0.0501	0.0438	79.1	69.2	1	22.0-138			13.4	37
Heptachlor epoxide	0.0633	U	0.0483	0.0430	76.3	67.9	1	22.0-138			11.6	36
Methoxychlor	0.0633	U	0.0519	0.0451	82.0	71.2	1	10.0-159			14.0	40
(S) Decachlorobiphenyl					*63.8*	*56.7*		*10.0-135*				
(S) Tetrachloro-m-xylene					*75.4*	*70.0*		*10.0-139*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
P	RPD between the primary and confirmatory analysis exceeded 40%.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Baseline Engineering
112 N Rubey Dr. , Unit 210
Golden, CO 80403

Billing Information:
Tiffany Love | Accounts Payable
PO Box 312
Broomfield, CO 80403

Pres Chk

Report to:
Vincent Barlock 303-940-9966

Email To:
terry.mcgowan@baselinecorp.com;vincent.barl

Project Description:
Welby Gardens - Add. Soil Sampling

City/State Collected:

Please Circle: PT MT CT ET

Regulatory Program(DOD,RCRA,DW,etc): NA

Client Project # 45038.002b

Lab Project # BASENGGCO-45038 -

Collected by (print): Terry McGowan

Site/Facility ID # Welby Gardens

P.O. # NA

Collected by (signature): Terry O. McGowan

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day ___ STD TAT

Quote # NA

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1828335
C030

Acctnum: BASENGGCO
Template: T268504
Prelogin: P1131957
PM: 824 - Chris Ward
PB:
Shipped Via: FedEX Ground

Sample ID ✓ 3C	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	DRO, ORO 4ozClr-NoPres	Pest 8081,Herbs 8151 4ozClr-NoPres	V8260, GRO 2ozClr-NoPres	Remarks	Sample # (lab only)
GHS1-3C-1 0-1.0	Comp	SS	0-1	2-18-25	0924	1		X			-01
GHS1-3C-2 1.0-1.5	Comp	SS	1-1.5	2-18-25	0942	1		X			-02
GHS1-3C-3 1.5-2.0	Comp	SS	1.5-2.0	2-18-25	0958	1		X			-03
GHS2-1A-1 0-1.0	Comp	SS	0-1.0	2-18-25	1035	1		X			-04
GHS2-1A-2 1-2.0	Comp	SS	1.0-2.0	2-18-25	1052	1		X			-05
GHS3-1C-1 0-1	Comp	SS	0.0-1.0	2-18-25	1120	1		X			-06
GHS3-1C-2-1.0-1.5	Comp	SS	1.0-1.5	2-18-25	1136	1		X			-07
GHS3-1C-3 1.5-2.0	Comp	SS	1.5-2.0	2-18-25	1144	1		X			-08
GHN1-1A-1 0-1	Comp	SS	0-1.0	2-18-25	1215	1		X			-09
GHN1-1A-2 1-2	Comp	SS	1.0-2.0	2-18-25	1230	1		X			-10

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 4208 1342 7815

Sample Receipt Checklist
COC Seal Present/Intact: __NP X Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: X Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: X Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
Terry O. McGowan	2-18-25	13:37	Sale Conning		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	If preservation required by Login: Date/Time
Sale Conning	2-18-25	1800	FEDEx	EDAG 2.0+0.4=2.4 10	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	Hold: Condition: NCF / OK
			Ashley Boato	02/20/2025 0945	

APPENDIX E
Laboratory Analytical Reports for Groundwater Samples

ANALYTICAL REPORT

January 20, 2025

Baseline Engineering

Sample Delivery Group:	L1816112
Samples Received:	01/13/2025
Project Number:	45038-001
Description:	Welby Gardens Arvada Colorado

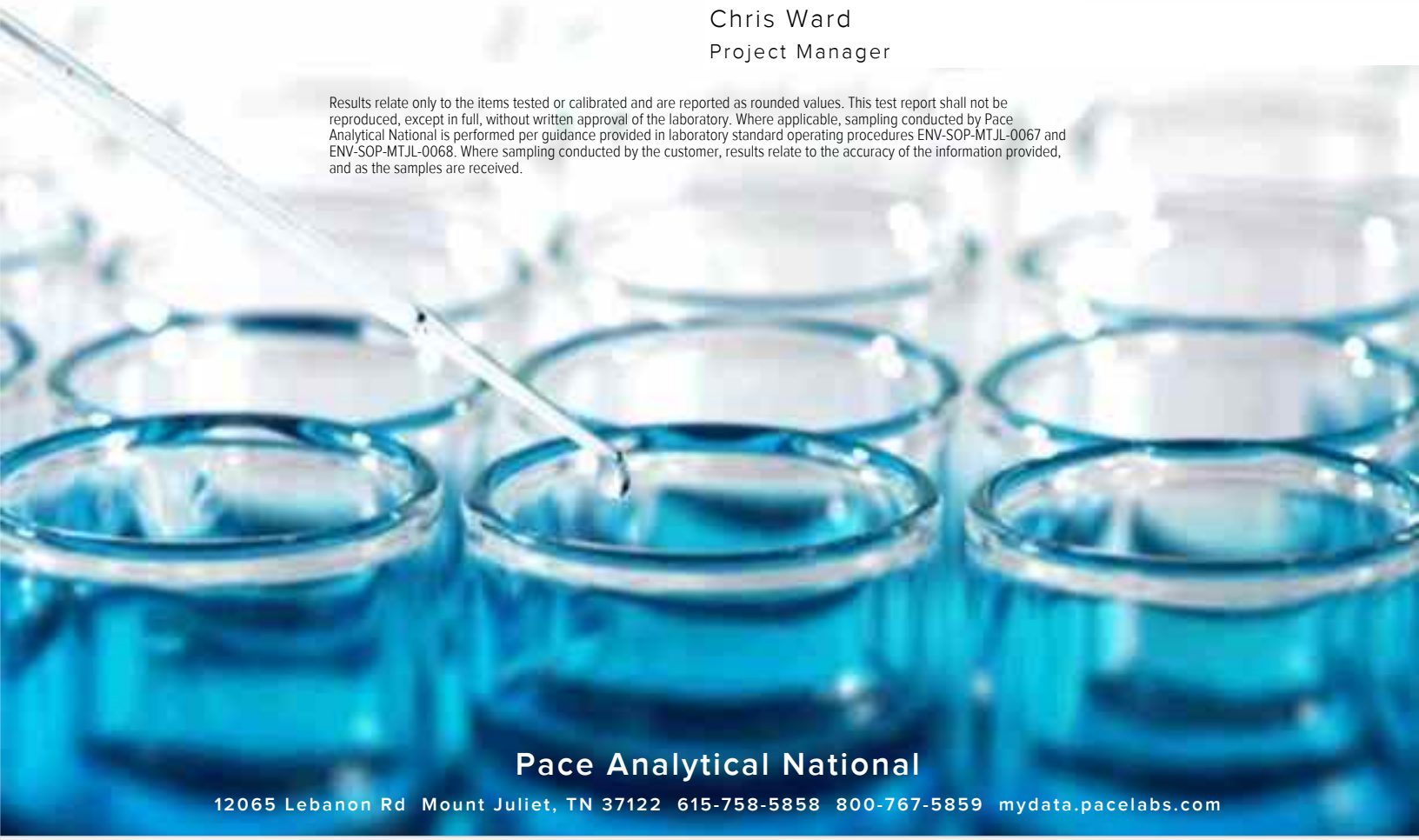
Report To:

Vincent Barlock
112 N Rubey Dr. , Unit 210
Golden, CO 80403

Entire Report Reviewed By:

Chris Ward
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

TABLE OF CONTENTS

Cp: Cover Page 1

Tc: Table of Contents 2

Ss: Sample Summary 3

Cn: Case Narrative 5

Sr: Sample Results 6

MW-03 L1816112-01 6

MW-04 L1816112-02 10

MW-01 L1816112-03 14

LAB BLANK SUPPLIED WITH COOLER L1816112-04 18

Qc: Quality Control Summary 20

Wet Chemistry by Method 2320 B-2011 20

Wet Chemistry by Method 350.1 21

Wet Chemistry by Method 365.4 22

Wet Chemistry by Method 4500H+ B-2011 23

Wet Chemistry by Method 4500S2 D-2011 24

Wet Chemistry by Method 4500SO3 B-2011 25

Wet Chemistry by Method 9056A 26

Mercury by Method 7470A 28

Metals (ICP) by Method 6010D 29

Volatile Organic Compounds (GC/MS) by Method 8260B 30

Chlorinated Acid Herbicides (GC) by Method 8151A 34

Pesticides (GC) by Method 8081B 35

Gl: Glossary of Terms 37

Al: Accreditations & Locations 38

Sc: Sample Chain of Custody 39

MW-03 L1816112-01 GW

Collected by: VB/TM | Collected date/time: 01/08/25 15:00 | Received date/time: 01/13/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2431966	1	01/13/25 11:40	01/13/25 11:40	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2432507	1	01/13/25 19:40	01/13/25 19:40	RTW	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG2434552	1	01/16/25 08:24	01/16/25 13:57	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG2433589	1	01/15/25 11:14	01/15/25 11:14	RJP	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2432484	1	01/14/25 11:26	01/14/25 11:26	JAS	Mt. Juliet, TN
Wet Chemistry by Method 4500SO3 B-2011	WG2432764	1	01/14/25 12:30	01/14/25 12:30	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2432115	1	01/14/25 01:07	01/14/25 01:07	AJC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2432115	20	01/14/25 18:30	01/14/25 18:30	ZSA	Mt. Juliet, TN
Mercury by Method 7470A	WG2432539	1	01/14/25 17:21	01/15/25 15:31	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2433481	1	01/15/25 10:42	01/15/25 15:03	MAP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2432455	1	01/13/25 18:00	01/13/25 18:00	DYW	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2432318	1	01/15/25 06:41	01/16/25 00:05	MEW	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2432279	1	01/14/25 05:32	01/14/25 15:46	NWH	Mt. Juliet, TN

MW-04 L1816112-02 GW

Collected by: VB/TM | Collected date/time: 01/08/25 15:40 | Received date/time: 01/13/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2431966	1	01/13/25 11:45	01/13/25 11:45	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2432507	1	01/13/25 19:46	01/13/25 19:46	RTW	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG2434552	1	01/16/25 08:24	01/16/25 13:59	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG2433589	1	01/15/25 11:14	01/15/25 11:14	RJP	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2432484	1	01/14/25 11:27	01/14/25 11:27	JAS	Mt. Juliet, TN
Wet Chemistry by Method 4500SO3 B-2011	WG2432764	5	01/14/25 12:30	01/14/25 12:30	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2432115	1	01/14/25 01:42	01/14/25 01:42	AJC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2432115	50	01/14/25 02:00	01/14/25 02:00	AJC	Mt. Juliet, TN
Mercury by Method 7470A	WG2432539	1	01/14/25 17:21	01/15/25 15:33	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2433481	1	01/15/25 10:42	01/15/25 15:09	MAP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2432455	1	01/13/25 18:22	01/13/25 18:22	DYW	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2432318	1	01/15/25 06:41	01/16/25 05:08	MEW	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2432279	1	01/14/25 05:32	01/14/25 15:55	NWH	Mt. Juliet, TN

MW-01 L1816112-03 GW

Collected by: VB/TM | Collected date/time: 01/08/25 16:20 | Received date/time: 01/13/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2431966	1	01/13/25 11:51	01/13/25 11:51	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2432507	1	01/13/25 19:48	01/13/25 19:48	RTW	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG2434552	1	01/16/25 08:24	01/16/25 14:01	LDT	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG2433589	1	01/15/25 11:14	01/15/25 11:14	RJP	Mt. Juliet, TN
Wet Chemistry by Method 4500S2 D-2011	WG2432484	1	01/14/25 11:27	01/14/25 11:27	JAS	Mt. Juliet, TN
Wet Chemistry by Method 4500SO3 B-2011	WG2432764	5	01/14/25 12:30	01/14/25 12:30	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2432115	5	01/14/25 18:43	01/14/25 18:43	ZSA	Mt. Juliet, TN
Mercury by Method 7470A	WG2432539	1	01/14/25 17:21	01/15/25 15:21	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2433481	1	01/15/25 10:42	01/15/25 15:11	MAP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2432455	1	01/13/25 18:45	01/13/25 18:45	DYW	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2432318	1	01/15/25 06:41	01/16/25 05:18	MEW	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2432279	1	01/14/25 05:32	01/15/25 02:04	AMM	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

LAB BLANK SUPPLIED WITH COOLER L1816112-04 GW

Collected by: VB/TM
Collected date/time: 01/08/25 00:00
Received date/time: 01/13/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2432455	1	01/13/25 15:48	01/13/25 15:48	DYW	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris Ward
Project Manager

Sample Delivery Group (SDG) Narrative

Analysis was filtered in the laboratory.

Lab Sample ID	Project Sample ID	Method
L1816112-01	MW-03	6010D, 7470A
L1816112-02	MW-04	6010D, 7470A
L1816112-03	MW-01	6010D, 7470A
R4167229-3		6010D
R4167247-3		7470A

An aliquot for analysis was taken from the original container received due to the level of sediment present in the sample. Rinsing of the original sample container for inclusion in the sample extraction was not performed.

Lab Sample ID	Project Sample ID	Method
L1816112-02	MW-04	8151A

The following analysis were performed from an unpreserved, insufficiently or inadequately preserved sample.

Lab Sample ID	Project Sample ID	Method
L1816112-01	MW-03	4500S2 D-2011
L1816112-02	MW-04	4500S2 D-2011
L1816112-03	MW-01	4500S2 D-2011

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	145		4.75	20.0	1	01/13/2025 11:40	WG2431966

Sample Narrative:
L1816112-01 WG2431966: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Ammonia Nitrogen	8.68		0.0539	0.100	1	01/13/2025 19:40	WG2432507

Wet Chemistry by Method 365.4

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Phosphorus,Total	0.115	B P1	0.00373	0.100	1	01/16/2025 13:57	WG2434552

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.45	T8	1	01/15/2025 11:14	WG2433589

Sample Narrative:
L1816112-01 WG2433589: 7.45 at 18.1C

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	U		0.0255	0.0500	1	01/14/2025 11:26	WG2432484

Wet Chemistry by Method 4500SO3 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfite	2.00	J T8	1.19	3.00	1	01/14/2025 12:30	WG2432764

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Chloride	27.6		0.547	1.00	1	01/14/2025 01:07	WG2432115
Nitrate as (N)	97.6	T8	1.77	2.00	20	01/14/2025 18:30	WG2432115
Nitrite as (N)	U	T8	0.0794	0.100	1	01/14/2025 01:07	WG2432115
Sulfate	89.1		0.637	5.00	1	01/14/2025 01:07	WG2432115

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Mercury,Dissolved	U		0.0000700	0.000200	1	01/15/2025 15:31	WG2432539

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Arsenic,Dissolved	U		0.00783	0.0100	1	01/15/2025 15:03	WG2433481
Barium,Dissolved	0.276		0.000773	0.00500	1	01/15/2025 15:03	WG2433481
Cadmium,Dissolved	0.00125	B J	0.000538	0.00200	1	01/15/2025 15:03	WG2433481
Chromium,Dissolved	0.00162	J	0.00151	0.0100	1	01/15/2025 15:03	WG2433481
Lead,Dissolved	U		0.00243	0.00600	1	01/15/2025 15:03	WG2433481
Selenium,Dissolved	U		0.00616	0.0100	1	01/15/2025 15:03	WG2433481
Silver,Dissolved	U		0.00289	0.00500	1	01/15/2025 15:03	WG2433481

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0113	0.0500	1	01/13/2025 18:00	WG2432455
Acrolein	U		0.00254	0.0500	1	01/13/2025 18:00	WG2432455
Acrylonitrile	U		0.000671	0.0100	1	01/13/2025 18:00	WG2432455
Benzene	U		0.0000941	0.00100	1	01/13/2025 18:00	WG2432455
Bromobenzene	U		0.000118	0.00100	1	01/13/2025 18:00	WG2432455
Bromodichloromethane	U		0.000136	0.00100	1	01/13/2025 18:00	WG2432455
Bromoform	U		0.000129	0.00100	1	01/13/2025 18:00	WG2432455
Bromomethane	U		0.000605	0.00500	1	01/13/2025 18:00	WG2432455
n-Butylbenzene	U		0.000157	0.00100	1	01/13/2025 18:00	WG2432455
sec-Butylbenzene	U		0.000125	0.00100	1	01/13/2025 18:00	WG2432455
tert-Butylbenzene	U		0.000127	0.00100	1	01/13/2025 18:00	WG2432455
Carbon tetrachloride	U		0.000128	0.00100	1	01/13/2025 18:00	WG2432455
Chlorobenzene	U		0.000116	0.00100	1	01/13/2025 18:00	WG2432455
Chlorodibromomethane	U		0.000140	0.00100	1	01/13/2025 18:00	WG2432455
Chloroethane	U		0.000192	0.00500	1	01/13/2025 18:00	WG2432455
Chloroform	U		0.000111	0.00500	1	01/13/2025 18:00	WG2432455
Chloromethane	U		0.000960	0.00250	1	01/13/2025 18:00	WG2432455
2-Chlorotoluene	U		0.000106	0.00100	1	01/13/2025 18:00	WG2432455
4-Chlorotoluene	U		0.000114	0.00100	1	01/13/2025 18:00	WG2432455
1,2-Dibromo-3-Chloropropane	U		0.000276	0.00500	1	01/13/2025 18:00	WG2432455
1,2-Dibromoethane	U		0.000126	0.00100	1	01/13/2025 18:00	WG2432455
Dibromomethane	U		0.000122	0.00100	1	01/13/2025 18:00	WG2432455
1,2-Dichlorobenzene	U		0.000107	0.00100	1	01/13/2025 18:00	WG2432455
1,3-Dichlorobenzene	U		0.000110	0.00100	1	01/13/2025 18:00	WG2432455
1,4-Dichlorobenzene	U		0.000120	0.00100	1	01/13/2025 18:00	WG2432455
Dichlorodifluoromethane	U		0.000374	0.00500	1	01/13/2025 18:00	WG2432455
1,1-Dichloroethane	U		0.000100	0.00100	1	01/13/2025 18:00	WG2432455
1,2-Dichloroethane	U		0.0000819	0.00100	1	01/13/2025 18:00	WG2432455
1,1-Dichloroethene	U		0.000188	0.00100	1	01/13/2025 18:00	WG2432455
cis-1,2-Dichloroethene	U		0.000126	0.00100	1	01/13/2025 18:00	WG2432455
trans-1,2-Dichloroethene	U		0.000149	0.00100	1	01/13/2025 18:00	WG2432455
1,2-Dichloropropane	U		0.000149	0.00100	1	01/13/2025 18:00	WG2432455
1,1-Dichloropropene	U		0.000142	0.00100	1	01/13/2025 18:00	WG2432455
1,3-Dichloropropane	U		0.000110	0.00100	1	01/13/2025 18:00	WG2432455
cis-1,3-Dichloropropene	U		0.000111	0.00100	1	01/13/2025 18:00	WG2432455
trans-1,3-Dichloropropene	U		0.000118	0.00100	1	01/13/2025 18:00	WG2432455
2,2-Dichloropropane	U		0.000161	0.00100	1	01/13/2025 18:00	WG2432455
Di-isopropyl ether	U		0.000105	0.00100	1	01/13/2025 18:00	WG2432455
Ethylbenzene	U		0.000137	0.00100	1	01/13/2025 18:00	WG2432455
Hexachloro-1,3-butadiene	U		0.000337	0.00100	1	01/13/2025 18:00	WG2432455
Isopropylbenzene	U		0.000105	0.00100	1	01/13/2025 18:00	WG2432455
p-Isopropyltoluene	U		0.000120	0.00100	1	01/13/2025 18:00	WG2432455
2-Butanone (MEK)	U		0.00119	0.0100	1	01/13/2025 18:00	WG2432455
Methylene Chloride	U		0.000430	0.00500	1	01/13/2025 18:00	WG2432455
4-Methyl-2-pentanone (MIBK)	U		0.000478	0.0100	1	01/13/2025 18:00	WG2432455

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Methyl tert-butyl ether	U		0.000101	0.00100	1	01/13/2025 18:00	WG2432455
Naphthalene	U		0.00100	0.00500	1	01/13/2025 18:00	WG2432455
n-Propylbenzene	U		0.0000993	0.00100	1	01/13/2025 18:00	WG2432455
Styrene	U		0.000118	0.00100	1	01/13/2025 18:00	WG2432455
1,1,1,2-Tetrachloroethane	U		0.000147	0.00100	1	01/13/2025 18:00	WG2432455
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100	1	01/13/2025 18:00	WG2432455
1,1,2-Trichlorotrifluoroethane	U		0.000180	0.00100	1	01/13/2025 18:00	WG2432455
Tetrachloroethene	U		0.000300	0.00100	1	01/13/2025 18:00	WG2432455
Toluene	U		0.000278	0.00100	1	01/13/2025 18:00	WG2432455
1,2,3-Trichlorobenzene	U		0.000230	0.00100	1	01/13/2025 18:00	WG2432455
1,2,4-Trichlorobenzene	U		0.000481	0.00100	1	01/13/2025 18:00	WG2432455
1,1,1-Trichloroethane	U		0.000149	0.00100	1	01/13/2025 18:00	WG2432455
1,1,2-Trichloroethane	U		0.000158	0.00100	1	01/13/2025 18:00	WG2432455
Trichloroethene	U		0.000190	0.00100	1	01/13/2025 18:00	WG2432455
Trichlorofluoromethane	U		0.000160	0.00500	1	01/13/2025 18:00	WG2432455
1,2,3-Trichloropropane	U		0.000237	0.00250	1	01/13/2025 18:00	WG2432455
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	01/13/2025 18:00	WG2432455
1,2,3-Trimethylbenzene	U		0.000104	0.00100	1	01/13/2025 18:00	WG2432455
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	01/13/2025 18:00	WG2432455
Vinyl chloride	U		0.000234	0.00100	1	01/13/2025 18:00	WG2432455
Xylenes, Total	U		0.000174	0.00300	1	01/13/2025 18:00	WG2432455
(S) Toluene-d8	*107*			*80.0-120*		*01/13/2025 18:00*	WG2432455
(S) 4-Bromofluorobenzene	*105*			*77.0-126*		*01/13/2025 18:00*	WG2432455
(S) 1,2-Dichloroethane-d4	*94.1*			*70.0-130*		*01/13/2025 18:00*	WG2432455

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
2,4-D	U		0.000671	0.00200	1	01/16/2025 00:05	WG2432318
Dalapon	U		0.000734	0.00200	1	01/16/2025 00:05	WG2432318
2,4-DB	U		0.000686	0.00200	1	01/16/2025 00:05	WG2432318
Dicamba	U		0.000395	0.00200	1	01/16/2025 00:05	WG2432318
Dichloroprop	U		0.000954	0.00200	1	01/16/2025 00:05	WG2432318
Dinoseb	U		0.000455	0.00200	1	01/16/2025 00:05	WG2432318
MCPA	U		0.0858	0.100	1	01/16/2025 00:05	WG2432318
MCPP	U		0.0743	0.100	1	01/16/2025 00:05	WG2432318
2,4,5-T	U		0.000858	0.00200	1	01/16/2025 00:05	WG2432318
2,4,5-TP (Silvex)	U		0.000505	0.00200	1	01/16/2025 00:05	WG2432318
(S) 2,4-Dichlorophenyl Acetic Acid	*84.4*			*14.0-158*		*01/16/2025 00:05*	WG2432318

Pesticides (GC) by Method 8081B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Aldrin	U		0.0000249	0.0000500	1	01/14/2025 15:46	WG2432279
Alpha BHC	U		0.0000277	0.0000500	1	01/14/2025 15:46	WG2432279
Beta BHC	U		0.0000326	0.0000500	1	01/14/2025 15:46	WG2432279
Delta BHC	U		0.0000403	0.0000500	1	01/14/2025 15:46	WG2432279
Gamma BHC	U		0.0000267	0.0000500	1	01/14/2025 15:46	WG2432279
Chlordane	U		0.000700	0.00500	1	01/14/2025 15:46	WG2432279
4,4-DDD	U		0.0000297	0.0000500	1	01/14/2025 15:46	WG2432279
4,4-DDE	U		0.0000276	0.0000500	1	01/14/2025 15:46	WG2432279
4,4-DDT	U		0.0000211	0.0000500	1	01/14/2025 15:46	WG2432279
Dieldrin	U		0.0000298	0.0000500	1	01/14/2025 15:46	WG2432279
Endosulfan I	U		0.0000306	0.0000500	1	01/14/2025 15:46	WG2432279
Endosulfan II	U		0.0000311	0.0000500	1	01/14/2025 15:46	WG2432279

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Endosulfan sulfate	U		0.0000306	0.0000500	1	01/14/2025 15:46	WG2432279
Endrin	U		0.0000329	0.0000500	1	01/14/2025 15:46	WG2432279
Endrin aldehyde	U		0.0000358	0.0000500	1	01/14/2025 15:46	WG2432279
Endrin ketone	U		0.0000322	0.0000500	1	01/14/2025 15:46	WG2432279
Hexachlorobenzene	U		0.0000425	0.0000500	1	01/14/2025 15:46	WG2432279
Heptachlor	U		0.0000290	0.0000500	1	01/14/2025 15:46	WG2432279
Heptachlor epoxide	U		0.0000307	0.0000500	1	01/14/2025 15:46	WG2432279
Methoxychlor	U		0.0000400	0.0000500	1	01/14/2025 15:46	WG2432279
Toxaphene	U		0.000400	0.000500	1	01/14/2025 15:46	WG2432279
(S) Decachlorobiphenyl	*22.7*			*10.0-128*		*01/14/2025 15:46*	WG2432279
(S) Tetrachloro-m-xylene	*68.1*			*10.0-127*		*01/14/2025 15:46*	WG2432279

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Alkalinity	221		4.75	20.0	1	01/13/2025 11:45	WG2431966

Sample Narrative:
L1816112-02 WG2431966: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Ammonia Nitrogen	0.0590	J	0.0539	0.100	1	01/13/2025 19:46	WG2432507

Wet Chemistry by Method 365.4

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Phosphorus,Total	0.0568	B J	0.00373	0.100	1	01/16/2025 13:59	WG2434552

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.29	T8	1	01/15/2025 11:14	WG2433589

Sample Narrative:
L1816112-02 WG2433589: 7.29 at 19.7C

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Sulfide	U	J6	0.0255	0.0500	1	01/14/2025 11:27	WG2432484

Wet Chemistry by Method 4500SO3 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Sulfite	10.0	J T8	5.95	15.0	5	01/14/2025 12:30	WG2432764

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	16.6		0.547	1.00	1	01/14/2025 01:42	WG2432115
Nitrate as (N)	414	T8	4.42	5.00	50	01/14/2025 02:00	WG2432115
Nitrite as (N)	0.451	T8	0.0794	0.100	1	01/14/2025 01:42	WG2432115
Sulfate	43.6		0.637	5.00	1	01/14/2025 01:42	WG2432115

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Mercury,Dissolved	U		0.0000700	0.000200	1	01/15/2025 15:33	WG2432539

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Arsenic,Dissolved	U		0.00783	0.0100	1	01/15/2025 15:09	WG2433481
Barium,Dissolved	0.736		0.000773	0.00500	1	01/15/2025 15:09	WG2433481
Cadmium,Dissolved	0.00218	B	0.000538	0.00200	1	01/15/2025 15:09	WG2433481
Chromium,Dissolved	0.00155	J	0.00151	0.0100	1	01/15/2025 15:09	WG2433481
Lead,Dissolved	U		0.00243	0.00600	1	01/15/2025 15:09	WG2433481
Selenium,Dissolved	U		0.00616	0.0100	1	01/15/2025 15:09	WG2433481
Silver,Dissolved	0.00531		0.00289	0.00500	1	01/15/2025 15:09	WG2433481

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0113	0.0500	1	01/13/2025 18:22	WG2432455
Acrolein	U		0.00254	0.0500	1	01/13/2025 18:22	WG2432455
Acrylonitrile	U		0.000671	0.0100	1	01/13/2025 18:22	WG2432455
Benzene	U		0.0000941	0.00100	1	01/13/2025 18:22	WG2432455
Bromobenzene	U		0.000118	0.00100	1	01/13/2025 18:22	WG2432455
Bromodichloromethane	U		0.000136	0.00100	1	01/13/2025 18:22	WG2432455
Bromoform	U		0.000129	0.00100	1	01/13/2025 18:22	WG2432455
Bromomethane	U		0.000605	0.00500	1	01/13/2025 18:22	WG2432455
n-Butylbenzene	U		0.000157	0.00100	1	01/13/2025 18:22	WG2432455
sec-Butylbenzene	U		0.000125	0.00100	1	01/13/2025 18:22	WG2432455
tert-Butylbenzene	U		0.000127	0.00100	1	01/13/2025 18:22	WG2432455
Carbon tetrachloride	U		0.000128	0.00100	1	01/13/2025 18:22	WG2432455
Chlorobenzene	U		0.000116	0.00100	1	01/13/2025 18:22	WG2432455
Chlorodibromomethane	U		0.000140	0.00100	1	01/13/2025 18:22	WG2432455
Chloroethane	U		0.000192	0.00500	1	01/13/2025 18:22	WG2432455
Chloroform	U		0.000111	0.00500	1	01/13/2025 18:22	WG2432455
Chloromethane	U		0.000960	0.00250	1	01/13/2025 18:22	WG2432455
2-Chlorotoluene	U		0.000106	0.00100	1	01/13/2025 18:22	WG2432455
4-Chlorotoluene	U		0.000114	0.00100	1	01/13/2025 18:22	WG2432455
1,2-Dibromo-3-Chloropropane	U		0.000276	0.00500	1	01/13/2025 18:22	WG2432455
1,2-Dibromoethane	U		0.000126	0.00100	1	01/13/2025 18:22	WG2432455
Dibromomethane	U		0.000122	0.00100	1	01/13/2025 18:22	WG2432455
1,2-Dichlorobenzene	U		0.000107	0.00100	1	01/13/2025 18:22	WG2432455
1,3-Dichlorobenzene	U		0.000110	0.00100	1	01/13/2025 18:22	WG2432455
1,4-Dichlorobenzene	U		0.000120	0.00100	1	01/13/2025 18:22	WG2432455
Dichlorodifluoromethane	U		0.000374	0.00500	1	01/13/2025 18:22	WG2432455
1,1-Dichloroethane	U		0.000100	0.00100	1	01/13/2025 18:22	WG2432455
1,2-Dichloroethane	U		0.0000819	0.00100	1	01/13/2025 18:22	WG2432455
1,1-Dichloroethene	U		0.000188	0.00100	1	01/13/2025 18:22	WG2432455
cis-1,2-Dichloroethene	U		0.000126	0.00100	1	01/13/2025 18:22	WG2432455
trans-1,2-Dichloroethene	U		0.000149	0.00100	1	01/13/2025 18:22	WG2432455
1,2-Dichloropropane	U		0.000149	0.00100	1	01/13/2025 18:22	WG2432455
1,1-Dichloropropene	U		0.000142	0.00100	1	01/13/2025 18:22	WG2432455
1,3-Dichloropropane	U		0.000110	0.00100	1	01/13/2025 18:22	WG2432455
cis-1,3-Dichloropropene	U		0.000111	0.00100	1	01/13/2025 18:22	WG2432455
trans-1,3-Dichloropropene	U		0.000118	0.00100	1	01/13/2025 18:22	WG2432455
2,2-Dichloropropane	U		0.000161	0.00100	1	01/13/2025 18:22	WG2432455
Di-isopropyl ether	U		0.000105	0.00100	1	01/13/2025 18:22	WG2432455
Ethylbenzene	U		0.000137	0.00100	1	01/13/2025 18:22	WG2432455
Hexachloro-1,3-butadiene	U		0.000337	0.00100	1	01/13/2025 18:22	WG2432455
Isopropylbenzene	U		0.000105	0.00100	1	01/13/2025 18:22	WG2432455
p-Isopropyltoluene	U		0.000120	0.00100	1	01/13/2025 18:22	WG2432455
2-Butanone (MEK)	U		0.00119	0.0100	1	01/13/2025 18:22	WG2432455
Methylene Chloride	U		0.000430	0.00500	1	01/13/2025 18:22	WG2432455
4-Methyl-2-pentanone (MIBK)	U		0.000478	0.0100	1	01/13/2025 18:22	WG2432455

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Methyl tert-butyl ether	U		0.000101	0.00100	1	01/13/2025 18:22	WG2432455
Naphthalene	U		0.00100	0.00500	1	01/13/2025 18:22	WG2432455
n-Propylbenzene	U		0.0000993	0.00100	1	01/13/2025 18:22	WG2432455
Styrene	U		0.000118	0.00100	1	01/13/2025 18:22	WG2432455
1,1,1,2-Tetrachloroethane	U		0.000147	0.00100	1	01/13/2025 18:22	WG2432455
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100	1	01/13/2025 18:22	WG2432455
1,1,2-Trichlorotrifluoroethane	U		0.000180	0.00100	1	01/13/2025 18:22	WG2432455
Tetrachloroethene	U		0.000300	0.00100	1	01/13/2025 18:22	WG2432455
Toluene	U		0.000278	0.00100	1	01/13/2025 18:22	WG2432455
1,2,3-Trichlorobenzene	U		0.000230	0.00100	1	01/13/2025 18:22	WG2432455
1,2,4-Trichlorobenzene	U		0.000481	0.00100	1	01/13/2025 18:22	WG2432455
1,1,1-Trichloroethane	U		0.000149	0.00100	1	01/13/2025 18:22	WG2432455
1,1,2-Trichloroethane	U		0.000158	0.00100	1	01/13/2025 18:22	WG2432455
Trichloroethene	U		0.000190	0.00100	1	01/13/2025 18:22	WG2432455
Trichlorofluoromethane	U		0.000160	0.00500	1	01/13/2025 18:22	WG2432455
1,2,3-Trichloropropane	U		0.000237	0.00250	1	01/13/2025 18:22	WG2432455
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	01/13/2025 18:22	WG2432455
1,2,3-Trimethylbenzene	U		0.000104	0.00100	1	01/13/2025 18:22	WG2432455
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	01/13/2025 18:22	WG2432455
Vinyl chloride	U		0.000234	0.00100	1	01/13/2025 18:22	WG2432455
Xylenes, Total	U		0.000174	0.00300	1	01/13/2025 18:22	WG2432455
(S) Toluene-d8	*106*			*80.0-120*		*01/13/2025 18:22*	WG2432455
(S) 4-Bromofluorobenzene	*102*			*77.0-126*		*01/13/2025 18:22*	WG2432455
(S) 1,2-Dichloroethane-d4	*92.1*			*70.0-130*		*01/13/2025 18:22*	WG2432455

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
2,4-D	U		0.000671	0.00200	1	01/16/2025 05:08	WG2432318
Dalapon	U		0.000734	0.00200	1	01/16/2025 05:08	WG2432318
2,4-DB	U		0.000686	0.00200	1	01/16/2025 05:08	WG2432318
Dicamba	U		0.000395	0.00200	1	01/16/2025 05:08	WG2432318
Dichloroprop	U		0.000954	0.00200	1	01/16/2025 05:08	WG2432318
Dinoseb	U		0.000455	0.00200	1	01/16/2025 05:08	WG2432318
MCPA	U		0.0858	0.100	1	01/16/2025 05:08	WG2432318
MCPP	U		0.0743	0.100	1	01/16/2025 05:08	WG2432318
2,4,5-T	U		0.000858	0.00200	1	01/16/2025 05:08	WG2432318
2,4,5-TP (Silvex)	U		0.000505	0.00200	1	01/16/2025 05:08	WG2432318
(S) 2,4-Dichlorophenyl Acetic Acid	*163*	J1		*14.0-158*		*01/16/2025 05:08*	WG2432318

Sample Narrative:

L1816112-02 WG2432318: Sample produced emulsion during Extraction process, low surr/spike recoveries due to matrix.

Pesticides (GC) by Method 8081B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Aldrin	U		0.0000249	0.0000500	1	01/14/2025 15:55	WG2432279
Alpha BHC	U		0.0000277	0.0000500	1	01/14/2025 15:55	WG2432279
Beta BHC	U		0.0000326	0.0000500	1	01/14/2025 15:55	WG2432279
Delta BHC	U		0.0000403	0.0000500	1	01/14/2025 15:55	WG2432279
Gamma BHC	U		0.0000267	0.0000500	1	01/14/2025 15:55	WG2432279
Chlordane	U		0.000700	0.00500	1	01/14/2025 15:55	WG2432279
4,4-DDD	U		0.0000297	0.0000500	1	01/14/2025 15:55	WG2432279
4,4-DDE	U		0.0000276	0.0000500	1	01/14/2025 15:55	WG2432279
4,4-DDT	U		0.0000211	0.0000500	1	01/14/2025 15:55	WG2432279

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Dieldrin	U		0.0000298	0.0000500	1	01/14/2025 15:55	WG2432279
Endosulfan I	U		0.0000306	0.0000500	1	01/14/2025 15:55	WG2432279
Endosulfan II	U		0.0000311	0.0000500	1	01/14/2025 15:55	WG2432279
Endosulfan sulfate	U		0.0000306	0.0000500	1	01/14/2025 15:55	WG2432279
Endrin	U		0.0000329	0.0000500	1	01/14/2025 15:55	WG2432279
Endrin aldehyde	U		0.0000358	0.0000500	1	01/14/2025 15:55	WG2432279
Endrin ketone	U		0.0000322	0.0000500	1	01/14/2025 15:55	WG2432279
Hexachlorobenzene	U		0.0000425	0.0000500	1	01/14/2025 15:55	WG2432279
Heptachlor	U		0.0000290	0.0000500	1	01/14/2025 15:55	WG2432279
Heptachlor epoxide	U		0.0000307	0.0000500	1	01/14/2025 15:55	WG2432279
Methoxychlor	U		0.0000400	0.0000500	1	01/14/2025 15:55	WG2432279
Toxaphene	U		0.000400	0.000500	1	01/14/2025 15:55	WG2432279
(S) Decachlorobiphenyl	*14.6*			*10.0-128*		*01/14/2025 15:55*	WG2432279
(S) Tetrachloro-m-xylene	*68.6*			*10.0-127*		*01/14/2025 15:55*	WG2432279

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Alkalinity	402		4.75	20.0	1	01/13/2025 11:51	WG2431966

Sample Narrative:
L1816112-03 WG2431966: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Ammonia Nitrogen	U		0.0539	0.100	1	01/13/2025 19:48	WG2432507

Wet Chemistry by Method 365.4

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Phosphorus,Total	0.163	B	0.00373	0.100	1	01/16/2025 14:01	WG2434552

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.74	T8	1	01/15/2025 11:14	WG2433589

Sample Narrative:
L1816112-03 WG2433589: 7.74 at 20.9C

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Sulfide	U		0.0255	0.0500	1	01/14/2025 11:27	WG2432484

Wet Chemistry by Method 4500SO3 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Sulfite	10.0	J T8	5.95	15.0	5	01/14/2025 12:30	WG2432764

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	41.6		2.74	5.00	5	01/14/2025 18:43	WG2432115
Nitrate as (N)	U	T8	0.442	0.500	5	01/14/2025 18:43	WG2432115
Nitrite as (N)	U	T8	0.397	0.500	5	01/14/2025 18:43	WG2432115
Sulfate	436		3.18	25.0	5	01/14/2025 18:43	WG2432115

Sample Narrative:
L1816112-03 WG2432115: Dilution due to matrix impact on instrumentation at lower dilution

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Mercury,Dissolved	U		0.0000700	0.000200	1	01/15/2025 15:21	WG2432539

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Arsenic,Dissolved	U		0.00783	0.0100	1	01/15/2025 15:11	WG2433481
Barium,Dissolved	0.241		0.000773	0.00500	1	01/15/2025 15:11	WG2433481
Cadmium,Dissolved	U		0.000538	0.00200	1	01/15/2025 15:11	WG2433481
Chromium,Dissolved	U		0.00151	0.0100	1	01/15/2025 15:11	WG2433481
Lead,Dissolved	U		0.00243	0.00600	1	01/15/2025 15:11	WG2433481
Selenium,Dissolved	U		0.00616	0.0100	1	01/15/2025 15:11	WG2433481
Silver,Dissolved	0.00314	J	0.00289	0.00500	1	01/15/2025 15:11	WG2433481

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0113	0.0500	1	01/13/2025 18:45	WG2432455
Acrolein	U		0.00254	0.0500	1	01/13/2025 18:45	WG2432455
Acrylonitrile	U		0.000671	0.0100	1	01/13/2025 18:45	WG2432455
Benzene	U		0.0000941	0.00100	1	01/13/2025 18:45	WG2432455
Bromobenzene	U		0.000118	0.00100	1	01/13/2025 18:45	WG2432455
Bromodichloromethane	U		0.000136	0.00100	1	01/13/2025 18:45	WG2432455
Bromoform	U		0.000129	0.00100	1	01/13/2025 18:45	WG2432455
Bromomethane	U		0.000605	0.00500	1	01/13/2025 18:45	WG2432455
n-Butylbenzene	U		0.000157	0.00100	1	01/13/2025 18:45	WG2432455
sec-Butylbenzene	U		0.000125	0.00100	1	01/13/2025 18:45	WG2432455
tert-Butylbenzene	U		0.000127	0.00100	1	01/13/2025 18:45	WG2432455
Carbon tetrachloride	U		0.000128	0.00100	1	01/13/2025 18:45	WG2432455
Chlorobenzene	U		0.000116	0.00100	1	01/13/2025 18:45	WG2432455
Chlorodibromomethane	U		0.000140	0.00100	1	01/13/2025 18:45	WG2432455
Chloroethane	U		0.000192	0.00500	1	01/13/2025 18:45	WG2432455
Chloroform	U		0.000111	0.00500	1	01/13/2025 18:45	WG2432455
Chloromethane	U		0.000960	0.00250	1	01/13/2025 18:45	WG2432455
2-Chlorotoluene	U		0.000106	0.00100	1	01/13/2025 18:45	WG2432455
4-Chlorotoluene	U		0.000114	0.00100	1	01/13/2025 18:45	WG2432455
1,2-Dibromo-3-Chloropropane	U		0.000276	0.00500	1	01/13/2025 18:45	WG2432455
1,2-Dibromoethane	U		0.000126	0.00100	1	01/13/2025 18:45	WG2432455
Dibromomethane	U		0.000122	0.00100	1	01/13/2025 18:45	WG2432455
1,2-Dichlorobenzene	U		0.000107	0.00100	1	01/13/2025 18:45	WG2432455
1,3-Dichlorobenzene	U		0.000110	0.00100	1	01/13/2025 18:45	WG2432455
1,4-Dichlorobenzene	U		0.000120	0.00100	1	01/13/2025 18:45	WG2432455
Dichlorodifluoromethane	U		0.000374	0.00500	1	01/13/2025 18:45	WG2432455
1,1-Dichloroethane	U		0.000100	0.00100	1	01/13/2025 18:45	WG2432455
1,2-Dichloroethane	U		0.0000819	0.00100	1	01/13/2025 18:45	WG2432455
1,1-Dichloroethene	U		0.000188	0.00100	1	01/13/2025 18:45	WG2432455
cis-1,2-Dichloroethene	U		0.000126	0.00100	1	01/13/2025 18:45	WG2432455
trans-1,2-Dichloroethene	U		0.000149	0.00100	1	01/13/2025 18:45	WG2432455
1,2-Dichloropropane	U		0.000149	0.00100	1	01/13/2025 18:45	WG2432455
1,1-Dichloropropene	U		0.000142	0.00100	1	01/13/2025 18:45	WG2432455
1,3-Dichloropropane	U		0.000110	0.00100	1	01/13/2025 18:45	WG2432455
cis-1,3-Dichloropropene	U		0.000111	0.00100	1	01/13/2025 18:45	WG2432455
trans-1,3-Dichloropropene	U		0.000118	0.00100	1	01/13/2025 18:45	WG2432455
2,2-Dichloropropane	U		0.000161	0.00100	1	01/13/2025 18:45	WG2432455
Di-isopropyl ether	U		0.000105	0.00100	1	01/13/2025 18:45	WG2432455
Ethylbenzene	U		0.000137	0.00100	1	01/13/2025 18:45	WG2432455
Hexachloro-1,3-butadiene	U		0.000337	0.00100	1	01/13/2025 18:45	WG2432455
Isopropylbenzene	U		0.000105	0.00100	1	01/13/2025 18:45	WG2432455
p-Isopropyltoluene	U		0.000120	0.00100	1	01/13/2025 18:45	WG2432455
2-Butanone (MEK)	U		0.00119	0.0100	1	01/13/2025 18:45	WG2432455
Methylene Chloride	U		0.000430	0.00500	1	01/13/2025 18:45	WG2432455
4-Methyl-2-pentanone (MIBK)	U		0.000478	0.0100	1	01/13/2025 18:45	WG2432455

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Methyl tert-butyl ether	U		0.000101	0.00100	1	01/13/2025 18:45	WG2432455
Naphthalene	U		0.00100	0.00500	1	01/13/2025 18:45	WG2432455
n-Propylbenzene	U		0.0000993	0.00100	1	01/13/2025 18:45	WG2432455
Styrene	U		0.000118	0.00100	1	01/13/2025 18:45	WG2432455
1,1,1,2-Tetrachloroethane	U		0.000147	0.00100	1	01/13/2025 18:45	WG2432455
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100	1	01/13/2025 18:45	WG2432455
1,1,2-Trichlorotrifluoroethane	U		0.000180	0.00100	1	01/13/2025 18:45	WG2432455
Tetrachloroethene	U		0.000300	0.00100	1	01/13/2025 18:45	WG2432455
Toluene	U		0.000278	0.00100	1	01/13/2025 18:45	WG2432455
1,2,3-Trichlorobenzene	U		0.000230	0.00100	1	01/13/2025 18:45	WG2432455
1,2,4-Trichlorobenzene	U		0.000481	0.00100	1	01/13/2025 18:45	WG2432455
1,1,1-Trichloroethane	U		0.000149	0.00100	1	01/13/2025 18:45	WG2432455
1,1,2-Trichloroethane	U		0.000158	0.00100	1	01/13/2025 18:45	WG2432455
Trichloroethene	U		0.000190	0.00100	1	01/13/2025 18:45	WG2432455
Trichlorofluoromethane	U		0.000160	0.00500	1	01/13/2025 18:45	WG2432455
1,2,3-Trichloropropane	U		0.000237	0.00250	1	01/13/2025 18:45	WG2432455
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	01/13/2025 18:45	WG2432455
1,2,3-Trimethylbenzene	U		0.000104	0.00100	1	01/13/2025 18:45	WG2432455
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	01/13/2025 18:45	WG2432455
Vinyl chloride	U		0.000234	0.00100	1	01/13/2025 18:45	WG2432455
Xylenes, Total	U		0.000174	0.00300	1	01/13/2025 18:45	WG2432455
(S) Toluene-d8	*107*			*80.0-120*		*01/13/2025 18:45*	WG2432455
(S) 4-Bromofluorobenzene	*103*			*77.0-126*		*01/13/2025 18:45*	WG2432455
(S) 1,2-Dichloroethane-d4	*95.6*			*70.0-130*		*01/13/2025 18:45*	WG2432455

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
2,4-D	U		0.000671	0.00200	1	01/16/2025 05:18	WG2432318
Dalapon	U		0.000734	0.00200	1	01/16/2025 05:18	WG2432318
2,4-DB	U		0.000686	0.00200	1	01/16/2025 05:18	WG2432318
Dicamba	U		0.000395	0.00200	1	01/16/2025 05:18	WG2432318
Dichloroprop	U		0.000954	0.00200	1	01/16/2025 05:18	WG2432318
Dinoseb	U		0.000455	0.00200	1	01/16/2025 05:18	WG2432318
MCPA	U		0.0858	0.100	1	01/16/2025 05:18	WG2432318
MCPP	U		0.0743	0.100	1	01/16/2025 05:18	WG2432318
2,4,5-T	U		0.000858	0.00200	1	01/16/2025 05:18	WG2432318
2,4,5-TP (Silvex)	U		0.000505	0.00200	1	01/16/2025 05:18	WG2432318
(S) 2,4-Dichlorophenyl Acetic Acid	*65.0*			*14.0-158*		*01/16/2025 05:18*	WG2432318

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Aldrin	U		0.0000249	0.0000500	1	01/15/2025 02:04	WG2432279
Alpha BHC	U		0.0000277	0.0000500	1	01/15/2025 02:04	WG2432279
Beta BHC	U		0.0000326	0.0000500	1	01/15/2025 02:04	WG2432279
Delta BHC	U		0.0000403	0.0000500	1	01/15/2025 02:04	WG2432279
Gamma BHC	U		0.0000267	0.0000500	1	01/15/2025 02:04	WG2432279
Chlordane	U		0.000700	0.00500	1	01/15/2025 02:04	WG2432279
4,4-DDD	U		0.0000297	0.0000500	1	01/15/2025 02:04	WG2432279
4,4-DDE	U		0.0000276	0.0000500	1	01/15/2025 02:04	WG2432279
4,4-DDT	U		0.0000211	0.0000500	1	01/15/2025 02:04	WG2432279
Dieldrin	U		0.0000298	0.0000500	1	01/15/2025 02:04	WG2432279
Endosulfan I	U		0.0000306	0.0000500	1	01/15/2025 02:04	WG2432279
Endosulfan II	U		0.0000311	0.0000500	1	01/15/2025 02:04	WG2432279

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Endosulfan sulfate	U		0.0000306	0.0000500	1	01/15/2025 02:04	WG2432279
Endrin	U		0.0000329	0.0000500	1	01/15/2025 02:04	WG2432279
Endrin aldehyde	U		0.0000358	0.0000500	1	01/15/2025 02:04	WG2432279
Endrin ketone	U		0.0000322	0.0000500	1	01/15/2025 02:04	WG2432279
Hexachlorobenzene	U		0.0000425	0.0000500	1	01/15/2025 02:04	WG2432279
Heptachlor	U		0.0000290	0.0000500	1	01/15/2025 02:04	WG2432279
Heptachlor epoxide	U		0.0000307	0.0000500	1	01/15/2025 02:04	WG2432279
Methoxychlor	U		0.0000400	0.0000500	1	01/15/2025 02:04	WG2432279
Toxaphene	U		0.000400	0.000500	1	01/15/2025 02:04	WG2432279
(S) Decachlorobiphenyl	*12.1*			*10.0-128*		*01/15/2025 02:04*	WG2432279
(S) Tetrachloro-m-xylene	*56.2*			*10.0-127*		*01/15/2025 02:04*	WG2432279

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Acetone	U		0.0113	0.0500	1	01/13/2025 15:48	WG2432455
Acrolein	U		0.00254	0.0500	1	01/13/2025 15:48	WG2432455
Acrylonitrile	U		0.000671	0.0100	1	01/13/2025 15:48	WG2432455
Benzene	U		0.0000941	0.00100	1	01/13/2025 15:48	WG2432455
Bromobenzene	U		0.000118	0.00100	1	01/13/2025 15:48	WG2432455
Bromodichloromethane	U		0.000136	0.00100	1	01/13/2025 15:48	WG2432455
Bromoform	U		0.000129	0.00100	1	01/13/2025 15:48	WG2432455
Bromomethane	U		0.000605	0.00500	1	01/13/2025 15:48	WG2432455
n-Butylbenzene	U		0.000157	0.00100	1	01/13/2025 15:48	WG2432455
sec-Butylbenzene	U		0.000125	0.00100	1	01/13/2025 15:48	WG2432455
tert-Butylbenzene	U		0.000127	0.00100	1	01/13/2025 15:48	WG2432455
Carbon tetrachloride	U		0.000128	0.00100	1	01/13/2025 15:48	WG2432455
Chlorobenzene	U		0.000116	0.00100	1	01/13/2025 15:48	WG2432455
Chlorodibromomethane	U		0.000140	0.00100	1	01/13/2025 15:48	WG2432455
Chloroethane	U		0.000192	0.00500	1	01/13/2025 15:48	WG2432455
Chloroform	U		0.000111	0.00500	1	01/13/2025 15:48	WG2432455
Chloromethane	U		0.000960	0.00250	1	01/13/2025 15:48	WG2432455
2-Chlorotoluene	U		0.000106	0.00100	1	01/13/2025 15:48	WG2432455
4-Chlorotoluene	U		0.000114	0.00100	1	01/13/2025 15:48	WG2432455
1,2-Dibromo-3-Chloropropane	U		0.000276	0.00500	1	01/13/2025 15:48	WG2432455
1,2-Dibromoethane	U		0.000126	0.00100	1	01/13/2025 15:48	WG2432455
Dibromomethane	U		0.000122	0.00100	1	01/13/2025 15:48	WG2432455
1,2-Dichlorobenzene	U		0.000107	0.00100	1	01/13/2025 15:48	WG2432455
1,3-Dichlorobenzene	U		0.000110	0.00100	1	01/13/2025 15:48	WG2432455
1,4-Dichlorobenzene	U		0.000120	0.00100	1	01/13/2025 15:48	WG2432455
Dichlorodifluoromethane	U		0.000374	0.00500	1	01/13/2025 15:48	WG2432455
1,1-Dichloroethane	U		0.000100	0.00100	1	01/13/2025 15:48	WG2432455
1,2-Dichloroethane	U		0.0000819	0.00100	1	01/13/2025 15:48	WG2432455
1,1-Dichloroethene	U		0.000188	0.00100	1	01/13/2025 15:48	WG2432455
cis-1,2-Dichloroethene	U		0.000126	0.00100	1	01/13/2025 15:48	WG2432455
trans-1,2-Dichloroethene	U		0.000149	0.00100	1	01/13/2025 15:48	WG2432455
1,2-Dichloropropane	U		0.000149	0.00100	1	01/13/2025 15:48	WG2432455
1,1-Dichloropropene	U		0.000142	0.00100	1	01/13/2025 15:48	WG2432455
1,3-Dichloropropane	U		0.000110	0.00100	1	01/13/2025 15:48	WG2432455
cis-1,3-Dichloropropene	U		0.000111	0.00100	1	01/13/2025 15:48	WG2432455
trans-1,3-Dichloropropene	U		0.000118	0.00100	1	01/13/2025 15:48	WG2432455
2,2-Dichloropropane	U		0.000161	0.00100	1	01/13/2025 15:48	WG2432455
Di-isopropyl ether	U		0.000105	0.00100	1	01/13/2025 15:48	WG2432455
Ethylbenzene	U		0.000137	0.00100	1	01/13/2025 15:48	WG2432455
Hexachloro-1,3-butadiene	U		0.000337	0.00100	1	01/13/2025 15:48	WG2432455
Isopropylbenzene	U		0.000105	0.00100	1	01/13/2025 15:48	WG2432455
p-Isopropyltoluene	U		0.000120	0.00100	1	01/13/2025 15:48	WG2432455
2-Butanone (MEK)	U		0.00119	0.0100	1	01/13/2025 15:48	WG2432455
Methylene Chloride	U		0.000430	0.00500	1	01/13/2025 15:48	WG2432455
4-Methyl-2-pentanone (MIBK)	U		0.000478	0.0100	1	01/13/2025 15:48	WG2432455
Methyl tert-butyl ether	U		0.000101	0.00100	1	01/13/2025 15:48	WG2432455
Naphthalene	U		0.00100	0.00500	1	01/13/2025 15:48	WG2432455
n-Propylbenzene	U		0.0000993	0.00100	1	01/13/2025 15:48	WG2432455
Styrene	U		0.000118	0.00100	1	01/13/2025 15:48	WG2432455
1,1,1,2-Tetrachloroethane	U		0.000147	0.00100	1	01/13/2025 15:48	WG2432455
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100	1	01/13/2025 15:48	WG2432455
1,1,2-Trichlorotrifluoroethane	U		0.000180	0.00100	1	01/13/2025 15:48	WG2432455
Tetrachloroethene	U		0.000300	0.00100	1	01/13/2025 15:48	WG2432455
Toluene	U		0.000278	0.00100	1	01/13/2025 15:48	WG2432455
1,2,3-Trichlorobenzene	U		0.000230	0.00100	1	01/13/2025 15:48	WG2432455
1,2,4-Trichlorobenzene	U		0.000481	0.00100	1	01/13/2025 15:48	WG2432455

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
1,1,1-Trichloroethane	U		0.000149	0.00100	1	01/13/2025 15:48	WG2432455
1,1,2-Trichloroethane	U		0.000158	0.00100	1	01/13/2025 15:48	WG2432455
Trichloroethene	U		0.000190	0.00100	1	01/13/2025 15:48	WG2432455
Trichlorofluoromethane	U		0.000160	0.00500	1	01/13/2025 15:48	WG2432455
1,2,3-Trichloropropane	U		0.000237	0.00250	1	01/13/2025 15:48	WG2432455
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	01/13/2025 15:48	WG2432455
1,2,3-Trimethylbenzene	U		0.000104	0.00100	1	01/13/2025 15:48	WG2432455
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	01/13/2025 15:48	WG2432455
Vinyl chloride	U		0.000234	0.00100	1	01/13/2025 15:48	WG2432455
Xylenes, Total	U		0.000174	0.00300	1	01/13/2025 15:48	WG2432455
(S) Toluene-d8	*109*			*80.0-120*		*01/13/2025 15:48*	WG2432455
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*01/13/2025 15:48*	WG2432455
(S) 1,2-Dichloroethane-d4	*96.5*			*70.0-130*		*01/13/2025 15:48*	WG2432455

Method Blank (MB)

(MB) R4166428-2 01/13/25 10:39

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		4.75	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1815913-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1815913-01 01/13/25 10:53 • (DUP) R4166428-3 01/13/25 10:56

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	119	122	1	1.98		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1816201-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1816201-03 01/13/25 13:47 • (DUP) R4166428-4 01/13/25 14:06

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	72.8	72.8	1	0.00737		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4166428-1 01/13/25 10:35

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	97.1	97.1	90.0-110	

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R4166597-1 01/13/25 19:07

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ammonia Nitrogen	U		0.0539	0.100

L1815314-24 Original Sample (OS) • Duplicate (DUP)

(OS) L1815314-24 01/13/25 19:12 • (DUP) R4166597-3 01/13/25 19:13

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	U	U	1	0.000		10

L1815314-25 Original Sample (OS) • Duplicate (DUP)

(OS) L1815314-25 01/13/25 19:18 • (DUP) R4166597-6 01/13/25 19:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	U	U	1	0.000		10

Laboratory Control Sample (LCS)

(LCS) R4166597-2 01/13/25 19:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7.50	7.48	99.8	90.0-110	

L1815314-24 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815314-24 01/13/25 19:12 • (MS) R4166597-4 01/13/25 19:15 • (MSD) R4166597-5 01/13/25 19:16

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ammonia Nitrogen	5.00	U	4.83	4.94	96.7	98.9	1	90.0-110			2.25	10

L1815314-25 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815314-25 01/13/25 19:18 • (MS) R4166597-7 01/13/25 19:21 • (MSD) R4166597-8 01/13/25 19:27

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ammonia Nitrogen	5.00	U	4.82	4.91	96.5	98.2	1	90.0-110			1.77	10

Method Blank (MB)

(MB) R4167531-1 01/16/25 13:50

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Phosphorus,Total	0.0344	J	0.00373	0.100

L1815637-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1815637-01 01/16/25 13:53 • (DUP) R4167531-3 01/16/25 13:54

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphorus,Total	0.274	0.260	1	5.24		20

L1816112-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1816112-01 01/16/25 13:57 • (DUP) R4167531-4 01/16/25 13:58

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphorus,Total	0.115	0.222	1	63.5	P1	20

Laboratory Control Sample (LCS)

(LCS) R4167531-2 01/16/25 13:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Phosphorus,Total	4.30	4.10	95.3	85.0-115	

L1816409-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1816409-01 01/16/25 14:11 • (MS) R4167531-5 01/16/25 14:12 • (MSD) R4167531-6 01/16/25 14:13

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Phosphorus,Total	2.50	0.655	1.58	1.58	37.0	37.0	1	90.0-110	J6	J6	0.000	20

L1816112-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1816112-01 01/15/25 11:14 • (DUP) R4167097-2 01/15/25 11:14

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.45	7.41	1	0.538		1

Sample Narrative:

OS: 7.45 at 18.1C

DUP: 7.41 at 18.5C

Laboratory Control Sample (LCS)

(LCS) R4167097-1 01/15/25 11:14

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	10.0	100	99.0-101	

Sample Narrative:

LCS: 10 at 18.6C

Method Blank (MB)

(MB) R4166728-1 01/14/25 11:26

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfide	U		0.0255	0.0500

L1816112-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1816112-01 01/14/25 11:26 • (DUP) R4166728-3 01/14/25 11:26

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfide	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4166728-2 01/14/25 11:26

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfide	0.500	0.534	107	85.0-115	

L1816112-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1816112-02 01/14/25 11:27 • (MS) R4166728-4 01/14/25 11:27 • (MSD) R4166728-5 01/14/25 11:27

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfide	0.500	U	0.366	0.343	73.2	68.6	1	80.0-120	J6	J6	6.49	20

Method Blank (MB)

(MB) R4166770-1 01/14/25 12:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfite	U		1.19	3.00

L1815576-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1815576-02 01/14/25 12:30 • (DUP) R4166770-5 01/14/25 12:30

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfite	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4166770-2 01/14/25 12:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfite	20.0	19.0	95.0	85.0-115	

L1815576-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1815576-01 01/14/25 12:30 • (MS) R4166770-3 01/14/25 12:30 • (MSD) R4166770-4 01/14/25 12:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfite	20.0	2.00	20.0	20.0	90.0	90.0	1	85.0-115			0.000	20

Method Blank (MB)

(MB) R4166769-3 01/13/25 16:42

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.547	1.00
Nitrate as (N)	U		0.0884	0.100
Nitrite as (N)	U		0.0794	0.100
Sulfate	U		0.637	5.00

L1816136-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1816136-01 01/13/25 17:17 • (DUP) R4166769-5 01/13/25 17:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	39.6	39.6	1	0.0164		15
Nitrite as (N)	U	U	1	0.000		15
Sulfate	19.3	19.3	1	0.00414		15

L1816138-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1816138-03 01/13/25 19:02 • (DUP) R4166769-9 01/13/25 19:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	90.6	89.9	1	0.790		15
Nitrate as (N)	2.57	2.52	1	2.21		15
Nitrite as (N)	U	U	1	0.000		15
Sulfate	37.2	37.2	1	0.0258		15

L1816136-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1816136-01 01/14/25 18:03 • (DUP) R4166920-1 01/14/25 18:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate as (N)	8.38	9.46	5	12.1		15

Laboratory Control Sample (LCS)

(LCS) R4166769-4 01/13/25 17:00

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	40.0	100	80.0-120	
Nitrate as (N)	8.00	8.13	102	80.0-120	
Nitrite as (N)	8.00	7.64	95.5	80.0-120	
Sulfate	40.0	40.0	100	80.0-120	

L1816136-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1816136-01 01/13/25 17:17 • (MS) R4166769-6 01/13/25 17:52 • (MSD) R4166769-7 01/13/25 18:09

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	39.6	72.2	71.8	81.5	80.6	1	80.0-120			0.529	15
Nitrate as (N)	8.00	10.4	16.6	16.4	77.4	76.0	1	80.0-120	E J6	E J6	0.699	15
Nitrite as (N)	8.00	U	9.22	9.21	115	115	1	80.0-120			0.154	15
Sulfate	40.0	19.3	55.6	55.0	90.6	89.2	1	80.0-120			0.998	15

L1816138-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1816138-03 01/13/25 19:02 • (MS) R4166769-10 01/13/25 19:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	90.6	111	50.5	1	80.0-120	E J6
Nitrate as (N)	8.00	2.57	10.3	96.7	1	80.0-120	E
Nitrite as (N)	8.00	U	9.15	114	1	80.0-120	
Sulfate	40.0	37.2	70.0	82.0	1	80.0-120	

QUALITY CONTROL SUMMARY

L1816112-01,02,03

Method Blank (MB)

(MB) R4167247-1 01/15/25 15:04

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury,Dissolved	U		0.0000700	0.000200

Laboratory Control Sample (LCS)

(LCS) R4167247-2 01/15/25 15:18

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury,Dissolved	0.00300	0.00297	99.0	80.0-120	

L1816112-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1816112-03 01/15/25 15:21 • (MS) R4167247-4 01/15/25 15:26 • (MSD) R4167247-5 01/15/25 15:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury,Dissolved	0.00300	U	0.00292	0.00297	97.4	99.0	1	75.0-125			1.68	20

Method Blank (MB)

(MB) R4167229-1 01/15/25 14:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Arsenic,Dissolved	U		0.00783	0.0100
Barium,Dissolved	U		0.000773	0.00500
Cadmium,Dissolved	0.000662	J	0.000538	0.00200
Chromium,Dissolved	U		0.00151	0.0100
Lead,Dissolved	U		0.00243	0.00600
Selenium,Dissolved	U		0.00616	0.0100
Silver,Dissolved	U		0.00289	0.00500

Laboratory Control Sample (LCS)

(LCS) R4167229-2 01/15/25 15:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic,Dissolved	1.00	1.01	101	80.0-120	
Barium,Dissolved	1.00	1.04	104	80.0-120	
Cadmium,Dissolved	1.00	1.00	100	80.0-120	
Chromium,Dissolved	1.00	1.01	101	80.0-120	
Lead,Dissolved	1.00	1.01	101	80.0-120	
Selenium,Dissolved	1.00	0.966	96.6	80.0-120	
Silver,Dissolved	0.200	0.205	102	80.0-120	

L1816112-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1816112-01 01/15/25 15:03 • (MS) R4167229-4 01/15/25 15:06 • (MSD) R4167229-5 01/15/25 15:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic,Dissolved	1.00	U	1.03	1.02	103	102	1	75.0-125			0.0518	20
Barium,Dissolved	1.00	0.276	1.27	1.27	99.6	99.0	1	75.0-125			0.438	20
Cadmium,Dissolved	1.00	0.00125	0.994	0.996	99.3	99.4	1	75.0-125			0.161	20
Chromium,Dissolved	1.00	0.00162	0.994	0.984	99.2	98.3	1	75.0-125			0.966	20
Lead,Dissolved	1.00	U	1.01	1.01	101	101	1	75.0-125			0.0587	20
Selenium,Dissolved	1.00	U	0.984	0.975	98.4	97.5	1	75.0-125			0.957	20
Silver,Dissolved	0.200	U	0.205	0.205	102	103	1	75.0-125			0.198	20

Method Blank (MB)

(MB) R4166780-3 01/13/25 11:25

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acetone	U		0.0113	0.0500
Acrolein	U		0.00254	0.0500
Acrylonitrile	U		0.000671	0.0100
Benzene	U		0.0000941	0.00100
Bromobenzene	U		0.000118	0.00100
Bromodichloromethane	U		0.000136	0.00100
Bromoform	U		0.000129	0.00100
Bromomethane	U		0.000605	0.00500
n-Butylbenzene	U		0.000157	0.00100
sec-Butylbenzene	U		0.000125	0.00100
tert-Butylbenzene	U		0.000127	0.00100
Carbon tetrachloride	U		0.000128	0.00100
Chlorobenzene	U		0.000116	0.00100
Chlorodibromomethane	U		0.000140	0.00100
Chloroethane	U		0.000192	0.00500
Chloroform	U		0.000111	0.00500
Chloromethane	U		0.000960	0.00250
2-Chlorotoluene	U		0.000106	0.00100
4-Chlorotoluene	U		0.000114	0.00100
1,2-Dibromo-3-Chloropropane	U		0.000276	0.00500
1,2-Dibromoethane	U		0.000126	0.00100
Dibromomethane	U		0.000122	0.00100
1,2-Dichlorobenzene	U		0.000107	0.00100
1,3-Dichlorobenzene	U		0.000110	0.00100
1,4-Dichlorobenzene	U		0.000120	0.00100
Dichlorodifluoromethane	U		0.000374	0.00500
1,1-Dichloroethane	U		0.000100	0.00100
1,2-Dichloroethane	U		0.0000819	0.00100
1,1-Dichloroethene	U		0.000188	0.00100
cis-1,2-Dichloroethene	U		0.000126	0.00100
trans-1,2-Dichloroethene	U		0.000149	0.00100
1,2-Dichloropropane	U		0.000149	0.00100
1,1-Dichloropropene	U		0.000142	0.00100
1,3-Dichloropropane	U		0.000110	0.00100
cis-1,3-Dichloropropene	U		0.000111	0.00100
trans-1,3-Dichloropropene	U		0.000118	0.00100
2,2-Dichloropropane	U		0.000161	0.00100
Di-isopropyl ether	U		0.000105	0.00100
Ethylbenzene	U		0.000137	0.00100
Hexachloro-1,3-butadiene	U		0.000337	0.00100

Method Blank (MB)

(MB) R4166780-3 01/13/25 11:25

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Isopropylbenzene	U		0.000105	0.00100
p-Isopropyltoluene	U		0.000120	0.00100
2-Butanone (MEK)	U		0.00119	0.0100
Methylene Chloride	U		0.000430	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.000478	0.0100
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.0000993	0.00100
Styrene	U		0.000118	0.00100
1,1,1,2-Tetrachloroethane	U		0.000147	0.00100
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100
1,1,2-Trichlorotrifluoroethane	U		0.000180	0.00100
Tetrachloroethene	U		0.000300	0.00100
Toluene	U		0.000278	0.00100
1,2,3-Trichlorobenzene	U		0.000230	0.00100
1,2,4-Trichlorobenzene	U		0.000481	0.00100
1,1,1-Trichloroethane	U		0.000149	0.00100
1,1,2-Trichloroethane	U		0.000158	0.00100
Trichloroethene	U		0.000190	0.00100
Trichlorofluoromethane	U		0.000160	0.00500
1,2,3-Trichloropropane	U		0.000237	0.00250
1,2,4-Trimethylbenzene	U		0.000322	0.00100
1,2,3-Trimethylbenzene	U		0.000104	0.00100
1,3,5-Trimethylbenzene	U		0.000104	0.00100
Vinyl chloride	U		0.000234	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*107*			*80.0-120*
(S) 4-Bromofluorobenzene	*102*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*95.6*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R4166780-1 01/13/25 10:19

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	0.0250	0.0263	105	19.0-160	J
Acrolein	0.0250	0.0310	124	10.0-160	J
Acrylonitrile	0.0250	0.0285	114	55.0-149	
Benzene	0.00500	0.00533	107	70.0-123	

Laboratory Control Sample (LCS)

(LCS) R4166780-1 01/13/25 10:19

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromobenzene	0.00500	0.00513	103	73.0-121	
Bromodichloromethane	0.00500	0.00534	107	75.0-120	
Bromoform	0.00500	0.00445	89.0	68.0-132	
Bromomethane	0.00500	0.00538	108	10.0-160	
n-Butylbenzene	0.00500	0.00527	105	73.0-125	
sec-Butylbenzene	0.00500	0.00538	108	75.0-125	
tert-Butylbenzene	0.00500	0.00531	106	76.0-124	
Carbon tetrachloride	0.00500	0.00514	103	68.0-126	
Chlorobenzene	0.00500	0.00524	105	80.0-121	
Chlorodibromomethane	0.00500	0.00488	97.6	77.0-125	
Chloroethane	0.00500	0.00499	99.8	47.0-150	J
Chloroform	0.00500	0.00542	108	73.0-120	
Chloromethane	0.00500	0.00524	105	41.0-142	
2-Chlorotoluene	0.00500	0.00518	104	76.0-123	
4-Chlorotoluene	0.00500	0.00523	105	75.0-122	
1,2-Dibromo-3-Chloropropane	0.00500	0.00496	99.2	58.0-134	J
1,2-Dibromoethane	0.00500	0.00519	104	80.0-122	
Dibromomethane	0.00500	0.00563	113	80.0-120	
1,2-Dichlorobenzene	0.00500	0.00548	110	79.0-121	
1,3-Dichlorobenzene	0.00500	0.00533	107	79.0-120	
1,4-Dichlorobenzene	0.00500	0.00530	106	79.0-120	
Dichlorodifluoromethane	0.00500	0.00566	113	51.0-149	
1,1-Dichloroethane	0.00500	0.00539	108	70.0-126	
1,2-Dichloroethane	0.00500	0.00544	109	70.0-128	
1,1-Dichloroethene	0.00500	0.00532	106	71.0-124	
cis-1,2-Dichloroethene	0.00500	0.00554	111	73.0-120	
trans-1,2-Dichloroethene	0.00500	0.00530	106	73.0-120	
1,2-Dichloropropane	0.00500	0.00544	109	77.0-125	
1,1-Dichloropropene	0.00500	0.00529	106	74.0-126	
1,3-Dichloropropane	0.00500	0.00539	108	80.0-120	
cis-1,3-Dichloropropene	0.00500	0.00553	111	80.0-123	
trans-1,3-Dichloropropene	0.00500	0.00539	108	78.0-124	
2,2-Dichloropropane	0.00500	0.00586	117	58.0-130	
Di-isopropyl ether	0.00500	0.00545	109	58.0-138	
Ethylbenzene	0.00500	0.00518	104	79.0-123	
Hexachloro-1,3-butadiene	0.00500	0.00535	107	54.0-138	
Isopropylbenzene	0.00500	0.00519	104	76.0-127	
p-Isopropyltoluene	0.00500	0.00546	109	76.0-125	
2-Butanone (MEK)	0.0250	0.0325	130	44.0-160	
Methylene Chloride	0.00500	0.00517	103	67.0-120	

Laboratory Control Sample (LCS)

(LCS) R4166780-1 01/13/25 10:19

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
4-Methyl-2-pentanone (MIBK)	0.0250	0.0275	110	68.0-142	
Methyl tert-butyl ether	0.00500	0.00564	113	68.0-125	
Naphthalene	0.00500	0.00528	106	54.0-135	
n-Propylbenzene	0.00500	0.00537	107	77.0-124	
Styrene	0.00500	0.00466	93.2	73.0-130	
1,1,1,2-Tetrachloroethane	0.00500	0.00513	103	75.0-125	
1,1,2,2-Tetrachloroethane	0.00500	0.00549	110	65.0-130	
1,1,2-Trichlorotrifluoroethane	0.00500	0.00600	120	69.0-132	
Tetrachloroethene	0.00500	0.00526	105	72.0-132	
Toluene	0.00500	0.00515	103	79.0-120	
1,2,3-Trichlorobenzene	0.00500	0.00506	101	50.0-138	
1,2,4-Trichlorobenzene	0.00500	0.00492	98.4	57.0-137	
1,1,1-Trichloroethane	0.00500	0.00551	110	73.0-124	
1,1,2-Trichloroethane	0.00500	0.00518	104	80.0-120	
Trichloroethene	0.00500	0.00529	106	78.0-124	
Trichlorofluoromethane	0.00500	0.00593	119	59.0-147	
1,2,3-Trichloropropane	0.00500	0.00596	119	73.0-130	
1,2,4-Trimethylbenzene	0.00500	0.00548	110	76.0-121	
1,2,3-Trimethylbenzene	0.00500	0.00535	107	77.0-120	
1,3,5-Trimethylbenzene	0.00500	0.00534	107	76.0-122	
Vinyl chloride	0.00500	0.00526	105	67.0-131	
Xylenes, Total	0.0150	0.0157	105	79.0-123	
(S) Toluene-d8			*98.8*	*80.0-120*	
(S) 4-Bromofluorobenzene			*99.2*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*94.4*	*70.0-130*	

Method Blank (MB)

(MB) R4167696-1 01/15/25 22:33

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
2,4-D	U		0.000671	0.00200
Dalapon	U		0.000734	0.00200
2,4-DB	U		0.000686	0.00200
Dicamba	U		0.000395	0.00200
Dichloroprop	U		0.000954	0.00200
Dinoseb	U		0.000455	0.00200
MCPA	U		0.0858	0.100
MCPP	U		0.0743	0.100
2,4,5-T	U		0.000858	0.00200
2,4,5-TP (Silvex)	U		0.000505	0.00200
(S) 2,4-Dichlorophenyl Acetic Acid	*94.4*			*14.0-158*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4167696-2 01/15/25 22:43 • (LCSD) R4167696-3 01/15/25 22:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2,4-D	0.00250	0.00258	0.00264	103	106	50.0-120			2.30	20
Dalapon	0.00250	0.00203	0.00192	81.2	76.8	32.0-120		J	5.57	20
2,4-DB	0.00250	0.00262	0.00254	105	102	53.0-140			3.10	20
Dicamba	0.00250	0.00241	0.00244	96.4	97.6	51.0-120			1.24	20
Dichloroprop	0.00250	0.00260	0.00253	104	101	55.0-127			2.73	20
Dinoseb	0.00250	0.00204	0.00229	81.6	91.6	36.0-134			11.5	20
MCPA	0.250	0.333	0.291	133	116	10.0-160	P		13.5	40
MCPP	0.250	0.199	0.221	79.6	88.4	10.0-160			10.5	23
2,4,5-T	0.00250	0.00261	0.00265	104	106	54.0-120			1.52	20
2,4,5-TP (Silvex)	0.00250	0.00252	0.00257	101	103	50.0-125			1.96	20
(S) 2,4-Dichlorophenyl Acetic Acid				*93.2*	*90.8*	*14.0-158*				

Method Blank (MB)

(MB) R4166891-1 01/14/25 15:02

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Aldrin	U		0.0000249	0.0000500
Alpha BHC	U		0.0000277	0.0000500
Beta BHC	U		0.0000326	0.0000500
Delta BHC	U		0.0000403	0.0000500
Gamma BHC	U		0.0000267	0.0000500
Chlordane	U		0.000700	0.00500
4,4-DDD	U		0.0000297	0.0000500
4,4-DDE	U		0.0000276	0.0000500
4,4-DDT	U		0.0000211	0.0000500
Dieldrin	U		0.0000298	0.0000500
Endosulfan I	U		0.0000306	0.0000500
Endosulfan II	U		0.0000311	0.0000500
Endosulfan sulfate	U		0.0000306	0.0000500
Endrin	U		0.0000329	0.0000500
Endrin aldehyde	U		0.0000358	0.0000500
Endrin ketone	U		0.0000322	0.0000500
Hexachlorobenzene	U		0.0000425	0.0000500
Heptachlor	U		0.0000290	0.0000500
Heptachlor epoxide	U		0.0000307	0.0000500
Methoxychlor	U		0.0000400	0.0000500
Toxaphene	U		0.000400	0.000500
(S) Decachlorobiphenyl	*67.0*			*10.0-128*
(S) Tetrachloro-m-xylene	*96.8*			*10.0-127*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4166891-2 01/14/25 15:11 • (LCSD) R4166891-3 01/14/25 15:19

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Aldrin	0.00100	0.00123	0.00116	123	116	22.0-124			5.86	34
Alpha BHC	0.00100	0.00129	0.00119	129	119	54.0-130			8.06	23
Beta BHC	0.00100	0.00121	0.00113	121	113	53.0-136			6.84	20
Delta BHC	0.00100	0.00116	0.00107	116	107	54.0-133			8.07	20
Gamma BHC	0.00100	0.00128	0.00119	128	119	55.0-129			7.29	20
4,4-DDD	0.00100	0.00123	0.00117	123	117	56.0-140			5.00	22
4,4-DDE	0.00100	0.00123	0.00115	123	115	52.0-128			6.72	22
4,4-DDT	0.00100	0.00115	0.00111	115	111	50.0-141			3.54	23
Dieldrin	0.00100	0.00125	0.00118	125	118	59.0-133			5.76	20
Endosulfan I	0.00100	0.00119	0.00113	119	113	57.0-131			5.17	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4166891-2 01/14/25 15:11 • (LCSD) R4166891-3 01/14/25 15:19

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Endosulfan II	0.00100	0.00119	0.00112	119	112	58.0-133			6.06	20
Endosulfan sulfate	0.00100	0.00110	0.00102	110	102	58.0-133			7.55	21
Endrin	0.00100	0.00121	0.00112	121	112	57.0-134			7.73	21
Endrin aldehyde	0.00100	0.000940	0.000883	94.0	88.3	53.0-129			6.25	20
Endrin ketone	0.00100	0.00116	0.00110	116	110	60.0-145			5.31	20
Hexachlorobenzene	0.00100	0.00110	0.00111	110	111	30.0-114			0.905	30
Heptachlor	0.00100	0.00116	0.00109	116	109	27.0-132			6.22	31
Heptachlor epoxide	0.00100	0.00125	0.00116	125	116	57.0-130			7.47	20
Methoxychlor	0.00100	0.00111	0.00106	111	106	54.0-155			4.61	24
(S) Decachlorobiphenyl				*63.7*	*66.8*	*10.0-128*				
(S) Tetrachloro-m-xylene				*96.5*	*91.2*	*10.0-127*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P	RPD between the primary and confirmatory analysis exceeded 40%.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Baseline Engineering

112 N Rubey Dr
Unit 210
Golden. CO 80403

Billing Information:
Tiffany Love
PO Box 312
Broomfield, CO 80403

Pres Chk

Report to: **Vincent Barlock**

Email To: **vincentbarlock@baselinecorp.com;terry.mcgowan@baselinecorp.com**

Project Description: **Welby Gardens, Arvada, Colorado**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **303-940-9966**

Client Project # **45038-001**

Lab Project #

Collected by (print): Vincent Barlock/Terry McGowan

Site/Facility ID # Welby Gardens

P.O. #

Collected by (signature): [signature]

Immediately Packed on Ice N ____ Y x__

Rush? (Lab MUST Be Notified)
____ Same Day __X__ Five Day
____ Next Day ____ 5 Day (Rad Only)
____ Two Day ____ 10 Day (Rad Only)
____ Three Day

Quote #

Date Results Needed: 01/17/25 [2]

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	1,4-Dioxane - 8270-SIM - 1 liter amber bottle	Pesticides - 8081 100 ml amber - 2 bottles	Herbicies - 8151 -1 liter amber bottle	RCRA 8 Metals - 1-250 ml HDPE [1]	VOCs - 8260 - 3-40 ml abmber bottles	SUBPFAS - 1633 - 2-500 ml + 1-125 ml HDPE bottles	Sulfate and Nitrate - 1-125 HDPE bottle	Remarks	Sample # (lab only)
MW-03	Grab	GW		01-08-2025	15:00	12	X	X	X	X [1]	X	X	X	[1] need to filter	-01
MW-04	Grab	GW		01-08-2025	15:40	12	X	X	X	X [1]	X	X	X	[1] need to filter	-02
MW-01	Grab	GW		01-08-2025	16:20	12	X	X	X	X [1]	X	X	X	[1] need to filter	-03
Lab blank supplied with cooler		GW		01-02-2025	?	1					X				-04

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

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MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1616172
C118

Acctnum: **BASENGGCO**
Template: **T266205**
Prelogin: **P1124047**
PM: **824 - Chris Ward**
PB:

Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: [1] **HNO3 removed from bottles and triple rinsed. Needs to be lab filtered and preservative added.** [2] **We have to report as soon as possible, prior to the 22nd.**

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking # 4257 0935 8472

Sample Receipt Checklist
COC Seal Present/Intact: __NP__Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	01-9-2025	9:30	[signature]
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	1-9-25	18:00	FedEx
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			[signature]

Trip Blank Received: Yes / No HCL / MeoH TBR

Temp: 1 °C Bottles Received: TLAG 11.3+0=11.3 36

If preservation required by Login: Date/Time

Date: 01/13/2025 Time: 0900

Hold:

Condition: NCF / OK

01/13/25-NCF-L1816112/L1816114-BASENGGCO R2/R3/R4/RX/EX

Time estimate: oh **Time spent:** oh **Grouping date:** 14 January 2025

Members

DP Devin Piedimonte (responsible) CW Chris Ward

- [x] Login Clarification needed
- [ ] Chain of custody is incomplete
- [ ] Please specify Metals requested
- [ ] Please specify TCLP requested
- [ ] Received additional samples not listed on COC
- [ ] Sample IDs on containers do not match IDs on COC
- [ ] Client did not "X" analysis
- [ ] Chain of Custody is missing
- [ ] If no COC: Received by:_____
- [ ] If no COC: Date/Time:_____
- [ ] If no COC: Temp./Cont.Rec./pH:_____
- [ ] If no COC: Carrier:_____
- [ ] If no COC: Tracking #:_____
- [ ] Client informed by call
- [ ] Client informed by Email
- [ ] Client informed by Voicemail
- [ ] Date/Time:_____
- [ ] PM initials:_____
- [ ] Client Contact:_____Terry McGowan_____

Comments

Devin Piedimonte *13 January 2025 10:21 AM*

OOT TLA9 11.3+0=11.3*C

Chris Ward *13 January 2025 11:31 AM*

Please proceed

Devin Piedimonte *14 January 2025 8:17 AM*

Thank you for your time and help. Completed!

ANALYTICAL REPORT

January 21, 2025

Baseline Engineering

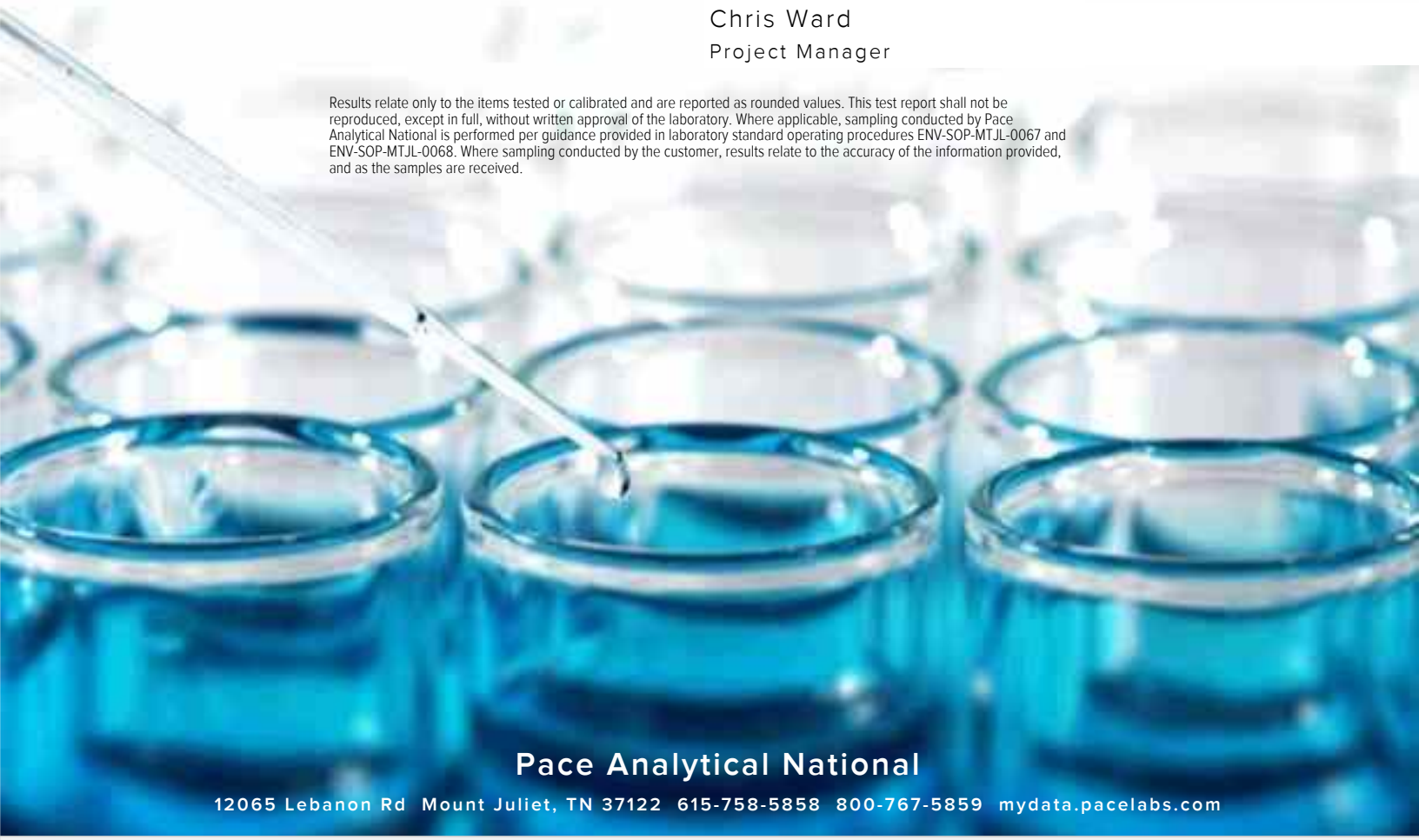
Sample Delivery Group:	L1816114
Samples Received:	01/13/2025
Project Number:	45038-001
Description:	Welby Gardens, Arvada Colorado

Report To: Vincent Barlock
112 N Rubey Dr. , Unit 210
Golden, CO 80403

Entire Report Reviewed By:

Chris Ward
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

TABLE OF CONTENTS

Cp: Cover Page 1

Tc: Table of Contents 2

Ss: Sample Summary 3

Cn: Case Narrative 4

Gl: Glossary of Terms 5

Al: Accreditations & Locations 6

Sc: Sample Chain of Custody 7

MW-03 L1816114-01 GW

Collected by: VB/TM
Collected date/time: 01/08/25 15:00
Received date/time: 01/13/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2432365	1	01/21/25 00:00	01/21/25 00:00	-	Minneapolis, MN 55414

MW-04 L1816114-02 GW

Collected by: VB/TM
Collected date/time: 01/08/25 15:40
Received date/time: 01/13/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2432365	1	01/21/25 00:00	01/21/25 00:00	-	Minneapolis, MN 55414

MW-01 L1816114-03 GW

Collected by: VB/TM
Collected date/time: 01/08/25 16:20
Received date/time: 01/13/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2432365	1	01/21/25 00:00	01/21/25 00:00	-	Minneapolis, MN 55414

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris Ward
Project Manager

Project Narrative

L1816114 -01, -02, -03 contains subout data that is included after the chain of custody.

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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Abbreviations and Definitions

SDG	Sample Delivery Group.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
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Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Baseline Engineering

112 N Rubey Dr
Unit 210
Golden. CO 80403

Billing Information:
Tiffany Love
PO Box 312
Broomfield, CO 80403

Pres Chk

Report to: **Vincent Barlock**

Email To: **vincentbarlock@baselinecorp.com;terry.mcgowan@baselinecorp.com**

Project Description: **Welby Gardens, Arvada, Colorado**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **303-940-9966**

Client Project # **45038-001**

Lab Project #

Collected by (print): Vincent Barlock/Terry McGowan

Site/Facility ID # Welby Gardens

P.O. #

Collected by (signature):

Immediately Packed on Ice N____ Y x

Rush? (Lab MUST Be Notified)
____ Same Day __X__ Five Day
____ Next Day ____ 5 Day (Rad Only)
____ Two Day ____ 10 Day (Rad Only)
____ Three Day

Quote #

Date Results Needed 01/17/25 [2]

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	1,4-Dioxane - 8270-SIM - 1 liter amber bottle	Pesticides - 8081 100 ml amber - 2 bottles	Herbicies - 8151 -1 liter amber bottle	RCRA 8 Metals - 1-250 ml HDPE [1]	VOCs - 8260 - 3-40 ml abmber bottles	SUBPFAS - 1633 - 2-500 ml + 1-125 ml HDPE bottles	Sulfate and Nitrate - 1-125 HDPE bottle				Remarks	Sample # (lab only)
MW-03	Grab	GW		01-08-2025	15:00	12	X	X	X	X [1]	X	X	X				[1] need to filter	-9
MW-04	Grab	GW		01-08-2025	15:40	12	X	X	X	X [1]	X	X	X				[1] need to filter	-01
MW-01	Grab	GW		01-08-2025	16:20	12	X	X	X	X [1]	X	X	X				[1] need to filter	-57
Lab blank supplied with cooler		GW		01-02-2025	?	1					X							

Chain of Custody Page 1 of 1

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MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

L1810114

SDG # **C118**

T

Acctnum: **BASENGGCO**
Template: **T266205**
Prelogin: **P1124047**
PM: **824 - Chris Ward**
PB:

Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:[1] HNO3 removed from bottles and triple rinsed. Needs to be lab filtered and preservative added. [2] We have to report as soon as possible, prior to the 22nd.

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 4257 0935 8472

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	01-9-2025	4:30		1	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	
	1-9-25	18:00	FedEx	TEMP 11.3+0°11.3 36	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	Hold: Condition: NCF / OK
				01/13/2025 0900	

01/13/25-NCF-L1816112/L1816114-BASENGGCO R2/R3/R4/RX/EX

Time estimate: oh **Time spent:** oh **Grouping date:** 14 January 2025

Members

DP Devin Piedimonte (responsible) CW Chris Ward

- [x] Login Clarification needed
- [ ] Chain of custody is incomplete
- [ ] Please specify Metals requested
- [ ] Please specify TCLP requested
- [ ] Received additional samples not listed on COC
- [ ] Sample IDs on containers do not match IDs on COC
- [ ] Client did not "X" analysis
- [ ] Chain of Custody is missing
- [ ] If no COC: Received by:_____
- [ ] If no COC: Date/Time:_____
- [ ] If no COC: Temp./Cont.Rec./pH:_____
- [ ] If no COC: Carrier:_____
- [ ] If no COC: Tracking #:_____
- [ ] Client informed by call
- [ ] Client informed by Email
- [ ] Client informed by Voicemail
- [ ] Date/Time:_____
- [ ] PM initials:_____
- [ ] Client Contact:_____Terry McGowan_____

Comments

Devin Piedimonte *13 January 2025 10:21 AM*

OOT TLA9 11.3+0=11.3*C

Chris Ward *13 January 2025 11:31 AM*

Please proceed

Devin Piedimonte *14 January 2025 8:17 AM*

Thank you for your time and help. Completed!

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

January 21, 2025

Client Services
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122

RE: Project: L1816114 WG2432365
Pace Project No.: 10721086

Dear Client Services:

Enclosed are the analytical results for sample(s) received by the laboratory on January 15, 2025. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tong Lee
tong.lee@pacelabs.com
(612)473-6804
Project Manager

Enclosures

cc: Jimmy Huckaba, Pace Analytical National Center for Testing & Innovation

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: L1816114 WG2432365
Pace Project No.: 10721086

Pace Analytical Services, LLC - Minneapolis MN
1700 Elm Street SE, Minneapolis, MN 55414
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
DoD Certification via A2LA #: 2926.01
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
GMP+ Certification #: GMP050884
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
ISO/IEC 17025 Certification via A2LA #: 2926.01
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification (A2LA) #: R-036
North Dakota Certification (MN) #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification via A2LA #: 2926.01
USDA Permit #: P330-19-00208

REPORT OF LABORATORY ANALYSIS

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(612)607-1700

SAMPLE SUMMARY

Project: L1816114 WG2432365
Pace Project No.: 10721086

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10721086001	**MW-03**	Water	01/08/25 15:00	01/15/25 08:55
10721086002	**MW-04**	Water	01/08/25 15:40	01/15/25 08:55
10721086003	**MW-01**	Water	01/08/25 16:20	01/15/25 08:55

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SAMPLE ANALYTE COUNT

Project: L1816114 WG2432365
Pace Project No.: 10721086

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10721086001	**MW-03**	EPA 1633 DRAFT	MJL	64	PASI-M
10721086002	**MW-04**	EPA 1633 DRAFT	MJL	64	PASI-M
10721086003	**MW-01**	EPA 1633 DRAFT	MJL	64	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

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ANALYTICAL RESULTS

Project: L1816114 WG2432365
Pace Project No.: 10721086

Sample: MW-03 **Lab ID: 10721086001** Collected: 01/08/25 15:00 Received: 01/15/25 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633 DRAFT Water	Analytical Method: EPA 1633 DRAFT Preparation Method: EPA 1633 DRAFT Initial Volume/Weight: 24.6 mL Final Volume/Weight: 5 mL Pace Analytical Services - Minneapolis							
11Cl-PF3OUdS	ND	ng/L	81.3	1	01/17/25 13:28	01/18/25 18:43	763051-92-9	
3:3 FTCA	ND	ng/L	102	1	01/17/25 13:28	01/18/25 18:43	356-02-5	
4:2 FTS	ND	ng/L	81.3	1	01/17/25 13:28	01/18/25 18:43	757124-72-4	
5:3 FTCA	ND	ng/L	508	1	01/17/25 13:28	01/18/25 18:43	914637-49-3	
6:2 FTS	ND	ng/L	81.3	1	01/17/25 13:28	01/18/25 18:43	27619-97-2	
7:3 FTCA	ND	ng/L	508	1	01/17/25 13:28	01/18/25 18:43	812-70-4	
8:2 FTS	ND	ng/L	81.3	1	01/17/25 13:28	01/18/25 18:43	39108-34-4	
9Cl-PF3ONS	ND	ng/L	81.3	1	01/17/25 13:28	01/18/25 18:43	756426-58-1	
ADONA	ND	ng/L	81.3	1	01/17/25 13:28	01/18/25 18:43	919005-14-4	
HFPO-DA	ND	ng/L	81.3	1	01/17/25 13:28	01/18/25 18:43	13252-13-6	
NEtFOSAA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	2991-50-6	
NEtFOSA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	4151-50-2	
NEtFOSE	ND	ng/L	203	1	01/17/25 13:28	01/18/25 18:43	1691-99-2	
NFDHA	ND	ng/L	40.7	1	01/17/25 13:28	01/18/25 18:43	151772-58-6	
NMeFOSAA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	2355-31-9	
NMeFOSA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	31506-32-8	
NMeFOSE	ND	ng/L	203	1	01/17/25 13:28	01/18/25 18:43	24448-09-7	
PFBS	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	375-73-5	
PFDA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	335-76-2	
PFHxA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	307-24-4	
PFBA	ND	ng/L	81.3	1	01/17/25 13:28	01/18/25 18:43	375-22-4	
PFDS	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	335-77-3	
PFDoS	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	79780-39-5	
PFEESA	ND	ng/L	40.7	1	01/17/25 13:28	01/18/25 18:43	113507-82-7	
PFHpS	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	375-92-8	
PFMBA	ND	ng/L	40.7	1	01/17/25 13:28	01/18/25 18:43	863090-89-5	
PFMPA	ND	ng/L	40.7	1	01/17/25 13:28	01/18/25 18:43	377-73-1	
PFNS	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	68259-12-1	
PFOSA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	754-91-6	
PFPeA	ND	ng/L	40.7	1	01/17/25 13:28	01/18/25 18:43	2706-90-3	
PFPeS	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	2706-91-4	
PFDoA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	307-55-1	
PFHpA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	375-85-9	
PFHxS	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	355-46-4	
PFNA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	375-95-1	
PFOS	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	1763-23-1	
PFOA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	335-67-1	
PFTeDA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	376-06-7	
PFTrDA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	72629-94-8	
PFUnA	ND	ng/L	20.3	1	01/17/25 13:28	01/18/25 18:43	2058-94-8	
Surrogates								
13C2-PFDoA (S)	78	%.	10-130	1	01/17/25 13:28	01/18/25 18:43		D3
13C3HFPO-DA (S)	93	%.	40-130	1	01/17/25 13:28	01/18/25 18:43		
13C3-PFBS (S)	87	%.	40-135	1	01/17/25 13:28	01/18/25 18:43		
13C3-PFHxS (S)	87	%.	40-130	1	01/17/25 13:28	01/18/25 18:43		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: L1816114 WG2432365
Pace Project No.: 10721086

Sample: MW-03 **Lab ID: 10721086001** Collected: 01/08/25 15:00 Received: 01/15/25 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633 DRAFT Water	Analytical Method: EPA 1633 DRAFT Preparation Method: EPA 1633 DRAFT Initial Volume/Weight: 24.6 mL Final Volume/Weight: 5 mL Pace Analytical Services - Minneapolis							
Surrogates								
13C4-PFBA (S)	85	%.	5-130	1	01/17/25 13:28	01/18/25 18:43		
13C4-PFHpA (S)	86	%.	40-130	1	01/17/25 13:28	01/18/25 18:43		
13C5-PFHxA (S)	88	%.	40-130	1	01/17/25 13:28	01/18/25 18:43		
13C5-PFPeA (S)	91	%.	40-130	1	01/17/25 13:28	01/18/25 18:43		
13C6-PFDA (S)	86	%.	40-130	1	01/17/25 13:28	01/18/25 18:43		
13C8-PFOA (S)	82	%.	40-130	1	01/17/25 13:28	01/18/25 18:43		
13C8-PFOS (S)	83	%.	40-130	1	01/17/25 13:28	01/18/25 18:43		
13C8-PFOSA (S)	82	%.	40-130	1	01/17/25 13:28	01/18/25 18:43		
13C9-PFNA (S)	87	%.	40-130	1	01/17/25 13:28	01/18/25 18:43		
d3-MeFOSAA (S)	74	%.	40-170	1	01/17/25 13:28	01/18/25 18:43		
d3-NMeFOSA (S)	73	%.	10-130	1	01/17/25 13:28	01/18/25 18:43		
d5-EtFOSAA (S)	68	%.	25-135	1	01/17/25 13:28	01/18/25 18:43		
d5-NEtFOSA (S)	73	%.	10-130	1	01/17/25 13:28	01/18/25 18:43		
d7-NMeFOSE (S)	84	%.	10-130	1	01/17/25 13:28	01/18/25 18:43		
d9-NEtFOSE (S)	83	%.	10-130	1	01/17/25 13:28	01/18/25 18:43		
13C2-PFTA (S)	71	%.	10-130	1	01/17/25 13:28	01/18/25 18:43		
13C7-PFUdA (S)	82	%.	30-130	1	01/17/25 13:28	01/18/25 18:43		
13C24:2FTS (S)	60	%.	40-200	1	01/17/25 13:28	01/18/25 18:43		
13C26:2FTS (S)	71	%.	40-200	1	01/17/25 13:28	01/18/25 18:43		
13C28:2FTS (S)	73	%.	40-300	1	01/17/25 13:28	01/18/25 18:43		

Sample: MW-04 **Lab ID: 10721086002** Collected: 01/08/25 15:40 Received: 01/15/25 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633 DRAFT Water	Analytical Method: EPA 1633 DRAFT Preparation Method: EPA 1633 DRAFT Initial Volume/Weight: 5 mL Final Volume/Weight: 5 mL Pace Analytical Services - Minneapolis							
11Cl-PF3OUdS	ND	ng/L	400	1	01/17/25 13:28	01/18/25 18:59	763051-92-9	
3:3 FTCA	ND	ng/L	500	1	01/17/25 13:28	01/18/25 18:59	356-02-5	
4:2 FTS	ND	ng/L	400	1	01/17/25 13:28	01/18/25 18:59	757124-72-4	
5:3 FTCA	ND	ng/L	2500	1	01/17/25 13:28	01/18/25 18:59	914637-49-3	
6:2 FTS	ND	ng/L	400	1	01/17/25 13:28	01/18/25 18:59	27619-97-2	
7:3 FTCA	ND	ng/L	2500	1	01/17/25 13:28	01/18/25 18:59	812-70-4	
8:2 FTS	ND	ng/L	400	1	01/17/25 13:28	01/18/25 18:59	39108-34-4	
9Cl-PF3ONS	ND	ng/L	400	1	01/17/25 13:28	01/18/25 18:59	756426-58-1	
ADONA	ND	ng/L	400	1	01/17/25 13:28	01/18/25 18:59	919005-14-4	
HFPO-DA	ND	ng/L	400	1	01/17/25 13:28	01/18/25 18:59	13252-13-6	
NEtFOSAA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	2991-50-6	
NEtFOSA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	4151-50-2	
NEtFOSE	ND	ng/L	1000	1	01/17/25 13:28	01/18/25 18:59	1691-99-2	
NFDHA	ND	ng/L	200	1	01/17/25 13:28	01/18/25 18:59	151772-58-6	

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ANALYTICAL RESULTS

Project: L1816114 WG2432365
Pace Project No.: 10721086

Sample: MW-04 **Lab ID: 10721086002** Collected: 01/08/25 15:40 Received: 01/15/25 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633 DRAFT Water	Analytical Method: EPA 1633 DRAFT Preparation Method: EPA 1633 DRAFT Initial Volume/Weight: 5 mL Final Volume/Weight: 5 mL Pace Analytical Services - Minneapolis							
NMeFOSAA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	2355-31-9	
NMeFOSA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	31506-32-8	
NMeFOSE	ND	ng/L	1000	1	01/17/25 13:28	01/18/25 18:59	24448-09-7	
PFBS	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	375-73-5	
PFDA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	335-76-2	
PFHxA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	307-24-4	
PFBA	ND	ng/L	400	1	01/17/25 13:28	01/18/25 18:59	375-22-4	
PFDS	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	335-77-3	
PFDoS	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	79780-39-5	
PFEESA	ND	ng/L	200	1	01/17/25 13:28	01/18/25 18:59	113507-82-7	
PFHpS	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	375-92-8	
PFMBA	ND	ng/L	200	1	01/17/25 13:28	01/18/25 18:59	863090-89-5	
PFMPA	ND	ng/L	200	1	01/17/25 13:28	01/18/25 18:59	377-73-1	
PFNS	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	68259-12-1	
PFOSA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	754-91-6	
PFPeA	ND	ng/L	200	1	01/17/25 13:28	01/18/25 18:59	2706-90-3	
PFPeS	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	2706-91-4	
PFDoA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	307-55-1	
PFHpA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	375-85-9	
PFHxS	**270**	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	355-46-4	
PFNA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	375-95-1	
PFOS	**129**	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	1763-23-1	
PFOA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	335-67-1	
PFTeDA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	376-06-7	
PFTrDA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	72629-94-8	
PFUnA	ND	ng/L	100	1	01/17/25 13:28	01/18/25 18:59	2058-94-8	
Surrogates								
13C2-PFDoA (S)	75	%.	10-130	1	01/17/25 13:28	01/18/25 18:59		
13C3HFPO-DA (S)	92	%.	40-130	1	01/17/25 13:28	01/18/25 18:59		
13C3-PFBS (S)	86	%.	40-135	1	01/17/25 13:28	01/18/25 18:59		
13C3-PFHxS (S)	85	%.	40-130	1	01/17/25 13:28	01/18/25 18:59		
13C4-PFBA (S)	86	%.	5-130	1	01/17/25 13:28	01/18/25 18:59		
13C4-PFHpA (S)	84	%.	40-130	1	01/17/25 13:28	01/18/25 18:59		
13C5-PFHxA (S)	85	%.	40-130	1	01/17/25 13:28	01/18/25 18:59		
13C5-PFPeA (S)	89	%.	40-130	1	01/17/25 13:28	01/18/25 18:59		
13C6-PFDA (S)	85	%.	40-130	1	01/17/25 13:28	01/18/25 18:59		
13C8-PFOA (S)	83	%.	40-130	1	01/17/25 13:28	01/18/25 18:59		
13C8-PFOS (S)	84	%.	40-130	1	01/17/25 13:28	01/18/25 18:59		
13C8-PFOSA (S)	82	%.	40-130	1	01/17/25 13:28	01/18/25 18:59		
13C9-PFNA (S)	87	%.	40-130	1	01/17/25 13:28	01/18/25 18:59		
d3-MeFOSAA (S)	73	%.	40-170	1	01/17/25 13:28	01/18/25 18:59		
d3-NMeFOSA (S)	69	%.	10-130	1	01/17/25 13:28	01/18/25 18:59		
d5-EtFOSAA (S)	67	%.	25-135	1	01/17/25 13:28	01/18/25 18:59		
d5-NEtFOSA (S)	67	%.	10-130	1	01/17/25 13:28	01/18/25 18:59		
d7-NMeFOSE (S)	82	%.	10-130	1	01/17/25 13:28	01/18/25 18:59		

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ANALYTICAL RESULTS

Project: L1816114 WG2432365
Pace Project No.: 10721086

Sample: MW-04 **Lab ID: 10721086002** Collected: 01/08/25 15:40 Received: 01/15/25 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633 DRAFT Water	Analytical Method: EPA 1633 DRAFT Preparation Method: EPA 1633 DRAFT Initial Volume/Weight: 5 mL Final Volume/Weight: 5 mL Pace Analytical Services - Minneapolis							
Surrogates								
d9-NEtFOSE (S)	81	%.	10-130	1	01/17/25 13:28	01/18/25 18:59		
13C2-PFTA (S)	67	%.	10-130	1	01/17/25 13:28	01/18/25 18:59		
13C7-PFUdA (S)	80	%.	30-130	1	01/17/25 13:28	01/18/25 18:59		
13C24:2FTS (S)	59	%.	40-200	1	01/17/25 13:28	01/18/25 18:59		
13C26:2FTS (S)	72	%.	40-200	1	01/17/25 13:28	01/18/25 18:59		
13C28:2FTS (S)	74	%.	40-300	1	01/17/25 13:28	01/18/25 18:59		

Sample: MW-01 **Lab ID: 10721086003** Collected: 01/08/25 16:20 Received: 01/15/25 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633 DRAFT Water	Analytical Method: EPA 1633 DRAFT Preparation Method: EPA 1633 DRAFT Initial Volume/Weight: 9.6 mL Final Volume/Weight: 5 mL Pace Analytical Services - Minneapolis							
11Cl-PF3OUdS	ND	ng/L	208	1	01/17/25 13:28	01/18/25 19:45	763051-92-9	
3:3 FTCA	ND	ng/L	260	1	01/17/25 13:28	01/18/25 19:45	356-02-5	
4:2 FTS	ND	ng/L	208	1	01/17/25 13:28	01/18/25 19:45	757124-72-4	
5:3 FTCA	ND	ng/L	1300	1	01/17/25 13:28	01/18/25 19:45	914637-49-3	
6:2 FTS	ND	ng/L	208	1	01/17/25 13:28	01/18/25 19:45	27619-97-2	
7:3 FTCA	ND	ng/L	1300	1	01/17/25 13:28	01/18/25 19:45	812-70-4	
8:2 FTS	ND	ng/L	208	1	01/17/25 13:28	01/18/25 19:45	39108-34-4	
9Cl-PF3ONS	ND	ng/L	208	1	01/17/25 13:28	01/18/25 19:45	756426-58-1	
ADONA	ND	ng/L	208	1	01/17/25 13:28	01/18/25 19:45	919005-14-4	
HFPO-DA	ND	ng/L	208	1	01/17/25 13:28	01/18/25 19:45	13252-13-6	
NEtFOSAA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	2991-50-6	
NEtFOSA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	4151-50-2	
NEtFOSE	ND	ng/L	521	1	01/17/25 13:28	01/18/25 19:45	1691-99-2	
NFDHA	ND	ng/L	104	1	01/17/25 13:28	01/18/25 19:45	151772-58-6	
NMeFOSAA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	2355-31-9	
NMeFOSA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	31506-32-8	
NMeFOSE	ND	ng/L	521	1	01/17/25 13:28	01/18/25 19:45	24448-09-7	
PFBS	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	375-73-5	
PFDA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	335-76-2	
PFHxA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	307-24-4	
PFBA	ND	ng/L	208	1	01/17/25 13:28	01/18/25 19:45	375-22-4	
PFDS	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	335-77-3	
PFDoS	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	79780-39-5	
PFEESA	ND	ng/L	104	1	01/17/25 13:28	01/18/25 19:45	113507-82-7	
PFHpS	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	375-92-8	
PFMBA	ND	ng/L	104	1	01/17/25 13:28	01/18/25 19:45	863090-89-5	
PFMPA	ND	ng/L	104	1	01/17/25 13:28	01/18/25 19:45	377-73-1	
PFNS	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	68259-12-1	

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: L1816114 WG2432365
Pace Project No.: 10721086

Sample: MW-01 **Lab ID: 10721086003** Collected: 01/08/25 16:20 Received: 01/15/25 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633 DRAFT Water	Analytical Method: EPA 1633 DRAFT Preparation Method: EPA 1633 DRAFT Initial Volume/Weight: 9.6 mL Final Volume/Weight: 5 mL Pace Analytical Services - Minneapolis							
PFOSA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	754-91-6	
PFPeA	ND	ng/L	104	1	01/17/25 13:28	01/18/25 19:45	2706-90-3	
PFPeS	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	2706-91-4	
PFDoA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	307-55-1	
PFHpA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	375-85-9	
PFHxS	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	355-46-4	
PFNA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	375-95-1	
PFOS	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	1763-23-1	
PFOA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	335-67-1	
PFTeDA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	376-06-7	
PFTrDA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	72629-94-8	
PFUnA	ND	ng/L	52.1	1	01/17/25 13:28	01/18/25 19:45	2058-94-8	
Surrogates								
13C2-PFDoA (S)	75	%.	10-130	1	01/17/25 13:28	01/18/25 19:45		D3
13C3HFPO-DA (S)	94	%.	40-130	1	01/17/25 13:28	01/18/25 19:45		
13C3-PFBS (S)	86	%.	40-135	1	01/17/25 13:28	01/18/25 19:45		
13C3-PFHxS (S)	89	%.	40-130	1	01/17/25 13:28	01/18/25 19:45		
13C4-PFBA (S)	85	%.	5-130	1	01/17/25 13:28	01/18/25 19:45		
13C4-PFHpA (S)	87	%.	40-130	1	01/17/25 13:28	01/18/25 19:45		
13C5-PFHxA (S)	89	%.	40-130	1	01/17/25 13:28	01/18/25 19:45		
13C5-PFPeA (S)	92	%.	40-130	1	01/17/25 13:28	01/18/25 19:45		
13C6-PFDA (S)	86	%.	40-130	1	01/17/25 13:28	01/18/25 19:45		
13C8-PFOA (S)	89	%.	40-130	1	01/17/25 13:28	01/18/25 19:45		
13C8-PFOS (S)	86	%.	40-130	1	01/17/25 13:28	01/18/25 19:45		
13C8-PFOSA (S)	83	%.	40-130	1	01/17/25 13:28	01/18/25 19:45		
13C9-PFNA (S)	87	%.	40-130	1	01/17/25 13:28	01/18/25 19:45		
d3-MeFOSAA (S)	76	%.	40-170	1	01/17/25 13:28	01/18/25 19:45		
d3-NMeFOSA (S)	75	%.	10-130	1	01/17/25 13:28	01/18/25 19:45		
d5-EtFOSAA (S)	71	%.	25-135	1	01/17/25 13:28	01/18/25 19:45		
d5-NEtFOSA (S)	73	%.	10-130	1	01/17/25 13:28	01/18/25 19:45		
d7-NMeFOSE (S)	87	%.	10-130	1	01/17/25 13:28	01/18/25 19:45		
d9-NEtFOSE (S)	84	%.	10-130	1	01/17/25 13:28	01/18/25 19:45		
13C2-PFTA (S)	71	%.	10-130	1	01/17/25 13:28	01/18/25 19:45		
13C7-PFUdA (S)	82	%.	30-130	1	01/17/25 13:28	01/18/25 19:45		
13C24:2FTS (S)	65	%.	40-200	1	01/17/25 13:28	01/18/25 19:45		
13C26:2FTS (S)	71	%.	40-200	1	01/17/25 13:28	01/18/25 19:45		
13C28:2FTS (S)	72	%.	40-300	1	01/17/25 13:28	01/18/25 19:45		

REPORT OF LABORATORY ANALYSIS

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(612)607-1700

QUALITY CONTROL DATA

Project: L1816114 WG2432365
Pace Project No.: 10721086

QC Batch: 988369
QC Batch Method: EPA 1633 DRAFT
Analysis Method: EPA 1633 DRAFT
Analysis Description: 1633 W
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10721086001, 10721086002, 10721086003

METHOD BLANK: 5161018 Matrix: Water
Associated Lab Samples: 10721086001, 10721086002, 10721086003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
11Cl-PF3OUdS	ng/L	ND	4.0	01/18/25 16:22	
3:3 FTCA	ng/L	ND	5.0	01/18/25 16:22	
4:2 FTS	ng/L	ND	4.0	01/18/25 16:22	
5:3 FTCA	ng/L	ND	25.0	01/18/25 16:22	
6:2 FTS	ng/L	ND	4.0	01/18/25 16:22	
7:3 FTCA	ng/L	ND	25.0	01/18/25 16:22	
8:2 FTS	ng/L	ND	4.0	01/18/25 16:22	
9Cl-PF3ONS	ng/L	ND	4.0	01/18/25 16:22	
ADONA	ng/L	ND	4.0	01/18/25 16:22	
HFPO-DA	ng/L	ND	4.0	01/18/25 16:22	
NEtFOSA	ng/L	ND	1.0	01/18/25 16:22	
NEtFOSAA	ng/L	ND	1.0	01/18/25 16:22	
NEtFOSE	ng/L	ND	10	01/18/25 16:22	
NFDHA	ng/L	ND	2.0	01/18/25 16:22	
NMeFOSA	ng/L	ND	1.0	01/18/25 16:22	
NMeFOSAA	ng/L	ND	1.0	01/18/25 16:22	
NMeFOSE	ng/L	ND	10	01/18/25 16:22	
PFBA	ng/L	ND	4.0	01/18/25 16:22	
PFBS	ng/L	ND	1.0	01/18/25 16:22	
PFDA	ng/L	ND	1.0	01/18/25 16:22	
PFDoA	ng/L	ND	1.0	01/18/25 16:22	
PFDoS	ng/L	ND	1.0	01/18/25 16:22	
PFDS	ng/L	ND	1.0	01/18/25 16:22	
PFEESA	ng/L	ND	2.0	01/18/25 16:22	
PFHpA	ng/L	ND	1.0	01/18/25 16:22	
PFHpS	ng/L	ND	1.0	01/18/25 16:22	
PFHxA	ng/L	ND	1.0	01/18/25 16:22	
PFHxS	ng/L	ND	1.0	01/18/25 16:22	
PFMBA	ng/L	ND	2.0	01/18/25 16:22	
PFMPA	ng/L	ND	2.0	01/18/25 16:22	
PFNA	ng/L	ND	1.0	01/18/25 16:22	
PFNS	ng/L	ND	1.0	01/18/25 16:22	
PFOA	ng/L	ND	1.0	01/18/25 16:22	
PFOS	ng/L	ND	1.0	01/18/25 16:22	
PFOSA	ng/L	ND	1.0	01/18/25 16:22	
PFPeA	ng/L	ND	2.0	01/18/25 16:22	
PFPeS	ng/L	ND	1.0	01/18/25 16:22	
PFTeDA	ng/L	ND	1.0	01/18/25 16:22	
PFTrDA	ng/L	ND	1.0	01/18/25 16:22	
PFUnA	ng/L	ND	1.0	01/18/25 16:22	

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QUALITY CONTROL DATA

Project: L1816114 WG2432365
Pace Project No.: 10721086

METHOD BLANK: 5161018 Matrix: Water
Associated Lab Samples: 10721086001, 10721086002, 10721086003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
13C2-PFDoA (S)	%.	92	10-130	01/18/25 16:22	
13C2-PFTA (S)	%.	80	10-130	01/18/25 16:22	
13C24:2FTS (S)	%.	89	40-200	01/18/25 16:22	
13C26:2FTS (S)	%.	90	40-200	01/18/25 16:22	
13C28:2FTS (S)	%.	84	40-300	01/18/25 16:22	
13C3-PFBS (S)	%.	103	40-135	01/18/25 16:22	
13C3-PFHxS (S)	%.	98	40-130	01/18/25 16:22	
13C3HFPO-DA (S)	%.	111	40-130	01/18/25 16:22	
13C4-PFBA (S)	%.	103	5-130	01/18/25 16:22	
13C4-PFHpA (S)	%.	101	40-130	01/18/25 16:22	
13C5-PFHxA (S)	%.	104	40-130	01/18/25 16:22	
13C5-PFPeA (S)	%.	108	40-130	01/18/25 16:22	
13C6-PFDA (S)	%.	101	40-130	01/18/25 16:22	
13C7-PFUdA (S)	%.	92	30-130	01/18/25 16:22	
13C8-PFOA (S)	%.	98	40-130	01/18/25 16:22	
13C8-PFOS (S)	%.	102	40-130	01/18/25 16:22	
13C8-PFOSA (S)	%.	96	40-130	01/18/25 16:22	
13C9-PFNA (S)	%.	103	40-130	01/18/25 16:22	
d3-MeFOSAA (S)	%.	95	40-170	01/18/25 16:22	
d3-NMeFOSA (S)	%.	79	10-130	01/18/25 16:22	
d5-EtFOSAA (S)	%.	89	25-135	01/18/25 16:22	
d5-NEtFOSA (S)	%.	77	10-130	01/18/25 16:22	
d7-NMeFOSE (S)	%.	103	10-130	01/18/25 16:22	
d9-NEtFOSE (S)	%.	101	10-130	01/18/25 16:22	

LABORATORY CONTROL SAMPLE & LCSD: 5161019 5161020

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
11Cl-PF3OUdS	ng/L	86.3	71.7	68.9	83	77	55-160	4	30	
3:3 FTCA	ng/L	114	91.4	88.6	80	75	65-130	3	30	
4:2 FTS	ng/L	85.7	72.0	72.7	84	82	70-145	1	30	
5:3 FTCA	ng/L	571	458	455	80	77	70-135	1	30	
6:2 FTS	ng/L	86.8	76.4	77.0	88	86	65-155	1	30	
7:3 FTCA	ng/L	571	449	440	79	74	50-145	2	30	
8:2 FTS	ng/L	88	76.2	79.7	87	87	60-150	4	30	
9Cl-PF3ONS	ng/L	85.7	73.1	72.1	85	81	70-155	1	30	
ADONA	ng/L	86.3	74.3	75.6	86	85	65-145	2	30	
HFPO-DA	ng/L	91.4	83.2	80.0	91	84	70-140	4	30	
NEtFOSA	ng/L	22.9	19.3	19.8	85	83	65-145	2	30	
NEtFOSAA	ng/L	22.9	20.0	19.8	88	83	70-145	1	30	
NEtFOSE	ng/L	229	194	197	85	83	70-135	1	30	
NFDHA	ng/L	45.7	45.5	42.4	99	90	50-150	7	30	
NMeFOSA	ng/L	22.9	19.1	20.3	83	86	60-150	6	30	
NMeFOSAA	ng/L	22.9	19.7	18.9	86	80	50-140	4	30	

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QUALITY CONTROL DATA

Project: L1816114 WG2432365
Pace Project No.: 10721086

LABORATORY CONTROL SAMPLE & LCSD: 5161019 5161020

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
NMeFOSE	ng/L	229	195	201	85	85	70-145	3	30	
PFBA	ng/L	91.4	76.2	78.2	83	83	70-140	3	30	
PFBS	ng/L	20.3	16.8	17.6	83	84	60-145	4	30	
PFDA	ng/L	22.9	19.6	19.2	86	81	70-140	2	30	
PFDoA	ng/L	22.9	19.3	18.8	84	79	70-140	3	30	
PFDoS	ng/L	22.2	16.2	16.0	73	70	50-145	1	30	
PFDS	ng/L	22.1	17.6	17.5	80	76	60-145	1	30	
PFEESA	ng/L	40.7	35.3	33.6	87	80	70-140	5	30	
PFHpA	ng/L	22.9	19.5	19.5	85	82	70-150	0	30	
PFHpS	ng/L	21.8	18.6	18.0	86	80	70-150	4	30	
PFHxA	ng/L	22.9	19.2	19.0	84	80	70-145	1	30	
PFHxS	ng/L	20.9	17.6	17.4	84	80	65-145	1	30	
PFMBA	ng/L	45.7	39.4	37.3	86	79	60-150	6	30	
PFMPA	ng/L	45.7	39.0	37.0	85	78	55-140	5	30	
PFNA	ng/L	22.9	18.5	19.0	81	80	70-150	3	30	
PFNS	ng/L	22	18.6	19.2	85	84	65-145	3	30	
PFOA	ng/L	22.9	19.3	19.6	84	83	70-150	2	30	
PFOS	ng/L	21.2	16.8	16.5	79	75	55-150	2	30	
PFOSA	ng/L	22.9	18.6	19.5	81	82	70-145	5	30	
PFPeA	ng/L	45.7	38.2	38.5	84	81	65-135	1	30	
PFPeS	ng/L	21.5	17.6	17.8	82	80	65-140	1	30	
PFTeDA	ng/L	22.9	19.5	19.5	85	82	60-140	0	30	
PFTrDA	ng/L	22.9	19.4	18.9	85	80	65-140	2	30	
PFUnA	ng/L	22.9	18.8	19.8	82	84	70-145	6	30	
13C2-PFDoA (S)	%.				81	80	10-130			
13C2-PFTA (S)	%.				77	72	10-130			
13C24:2FTS (S)	%.				70	71	40-200			
13C26:2FTS (S)	%.				71	73	40-200			
13C28:2FTS (S)	%.				74	75	40-300			
13C3-PFBS (S)	%.				86	85	40-135			
13C3-PFHxS (S)	%.				85	88	40-130			
13C3HFPO-DA (S)	%.				94	95	40-130			
13C4-PFBA (S)	%.				88	87	5-130			
13C4-PFHpA (S)	%.				87	85	40-130			
13C5-PFHxA (S)	%.				90	89	40-130			
13C5-PFPeA (S)	%.				92	92	40-130			
13C6-PFDA (S)	%.				84	87	40-130			
13C7-PFUdA (S)	%.				84	80	30-130			
13C8-PFOA (S)	%.				92	85	40-130			
13C8-PFOS (S)	%.				88	86	40-130			
13C8-PFOSA (S)	%.				87	85	40-130			
13C9-PFNA (S)	%.				89	86	40-130			
d3-MeFOSAA (S)	%.				83	79	40-170			
d3-NMeFOSA (S)	%.				74	74	10-130			
d5-EtFOSAA (S)	%.				75	73	25-135			
d5-NEtFOSA (S)	%.				72	74	10-130			
d7-NMeFOSE (S)	%.				92	90	10-130			

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QUALITY CONTROL DATA

Project: L1816114 WG2432365
Pace Project No.: 10721086

LABORATORY CONTROL SAMPLE & LCSD: 5161019 5161020

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
d9-NEtFOSE (S)	%.				93	90	10-130			

LABORATORY CONTROL SAMPLE: 5161021

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
11Cl-PF3OUdS	ng/L	7.5	5.6	74	55-160	
3:3 FTCA	ng/L	10	8.4	84	65-130	
4:2 FTS	ng/L	7.5	6.6	88	70-145	
5:3 FTCA	ng/L	50	39.1	78	70-135	
6:2 FTS	ng/L	7.6	6.8	89	65-155	
7:3 FTCA	ng/L	50	38.9	78	50-145	
8:2 FTS	ng/L	7.7	7.1	93	60-150	
9Cl-PF3ONS	ng/L	7.5	6.0	80	70-155	
ADONA	ng/L	7.5	6.4	84	65-145	
HFPO-DA	ng/L	8	7.2	90	70-140	
NEtFOSA	ng/L	2	1.8	89	65-145	
NEtFOSAA	ng/L	2	1.7	85	70-145	
NEtFOSE	ng/L	20	17.4	87	70-135	
NFDHA	ng/L	4	4.3	108	50-150	
NMeFOSA	ng/L	2	1.7	86	60-150	
NMeFOSAA	ng/L	2	1.8	92	50-140	
NMeFOSE	ng/L	20	17.8	89	70-145	
PFBA	ng/L	8	7.3	91	70-140	
PFBS	ng/L	1.8	1.6	88	60-145	
PFDA	ng/L	2	1.7	87	70-140	
PFDoA	ng/L	2	1.7	87	70-140	
PFDoS	ng/L	1.9	1.3	67	50-145	
PFDS	ng/L	1.9	1.5	79	60-145	
PFEESA	ng/L	3.6	3.0	83	70-140	
PFHpA	ng/L	2	1.8	88	70-150	
PFHpS	ng/L	1.9	1.7	89	70-150	
PFHxA	ng/L	2	1.7	83	70-145	
PFHxS	ng/L	1.8	1.5	82	65-145	
PFMBA	ng/L	4	3.5	87	60-150	
PFMPA	ng/L	4	3.5	89	55-140	
PFNA	ng/L	2	1.6	82	70-150	
PFNS	ng/L	1.9	1.7	90	65-145	
PFOA	ng/L	2	1.8	92	70-150	
PFOS	ng/L	1.9	2.0	107	55-150	
PFOSA	ng/L	2	1.8	92	70-145	
PFPeA	ng/L	4	3.4	84	65-135	
PFPeS	ng/L	1.9	1.7	92	65-140	
PFTeDA	ng/L	2	1.7	85	60-140	
PFTrDA	ng/L	2	1.6	79	65-140	
PFUnA	ng/L	2	1.7	85	70-145	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: L1816114 WG2432365
Pace Project No.: 10721086

LABORATORY CONTROL SAMPLE: 5161021

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
13C2-PFDoA (S)	%.			77	10-130	
13C2-PFTA (S)	%.			68	10-130	
13C24:2FTS (S)	%.			76	40-200	
13C26:2FTS (S)	%.			77	40-200	
13C28:2FTS (S)	%.			77	40-300	
13C3-PFBS (S)	%.			86	40-135	
13C3-PFHxS (S)	%.			89	40-130	
13C3HFPO-DA (S)	%.			97	40-130	
13C4-PFBA (S)	%.			90	5-130	
13C4-PFHpA (S)	%.			87	40-130	
13C5-PFHxA (S)	%.			89	40-130	
13C5-PFPeA (S)	%.			93	40-130	
13C6-PFDA (S)	%.			83	40-130	
13C7-PFUdA (S)	%.			79	30-130	
13C8-PFOA (S)	%.			86	40-130	
13C8-PFOS (S)	%.			87	40-130	
13C8-PFOSA (S)	%.			81	40-130	
13C9-PFNA (S)	%.			90	40-130	
d3-MeFOSAA (S)	%.			77	40-170	
d3-NMeFOSA (S)	%.			71	10-130	
d5-EtFOSAA (S)	%.			69	25-135	
d5-NEtFOSA (S)	%.			70	10-130	
d7-NMeFOSE (S)	%.			86	10-130	
d9-NEtFOSE (S)	%.			84	10-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: L1816114 WG2432365
Pace Project No.: 10721086

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: L1816114 WG2432365
Pace Project No.: 10721086

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10721086001	**MW-03**	EPA 1633 DRAFT	988369	EPA 1633 DRAFT	988805
10721086002	**MW-04**	EPA 1633 DRAFT	988369	EPA 1633 DRAFT	988805
10721086003	**MW-01**	EPA 1633 DRAFT	988369	EPA 1633 DRAFT	988805

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Sub-Contract Chain of Custody

Batch Date/Time: 01/13/25 13:20
Sub-Contract Lab: PACEMN
Address: 1700 Elm Street Suite 200 SE
City/State: Minneapolis, MN 55414
Contact: Tong.Lee@pacelabs.com
Owner Lab: PACEMTJL
Address: 12065 Lebanon Rd.
City/State: Mt. Juliet, TN 37122
Phone: (615) 773-9756
Fax: (615) 758-5859

WO: WG2432365
Email: MTJLSuboutTeam@pacelabs.com
Results Due Date: 01/20/25
ESC Purchase Order #: L1816114
Send Reports to: James C Huckaba

Pace Analytical®

12065 Lebanon Rd.
Mt. Juliet, TN 37122
Phone:(615) 773-9756
Fax:(615) 758-5859

Sample ID Container ID	Matrix	State	Collect Date	Description	Sample Number Lab Use Only	Sample Comments Lab Use Only
MW-03 PFAS(2)500ml(1)125ml - 50503449 PFAS(2)500ml(1)125ml - 50503450 PFAS(2)500ml(1)125ml - 50503451	GW	CO	01/08/25 15:00	PFAS1633	1. L1816114-01	
MW-04 PFAS(2)500ml(1)125ml - 50503458 PFAS(2)500ml(1)125ml - 50503459 PFAS(2)500ml(1)125ml - 50503460	GW	CO	01/08/25 15:40	PFAS1633	2. L1816114-02	
MW-01 PFAS(2)500ml(1)125ml - 50503419	GW	CO	01/08/25 16:20	PFAS1633	3. L1816114-03	

001
002
003

*= Container used for multiple Samples and/or Analyses

Relinquished by: _____ **Date** 1-14-25

Received by: Donald Pace **Date** 1/15/25 855 2.6

Relinquished by: _____ **Date** _____

Received by: _____ **Date** _____

RUSH

WO# : 10721086

10721086

ENV-FRM-MIN4-0150 v17_Sample Condition Upon Receipt

CLIENT NAME: Pace National **PROJECT #:** **WO#: 10721086**

PM: TKL **Due Date: 01/22/25**

CLIENT: PASI-TN

COURIER: ☐ Client ☐ Commercial ☑ FedEx ☐ Pace ☐ SpeeDee ☐ UPS ☐ USPS

TRACKING NUMBER: 4208 1343 5662 ☐ See Exceptions form ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present: ☑ YES ☐ NO **Seals Intact:** ☑ YES ☐ NO **Biological Tissue Frozen:** ☐ YES ☐ NO ☑ N/A

Packing Material: ☑ Bubble Bags ☐ Bubble Wrap ☐ None ☐ Other **Temp Blank:** ☑ YES ☐ NO **Type of Ice:** ☐ Blue ☐ Dry ☑ Wet ☐ Melted ☐ None

Thermometer: ☑ T1 (0461) ☐ T2 (0436) ☐ T3 (0459) ☐ T4 (0402) ☐ T5 (0178) ☐ T6 (0235) ☐ T7 (0042) ☐ T8 (0775) ☐ T9 (0727) ☐ 01339252 (1710)

Did Samples Originate in West Virginia: ☐ YES ☑ NO	**Were All Container Temps taken:** ☐ YES ☐ NO ☑ N/A
Correction Factor: +0.1 **Cooler Temp Read w/Temp Blank:** 2.5 °C **Cooler Temp Corrected w/Temp Blank:** 2.6 °C	**Average Corrected Temp (no Temp Blank Only):** _____ °C
***NOTE:** Temp should be above freezing to 6°C.*	☐ See Exceptions Form ENV-FRM-MIN4-0142 ☐ 1 Container
USDA Regulated Soil: ☑ N/A – Water Sample/Other (describe): _____	**Initials & Date of Person Examining Contents:** DGS 1/15/25
Did Samples originate from one of the following states (check maps) – AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA: ☐ YES ☐ NO	Did samples originate from a foreign source (international, including Hawaii and Puerto Rico): ☐ YES ☐ NO
NOTE: If YES to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.	

LOCATION (check one): ☐ DULUTH ☑ MINNEAPOLIS ☐ VIRGINIA

	YES	NO	N/A	COMMENT(S)
Chain of Custody Present and Filled Out?	☑	☐		1.
Chain of Custody Relinquished?	☑	☐		2.
Sampler Name and/or Signature on COC?	☐	☐	☑	3.
Samples Arrived within Hold Time?	☑	☐		4. If Fecal: ☐ <8 hrs ☐ >8 hr, <24 hr ☐ No
Short Hold Time Analysis (<72 hr)?	☐	☑		5. ☐ BOD / cBOD ☐ Fecal coliform ☐ Hex Chrom ☐ HPC ☐ Nitrate ☐ Nitrite ☐ Ortho Phos ☐ Total coliform/*E. coli* ☐ Other: _____
Rush Turn Around Time Requested?	☑	☐		6.
Sufficient Sample Volume?	☑	☐		7.
Correct Containers Used? – Pace Containers Used?	☑ ☑	☐ ☐	☐	8.
Containers Intact?	☑	☐		9.
Field Filtered Volume Received for Dissolved Tests?	☐	☐	☑	10. Is sediment visible in the dissolved container: ☐ YES ☐ NO
Is sufficient information available to reconcile the samples to the COC? **NOTE:** If ID/Date/Time don't match fill out section 11. Matrix: ☐ Oil ☐ Soil ☑ Water ☐ Other	☑	☐		11. **If NO, write ID/Date/Time of container below:** ☐ See Exceptions form ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?	☐	☐	☑	12. Sample #:
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, < 2 pH, NaOH > 9 Sulfide, NaOH > 10 Cyanide)	☐	☐	☑	☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC, Oil & Grease, DRO/8015 (water) and Dioxins/PFAS	☐	☐	☑	Positive for Residual Chlorine: ☐ YES ☐ NO
NOTE: If adding preservation to the container, **verify with the PM first.** Clients may require adding preservative to the field and equipment blanks when this occurs.				**pH Paper Lot #**
				Residual Chlorine / 0-6 Roll / 0-6 Strip / 0-14 Strip
				☐ See Exceptions form ENV-FRM-MIN4-0142
Headspace in Methyl Mercury Container?	☐	☐	☑	13.
Extra labels present on soil VOA or WIDRO containers?	☐	☐	☑	14.
Headspace in VOA Vials (greater than 6mm)?	☐	☐	☑	☐ See Exceptions form ENV-FRM-MIN4-0140
Trip Blanks Present?	☐	☐	☑	15.
Trip Blank Custody Seals Present?	☐	☐	☑	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION / RESOLUTION **FIELD DATA REQUIRED:** ☐ YES ☐ NO

Person Contacted: _____ Date & Time: _____

Comments / Resolution: _____

Project Manager Review: _____ **Date:** 1/15/25

***NOTE:** When there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEQ Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).*

Labeled By: DGS **Line:** 2

ANALYTICAL REPORT

January 30, 2025

Baseline Engineering

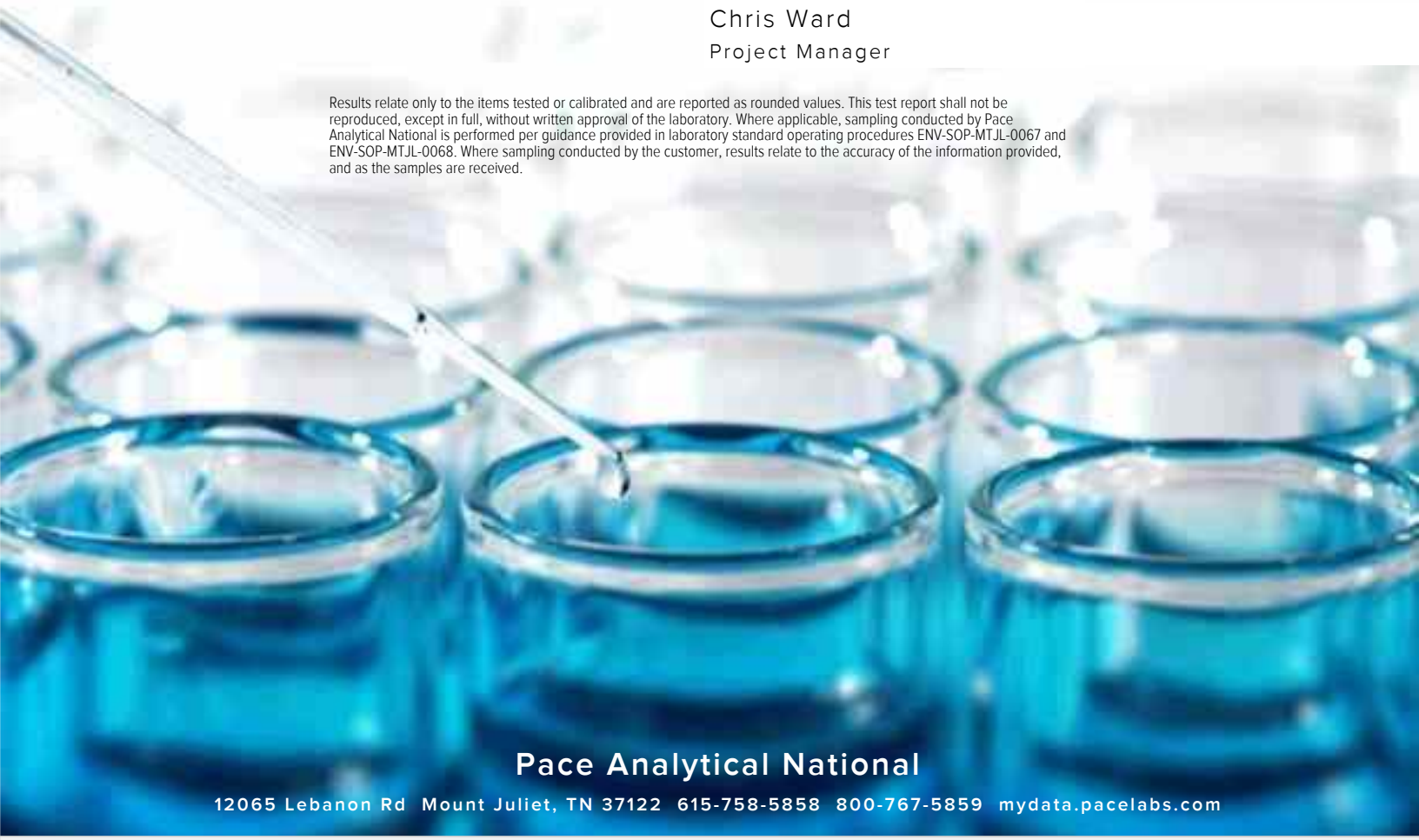
Sample Delivery Group:	L1820110
Samples Received:	01/25/2025
Project Number:	45038-002
Description:	Welby Gardens, Arvada, Canada
Site:	WELBY GARDENS
Report To:	Vincent Barlock 112 N Rubey Dr. , Unit 210 Golden, CO 80403

Entire Report Reviewed By:

Chris Ward

Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

TABLE OF CONTENTS

Cp: Cover Page 1

Tc: Table of Contents 2

Ss: Sample Summary 3

Cn: Case Narrative 4

Sr: Sample Results 5

MW-2 L1820110-01 5

LAB BLANK SUPPLIED WITH COOLER L1820110-02 8

Qc: Quality Control Summary 10

Wet Chemistry by Method 9056A 10

Mercury by Method 7470A 11

Metals (ICP) by Method 6010D 12

Volatile Organic Compounds (GC/MS) by Method 8260B 13

Chlorinated Acid Herbicides (GC) by Method 8151A 17

Pesticides (GC) by Method 8081B 18

Gl: Glossary of Terms 20

Al: Accreditations & Locations 21

Sc: Sample Chain of Custody 22

MW-2 L1820110-01 GW

Collected by: VB/TM
Collected date/time: 01/24/25 12:05
Received date/time: 01/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2439734	1	01/25/25 14:46	01/25/25 14:46	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2439734	10	01/25/25 14:32	01/25/25 14:32	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2439885	1	01/27/25 22:40	01/29/25 11:11	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2440361	1	01/27/25 21:54	01/28/25 02:54	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2440179	1	01/28/25 17:19	01/28/25 17:19	DYW	Mt. Juliet, TN
Chlorinated Acid Herbicides (GC) by Method 8151A	WG2439178	1.15	01/27/25 16:13	01/29/25 20:48	RDH	Mt. Juliet, TN
Pesticides (GC) by Method 8081B	WG2439996	1	01/27/25 06:06	01/27/25 17:24	AMB	Mt. Juliet, TN

LAB BLANK SUPPLIED WITH COOLER L1820110-02 GW

Collected by: VB/TM
Collected date/time: 01/24/25 00:00
Received date/time: 01/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2440179	1	01/28/25 15:37	01/28/25 15:37	DYW	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris Ward
Project Manager

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Nitrate as (N)	43.9		0.884	1.00	10	01/25/2025 14:32	WG2439734
Sulfate	U		0.637	5.00	1	01/25/2025 14:46	WG2439734

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Mercury	0.0000913	J	0.0000700	0.000200	1	01/29/2025 11:11	WG2439885

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Arsenic	U		0.00783	0.0100	1	01/28/2025 02:54	WG2440361
Barium	0.0644		0.000773	0.00500	1	01/28/2025 02:54	WG2440361
Cadmium	U		0.000538	0.00200	1	01/28/2025 02:54	WG2440361
Chromium	U		0.00151	0.0100	1	01/28/2025 02:54	WG2440361
Lead	U		0.00243	0.00600	1	01/28/2025 02:54	WG2440361
Selenium	0.0690		0.00616	0.0100	1	01/28/2025 02:54	WG2440361
Silver	U		0.00289	0.00500	1	01/28/2025 02:54	WG2440361

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0113	0.0500	1	01/28/2025 17:19	WG2440179
Acrolein	U	C3	0.00254	0.0500	1	01/28/2025 17:19	WG2440179
Acrylonitrile	U		0.000671	0.0100	1	01/28/2025 17:19	WG2440179
Benzene	U		0.0000941	0.00100	1	01/28/2025 17:19	WG2440179
Bromobenzene	U		0.000118	0.00100	1	01/28/2025 17:19	WG2440179
Bromodichloromethane	U		0.000136	0.00100	1	01/28/2025 17:19	WG2440179
Bromoform	U		0.000129	0.00100	1	01/28/2025 17:19	WG2440179
Bromomethane	U		0.000605	0.00500	1	01/28/2025 17:19	WG2440179
n-Butylbenzene	U		0.000157	0.00100	1	01/28/2025 17:19	WG2440179
sec-Butylbenzene	U		0.000125	0.00100	1	01/28/2025 17:19	WG2440179
tert-Butylbenzene	U		0.000127	0.00100	1	01/28/2025 17:19	WG2440179
Carbon tetrachloride	U		0.000128	0.00100	1	01/28/2025 17:19	WG2440179
Chlorobenzene	U		0.000116	0.00100	1	01/28/2025 17:19	WG2440179
Chlorodibromomethane	U		0.000140	0.00100	1	01/28/2025 17:19	WG2440179
Chloroethane	U		0.000192	0.00500	1	01/28/2025 17:19	WG2440179
Chloroform	U		0.000111	0.00500	1	01/28/2025 17:19	WG2440179
Chloromethane	U		0.000960	0.00250	1	01/28/2025 17:19	WG2440179
2-Chlorotoluene	U		0.000106	0.00100	1	01/28/2025 17:19	WG2440179
4-Chlorotoluene	U		0.000114	0.00100	1	01/28/2025 17:19	WG2440179
1,2-Dibromo-3-Chloropropane	U	C3	0.000276	0.00500	1	01/28/2025 17:19	WG2440179
1,2-Dibromoethane	U		0.000126	0.00100	1	01/28/2025 17:19	WG2440179
Dibromomethane	U		0.000122	0.00100	1	01/28/2025 17:19	WG2440179
1,2-Dichlorobenzene	U		0.000107	0.00100	1	01/28/2025 17:19	WG2440179
1,3-Dichlorobenzene	U		0.000110	0.00100	1	01/28/2025 17:19	WG2440179
1,4-Dichlorobenzene	U		0.000120	0.00100	1	01/28/2025 17:19	WG2440179
Dichlorodifluoromethane	U		0.000374	0.00500	1	01/28/2025 17:19	WG2440179
1,1-Dichloroethane	U		0.000100	0.00100	1	01/28/2025 17:19	WG2440179
1,2-Dichloroethane	U		0.0000819	0.00100	1	01/28/2025 17:19	WG2440179
1,1-Dichloroethene	U		0.000188	0.00100	1	01/28/2025 17:19	WG2440179
cis-1,2-Dichloroethene	U		0.000126	0.00100	1	01/28/2025 17:19	WG2440179
trans-1,2-Dichloroethene	U		0.000149	0.00100	1	01/28/2025 17:19	WG2440179
1,2-Dichloropropane	U		0.000149	0.00100	1	01/28/2025 17:19	WG2440179

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1,1-Dichloropropene	U		0.000142	0.00100	1	01/28/2025 17:19	WG2440179
1,3-Dichloropropane	U		0.000110	0.00100	1	01/28/2025 17:19	WG2440179
cis-1,3-Dichloropropene	U		0.000111	0.00100	1	01/28/2025 17:19	WG2440179
trans-1,3-Dichloropropene	U		0.000118	0.00100	1	01/28/2025 17:19	WG2440179
2,2-Dichloropropane	U		0.000161	0.00100	1	01/28/2025 17:19	WG2440179
Di-isopropyl ether	U		0.000105	0.00100	1	01/28/2025 17:19	WG2440179
Ethylbenzene	U		0.000137	0.00100	1	01/28/2025 17:19	WG2440179
Hexachloro-1,3-butadiene	U		0.000337	0.00100	1	01/28/2025 17:19	WG2440179
Isopropylbenzene	U		0.000105	0.00100	1	01/28/2025 17:19	WG2440179
p-Isopropyltoluene	U		0.000120	0.00100	1	01/28/2025 17:19	WG2440179
2-Butanone (MEK)	U		0.00119	0.0100	1	01/28/2025 17:19	WG2440179
Methylene Chloride	U		0.000430	0.00500	1	01/28/2025 17:19	WG2440179
4-Methyl-2-pentanone (MIBK)	U		0.000478	0.0100	1	01/28/2025 17:19	WG2440179
Methyl tert-butyl ether	U		0.000101	0.00100	1	01/28/2025 17:19	WG2440179
Naphthalene	U	C3	0.00100	0.00500	1	01/28/2025 17:19	WG2440179
n-Propylbenzene	U		0.0000993	0.00100	1	01/28/2025 17:19	WG2440179
Styrene	U		0.000118	0.00100	1	01/28/2025 17:19	WG2440179
1,1,1,2-Tetrachloroethane	U		0.000147	0.00100	1	01/28/2025 17:19	WG2440179
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100	1	01/28/2025 17:19	WG2440179
1,1,2-Trichlorotrifluoroethane	U		0.000180	0.00100	1	01/28/2025 17:19	WG2440179
Tetrachloroethene	U		0.000300	0.00100	1	01/28/2025 17:19	WG2440179
Toluene	U		0.000278	0.00100	1	01/28/2025 17:19	WG2440179
1,2,3-Trichlorobenzene	U	C3	0.000230	0.00100	1	01/28/2025 17:19	WG2440179
1,2,4-Trichlorobenzene	U	C3	0.000481	0.00100	1	01/28/2025 17:19	WG2440179
1,1,1-Trichloroethane	U		0.000149	0.00100	1	01/28/2025 17:19	WG2440179
1,1,2-Trichloroethane	U		0.000158	0.00100	1	01/28/2025 17:19	WG2440179
Trichloroethene	U		0.000190	0.00100	1	01/28/2025 17:19	WG2440179
Trichlorofluoromethane	U		0.000160	0.00500	1	01/28/2025 17:19	WG2440179
1,2,3-Trichloropropane	U		0.000237	0.00250	1	01/28/2025 17:19	WG2440179
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	01/28/2025 17:19	WG2440179
1,2,3-Trimethylbenzene	U		0.000104	0.00100	1	01/28/2025 17:19	WG2440179
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	01/28/2025 17:19	WG2440179
Vinyl chloride	U		0.000234	0.00100	1	01/28/2025 17:19	WG2440179
Xylenes, Total	U		0.000174	0.00300	1	01/28/2025 17:19	WG2440179
(S) Toluene-d8	*101*			*80.0-120*		*01/28/2025 17:19*	WG2440179
(S) 4-Bromofluorobenzene	*99.0*			*77.0-126*		*01/28/2025 17:19*	WG2440179
(S) 1,2-Dichloroethane-d4	*97.2*			*70.0-130*		*01/28/2025 17:19*	WG2440179

Chlorinated Acid Herbicides (GC) by Method 8151A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
2,4-D	U	J3 J4	0.000772	0.00230	1.15	01/29/2025 20:48	WG2439178
Dalapon	U		0.000844	0.00230	1.15	01/29/2025 20:48	WG2439178
2,4-DB	U		0.000789	0.00230	1.15	01/29/2025 20:48	WG2439178
Dicamba	U		0.000454	0.00230	1.15	01/29/2025 20:48	WG2439178
Dichloroprop	U		0.00110	0.00230	1.15	01/29/2025 20:48	WG2439178
Dinoseb	U		0.000523	0.00230	1.15	01/29/2025 20:48	WG2439178
MCPA	U		0.0987	0.115	1.15	01/29/2025 20:48	WG2439178
MCPP	U		0.0854	0.115	1.15	01/29/2025 20:48	WG2439178
2,4,5-T	U		0.000987	0.00230	1.15	01/29/2025 20:48	WG2439178
2,4,5-TP (Silvex)	U		0.000581	0.00230	1.15	01/29/2025 20:48	WG2439178
(S) 2,4-Dichlorophenyl Acetic Acid	*88.7*			*14.0-158*		*01/29/2025 20:48*	WG2439178

Sample Narrative:

L1820110-01 WG2439178: Dilution due to matrix impact during extraction procedure

Pesticides (GC) by Method 8081B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Aldrin	U		0.0000249	0.0000500	1	01/27/2025 17:24	WG2439996
Alpha BHC	U		0.0000277	0.0000500	1	01/27/2025 17:24	WG2439996
Beta BHC	U		0.0000326	0.0000500	1	01/27/2025 17:24	WG2439996
Delta BHC	U		0.0000403	0.0000500	1	01/27/2025 17:24	WG2439996
Gamma BHC	U		0.0000267	0.0000500	1	01/27/2025 17:24	WG2439996
Chlordane	U		0.000700	0.00500	1	01/27/2025 17:24	WG2439996
4,4-DDD	U		0.0000297	0.0000500	1	01/27/2025 17:24	WG2439996
4,4-DDE	U		0.0000276	0.0000500	1	01/27/2025 17:24	WG2439996
4,4-DDT	U		0.0000211	0.0000500	1	01/27/2025 17:24	WG2439996
Dieldrin	U		0.0000298	0.0000500	1	01/27/2025 17:24	WG2439996
Endosulfan I	U		0.0000306	0.0000500	1	01/27/2025 17:24	WG2439996
Endosulfan II	U		0.0000311	0.0000500	1	01/27/2025 17:24	WG2439996
Endosulfan sulfate	U		0.0000306	0.0000500	1	01/27/2025 17:24	WG2439996
Endrin	U		0.0000329	0.0000500	1	01/27/2025 17:24	WG2439996
Endrin aldehyde	U		0.0000358	0.0000500	1	01/27/2025 17:24	WG2439996
Endrin ketone	U		0.0000322	0.0000500	1	01/27/2025 17:24	WG2439996
Hexachlorobenzene	U		0.0000425	0.0000500	1	01/27/2025 17:24	WG2439996
Heptachlor	U		0.0000290	0.0000500	1	01/27/2025 17:24	WG2439996
Heptachlor epoxide	U		0.0000307	0.0000500	1	01/27/2025 17:24	WG2439996
Methoxychlor	U		0.0000400	0.0000500	1	01/27/2025 17:24	WG2439996
Toxaphene	U		0.000400	0.000500	1	01/27/2025 17:24	WG2439996
(S) Decachlorobiphenyl	*41.2*			*10.0-128*		*01/27/2025 17:24*	WG2439996
(S) Tetrachloro-m-xylene	*75.9*			*10.0-127*		*01/27/2025 17:24*	WG2439996

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0113	0.0500	1	01/28/2025 15:37	WG2440179
Acrolein	U	C3	0.00254	0.0500	1	01/28/2025 15:37	WG2440179
Acrylonitrile	U		0.000671	0.0100	1	01/28/2025 15:37	WG2440179
Benzene	U		0.0000941	0.00100	1	01/28/2025 15:37	WG2440179
Bromobenzene	U		0.000118	0.00100	1	01/28/2025 15:37	WG2440179
Bromodichloromethane	U		0.000136	0.00100	1	01/28/2025 15:37	WG2440179
Bromoform	U		0.000129	0.00100	1	01/28/2025 15:37	WG2440179
Bromomethane	U		0.000605	0.00500	1	01/28/2025 15:37	WG2440179
n-Butylbenzene	U		0.000157	0.00100	1	01/28/2025 15:37	WG2440179
sec-Butylbenzene	U		0.000125	0.00100	1	01/28/2025 15:37	WG2440179
tert-Butylbenzene	U		0.000127	0.00100	1	01/28/2025 15:37	WG2440179
Carbon tetrachloride	U		0.000128	0.00100	1	01/28/2025 15:37	WG2440179
Chlorobenzene	U		0.000116	0.00100	1	01/28/2025 15:37	WG2440179
Chlorodibromomethane	U		0.000140	0.00100	1	01/28/2025 15:37	WG2440179
Chloroethane	U		0.000192	0.00500	1	01/28/2025 15:37	WG2440179
Chloroform	U		0.000111	0.00500	1	01/28/2025 15:37	WG2440179
Chloromethane	U		0.000960	0.00250	1	01/28/2025 15:37	WG2440179
2-Chlorotoluene	U		0.000106	0.00100	1	01/28/2025 15:37	WG2440179
4-Chlorotoluene	U		0.000114	0.00100	1	01/28/2025 15:37	WG2440179
1,2-Dibromo-3-Chloropropane	U	C3	0.000276	0.00500	1	01/28/2025 15:37	WG2440179
1,2-Dibromoethane	U		0.000126	0.00100	1	01/28/2025 15:37	WG2440179
Dibromomethane	U		0.000122	0.00100	1	01/28/2025 15:37	WG2440179
1,2-Dichlorobenzene	U		0.000107	0.00100	1	01/28/2025 15:37	WG2440179
1,3-Dichlorobenzene	U		0.000110	0.00100	1	01/28/2025 15:37	WG2440179
1,4-Dichlorobenzene	U		0.000120	0.00100	1	01/28/2025 15:37	WG2440179
Dichlorodifluoromethane	U		0.000374	0.00500	1	01/28/2025 15:37	WG2440179
1,1-Dichloroethane	U		0.000100	0.00100	1	01/28/2025 15:37	WG2440179
1,2-Dichloroethane	U		0.0000819	0.00100	1	01/28/2025 15:37	WG2440179
1,1-Dichloroethene	U		0.000188	0.00100	1	01/28/2025 15:37	WG2440179
cis-1,2-Dichloroethene	U		0.000126	0.00100	1	01/28/2025 15:37	WG2440179
trans-1,2-Dichloroethene	U		0.000149	0.00100	1	01/28/2025 15:37	WG2440179
1,2-Dichloropropane	U		0.000149	0.00100	1	01/28/2025 15:37	WG2440179
1,1-Dichloropropene	U		0.000142	0.00100	1	01/28/2025 15:37	WG2440179
1,3-Dichloropropane	U		0.000110	0.00100	1	01/28/2025 15:37	WG2440179
cis-1,3-Dichloropropene	U		0.000111	0.00100	1	01/28/2025 15:37	WG2440179
trans-1,3-Dichloropropene	U		0.000118	0.00100	1	01/28/2025 15:37	WG2440179
2,2-Dichloropropane	U		0.000161	0.00100	1	01/28/2025 15:37	WG2440179
Di-isopropyl ether	U		0.000105	0.00100	1	01/28/2025 15:37	WG2440179
Ethylbenzene	U		0.000137	0.00100	1	01/28/2025 15:37	WG2440179
Hexachloro-1,3-butadiene	U		0.000337	0.00100	1	01/28/2025 15:37	WG2440179
Isopropylbenzene	U		0.000105	0.00100	1	01/28/2025 15:37	WG2440179
p-Isopropyltoluene	U		0.000120	0.00100	1	01/28/2025 15:37	WG2440179
2-Butanone (MEK)	U		0.00119	0.0100	1	01/28/2025 15:37	WG2440179
Methylene Chloride	U		0.000430	0.00500	1	01/28/2025 15:37	WG2440179
4-Methyl-2-pentanone (MIBK)	U		0.000478	0.0100	1	01/28/2025 15:37	WG2440179
Methyl tert-butyl ether	U		0.000101	0.00100	1	01/28/2025 15:37	WG2440179
Naphthalene	U	C3	0.00100	0.00500	1	01/28/2025 15:37	WG2440179
n-Propylbenzene	U		0.0000993	0.00100	1	01/28/2025 15:37	WG2440179
Styrene	U		0.000118	0.00100	1	01/28/2025 15:37	WG2440179
1,1,1,2-Tetrachloroethane	U		0.000147	0.00100	1	01/28/2025 15:37	WG2440179
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100	1	01/28/2025 15:37	WG2440179
1,1,2-Trichlorotrifluoroethane	U		0.000180	0.00100	1	01/28/2025 15:37	WG2440179
Tetrachloroethene	U		0.000300	0.00100	1	01/28/2025 15:37	WG2440179
Toluene	U		0.000278	0.00100	1	01/28/2025 15:37	WG2440179
1,2,3-Trichlorobenzene	U	C3	0.000230	0.00100	1	01/28/2025 15:37	WG2440179
1,2,4-Trichlorobenzene	U	C3	0.000481	0.00100	1	01/28/2025 15:37	WG2440179

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
1,1,1-Trichloroethane	U		0.000149	0.00100	1	01/28/2025 15:37	WG2440179
1,1,2-Trichloroethane	U		0.000158	0.00100	1	01/28/2025 15:37	WG2440179
Trichloroethene	U		0.000190	0.00100	1	01/28/2025 15:37	WG2440179
Trichlorofluoromethane	U		0.000160	0.00500	1	01/28/2025 15:37	WG2440179
1,2,3-Trichloropropane	U		0.000237	0.00250	1	01/28/2025 15:37	WG2440179
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	01/28/2025 15:37	WG2440179
1,2,3-Trimethylbenzene	U		0.000104	0.00100	1	01/28/2025 15:37	WG2440179
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	01/28/2025 15:37	WG2440179
Vinyl chloride	U		0.000234	0.00100	1	01/28/2025 15:37	WG2440179
Xylenes, Total	U		0.000174	0.00300	1	01/28/2025 15:37	WG2440179
(S) Toluene-d8	*101*			*80.0-120*		*01/28/2025 15:37*	WG2440179
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*01/28/2025 15:37*	WG2440179
(S) 1,2-Dichloroethane-d4	*97.4*			*70.0-130*		*01/28/2025 15:37*	WG2440179

Method Blank (MB)

(MB) R4170563-1 01/25/25 10:39

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Nitrate as (N)	U		0.0884	0.100
Sulfate	U		0.637	5.00

L1820086-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1820086-01 01/25/25 12:31 • (DUP) R4170563-3 01/25/25 12:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate as (N)	2.24	2.26	1	1.01		15

Laboratory Control Sample (LCS)

(LCS) R4170563-2 01/25/25 10:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Nitrate as (N)	8.00	8.25	103	80.0-120	
Sulfate	40.0	42.6	106	80.0-120	

L1820086-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1820086-01 01/25/25 12:31 • (MS) R4170563-4 01/25/25 12:58 • (MSD) R4170563-5 01/25/25 13:11

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Nitrate as (N)	8.00	2.24	9.86	9.83	95.3	94.9	1	80.0-120			0.378	15
Sulfate	40.0	157	162	162	11.0	11.9	1	80.0-120	E J6	E J6	0.240	15

Method Blank (MB)

(MB) R4171406-1 01/29/25 00:19

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	U		0.0000700	0.000200

Laboratory Control Sample (LCS)

(LCS) R4171406-2 01/29/25 00:26

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.00300	0.00344	115	80.0-120	

L1820050-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1820050-02 01/29/25 00:29 • (MS) R4171406-4 01/29/25 00:34 • (MSD) R4171406-5 01/29/25 00:36

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	U	0.00338	0.00343	113	114	1	75.0-125			1.49	20

Method Blank (MB)

(MB) R4170882-1 01/28/25 02:26

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Arsenic	U		0.00783	0.0100
Barium	U		0.000773	0.00500
Cadmium	U		0.000538	0.00200
Chromium	U		0.00151	0.0100
Lead	U		0.00243	0.00600
Selenium	U		0.00616	0.0100
Silver	U		0.00289	0.00500

Laboratory Control Sample (LCS)

(LCS) R4170882-2 01/28/25 02:27

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	1.00	0.963	96.3	80.0-120	
Barium	1.00	1.01	101	80.0-120	
Cadmium	1.00	0.978	97.8	80.0-120	
Chromium	1.00	0.989	98.9	80.0-120	
Lead	1.00	0.957	95.7	80.0-120	
Selenium	1.00	0.937	93.7	80.0-120	
Silver	0.200	0.193	96.6	80.0-120	

L1820181-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1820181-06 01/28/25 02:29 • (MS) R4170882-4 01/28/25 02:33 • (MSD) R4170882-5 01/28/25 02:34

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	1.00	U	0.945	0.967	94.5	96.7	1	75.0-125			2.37	20
Barium	1.00	0.139	1.12	1.15	98.1	101	1	75.0-125			2.14	20
Cadmium	1.00	U	0.970	0.984	97.0	98.4	1	75.0-125			1.44	20
Chromium	1.00	U	0.973	0.991	97.3	99.1	1	75.0-125			1.78	20
Lead	1.00	U	0.938	0.955	93.8	95.5	1	75.0-125			1.78	20
Selenium	1.00	0.00801	0.927	0.952	91.9	94.4	1	75.0-125			2.63	20
Silver	0.200	U	0.193	0.197	96.6	98.7	1	75.0-125			2.14	20

Method Blank (MB)

(MB) R4171439-3 01/28/25 13:54

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acetone	U		0.0113	0.0500
Acrolein	U		0.00254	0.0500
Acrylonitrile	U		0.000671	0.0100
Benzene	U		0.0000941	0.00100
Bromobenzene	U		0.000118	0.00100
Bromodichloromethane	U		0.000136	0.00100
Bromoform	U		0.000129	0.00100
Bromomethane	U		0.000605	0.00500
n-Butylbenzene	U		0.000157	0.00100
sec-Butylbenzene	U		0.000125	0.00100
tert-Butylbenzene	U		0.000127	0.00100
Carbon tetrachloride	U		0.000128	0.00100
Chlorobenzene	U		0.000116	0.00100
Chlorodibromomethane	U		0.000140	0.00100
Chloroethane	U		0.000192	0.00500
Chloroform	U		0.000111	0.00500
Chloromethane	U		0.000960	0.00250
2-Chlorotoluene	U		0.000106	0.00100
4-Chlorotoluene	U		0.000114	0.00100
1,2-Dibromo-3-Chloropropane	U		0.000276	0.00500
1,2-Dibromoethane	U		0.000126	0.00100
Dibromomethane	U		0.000122	0.00100
1,2-Dichlorobenzene	U		0.000107	0.00100
1,3-Dichlorobenzene	U		0.000110	0.00100
1,4-Dichlorobenzene	U		0.000120	0.00100
Dichlorodifluoromethane	U		0.000374	0.00500
1,1-Dichloroethane	U		0.000100	0.00100
1,2-Dichloroethane	U		0.0000819	0.00100
1,1-Dichloroethene	U		0.000188	0.00100
cis-1,2-Dichloroethene	U		0.000126	0.00100
trans-1,2-Dichloroethene	U		0.000149	0.00100
1,2-Dichloropropane	U		0.000149	0.00100
1,1-Dichloropropene	U		0.000142	0.00100
1,3-Dichloropropane	U		0.000110	0.00100
cis-1,3-Dichloropropene	U		0.000111	0.00100
trans-1,3-Dichloropropene	U		0.000118	0.00100
2,2-Dichloropropane	U		0.000161	0.00100
Di-isopropyl ether	U		0.000105	0.00100
Ethylbenzene	U		0.000137	0.00100
Hexachloro-1,3-butadiene	U		0.000337	0.00100

Method Blank (MB)

(MB) R4171439-3 01/28/25 13:54

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Isopropylbenzene	U		0.000105	0.00100
p-Isopropyltoluene	U		0.000120	0.00100
2-Butanone (MEK)	U		0.00119	0.0100
Methylene Chloride	U		0.000430	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.000478	0.0100
Methyl tert-butyl ether	U		0.000101	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.0000993	0.00100
Styrene	U		0.000118	0.00100
1,1,1,2-Tetrachloroethane	U		0.000147	0.00100
1,1,2,2-Tetrachloroethane	U		0.000133	0.00100
1,1,2-Trichlorotrifluoroethane	U		0.000180	0.00100
Tetrachloroethene	U		0.000300	0.00100
Toluene	U		0.000278	0.00100
1,2,3-Trichlorobenzene	U		0.000230	0.00100
1,2,4-Trichlorobenzene	U		0.000481	0.00100
1,1,1-Trichloroethane	U		0.000149	0.00100
1,1,2-Trichloroethane	U		0.000158	0.00100
Trichloroethene	U		0.000190	0.00100
Trichlorofluoromethane	U		0.000160	0.00500
1,2,3-Trichloropropane	U		0.000237	0.00250
1,2,4-Trimethylbenzene	U		0.000322	0.00100
1,2,3-Trimethylbenzene	U		0.000104	0.00100
1,3,5-Trimethylbenzene	U		0.000104	0.00100
Vinyl chloride	U		0.000234	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*101*			*80.0-120*
(S) 4-Bromofluorobenzene	*97.4*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*98.1*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4171439-1 01/28/25 12:03 • (LCSD) R4171439-2 01/28/25 12:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.0250	0.0294	0.0295	118	118	19.0-160	J	J	0.340	27
Acrolein	0.0250	0.0165	0.0165	66.0	66.0	10.0-160	J	J	0.000	26
Acrylonitrile	0.0250	0.0283	0.0279	113	112	55.0-149			1.42	20
Benzene	0.00500	0.00540	0.00543	108	109	70.0-123			0.554	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4171439-1 01/28/25 12:03 • (LCSD) R4171439-2 01/28/25 12:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromobenzene	0.00500	0.00478	0.00481	95.6	96.2	73.0-121			0.626	20
Bromodichloromethane	0.00500	0.00518	0.00506	104	101	75.0-120			2.34	20
Bromoform	0.00500	0.00427	0.00419	85.4	83.8	68.0-132			1.89	20
Bromomethane	0.00500	0.00640	0.00680	128	136	10.0-160			6.06	25
n-Butylbenzene	0.00500	0.00491	0.00506	98.2	101	73.0-125			3.01	20
sec-Butylbenzene	0.00500	0.00504	0.00510	101	102	75.0-125			1.18	20
tert-Butylbenzene	0.00500	0.00494	0.00497	98.8	99.4	76.0-124			0.605	20
Carbon tetrachloride	0.00500	0.00531	0.00519	106	104	68.0-126			2.29	20
Chlorobenzene	0.00500	0.00483	0.00479	96.6	95.8	80.0-121			0.832	20
Chlorodibromomethane	0.00500	0.00454	0.00463	90.8	92.6	77.0-125			1.96	20
Chloroethane	0.00500	0.00646	0.00624	129	125	47.0-150			3.46	20
Chloroform	0.00500	0.00526	0.00519	105	104	73.0-120			1.34	20
Chloromethane	0.00500	0.00679	0.00667	136	133	41.0-142			1.78	20
2-Chlorotoluene	0.00500	0.00496	0.00499	99.2	99.8	76.0-123			0.603	20
4-Chlorotoluene	0.00500	0.00486	0.00488	97.2	97.6	75.0-122			0.411	20
1,2-Dibromo-3-Chloropropane	0.00500	0.00343	0.00384	68.6	76.8	58.0-134	J	J	11.3	20
1,2-Dibromoethane	0.00500	0.00478	0.00484	95.6	96.8	80.0-122			1.25	20
Dibromomethane	0.00500	0.00541	0.00520	108	104	80.0-120			3.96	20
1,2-Dichlorobenzene	0.00500	0.00463	0.00485	92.6	97.0	79.0-121			4.64	20
1,3-Dichlorobenzene	0.00500	0.00474	0.00479	94.8	95.8	79.0-120			1.05	20
1,4-Dichlorobenzene	0.00500	0.00462	0.00466	92.4	93.2	79.0-120			0.862	20
Dichlorodifluoromethane	0.00500	0.00651	0.00635	130	127	51.0-149			2.49	20
1,1-Dichloroethane	0.00500	0.00552	0.00559	110	112	70.0-126			1.26	20
1,2-Dichloroethane	0.00500	0.00551	0.00542	110	108	70.0-128			1.65	20
1,1-Dichloroethene	0.00500	0.00558	0.00559	112	112	71.0-124			0.179	20
cis-1,2-Dichloroethene	0.00500	0.00528	0.00517	106	103	73.0-120			2.11	20
trans-1,2-Dichloroethene	0.00500	0.00521	0.00514	104	103	73.0-120			1.35	20
1,2-Dichloropropane	0.00500	0.00546	0.00554	109	111	77.0-125			1.45	20
1,1-Dichloropropene	0.00500	0.00582	0.00566	116	113	74.0-126			2.79	20
1,3-Dichloropropane	0.00500	0.00521	0.00521	104	104	80.0-120			0.000	20
cis-1,3-Dichloropropene	0.00500	0.00523	0.00520	105	104	80.0-123			0.575	20
trans-1,3-Dichloropropene	0.00500	0.00495	0.00486	99.0	97.2	78.0-124			1.83	20
2,2-Dichloropropane	0.00500	0.00546	0.00548	109	110	58.0-130			0.366	20
Di-isopropyl ether	0.00500	0.00571	0.00561	114	112	58.0-138			1.77	20
Ethylbenzene	0.00500	0.00471	0.00474	94.2	94.8	79.0-123			0.635	20
Hexachloro-1,3-butadiene	0.00500	0.00441	0.00437	88.2	87.4	54.0-138			0.911	20
Isopropylbenzene	0.00500	0.00478	0.00480	95.6	96.0	76.0-127			0.418	20
p-Isopropyltoluene	0.00500	0.00479	0.00495	95.8	99.0	76.0-125			3.29	20
2-Butanone (MEK)	0.0250	0.0377	0.0378	151	151	44.0-160			0.265	20
Methylene Chloride	0.00500	0.00546	0.00534	109	107	67.0-120			2.22	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4171439-1 01/28/25 12:03 • (LCSD) R4171439-2 01/28/25 12:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
4-Methyl-2-pentanone (MIBK)	0.0250	0.0258	0.0261	103	104	68.0-142			1.16	20
Methyl tert-butyl ether	0.00500	0.00551	0.00553	110	111	68.0-125			0.362	20
Naphthalene	0.00500	0.00301	0.00328	60.2	65.6	54.0-135	J	J	8.59	20
n-Propylbenzene	0.00500	0.00496	0.00508	99.2	102	77.0-124			2.39	20
Styrene	0.00500	0.00452	0.00444	90.4	88.8	73.0-130			1.79	20
1,1,1,2-Tetrachloroethane	0.00500	0.00474	0.00469	94.8	93.8	75.0-125			1.06	20
1,1,2,2-Tetrachloroethane	0.00500	0.00481	0.00494	96.2	98.8	65.0-130			2.67	20
1,1,2-Trichlorotrifluoroethane	0.00500	0.00574	0.00564	115	113	69.0-132			1.76	20
Tetrachloroethene	0.00500	0.00483	0.00499	96.6	99.8	72.0-132			3.26	20
Toluene	0.00500	0.00504	0.00494	101	98.8	79.0-120			2.00	20
1,2,3-Trichlorobenzene	0.00500	0.00284	0.00316	56.8	63.2	50.0-138			10.7	20
1,2,4-Trichlorobenzene	0.00500	0.00349	0.00355	69.8	71.0	57.0-137			1.70	20
1,1,1-Trichloroethane	0.00500	0.00537	0.00536	107	107	73.0-124			0.186	20
1,1,2-Trichloroethane	0.00500	0.00500	0.00502	100	100	80.0-120			0.399	20
Trichloroethene	0.00500	0.00548	0.00534	110	107	78.0-124			2.59	20
Trichlorofluoromethane	0.00500	0.00608	0.00594	122	119	59.0-147			2.33	20
1,2,3-Trichloropropane	0.00500	0.00494	0.00484	98.8	96.8	73.0-130			2.04	20
1,2,4-Trimethylbenzene	0.00500	0.00478	0.00488	95.6	97.6	76.0-121			2.07	20
1,2,3-Trimethylbenzene	0.00500	0.00465	0.00478	93.0	95.6	77.0-120			2.76	20
1,3,5-Trimethylbenzene	0.00500	0.00485	0.00487	97.0	97.4	76.0-122			0.412	20
Vinyl chloride	0.00500	0.00589	0.00583	118	117	67.0-131			1.02	20
Xylenes, Total	0.0150	0.0144	0.0143	96.0	95.3	79.0-123			0.697	20
(S) Toluene-d8				*99.1*	*98.6*	*80.0-120*				
(S) 4-Bromofluorobenzene				*101*	*99.1*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*95.9*	*95.1*	*70.0-130*				

Method Blank (MB)

(MB) R4171443-1 01/29/25 15:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
2,4-D	U		0.000671	0.00200
Dalapon	U		0.000734	0.00200
2,4-DB	U		0.000686	0.00200
Dicamba	U		0.000395	0.00200
Dichloroprop	U		0.000954	0.00200
Dinoseb	U		0.000455	0.00200
MCPA	U		0.0858	0.100
MCPP	U		0.0743	0.100
2,4,5-T	U		0.000858	0.00200
2,4,5-TP (Silvex)	U		0.000505	0.00200
(S) 2,4-Dichlorophenyl Acetic Acid	*85.6*			*14.0-158*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4171443-2 01/29/25 16:09 • (LCSD) R4171443-3 01/29/25 16:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2,4-D	0.00250	0.00705	0.00288	282	115	50.0-120	E J4	J3	84.0	20
Dalapon	0.00250	0.00198	0.00225	79.2	90.0	32.0-120	J		12.8	20
2,4-DB	0.00250	0.00207	0.00223	82.8	89.2	53.0-140			7.44	20
Dicamba	0.00250	0.00236	0.00237	94.4	94.8	51.0-120			0.423	20
Dichloroprop	0.00250	0.00234	0.00224	93.6	89.6	55.0-127			4.37	20
Dinoseb	0.00250	0.00157	0.00183	62.8	73.2	36.0-134	J	J	15.3	20
MCPA	0.250	0.318	0.239	127	95.6	10.0-160			28.4	40
MCPP	0.250	0.246	0.210	98.4	84.0	10.0-160			15.8	23
2,4,5-T	0.00250	0.00231	0.00227	92.4	90.8	54.0-120			1.75	20
2,4,5-TP (Silvex)	0.00250	0.00235	0.00230	94.0	92.0	50.0-125			2.15	20
(S) 2,4-Dichlorophenyl Acetic Acid				*83.8*	*82.2*	*14.0-158*				

Method Blank (MB)

(MB) R4171156-1 01/27/25 12:45

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Aldrin	U		0.0000249	0.0000500
Alpha BHC	U		0.0000277	0.0000500
Beta BHC	U		0.0000326	0.0000500
Delta BHC	U		0.0000403	0.0000500
Gamma BHC	U		0.0000267	0.0000500
Chlordane	U		0.000700	0.00500
4,4-DDD	U		0.0000297	0.0000500
4,4-DDE	U		0.0000276	0.0000500
4,4-DDT	U		0.0000211	0.0000500
Dieldrin	U		0.0000298	0.0000500
Endosulfan I	U		0.0000306	0.0000500
Endosulfan II	U		0.0000311	0.0000500
Endosulfan sulfate	U		0.0000306	0.0000500
Endrin	U		0.0000329	0.0000500
Endrin aldehyde	U		0.0000358	0.0000500
Endrin ketone	U		0.0000322	0.0000500
Hexachlorobenzene	U		0.0000425	0.0000500
Heptachlor	U		0.0000290	0.0000500
Heptachlor epoxide	U		0.0000307	0.0000500
Methoxychlor	U		0.0000400	0.0000500
Toxaphene	U		0.000400	0.000500
(S) Decachlorobiphenyl	*56.5*			*10.0-128*
(S) Tetrachloro-m-xylene	*74.7*			*10.0-127*

Laboratory Control Sample (LCS)

(LCS) R4171156-2 01/27/25 12:55

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Aldrin	0.00100	0.00114	114	22.0-124	
Alpha BHC	0.00100	0.00121	121	54.0-130	
Beta BHC	0.00100	0.00114	114	53.0-136	
Delta BHC	0.00100	0.00109	109	54.0-133	
Gamma BHC	0.00100	0.00121	121	55.0-129	
4,4-DDD	0.00100	0.00121	121	56.0-140	
4,4-DDE	0.00100	0.00103	103	52.0-128	
4,4-DDT	0.00100	0.00116	116	50.0-141	
Dieldrin	0.00100	0.00112	112	59.0-133	
Endosulfan I	0.00100	0.00125	125	57.0-131	

Laboratory Control Sample (LCS)

(LCS) R4171156-2 01/27/25 12:55

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Endosulfan II	0.00100	0.00116	116	58.0-133	
Endosulfan sulfate	0.00100	0.00119	119	58.0-133	
Endrin	0.00100	0.00117	117	57.0-134	
Endrin aldehyde	0.00100	0.00107	107	53.0-129	
Endrin ketone	0.00100	0.00123	123	60.0-145	
Hexachlorobenzene	0.00100	0.00109	109	30.0-114	
Heptachlor	0.00100	0.00119	119	27.0-132	
Heptachlor epoxide	0.00100	0.00114	114	57.0-130	
Methoxychlor	0.00100	0.00122	122	54.0-155	
(S) Decachlorobiphenyl			*55.8*	*10.0-128*	
(S) Tetrachloro-m-xylene			*99.9*	*10.0-127*	

L1820019-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1820019-04 01/27/25 17:52 • (MS) R4171156-3 01/27/25 18:01 • (MSD) R4171156-4 01/27/25 18:11

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aldrin	0.000854	U	0.000828	0.000804	97.0	91.0	1	10.0-141			2.94	40
Alpha BHC	0.000854	U	0.000945	0.000990	111	112	1	10.0-145			4.65	40
Beta BHC	0.000854	U	0.000897	0.000943	105	107	1	14.0-146			5.00	35
Delta BHC	0.000854	U	0.000843	0.000870	98.7	98.4	1	17.0-143			3.15	38
Gamma BHC	0.000854	U	0.000948	0.000997	111	113	1	14.0-141			5.04	40
4,4-DDD	0.000854	U	0.000944	0.000941	111	106	1	10.0-160			0.318	38
4,4-DDE	0.000854	U	0.000752	0.000732	88.1	82.8	1	10.0-159			2.70	35
4,4-DDT	0.000854	U	0.000871	0.000831	102	94.0	1	10.0-160			4.70	38
Dieldrin	0.000854	U	0.000889	0.000838	104	94.8	1	10.0-158			5.91	38
Endosulfan I	0.000854	U	0.000978	0.000976	115	110	1	10.0-153			0.205	36
Endosulfan II	0.000854	U	0.000967	0.000982	113	111	1	10.0-159			1.54	39
Endosulfan sulfate	0.000854	U	0.00101	0.000892	118	101	1	23.0-147			12.4	35
Endrin	0.000854	U	0.000883	0.000886	103	100	1	10.0-160			0.339	39
Endrin aldehyde	0.000854	U	0.000876	0.000754	103	85.3	1	10.0-148			15.0	38
Endrin ketone	0.000854	U	0.00102	0.000979	119	111	1	10.0-160			4.10	40
Hexachlorobenzene	0.000854	U	0.000819	0.000839	95.9	94.9	1	10.0-130			2.41	40
Heptachlor	0.000854	U	0.000897	0.000884	105	100	1	16.0-136			1.46	40
Heptachlor epoxide	0.000854	U	0.000918	0.000870	107	98.4	1	10.0-160			5.37	36
Methoxychlor	0.000854	U	0.000934	0.000898	109	102	1	10.0-160			3.93	34
(S) Decachlorobiphenyl					*39.2*	*39.5*		*10.0-128*				
(S) Tetrachloro-m-xylene					*83.6*	*79.1*		*10.0-127*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Baseline Engineering

112 N Rubey Dr
Unit 210
Golden. CO 80403

Billing Information:
Tiffany Love
PO Box 312
Broomfield, CO 80403

Pres Chk

Report to:
Vincent Barlock

Email To:
vincentbarlock@baselinecorp.com;terry.mcgowan@baselinecorp.com

Project Description: **Welby Gardens, Arvada, Colorado**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **303-940-9966**

Client Project # **45038-002**

Lab Project #

Collected by (print): Vincent Barlock/Terry McGowan

Site/Facility ID # Welby Gardens

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y x

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed ~~01/17/25~~ As soon as possible

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Sulfate and Nitrate - 1-125 HDPE bottle	Pesticides - 8081 100 ml amber - 2 bottles	Herbicies - 8151 -1 liter amber bottle	RCRA 8 Metals - 1-250 ml HDPE [1]	VOCs - 8260 - 3-40 ml abmber bottles					Remarks	Sample # (lab only)
										42							
MW-02	Grab	GW		01-24-2025	12:05	8	X	X	X	X [1]	X					[1] need to filter	-01
Lab blank supplied with cooler	Grab	GW		01-24-2025	?	1					X						-02

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

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MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1820110

B177

Acctnum: **BASENGGCO**
Template: **T266205**
Prelogin: **P1124047**
PM: **824 - Chris Ward**
PB:
Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: [1] **HNO3 removed from bottles and triple rinsed. Needs to be lab filtered and preservative added.** [2] **We have to report as soon as possible. 5-day should work. 1,4-Dioxane included on second COC for MW-02.**

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP X Y __N
COC Signed/Accurate: X Y __N
Bottles arrive intact: X Y __N
Correct bottles used: X Y __N
Sufficient volume sent: X Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: X Y __N
RAD Screen <0.5 mR/hr: X Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	1-24-25	1430	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	1-24-25	18:00	FedEx
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Christopher Gallin

Trip Blank Received: Yes / No (HCL / MeoH / TBR)
1

Temp: °C Bottles Received: 8

Date: 01/25/25 Time: 0930

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

ANALYTICAL REPORT

January 30, 2025

Baseline Engineering

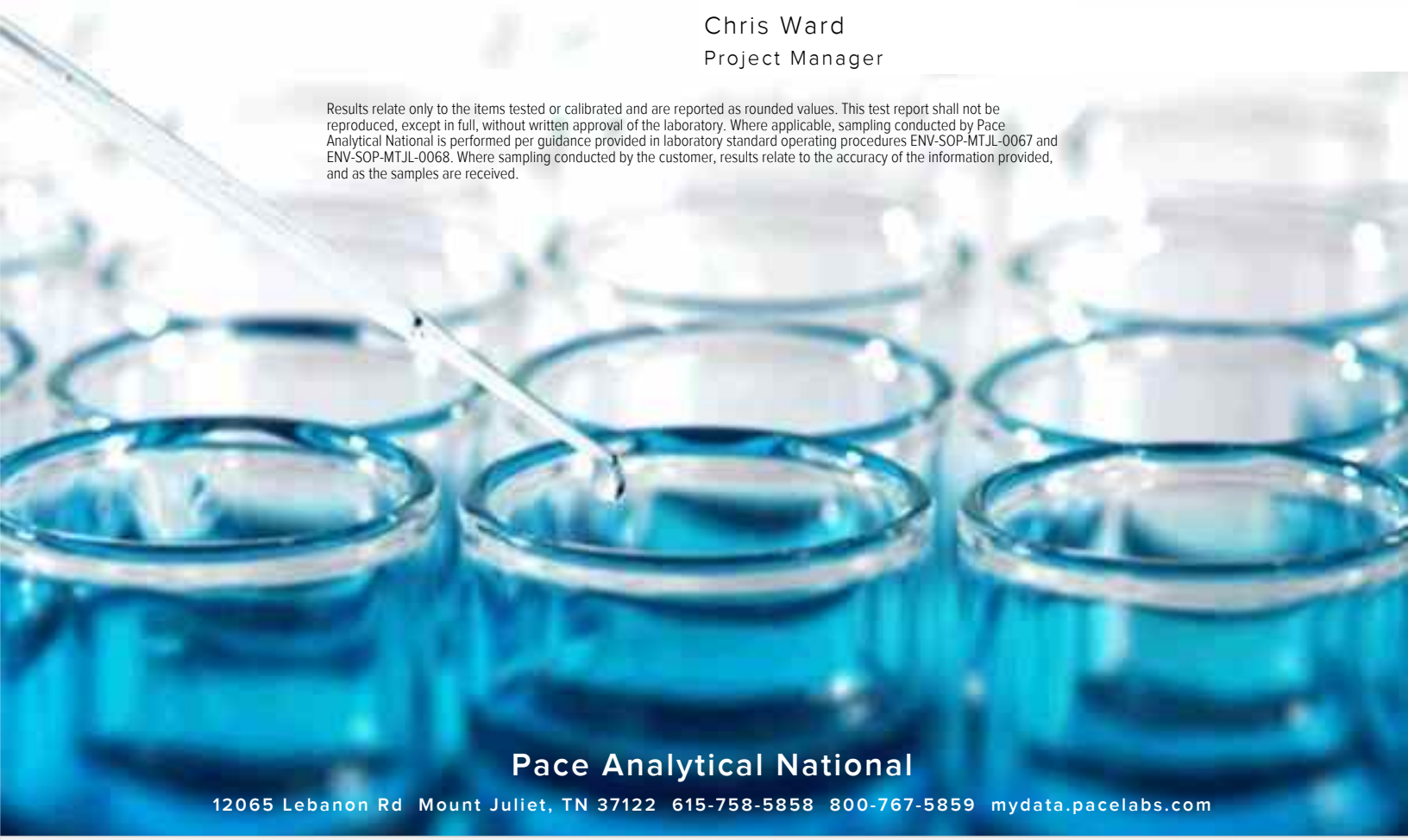
Sample Delivery Group:	L1820112
Samples Received:	01/25/2025
Project Number:	45038.002
Description:	Welby Gardens

Report To: Vincent Barlock
112 N Rubey Dr. , Unit 210
Golden, CO 80403

Entire Report Reviewed By:

Chris Ward
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

TABLE OF CONTENTS

Cp: Cover Page 1

Tc: Table of Contents 2

Ss: Sample Summary 3

Cn: Case Narrative 4

Sr: Sample Results 5

MW-04 L1820112-01 5

MW-03 L1820112-02 6

MW-01 L1820112-03 7

MW-02 L1820112-04 8

Qc: Quality Control Summary 9

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM 9

Gl: Glossary of Terms 10

Al: Accreditations & Locations 11

Sc: Sample Chain of Custody 12

SAMPLE SUMMARY

MW-04 L1820112-01 GW

Collected by: Terry O. McGowan
Collected date/time: 01/23/25 16:20
Received date/time: 01/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2441418	1	01/28/25 19:21	01/29/25 03:41	LS	Mt. Juliet, TN

MW-03 L1820112-02 GW

Collected by: Terry O. McGowan
Collected date/time: 01/23/25 16:00
Received date/time: 01/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2441418	1	01/28/25 19:21	01/29/25 04:00	LS	Mt. Juliet, TN

MW-01 L1820112-03 GW

Collected by: Terry O. McGowan
Collected date/time: 01/23/25 15:35
Received date/time: 01/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2441418	1	01/28/25 19:21	01/29/25 04:19	LS	Mt. Juliet, TN

MW-02 L1820112-04 GW

Collected by: Terry O. McGowan
Collected date/time: 01/24/25 12:05
Received date/time: 01/25/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2441418	1	01/28/25 19:21	01/29/25 04:39	LS	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris Ward
Project Manager

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
1,4-Dioxane	U		0.000300	0.000400	1	01/29/2025 03:41	WG2441418
(S) Nitrobenzene-d5	*53.7*			*10.0-120*		*01/29/2025 03:41*	WG2441418

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
1,4-Dioxane	U		0.000300	0.000400	1	01/29/2025 04:00	WG2441418
(S) Nitrobenzene-d5	*61.6*			*10.0-120*		*01/29/2025 04:00*	WG2441418

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
1,4-Dioxane	U		0.000300	0.000400	1	01/29/2025 04:19	WG2441418
(S) Nitrobenzene-d5	*56.8*			*10.0-120*		*01/29/2025 04:19*	WG2441418

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
1,4-Dioxane	U		0.000300	0.000400	1	01/29/2025 04:39	WG2441418
(S) Nitrobenzene-d5	*54.9*			*10.0-120*		*01/29/2025 04:39*	WG2441418

Method Blank (MB)

(MB) R4171475-2 01/29/25 00:50

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1,4-Dioxane	U		0.000300	0.000400
(S) Nitrobenzene-d5	*67.4*			*10.0-120*

Laboratory Control Sample (LCS)

(LCS) R4171475-1 01/29/25 00:31

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,4-Dioxane	0.0500	0.0537	107	73.0-146	
(S) Nitrobenzene-d5			*52.1*	*10.0-120*	

L1820289-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1820289-04 01/29/25 02:25 • (MS) R4171475-3 01/29/25 02:44 • (MSD) R4171475-4 01/29/25 03:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
1,4-Dioxane	0.0500	U	0.0543	0.0556	109	111	1	38.0-160			2.37	21
(S) Nitrobenzene-d5					*43.5*	*69.6*		*10.0-120*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
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A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

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Company Name/Address:
Baseline Engineering

112 N Rubey Dr., Unit 210
Golden, CO 80403

Billing Information:
Tiffany Love | Accounts Payable
PO Box 312
Broomfield, CO 80403

Pres Chk

Report to:
Vincent Barlock 303-940-9966

Email To:
terry.mcgowan@baselinecorp.com;vincent.barl

Project Description: Welby Gardens

City/State Collected: Arvada Colorado

Please Circle: PT MT CT ET

Regulatory Program(DOD,RCRA,DW,etc): None

Client Project # 45038,002

Lab Project #

Collected by (print): Terry McGowan

Site/Facility ID #

P.O. #

Collected by (signature): Terry O. McGowan

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day ___ STD TAT

Quote #

Date Results Needed: As soon as possible

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	8270DIOXANE 100ml Amb-NoPres	SV8270DIOXANE 4ozAmb-NoPres									
MW-04	Grab	GW	—	1-23-25	1620	2	X										-01
MW-03	"	GW	—	1-23-25	1600	2	X										-02
MW-01	"	GW	—	1-23-25	1535	2	X										-03
MW-02	Grab	GW	—	1-24-25	1205	2	X										-04
		~~GW~~				~~2~~	~~X~~	TM 1/24/25									
		~~SS~~	TM 1-24-25			~~2~~		~~X~~									
		~~SS~~				~~2~~		~~X~~									
		~~SS~~				~~2~~		~~X~~									

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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12065 Lebanon Rd Mount Juliet, TN 37122
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SDG # L1820112
B178

Acctnum: **BASENGGCO**
Template: **T267228**
Prelogin: **P1127354**
PM: **824 - Chris Ward**
PB:

Shipped Via: **FedEX Ground**

Remarks | Sample # (lab only)

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: Soil not collected, MW-05 Dry

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP X Y __N
COC Signed/Accurate: X Y __N
Bottles arrive intact: X Y __N
Correct bottles used: X Y __N
Sufficient volume sent: X Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: X Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Terry O. McGowan	1-24-25	1430	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	1-24-25	1430	Fedex
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Christopher M. Gallin

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 0.6 °C Bottles Received: 8

Date: 1/25/25 Time: 0930

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

ANALYTICAL REPORT

February 12, 2025

Baseline Engineering

Sample Delivery Group:	L1822859
Samples Received:	02/04/2025
Project Number:	45058.002A
Description:	Welby Garden: PFAS Sampling

Report To: Vincent Barlock
112 N Rubey Dr. , Unit 210
Golden, CO 80403

Entire Report Reviewed By:

Shane Gambill
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

TABLE OF CONTENTS

Cp: Cover Page 1

Tc: Table of Contents 2

Ss: Sample Summary 3

Cn: Case Narrative 4

Gl: Glossary of Terms 5

Al: Accreditations & Locations 6

Sc: Sample Chain of Custody 7

MW-04 L1822859-01 GW

Collected by: VEB/TOM | Collected date/time: 02/03/25 14:20 | Received date/time: 02/04/25 13:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2445636	1	02/10/25 00:00	02/10/25 00:00	-	Minneapolis, MN 55414

REEL RB L1822859-02 GW

Collected by: VEB/TOM | Collected date/time: 02/03/25 13:05 | Received date/time: 02/04/25 13:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2445636	1	02/10/25 00:00	02/10/25 00:00	-	Minneapolis, MN 55414

TWINE RB L1822859-03 GW

Collected by: VEB/TOM | Collected date/time: 02/03/25 13:25 | Received date/time: 02/04/25 13:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2445636	1	02/10/25 00:00	02/10/25 00:00	-	Minneapolis, MN 55414

BAILER RB L1822859-04 GW

Collected by: VEB/TOM | Collected date/time: 02/03/25 13:35 | Received date/time: 02/04/25 13:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2445636	1	02/10/25 00:00	02/10/25 00:00	-	Minneapolis, MN 55414

MW-4 FB L1822859-05 GW

Collected by: VEB/TOM | Collected date/time: 02/03/25 14:30 | Received date/time: 02/04/25 13:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2445636	1	02/10/25 00:00	02/10/25 00:00	-	Minneapolis, MN 55414

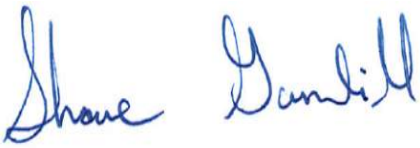
TRIP BLANK L1822859-06 GW

Collected by: VEB/TOM | Collected date/time: 02/03/25 00:00 | Received date/time: 02/04/25 13:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG2445636	1	02/10/25 00:00	02/10/25 00:00	-	Minneapolis, MN 55414

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Shane Gambill
Project Manager

Project Narrative

L1822859 -01, -02, -03, -04, -05, -06 contains subout data that is included after the chain of custody.

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

SDG	Sample Delivery Group.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Baseline Engineering
112 N Rubey Dr., Unit 210
Golden, CO 80403

Billing Information:
Tiffany Love | Accounts Payable
PO Box 312
Broomfield, CO 80403

Pres Chk

Report to:
Vincent Barlock 303-940-9966

Email To:
terry.mcgowan@baselinecorp.com;vincent.barl
ock@baselinecorp.com

Project Description:
WELBY GARDEN: PFAS SAMPLING

City/State Collected: ARVADA, CO.

Please Circle: PT (MT) CT ET

Regulatory Program(DOD,RCRA,DW,etc):

Client Project #
45038.002a

Lab Project #

Collected by (print):
VEB/TOM

Site/Facility ID #

P.O. #

Collected by (signature):
TERRY McGOWAN
Immediately Packed on Ice N___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day ___ STD TAT

Quote #

Date Results Needed
02/11/25

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	SUBPFAS1633 PFAS(2)500ml(1)125ml
MW-04	GRAB	GW	/	2/3/25	14:20	3	X
REEL RB	GRAB	GW	/	2/3/25	13:05	3	X
TWINE RB	GRAB	GW	/	2/3/25	13:25	3	X
BAILER RB	GRAB	GW	/	2/3/25	13:35	3	X
MW-4 FB	GRAB	GW	/	2/3/25	14:30	3	X
MW-4 VEB							

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1722859

Table #

Acctnum: BASENGGCO
Template: T267486
Prelogin: P1129635
PM: 824 - Chris Ward
PB: LM 1/31/25

Shipped Via: FedEx Ground

Remarks | Sample # (lab only)

* Matrix:
SS - Soil AIR - Air F - Filter
(GW) - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: GO to MN

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: UPS ___ FedEx ___ Courier ___
Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP ___ Y ___ N
COC Signed/Accurate: ___ Y ___ N
Bottles arrive intact: ___ Y ___ N
Correct bottles used: ___ Y ___ N
Sufficient volume sent: ___ Y ___ N
If Applicable
VOA Zero Headspace: ___ Y ___ N
Preservation Correct/Checked: ___ Y ___ N
RAD Screen <0.5 mR/hr: ___ Y ___ N

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	2-3-25	1535			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	
	2-3-25	18:00	FedEx		
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	Hold: Condition: NCF / OK
	2-4-25	900			

temp 24

PNDCO

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

February 11, 2025

Client Services
Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122

RE: Project: L1822859 WG2445636
Pace Project No.: 10722836

Dear Client Services:

Enclosed are the analytical results for sample(s) received by the laboratory on February 04, 2025. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tong Lee
tong.lee@pacelabs.com
(612)473-6804
Project Manager

Enclosures

cc: Jimmy Huckaba, Pace Analytical National Center for Testing & Innovation

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: L1822859 WG2445636
Pace Project No.: 10722836

Pace Analytical Services, LLC - Minneapolis MN
1700 Elm Street SE, Minneapolis, MN 55414
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
DoD Certification via A2LA #: 2926.01
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
GMP+ Certification #: GMP050884
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
ISO/IEC 17025 Certification via A2LA #: 2926.01
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification (A2LA) #: R-036
North Dakota Certification (MN) #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification via A2LA #: 2926.01
USDA Permit #: P330-19-00208

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: L1822859 WG2445636
Pace Project No.: 10722836

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10722836001	**MW-04**	Water	02/03/25 14:20	02/04/25 09:00
10722836002	**REEL RB**	Water	02/03/25 13:05	02/04/25 09:00
10722836003	**TWINE RB**	Water	02/03/25 13:25	02/04/25 09:00
10722836004	**BAILER RB**	Water	02/03/25 13:35	02/04/25 09:00
10722836005	**MW-4 FB**	Water	02/03/25 14:30	02/04/25 09:00
10722836006	**TRIP BLANK**	Water	02/03/25 00:01	02/04/25 09:00

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(612)607-1700

SAMPLE ANALYTE COUNT

Project: L1822859 WG2445636
Pace Project No.: 10722836

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10722836001	**MW-04**	EPA 1633	MC5	65	PASI-M
10722836002	**REEL RB**	EPA 1633	MC5	65	PASI-M
10722836003	**TWINE RB**	EPA 1633	MC5	65	PASI-M
10722836004	**BAILER RB**	EPA 1633	MC5	65	PASI-M
10722836005	**MW-4 FB**	EPA 1633	MC5	65	PASI-M
10722836006	**TRIP BLANK**	EPA 1633	MC5	65	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

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1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Site specific GW Standard Proposed Reporting Level by CDPHE use the sum of PFOA + PFOS = 70 ppt (ng/L)

Project: L1822859 WG2445636
Pace Project No.: 10722836

Sample: MW-04 **Lab ID: 10722836001** Collected: 02/03/25 14:20 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 522.2 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
11Cl-PF3OUdS	ND	ng/L	6.1	1	02/06/25 14:19	02/07/25 14:01	763051-92-9	
3:3 FTCA	ND	ng/L	7.7	1	02/06/25 14:19	02/07/25 14:01	356-02-5	
4:2 FTS	ND	ng/L	6.1	1	02/06/25 14:19	02/07/25 14:01	757124-72-4	
5:3 FTCA	ND	ng/L	38.3	1	02/06/25 14:19	02/07/25 14:01	914637-49-3	
6:2 FTS	ND	ng/L	6.1	1	02/06/25 14:19	02/07/25 14:01	27619-97-2	
7:3 FTCA	ND	ng/L	38.3	1	02/06/25 14:19	02/07/25 14:01	812-70-4	
8:2 FTS	ND	ng/L	6.1	1	02/06/25 14:19	02/07/25 14:01	39108-34-4	
9Cl-PF3ONS	ND	ng/L	6.1	1	02/06/25 14:19	02/07/25 14:01	756426-58-1	
ADONA	ND	ng/L	6.1	1	02/06/25 14:19	02/07/25 14:01	919005-14-4	
HFPO-DA	ND	ng/L	6.1	1	02/06/25 14:19	02/07/25 14:01	13252-13-6	
NEtFOSAA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	2991-50-6	
NEtFOSA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	4151-50-2	
NEtFOSE	ND	ng/L	15.3	1	02/06/25 14:19	02/07/25 14:01	1691-99-2	
NFDHA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 14:01	151772-58-6	
NMeFOSAA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	2355-31-9	
NMeFOSA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	31506-32-8	
NMeFOSE	ND	ng/L	15.3	1	02/06/25 14:19	02/07/25 14:01	24448-09-7	
PFBS	**3.9**	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	375-73-5	
PFDA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	335-76-2	
PFHxA	**2.1**	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	307-24-4	
PFBA	**13.0**	ng/L	6.1	1	02/06/25 14:19	02/07/25 14:01	375-22-4	
PFDS	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	335-77-3	
PFDoS	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	79780-39-5	
PFEESA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 14:01	113507-82-7	
PFHpS	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	375-92-8	
PFMBA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 14:01	863090-89-5	
PFMPA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 14:01	377-73-1	
PFNS	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	68259-12-1	
PFOSA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	754-91-6	
PFPeA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 14:01	2706-90-3	
PFPeS	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	2706-91-4	
PFDoA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	307-55-1	
PFHpA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	375-85-9	
PFHxS	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	355-46-4	
PFNA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	375-95-1	
PFOS	**3.6**	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	1763-23-1	
PFOA	**4.0**	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	335-67-1	
PFTeDA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	376-06-7	
PFTrDA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	72629-94-8	
PFUnA	ND	ng/L	1.5	1	02/06/25 14:19	02/07/25 14:01	2058-94-8	
Surrogates								
13C2-PFDoA (S)	88	%.	10-130	1	02/06/25 14:19	02/07/25 14:01		
13C3HFPO-DA (S)	107	%.	40-130	1	02/06/25 14:19	02/07/25 14:01		
13C3-PFBS (S)	73	%.	40-135	1	02/06/25 14:19	02/07/25 14:01		
13C3-PFHxS (S)	88	%.	40-130	1	02/06/25 14:19	02/07/25 14:01		

Sum = 7.6

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: L1822859 WG2445636
Pace Project No.: 10722836

Sample: MW-04 **Lab ID: 10722836001** Collected: 02/03/25 14:20 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 522.2 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
Surrogates								
13C4-PFBA (S)	85	%.	5-130	1	02/06/25 14:19	02/07/25 14:01		
13C4-PFHpA (S)	103	%.	40-130	1	02/06/25 14:19	02/07/25 14:01		
13C5-PFHxA (S)	87	%.	40-130	1	02/06/25 14:19	02/07/25 14:01		
13C5-PFPeA (S)	100	%.	40-130	1	02/06/25 14:19	02/07/25 14:01		
13C6-PFDA (S)	81	%.	40-130	1	02/06/25 14:19	02/07/25 14:01		
13C8-PFOA (S)	86	%.	40-130	1	02/06/25 14:19	02/07/25 14:01		
13C8-PFOS (S)	87	%.	40-130	1	02/06/25 14:19	02/07/25 14:01		
13C8-PFOSA (S)	84	%.	40-130	1	02/06/25 14:19	02/07/25 14:01		
13C9-PFNA (S)	88	%.	40-130	1	02/06/25 14:19	02/07/25 14:01		
d3-MeFOSAA (S)	67	%.	40-170	1	02/06/25 14:19	02/07/25 14:01		
d3-NMeFOSA (S)	82	%.	10-130	1	02/06/25 14:19	02/07/25 14:01		
d5-EtFOSAA (S)	70	%.	25-135	1	02/06/25 14:19	02/07/25 14:01		
d5-NEtFOSA (S)	81	%.	10-130	1	02/06/25 14:19	02/07/25 14:01		
d7-NMeFOSE (S)	94	%.	10-130	1	02/06/25 14:19	02/07/25 14:01		
d9-NEtFOSE (S)	92	%.	10-130	1	02/06/25 14:19	02/07/25 14:01		
13C2-PFTA (S)	81	%.	10-130	1	02/06/25 14:19	02/07/25 14:01		
13C7-PFUdA (S)	86	%.	30-130	1	02/06/25 14:19	02/07/25 14:01		
13C24:2FTS (S)	70	%.	40-200	1	02/06/25 14:19	02/07/25 14:01		
13C26:2FTS (S)	84	%.	40-200	1	02/06/25 14:19	02/07/25 14:01		
13C28:2FTS (S)	88	%.	40-300	1	02/06/25 14:19	02/07/25 14:01		
13C3-PFPrA (S)	9	%.	5-130	1	02/06/25 14:19	02/07/25 14:01		

Sample: REEL RB **Lab ID: 10722836002** Collected: 02/03/25 13:05 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 508.1 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
11Cl-PF3OUdS	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:34	763051-92-9	
3:3 FTCA	ND	ng/L	7.9	1	02/06/25 14:19	02/07/25 13:34	356-02-5	
4:2 FTS	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:34	757124-72-4	
5:3 FTCA	ND	ng/L	39.4	1	02/06/25 14:19	02/07/25 13:34	914637-49-3	
6:2 FTS	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:34	27619-97-2	
7:3 FTCA	ND	ng/L	39.4	1	02/06/25 14:19	02/07/25 13:34	812-70-4	
8:2 FTS	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:34	39108-34-4	
9Cl-PF3ONS	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:34	756426-58-1	
ADONA	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:34	919005-14-4	
HFPO-DA	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:34	13252-13-6	
NEtFOSAA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	2991-50-6	
NEtFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	4151-50-2	
NEtFOSE	ND	ng/L	15.7	1	02/06/25 14:19	02/07/25 13:34	1691-99-2	

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: L1822859 WG2445636
Pace Project No.: 10722836

Sample: REEL RB **Lab ID: 10722836002** Collected: 02/03/25 13:05 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 508.1 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
NFDHA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 13:34	151772-58-6	
NMeFOSAA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	2355-31-9	
NMeFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	31506-32-8	
NMeFOSE	ND	ng/L	15.7	1	02/06/25 14:19	02/07/25 13:34	24448-09-7	
PFBS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	375-73-5	
PFDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	335-76-2	
PFHxA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	307-24-4	
PFBA	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:34	375-22-4	
PFDS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	335-77-3	
PFDoS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	79780-39-5	
PFEESA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 13:34	113507-82-7	
PFHpS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	375-92-8	
PFMBA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 13:34	863090-89-5	
PFMPA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 13:34	377-73-1	
PFNS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	68259-12-1	
PFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	754-91-6	
PFPeA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 13:34	2706-90-3	
PFPeS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	2706-91-4	
PFDoA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	307-55-1	
PFHpA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	375-85-9	
PFHxS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	355-46-4	
PFNA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	375-95-1	
PFOS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	1763-23-1	
PFOA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	335-67-1	
PFTeDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	376-06-7	
PFTrDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	72629-94-8	
PFUnA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:34	2058-94-8	
Surrogates								
13C2-PFDoA (S)	94	%.	10-130	1	02/06/25 14:19	02/07/25 13:34		
13C3HFPO-DA (S)	100	%.	40-130	1	02/06/25 14:19	02/07/25 13:34		
13C3-PFBS (S)	100	%.	40-135	1	02/06/25 14:19	02/07/25 13:34		
13C3-PFHxS (S)	98	%.	40-130	1	02/06/25 14:19	02/07/25 13:34		
13C4-PFBA (S)	96	%.	5-130	1	02/06/25 14:19	02/07/25 13:34		
13C4-PFHpA (S)	93	%.	40-130	1	02/06/25 14:19	02/07/25 13:34		
13C5-PFHxA (S)	97	%.	40-130	1	02/06/25 14:19	02/07/25 13:34		
13C5-PFPeA (S)	98	%.	40-130	1	02/06/25 14:19	02/07/25 13:34		
13C6-PFDA (S)	101	%.	40-130	1	02/06/25 14:19	02/07/25 13:34		
13C8-PFOA (S)	87	%.	40-130	1	02/06/25 14:19	02/07/25 13:34		
13C8-PFOS (S)	94	%.	40-130	1	02/06/25 14:19	02/07/25 13:34		
13C8-PFOSA (S)	85	%.	40-130	1	02/06/25 14:19	02/07/25 13:34		
13C9-PFNA (S)	95	%.	40-130	1	02/06/25 14:19	02/07/25 13:34		
d3-MeFOSAA (S)	72	%.	40-170	1	02/06/25 14:19	02/07/25 13:34		
d3-NMeFOSA (S)	65	%.	10-130	1	02/06/25 14:19	02/07/25 13:34		
d5-EtFOSAA (S)	84	%.	25-135	1	02/06/25 14:19	02/07/25 13:34		
d5-NEtFOSA (S)	60	%.	10-130	1	02/06/25 14:19	02/07/25 13:34		

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1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: L1822859 WG2445636
Pace Project No.: 10722836

Sample: REEL RB **Lab ID: 10722836002** Collected: 02/03/25 13:05 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 508.1 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
Surrogates								
d7-NMeFOSE (S)	73	%.	10-130	1	02/06/25 14:19	02/07/25 13:34		
d9-NEtFOSE (S)	70	%.	10-130	1	02/06/25 14:19	02/07/25 13:34		
13C2-PFTA (S)	79	%.	10-130	1	02/06/25 14:19	02/07/25 13:34		
13C7-PFUdA (S)	102	%.	30-130	1	02/06/25 14:19	02/07/25 13:34		
13C24:2FTS (S)	118	%.	40-200	1	02/06/25 14:19	02/07/25 13:34		
13C26:2FTS (S)	119	%.	40-200	1	02/06/25 14:19	02/07/25 13:34		
13C28:2FTS (S)	133	%.	40-300	1	02/06/25 14:19	02/07/25 13:34		
13C3-PFPrA (S)	32	%.	5-130	1	02/06/25 14:19	02/07/25 13:34		

Sample: TWINE RB **Lab ID: 10722836003** Collected: 02/03/25 13:25 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 514.4 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
11Cl-PF3OUdS	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 13:43	763051-92-9	
3:3 FTCA	ND	ng/L	7.8	1	02/06/25 14:19	02/07/25 13:43	356-02-5	
4:2 FTS	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 13:43	757124-72-4	
5:3 FTCA	ND	ng/L	38.9	1	02/06/25 14:19	02/07/25 13:43	914637-49-3	
6:2 FTS	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 13:43	27619-97-2	
7:3 FTCA	ND	ng/L	38.9	1	02/06/25 14:19	02/07/25 13:43	812-70-4	
8:2 FTS	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 13:43	39108-34-4	
9Cl-PF3ONS	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 13:43	756426-58-1	
ADONA	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 13:43	919005-14-4	
HFPO-DA	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 13:43	13252-13-6	
NEtFOSAA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	2991-50-6	
NEtFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	4151-50-2	
NEtFOSE	ND	ng/L	15.6	1	02/06/25 14:19	02/07/25 13:43	1691-99-2	
NFDHA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 13:43	151772-58-6	
NMeFOSAA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	2355-31-9	
NMeFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	31506-32-8	
NMeFOSE	ND	ng/L	15.6	1	02/06/25 14:19	02/07/25 13:43	24448-09-7	
PFBS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	375-73-5	
PFDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	335-76-2	
PFHxA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	307-24-4	
PFBA	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 13:43	375-22-4	
PFDS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	335-77-3	
PFDoS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	79780-39-5	
PFEESA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 13:43	113507-82-7	
PFHpS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	375-92-8	
PFMBA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 13:43	863090-89-5	

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ANALYTICAL RESULTS

Project: L1822859 WG2445636
Pace Project No.: 10722836

Sample: TWINE RB **Lab ID: 10722836003** Collected: 02/03/25 13:25 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 514.4 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
PFMPA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 13:43	377-73-1	
PFNS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	68259-12-1	
PFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	754-91-6	
PFPeA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 13:43	2706-90-3	
PFPeS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	2706-91-4	
PFDoA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	307-55-1	
PFHpA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	375-85-9	
PFHxS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	355-46-4	
PFNA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	375-95-1	
PFOS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	1763-23-1	
PFOA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	335-67-1	
PFTeDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	376-06-7	
PFTrDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	72629-94-8	
PFUnA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:43	2058-94-8	
Surrogates								
13C2-PFDoA (S)	102	%.	10-130	1	02/06/25 14:19	02/07/25 13:43		
13C3HFPO-DA (S)	105	%.	40-130	1	02/06/25 14:19	02/07/25 13:43		
13C3-PFBS (S)	112	%.	40-135	1	02/06/25 14:19	02/07/25 13:43		
13C3-PFHxS (S)	110	%.	40-130	1	02/06/25 14:19	02/07/25 13:43		
13C4-PFBA (S)	108	%.	5-130	1	02/06/25 14:19	02/07/25 13:43		
13C4-PFHpA (S)	100	%.	40-130	1	02/06/25 14:19	02/07/25 13:43		
13C5-PFHxA (S)	112	%.	40-130	1	02/06/25 14:19	02/07/25 13:43		
13C5-PFPeA (S)	110	%.	40-130	1	02/06/25 14:19	02/07/25 13:43		
13C6-PFDA (S)	105	%.	40-130	1	02/06/25 14:19	02/07/25 13:43		
13C8-PFOA (S)	110	%.	40-130	1	02/06/25 14:19	02/07/25 13:43		
13C8-PFOS (S)	106	%.	40-130	1	02/06/25 14:19	02/07/25 13:43		
13C8-PFOSA (S)	118	%.	40-130	1	02/06/25 14:19	02/07/25 13:43		
13C9-PFNA (S)	109	%.	40-130	1	02/06/25 14:19	02/07/25 13:43		
d3-MeFOSAA (S)	117	%.	40-170	1	02/06/25 14:19	02/07/25 13:43		
d3-NMeFOSA (S)	101	%.	10-130	1	02/06/25 14:19	02/07/25 13:43		
d5-EtFOSAA (S)	122	%.	25-135	1	02/06/25 14:19	02/07/25 13:43		
d5-NEtFOSA (S)	98	%.	10-130	1	02/06/25 14:19	02/07/25 13:43		
d7-NMeFOSE (S)	122	%.	10-130	1	02/06/25 14:19	02/07/25 13:43		
d9-NEtFOSE (S)	111	%.	10-130	1	02/06/25 14:19	02/07/25 13:43		
13C2-PFTA (S)	105	%.	10-130	1	02/06/25 14:19	02/07/25 13:43		
13C7-PFUdA (S)	109	%.	30-130	1	02/06/25 14:19	02/07/25 13:43		
13C24:2FTS (S)	279	%.	40-200	1	02/06/25 14:19	02/07/25 13:43		S3
13C26:2FTS (S)	217	%.	40-200	1	02/06/25 14:19	02/07/25 13:43		S3
13C28:2FTS (S)	222	%.	40-300	1	02/06/25 14:19	02/07/25 13:43		
13C3-PFPrA (S)	56	%.	5-130	1	02/06/25 14:19	02/07/25 13:43		

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ANALYTICAL RESULTS

Project: L1822859 WG2445636
Pace Project No.: 10722836

Sample: BAILER RB **Lab ID: 10722836004** Collected: 02/03/25 13:35 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 506.9 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
11Cl-PF3OUdS	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:52	763051-92-9	
3:3 FTCA	ND	ng/L	7.9	1	02/06/25 14:19	02/07/25 13:52	356-02-5	
4:2 FTS	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:52	757124-72-4	
5:3 FTCA	ND	ng/L	39.5	1	02/06/25 14:19	02/07/25 13:52	914637-49-3	
6:2 FTS	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:52	27619-97-2	
7:3 FTCA	ND	ng/L	39.5	1	02/06/25 14:19	02/07/25 13:52	812-70-4	
8:2 FTS	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:52	39108-34-4	
9Cl-PF3ONS	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:52	756426-58-1	
ADONA	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:52	919005-14-4	
HFPO-DA	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:52	13252-13-6	
NEtFOSAA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	2991-50-6	
NEtFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	4151-50-2	
NEtFOSE	ND	ng/L	15.8	1	02/06/25 14:19	02/07/25 13:52	1691-99-2	
NFDHA	ND	ng/L	3.2	1	02/06/25 14:19	02/07/25 13:52	151772-58-6	
NMeFOSAA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	2355-31-9	
NMeFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	31506-32-8	
NMeFOSE	ND	ng/L	15.8	1	02/06/25 14:19	02/07/25 13:52	24448-09-7	
PFBS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	375-73-5	
PFDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	335-76-2	
PFHxA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	307-24-4	
PFBA	ND	ng/L	6.3	1	02/06/25 14:19	02/07/25 13:52	375-22-4	
PFDS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	335-77-3	
PFDoS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	79780-39-5	
PFEESA	ND	ng/L	3.2	1	02/06/25 14:19	02/07/25 13:52	113507-82-7	
PFHpS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	375-92-8	
PFMBA	ND	ng/L	3.2	1	02/06/25 14:19	02/07/25 13:52	863090-89-5	
PFMPA	ND	ng/L	3.2	1	02/06/25 14:19	02/07/25 13:52	377-73-1	
PFNS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	68259-12-1	
PFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	754-91-6	
PFPeA	ND	ng/L	3.2	1	02/06/25 14:19	02/07/25 13:52	2706-90-3	
PFPeS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	2706-91-4	
PFDoA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	307-55-1	
PFHpA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	375-85-9	
PFHxS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	355-46-4	
PFNA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	375-95-1	
PFOS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	1763-23-1	
PFOA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	335-67-1	
PFTeDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	376-06-7	
PFTrDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	72629-94-8	
PFUnA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:52	2058-94-8	
Surrogates								
13C2-PFDoA (S)	108	%.	10-130	1	02/06/25 14:19	02/07/25 13:52		
13C3HFPO-DA (S)	109	%.	40-130	1	02/06/25 14:19	02/07/25 13:52		
13C3-PFBS (S)	107	%.	40-135	1	02/06/25 14:19	02/07/25 13:52		
13C3-PFHxS (S)	109	%.	40-130	1	02/06/25 14:19	02/07/25 13:52		

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ANALYTICAL RESULTS

Project: L1822859 WG2445636
Pace Project No.: 10722836

Sample: BAILER RB **Lab ID: 10722836004** Collected: 02/03/25 13:35 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 506.9 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
Surrogates								
13C4-PFBA (S)	108	%.	5-130	1	02/06/25 14:19	02/07/25 13:52		
13C4-PFHpA (S)	112	%.	40-130	1	02/06/25 14:19	02/07/25 13:52		
13C5-PFHxA (S)	110	%.	40-130	1	02/06/25 14:19	02/07/25 13:52		
13C5-PFPeA (S)	111	%.	40-130	1	02/06/25 14:19	02/07/25 13:52		
13C6-PFDA (S)	107	%.	40-130	1	02/06/25 14:19	02/07/25 13:52		
13C8-PFOA (S)	106	%.	40-130	1	02/06/25 14:19	02/07/25 13:52		
13C8-PFOS (S)	107	%.	40-130	1	02/06/25 14:19	02/07/25 13:52		
13C8-PFOSA (S)	115	%.	40-130	1	02/06/25 14:19	02/07/25 13:52		
13C9-PFNA (S)	103	%.	40-130	1	02/06/25 14:19	02/07/25 13:52		
d3-MeFOSAA (S)	84	%.	40-170	1	02/06/25 14:19	02/07/25 13:52		
d3-NMeFOSA (S)	92	%.	10-130	1	02/06/25 14:19	02/07/25 13:52		
d5-EtFOSAA (S)	96	%.	25-135	1	02/06/25 14:19	02/07/25 13:52		
d5-NEtFOSA (S)	86	%.	10-130	1	02/06/25 14:19	02/07/25 13:52		
d7-NMeFOSE (S)	106	%.	10-130	1	02/06/25 14:19	02/07/25 13:52		
d9-NEtFOSE (S)	98	%.	10-130	1	02/06/25 14:19	02/07/25 13:52		
13C2-PFTA (S)	112	%.	10-130	1	02/06/25 14:19	02/07/25 13:52		
13C7-PFUdA (S)	114	%.	30-130	1	02/06/25 14:19	02/07/25 13:52		
13C24:2FTS (S)	116	%.	40-200	1	02/06/25 14:19	02/07/25 13:52		
13C26:2FTS (S)	135	%.	40-200	1	02/06/25 14:19	02/07/25 13:52		
13C28:2FTS (S)	156	%.	40-300	1	02/06/25 14:19	02/07/25 13:52		
13C3-PFPrA (S)	86	%.	5-130	1	02/06/25 14:19	02/07/25 13:52		

Sample: MW-4 FB **Lab ID: 10722836005** Collected: 02/03/25 14:30 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 513.2 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
11Cl-PF3OUdS	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 14:10	763051-92-9	
3:3 FTCA	ND	ng/L	7.8	1	02/06/25 14:19	02/07/25 14:10	356-02-5	
4:2 FTS	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 14:10	757124-72-4	
5:3 FTCA	ND	ng/L	39.0	1	02/06/25 14:19	02/07/25 14:10	914637-49-3	
6:2 FTS	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 14:10	27619-97-2	
7:3 FTCA	ND	ng/L	39.0	1	02/06/25 14:19	02/07/25 14:10	812-70-4	
8:2 FTS	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 14:10	39108-34-4	
9Cl-PF3ONS	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 14:10	756426-58-1	
ADONA	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 14:10	919005-14-4	
HFPO-DA	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 14:10	13252-13-6	
NEtFOSAA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	2991-50-6	
NEtFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	4151-50-2	
NEtFOSE	ND	ng/L	15.6	1	02/06/25 14:19	02/07/25 14:10	1691-99-2	

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1700 Elm Street
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ANALYTICAL RESULTS

Project: L1822859 WG2445636
Pace Project No.: 10722836

Sample: MW-4 FB **Lab ID: 10722836005** Collected: 02/03/25 14:30 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 513.2 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
NFDHA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 14:10	151772-58-6	
NMeFOSAA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	2355-31-9	
NMeFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	31506-32-8	
NMeFOSE	ND	ng/L	15.6	1	02/06/25 14:19	02/07/25 14:10	24448-09-7	
PFBS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	375-73-5	
PFDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	335-76-2	
PFHxA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	307-24-4	
PFBA	ND	ng/L	6.2	1	02/06/25 14:19	02/07/25 14:10	375-22-4	
PFDS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	335-77-3	
PFDoS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	79780-39-5	
PFEESA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 14:10	113507-82-7	
PFHpS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	375-92-8	
PFMBA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 14:10	863090-89-5	
PFMPA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 14:10	377-73-1	
PFNS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	68259-12-1	
PFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	754-91-6	
PFPeA	ND	ng/L	3.1	1	02/06/25 14:19	02/07/25 14:10	2706-90-3	
PFPeS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	2706-91-4	
PFDoA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	307-55-1	
PFHpA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	375-85-9	
PFHxS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	355-46-4	
PFNA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	375-95-1	
PFOS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	1763-23-1	
PFOA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	335-67-1	
PFTeDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	376-06-7	
PFTrDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	72629-94-8	
PFUnA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 14:10	2058-94-8	
Surrogates								
13C2-PFDoA (S)	91	%.	10-130	1	02/06/25 14:19	02/07/25 14:10		
13C3HFPO-DA (S)	102	%.	40-130	1	02/06/25 14:19	02/07/25 14:10		
13C3-PFBS (S)	106	%.	40-135	1	02/06/25 14:19	02/07/25 14:10		
13C3-PFHxS (S)	102	%.	40-130	1	02/06/25 14:19	02/07/25 14:10		
13C4-PFBA (S)	105	%.	5-130	1	02/06/25 14:19	02/07/25 14:10		
13C4-PFHpA (S)	101	%.	40-130	1	02/06/25 14:19	02/07/25 14:10		
13C5-PFHxA (S)	105	%.	40-130	1	02/06/25 14:19	02/07/25 14:10		
13C5-PFPeA (S)	106	%.	40-130	1	02/06/25 14:19	02/07/25 14:10		
13C6-PFDA (S)	99	%.	40-130	1	02/06/25 14:19	02/07/25 14:10		
13C8-PFOA (S)	98	%.	40-130	1	02/06/25 14:19	02/07/25 14:10		
13C8-PFOS (S)	103	%.	40-130	1	02/06/25 14:19	02/07/25 14:10		
13C8-PFOSA (S)	102	%.	40-130	1	02/06/25 14:19	02/07/25 14:10		
13C9-PFNA (S)	104	%.	40-130	1	02/06/25 14:19	02/07/25 14:10		
d3-MeFOSAA (S)	98	%.	40-170	1	02/06/25 14:19	02/07/25 14:10		
d3-NMeFOSA (S)	86	%.	10-130	1	02/06/25 14:19	02/07/25 14:10		
d5-EtFOSAA (S)	91	%.	25-135	1	02/06/25 14:19	02/07/25 14:10		
d5-NEtFOSA (S)	88	%.	10-130	1	02/06/25 14:19	02/07/25 14:10		

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ANALYTICAL RESULTS

Project: L1822859 WG2445636
Pace Project No.: 10722836

Sample: MW-4 FB **Lab ID: 10722836005** Collected: 02/03/25 14:30 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 513.2 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
Surrogates								
d7-NMeFOSE (S)	101	%.	10-130	1	02/06/25 14:19	02/07/25 14:10		
d9-NEtFOSE (S)	107	%.	10-130	1	02/06/25 14:19	02/07/25 14:10		
13C2-PFTA (S)	92	%.	10-130	1	02/06/25 14:19	02/07/25 14:10		
13C7-PFUdA (S)	105	%.	30-130	1	02/06/25 14:19	02/07/25 14:10		
13C24:2FTS (S)	113	%.	40-200	1	02/06/25 14:19	02/07/25 14:10		
13C26:2FTS (S)	100	%.	40-200	1	02/06/25 14:19	02/07/25 14:10		
13C28:2FTS (S)	103	%.	40-300	1	02/06/25 14:19	02/07/25 14:10		
13C3-PFPrA (S)	89	%.	5-130	1	02/06/25 14:19	02/07/25 14:10		

Sample: TRIP BLANK **Lab ID: 10722836006** Collected: 02/03/25 00:01 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 495.4 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
11Cl-PF3OUdS	ND	ng/L	6.5	1	02/06/25 14:19	02/07/25 13:24	763051-92-9	
3:3 FTCA	ND	ng/L	8.1	1	02/06/25 14:19	02/07/25 13:24	356-02-5	
4:2 FTS	ND	ng/L	6.5	1	02/06/25 14:19	02/07/25 13:24	757124-72-4	
5:3 FTCA	ND	ng/L	40.4	1	02/06/25 14:19	02/07/25 13:24	914637-49-3	
6:2 FTS	ND	ng/L	6.5	1	02/06/25 14:19	02/07/25 13:24	27619-97-2	
7:3 FTCA	ND	ng/L	40.4	1	02/06/25 14:19	02/07/25 13:24	812-70-4	
8:2 FTS	ND	ng/L	6.5	1	02/06/25 14:19	02/07/25 13:24	39108-34-4	
9Cl-PF3ONS	ND	ng/L	6.5	1	02/06/25 14:19	02/07/25 13:24	756426-58-1	
ADONA	ND	ng/L	6.5	1	02/06/25 14:19	02/07/25 13:24	919005-14-4	
HFPO-DA	ND	ng/L	6.5	1	02/06/25 14:19	02/07/25 13:24	13252-13-6	
NEtFOSAA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	2991-50-6	
NEtFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	4151-50-2	
NEtFOSE	ND	ng/L	16.1	1	02/06/25 14:19	02/07/25 13:24	1691-99-2	
NFDHA	ND	ng/L	3.2	1	02/06/25 14:19	02/07/25 13:24	151772-58-6	
NMeFOSAA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	2355-31-9	
NMeFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	31506-32-8	
NMeFOSE	ND	ng/L	16.1	1	02/06/25 14:19	02/07/25 13:24	24448-09-7	
PFBS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	375-73-5	
PFDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	335-76-2	
PFHxA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	307-24-4	
PFBA	ND	ng/L	6.5	1	02/06/25 14:19	02/07/25 13:24	375-22-4	
PFDS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	335-77-3	
PFDoS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	79780-39-5	
PFEESA	ND	ng/L	3.2	1	02/06/25 14:19	02/07/25 13:24	113507-82-7	
PFHpS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	375-92-8	
PFMBA	ND	ng/L	3.2	1	02/06/25 14:19	02/07/25 13:24	863090-89-5	

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ANALYTICAL RESULTS

Project: L1822859 WG2445636
Pace Project No.: 10722836

Sample: TRIP BLANK **Lab ID: 10722836006** Collected: 02/03/25 00:01 Received: 02/04/25 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EPA 1633F Water	Analytical Method: EPA 1633 Preparation Method: EPA 1633 Initial Volume/Weight: 495.4 mL Final Volume/Weight: 4 mL Pace Analytical Services - Minneapolis							
PFMPA	ND	ng/L	3.2	1	02/06/25 14:19	02/07/25 13:24	377-73-1	
PFNS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	68259-12-1	
PFOSA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	754-91-6	
PFPeA	ND	ng/L	3.2	1	02/06/25 14:19	02/07/25 13:24	2706-90-3	
PFPeS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	2706-91-4	
PFDoA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	307-55-1	
PFHpA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	375-85-9	
PFHxS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	355-46-4	
PFNA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	375-95-1	
PFOS	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	1763-23-1	
PFOA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	335-67-1	
PFTeDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	376-06-7	
PFTrDA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	72629-94-8	
PFUnA	ND	ng/L	1.6	1	02/06/25 14:19	02/07/25 13:24	2058-94-8	
Surrogates								
13C2-PFDoA (S)	68	%.	10-130	1	02/06/25 14:19	02/07/25 13:24		
13C3HFPO-DA (S)	77	%.	40-130	1	02/06/25 14:19	02/07/25 13:24		
13C3-PFBS (S)	82	%.	40-135	1	02/06/25 14:19	02/07/25 13:24		
13C3-PFHxS (S)	77	%.	40-130	1	02/06/25 14:19	02/07/25 13:24		
13C4-PFBA (S)	77	%.	5-130	1	02/06/25 14:19	02/07/25 13:24		
13C4-PFHpA (S)	74	%.	40-130	1	02/06/25 14:19	02/07/25 13:24		
13C5-PFHxA (S)	76	%.	40-130	1	02/06/25 14:19	02/07/25 13:24		
13C5-PFPeA (S)	78	%.	40-130	1	02/06/25 14:19	02/07/25 13:24		
13C6-PFDA (S)	75	%.	40-130	1	02/06/25 14:19	02/07/25 13:24		
13C8-PFOA (S)	80	%.	40-130	1	02/06/25 14:19	02/07/25 13:24		
13C8-PFOS (S)	76	%.	40-130	1	02/06/25 14:19	02/07/25 13:24		
13C8-PFOSA (S)	63	%.	40-130	1	02/06/25 14:19	02/07/25 13:24		
13C9-PFNA (S)	77	%.	40-130	1	02/06/25 14:19	02/07/25 13:24		
d3-MeFOSAA (S)	68	%.	40-170	1	02/06/25 14:19	02/07/25 13:24		
d3-NMeFOSA (S)	58	%.	10-130	1	02/06/25 14:19	02/07/25 13:24		
d5-EtFOSAA (S)	65	%.	25-135	1	02/06/25 14:19	02/07/25 13:24		
d5-NEtFOSA (S)	56	%.	10-130	1	02/06/25 14:19	02/07/25 13:24		
d7-NMeFOSE (S)	65	%.	10-130	1	02/06/25 14:19	02/07/25 13:24		
d9-NEtFOSE (S)	64	%.	10-130	1	02/06/25 14:19	02/07/25 13:24		
13C2-PFTA (S)	66	%.	10-130	1	02/06/25 14:19	02/07/25 13:24		
13C7-PFUdA (S)	73	%.	30-130	1	02/06/25 14:19	02/07/25 13:24		
13C24:2FTS (S)	89	%.	40-200	1	02/06/25 14:19	02/07/25 13:24		
13C26:2FTS (S)	85	%.	40-200	1	02/06/25 14:19	02/07/25 13:24		
13C28:2FTS (S)	79	%.	40-300	1	02/06/25 14:19	02/07/25 13:24		
13C3-PFPrA (S)	58	%.	5-130	1	02/06/25 14:19	02/07/25 13:24		

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QUALITY CONTROL DATA

Project: L1822859 WG2445636
Pace Project No.: 10722836

QC Batch: 990994
QC Batch Method: EPA 1633
Analysis Method: EPA 1633
Analysis Description: EPA 1633F Water
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10722836001, 10722836002, 10722836003, 10722836004, 10722836005, 10722836006

METHOD BLANK: 5172025 Matrix: Water
Associated Lab Samples: 10722836001, 10722836002, 10722836003, 10722836004, 10722836005, 10722836006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
11Cl-PF3OUdS	ng/L	ND	6.1	02/07/25 12:57	
3:3 FTCA	ng/L	ND	7.7	02/07/25 12:57	
4:2 FTS	ng/L	ND	6.1	02/07/25 12:57	
5:3 FTCA	ng/L	ND	38.4	02/07/25 12:57	
6:2 FTS	ng/L	ND	6.1	02/07/25 12:57	
7:3 FTCA	ng/L	ND	38.4	02/07/25 12:57	
8:2 FTS	ng/L	ND	6.1	02/07/25 12:57	
9Cl-PF3ONS	ng/L	ND	6.1	02/07/25 12:57	
ADONA	ng/L	ND	6.1	02/07/25 12:57	
HFPO-DA	ng/L	ND	6.1	02/07/25 12:57	
NEtFOSA	ng/L	ND	1.5	02/07/25 12:57	
NEtFOSAA	ng/L	ND	1.5	02/07/25 12:57	
NEtFOSE	ng/L	ND	15.4	02/07/25 12:57	
NFDHA	ng/L	ND	3.1	02/07/25 12:57	
NMeFOSA	ng/L	ND	1.5	02/07/25 12:57	
NMeFOSAA	ng/L	ND	1.5	02/07/25 12:57	
NMeFOSE	ng/L	ND	15.4	02/07/25 12:57	
PFBA	ng/L	ND	6.1	02/07/25 12:57	
PFBS	ng/L	ND	1.5	02/07/25 12:57	
PFDA	ng/L	ND	1.5	02/07/25 12:57	
PFDoA	ng/L	ND	1.5	02/07/25 12:57	
PFDoS	ng/L	ND	1.5	02/07/25 12:57	
PFDS	ng/L	ND	1.5	02/07/25 12:57	
PFEESA	ng/L	ND	3.1	02/07/25 12:57	
PFHpA	ng/L	ND	1.5	02/07/25 12:57	
PFHpS	ng/L	ND	1.5	02/07/25 12:57	
PFHxA	ng/L	ND	1.5	02/07/25 12:57	
PFHxS	ng/L	ND	1.5	02/07/25 12:57	
PFMBA	ng/L	ND	3.1	02/07/25 12:57	
PFMPA	ng/L	ND	3.1	02/07/25 12:57	
PFNA	ng/L	ND	1.5	02/07/25 12:57	
PFNS	ng/L	ND	1.5	02/07/25 12:57	
PFOA	ng/L	ND	1.5	02/07/25 12:57	
PFOS	ng/L	ND	1.5	02/07/25 12:57	
PFOSA	ng/L	ND	1.5	02/07/25 12:57	
PFPeA	ng/L	ND	3.1	02/07/25 12:57	
PFPeS	ng/L	ND	1.5	02/07/25 12:57	
PFTeDA	ng/L	ND	1.5	02/07/25 12:57	
PFTrDA	ng/L	ND	1.5	02/07/25 12:57	
PFUnA	ng/L	ND	1.5	02/07/25 12:57	

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: L1822859 WG2445636
Pace Project No.: 10722836

METHOD BLANK: 5172025 Matrix: Water
Associated Lab Samples: 10722836001, 10722836002, 10722836003, 10722836004, 10722836005, 10722836006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
13C2-PFDoA (S)	%.	120	10-130	02/07/25 12:57	
13C2-PFTA (S)	%.	107	10-130	02/07/25 12:57	
13C24:2FTS (S)	%.	151	40-200	02/07/25 12:57	
13C26:2FTS (S)	%.	141	40-200	02/07/25 12:57	
13C28:2FTS (S)	%.	134	40-300	02/07/25 12:57	
13C3-PFBS (S)	%.	137	40-135	02/07/25 12:57	S3
13C3-PFHxS (S)	%.	130	40-130	02/07/25 12:57	
13C3-PFPrA (S)	%.	94	5-130	02/07/25 12:57	
13C3HFPO-DA (S)	%.	132	40-130	02/07/25 12:57	S3
13C4-PFBA (S)	%.	127	5-130	02/07/25 12:57	
13C4-PFHpA (S)	%.	129	40-130	02/07/25 12:57	
13C5-PFHxA (S)	%.	128	40-130	02/07/25 12:57	
13C5-PFPeA (S)	%.	130	40-130	02/07/25 12:57	
13C6-PFDA (S)	%.	127	40-130	02/07/25 12:57	
13C7-PFUdA (S)	%.	125	30-130	02/07/25 12:57	
13C8-PFOA (S)	%.	129	40-130	02/07/25 12:57	
13C8-PFOS (S)	%.	117	40-130	02/07/25 12:57	
13C8-PFOSA (S)	%.	102	40-130	02/07/25 12:57	
13C9-PFNA (S)	%.	131	40-130	02/07/25 12:57	S3
d3-MeFOSAA (S)	%.	113	40-170	02/07/25 12:57	
d3-NMeFOSA (S)	%.	88	10-130	02/07/25 12:57	
d5-EtFOSAA (S)	%.	113	25-135	02/07/25 12:57	
d5-NEtFOSA (S)	%.	87	10-130	02/07/25 12:57	
d7-NMeFOSE (S)	%.	98	10-130	02/07/25 12:57	
d9-NEtFOSE (S)	%.	95	10-130	02/07/25 12:57	

LABORATORY CONTROL SAMPLE: 5172026

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
11Cl-PF3OUdS	ng/L	73.1	94.7	130	55-160	
3:3 FTCA	ng/L	96.5	110	114	65-130	
4:2 FTS	ng/L	73.1	87.3	119	70-145	
5:3 FTCA	ng/L	482	570	118	70-135	
6:2 FTS	ng/L	74.7	89.0	119	65-155	
7:3 FTCA	ng/L	482	524	109	50-145	
8:2 FTS	ng/L	74.7	105	140	60-150	
9Cl-PF3ONS	ng/L	73.1	94.1	129	70-155	
ADONA	ng/L	73.1	96.8	132	65-145	
HFPO-DA	ng/L	77.8	98.2	126	70-140	
NEtFOSA	ng/L	18.7	24.8	133	65-145	
NEtFOSAA	ng/L	18.7	25.6	137	70-145	
NEtFOSE	ng/L	187	237	127	70-135	
NFDHA	ng/L	38.9	45.8	118	50-150	
NMeFOSA	ng/L	18.7	21.8	117	60-150	

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1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: L1822859 WG2445636
Pace Project No.: 10722836

LABORATORY CONTROL SAMPLE: 5172026

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
NMeFOSAA	ng/L	18.7	24.1	129	50-140	
NMeFOSE	ng/L	187	224	120	70-145	
PFBA	ng/L	77.8	94.6	122	70-140	
PFBS	ng/L	17.1	21.3	124	60-145	
PFDA	ng/L	18.7	23.5	126	70-140	
PFDoA	ng/L	18.7	24.0	129	70-140	
PFDoS	ng/L	18.7	22.5	120	50-145	
PFDS	ng/L	18.7	22.5	120	60-145	
PFEESA	ng/L	34.2	43.9	128	70-140	
PFHpA	ng/L	18.7	24.2	130	70-150	
PFHpS	ng/L	18.7	23.3	125	70-150	
PFHxA	ng/L	18.7	23.1	124	70-145	
PFHxS	ng/L	17.1	21.4	125	65-145	
PFMBA	ng/L	38.9	46.2	119	60-150	
PFMPA	ng/L	38.9	44.4	114	55-140	
PFNA	ng/L	18.7	22.5	120	70-150	
PFNS	ng/L	18.7	23.8	128	65-145	
PFOA	ng/L	18.7	23.2	124	70-150	
PFOS	ng/L	18.7	21.5	115	55-150	
PFOSA	ng/L	18.7	24.4	131	70-145	
PFPeA	ng/L	38.9	45.6	117	65-135	
PFPeS	ng/L	18.7	23.3	125	65-140	
PFTeDA	ng/L	18.7	23.6	127	60-140	
PFTrDA	ng/L	18.7	23.5	126	65-140	
PFUnA	ng/L	18.7	23.7	127	70-145	
13C2-PFDoA (S)	%.			101	10-130	
13C2-PFTA (S)	%.			100	10-130	
13C24:2FTS (S)	%.			129	40-200	
13C26:2FTS (S)	%.			130	40-200	
13C28:2FTS (S)	%.			104	40-300	
13C3-PFBS (S)	%.			114	40-135	
13C3-PFHxS (S)	%.			110	40-130	
13C3-PFPrA (S)	%.			74	5-130	
13C3HFPO-DA (S)	%.			108	40-130	
13C4-PFBA (S)	%.			108	5-130	
13C4-PFHpA (S)	%.			107	40-130	
13C5-PFHxA (S)	%.			109	40-130	
13C5-PFPeA (S)	%.			111	40-130	
13C6-PFDA (S)	%.			103	40-130	
13C7-PFUdA (S)	%.			109	30-130	
13C8-PFOA (S)	%.			104	40-130	
13C8-PFOS (S)	%.			102	40-130	
13C8-PFOSA (S)	%.			87	40-130	
13C9-PFNA (S)	%.			103	40-130	
d3-MeFOSAA (S)	%.			96	40-170	
d3-NMeFOSA (S)	%.			87	10-130	
d5-EtFOSAA (S)	%.			92	25-135	

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(612)607-1700

QUALITY CONTROL DATA

Project: L1822859 WG2445636
Pace Project No.: 10722836

LABORATORY CONTROL SAMPLE: 5172026

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
d5-NEtFOSA (S)	%.			81	10-130	
d7-NMeFOSE (S)	%.			94	10-130	
d9-NEtFOSE (S)	%.			95	10-130	

LABORATORY CONTROL SAMPLE: 5172027

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
11Cl-PF3OUdS	ng/L	11.9	15.5	130	55-160	
3:3 FTCA	ng/L	15.7	20.1	128	65-130	
4:2 FTS	ng/L	11.9	14.1	119	70-145	
5:3 FTCA	ng/L	78.3	92.2	118	70-135	
6:2 FTS	ng/L	12.1	13.6	112	65-155	
7:3 FTCA	ng/L	78.3	87.3	112	50-145	
8:2 FTS	ng/L	12.1	13.4	111	60-150	
9Cl-PF3ONS	ng/L	11.9	15.8	133	70-155	
ADONA	ng/L	11.9	15.0	127	65-145	
HFPO-DA	ng/L	12.6	16.0	126	70-140	
NEtFOSA	ng/L	3	3.8	126	65-145	
NEtFOSAA	ng/L	3	3.6	118	70-145	
NEtFOSE	ng/L	30.3	38.0	125	70-135	
NFDHA	ng/L	6.3	6.8	108	50-150	
NMeFOSA	ng/L	3	3.4	113	60-150	
NMeFOSAA	ng/L	3	4.0	131	50-140	
NMeFOSE	ng/L	30.3	37.4	123	70-145	
PFBA	ng/L	12.6	15.0	118	70-140	
PFBS	ng/L	2.8	3.4	122	60-145	
PFDA	ng/L	3	3.5	114	70-140	
PFDoA	ng/L	3	4.1	134	70-140	
PFDoS	ng/L	3	3.9	127	50-145	
PFDS	ng/L	3	3.8	126	60-145	
PFEESA	ng/L	5.6	7.1	129	70-140	
PFHpA	ng/L	3	3.6	117	70-150	
PFHpS	ng/L	3	3.6	120	70-150	
PFHxA	ng/L	3	3.9	128	70-145	
PFHxS	ng/L	2.8	3.4	124	65-145	
PFMBA	ng/L	6.3	7.5	118	60-150	
PFMPA	ng/L	6.3	6.9	110	55-140	
PFNA	ng/L	3	4.1	135	70-150	
PFNS	ng/L	3	3.9	129	65-145	
PFOA	ng/L	3	3.8	125	70-150	
PFOS	ng/L	3	3.6	120	55-150	
PFOSA	ng/L	3	3.5	117	70-145	
PFPeA	ng/L	6.3	7.4	117	65-135	
PFPeS	ng/L	3	3.3	110	65-140	
PFTeDA	ng/L	3	4.1	135	60-140	

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(612)607-1700

QUALITY CONTROL DATA

Project: L1822859 WG2445636
Pace Project No.: 10722836

LABORATORY CONTROL SAMPLE: 5172027

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PFTrDA	ng/L	3	3.8	124	65-140	
PFUnA	ng/L	3	3.8	126	70-145	
13C2-PFDoA (S)	%.			79	10-130	
13C2-PFTA (S)	%.			77	10-130	
13C24:2FTS (S)	%.			103	40-200	
13C26:2FTS (S)	%.			95	40-200	
13C28:2FTS (S)	%.			98	40-300	
13C3-PFBS (S)	%.			90	40-135	
13C3-PFHxS (S)	%.			87	40-130	
13C3-PFPrA (S)	%.			68	5-130	
13C3HFPO-DA (S)	%.			91	40-130	
13C4-PFBA (S)	%.			90	5-130	
13C4-PFHpA (S)	%.			91	40-130	
13C5-PFHxA (S)	%.			89	40-130	
13C5-PFPeA (S)	%.			94	40-130	
13C6-PFDA (S)	%.			88	40-130	
13C7-PFUdA (S)	%.			83	30-130	
13C8-PFOA (S)	%.			88	40-130	
13C8-PFOS (S)	%.			86	40-130	
13C8-PFOSA (S)	%.			78	40-130	
13C9-PFNA (S)	%.			88	40-130	
d3-MeFOSAA (S)	%.			90	40-170	
d3-NMeFOSA (S)	%.			70	10-130	
d5-EtFOSAA (S)	%.			84	25-135	
d5-NEtFOSA (S)	%.			64	10-130	
d7-NMeFOSE (S)	%.			76	10-130	
d9-NEtFOSE (S)	%.			74	10-130	

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1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: L1822859 WG2445636
Pace Project No.: 10722836

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

S3 Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated sample.

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1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: L1822859 WG2445636
Pace Project No.: 10722836

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10722836006	**TRIP BLANK**	EPA 1633	990994	EPA 1633	991805
10722836002	**REEL RB**	EPA 1633	990994	EPA 1633	991805
10722836003	**TWINE RB**	EPA 1633	990994	EPA 1633	991805
10722836004	**BAILER RB**	EPA 1633	990994	EPA 1633	991805
10722836001	**MW-04**	EPA 1633	990994	EPA 1633	991805
10722836005	**MW-4 FB**	EPA 1633	990994	EPA 1633	991805

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WO#: 10722836

10722836

CHAIN-OF-CUSTO

The Chain-of-Custody is a LE

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Inf	
Company:	Pace Analytical	Report To:	Pace Analytical Subout Team	Attention:	Vincent Barlock
Address:	12065 Lebanon Rd.	Copy To:		Company Name:	
Mt. Juliet, TN 37122				Address:	
Email:	MTJLSuboutTeam@pacelabs.com	Purchase Order #:	L1822859	Pace Quote:	
Phone:	(615) 773-9756 Fax: (615) 758-5859	Project Name:	L1822859 WG2445636	Pace Project Manager:	Tong Lee
Requested Due Date:	11-Feb	Project #:		Pace Profile #:	38076

Regulatory Agency

State / Location: CO

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	PFAS1633	Residual Chlorine (Y/N)	
1	MW-04	WT				03-Feb	14:20		1								1		X		001
2	REEL RB	WT				03-Feb	13:05		1								1		X		002
3	TWINE RB	WT				03-Feb	13:25		1								1		X		003
4	BAILER RB	WT				03-Feb	13:35		1								1		X		004
5	MW-4 FB	WT				03-Feb	14:30		1								1		X		005
6	TRIP BLANK	WT				03-Feb	0:01		1								1		X		006
7																					
8																					
9																					
10																					
11																					
12																					

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	James C Huckaba	4-Feb	15:16	PACE	2/4/25	0900	2.4	Y	Y	Y
Pace Analytical Batch: WG2445636										
Pace Analytical SDGs: L1822859										
Location: Minneapolis, MN 55414										

SAMPLER NAME AND SIGNATURE				
PRINT Name of SAMPLER:				
SIGNATURE of SAMPLER:	DATE Signed:	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Company Name/Address:
Baseline Engineering

112 N Rubey Dr. , Unit 210
Golden, CO 80403

Billing Information:
Tiffany Love | Accounts Payable
PO Box 312
Broomfield, CO 80403

Pres Chk

Report to:
Vincent Barlock 303-940-9966

Email To:
terry.mcgowan@baselinecorp.com;vincent.barl ock@baselinecorp.com

Project Description:
WELBY GARDEN: PFAS SAMPLING

City/State Collected: ARVADA, CO.

Please Circle: PT (MT) CT ET

Regulatory Program(DOD,RCRA,DW,etc):

Client Project #
45038.002a

Lab Project #

Collected by (print):
VEB/TOM

Site/Facility ID #

P.O. #

Collected by (signature):
TERRY McGOWAN
Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day ___ STD TAT

Quote #

Date Results Needed
02/11/25

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	SUBPFAS1633 PFAS(2)500ml(1)125ml								Remarks	Sample # (lab only)
MW-04	GRAB	GW	/	2/3/25	14:20	3	X									001
REEL RB	GRAB	GW	/	2/3/25	13:05	3	X									002
TWINE RB	GRAB	GW	/	2/3/25	13:25	3	X									003
BAILER RB	GRAB	GW	/	2/3/25	13:35	3	X									004
MW-4 FB	GRAB	GW	/	2/3/25	14:30	3	X									005
MW-4 VEB																

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG #

Table #

Acctnum: **BASENGGCO**
Template: **T267486**
Prelogin: **P1129635**
PM: **824 - Chris Ward**
PB: LU 1/31/25

Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: GO to MN

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__UPS __FedEx __Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
T. McGowan	2-3-25	1535			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	If preservation required by Login: Date/Time
	2-3-25	18:00	FedEx		
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	Hold: / Condition: NCF / OK
	2-4-25	900	PACE	2/4/25 0900	

temp 24

PNDCO

ENV-FRM-MIN4-0150 v17_Sample Condition Upon Receipt

CLIENT NAME: BASELINE ENGineering **PROJECT #:**

WO#: 10722836
PM: TKL Due Date: 02/25/25
CLIENT: PASI-TN

COURIER: ☐ Client ☐ Commercial ☑ FedEx ☐ Pace ☐ SpeeDee ☐ UPS ☐ USPS

TRACKING NUMBER: 5405 1822 2600 ☐ See Exceptions form ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present: ☑ YES ☐ NO **Seals Intact:** ☑ YES ☐ NO **Biological Tissue Frozen:** ☐ YES ☐ NO ☑ N/A

Packing Material: ☐ Bubble Bags ☑ Bubble Wrap ☐ None ☐ Other **Temp Blank:** ☐ YES ☑ NO **Type of Ice:** ☐ Blue ☐ Dry ☑ Wet ☐ Melted ☐ None

Thermometer: ☑ T1 (0461) ☐ T2 (0436) ☐ T3 (0459) ☐ T4 (0402) ☐ T5 (0178) ☐ T6 (0235) ☐ T7 (0042) ☐ T8 (0775) ☐ T9 (0727) ☐ 01339252 (1710)

Did Samples Originate in West Virginia: ☐ YES ☑ NO	**Were All Container Temps taken:** ☐ YES ☐ NO ☑ N/A
Correction Factor: -0.1 **Cooler Temp Read w/Temp Blank:** _____ °C **Cooler Temp Corrected w/Temp Blank:** _____ °C	**Average Corrected Temp (no Temp Blank Only):** 2.4 °C
NOTE: *Temp should be above freezing to 6°C.*	☐ See Exceptions Form ENV-FRM-MIN4-0142 ☐ 1 Container
USDA Regulated Soil: ☑ N/A - Water Sample/Other (describe): _____	**Initials & Date of Person Examining Contents:** _____
Did Samples originate from one of the following states (check maps) – AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA: ☐ YES ☐ NO	Did samples originate from a foreign source (international, including Hawaii and Puerto Rico): ☐ YES ☐ NO
NOTE: If YES to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.	

LOCATION (check one): ☐ DULUTH ☐ MINNEAPOLIS ☐ VIRGINIA	YES	NO	N/A	COMMENT(S)
Chain of Custody Present and Filled Out?	☑	☐		1.
Chain of Custody Relinquished?	☑	☐		2.
Sampler Name and/or Signature on COC?	☑	☐	☐	3.
Samples Arrived within Hold Time?	☑	☐		4. If Fecal: ☐ <8 hrs ☐ >8 hr, <24 hr ☐ No
Short Hold Time Analysis (<72 hr)?	☐	☑		5. ☐ BOD / cBOD ☐ Fecal coliform ☐ Hex Chrom ☐ HPC ☐ Nitrate ☐ Nitrite ☐ Ortho Phos ☐ Total coliform/*E. coli* ☐ Other: _____
Rush Turn Around Time Requested?	☑	☐		6. 5 Day
Sufficient Sample Volume?	☑	☐		7.
Correct Containers Used? – Pace Containers Used?	☑ ☑	☐ ☐	☐	8.
Containers Intact?	☑	☐		9.
Field Filtered Volume Received for Dissolved Tests?	☐	☐	☑	10. Is sediment visible in the dissolved container: ☐ YES ☐ NO
Is sufficient information available to reconcile the samples to the COC? **NOTE:** If ID/Date/Time don't match fill out section 11. Matrix: ☐ Oil ☐ Soil ☑ Water ☐ Other	☐	☑		11. **If NO, write ID/Date/Time of container below:** MORE SAMPLES THAN LISTED ON COC ☑ See Exceptions form ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?	☐	☐	☑	12. Sample #:
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, < 2 pH, NaOH > 9 Sulfide, NaOH > 10 Cyanide)	☐	☐	☑	☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC, Oil & Grease, DRO/8015 (water) and Dioxins/PFAS	☑	☐	☐	Positive for Residual Chlorine: ☐ YES ☐ NO
NOTE: If adding preservation to the container, **verify with the PM first.** Clients may require adding preservative to the field and equipment blanks when this occurs.				**pH Paper Lot #**
				Residual Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
				☐ See Exceptions form ENV-FRM-MIN4-0142
Headspace in Methyl Mercury Container?	☐	☐	☑	13.
Extra labels present on soil VOA or WIDRO containers?	☐	☐	☑	14.
Headspace in VOA Vials (greater than 6mm)?	☐	☐	☑	☐ See Exceptions form ENV-FRM-MIN4-0140
Trip Blanks Present?	☐	☐	☑	15.
Trip Blank Custody Seals Present?	☐	☐	☑	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION / RESOLUTION **FIELD DATA REQUIRED:** ☐ YES ☐ NO

Person Contacted: _____ Date & Time: _____

Comments / Resolution: _____

Project Manager Review: _____ **Date:** 2/4/25

NOTE: *When there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEQ Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).*

Labeled By: CM1 **Line:** 2

Workorder #: 10722836

No Temp Blank		
Read Temp	**Corrected Temp**	**Average temp**
3.3	3.2	2.4
2.5	2.4	
2.3	2.2	
1.9	1.8	

PM Notified of Out of Temp Cooler? ☐ YES ☐ NO

If yes, indicate who was contacted, date and time.
If no, indicate reason why.

Multiple Cooler Project? ☐ YES ☐ NO

If anything is OVER 6.0°C, you MUST document containers in this section HERE

Tracking Number	Temperature

~~Out of Temp~~ Sample ID (Extra) CMI 2/4/25	Container Type	# of Containers
Trip Blank	NT2U	2
	NT4U	1

pH Adjustment Log for Preserved Samples

Sample ID	Type Of Preserve	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance After Addition? YES	In Compliance After Addition? NO	Initials
								☐	☐	
								☐	☐	
								☐	☐	
								☐	☐	
								☐	☐	
								☐	☐	
								☐	☐	
								☐	☐	

Comments:
Sample TWINE RB is labeled as Rope RB with same collected date/time

APPENDIX F
Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) Sampling Protocol

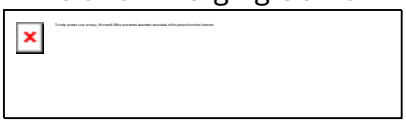
tomcgowan1@comcast.net

From: Murray - CDPHE He Him, Richard <richard.murray@state.co.us>
Sent: Friday, January 31, 2025 1:25 PM
To: Terry McGowan
Subject: Re: PFAS GW sampling SAP

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Hi Terry - Nice speaking with you on the phone. I approve of your approach for collecting PFAS samples as outlined over the phone and in your prior email. Your procedures for sample/blank collection, decontamination, and general prevention of possible cross-contamination are in alignment with current best practices.

Please reach out if you have any additional questions. Have a nice weekend,

Rich Murray, P.E.
PFAS and Emerging Contaminants Coordinator

P 303.968.8940 |
4300 Cherry Creek Drive South, Denver, CO 80246
richard.murray@state.co.us|www.colorado.gov/cdphe/hm|

On Fri, Jan 31, 2025 at 11:40 AM Terry McGowan <terry.mcgowan@baselinecorp.com> wrote:
Thank you. I will call you .

Sent from Samsung Galaxy smartphone.

-------- Original message --------
From: "Murray - CDPHE He Him, Richard" <richard.murray@state.co.us>
Date: 1/31/25 11:00 AM (GMT-07:00)
To: Terry McGowan <terry.mcgowan@baselinecorp.com>
Subject: Re: PFAS GW sampling SAP

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Hi Terry - 1pm works for me. The procedure you outline is very good and in alignment with guidance. My only add is to have field staff keep any snacks/refreshments in the vehicle and consume them there (and wash hands before returning to sampling). This includes drinking water they bring with them.

talk to you at 1.

Rich Murray, P.E.
PFAS and Emerging Contaminants Coordinator
P 303.968.8940 |
4300 Cherry Creek Drive South, Denver, CO 80246
richard.murray@state.co.us|www.colorado.gov/cdphe/hm|

On Fri, Jan 31, 2025 at 10:48 AM Terry McGowan <terry.mcgowan@baselinecorp.com> wrote:

Rick, no need to apologize. Please note that we did not have a budget to develop a formal Sampling and Analysis Plan. We reviewed the guidelines that you provided to Fonda and came up with the following procedure that was provided to the client as this is all new to them.

- We will wear powder free nitrile gloves (standard for all sampling). We will wash our hands (PFAS free DI) before donning and replace the gloves often if necessary. Each time we change, we wash.
- Our bailers that we use are certified as PFAS free. These are individually wrapped and stay “clean” until used. The bailer will be triple rinsed with PFAS free DI water and then an equipment blank collected, prior to sample collection.
- We use nylon rope to lower the bailers (nylon is acceptable). We ordered a new 250-foot roll (stated as PFAS free) which will be stored in a Ziplock bag (acceptable) after opening, as long as we triple rinse with PFAS free DI water before use. We will collect an equipment blank after rinsing and before use.
- Our sampling buckets are PVC and I have cleaned them with tap water, standard DI with Alconox (an acceptable soap), and again with standard DI water. Before use, we will triple rinse with PFAS free DI water. We will not collect an equipment blank from the PVC bucket, as the bailer should not touch the bucket.
- We use a PVC cord reel to assist in bailing. This reduces the chance that the bailer rope touches the ground. The reel was washed similar to the PVC bucket and will be triple rinsed with PFAS free DI water and an equipment blank collected before use.
- The water level meter was decontaminated similar to the reel. It will be triple rinsed with PFAS free DI water before it will be used. Since we already know the depth of the well; only the sensor tip with touch the groundwater in the well. As such, an equipment blank will not be collected.

- The sampling vehicle will be cleaned prior to travel and sampling. The vehicle will be parked at least 20 feet from the monitoring well. If we have to lay any equipment down on the tail gate, it will be placed on cotton towels that have been washed without soap and air dried.
- We will wear mostly 100% cotton clothing, although some clothing may contain a percentage of synthetic fibers. None of the clothing will have been treated with water repellent, insect repellent, or stain resistant chemicals. The clothing worn will have been previously washed and dried at least six times; however, in most cases softeners were used. That said, the clothing we will wear will be washed without soap and then placed to air dry.
- We will not sample if snowing, raining, or windy conditions.
- A trip blank for analysis of PFAS will be used.
- A field blank prepared by the laboratory with PFAS free DI water will be opened at the monitoring well location and left open for the same time period as it takes to pull groundwater from the monitoring well and fill PFAS sampling containers.
- If more than one monitoring well is sampled, a duplicate sample should be prepared.
- All samples will be placed on ice in the sample cooler and transported on the same day to the laboratory.

Can we schedule a call for this afternoon after 1:00 PM? I can do a Zoom invite. I cannot complete a Google meet for some reason. Someone else's email shows up and I do not know how to change it.

Thanks for getting back to me. Look forward to discussing this plan. Again, we had not planned on sampling PFAS so we had to scramble to come up with this procedure.

BASELINE

ESOP

TOP WORK PLACES 2023

Terry O. McGowan, P. G. | **Senior Geologist/Hydrogeologist**

Environmental Division

303.940.9966 | 303-229-5496

112 N. Rubey Drive, #210, Golden, CO 80403

www.baselinecorp.com | Social Media

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and please delete the original message. Thank you.

From: Murray - CDPHE He Him, Richard <richard.murray@state.co.us>
Sent: Friday, January 31, 2025 10:08 AM

To: Terry McGowan <terry.mcgowan@baselinecorp.com>
Subject: Re: PFAS GW sampling SAP

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Hi Terry - Sorry for my delayed response. I am available today to discuss. You can call me on my cell 303-968-8940.

Do you have a plan I can review in advance or do you prefer to discuss the plan over the phone?

Rich Murray, P.E.

PFAS and Emerging Contaminants Coordinator

P 303.968.8940 |

4300 Cherry Creek Drive South, Denver, CO 80246

richard.murray@state.co.us|www.colorado.gov/cdphe/hm|

On Fri, Jan 31, 2025 at 10:03 AM Terry McGowan <terry.mcgowan@baselinecorp.com> wrote:

> Rick, I hope that the surgery went well and you are recovering quickly. I do need to ask you a few questions regarding sampling. Sampling is scheduled for Monday for a project that I can't give you any information on unfortunately. I need to know if my sampling plan/procedure is adequate, if I am missing anything, and if you would be willing to approve or just comment.
>
> Thank you. I have my grandson to today and will respond as quickly as I can.
>
> BASELINE
>
> ESOP TOP WORK PLACES 2023
>
> **Terry O. McGowan, P. G.** | **Senior Geologist/Hydrogeologist**
>
> **Environmental Division**
>
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> 112 N. Rubey Drive, #210, Golden, CO 80403
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and please delete the original message. Thank you.

From: Terry McGowan
Sent: Tuesday, January 28, 2025 10:45 AM
To: Richard Murray - CDPHE He Him <richard.murray@state.co.us>
Subject: RE: PFAS GW sampling SAP

Rich, good morning. You and I have not met before, but I have known Fonda for a very long time. Last week he requested from you guidelines for sampling for PFAS. Do you have time today for a quick call or Zoom to discuss sampling?

Thank you.

BASELINE

ESOP

TOP WORK PLACES 2023

Terry O. McGowan, P. G. | **Senior Geologist/Hydrogeologist**

Environmental Division

303.940.9966 | 303-229-5496

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and please delete the original message. Thank you.

From: Apostolopoulos - CDPHE, Fonda <fonda.apostolopoulos@state.co.us>
Sent: Thursday, January 23, 2025 3:49 PM
To: Richard Murray - CDPHE He Him <richard.murray@state.co.us>; Terry McGowan <terry.mcgowan@baselinecorp.com>
Subject: PFAS GW sampling SAP

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

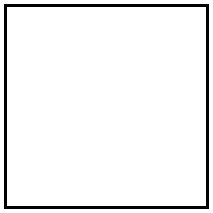
Rich.

Do you have a good reference on GW sampling protocols for PFAS, which you can share with me?

I used to have one, but I can't find it.

Fonda

--



Mr. Fonda Apostolopoulos, P.E.

Colorado Department of Public Health and Environment

4300 Cherry Creek Drive South

Denver, CO 80246

303-692-3411

Fonda.Apostolopoulos@State.co.us

ERO Resources Corporation

Denver 1626 Cole Boulevard, Suite 100, Lakewood, CO 80401
Durango 835 East 2nd Avenue, Suite 314, Durango, CO 81301
Grand Junction 715 Horizon Drive, Unit 301, Grand Junction, CO 81506
Idaho 7154 West State Street, Suite 398, Boise, ID 83714

TO: Andrew Johnson, AvalonBay Communities, Inc.
FROM: Jack Denman, Senior Geologist, ERO Resources Corporation

ERO reviewed files for the following site maintained by the Colorado Department of Public Health and Environment's Voluntary Cleanup Program and have prepared the following site summary for the site.

Former Greenhouse and Nursery Supply, 4255 Yarrow Street, Arvada (CDPHE VCP Site: RV180508)

The site consisted of a 4.5-acre site with a 106,063-square foot greenhouse generally located southwest of West 44th Avenue and Wadsworth Boulevard in Wheat Ridge, Colorado. The site was used for flower and tomato growing operations since at least 1937. The site is bounded on the south by houses and the Wilmore Davis Elementary School with residential development to the east and west. Environmental assessments between 2014 and 2017 identified on-site soils contaminated with aldrin, dieldrin, DDT, arsenic, and lead as well as petroleum-contaminated soils associated with at least one historical diesel fuel tank. A brief summary of site contaminant concentrations and cleanup levels is presented below.

Contaminant	Maximum Site Concentration	Cleanup Level
Pesticides		
Aldrin	0.290	0.039
Dieldrin	20.0	0.034
DDT	2.4	1.9
Metals		
Arsenic	17	11
Lead	1,300	200

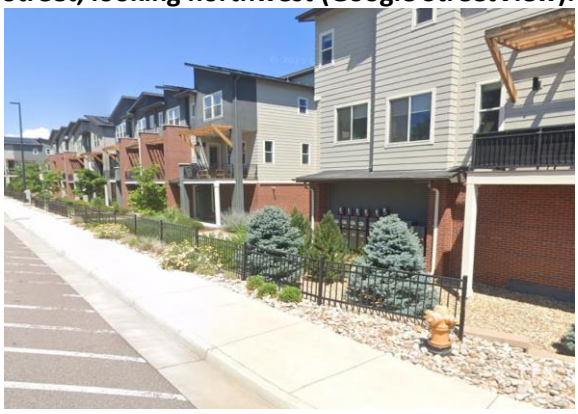
All concentrations in ppm

As part of site remediation activities, 11,326 cubic yards of pesticide-contaminated soils were removed and disposed off-site at Tower Landfill in Commerce City. In addition, three historical fuel tanks were removed and petroleum-contaminated soils remediated in under the approved remediation plan.

Site remediation was approved and documented under the CDPHE Voluntary Cleanup Program and a No Action Determination for unrestricted residential land use was issued in June 2018. The site has since been redeveloped for residential land use.

Photos from SWC of West 42nd Avenue and Yarrow Street, looking northwest (Google StreetView).

2012



2025

AVALON ARVADA

CONDITIONAL USE PLAN

BLOCK , VELDKAMP MINOR SUB 1ST AMD SUBDIVISION, LOCATED IN THE SOUTHWEST QUARTER OF SECTION 02, TOWNSHIP 3 SOUTH,
IN THE CITY OF ARVADA, COUNTY OF JEFFERSON, STATE OF COLORADO
SHEET 1 OF 8

PROJECT SUMMARY

THE APPLICANT IS PROPOSING A RESIDENTIAL COMMUNITY LOCATED WITHIN THE VELDKAMP MINOR SUBDIVISION. THE SITE IS CURRENTLY ZONED MIXED-USE SUBURBAN (MX-S) AND HAS A COMPREHENSIVE PLAN LAND USE DESIGNATION OF MIXED-USE. PRESENTLY, THE PROPERTY IS OCCUPIED BY THE WELBY GARDENS WHOLESALE CENTER AND IS IN ACTIVE COMMERCIAL USE.

THE SURROUNDING CONTEXT INCLUDES THE WEST WOODS GOLF COURSE TO THE NORTH, SENIOR LIVING DEVELOPMENTS TO THE SOUTH ALONG W. 64TH AVENUE, AND SINGLE-FAMILY RESIDENTIAL USES TO THE EAST AND WEST. THE PROPOSED RESIDENTIAL COMMUNITY WILL BE BORDERED BY BOTH SINGLE-FAMILY DETACHED HOMES AND SENIOR LIVING RESIDENTIAL DEVELOPMENTS, ENSURING COMPATIBILITY WITH THE EXISTING NEIGHBORHOOD CHARACTER.

LEGAL DESCRIPTION

LOTS 1 AND 2, VELDKAMP MINOR SUBDIVISION - FIRST AMENDMENT, COUNTY OF JEFFERSON, STATE OF COLORADO.

VICINITY MAP

NOTE: ALL SITE PLANS, SITE DATA AND IMAGES PROVIDED IN THIS PLAN SET ARE CONCEPTUAL AND WILL BE FINALIZED AT TIME OF SITE PLAN REVIEW.

PROJECT TEAM

APPLICANT
AVALON BAY COMMUNITIES, INC.
5050 S. SYRACUSE ST, SUITE 1025
DENVER, COLORADO 80237
720-245-6941
CONTACT: TODD NICOTRA

PLANNER/ LANDSCAPE ARCHITECT
NORRIS DESIGN
1101 BANNOCK ST.
DENVER, CO 80204
303-892-1166
CONTACT: LEANNE VIELEHR/DYLAN DETTMANN

ARCHITECT
STUDIO PBA
1575 GILPIN ST.
DENVER, CO 80218
720-376-6844
CONTACT: ROBERT MIILLER/DAVID LASH

CIVIL ENGINEER
HARRIS KOCHER SMITH
1120 LINCOLN ST. SUITE 1000
DENVER, CO 80203
303-623-6300
CONTACT: STEVE KOCHER

SHEET INDEX

1	COVER SHEET
2	CIVIL SITE PLAN
3	OVERALL UTILITY PLAN
4	OVERALL UTILITY PLAN
5	OVERALL GRADING PLAN
6	LANDSCAPE PLAN
7	SITE AERIAL - SOUTH EAST
8	SITE AERIAL - SOUTH WEST

SITE DATA TABLE - OVERALL

ZONE DISTRICT	MX-S (MIXED USE SUBURBAN)	
HOUSING PALETTE LOT TYPE	SUBURBAN TOWNHOMES, MULTIFAMILY	
TOTAL PROJECT AREA	874,263 SF (20.07 AC.)	
TOTAL UNITS	**435 UNITS (MULTIFAMILY - 384, TOWNHOME - 51)**	
SITE STANDARDS	**REQUIRED (STANDARD)**	**PROVIDED (SITE)**
LANDSCAPE SURFACE AREA (MIN)	25%	25%
SMALL URBAN PARK	10% (87,555 Sf/ 2.0 AC.)	87,555 Sf 2.0 AC.
BUILDING STANDARDS		
HEIGHT (MAX)	45 Ft	45 Ft
HEIGHT ACCESSORY BUILDINGS (MAX)	18 Ft	18 Ft
HEIGHT TRANSITION ZONE DEPTH (MIN)	35 Ft	35 Ft
DENSITY STANDARDS		
MAX. DENSITY	NONE	20.5 DU/AC

SITE DATA TABLE - MULTIFAMILY

MULTIFAMILY DEVELOPMENT STANDARDS	**REQUIRED (STANDARD)**	**PROVIDED (SITE)**
LOT STANDARDS		
LOT COVERAGE (MAX)	60%	22.6%
TOTAL UNITS	384	
BUILDING FOOTPRINT	159,765 SF	
HARDSCAPE	282,244 SF	
PARK	87,555 SF	
ADDITIONAL LANDSCAPE	176,863 SF	
TOTAL PROJECT AREA	**706,427 SF (16.2 AC.)**	
BUILDING AND PARKING SITING STANDARDS		
FRONTAGE ZONE (MIN/MAX)	35 Ft	35 Ft
FAÇADE IN FRONTAGE ZONE (MIN)	20%	20%
FRONT SETBACK (MIN)	20 Ft	20 Ft
SIDE SETBACK, STREET (MIN)	15 Ft	15 Ft
SIDE SETBACK, INTERIOR (MIN)	6 Ft	6 Ft
REAR SETBACK (MIN)	10 Ft	10 Ft
FRONT PARKING SETBACK (MIN)	20 Ft	20 Ft
DENSITY STANDARDS		
MAX. DENSITY	NONE	16.0 DU/AC
PARKING STANDARDS		
STUDIO - 28 UNITS @ 1.4 SPACES/UNIT	40	-
1 BED - 176 UNITS @ 1.6 SPACES/UNIT	282	-
2 BED - 152 UNITS @ 2.1 SPACES/UNIT	320	-
3 BED - 28 UNITS @ 2.5 SPACES/UNIT	70	-
PARKING TOTAL	**712**	**796**
SURFACE PARKING (INCLUDING TANDEM)	N/A	440
COVERED PARKING (GARAGE OR CARPORT) - 50% OF THE REQUIRED TOTAL (712)	356 (50%)	356
MULTIFAMILY BIKE PARKING (20% SHALL BE LONG-TERM AND 50% SHALL BE COVERED)		
BIKE PARKING (1 PER 4 UNITS)	96	96

SITE DATA TABLE - TOWNHOME

TOWNHOME DEVELOPMENT STANDARDS	**REQUIRED (STANDARD)**	**PROVIDED (SITE)**
LOT STANDARDS		
TOWNHOME LOT AREA (MIN)	15 Ft	15 Ft
TOWNHOME LOT WIDTH (MIN)	20 Ft	20 Ft
TOWNHOME LOT WIDTH, STREET CORNER (MIN)	35 Ft	35 Ft
LOT COVERAGE (MAX)	100%	29.4%
TOTAL UNITS	51	
BUILDING FOOTPRINT	49,342 SF	
HARDSCAPE	56,983 SF	
LANDSCAPE	61,511 SF	
TOTAL PROJECT AREA	**167,836 SF (3.8 AC.)**	
BUILDING AND PARKING STANDARDS (SUBURBAN)		
FRONTAGE ZONE (MIN/MAX)	10-25 Ft	10-25 Ft
FAÇADE IN FRONTAGE ZONE (MIN)	20%	20%
NON - STREET FRONTAGE PERIMETER SETBACK (MIN)	15 Ft	15 Ft
FRONT PARKING SETBACK (MIN)	5 Ft	5 Ft
ALLEY GARAGE SETBACK (MIN)	2 Ft	2 Ft
BUILDING SEPARATION SIDE TO SIDE	10 Ft	10 Ft
DENSITY STANDARDS		
MAX. DENSITY	NONE	3.8 DU/AC
PARKING STANDARDS		
52 UNITS @ 2.2 SPACES/UNIT	**113**	-
PARKING TOTAL	**113**	**117**
SURFACE PARKING (INCLUDING TANDEM)	N/A	15
COVERED PARKING (GARAGE) - 50% OF THE REQUIRED TOTAL (113)	57 (50%)	102
TOWNHOME BIKE PARKING		
BIKE PARKING	NOT REQUIRED	

CHECKED BY: DD
DRAWN BY: KR

NORRIS DESIGN
PEOPLE + PLACEMAKING
1101 BANNOCK STREET
DENVER, CO 80204
P 303.892.1166
NORRIS-DESIGN.COM

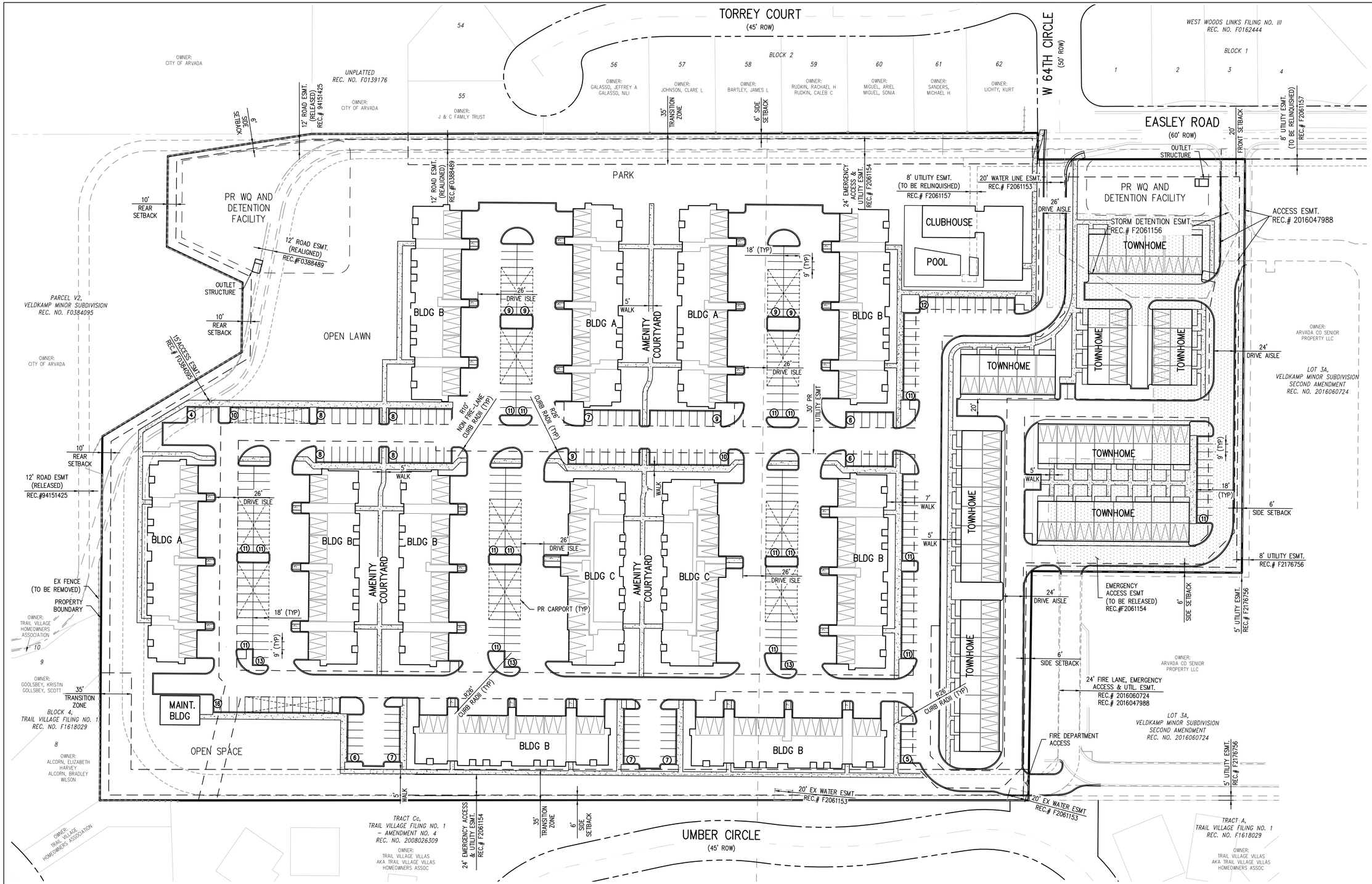
AVALON ARVADA
CONDITIONAL USE PERMIT
17201 W. 64TH AVE. ARVADA, CO

OWNER:
WELBY GARDENS CO LLC
17201 W. 64TH AVE.
ARVADA, CO 80007

NOT FOR CONSTRUCTION

DATE:
5/23/2025 - CUP 01
07/08/2025 CUP 02
10/16/2025 CUP 03

SHEET TITLE:
COVER SHEET



LEGEND:

PARKING COUNT (1)

GARAGE ENTRY

CONCRETE WALK

ABBREVIATIONS	
BLDG	BUILDING
ESMT	EASEMENT
EX	EXISTING
ROW	RIGHT OF WAY
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH	FIRE HYDRANT
HORZ	HORIZONTAL
MH	MANHOLE
N	NORTH, NORTHING
PR	PROPOSED
PVC	POLYVINYL CHLORIDE

RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
SAN	SANITARY
SS	SANITARY SEWER
STM	STORM
TYP	TYPICAL
UTIL	UTILITY
VERT	VERTICAL
WAT	WATER

SCALE: 1" = 50'

Know what's below. Call before you dig.

CHECKED BY: JG
DRAWN BY: TVG

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

AVALON ARVADA

CONDITIONAL USE PERMIT

OWNER:

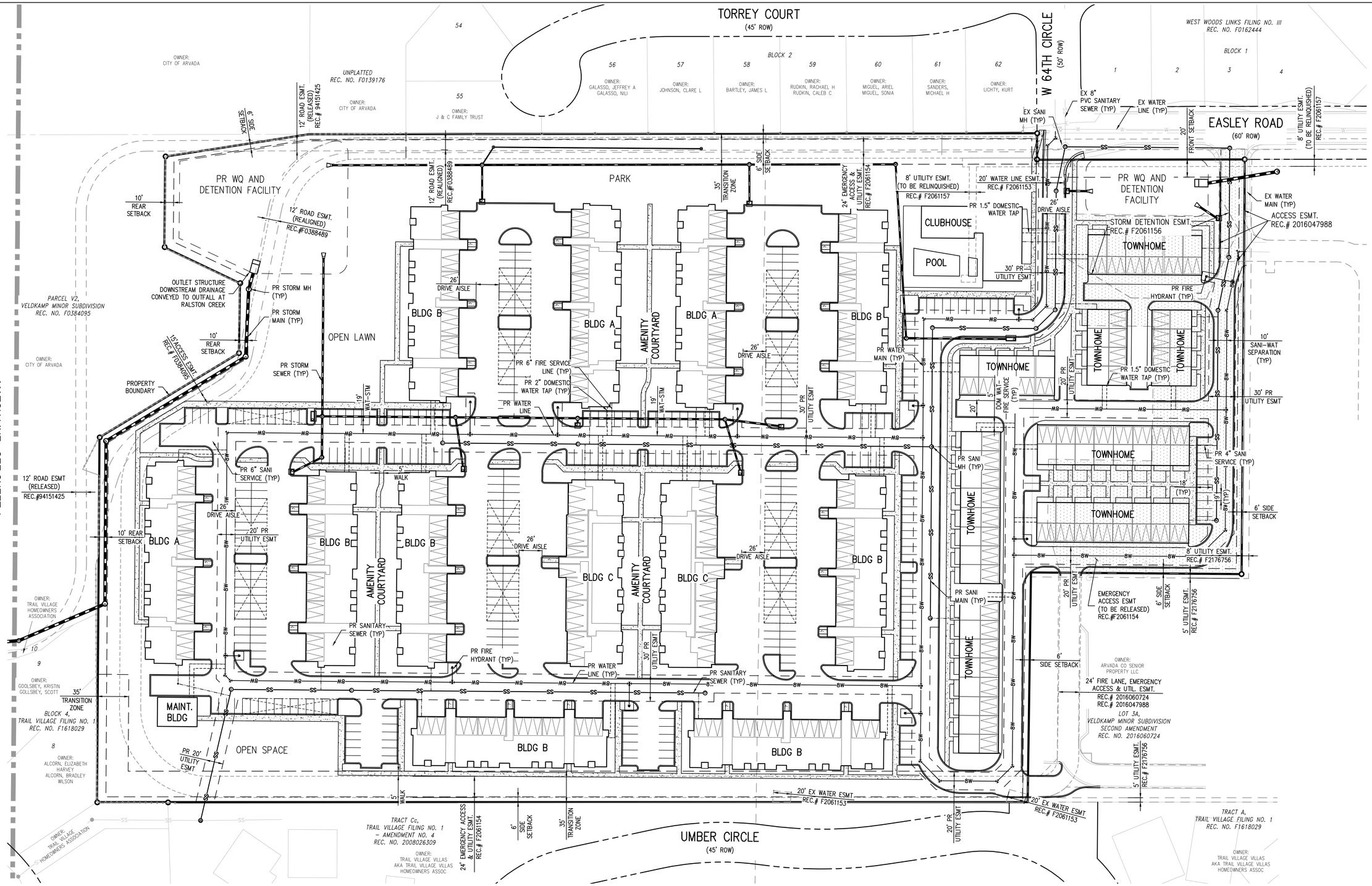
NOT FOR CONSTRUCTION

DATE:

05/23/2025 - CUP 01
07/08/2025 - CUP 02
09/12/2025 - CUP 03

SHEET TITLE:

CIVIL SITE PLAN



LEGEND:

- EXISTING SANITARY SEWER
- EXISTING WATER LINE
- EXISTING NATURAL GAS
- EXISTING TELEPHONE
- EXISTING STREET LIGHT
- EXISTING FIRE HYDRANT
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER SERVICE LINE
- PROPOSED FIRE HYDRANT
- PROPOSED WATER MAIN
- PROPOSED WATER SERVICE LINE
- PROPOSED FIRE SERVICE LINE

ABBREVIATIONS

BLDG	BUILDING
ESMT	EASEMENT
EX	EXISTING
ROW	RIGHT OF WAY
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH	FIRE HYDRANT
HORZ	HORIZONTAL
MH	MANHOLE
N	NORTH, NORTHING
PR	PROPOSED
PVC	POLYVINYL CHLORIDE

RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
SAN	SANITARY
SS	SANITARY SEWER
STM	STORM
TYP	TYPICAL
UTIL	UTILITY
VERT	VERTICAL
WAT	WATER

50 0 50 100
SCALE: 1" = 50'

Know what's below. Call before you dig.

CHECKED BY: JG
DRAWN BY: TVG

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Denver, Colorado 80203
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HarrisKocherSmith.com

AVALON ARVADA

CONDITIONAL USE PERMIT

OWNER:

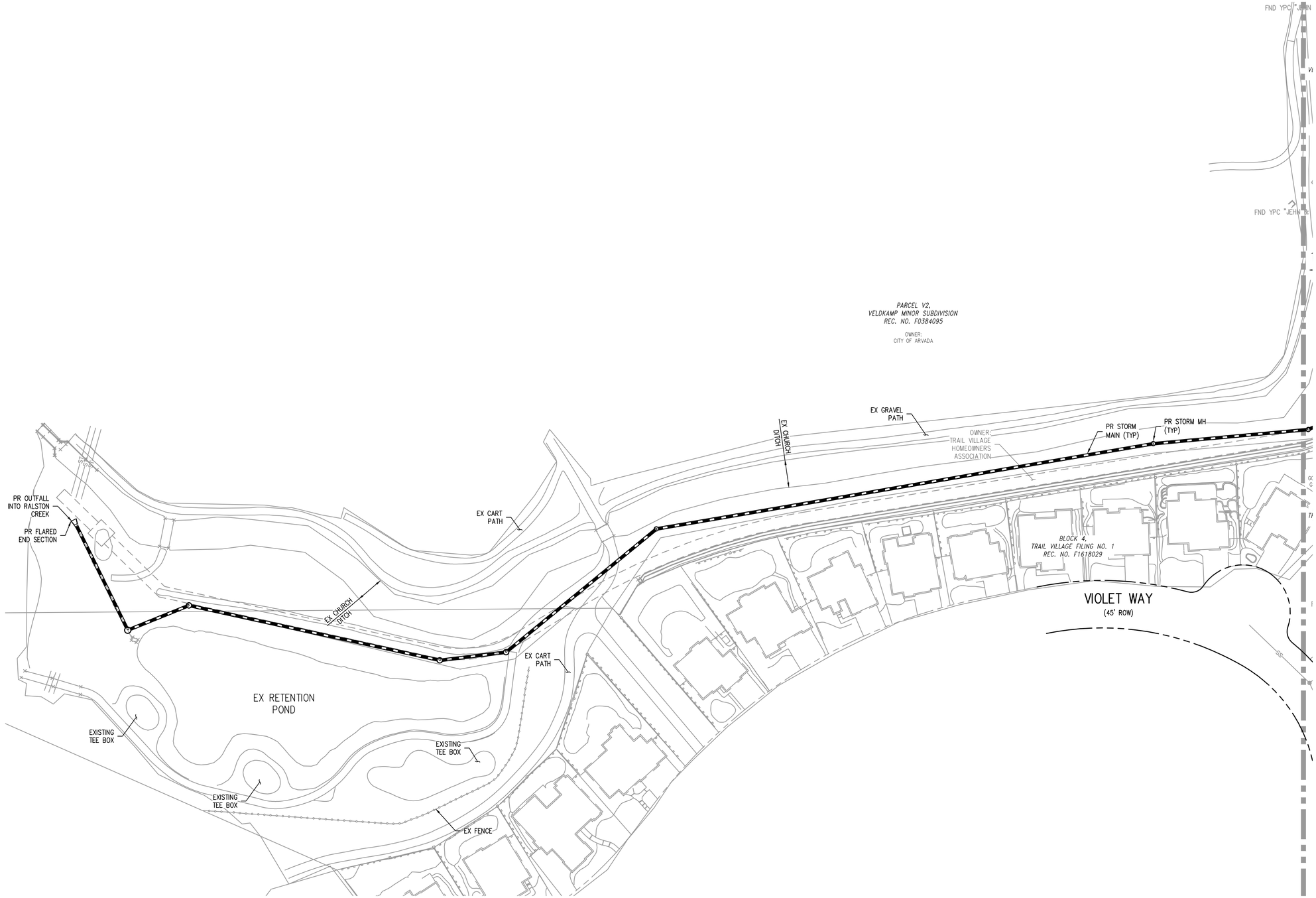
NOT FOR CONSTRUCTION

DATE:

05/23/2025 - CUP 01
07/08/2025 - CUP 02
09/12/2025 - CUP 03

SHEET TITLE:
OVERALL UTILITY PLAN

3 OF 8



LEGEND:

EXISTING SANITARY SEWER	SS
EXISTING WATER LINE	W W
EXISTING NATURAL GAS	G
EXISTING TELEPHONE	T
EXISTING STREET LIGHT	
EXISTING FIRE HYDRANT	
PROPOSED SANITARY SEWER	SS
PROPOSED SANITARY SEWER MANHOLE	
PROPOSED SANITARY SEWER SERVICE LINE	
PROPOSED FIRE HYDRANT	
PROPOSED WATER MAIN	W W
PROPOSED WATER SERVICE LINE	
PROPOSED FIRE SERVICE LINE	

ABBREVIATIONS

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WAT	WATER

50 0 50 100
SCALE: 1" = 50'

Know what's below. Call before you dig.

CHECKED BY: JG
DRAWN BY: TVG

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

AVALON ARVADA
CONDITIONAL USE PERMIT

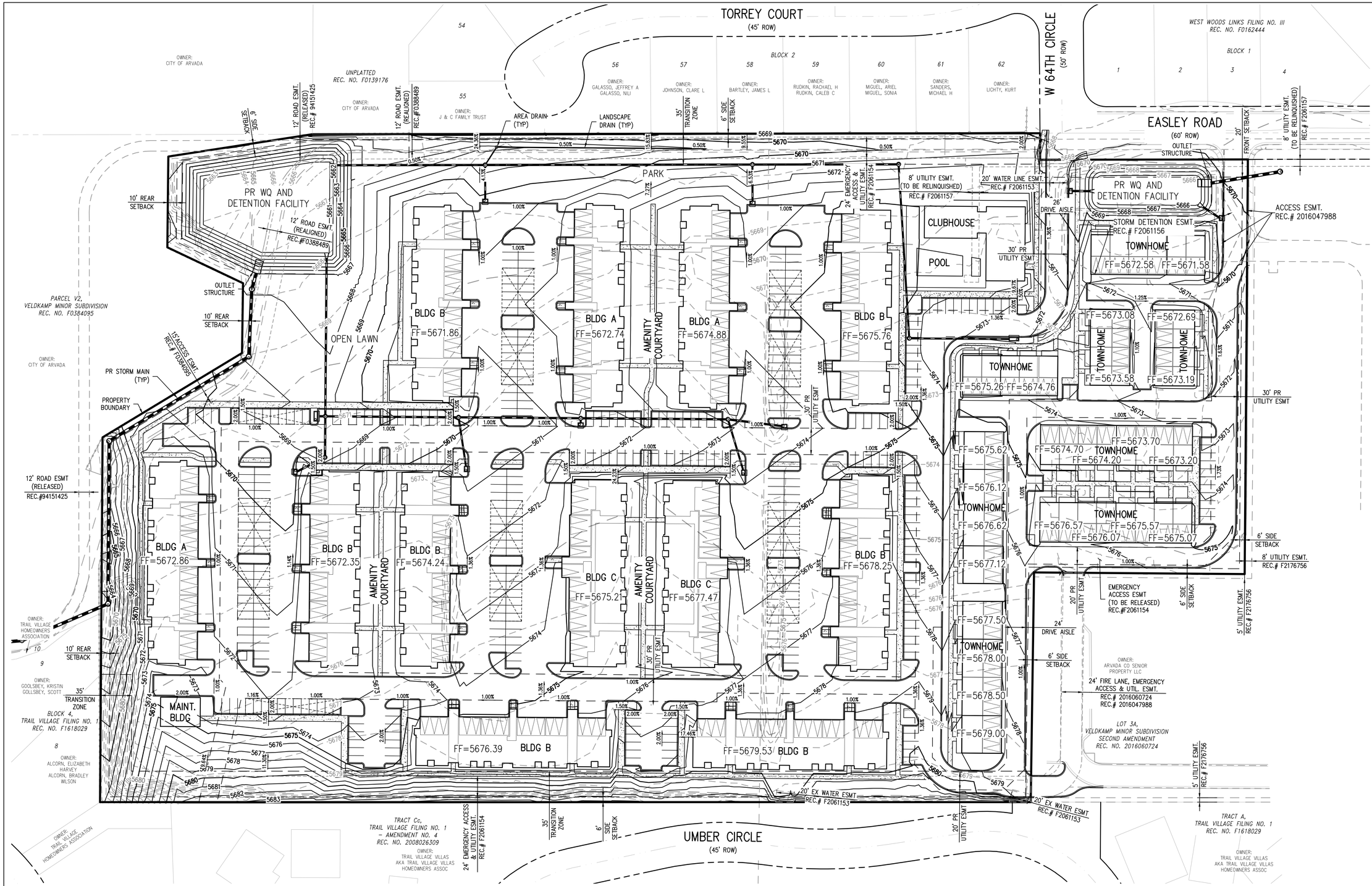
OWNER:

NOT FOR CONSTRUCTION

DATE:

05/23/2025 - CUP 01
07/08/2025 - CUP 02
09/12/2025 - CUP 03

SHEET TITLE:
OVERALL UTILITY PLAN



LEGEND

EXISTING CONTOURS 5170 5171

PROPOSED CONTOURS 5170 5171

PR STORM SEWER W/ INLET AND FES

ABBREVIATIONS

BLDG	BUILDING
ESMT	EASEMENT
EX	EXISTING
ROW	RIGHT OF WAY
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH	FIRE HYDRANT
HORZ	HORIZONTAL
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VERT	VERTICAL
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Know what's below. Call before you dig.

CHECKED BY:
DRAWN BY:

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

AVALON ARVADA

CONDITIONAL USE PERMIT

OWNER:

NOT FOR CONSTRUCTION

DATE:

05/23/2025 - CUP 01
07/08/2025 - CUP 02
09/12/2025 - CUP 03

SHEET TITLE:
OVERALL GRADING PLAN

SMALL URBAN PARK		
	REQUIRED	PROPOSED*
SMALL URBAN PARK	10% OF PROJECT AREA	10.00%
	87,555 SF	87,555 SF
* SITE PLAN IS CONCEPTUAL IN NATURE FINAL DESIGN WILL BE PROVIDED AT TIME OF SITE PLAN REVIEW		

NORTH

0 30 60 120

SCALE 1" = 60'

811

CHECKED BY: DD
DRAWN BY: KR

NORRIS DESIGN
PEOPLE + PLACEMAKING
1101 BANNOCK STREET
DENVER, CO 80204
P 303.892.1166
NORRIS-DESIGN.COM

AVALON ARVADA

CONDITIONAL USE PERMIT

17201 W. 64TH AVE. ARVADA, CO

OWNER:
WELBY GARDENS CO LLC
17201 W. 64TH AVE.
ARVADA, CO 80007

NOT FOR CONSTRUCTION

DATE:
5/23/2025 - CUP 01
07/08/2025 CUP 02
10/16/2025 CUP 03

SHEET TITLE:
LANDSCAPE PLAN

AVALON ARVADA

CONDITIONAL USE PERMIT

17201 W. 64TH AVE. ARVADA, CO

OWNER:

WELBY GARDENS CO LLC
17201 W. 64TH AVE.
ARVADA, CO 80007

NOT FOR CONSTRUCTION

DATE:

5/26/2025 - CUP 01
7/08/2025 - CUP 02
10/16/2025 - CUP 03

SHEET TITLE:

SITE AERIAL - SOUTHEAST

AVALON ARVADA

CONDITIONAL USE PERMIT

17201 W. 64TH AVE. ARVADA, CO

OWNER:

WELBY GARDENS CO LLC
17201 W. 64TH AVE.
ARVADA, CO 80007

NOT FOR CONSTRUCTION

DATE:

5/26/2025 - CUP 01
7/08/2025 - CUP 02
10/16/2025 - CUP 03

SHEET TITLE:

SITE AERIAL - SOUTHWEST

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Feb 20, 2026 at 7:57 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Although this public comment is addressed to the applicant, I thought that I should forward it to both of you for the record.

Sincerely,
Rozalynne
---------- Forwarded me
From: **Andre Capritta** [redacted]>
Date: Thu, Feb 19, 2026 at 6:03 PM
Subject: Avalon Arvada
To: andrew_johnson@avalonbay.com <andrew_johnson@avalonbay.com>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Good evening, Andrew,

I got a notice from the City of Arvada that they have rec'd from Avalon an application for development (DA2026-0005) for the property at 17201 W. 64th Avenue. This is a couple blocks east & north, across 64th from our house. Our backyard runs parallel to 64th .

According to the notice, you plan to build 384 "multi-family" units. I assume these units will be similar to the designs of the thousands of multi-family built in the last five years, that now horribly scar the Arvada landscape.

Ms. Thompson, do you or anyone in city government think that we need more of this ugliness?

Andre Capritta [redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Concerns Regarding Safety, Access, and Appropriateness of Avalon Arvada Apartments (DA2025-0035)

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Feb 9, 2026 at 10:29 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here's a public comment regarding Avalon Arvada.

Sincerely,
Rozalynne

---------- Forwarded m
From: **Alison Meara** [redacted]
Date: Mon, Feb 9, 2026 at 9:36 AM
Subject: Concerns Regarding Safety, Access, and Appropriateness of Avalon Arvada Apartments (DA2025-0035)
To: <bfifer@arvada.org>, <lsimpson@arvada.org>, <rmoorman@arvada.org>, <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, <sdavis@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>
Cc: <rthompson@arvada.org>

Dear Mayor and Members of City Council,

I am writing as a concerned Arvada resident to share my perspective on the proposed Avalon Arvada Apartments (DA2025-0035). I appreciate the complexity of housing decisions and the effort that goes into reviewing projects of this scale. At the same time, I believe this proposal raises fundamental safety and planning concerns that deserve careful and honest consideration by City Council.

The most troubling issue for me is public safety and evacuation. This project would concentrate more than 1,000 residents on a site that, in practice, appears to have only one viable public access. In an emergency—whether wildfire, severe weather, or another unforeseen event—this creates serious evacuation and emergency-response risks. Given this region's wildfire history, these concerns feel especially real, not theoretical.

The proposed secondary access does not appear to function as a truly independent or reliable emergency route. Routing emergency traffic through a senior living facility is particularly concerning. In an actual emergency, that design choice could put vulnerable residents and first responders in conflict with one another at the worst possible moment.

I am also concerned that the scale and density of this project are not consistent with the City's Comprehensive Plan. The plan clearly directs lower-density development west of Wadsworth, and this proposal does not reflect the existing neighborhood context. Approving a development of this magnitude would feel like a departure from the long-term planning principles residents have relied upon and trusted.

Beyond policy, there are practical limitations of the site itself. The surrounding roadway network, connectivity, and transit options do not seem capable of safely supporting this level of development. Overbuilding a constrained site does not just strain infrastructure—it directly affects the safety and quality of life of both new and existing residents.

What concerns me most is that many of these critical issues—emergency access, evacuation feasibility, and infrastructure adequacy—are being deferred to later stages of approval. City Council is the body tasked with deciding whether this project is appropriate at all, and I believe these questions must be fully resolved before approval, not after.

Additionally, I am deeply troubled by the proposed use of contaminated soil to construct canal berms associated with this project. This raises environmental and public safety concerns that should not be minimized and further underscores why this proposal, as currently designed, is not ready for approval.

I have lived in Arvada since 2020. I am a single mom with a seven-year-old daughter and two beloved cats. Evacuation safety is not an abstract planning issue for me—it is something I think about in very personal terms. The idea of trying to evacuate my child and pets through a single constrained access during an emergency is genuinely frightening.

I respectfully ask City Council to require meaningful changes to address these issues or to deny the Avalon Arvada Apartments project as proposed. I believe Arvada can support thoughtful growth without compromising safety, environmental responsibility, or the integrity of its Comprehensive Plan.

Thank you for taking the time to consider the concerns of residents who care deeply about the future and safety of our community.

Sincerely,

Alison Meara

15912 W 59th Ave

Golden, CO 80403

--

Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Arvada City Council

1 message

Josie Suk <jsuk@arvada.org> Tue, Feb 3, 2026 at 11:57 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Tue, Feb 3, 2026 at 11:54 AM
Subject: Fwd: Arvada City Council
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: Ask Arvada <askarvada@arvada.org>
Date: Tue, Feb 3, 2026 at 11:16 AM
Subject: Fwd: Arvada City Council
To: Kristen Rush <kristen@arvada.org>

---------- Forwarded message ---------
From: Sharon Davis <sdavis@arvada.org>
Date: Mon, Feb 2, 2026 at 8:17 PM
Subject: Fwd: Arvada City Council
To: Ask Arvada <askarvada@arvada.org>

Regards,

Sharon Davis
Council Member, At Large
720-450-4825 (Cell)
SDavis@arvada.org

---------- Forwarded m
From: Tom Brayden [redacted]>
Date: Thu, Jan 29, 2026 at 8:09 PM
Subject: Arvada City Council
To: <sdavis@arvada.org>

re: Avalon Arvada Apartments DA 2025-0035

Dear Council Member,

I have lived at MorningStar of Arvada for over five years. My apartment is on the 1st floor, the north side of the east wing. My porch is about 30 feet from the only access road in and out of this project.

My greatest concern is the air quality when many of the expected 1100

cars are lined up waiting for a green light at the proposed 64th street stop light. This road is the only in and out access to this project. The exhaust fumes will poison my air.

Please reconsider this project. Thank you.

Beverly A. Brayden

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Opposition to Avalon Arvada Apartments

1 message

Josie Suk <jsuk@arvada.org> Tue, Feb 3, 2026 at 11:57 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Tue, Feb 3, 2026 at 11:54 AM
Subject: Fwd: Opposition to Avalon Arvada Apartments
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Ask Arvada** <askarvada@arvada.org>
Date: Tue, Feb 3, 2026 at 11:15 AM
Subject: Fwd: Opposition to Avalon Arvada Apartments
To: Kristen Rush <kristen@arvada.org>

---------- Forwarded message ---------
From: **Sharon Davis** <sdavis@arvada.org>
Date: Mon, Feb 2, 2026 at 8:18 PM
Subject: Fwd: Opposition to Avalon Arvada Apartments
To: Ask Arvada <askarvada@arvada.org>

Regards,

Sharon Davis
Council Member, At Large
720-450-4825 (Cell)
SDavis@arvada.org

---------- Forwarded message -
From: **AOL - N . O . T . I .C .E** [redacted]
Date: Sun, Feb 1, 2026 at 2:47 PM
Subject: Opposition to Avalon Arvada Apartments
To: lsimpson@arvada.org <lsimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, rgriffith@arvada.org <rgriffith@arvada.org>, rthompson@arvada.org <rthompson@arvada.org>

Dear City Councilors and City Planner,

As an owner of a townhome at Sunrise Ridge I have reviewed the West Woods Neighbors Letter regarding the proposed Avalon Arvada Apartments. For the well-being of Sunrise Ridge and the

adjacent communities I ask that you deny the proposed project.

Thanks for your consideration of my proposal.

Bill North

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Opposition to Avalon Arvada Apartments

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Feb 2, 2026 at 8:10 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here's another.

Rozalynne

---------- Forwarded message -
From: **AOL - N . O . T . I .C .E** [redacted]
Date: Sun, Feb 1, 2026 at 2:47 PM
Subject: Opposition to Avalon Arvada Apartments
To: lsimpson@arvada.org <lsimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, rgriffith@arvada.org <rgriffith@arvada.org>, rthompson@arvada.org <rthompson@arvada.org>

Dear City Councilors and City Planner,

As an owner of a townhome at Sunrise Ridge I have reviewed the West Woods Neighbors Letter regarding the proposed Avalon Arvada Apartments. For the well-being of Sunrise Ridge and the adjacent communities I ask that you deny the proposed project.

Thanks for your consideration of my proposal.

Bill North

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Project DA 2025-0035

1 message

Josie Suk <jsuk@arvada.org> Tue, Feb 3, 2026 at 11:57 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Tue, Feb 3, 2026 at 11:55 AM
Subject: Fwd: Project DA 2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: Ask Arvada <askarvada@arvada.org>
Date: Tue, Feb 3, 2026 at 11:17 AM
Subject: Fwd: Project DA 2025-0035
To: Kristen Rush <kristen@arvada.org>

---------- Forwarded message ---------
From: Sharon Davis <sdavis@arvada.org>
Date: Mon, Feb 2, 2026 at 7:35 PM
Subject: Fwd: Project DA 2025-0035
To: Ask Arvada <askarvada@arvada.org>

Regards,

Sharon Davis
Council Member, At Large
720-450-4825 (Cell)
SDavis@arvada.org

---------- Forwarded me
From: catherine walte [redacted]
Date: Wed, Jan 21, 2026 at 2:31 PM
Subject: Project DA 2025-0035
To: Sharon Davis <sdavis@arvada.org>

Hello Ms Davis,
I am a resident of Sunrise Ridge and am against
DA 2025-0035.
The development is too congested for this area. Using West Town as a guide, there is NO guest parking, the play areas are very insufficient for the number resident children.
My daughter was one of the first residents in West Town and sold after two years as it was so congested and such a disappointment.
The track record for consolidated living is many do not park in garages or the very popular large pickups do not fit in the garage (

as seen in West Town or west of Arvada Gardeners and more). The closest park is across busy 64 Ave Parkway.
Easley Rd is not set up for the high volume traffic it will create and the stoplights on 64th are already miserable.
Please vote against this development.
Thank you.
Catherine Walter
6338 Secrest Way, Arvada, CO 80403

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Avalon Arvada Apartments DA2025-0035

Rozalynne Thompson <rthompson@arvada.org> Thu, Jan 29, 2026 at 8:03 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Heidi and Dixie,

Here's another public comment for the record.

Rozalynne

---------- Forwarded message ---------
From: **Connie Wuerth** <[redacted]>
Date: Wed, Jan 28, 2026 at 5:39 PM
Subject: Avalon Arvada Apartments DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, riovisone@arvada.org <riovisone@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

We are writing and asking for consideration to stop the above named project.

Having lived in our home for nearly 20 years it seems the current traffic from our home to enter 64th has become a nightmare at certain times of the day. While realizing the stopping of this project won't fix the problem, it will certainly add to the problem that already exists. While adding to the traffic congestion is a huge concern, the issue of safety should this project continue is also a grave concern. In the event of an evacuation of our area, the congestion would seem somewhat hopeless. My understanding is the emergency traffic would be thru the existing senior living facility which is another serious concern of safety. Building this project, knowing the lack of any roads and little or no transit support to accommodate this issue certainly is degrading.

We ask that you please knowing the above issues already exist reconsider moving forward with a project of this magnitude.

Sincerely,

Don and Connie Wuerth

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon-DA2025-0035

1 message

Josie Suk <jsuk@arvada.org> Tue, Feb 10, 2026 at 11:13 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Tue, Feb 10, 2026 at 10:26 AM
Subject: Fwd: Avalon-DA2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Randy Moorman** <rmoorman@arvada.org>
Date: Mon, Feb 9, 2026 at 7:57 PM
Subject: Re: Avalo
To: Carol Yantorno [redacted] Council <Council@arvada.org>, Kristen Rush <kristen@arvada.org>

Dear Carol,

Thank you for reaching out. I've copied all council members and the city clerk so that your comments may be included in the permanent record. You may also attend the upcoming meeting and speak directly to council during the public comment portion of the meeting if you wish.

Sincerely,

Randy Moorman
Arvada Mayor Pro Tem
District 1 Councilmember
720-772-6651

On Thu, Jan 29, 2026 at 2:39 PM Carol Yantorno [redacted] > wrote:

> Dear Randy Moorman,
> In regards to the Avalon Arvada Apartments: I live in the Trail Village Villas directly next to this proposed project. I am so disappointed in the Gerace family that they would consider a project of this size. Myself and many of my neighbors supported their greenhouse and nursery for many years. I understand that they want to sell it now, but this project does not make any sense. I can't imagine what it will do to my neighborhood and surrounding neighborhoods! Traffic congestion, emergency access, utilities, infrastructure, the Morning Star residents, etc. It needs to be condensed in my opinion.
> Thank you!
>
> Sent from my iPad

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--

Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org

Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Avalon Arvada Apartments-DA2025-0035

Rozalynne Thompson <rthompson@arvada.org> Thu, Jan 29, 2026 at 3:53 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here's another comment letter for the record.

Rozalynne

---------- Forwarded message ---------
From: **Carol Yantorno** <[redacted]
Date: Thu, Jan 29, 2026 at 3:50 PM
Subject: Avalon Arvada Apartments-DA2025-0035
To: rthompson@arvada.org <rthompson@arvada.org>

Dear Rozalynne Thompson,
I live at the Trail Village Villas, directly next to the proposed project. I am so disappointed in the Gerace family for considering the size of this project, evidently they don't live near here. Myself and many of my neighbors had been supporters of their greenhouse and nursery for many years. I understand that they want to sell, but I can't imagine how this project will impact my neighborhood and all the surrounding neighborhoods in regards to the traffic congestion, emergency access, utilities, infrastructure, the strain and inconvenience of the Morning Star residents, etc. This project needs to be condensed!
Thank you!
Sent from my iPad

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Josie Suk <jsuk@arvada.org> Tue, Feb 10, 2026 at 11:13 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Tue, Feb 10, 2026 at 10:25 AM
Subject: Fwd: Avalon Arvada Apartments – DA2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Randy Moorman** <rmoorman@arvada.org>
Date: Mon, Feb 9, 2026 at 7:03 PM
Subject: Re: Avalo DA2025-0035
To: Diana Fehling [redacted], Kristen Rush <kristen@arvada.org>, Council <Council@arvada.org>

Hi Diana,

Thank you for reaching out. I've copied all council members and the city clerk so that your comments may be included in the permanent record. You may also attend the upcoming meeting and speak directly to council during the public comment portion of the meeting if you wish.

Sincerely,

Randy Moorman
Arvada Mayor Pro Tem
District 1 Councilmember
720-772-6651

On Mon, Feb 9, 2026 at 9:36 AM Diana Fehling [redacted] wrote:

> As a civil engineer with prior professional experience in land development, I believe the current proposal for the Welby Gardens site will have a negative impact on the environment, public safety, traffic conditions, and the surrounding neighborhoods. A four-story apartment building is not consistent with the existing character and scale of the adjacent residential areas and represents an incompatible form of development.
>
> Responsible and sensible development should prevail. I urge you and your staff to carefully consider the concerns of the constituents who will be directly and adversely affected if this proposal is allowed to move forward. To be clear, I am not opposed to development; however, it must be compatible with the surrounding community. This project should only be considered with a maximum height limited to two stories.
>
> Respectfully,
> Diana Fehling
> Trail Village

--
Kristen Rush

City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--

Josie Suk
Deputy Director
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E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Opposition to Proposed Apartment Complex – Project DA2025-0035

1 message

Josie Suk <jsuk@arvada.org> Mon, Feb 2, 2026 at 12:29 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Mon, Feb 2, 2026 at 12:29 PM
Subject: Fwd: Opposition to Proposed Apartment Complex – Project DA2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Ask Arvada** <askarvada@arvada.org>
Date: Mon, Feb 2, 2026 at 11:03 AM
Subject: Fwd: Opposition to Proposed Apartment Complex – Project DA2025-0035
To: Kristen Rush <kristen@arvada.org>, CED Boards and Commission <cedboardsandcommission@arvada.org>

---------- Forwarded message ---------
From: **Sharon Davis** <sdavis@arvada.org>
Date: Sat, Jan 31, 2026 at 9:24 AM
Subject: Fwd: Opposition to Proposed Apartment Complex – Project DA2025-0035
To: Ask Arvada <askarvada@arvada.org>

Regards,

Sharon Davis
Council Member, At Large
720-450-4825 (Cell)
SDavis@arvada.org

---------- Forwarded mess
From: **Danielle Marston** [redacted]>
Date: Fri, Jan 30, 2026 at 8:59 PM
Subject: Opposition to Proposed Apartment Complex – Project DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>, <sdavis@arvada.org>, <rthompson@arvada.org>, <rgriffith@arvada.org>, <bfifer@arvada.org>, <rlovisone@arvada.org>, <sambrose@arvada.org>

Dear Members of the Planning Commission,

I wanted to first thank you for all you do for the community.

I am writing to formally express my opposition to the proposed apartment complex associated with Project DA2025-0035.

While I understand the importance of thoughtful growth and the need for housing options in our community, I have

significant concerns that this particular project, as currently proposed, is not an appropriate fit for the area. Specifically, I am concerned about the impact on traffic congestion, parking availability, and infrastructure capacity. The scale and density of the development appear inconsistent with the surrounding community and may place undue strain on local roads, schools, and public services.

Additionally, there are concerns regarding quality of life for existing residents, including increased noise, reduced privacy, and potential environmental impacts. I do not believe these issues have been adequately addressed, nor have sufficient mitigation strategies been clearly outlined.

I respectfully request that the Planning Commission reconsider this proposal or require substantial revisions that better align with the character, capacity, and long-term well-being of the surrounding neighborhood. Development should enhance—not overwhelm—the community it serves.

Thank you for your time and for considering public input on this matter.

Sincerely,
Danielle Marston

(Resident of Sunrise Ridge)

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CED Boards and Commission <cedboardsandcommission@arvada.org>

Fwd: Opposition to Proposed Apartment Complex – Project DA2025-0035

1 message

Ask Arvada <askarvada@arvada.org> Mon, Feb 2, 2026 at 11:03 AM
To: Kristen Rush <kristen@arvada.org>, CED Boards and Commission <cedboardsandcommission@arvada.org>

---------- Forwarded message ---------
From: **Sharon Davis** <sdavis@arvada.org>
Date: Sat, Jan 31, 2026 at 9:24 AM
Subject: Fwd: Opposition to Proposed Apartment Complex – Project DA2025-0035
To: Ask Arvada <askarvada@arvada.org>

Regards,

Sharon Davis
Council Member, At Large
720-450-4825 (Cell)
SDavis@arvada.org

---------- Forwarded mess
From: **Danielle Marston** [redacted]>
Date: Fri, Jan 30, 2026 at 8.59 PM
Subject: Opposition to Proposed Apartment Complex – Project DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>, <sdavis@arvada.org>, <rthompson@arvada.org>, <rgriffith@arvada.org>, <bfifer@arvada.org>, <rlovisone@arvada.org>, <sambrose@arvada.org>

Dear Members of the Planning Commission,

I wanted to first thank you for all you do for the community.

I am writing to formally express my opposition to the proposed apartment complex associated with Project DA2025-0035.

While I understand the importance of thoughtful growth and the need for housing options in our community, I have significant concerns that this particular project, as currently proposed, is not an appropriate fit for the area. Specifically, I am concerned about the impact on traffic congestion, parking availability, and infrastructure capacity. The scale and density of the development appear inconsistent with the surrounding community and may place undue strain on local roads, schools, and public services.

Additionally, there are concerns regarding quality of life for existing residents, including increased noise, reduced privacy, and potential environmental impacts. I do not believe these issues have been adequately addressed, nor have sufficient mitigation strategies been clearly outlined.

I respectfully request that the Planning Commission reconsider this proposal or require substantial revisions that better align with the character, capacity, and long-term well-being of the surrounding neighborhood. Development should enhance—not overwhelm—the community it serves.

Thank you for your time and for considering public input on this matter.

Sincerely,
Danielle Marston

(Resident of Sunrise Ridge)

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Opposition to Proposed Apartment Complex – Project DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Feb 2, 2026 at 8:10 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Good morning Dixie and Heidi,

Here is another public comment about Avalon Arvada.

Rozalynne

---------- Forwarded mess
From: **Danielle Marston** [redacted] >
Date: Fri, Jan 30, 2026 at 8:59 PM
Subject: Opposition to Proposed Apartment Complex – Project DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>, <sdavis@arvada.org>, <rthompson@arvada.org>, <rgriffith@arvada.org>, <bfifer@arvada.org>, <rlovisone@arvada.org>, <sambrose@arvada.org>

Dear Members of the Planning Commission,

I wanted to first thank you for all you do for the community.

I am writing to formally express my opposition to the proposed apartment complex associated with Project DA2025-0035.

While I understand the importance of thoughtful growth and the need for housing options in our community, I have significant concerns that this particular project, as currently proposed, is not an appropriate fit for the area. Specifically, I am concerned about the impact on traffic congestion, parking availability, and infrastructure capacity. The scale and density of the development appear inconsistent with the surrounding community and may place undue strain on local roads, schools, and public services.

Additionally, there are concerns regarding quality of life for existing residents, including increased noise, reduced privacy, and potential environmental impacts. I do not believe these issues have been adequately addressed, nor have sufficient mitigation strategies been clearly outlined.

I respectfully request that the Planning Commission reconsider this proposal or require substantial revisions that better align with the character, capacity, and long-term well-being of the surrounding neighborhood. Development should enhance—not overwhelm—the community it serves.

Thank you for your time and for considering public input on this matter.

Sincerely,
Danielle Marston

(Resident of Sunrise Ridge)

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Josie Suk <jsuk@arvada.org> Wed, Feb 4, 2026 at 2:16 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Wed, Feb 4, 2026 at 12:37 PM
Subject: Fwd: Avalon Arvada Apartments – DA2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: Ask Arvada <askarvada@arvada.org>
Date: Wed, Feb 4, 2026 at 12:27 PM
Subject: Fwd: Avalon Arvada Apartments – DA2025-0035
To: Kristen Rush <kristen@arvada.org>, Sharon Davis <sdavis@arvada.org>

Thank you Councilmember Davis, this has been forwarded to the City Clerk's Office to be added to the official record.

---------- Forwarded message ---------
From: Sharon Davis <sdavis@arvada.org>
Date: Wed, Feb 4, 2026 at 12:18 PM
Subject: Re: Ava [redacted] A2025-0035
To: Gina Osburn [redacted]
Cc: Ask Arvada <[redacted]>

Ms. Osborn,

Thank you for your message. I will assure your comments are a part of the official record.

Have a good day!

Regards,

Sharon Davis
Council Member, At Large
720-450-4825 (Cell)
SDavis@arvada.org

On Wed, Feb 4, 2026 at 12:01 PM Gina Osburn [redacted] wrote:
>
> Hello Ms. Davis,
>
> I'm writing to you today with concerns about the proposed Avalon Arvada Apartments project. I have been in this community for over 25 years and made the conscious decision to stay here and raise my kids in this area based on neighborhood safety, the school system, traffic, nearby amenities available (trails, dog park, etc.) and the city of Arvada's top notch reputation. The city has always done an outstanding job of providing and maintaining these things for the public.
>
> I'm deeply concerned about the proposed building of high density apartments/townhomes at the Welby Gardens site.

This level of density conflicts with the comprehensive plan's clear direction for lower density development to the west and does not align with the surrounding neighborhood context. The site lacks the roadway capacity, connectivity, and transit support to safely accommodate this scale of development without degrading safety and quality of life for existing residents.
>
> While I do understand that some type of redevelopment will occur in the future at this site, I ask you to please reconsider what is truly acceptable and safe for the surrounding neighborhoods, residents and space.
>
> Thank you for your consideration.
>
> Gina Osburn
> Trail Village resident

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Josie Suk <jsuk@arvada.org> Fri, Feb 6, 2026 at 10:29 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Thu, Feb 5, 2026 at 7:45 PM
Subject: Fwd: Avalon Arvada Apartments – DA2025-0035
To: Josie Suk <jsuk@arvada.org>

Sent from my iPhone

Begin forwarded message:

From: Lauren Simpson <lsimpson@arvada.org>
Date: February 5, 2026 at 4:06:12 PM MST
To: Kristen Rush <kristen@arvada.org>
Subject: Fwd: Avalon Arvada Apartments – DA2025-0035

One more for the hearing record.

Lauren Simpson,
Mayor
City of Arvada
Ph: 720-961-3779
E: LSimpson@arvada.org

---------- Forwarded m
From: **Gina Osburn** [redacted]
Date: Wed, Feb 4, 2026 at 11:33 AM
Subject: Avalon Arvada Apartments – DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>

Hello Ms. Simpson,

I'm writing to you today with concerns about the proposed Avalon Arvada Apartments project. I have been in this community for over 25 years and made the conscious decision to stay here and raise my kids in this area based on neighborhood safety, the school system, traffic, nearby amenities available (trails, dog park, etc.) and the city of Arvada's top notch reputation. The city has always done an outstanding job of providing and maintaining these things for the public.

I'm deeply concerned about the proposed building of high density apartments/townhomes at the Welby Gardens site. This level of density conflicts with the comprehensive plan's clear direction for lower density development to the west and does not align with the surrounding neighborhood context. The site lacks the roadway capacity, connectivity, and transit support to safely accommodate this scale of development without degrading safety and quality of life for existing residents.

While I do understand that some type of redevelopment will occur in the future at this site, I ask you to please reconsider what is truly acceptable and safe for the surrounding neighborhoods, residents and space.

Thank you for your consideration.

Gina Osburn
Trail Village resident

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Josie Suk <jsuk@arvada.org>
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Tue, Feb 10, 2026 at 10:25 AM
Subject: Fwd: Avalon Arvada Apartments – DA2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Randy Moorman** <rmoorman@arvada.org>
Date: Mon, Feb 9, 2026 at 7:55 PM
Subject: Re: Ava DA2025-0035
To: Gina Osburn [redacted]>
Cc: Council <Council@arvada.org>, Kristen Rush <kristen@arvada.org>

Hi Gina,
My apologies. You were not writing me about public comment. I had so many emails regarding that. Instead, you were writing me about Avalon Arvada Apartments.

I've copied all council members and the city clerk so that your comments may be included in the permanent record. You may also attend the upcoming meeting and speak directly to council d meeting if you wish.

Sincerely,

Randy Moorman
Arvada Mayor Pro Tem
District 1 Councilmember
720-772-6651

On Mon, Feb 9, 2026 at 7:35 PM Randy Moorman <rmoorman@arvada.org> wrote:

> Hi Gina,
>
> Thanks for reaching out. Last Tuesday night Council had a robust discussion. At no point was the Council considering restricting/limiting public comment or public hearing testimony, nor we hearing testimony to after decisions would be made. What we were looking at was the procedural order of the meeting -- not removing opportunities for public comment.
>
> Ultimately, Council made no changes to the current order of the meeting. The only change of significance is that we created an option for residents to "pool" testimony during public hearings mandate) willing residents to nominate a single speaker to speak for their group, and that person will receive extra time to represent that group.
>
> The video is online on the City's YouTube channel of the council meeting. The discussion begins at the 23:20 mark. Also happy to answer any more questions that you might have.
>
> Sincerely,
> Randy Moorman
> Arvada Mayor Pro Tem
> District 1 Councilmember
> 720-772-6651

On Wed, Feb 4, 2026 at 11:56 AM Gina Osburn [redacted]> wrote:

> Hello Mr. Moorman,
>
> I'm writing to you today with concerns about the proposed Avalon Arvada Apartments project. I have been in this community for over 25 years and made the conscious decision to stay here and raise my kids in this area based on neighborhood safety, the school system, traffic, nearby amenities available (trails, dog park, etc.) and the city of Arvada's top notch reputation. The city has always done an outstanding job of providing and maintaining these things for the public.
>
> I'm deeply concerned about the proposed building of high density apartments/townhomes at the Welby Gardens site. This level of density conflicts with the comprehensive plan's clear direction for lower density development to the west and does not align with the surrounding neighborhood context. The site lacks the roadway capacity, connectivity, and transit support to safely accommodate this scale of development without degrading safety and quality of life for existing residents.
>
> While I do understand that some type of redevelopment will occur in the future at this site, I ask you to please reconsider what is truly acceptable and safe for the surrounding neighborhoods, residents and space.

Thank you for your consideration.

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Josie Suk <jsuk@arvada.org> Wed, Feb 4, 2026 at 6:18 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Wed, Feb 4, 2026 at 5:20 PM
Subject: Fwd: Avalon Arvada Apartments – DA2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Michael Griffith** <mgriffith@arvada.org>
Date: Wed, Feb 4, 2026 at 5:08 PM
Subject: Re: Ava DA2025-0035
To: Gina Osburn [redacted]>
Cc: rthompson@arvada.org <rthompson@arvada.org>, Kristen Rush <kristen@arvada.org>, Council <Council@arvada.org>

Good afternoon Gina,

Thank you for reaching out. I've copied all council members and the city clerk so that your comments may be included in the permanent record. You may also attend the upcoming meeting and speak directly to council during the public comment portion of the meeting if you wish.

Best,

Mike

On Wed, Feb 4, 2026 at 12:04 PM Gina Osburn [redacted]> wrote:

> Hello Mr. Griffith,
>
> I'm writing to you today with concerns about the proposed Avalon Arvada Apartments project. I have been in this community for over 25 years and made the conscious decision to stay here and raise my kids in this area based on neighborhood safety, the school system, traffic, nearby amenities available (trails, dog park, etc.) and the city of Arvada's top notch reputation. The city has always done an outstanding job of providing and maintaining these things for the public.
>
> I'm deeply concerned about the proposed building of high density apartments/townhomes at the Welby Gardens site. This level of density conflicts with the comprehensive plan's clear direction for lower density development to the west and does not align with the surrounding neighborhood context. The site lacks the roadway capacity, connectivity, and transit support to safely

> accommodate this scale of development without degrading safety and quality of life for existing residents.
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> While I do understand that some type of redevelopment will occur in the future at this site, I ask you to please reconsider what is truly acceptable and safe for the surrounding neighborhoods, residents and space.
>
> Thank you for your consideration.
>
> Gina Osburn
> Trail Village resident

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
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E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Resident concerns regarding the Arvada Avalon Apartments

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Feb 2, 2026 at 8:11 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Dixie and Heidi,

Here's another.

Rozalynne
---------- Forwarded mes
From: **Gina Poplawsky** [redacted] >
Date: Sun, Feb 1, 2026 at 6:02 PM
Subject: Resident concerns regarding the Arvada Avalon Apartments
To:
Cc: <rthompson@arvada.org>, Patrick Gres [redacted]>

Hello,

Myself and my fiance, Patrick Gres, are the current residents at 6514 Umber Circle, directly west of the site for the proposed Avalan Apartments.

We have lived in this area for approximately six years, love West Arvada for so many reasons, and were so excited to buy our house at our current address in 2025 as first time homeowners. Unfortunately this new development plan has us greatly concerned about the infrastructure, practicality of emergency response and evacuation, traffic, noise, and overall quality of life in our community.

We have reviewed the proposed development plan, and it very clearly does not align with the population density plan of the existing, surrounding neighborhoods. Allowing this development to be built in this location will place more strain on existing roadways and traffic lights than this area was developed with in mind, impacting all current residents negatively in terms of commute and other daily activities and necessities.

Additionally, this is a HIGH risk area for wildfires and increasing the population density in this way directly and negatively impacts the efficiency and safety of emergency evacuations for such events. As a survivor of the Louisville fire in 2021 - I work as a veterinarian in an animal hospital that was fully surrounded by the fire and had to evacuate with our team and the animals present that day through thick smoke and the sound of houses bursting into flame around us - one of the most horrifying things I remember was having to plan my escape route around the congested streets and stoplights and not knowing if I would be trapped in traffic trying to do so. My understanding is we would have over 1000 residents concentrated in a space with only one viable access for emergency evacuation. Adding such a housing development on the front line of such a high risk location when we don't have the roads and evacuation planning to support it makes me feel much less safe living here.

Finally, we fell in love with our house for the quiet, peaceful space that it is with big open skies all around it. It's what makes West Arvada so special of a neighborhood and such a desirable place to live. We understand that the Welby Gardens site had to sell to someone, and that housing was the most likely thing that would be built in it's place, but what's been proposed is a gross insult to the thoughtfully designed spaces that are already here, and to the residents that call it home.

PLEASE do not let this happen.
Respectfully,
Gina Poplawsky and Patrick Gres

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner

Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby Gardens Development - Project # DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Feb 12, 2026 at 8:00 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here's another public comment on the Avalon Arvada project.

Rozalynne

---------- Forwarded
From: **Heidi Hoga** [redacted] >
Date: Wed, Feb 11, 2026 at 9:40 PM
Subject: Welby Gardens Development - Project # DA2025-0035
To: <LSimpson@arvada.org>, <RMoorman@arvada.org>, <BFifer@arvada.org>, <SAmbrose@arvada.org>, <MGriffith@arvada.org>, <SDavis@arvada.org>, <RLovisone@arvada.org>, rthompson@arvada.org <rthompson@arv[redacted]ada.org>, <JEGarner@arvada.org>
Cc: David Hogan [redacted]

Dear Mayor Simpson, Mayor Pro Tem Moorman, Arvada City Council Members and associated officials,

We are writing to express our opposition to the proposed high-density housing development planned for the Welby Gardens property. We moved to Arvada just a few months ago and chose to purchase our home in the Fieldstone subdivision very intentionally, based on the character, design, and long-term vision of this community.

This area is thoughtfully planned, and offers open space, mountain views, and a balance of residential, retail, and infrastructure that appropriately supports its current population. These qualities are not incidental—they are precisely why property values in this area are at a premium and why many of us choose to live here. The proposed development, as currently designed, is far too dense for the existing infrastructure and is inconsistent with the surrounding community.

The plan to introduce twelve three- and four-story apartment buildings and townhomes—bringing an estimated 1,000 or more additional residents—raises significant concerns. The existing roadways are already well utilized and are not designed to safely accommodate such a dramatic increase in traffic. This level of congestion would negatively impact daily life for current residents and create legitimate safety concerns.

Equally troubling is the scale and design of the proposed buildings. The height and density of these structures do not align with the surrounding area, which consists primarily of single-family homes, a golf course, horse properties, and open land, aside from a senior living facility. Tall apartment buildings would block mountain views, disrupt the visual character of the neighborhood, and introduce a form of development that is fundamentally out of place in this setting.

We paid a premium to live in this area specifically because of the open space, lower congestion, and cohesive community design. Introducing high-density housing in this location creates a clear dissonance with the existing landscape and culture, and would negatively impact both quality of life and property values for current residents.

We want to emphasize that we understand and accept that growth will occur. Development itself is not the issue. Rather, we respectfully ask that future growth align with the needs of existing residents, available infrastructure, and the established character and ambiance of the community. Arvada and the subdivisions in this area (including the Welby Gardens property) —possess a rare and unique beauty that is increasingly difficult to find. Once destroyed, it cannot be restored.

We have confidence in our City Council to thoughtfully represent the residents you serve and to ensure that development projects align with city requirements, long-term planning goals, and the spirit of the community. We sincerely hope you will take these concerns into consideration as decisions are made regarding this proposal.

Thank you for your time, service, and commitment to preserving what makes Arvada such a special place to live.

Respectfully,

Heidi and David Hogan
6193 Umber St
Arvada, CO 80403

--

Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CED Boards and Commission <cedboardsandcommission@arvada.org>

Welby Gardens project

1 message

Jim Bartley [redacted] Thu, Jan 29, 2026 at 2:30 PM
To: "cedboardsandcommission@arvada.org" <cedboardsandcommission@arvada.org>, "bfifer@arvada.org" <bfifer@arvada.org>

I attended the Planning Commission public hearing on the Welby Gardens project and have the following concerns:
The staff report spells out that the additional 2,875 daily vehicle trips generated from the new development deteriorates the LOS at 64th and Easley from D to F(Fail), and recommends a stoplight as a solution. But the report doesn't say how the stoplight mitigates the problem. Does it raise the level of service out of the Fail category? The stoplight doesn't reduce the number of cars.
The report also doesn't address the visitor overflow parking from Morningstar that exists today that frequently parks on, and fills up the Easley stub between 64th Ave and 64th Circle - where will that overflow go once the new development is in?
The report also doesn't the address the "one way out" in the event of an emergency like the Marshall fire. If we have to evacuate, the so-called emergency access on the SW corner of the development feeds into 64th and Easley through the Morningstar development. With 400+ vehicles in the new development, emergency vehicles trying to evacuate Morningstar, independent living at Morningstar, and a large portion of the 73 homes in West Woods Links III, more than 500 vehicles will all be using the same egress at 64th and Easley. In my mind, that's a recipe for disaster, and it doesn't meet guidelines from FEMA or Wildland/Urban interface best practices. How does the fire department feel about this issue? All of this was talked about at the planning commission meeting.
One additional issue I have is this: I live right next to Welby Gardens on the east side of the proposed development. With the frequency and severity of the windstorms we have, I am TERRIFIED of flying debris during the demolition and construction phase of this project, as well as the potential environmental/contaminated soil issues raised at the planning commission meeting. If this development gets approved, what codes/guidelines are in place to prevent property damage and/or bodily harm as a result of the hurricane force winds that we frequently get at this location? Is this something the City of Arvada regulates, or do I need to address this with the developer?

Jim Bartley
[redacted]

CED Boards and Commission <cedboardsandcommission@arvada.org>

Welby Gardens project

1 message

Jim Bartle [redacted] Thu, Jan 29, 2026 at 2:30 PM
To: "cedboardsandcommission@arvada.org" <cedboardsandcommission@arvada.org>, "bfifer@arvada.org" <bfifer@arvada.org>

I attended the Planning Commission public hearing on the Welby Gardens project and have the following concerns:

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[redacted]

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Alternative solution to Welby Gardens development

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Jan 22, 2026 at 2:42 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

I received another comment letter from someone who was in attendance last night. Do they still email the "cedboardsandcommissions" email address or should they email their concerns to the City Clerk's Office?

Rozalynne

---------- Forwarded
From: **Jim Bartley** [redacted]
Date: Thu, Jan 22, 2026 at 2:36 PM
Subject: Re: Alternative solution to Welby Gardens development
To: Rozalynne Thompson <rthompson@arvada.org>

Thanks Rozalynne,
The staff report spells out that the additional 2,875 daily vehicle trips generated from the new development deteriorates the LOS at 64th and Easley from D to F(Fail), and recommends a stoplight as a solution. But the report doesn't say how the stoplight mitigates the problem. Does it raise the level of service out the Fail category? The stoplight doesn't reduce the number of cars.
The report also doesn't address the visitor overflow parking from Morningstar that exists today that frequently parks on, and fills up the Easley stub between 64th Ave and 64th Circle - where will that overflow go once the new development is in?
And the report doesn't the address the "one way out" in the event of an emergency like the Marshall fire. If we have to evacuate, the so-called emergency access on the SW corner of the development feeds into 64th and Easley through the Morningstar development. With 400+ vehicles in the new development, emergency vehicles trying to evacuate Morningstar, independent living at Morningstar, and a large portion of the 73 homes in West Woods Links III, more than 500 vehicles will all be using the same egress at 64th and Easley. In my mind, that's a recipe for disaster, and it doesn't meet guidelines from FEMA or Wildland/Urban interface best practices. How does the fire department feel about this issue? All of this was talked about during last nights meeting. Should I continue to send these concerns to the email address (cedboardsandcommission@arvada.org} that we used prior to the planning commission meeting?

One additional issue I have is this: I live right next to Welby Gardens on the east side of the proposed development. With the frequency and severity of the windstorms we have, I am TERRIFIED of flying debris during the demolition and construction phase of this project, as well as the potential environmental/contaminated soil issues raised last night. If this development gets approved, what codes/guidelines are in place to prevent property damage and/or bodily harm as a result of the hurricane force winds that we frequently get at this location? Is this something the City of Arvada regulates, or do I need to address this with the developer?

[redacted]

From: Rozalynne Thompson <rthompson@arvada.org>
Sent: Thursday M
To: Jim Bartle [redacted]
Subject: Re: Alternative solution to Welby Gardens development

Hi Jim,

Yes, staff's analysis of the project's compliance with the six conditional use approval criteria is in the staff report. You can find the staff report here: https://arvadaco.portal.civicclerk.com/event/2170/files/attachment/21828.

Sincerely,
Rozalynne

On Thu, Jan 22, 2026 at 9:08 AM Jim Bartle [redacted] wrote:

> Thanks Rozalynne, are you able to provide the staff position on how the six tests were satisfied? I'm particularly interested in the traffic impact and fire protection that are mentioned in criteria 4 and 5. Several public comments addressed the inadequacy of the traffic study, as well as not meeting fire/emergency egress standards from FEMA and Wildland/Urban interface requirements in the event of a disaster like the Marshall fire.
>
> [redacted]
> Sent from my Galaxy
>
> -------- Original message --------
> From: Rozalynne Thompson <rthompson@arvada.org>
> Date: 1/22/26 8
> To: Jim Bartley [redacted]
> Subject: Re: Alternative solution to Welby Gardens development
>
> Hi Jim,
>
> The six tests that several of the attendees were referring to were the six approval criteria for a conditional use. The approval criteria can be found in the following link: https://library.municode.com/co/arvada/codes/code_of_ordinances?nodeId=LADECOARCO_CH8DEREPR_ART8-3SPREPR_DIV8-3-5SIDETEUS_8-3-5-1COUS.
>
> The City Council public hearing on the project is scheduled on March 3, 2026. Noticing for that meeting will be mailed in accordance with the Municipal Code.
>
> Sincerely,
> Rozalynne
>
> On Thu, Jan 22, 2026 at 8:03 AM Jim Bartley [redacted] wrote:
>
> > Hi Rozalynne, after attending the planning commission meeting last night, I have a couple questions I'm hoping you could answer.
> >
> > Several of the public comments referenced 'the six tests' that have to be met in order to gain approval of the conditional use permit. Can you send me a document, or a link to a document, that spells out the six tests? The opposition clearly laid out that several, if not all of the six tests were not satisfied with the application that Avalon submitted, so I would like to get a clear understanding of why the staff recommended approval of the permit.
> >
> > Secondly, my understanding is that there will also be a City Council meeting that allows for public comment. Will the format be the same/similar as the meeting last night? Do you know when that will be scheduled?

Thanks for your help.

[redacted]

From: Rozalynne Thompson <rthompson@arvada.org>
Sent: Monday M
To: Jim Bartle >
Subject: Re: Alternative solution to Welby Gardens development

Hi Jim,

My recommendation would be for you to attend the Planning Commission meeting on January 21st and provide your comments. It would be an opportunity for the Planning Commission and the applicant to consider your suggestions and immediately provide responses.

Sincerely,
Rozalynne

On Tue, Dec 30, 2025 at 3:10 PM Jim Bartley [redacted] rote:

> Hi Rozalynne, thanks for your response, I appreciate it. Do you have any suggestions for how I could advance this idea further than "part of the public record"? I just don't want this Welby Gardens project to get too far down the road without at least considering the alternatives. Should I contact other people at City of Arvada? Should I contact the developer? Any feedback/guidance you might have is much appreciated!
>
> [redacted]
>
> ---
>
> **From:** Rozalynne Thompson <rthompson@arvada.org>
> **Sent:** Monday, PM
> **To:** Jim Bartle [redacted]
> **Subject:** Re: Alternative solution to Welby Gardens development
>
> Hello Jim,
>
> As the planner that is assigned to this project, I will keep your comments as part of the public record. You are also welcome to submit any additional comments and/or come to the hearings, which will be posted and advertised per our Code.
>
> Sincerely,
> Rozalynne
>
> On Mon, Dec 22, 2025 at 1:35 PM Jim Bartley [redacted] > wrote:
>
> > Hello,
> > I would like to suggest an alternative to the current thinking about the Welby Gardens apartment development by Avalon Bay Communities. You've heard the concerns from the residents of our neighborhood, and I think this suggestion has the potential to mitigate some of those concerns.
> >
> > There is an 'empty' plot of land on the NW corner of Virgil Way and W. 64th Ave. Only about a block from the Welby Gardens site. I'm assuming this land is owned by the City of Arvada. It is currently occupied by a disc golf course. What if that land was used for the Avalon Bay apartment development instead of the Welby Gardens site, and the Welby Gardens site was instead developed into a beautiful neighborhood park by the City of Arvada. I believe the City feels strongly about providing its citizens with easily accessible parks/open space. And I am certain the surrounding

neighborhoods would cherish the idea that the City of Arvada is investing their taxpayer dollars into such a facility.

I'm not a planning or development engineer, I'm just a resident, so I'm certain there are things I'm not thinking about. But here are some potential benefits I see from making this change:

.Utility tie-ins at the vacant plot wouldn't be any more difficult than the Welby site for Avalon Bay - perhaps even easier.
.An apartment development of nearly 400 units would almost be hidden in the natural alcove that exists at 64th and Virgil. Instead of trying to squeeze such a development into the Welby Gardens site, the new site would eliminate the major light/noise/visual pollution that the development at Welby Gardens would create. My back yard will be 80 feet from the proposed development at Welby Gardens. Putting that development at 64th and Virgil would move it to several hundred feet from the nearest existing residences, and the impact of 3 and 4 story apartment buildings would be significantly reduced. Perhaps it could be spread out more than allowed by the Welby Gardens site to reduce the impact even more.
.Multiple opportunities for traffic access to the apartment development exist at 64th and Virgil. There is only ONE access point at the Welby Gardens site. ONE choke point for almost 400 new residences, plus the existing 70 plus homes in West Woods Links III, plus Morningstar Senior Living. This would alleviate the traffic concerns of the residents in our neighborhood regarding safety for children loading a school bus, traffic jams at certain times of day, and additional traffic congestion overall.
.The park would create a natural tie-in to the golf course and the Ralston Creek recreation trail system.
.The existing disc golf course could be easily moved to the new park.
.I'm certain the residents at Morningstar would LOVE a park in their back yard, and all of the residents in the surrounding neighborhoods would smile and say "What a great city we live in", if the City of Arvada were to place a beautiful new park in the middle of our neighborhood, instead of jamming a high rise apartment development where it doesn't fit.

Of course, Welby Gardens would have to remain whole in the financial transaction. But perhaps it would be called a land swap. Perhaps the City of Arvada buys the Welby site and Avalon buys the plot at 64th and Virgil from the City of Arvada. Perhaps Avalon Bay would benefit financially from an accelerated development process. Perhaps Avalon Bay could contribute to the development of the park because they wouldn't have to spend as much money on the Welby site demolition. Perhaps there are other synergies that I'm not thinking about. I don't know exactly how it could work, but I'm hopeful that you would do the research to at least give the idea thoughtful consideration.

Finally, I'd like to compliment Avalon Bay for their willingness to listen to our concerns and make changes to their initial proposal that addressed those concerns to the extent possible. But if the development is allowed at Welby Gardens, I will forever be living in the shadow of that development - permanently losing views of our precious foothills - and that is not as appealing to me as a beautiful new neighborhood park in my back yard. I look forward to your feedback regarding this idea. Happy Holidays!

[redacted]

--

Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

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CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Avalon Arvada

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 28, 2026 at 8:29 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is a comment and a request for a copy of the applicant's presentation.

Rozalynne

---------- Forwarded message ---------
From: **Joel Bolduc** <[redacted]>
Date: Tue, Jan 27, 2026 at 7:30 AM
Subject: Avalon Arvada
To: Rozalynne Thompson <rthompson@arvada.org>

Hi Rozalynne,

Thank you for your professionalism in the hearing last week. I may have some minor differences with you on interpretations/positions, etc, but overall have a lot of respect for your work.

Is it possible to get a copy of the presentation that the applicant provided, either the Powerpoint file or a PDF?

Thank you, Joel

[redacted]

Virus-free.www.avast.com

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: DA 2025-0035 Avalon Arvada/ citizen letter opposing the project as proposed

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 21, 2026 at 2:31 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here's another comment letter. It is attached to the forwarded email.

Sincerely,
Rozalynne

---------- Forwarded
From: **Julie Hoga** [redacted]
Date: Wed, Jan 21, 2026 at 1:57 PM
Subject: Re: DA 2025-0035 Avalon Arvada/ citizen letter opposing the project as proposed
To: Rozalynne Thompson <rthompson@arvada.org>

Rozalynne,
Please see the attached document I am sending to add to my "citizen letter" comments for the public record. I plan to attend the Jan. 21 Plan Commission and offer these remarks as public comment.

Regards,
Julie Hogan

On Wed, Jan 14, 2026 at 3:03 PM Rozalynne Thompson <rthompson@arvada.org> wrote:

> Hello Julie,
>
> As the planner that is assigned to this project, I will keep your comments as part of the public record. You are also welcome to submit any additional comments and/or come to the hearings, which will be posted and advertised per our Code.
>
> Sincerely,
> Rozalynne
>
> On Wed, Jan 14, 2026 at 2:58 PM Julie Hogan [redacted] wrote:
>
> > To: Arvada Plan Commission, Planning Staff and Arvada City Council
> >
> > From: Julie Hogan, volunteer with McIntyre Neighbors United and Protect Westwoods
> >
> > Please accept this email communication regarding concerns about the proposed Avalon Arvada (Welby Gardens) multifamily project and share as appropriate.
> >
> > The McIntyre Neighbors United (MNU) coalition has 25 HOAs participating in order to follow projects in northern Jefferson county that will greatly impact our quality of life. Avalon Arvada as proposed is not compatible with the adjacent neighborhoods. The density, poor ingress/egress and impacts on traffic in west Arvada are three areas of concern. We appreciate the efforts of the Protect Westwoods coalition and Ralston Valley Coalition in bringing these matters to the attention of the Arvada Plan Commission and City Council.
> >
> > MNU has been opposing the Golden Technology Center project in Jefferson County at 60th and McIntyre for the past 3 years. One of the most obvious impacts of the proposed 512,000 s.f. distribution warehouse project will be the traffic along McIntyre and 64th. The county has accepted a flawed transportation study concluding that 927 "trips" in/out are expected at 60th and McIntyre. This is a gross underestimate; an independent traffic engineer report was sent to Jeffco and if the project is leased to the type of tenants that the applicants anticipate, t**he daily trips will be more than 3000 with likely 500+ trucks daily.** This independent engineer report was sent to Mr. Smetana last September.

Along with the Westside 64th recently-approved industrial project with likely 100 or more truck trips per day at Indiana and 64th, **the 64th corridor will see a significant level of service decline**. These industrial projects and the related traffic impacts need to be reviewed as Arvada considers adding more than 800 vehicle trips to the 64th corridor with the Avalon Arvada project.

Thank you for considering the residents of west Arvada as you review the proposed multifamily project. The noise, emissions and decline in traffic safety in west Arvada when combined with other anticipated projects will diminish the quality of life for decades.

Julie Hogan
6113 Umber St. (Fieldstone)
Arvada, CO 80403

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
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ArvadaPlanCommJan2026Pres.docx
16K

Re: Arvada DA2025-0035/ Conditional Use Permit/ Citizen Letter in opposition

First, there is nothing in the city's planning for west Arvada to support that high density multifamily residential or townhomes is the preferred use for this parcel. This use is not consistent with the Comprehensive Plan.

When it comes to multifamily, density does not equal affordability. These proposed market-rate luxury apartments are not a priority pursuant to the 2024 Housing Strategic Plan because the project does not contribute to solving the need for more affordable housing units; the expected rent for these units would not be affordable for those earning 60% or less of the area income.

Second, there are site constraints and risks for public safety that cannot be mitigated with the current multifamily proposal. The most obvious risk is the poor access into and out of the site. This is addressed in Item 8 of the City's comments to the Applicant regarding access points into/out of the site:

Pursuant to 4-3-3-2(F)(1) of the land development code, **multifamily developments** of more than 10 acres must have a continuous drive through the site and connect to a public street at both ends (two entrance/exit drives). *The city commented that this regulation might be waived if there is an acceptable alternative or there is no opportunity to safely make two connections.*

This is why multifamily use is not a good fit for this particular location. To allow a waiver for two required access points suggests that the property is **currently intended for multifamily development which is not the case.**

The property can be redeveloped for a variety of other uses allowed with the current zoning that could safely be designed with one access point onto 64th. Mixed uses can allow for traffic to be distributed through the day and have hours of operation that reduce trips into and out of the site. Many developers would be willing to create such a mixed-use project.

To approve this multifamily conditional use as proposed will compromise public safety and create a liability for the city, especially if the requirement for two entrance/exit points is waived. More than 800 vehicles all using one entrance/exit during rush hours is unsafe. The applicant has not suggested how the many fire code and emergency evacuation issues can be mitigated.

Recent laws passed in the state legislature such as HB 2024-1007, requires that where possible, there **should not be limits on the number of unrelated persons allowed in dwelling units.** Owners and landlords of housing may find their properties becoming similar to student housing, leasing bedrooms, not units. This law could lead to more residents and more cars at this site.

Please deny this Conditional Use Permit Application. Julie Hogan, 6113 Umber St., Arvada CO

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Issue # 26-344: Arvada, CO26-344 New Submission assigned.

1 message

ArvadaCO@customerportal.help <ArvadaCO@customerportal.help> Thu, Jan 29, 2026 at 11:20 AM
To: drodriguez@arvada.org

Hello,

You have been assigned a new submission. Please click on the "View Issue" button to view the submission.

Customer Name: Kristi Kinney

Issue Description: Submitted on behalf of Councilmember Davis and Kristi Kinney: I am writing about the Arvada Planning Commission decision on January 21 regarding the Avalon Arvada project, which was approved to move forward to the Arvada City Council. While the Protect West Woods Neighbors Group review document presented at the meeting outlines several potential concerns for this proposed development, I have a few questions in addition to those observations: Is it responsible to consider such a development when recent data indicates a trend that apartment vacancy rates are rapidly increasing? Data for Jefferson County shows an increase in apartment vacancy rates surging in the 2025 fourth quarter from 5.5% to 7.0% alone. This, combined with the fact that in 2025 Colorado ranked near the bottom for domestic net migration or people relocating from other U.S. states, seems to indicate the need for multiple apartment buildings at this time is questionable. What problem(s) are we trying to solve here in Arvada/Jefferson County? If the need is for more homes for first-time purchasers and empty nesters, how does this proposal answer that need? These are people looking to buy homes, not hoping to rent another apartment. Townhomes, perhaps, but apartment buildings? What are the implications for infrastructure and resources needed to support this type of development? I've found little information addressing the need to upgrade utilities (water/sewer, gas, electric), public transportation and other services, or strategies for water availability and fire mitigation. Please consider all the possible impacts before rendering your decision to proceed with this development as proposed. Thank you, Kristi Kinney

View Issue

Thank you,
Ask Arvada
Arvada, CO
8101 Ralston Rd.

This email is in reference to issue 26-344 (CRM-UuA29lUfg). In case of any queries, you can respond to this email and we will get back to you as soon as we can.
Arvada, CO
8101 Ralston Rd., Arvada, CO 80002

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Avalon Arvada Apartments DA2025-0035

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 28, 2026 at 11:21 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Here's another comment for the record.

Sincerely,
Rozalynne

---------- Forwarded message ---------
From: **Ken Lyons** <[redacted]>
Date: Wed, Jan 28, 2026 at 11:18 AM
Subject: Avalon Arvada Apartments DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Arvada City Council

Re: Project Avalon Apartments DA2025-0035

Dear Council Members,

I am a resident of West Arvada and also attended the City Planning Commission meeting on January 21st at City Hall.

I would like to express some thoughts about this proposed project.

One, The Use of a MX-S city classification for this project

This complex in its current form isn't in spirit or actuality a MX-S design. This is a high density residential design, per the Comprehensive Plan (MU) includes a wide range of land uses, however it means a functional mixed use not just a high density residential complex. This complex offers no **retail, no services, no employment or civic uses.** It should offer a balanced mix of commercial and residential land uses. The addition of town houses doesn't help meet this definition as these are residential as well.

Two, This complex will be land locked with small undersized single access road.

The proposed complex will be surrounded by fences on three sides and a senior living facility in the front and an undersized single point of access via N Easley St. This is a densely populated design for the residents of the complex and the surrounding neighborhoods. The Comprehensive plan calls for lower density in the West side of Arvada

and cites the need for transit proximity, pedestrian orientation and interconnected multimodal streets to name a few. This project doesn't meet any of these criteria.

Third, Safety and Fire Access.

Again, this is densely populated area as per the design, there will be upwards of 1300 people in the small area if you include the residents and workers of the senior facility. This doesn't include any effected West Woods 3 residents.

The proposed design for safety and emergency fire access uses a non linear, small access road around the side of the senior living facility. This is a flawed design, even if on paper its meets many requirements, it doesn't meet this common sense standard. A few hundred people, cars and emergency vehicles for both the senior facility and fire department vehicles all converging at the same time. This combined with the small entrance facility are a major challenge for this area in an emergency situation.

These are just a few amongst many observations I came away from the meeting.

This proposal needs significant material revisions or a code change to a High End Residential or a complete rejection of this proposal.

According to a recent study, Arvada and the surrounding Denver area has shown an improvement in inventory for housing and the shortage has declined by about 25% since 2019. The new construction surge has led to a 16 year high in apartment vacancies by January 2026.

Another issue remains: affordability, which this complex doesn't help meet that goal either.

Thank you

Kenneth P Lyons

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: West Arvada Proposed Development

1 message

Josie Suk <jsuk@arvada.org> Mon, Jan 26, 2026 at 12:37 PM
To: Heidi Van Gieson <hvangieson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>

Can you start a folder for comments to go to the City Council?

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Mon, Jan 26, 2026 at 10:27 AM
Subject: Fwd: West Arvada Proposed Development
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded messa
From: **Katherine Zarazan** [redacted]
Date: Sun, Jan 25, 2026 at 12:51 PM
Subject: West Arvada Proposed Development
To: <council@arvada.org>
Cc: <krush@arvada.org>

Dear Council Members,

I write as a resident of Arvada to respectfully request that you **deny** the Conditional Use Permit (DA2025-0035) for the Avalon Arvada/Welby Gardens proposal at 17201 W. 64th Avenue because the application is incomplete and the proposed development does not comply with key provisions of the Arvada Comprehensive Plan and Land Development Code (LDC).

1. Application is incomplete under LDC 8-3-5

Division 8-3-5 of the LDC requires that a conditional use application demonstrate compliance with applicable LDC standards at the time of approval, not at some future Site Plan stage. In this case, several critical elements are being deferred:

No Site Development Plan (SDP) is provided with sufficient architectural, landscaping, and transition detail to show actual compliance with building design, buffering, height transitions, and compatibility requirements.

The Voluntary Cleanup and Redevelopment Program (VCUP) application referenced throughout has not been submitted, even though it is essential to demonstrate that the site can safely support residential use.

Townhome details (design, massing, tenure, and timing) are entirely “to be determined,” so the public and Council cannot evaluate whether the promised “mix” of housing types will in fact occur.

Without these elements, the conditional use submittal does not meet the LDC requirement that an applicant "justify the requested land use application" by showing compliance with applicable standards; it is, in practical terms, an incomplete application that should not be approved.

2. Failure to meet Mixed-Use policies of the Comprehensive Plan

The planning committee's staff report relies heavily on the site's Mixed-Use (MU) Comprehensive Plan designation and MX-S zoning, but the proposed project is 100% high-density residential with no commercial, employment, or service uses. This conflicts with several adopted policies:

Goal L-2 and Policy L-2.1 call for a balanced mix of commercial and residential land uses and reserving lands for future commercial and industrial development; this proposal covers essentially every square foot with housing and parking, reserving nothing for non-residential uses.

Goal L-3 and Policy L-3.1 describe mixed-use areas that provide services, retail, employment, and higher-density housing in close proximity to transit, bike, and pedestrian connections; this site has no transit nearby and no external pedestrian connectivity to a broader mixed-use node.

Policy L-3.2 sets criteria for new/redeveloping mixed-use areas, including transit-supportive densities, a mix of housing types and affordability, and a mix of retail and employment opportunities in an urban or designated corridor context; none of those required characteristics is actually met here.

In short, the project is being processed as "mixed-use" to fit the map designation, but functionally it is a single-use, high-density residential complex that does not implement the Comprehensive Plan's mixed-use vision for MU areas.

3. Incompatibility with surrounding character and LDC compatibility policies

The site sits at the western edge of Arvada, adjacent to open space, West Woods Golf Course, existing single-family neighborhoods, and a senior living facility, all of which are substantially lower in intensity. The Land Development Code and Comprehensive Plan both require compatible infill:

Policy CC-1.1 calls for mixed-use communities that "contain services, employment, and higher-density housing"; those non-residential components are missing, making this an over-intense residential enclave rather than an integrated community.

Policy CC-1.2 requires context-sensitive design to promote integration and a sense of place; the large, three- and four-story flat-roofed buildings have an urban character that does not integrate with adjacent suburban/rural-edge neighborhoods.

Policy CC-1.3 (Compatible Infill) requires sensitivity to building scale, placement, height transitions, landscape, and streetscape; the clustering of high-density buildings, minimal true step-down to single-family edges, and limited green space do not reflect the kind of transition the policy calls for.

Although the MX-S district allows up to 45-foot building heights, the Code also imposes height transition requirements where MX-S abuts lower-density residential. With no detailed SDP and only conceptual elevations, Council cannot reasonably find that the proposal meets those transition standards or the Comprehensive Plan's compatible infill policies.

4. Transportation and emergency access constraints

The Transportation Impact Study (TIS) predicts approximately 2,875 daily vehicle trips, with 163 AM and 213 PM peak-hour trips, and acknowledges that the 64th & Easley intersection will deteriorate

from LOS D to LOS F in the PM peak by 2027 without mitigation. Even with a new signal and extended turn lane, serious concerns remain:

Only one local street, Easley Road, provides regular access for this site and existing neighborhoods, which is a fundamental constraint rather than a minor operational issue.

The TIS study area omits key regional intersections at 64th & McIntyre, 64th & Indiana, and 64th & Highway 93, as well as cumulative impacts from other approved and pending developments (e.g., 60th & McIntyre, 67th & Indiana), so the analysis does not capture true network-level congestion.

Policy T-3.2 and Goal T-4 seek traffic solutions that reduce congestion and maintain quality of life; loading this many units onto a constrained local access point in a rural-edge context moves the area toward failing levels of service and undermines those goals, even if a single intersection is signalized.

Emergency access also raises serious life-safety concerns: the secondary emergency route runs through the MorningStar Senior Living parking lot, creating direct conflict between evacuating seniors and a large apartment population during a fire or other emergency. This is particularly troubling given the site's proximity to open space and elevated wildfire risk at the western edge of the city.

5. Environmental contamination and health/safety risks

The Phase I and Limited Phase II Environmental Site Assessments document significant contamination:

Dieldrin, a persistent insecticide, was detected in 17 of 28 soil samples, with multiple locations exceeding the EPA Residential Regional Screening Levels.

Total Petroleum Hydrocarbons (TPH) exceeded even Industrial RSLs at two locations.

Groundwater samples show nitrate and sulfate above Colorado Groundwater Standards, and stormwater from the site ultimately drains toward Church Ditch and Ralston Creek.

The staff recommendation relies on a future VCUP process and conditions requiring submittal of a VCUP application before Site Plan and completion of remediation before building permits. However:

No VCUP application is in the record yet, so Council cannot review or condition an actual cleanup plan.

A VCUP alone does not guarantee full mitigation without independent oversight; community members reasonably request additional ESA work and third-party monitoring to protect nearby seniors, families, and downstream water users.

Given the LDC's core purpose to protect public health, safety, and welfare, it is premature to grant a conditional use for high-density residential on a contaminated former nursery site without seeing a complete, enforceable cleanup plan and independent oversight commitments.

6. Lack of true housing diversity and affordability

The staff report suggests that the project "adds to Arvada's housing stock" and "improve[s] access to quality housing that is affordable to a broad range of income levels," but the applicant has described this as a higher-end, market-rate development. There is:

No defined affordable housing component or income-targeted units.

No confirmed diversity of tenure and product type beyond apartments; townhomes are undefined and may never be built as currently represented.

This falls short of Comprehensive Plan Goal N-1, which seeks a range of neighborhoods and accessible housing of different tenure types to accommodate diverse incomes, ages, and abilities.

For these reasons: an incomplete application under LDC 8-3-5, failure to implement the Mixed-Use and compatibility policies of the Comprehensive Plan, unresolved transportation and emergency access constraints, serious environmental uncertainties, and lack of genuine housing diversity and affordability, I respectfully urge City Council to deny the Conditional Use Permit for DA2025-0035 at this time.

Thank you for your consideration and for your service to the Arvada community.

Sincerely,
Katherine Zarazan

6651 Violet Way
Arvada, CO 80007

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby Gardens development plan

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Jan 22, 2026 at 1:49 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Are public comments now forwarded to the City Clerk's Office?

Sincerely,
Rozalynne

---------- Forwarded me
From: **Lauren Stelley** [redacted]>
Date: Thu, Jan 22, 2026 at 1:45 PM
Subject: Welby Gardens development plan
To: <rthompson@arvada.org>

Dear Mayor and Members of Arvada City Council,

I reside at 17129 W 72nd Ave in the West Woods neighborhood. I have lived in this community for 27 years. I am writing to formally express my opposition to the proposed Avalon development on the Welby Gardens site, Project #DA2025-0035.

While I understand the need for thoughtful growth in Arvada, this proposed project is incompatible with the existing character, infrastructure, and safety needs of our surrounding neighborhoods.

Our neighborhoods are primarily composed of one- and two-story homes. The proposed development includes twelve three- and four-story buildings and 53 townhomes, which will significantly overshadow nearby homes and the adjacent City golf course. The proposed 45-foot building heights will block treasured mountain views, sunsets, and sunrises that residents currently enjoy.

The location of this development is also concerning. There are no retail services within walking distance, and the project's high-density housing is situated far from the light rail station. This will inevitably increase vehicle dependency and congestion. Estimates indicate approximately 2,800 new vehicle trips per day, with spillover traffic filtering through surrounding residential streets.

Safety is another major issue. The proposed plan allows only one access and egress point via a single unlined stub road. This is inadequate for daily traffic flow and especially dangerous in emergency situations. In the event of a wildfire or other emergency, hundreds of residents would be forced to evacuate through a single exit while emergency responders attempt to access the site and assist nearby senior living residents. A single access point does not support safe or rapid evacuation.

Additional concerns include increased light pollution from tall buildings and nighttime traffic, noise from construction and future amenities, environmental impacts on air quality and stormwater, and safety issues near local school bus stops and bicycle routes.

I respectfully urge city officials to carefully reconsider this project, seek further community input, and take steps to prevent this development from moving forward in its current form.

Thank you for your time and consideration.

Lauren & Jason Stelley
17129 W 72nd Ave Arvada 80007

--

Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Objection to the proposed Arvada Avalon development

1 message

Josie Suk <jsuk@arvada.org> Mon, Feb 2, 2026 at 12:30 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Mon, Feb 2, 2026 at 12:29 PM
Subject: Fwd: Objection to the proposed Arvada Avalon development
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Ben Perko** <bperko@arvada.org>
Date: Mon, Feb 2, 2026 at 11:02 AM
Subject: Fwd: Objection to the proposed Arvada Avalon development
To: Kristen Rush <kristen@arvada.org>

---------- Forwarded message ---------
From: **mmnorth via Council** <Council@arvada.org>
Date: Sun, Feb 1, 2026 at 11:56 AM
Subject: Objection to the proposed Arvada Avalon development
To: <lsimpson@arvada.org>, <rmoorman@arvada.org>, <sambrose@arvada.org>, <rlovisone@arvada.org>, <bf[redacted]avis@arvada.org>, <mgriffith@arvada.org>, <Council@arvada.org>
Cc [redacted]

To the members of the Arvada City Council:

I am writing about the Arvada Planning Commission decision on January 21 regarding the Avalon Arvada project which was approved to move forward to the Arvada City Council. I am disappointed that the project was allowed to move forward.

I support the issues in the review document prepared by the Protect West Woods Neighbors Group provided to homeowners in the area, including my HOA, Sunrise Ridge Sub #2. The weaknesses in the proposed Avalon project are glaring and should be addressed.

I strongly urge you to deny the Conditional Use Permit (CUP) because the application fails multiple mandatory criteria in the City of Arvada Development Code, as well as many other policy documents.

Please consider all the possible impacts and non-compliance with City of Arvada ordinances and policies this project proposes. The negatives of the project far outweigh any positive addition to the community.

Thank you.
Marilyn North

--

Ben Perko
Constituent Services Liaison
City Manager's Office
720-898-7511
bperko@arvada.org

--

Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--

Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada proposed development at Welby Gardens (DA2025-0035)

1 message

Josie Suk <jsuk@arvada.org> Tue, Feb 3, 2026 at 11:57 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Tue, Feb 3, 2026 at 11:55 AM
Subject: Fwd: Avalon Arvada proposed development at Welby Gardens (DA2025-0035)
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Ask Arvada** <askarvada@arvada.org>
Date: Tue, Feb 3, 2026 at 11:16 AM
Subject: Fwd: Avalon Arvada proposed development at Welby Gardens (DA2025-0035)
To: Kristen Rush <kristen@arvada.org>

---------- Forwarded message ---------
From: **Sharon Davis** <sdavis@arvada.org>
Date: Mon, Feb 2, 2026 at 7:34 PM
Subject: Fwd: Avalon Arvada proposed development at Welby Gardens (DA2025-0035)
To: Ask Arvada <askarvada@arvada.org>

Regards,

Sharon Davis
Council Member, At Large
720-450-4825 (Cell)
SDavis@arvada.org

--------- ---------
From [redacted]>
Date: Mon, Feb 2, 2026 at 5:59 PM
Subject: Avalon Arvada proposed development at Welby Gardens (DA2025-0035)
To: <lsimpson@arvada.org>, <sambrose@arvada.org>, <rlovisone@arvada.org>, <bfifer@arvada.org>, <sdavis@arvada.org>, <mgriffith@arvada.org>, <rmoorman@arvada.org>
CC: <mshannon@wmis.net>

Honorable Mayor and City Council members:

I am a resident at MorningStar Senior Living of West Arvada. My husband and I moved here from Grand County just over two years ago. We experienced two 11 day evacuations due to wild fires there in 2020. We planned ahead, had an evacuation plan, had our bags packed, and had the choice of two exits to safety. We were fortunate, and did not lose our home then. Please know that I am aware of the need for safety of all of the residents of our area, especially those who are incapacitated in some way. We cannot merely get in our cars and drive to safety. To evacuate the nearly 200 people who live and work here would be a time-consuming exercise, and it demands a careful evacuation plan, perfectly executed.

When an immense apartment and townhome development is proposed for the area immediately to the north of our building, sharing one of our two exits, it compounds the safety concerns. The safety of MorningStar residents and staff must not be compromised. This proposal fails Test 5 of the Conditional Use Permit process. LDC 8351 (B)(5) requires that public facilities and services must be able to serve the proposed development without reducing service levels for existing development. This is a mandatory standard, not a guideline.

We welcome a development that would appropriately utilize the Welby property, and fit into this infill lot without jeopardizing the safety of the MorningStar Senior Living and our current neighbors.

I respectfully protest the development of the Welby greenhouse property as proposed (Avalon Arvada), and ask that the Arvada City Council deny the Conditional Use Permit for this proposed development.

Miriam A. Shannon

17351 West 64th Ave

Apt 3034

Arvada, CO 80007

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Protest Avalon Arvada Apartments – DA2025-0035

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 28, 2026 at 8:31 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

And another one.

Rozalynne

---------- Forwarded message ---------
From: **MD Jaquet** <[redacted]>
Date: Tue, Jan 27, 2026 at 5:20 PM
Subject: Protest Avalon Arvada Apartments – DA2025-0035
To: <lsimpson@arvada.org>, <sambrose@arvada.org>, <sdavis@arvada.org>
Cc: <rmoorman@arvada.org>, <rlovisone@arvada.org>, <bfifer@arvada.org>, <mgriffith@arvada.org>, <rthompson@arvada.org>

To Whom it May concern;

I am writing to protest against the building of Avalon Apartments – DA2025-0035

I have owned my residence in Trail Village Villas since 2007.

Since that time the neighborhood has undergone a lot of changes.

Overtime even without the increase in population that would occur from the addition of the apartments and town houses projected, the neighborhood has suffered from overcrowding at Westwoods Elementary and Drake middle school. We have had numerous accidents along Virgil due to drag racing, cars overturning and police chases.

We have more recently been the victim of a house having a break in where the robbers shattered the sliding glass door for entry.

An increase in population would cause a large amount of pressure on schools and traffic.

The HOA has experienced bad debt having to clean up after people walking dogs through the neighborhood and not cleaning up after their pets. This has even increased with the addition of Morningstar Assisted Living.

As my house faces Virgil and open space, our house is put at a higher risk level as more people and cars transit an already crowded road. Too many cars use the road as a throughway and do not follow speed limits.

New laws that cripple the ability to enforce housing occupancy limitations and the addition of 1000 parking spaces is too much pressure on roads that already are blocked by traffic due to Long lake activities, school access and the addition of assisted living and Denver water facility. Our road is already taking pressure of through traffic with all the houses built along Quaker and even Candelas because of backups on 93 and Indiana due to lack of expanding roads.

I request that you record my protest to building of this new community. The plans contain far too many residents and cars for this community. Our schools, roads and walkways would be overloaded.

This would cause unsafe situations for the residents of our community.

There has not been enough investment in road expansion in this area to accommodate this addition.

Respectfully,
Long term resident of trail village Villas,
Marika Jaquet

Sent from my iPhone

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Bay Apartment Proposal - DA2025-0035

1 message

Josie Suk <jsuk@arvada.org> Tue, Feb 3, 2026 at 11:57 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Tue, Feb 3, 2026 at 11:54 AM
Subject: Fwd: Avalon Bay Apartment Proposal - DA2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Ask Arvada** <askarvada@arvada.org>
Date: Tue, Feb 3, 2026 at 11:16 AM
Subject: Fwd: Avalon Bay Apartment Proposal - DA2025-0035
To: Kristen Rush <kristen@arvada.org>

---------- Forwarded message ---------
From: **Sharon Davis** <sdavis@arvada.org>
Date: Mon, Feb 2, 2026 at 8:17 PM
Subject: Fwd: Avalon Bay Apartment Proposal - DA2025-0035
To: Ask Arvada <askarvada@arvada.org>

Regards,

Sharon Davis
Council Member, At Large
720-450-4825 (Cell)
SDavis@arvada.org

---------- Forwarded
From: **Pam Knepp** [redacted]>
Date: Thu, Jan 29, 2026 at 7:55 PM
Subject: Avalon Bay Apartment Proposal - DA2025-0035
To: rmoorman@arvada.org <rmoorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>

Arvada City Council members,

With the proposed Welby/Avalon project moving forward to Arvada City Council, I am compelled to write. Saying first, I am by no means "NIMBY" and would welcome residential building on those 20 acres.

However, I have significant concerns about the suitability of this location for this particular project.

Fire access, public safety, and evacuation risk top my list of concerns, especially with the proposed density. If this were to move forward, it would funnel 1,000 + residents effectively into ONE egress at 64th and Easley Road. In an emergency, that density would absolutely overwhelm Avada's Comprehensive Emergency Management Plan (CEMP) impacting all 5 area neighborhoods. (The population of all 5 areas, incidentally, equal the density of the Avalon proposal.)

On December 30, 2021, the wind-driven Marshall Fire erupted, burning 6,080 acres, destroying 1,084 homes. There you have it. Having witnessed the devastation of the Marshall Fire, I am acutely aware of the risks posed by limited evacuation routes. The egress/ingress of the proposed Avalon build is too much for the infrastructure of this area of western Arvada - with no space to create more acceptable roads that could handle an emergency.

Ralston Valley Coalition hosted the Avada City Council Candidates Forum, on October 25, 2025. It was the conclusion of candidates present that,

- Traffic congestion and aging infrastructure emerged as dominant themes, with candidates agreeing that growth has outpaced Arvada’s ability to maintain safe and efficient roads.

Looking at Arvada's (CEMP), there is an evacuation plan; however, there are no predetermined evacuation routes. In recognizing the complexities of planning for our community's future, I urge you to rule on the side of the lives and safety of Western Arvadan's and vote no on the high density of the proposal.

Thank you,
Pam Knepp
6641 Violet Way, Trail Village

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: City Code, Land Use Development, Comprehensive Planning Code

1 message

Josie Suk <jsuk@arvada.org> Tue, Feb 17, 2026 at 1:45 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Tue, Feb 17, 2026 at 1:18 PM
Subject: Fwd: City Code, Land Use Development, Comprehensive Planning Code
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded
From: **Pam Knepp** [redacted]
Date: Tue, Feb 17, 2026 at 12:32 PM
Subject: Fwd: City Code, Land Use Development, Comprehensive Planning Code
To: KRush@arvada.org <KRush@arvada.org>

To: City Clerk Kristen Rush

For inclusion in the official public record. Thank you. Pam Knepp

Sent from my iPhone

Begin forwarded message:

From: Mayor Lauren Simpson <lsimpson@arvada.org>
Date: February 1 PM MST
To: Pam Knepp [redacted] >
Subject: Re: City Code, Land Use Development, Comprehensive Planning Code

Pam,

Thank you for sharing your thoughts. Because this project is quasi-judicial - which means the council acts more akin to judges than legislators - we will be reviewing all of the evidence and testimony at the hearing very carefully as we deliberate. If you have not already, please forward your email into City Clerk Kristen Rush at KRush@arvada.org for inclusion into the official public record.

Warmly,

Lauren

Lauren Simpson,
Mayor
City of Arvada

On Feb 15, 2026, at 10:07 PM, Pam Knepp [redacted] wrote:

Sunday, February 15, 2026

TO: Mayor Lauren Simpson
Rozalynne Thompson, Arvada City Planner
Sharon Davis, Arvada City Councilmember At-Large
Michael Griffith, Arvada City Councilmember At-Large
Randy Moorman, Arvada City Councilmember
Shawna Ambrose, Arvada City Councilmember
Rebecka Lovisone, Arvada City Councilmember
Bob Fifer, Arvada City Councilmember

RE: MS-X zoning for Welby/Avalon development

Dear Arvada City Council Members,

As I left the City Planning meeting last month - yes, that very long and late meeting, bless those City Planners - I was bothered by the fact Staff rather blew off the question of whether the Avalon/townhouse complex was even appropriate under the MS-X coding. So, I've been studying City Code, Land-Use Development Code, and Comprehensive Planning Code. Under any consideration, this project does not meet MS-X zoning.

The Comprehensive Plan designates this site as Mixed Use, *not Mixed-Use Residential e*mphasis. That designation signals an expectation of balanced commercial and residential activity. While the MX-S zone identifies what uses may be permitted, it does not override the Comprehensive Plan's intent. A development that is overwhelmingly residential, with *no* meaningful commercial or employment component, does *not* implement the Mixed-Use designation and instead converts it into single-use high-density housing. That is a policy decision Council must explicitly make — not an outcome staff can assume.

There is *no* mixed-use about this. Mixed Residential yes, but that is not how it is zoned. And that does not over-ride the Comprehensive Plan's intent.

These policies exist to ensure consistency, transparency, and fairness in decision-making. Approving projects that require bending, waiving, or contradicting those standards undermines public trust and sets a precedent that weakens the City's governance framework. Quite simply, voting against your own by-laws and codes is not a good look - nor is it good policy.

Residents rely on Council to enforce the rules as written, not reinterpret them to accommodate proposals that do not comply. When standards are applied selectively, it raises legitimate concerns about predictability, accountability, and the long-term impacts on our neighborhoods and infrastructure.

Your careful consideration with deep knowledge of Arvada's Codes and Plans is imperative. I respectfully ask you to uphold the codes and plans you have adopted and to vote **no** on any proposal that fails to meet them. Doing so affirms your

commitment to sound planning, responsible growth, and the constituents you represent.

Thank you.
Pam Knepp
6641 Violet Way

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Avalon Bay Apartment Proposal - DA2025-0035

Rozalynne Thompson <rthompson@arvada.org> Fri, Jan 30, 2026 at 8:07 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment for the record.

Sincerely,
Rozalynne

---------- Forwarded message ---------
From: **Pam Knepp** <[redacted]
Date: Thu, Jan 29, 2026 at 7:56 PM
Subject: Avalon Bay Apartment Proposal - DA2025-0035
To: rthompson@arvada.org <rthompson@arvada.org>

Arvada City Planner Rozalynne Thompson,

With the proposed Welby/Avalon project moving forward to Arvada City Council, I am compelled to write. Saying first, I am by no means "NIMBY" and would welcome residential building on those 20 acres. However, I have significant concerns about the suitability of this location for this particular project.

Fire access, public safety, and evacuation risk top my list of concerns, especially with the proposed density. If this were to move forward, it would funnel 1,000 + residents effectively into ONE egress at 64th and Easley Road. In an emergency, that density would absolutely overwhelm Avada's Comprehensive Emergency Management Plan (CEMP) impacting all 5 area neighborhoods. (The population of all 5 areas, incidentally, equal the density of the Avalon proposal.)

On December 30, 2021, the wind-driven Marshall Fire erupted, burning 6,080 acres, destroying 1,084 homes. There you have it. Having witnessed the devastation of the Marshall Fire, I am acutely aware of the risks posed by limited evacuation routes. The egress/ingress of the proposed Avalon build is too much for the infrastructure of this area of western Arvada - with no space to create more acceptable roads that could handle an emergency.

Ralston Valley Coalition hosted the Avada City Council Candidates Forum, on October 25, 2025. It was the conclusion of candidates present that,

- Traffic congestion and aging infrastructure emerged as dominant themes, with candidates agreeing that growth has outpaced Arvada’s ability to maintain safe and efficient roads.

Looking at Arvada's (CEMP), there is an evacuation plan; however, there are no predetermined evacuation routes. In recognizing the complexities of planning for our community's future, I urge you to rule on the side of the lives and safety of Western Arvadan's and vote no on the high density of the proposal.

Thank you,
Pam Knepp
[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

OPPOSE Proposed 425 Unit Complex on 64th

1 message

Peesa Mos [redacted] Sat, Jan 24, 2026 at 8:04 AM
To: "cedboardsandcommission@arvada.org" <cedboardsandcommission@arvada.org>

We request that the CUP for the Avalon Arvada development be denied. The project does not comply with the Comprehensive Plan, it fails to promote the intent of current zoning, it is incompatible with the surrounding area, and it does not adequately address traffic and infrastructure impact mitigation. Any one of these issues is enough to warrant denial, and together they present a compelling case.

The City should deny and encourage a smaller mixed-use development that includes meaningful open spaces and guaranteed infrastructure upgrades—that would require a new application rather than this CUP. Approving the current proposal would not be in the best interest of our community and contradicts the planning principles of Arvada.

Thank you for considering this matter. We care deeply for our neighborhoods and support reasonable growth, but this specific proposal falls short. We urge you to vote against it.

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Avalon Arvada Apartments-DA2025-0035

Rozalynne Thompson <rthompson@arvada.org> Wed, Jan 28, 2026 at 8:30 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Here's another comment.

Rozalynne

---------- Forwarded message ---------
From: **Saidolim Mukhitdinov** <[redacted]>
Date: Tue, Jan 27, 2026 at 4:30 PM
Subject: Avalon Arvada Apartments-DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, rthompson@arvada.org <rthompson@arvada.org>

As Arvada resident homeowners We are totally against the project of Avalon Arvada Apartments.

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Feb 19, 2026 at 8:08 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another comment regarding the Welby Gardens project.

Sincerely,
Rozalynne

---------- Forwarded
From: **Tom Furtak** [redacted]>
Date: Fri, Feb 13, 2026 at 1:58 PM
Subject: Avalon Arvada
To: rthompson@arvada.org <rthompson@arvada.org>

Greetings:

I am contacting you to express concern over the planned Avalon Arvada development. The high density of living spaces associated with this will significantly increase the traffic at the intersection of 64th Avenue and Easley Road. I urge you to consider installing traffic lights to manage the increased volume. This is particularly important to handle all of the left turns. I have personally witnessed numerous dangerous close calls. The traffic on 64th Avenue travels at 45 mph with double lanes in both directions.

Regards,

Tom Furtak
16884 W 66th Place
Arvada, CO 80007

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

CED Boards and Commission <cedboardsandcommission@arvada.org>

Notes from Public Hearing on Jan 21

1 message

[redacted] Sun, Jan 25, 2026 at 7:31 PM

To: cedboardsandcommission@arvada.org

Hello.

I'm interested in knowing the outcome of the public hearing on Jan 21st for the "Conditional Use to allow 384 multifamily and 51 townhomes in the MX-S zoning district for Avalon Arvada at 17201 W 64th Ave".

At minimum, did they receive Arvada Council approval and are they permitted to move forward? if so, what is that next step for them? Will there be more public hearings and other opportunities for debate? I'm concerned for the traffic in the area which is already congested on neighboring streets. If there are notes from the meeting, can you point me to them on your website or send them to me?

I'd also like to file a request to improve the lights on 64th Ave. They are currently out of sync and cause a lot of stoppage. I want to recommend that a traffic engineer test and alter the light sequence.

I'd also like to file a request to install a traffic circle at the corner of 60th Ave and Easley. This corner has become unbearable during morning and evening rush hour.

Thank you for your help in redirecting or answering my questions.

Terese Manley

[redacted]

[redacted]

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Avalaon Arvada Apartments Project DA2025-0035

Rozalynne Thompson <rthompson@arvada.org> Fri, Jan 30, 2026 at 8:09 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment that I have received for the record.

Sincerely,
Rozalynne

---------- Forwarded message ---------
From: **Una Modoni** [redacted]>
Date: Fri, Jan 30, 2026 at 7:57 AM
Subject: Avalaon Arvada Apartments Project DA2025-0035
To: <lsimpson@arvada.org>, <rmoorman@arvada.org>, <sambrose@arvada.org>, <rlovisone@arvada.org>, <bfifer@arvada.org>, <sdavis@arvada.org>, <mgriffith@arvada.org>, <rthompson@arvada.org>

Dear City Council Members and Ms. Thompson:

As senior residents of Sunrise Ridge Townhome Community we are writing to let you know that we oppose the Avalaon Project in western Arvada.

We have many concerns regarding this project but our biggest one is the density which it will bring to this area. It is going to dump an inordinate amount of traffic on 64th avenue, McIntyre Parkway (which has already seen massive growth), Easley Road and Highway 93. Water issues are another major concern as the State of Colorado is facing major drought problems.

We realize someone is going to build something there but surely there is a better solution than a project so dense that it deteriorates the living standards of not only the surrounding neighborhoods but of that neighborhood itself. That density can not sustain, over years, the high volume use that will occur on roadways, water usage, and safety/emergency issues.

Thank you for your attention and please revisit this plan with a sharpened pencil and a realistic, critical evaluation of what you are being asked to approve.

Una and Joseph Modoni
[redacted]

Virus-free.www.avast.com

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada- Project DA 2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Feb 23, 2026 at 9:46 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment regarding Avalon Arvada.

Rozalynne

---------- Forwarded messa
From: **Anita Hasenkamp** [redacted]
Date: Mon, Feb 23, 2026 at 9:43 AM
Subject: Avalon Arvada- Project DA 2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

I am writing with concerns and to oppose the building of the Avalon apartment/townhome project. I have been a resident in Sunrise Ridge since 2012. Just in that time we have seen growth from Boyd Ponds, condos across from King Soopers and more that have caused much more crowding and congestion. If you add this proposed housing it will create multiple issues for safety, congestion, Arvada's promised plan for residents and overall lower quality of life for all residents around the area. Already, there is too much traffic for kids and families to safely be crossing streets to use the trails and parks that Arvada is known for. That was not an issue in 2012 when we moved here. You cannot add an area that can house up to 1000 residents in this proposed location and not see the many negative impacts it will bring to all around it and the area. Thank you for your time. Anita Hasenkampf

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Avalon Arvada Notice of Application letter received

Rozalynne Thompson <rthompson@arvada.org> Fri, Feb 27, 2026 at 10:18 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Please find a public comment on the Avalon Arvada Site Plan application (DA2026-0005) below.

Sincerely,
Rozalynne

---------- Forwarded message ---------
From: **Anita Imbler** [redacted]
Date: Fri, Feb 27, 2026 at 10:02 AM
Subject: Avalon Arvada Notice of Application letter received
To: rthompson@arvada.org <rthompson@arvada.org>

Hi Rozalynne,

I am a long-time homeowner at West Woods Ranch, on the golf course (27yrs), and very concerned about the possibility of a multi-family complex going in so close to the golf course community, and Morningstar Senior Living.

There are always safety concerns, among others, with mulit-family complexes. There is a very good chance it would affect property values in the area as well.

I could not find any detailed information about the project on the website mentioned in the notice.

- Are concerned residents able to vote on this project?

- Is the project plan for upscale units?

I will look forward to hearing from you.

Thank you,

Anita Imbler

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Young mom perspective - Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 9, 2026 at 8:11 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment.

Rozalynne

---------- Forwarded mes
From: **Allison Metzge** [redacted]
Date: Sat, Mar 7, 2026 at 8:32 PM
Subject: Young mom perspective - Avalon Arvada Apartments – DA2025-0035
To: <lsimpson@arvada.org>, <sambrose@arvada.org>, <rmoorman@arvada.org>, <rlovisone@arvada.org>, <bfifer@arvada.org>, <sdavis@arva >
Cc: <rthompson@arvada.org>, Mat [redacted]

Dear City Council Members,

My name is Allison Metzger and I have lived in Fieldstone for the past three years. As a parent of two young children at Primrose Westwoods on 64th, I am deeply concerned about the proposed development and the significant safety risks it presents.

My biggest worry is what would happen in an emergency. With over 1,000 new residents and only one truly viable public access point, I fear that congestion or blocked routes could prevent me from reaching my children at their day care. The wildfire history in our area makes this a very real and urgent concern. This concern is also valid for any time that they are home with me and we need to evacuate.

The secondary access route described in the proposal does not function as a reliable, independent alternative. Routing emergency traffic through a senior living facility is not a practical or safe solution under real-world conditions.

I respectfully ask the Council to consider these risks carefully. The density, traffic impacts, and lack of adequate evacuation routes make this project unsafe for both current and future residents.

Thank you for your time and attention.

Sincerely,
Allison Metzger

Sent from my iPhone

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Avalon Project Concerns

Rozalynne Thompson <rthompson@arvada.org> Thu, Feb 26, 2026 at 8:59 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is a public comment that I received this morning regarding the Avalon Arvada/Welby Gardens project.

Sincerely,
Rozalynne

---------- Forwarded message ---------
From: **Barb Joy** <[redacted]>
Date: Thu, Feb 26, 2026 at 8:43 AM
Subject: Avalon Project Concerns
To: <lisimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Hi,

I am a 3rd generation Coloradan who grew up in Wheat Ridge, but chose to raise my family in Arvada. I currently reside in Sunrise Ridge, and have lived here for over 10 years. I am reaching out to express my concerns about the Avalon Project.

As a former school principal of a school that was impacted by the Marshall Fire, I am VERY concerned about the increase of residents in this area and the safety if the need ever arises to evacuate. This would increase our small community's residents by over 1,000 and there are no ways for people to evacuate in a timely manner. Over the past few years, fire concerns have risen in this area with the winds and higher temperatures. Adding more residents creates an unsafe situation for ALL!

In addition, I am concerned about the roads and overall volume and its impact on our community. This creates an extremely unsafe situation for Easley and people crossing the street. There would need to be millions of taxpayer dollars invested in roadway projects for safe crossing. And, this creates noise and busy infrastructure that is not wanted in this area.

One of the key reasons why people live in this area is the safety, community, and quiet nature of the neighborhoods. Avalon would impact the way of life for residents, and not make west Arvada a desirable place to live.

This plan is not comprehensive and has MAJOR negative impacts on our community.

Thank you for your time and listening.

Have a great day,
Barb Aswege

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada-Project DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 9, 2026 at 8:14 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment.

Rozalynne

---------- Forwarded messa
From: **Breanne Hagihara** [redacted]
Date: Sun, Mar 8, 2026 at 9:18 PM
Subject: Avalon Arvada-Project DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, <rlovisone@arvada.org>, <bfifter@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Dear City Council Members,

I am writing to express my strong opposition to the current proposal for the Welby Gardens/Avalon Arvada Apartments in West Arvada. As a concerned resident, I believe the scale and design of this project present significant risks to our community.

My primary concerns regarding this development include the following.

Adding over 1,000 residents to an area with only one primary access point is a major risk. Given our history with close wildfires in the area, I'm worried about how emergency vehicles would get in and how we would all get out safely. In addition, Our local roads and transit aren't built for all the additional heavy traffic each day. This level of density goes against our Comprehensive Plan's vision for lower-density development in this area. It feels like critical details about safety and traffic are being pushed off for later. I believe these issues need to be fully addressed before the project moves forward.

I urge the City Council to prioritize the safety and character of west Arvada by rejecting this proposal in its current form.

Thank you for your time and for your service to our city.

--
Regards,

[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Opposing Avalon Arvada – Project DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Tue, Mar 10, 2026 at 8:04 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here's an additional public comment regarding Avalon Arvada/Welby Gardens.

Sincerely,
Rozalynne

---------- Forwarde
From: **Barb Ilyes** [redacted]
Date: Mon, Mar 9, 2026 at 8:20 PM
Subject: Opposing Avalon Arvada – Project DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, BFifer@arvada.org <BFifer@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Mayor Simpson and Council Members,

I am writing to express my strong opposition to the proposed Avalon Arvada Apartments (Project DA2025-0035). This project is not only incompatible with the infrastructure and safety limitations of this site, but it also poses a **significant environmental and community-character risk** to one of the most cherished natural corridors in West Arvada.

The development would place 384 apartments and 51 townhomes (over 1,000 residents) immediately adjacent to the Ralston Creek Trail, a sensitive and heavily used open-space corridor. This area provides habitat, floodplain function, and a rare sense of openness that defines why so many of us chose to live in West Arvada. Replacing that with twelve 3- and 4-story buildings, nearly 1,000 parking spaces, and an estimated 2,800+ additional vehicle trips per day is a trade-off **that simply is not worth it.**

High-density construction of this scale will inevitably increase noise, pollution, runoff, and traffic pressure on the trail and surrounding open space. Once this natural buffer is gone, it is gone forever. The city has already seen the consequences of **overbuilding in areas like Olde Town and along Ralston Road from Wadsworth to Kipling**. I used to own a property there for over twelve years, but overcrowding and increased crime forced us to leave. Those neighborhoods lost much of their original character, charm, and livability. Gone forever. West Arvada should not be the next area sacrificed to the same pattern of overdevelopment for the sake of adding some tax dollars.

Beyond environmental concerns, the evacuation and emergency-response will also be negatively impacted. Concentrating this many people on a constrained site with effectively one viable public access point is not responsible planning at all, especially in a region with documented wildfire history. The so-called “secondary access” does not function as a true independent route under real-world emergency conditions, placing both new and existing residents at risk, including those at MorningStar Senior Living.

This proposal also conflicts with the Comprehensive Plan, which clearly directs lower-density development to the west. **West Arvada was intentionally planned and built as a lower-density**, **high-quality** residential area with meaningful open space and trail access. **That is the identity residents including myself invested in and the identity the city should protect.**

The city should be focusing on preserving open space, protecting the Ralston Creek corridor, and maintaining the high-end, low-density character that defines this part of Arvada, not approving a project that overbuilds a constrained site and degrades the quality of life and ruins the property values for thousands of existing residents.

I urge you to **REJECT Project DA2025-0035** and instead require a proposal that truly respects the environment, the Comprehensive Plan, and the community that already lives here. A small park or playground would be a far more appropriate use of this land, something that enhances the neighborhood, supports families, increase property values, and gives nearby seniors a peaceful place to walk and relax. We do not need to build on every remaining open space or pack more people into an already constrained area.

Olde Town Arvada is a clear example of how overdevelopment can erode a community's character and safety. I urge you not to let West Arvada experience the same outcome.

Thank you for your consideration.

Inbox Etiquette Reminder:
"Hi," "Please," and "Thank you" aren't just niceties, they're the glue that **keeps collaboration human.**

Barbara B. Ilyes, CPA
Chief Success Coordinator | GoFigure Group Inc.

Advisory Note: Depending on your service package, time spent providing strategic guidance via e-mail may be billed at our standard hourly rate.

Contact:
Mailing: 12650 W 64th Ave Unit E #401, Arvada, CO 80004-3887
[redacted]
Business Hours: Mon–Thu, 9 AM – 3 PM

IRS Disclosure - In compliance with IRS regulations, we are required to advise you that, unless otherwise expressly indicated, any federal tax advice contained in this communication, including attachments, is not intended or written to be used, and may not be used, for the purpose of (i) avoiding tax related penalties under the Internal Revenue Code or (ii) promoting, marketing or recommending to another party any tax related matters addressed herein.

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments - DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Mar 11, 2026 at 11:10 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here's the same public comment to a different councilmember.

Rozalynne

---------- Forwarded mes
From: **Brenna Mefford** [redacted]
Date: Wed, Mar 11, 2026 at 11:08 AM
Subject: Avalon Arvada Apartments - DA2025-0035
To: <rmoorman@arvada.org>
Cc: <rthompson@arvada.org>

Hi Randy,

I wanted to convey my concerns about the Avalon Arvada Apartments. I live, with my family, close by to where the development is planned for roughly nine years now. Development is going to occur, so I am not against any development, but we need development to be done properly. My concerns are:

- The intense dense development planned does not follow Arvada's Comprehensive Plan. It also does not match the current area, no building should be higher than the current Morning Star senior center that is next door.
- Fire - There is a lot of open space with plenty of dry material that can easily catch just west of this development. If 1000 people need get out of this development and all of the already existing neighborhoods need to evacuate around it (including my own) will we be able to get out in time? Fire safety and access should not be deferred to later meetings, this is critical to the entire project.
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Above all, my largest concern is fire. I am a water resources engineer and I understand how our climate is changing and getting drier. This type of dry year is going to occur more frequently. We need to be ready and not trap a 1000 people into a 20 acre lot that is ripe for burning.

I appreciate all the hard work you put into the City. Please let me know if you have any questions.

Thank you,
Brenna Mefford

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org

Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments - DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Mar 11, 2026 at 11:10 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here's the same public comment to a different councilmember.

Rozalynne

---------- Forwarded mes
From: **Brenna Mefford** [redacted]>
Date: Wed, Mar 11, 2026 at 11:09 AM
Subject: Avalon Arvada Apartments - DA2025-0035
To: <sambrose@arvada.org>
Cc: <rthompson@arvada.org>

Hi Shawna,

I wanted to convey my concerns about the Avalon Arvada Apartments. I live, with my family, close by to where the development is planned for roughly nine years now. Development is going to occur, so I am not against any development, but we need development to be done properly. My concerns are:

- The intense dense development planned does not follow Arvada's Comprehensive Plan. It also does not match the current area, no building should be higher than the current Morning Star senior center that is next door.
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Thank you,
Brenna Mefford

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org

Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments - DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Mar 11, 2026 at 11:10 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here's the same public comment to a different councilmember.

Rozalynne

---------- Forwarded mes
From: **Brenna Mefford** [redacted]>
Date: Wed, Mar 11, 2026 at 11:10 AM
Subject: Avalon Arvada Apartments - DA2025-0035
To: <rlovisone@arvada.org>
Cc: <rthompson@arvada.org>

Hi Rebecka,

I wanted to convey my concerns about the Avalon Arvada Apartments. I live, with my family, close by to where the development is planned for roughly nine years now. Development is going to occur, so I am not against any development, but we need development to be done properly. My concerns are:

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I appreciate all the hard work you put into the City. Please let me know if you have any questions.

Thank you,
Brenna Mefford

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments - DA 2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Mar 11, 2026 at 11:11 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here's the same public comment to a different councilmember.

Rozalynne

---------- Forwarded mes
From: **Brenna Mefford** [redacted]
Date: Wed, Mar 11, 2026 at 11:11 AM
Subject: Avalon Arvada Apartments - DA 2025-0035
To: <bfifer@arvada.org>
Cc: <rthompson@arvada.org>

Hi Bob,

I wanted to convey my concerns about the Avalon Arvada Apartments. I live, with my family, close by to where the development is planned for roughly nine years now. Development is going to occur, so I am not against any development, but we need development to be done properly. My concerns are:

- The intense dense development planned does not follow Arvada's Comprehensive Plan. It also does not match the current area, no building should be higher than the current Morning Star senior center that is next door.
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I appreciate all the hard work you put into the City. Please let me know if you have any questions.

Thank you,
Brenna Mefford

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments - DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Mar 11, 2026 at 11:12 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here's the same public comment to a different councilmember.

Rozalynne

---------- Forwarded mes
From: **Brenna Mefford** [redacted] >
Date: Wed, Mar 11, 2026 at 11:12 AM
Subject: Avalon Arvada Apartments - DA2025-0035
To: <sdavis@arvada.org>
Cc: <rthompson@arvada.org>

Hi Sharon,

I wanted to convey my concerns about the Avalon Arvada Apartments. I live, with my family, close by to where the development is planned for roughly nine years now. Development is going to occur, so I am not against any development, but we need development to be done properly. My concerns are:

- The intense dense development planned does not follow Arvada's Comprehensive Plan. It also does not match the current area, no building should be higher than the current Morning Star senior center that is next door.
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I appreciate all the hard work you put into the City. Please let me know if you have any questions.

Thank you,
Brenna Mefford

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments - DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Mar 11, 2026 at 11:29 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here's the same public comment to a different councilmember.

Rozalynne

---------- Forwarded mes
From: **Brenna Mefford** [redacted]>
Date: Wed, Mar 11, 2026 at 11:22 AM
Subject: Avalon Arvada Apartments - DA2025-0035
To: <mgriffith@arvada.org>
Cc: <rthompson@arvada.org>

Hi Michael,

I wanted to convey my concerns about the Avalon Arvada Apartments. I live, with my family, close by to where the development is planned for roughly nine years now. Development is going to occur, so I am not against any development, but we need development to be done properly. My concerns are:

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Thank you,
Brenna Mefford

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments - DA2025-0035

1 message

Josie Suk <jsuk@arvada.org> Tue, Mar 17, 2026 at 10:05 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Tue, Mar 17, 2026, 9:50 AM
Subject: Fwd: Avalon Arvada Apartments - DA2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Randy Moorman** <rmoorman@arvada.org>
Date: Mon, Mar 16, 2026 at 9:05 PM
Subject: Re: Avalon 2025-0035
To: Brenna Mefford [redacted]>
Cc: Council <Council@arvada.org>, Kristen Rush <kristen@arvada.org>

Dear Brenna,

Thank you for reaching out. I've copied all council members and the city clerk so that your comments may be included in the permanent record. You may also attend the upcoming meeting on April 7th and speak directly to council during the public comment portion of the meeting if you wish.

Sincerely,
Randy Moorman
Arvada Mayor Pro Tem
District 1 Councilmember
720-772-6651

On Wed, Mar 11, 2026 at 11:08 AM Brenna Mefford [redacted]> wrote:

> Hi Randy,
>
> I wanted to convey my concerns about the Avalon Arvada Apartments. I live, with my family, close by to where the development is planned for roughly nine years now. Development is going to occur, so I am not against any development, but we need development to be done properly. My concerns are:

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I appreciate all the hard work you put into the City. Please let me know if you have any questions.

Thank you,
Brenna Mefford

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments - DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Mar 11, 2026 at 11:08 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment regarding Avalon Arvada/Welby Gardens.

Rozalynne

---------- Forwarded mes
From: **Brenna Mefford** [redacted]>
Date: Wed, Mar 11, 2026 at 11:06 AM
Subject: Avalon Arvada Apartments - DA2025-0035
To: <lsimpson@arvada.org>
Cc: <rthompson@arvada.org>

Hi Lauren,

I wanted to convey my concerns about the Avalon Arvada Apartments. I live, with my family, close by to where the development is planned for roughly nine years now. Development is going to occur, so I am not against any development, but we need development to be done properly. My concerns are:

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Thank you,
Brenna Mefford

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Project # DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 16, 2026 at 8:22 AM
To: Heidi Van Gieson <hvangieson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>

Hi Heidi and Dixie,

Here is a public comment regarding Avalon Arvada/Welby Gardens.

Sincerely,
Rozalynne

---------- Forwarded me
From: **Barbara O'Neil** [redacted]>
Date: Sun, Mar 15, 2026 at 2:39 PM
Subject: Project # DA2025-0035
To: <LSimpson@arvada.org>, <RMoorman@arvada.org>, <BFifer@arvada.org>, <SAmbrose@arvada.org>, <MGriffith@arvada.org>, <SDavis@arvada.org>, <RLovisone@arvada.org>, <RThompson@arvada.org>, <RSmetana@arvada.org>, <JEGarner@arvada.org>

Please oppose this high density development so close to the reservoir's open space feel, which we want to protect. We live out here because we don't want it to feel like the city. Four four-story buildings are too many.

Barbara O'Neill
17344 W. 63rd Dr.
Arvada, CO 80403

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Avalon Arvada - Project DA2025-0035

Rozalynne Thompson <rthompson@arvada.org> Tue, Mar 3, 2026 at 2:03 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment regarding Avalon Arvada/Welby Gardens.

Sincerely,
Rozalynne

---------- Forwarded message ---------
From: **christine hoppe** <[redacted]>
Date: Tue, Mar 3, 2026 at 1:59 PM
Subject: Avalon Arvada - Project DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Please don't move forward with this project. This large development is a mis-match for our community for several reasons:
1. The road system in place, especially Easley Road, cannot accommodate the increase in traffic flow. Highway 93 between Arvada and Golden is already maxed out with traffic.
2. This is a mismatch with the Comprehensive Plan for the City of Arvada. We were told the direction/plan for this area was lower density development. This large multi-unit complex does not align with the pre-existing neighborhoods.
3. Arvada is falling into the current trap of over building for revenue growth without focus on what brings people to Arvada. We come here for open space, quality of life and manageable traffic.

Please don't approve of this growth, keep Arvada as we love it.
Christine Hoppe
Spring Mesa Neighborhood

--
Be as you wish to be seen.....

(Fleishmanhillard)

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Welby Gardens

Rozalynne Thompson <rthompson@arvada.org> Wed, Feb 25, 2026 at 3:41 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

I was blind cc'ed in this email to what appears to be a news publication regarding the Site Plan application for Avalon Arvada. It appears to be a public comment in opposition to the Site Plan application, so I am forwarding it to the both of you.

Sincerely,
Rozalynne

---------- Forwarded message ---------
From: **clarence lederhos** <[redacted]>
Date: Wed, Feb 25, 2026 at 3:18 PM
Subject: Welby Gardens
To: <[redacted]>

Thank you for reporting on the ethics violation investigation.

I have attached a document titled "Notice of Administrative Application." In this notice, the applicant uses a "fait accompli" misinformation tactic directed at residents living within 500 feet of the proposed development. This appears to be an effort to persuade them to withdraw their objections.

Furthermore, during the Planning Commission meeting—where opposition outweighed support by a four-to-one margin—Avalon's lead speaker utilized a "scare tactic," stating that the property will eventually be developed and that a future project might be even less desirable for citizens. For an exact quote, please contact Rozalynne Thompson with the City.

I have attached a second document which supports the opinion of the residents that this development is out of character with the neighborhood. I know that Avalon's contention is that Morning Star's existence supports their request for approval, but the residents of the senior living center are truly housebound, not racing to work or running around.

I believe that the nearby homeowners are not so much anti-development as anti-this development, I know I am!

A third attachment is most of your excellent front page reporting in the Arvada Press for my bcc'd interested parties.

Thank you,
Clarence Lederhos
[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436

Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

3 attachments

Arvada Press (Ethics issue Avalon).pdf
170K

Notice Avalon.pdf
208K

Development from Arvada pages.pdf
76K

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Concerns about Avalon Arvada Project - Project DA2025-0035

1 message

Josie Suk <jsuk@arvada.org> Tue, Mar 17, 2026 at 10:05 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Tue, Mar 17, 2026, 9:50 AM
Subject: Fwd: Concerns about Avalon Arvada Project - Project DA2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: Randy Moorman <rmoorman@arvada.org>
Date: Mon, Mar 16, 2026 at 9:06 PM
Subject: Re: Co ada Project - Project DA2025-0035
To: Faith Collins [redacted]
Cc: Council <Council@arvada.org>, Kristen Rush <kristen@arvada.org>

Dear Faith,

Thank you for reaching out. I've copied all council members and the city clerk so that your comments may be included in the permanent record. You may also attend the upcoming meeting on April 7th and speak directly to council during the public comment portion of the meeting if you wish.

Sincerely,
Randy Moorman
Arvada Mayor Pro Tem
District 1 Councilmember
720-772-6651

On Wed, Mar 11, 2026 at 10:39 AM Faith Collins [redacted] wrote:
>
> Hello:
>
> I am writing as a resident of Arvada, in the Sunrise Ridge neighborhood specifically, to express my concerns about the proposed development 'Welby Gardens'.
>
> As a homeowner with a house that backs up to Easley, I am concerned about the additional traffic and noise that this development will bring. We moved to this neighborhood specifically looking for a quieter, family friendly neighborhood in

the Denver metro area to raise our children and feel that this will be put at risk if this development is approved.
>
> Please consider rejecting this proposal, as I'm sure the land can be used for something else.
>
> Thanks,
>
> Faith Collins

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Concerns about Avalon Arvada Project - Project DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Mar 11, 2026 at 10:40 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is a public comment regarding the Avalon Arvada/Welby Gardens project.

Rozalynne

---------- Forwarded m
From: **Faith Collins** [redacted]>
Date: Wed, Mar 11, 2026 at 10:39 AM
Subject: Concerns about Avalon Arvada Project - Project DA2025-0035
To:

Hello:

I am writing as a resident of Arvada, in the Sunrise Ridge neighborhood specifically, to express my concerns about the proposed development 'Welby Gardens'.

As a homeowner with a house that backs up to Easley, I am concerned about the additional traffic and noise that this development will bring. We moved to this neighborhood specifically looking for a quieter, family friendly neighborhood in the Denver metro area to raise our children and feel that this will be put at risk if this development is approved.

Please consider rejecting this proposal, as I'm sure the land can be used for something else.

Thanks,

Faith Collins

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Feb 23, 2026 at 8:20 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment regarding the Avalon Arvada project.

Sincerely,
Rozalynne

---------- Forwarded messa
From: 🔔**AOL Mail Info®** [redacted]
Date: Sun, Feb 22, 2026 at 6:15 PM
Subject: Avalon Arvada Apartments
To: <Lsimpson@arvada.org>, <rmoorman@arvada.org>, <sambrose@arvada.orgrivisone>, <bfifer@arvada.org>, <sdavis@arvada.org>, <mgriffith@arvada.org>, <rthompson@arvada.org>

Dear council members, We ask that you OPPOSE the Avalon Arvada project. This is a very high density project that does align with the surrounding neighborhood. The scale of the development degrades safety and quality of life for exciting residents. As nearby residents in Sunrise Ridge, we are very concerned with the impact on local transportation. We thank you for your consideration. Jack and Barbara Lopez 17175 West 62 Circle Arvada 80403

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Site Plan/Minor Sub Project #DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 9, 2026 at 8:10 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another comment.

Rozalynne

---------- Forwar
From: **Jason A** [redacted]
Date: Fri, Mar 6, 2026 at 4:51 PM
Subject: Avalon Arvada Site Plan/Minor Sub Project #DA2025-0035
To: <lsimpson@arvada.org>, <rmoorman@arvada.org>, <sambrose@arvada.org>, <rlovisone@arvada.org>, <bfifer@arvada.org>, <sdavis@arvada.org>, <
Cc: <rthompson@arvada.org>, Lisa Armstrong [redacted]

Greetings Council members,

I am writing to express my concern over a proposed development near my neighborhood. The Project I am referring to is #DA2025-0035 Avalon Arvada Project, and the associated #DA2026-0005 Avalon Arvada Site Plan/Minor Sub Project. I live in Westwoods, right around the corner from the proposed location and the immensity of this project is very converning to me and my wife. We are still adjusting to the increased traffic that came from the building of the large development on 64th between McIntyre and Kendrick. Adding an additional 380+ units and 1,000 people to the area means another huge increase in traffic. This also goes against the Comprehensive Plan's direction for less dense construction in West Arvada. I also understand there are safety issues that have been raised, as well as other potential issues, that are concerning to me.

Quite frankly, it is extremely disheartening that these developers come into Arvada, see an open space, and immediately want to fill it with some oversized development that no one is asking for. "Fill Every Space" seems to be the motto these days, and unfortunately, what ends up filling these spaces does nothing to enhance the lives of the people who already live here. We need more restaurants, better infrastructure, maybe a Home Depot...NOT more people just living here, taking up space, and creating more traffic. West Arvada should not be just a holding area for people to live in. We need more amenities to enhance this beautiful part of town.

Please consider NOT approving yet another huge development that detracts from the quality of life of the people who already live here. We would be very grateful.

Thank you for your consideration.

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Apartment DA 2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 9, 2026 at 8:13 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment.

Rozalynne

---------- Forwarded me
From: **Jim Cheatham** [redacted]
Date: Sun, Mar 8, 2026 at 11:21 AM
Subject: Re: Avalon Ap
To: mikecstover Stove [redacted]>
Cc: lsimpson@arvada.org <lsimpson@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>, rthompson@arvada.org <rthompson@arvada.org>

Thank you Mike and Helen!
Sent from my iPhone

> On Mar 8, 2026, at 10:52 AM, mikecstover Stove [redacted] wrote:
>
> Dear Counsel members,
> I am a senior citizen who has lived and paid taxes in the city of Arvada for over 50 years and have upgraded my location in Arvada 3 times during that time. After finally finding my dream home in the Fieldstone community, to live here in tranquility and peace only to see my Home lose it's mountain views due to a THREE STORY senior community take our views away and increase sound due to the tall building across the street from my house. Now we have to see a developer try to squeeze in the most number of people & cars into the area from the high rises apartment buildings is totally NOT ACCEPTABLE!!!!!
>
> I would like to ask the City Council not to approval the Avalon project for an apartment complex, please consider a plan that fits in with the surrounding area consisting of single family homes.
>
> Sincerely,
>
> Michael Stover
> Sent from my iPhone

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Apartment DA 2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 9, 2026 at 8:14 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment.

Rozalynne

---------- Forwarded messag
From: **mikecstover Stove** [redacted]>
Date: Sun, Mar 8, 2026 at 1:20 PM
Subject: Re: Avalo
To: Jim Cheatham [redacted]m>
Cc: lsimpson@arvada.org <lsimpson@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>, rthompson@arvada.org <rthompson@arvada.org>

You are very welcome…..
Oh mighty Chief of our HOA

Get Outlook for iOS

From: Jim Cheatham [redacted]
Sent: Sunday, March 8,
To: mikecstover Stove [redacted]
Cc: lsimpson@arvada.org <lsimpson@arvada.org>; bfifer@arvada.org <bfifer@arvada.org>; rmoorman@arvada.org <rmoorman@arvada.org>; mgriffith@arvada.org <mgriffith@arvada.org>; rthompson@arvada.org <rthompson@arvada.org>
Subject: Re: Avalon Apartment DA 2025-0035

Thank you Mike and Helen!
Sent from my iPhone

> On Mar 8, 2026, at 10:52 AM, mikecstover Stove [redacted]> wrote:
>
> Dear Counsel members,
> I am a senior citizen who has lived and paid taxes in the city of Arvada for over 50 years and have upgraded my location in Arvada 3 times during that time. After finally finding my dream home in the Fieldstone community, to live here in tranquility and peace only to see my Home lose it's mountain views due to a THREE STORY senior community take our views away and increase sound due to the tall building across the street from my house. Now we have to see a developer try to squeeze in the most number of people & cars into the area from the high rises apartment buildings is totally NOT ACCEPTABLE!!!!!
>
> I would like to ask the City Council not to approval the Avalon project for an apartment complex, please consider a plan that fits in with the surrounding area consisting of single family homes.
>
> Sincerely,
>

> Michael Stover
> Sent from my iPhone

--

Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Concerns Regarding the Avalon Arvada – Project DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Tue, Mar 10, 2026 at 8:01 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment regarding the Avalon Arvada/Welby Gardens project.

Sincerely,
Rozalynne

---------- Forwarded me
From: **Jessica Kinsey** [redacted]
Date: Mon, Mar 9, 2026 at 5:05 PM
Subject: Concerns Regarding the Avalon Arvada – Project DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Dear Members of the Arvada City Council,

I'm writing as a neighbor and community member who truly cares about this area and the people who live here. I know development decisions are never simple, and I appreciate the time and thought you put into serving our city. Still, I feel strongly that the Avalon Arvada apartment proposal raises serious concerns, and I hope you will reconsider moving forward with it in its current form.

What worries me most is safety. Placing more than 1,000 residents on a site that effectively has only one reliable access point feels risky, especially in a region where wildfire evacuation is a real possibility. In an emergency, people need clear, dependable ways to get out and first responders need reliable ways to get in. The idea that the project relies on a "secondary" access that may not function as a truly independent route is deeply concerning. I also worry about nearby residents, including those at MorningStar Senior Living, who could be impacted if evacuation routes become overwhelmed.

I'm also troubled that this project seems out of step with the city's Comprehensive Plan, which calls for lower-density development to the west, and with the character of the surrounding neighborhood. The scale of the development, combined with the estimated 2,800 additional vehicle trips each day, feels like far too much for a site that already seems constrained in terms of roadway capacity and connectivity. It's hard not to worry about what that would mean for traffic, safety, and the overall quality of life in the community many of us chose because of its balance and livability.

Most of all, I hope these concerns about safety, access, and infrastructure are taken seriously now, before decisions are finalized. These are fundamental issues that affect real people and real

neighborhoods. I respectfully ask that you take a step back and reconsider whether this project, at this scale and in this location, is truly the right fit for our community.

Thank you for listening and for the work you do on behalf of our city.

Sincerely,
Jessica Kinsey

Arvada Citizen since 1991, West Woods Home Owner, Spring Mesa Resident

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Opposition to Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Tue, Mar 10, 2026 at 10:17 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment regarding the Avalon Arvada/Welby Gardens project.

Sincerely,
Rozalynne

---------- Forwarded m
From: **Jon Luciano** [redacted]>
Date: Tue, Mar 10, 2026 at 10:15 AM
Subject: Opposition to Avalon Arvada Apartments – DA2025-0035
To: <lsimpson@arvada.org>, <rmoorman@arvada.org>, <sambrose@arvada.org>, <rlovisone@arvada.org>, <bfifer@arvada.org>, <sdavis@arvada.org>, <mgriffith@arvada.org>
Cc: <rthompson@arvada.org>

Hello,

My name is Jon Luciano and I am an Arvada native, and current homeowner in the neighborhood directly east of the proposed site.

I want to focus on something straightforward: alignment.

Successful planning happens when projects align with a community's long-term vision, infrastructure capacity, and neighborhood character.

Unfortunately, this proposal appears to be misaligned in several important ways.

First, it is not consistent with Arvada's comprehensive plan for this area.

Second, the traffic design raises serious concerns. The current plan funnels the entire development through a single entry and exit point. Basic traffic flow patterns suggest that this will inevitably push vehicles into the surrounding neighborhood streets.

This is particularly notable because this council has previously demonstrated strong concern about traffic impacts. The Amazon facility proposal was rejected largely because of traffic implications. Consistency in that reasoning matters to residents.

Third, the proposal raises questions about school capacity and the broader impacts that higher density housing can have on surrounding neighborhoods.

Taken together, these issues suggest that this project may not be the right fit for this location.

If, despite these concerns, the project were to move forward, I would strongly encourage the council to require mitigation that protects the surrounding neighborhoods. One practical example would be restricting the exit from the development to right-turn-only movements, which would reduce cut-through traffic.

However, the better solution may be simpler.

Reject this proposal and allow the city's economic development team to work with the property owner to identify a development partner and project concept that aligns with the community's vision for the area.

There are many possibilities that could fit well here — single-family homes, townhomes, or even integrated open space — developments that respect the surrounding neighborhoods while still creating value for the property owner.

In other words, developments that make sense.

I respectfully urge the council to reject this proposal and pursue a solution that better aligns with Arvada's long-term planning goals.

Thank you for your time.

Jon Luciano

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada – Project DA2025-0035 - Against It

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 9, 2026 at 12:09 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another comment regarding Avalon Arvada/Welby Gardens.

Rozalynne

---------- Forwarded m
From: **Jason Myers** [redacted]>
Date: Mon, Mar 9, 2026 at 11:39 AM
Subject: Avalon Arvada – Project DA2025-0035 - Against It
To: <lsimpson@arvada.org>, <rthompson@arvada.org>, <rmoorman@arvada.org>, <sambrose@arvada.org>, <rlovisone@arvada.org>, <bfifer@arvada.org>, <sdavis@arvada.org>, <mgriffith@arvada.org>

Hello City of Arvada Officials/Members -

I live in West Woods near 64th and Quaker. I have been here nearly 20 years and love the area, the views, and the outdoor life. I have heard and read up on the new proposed community at Welby Gardens/Avalon Apartments complex just west of my neighborhood. Similar to the retirement living community but on a much larger scale, I have significant concerns about this new development for several reasons and wanted to email you my concerns. These include:

- Significant Traffic Concerns - with an estimated 2-3k additional trips a day in an area that cannot handle it, this proposed development is too big for this area.
- Mismatch with the Comprehensive Plan - I recall lower density on the west side of town. Concerned about this one, and if more are to come. Regardless, this does not match the current neighborhood context. Plus - 3-4 story units spanning a large part will be a nasty view for many residents.
- Overbuilding a constrained site - With how many units, 1k new residents as well as the massive amount of traffic, the surrounding area does not have the roadway capacity with so many more cars and people in a part of town that is not built for this.
- Deferring critical issues to later - Seems like many upgrades and major improvements will be needed, but will not occur until later when it becomes a more apparent issue.

Thank you for your time.

Jason Myers
6531 Orchard Court
Arvada, CO 80007

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Avalon Arvada - Project DA2025-0035

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 2, 2026 at 8:19 AM
To: Heidi Van Gieson <hvangieson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>

Hi Heidi and Dixie,

This comment was addressed to me and Sharon Davis, but I thought that this should also be forwarded to you for the record.

Sincerely,
Rozalynne

---------- Forwarded message ---------
From: **Sheila Grigsby** <[redacted]>
Date: Sun, Mar 1, 2026 at 9:44 AM
Subject: Avalon Arvada - Project DA2025-0035
To: <sdavis@arvada.org>
Cc: <rthompson@arvada.org>

Hi Sharon,

Remember me, Sheila Urban? Hope you are enjoying retirement and bless you for being a politician. Brian Seiber says “hi”. We are still plugging away at Denver Parks and Recreation. My time there is dwindling down. Not many of us are left that you worked with.

My husband Ken and I are reaching out to express our concerns about the Avalon Arvada - Project DA2025-0035. Our biggest concern is public safety and wildfire evacuation. Adding this many people to an area with only one viable public access is dangerous and irresponsible. Re-watch some of the footage from the Marshall Fire to be reminded how congested the roadways were during evacuation. It is irresponsible to put over 1,000 residents in this situation. It also puts significant stress on staff at MorningStar during evacuation to compete with all these new residents trying to get out of this neighborhood.

My second issue is this high density does not match with the Comprehensive Plan. We moved out here 6 years ago for the lower density and open spaces. The roadways have not been built for this additional capacity. And, with no access to public transportation, almost everyone will have a car creating more than 2800 additional vehicle trips per day.

Thank you for listening to our concerns. We respectfully ask you to not approve this high density project.

Sincerely,

Ken and Sheila Urban
[redacted]

Sent from Yahoo Mail for iPhone

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Regarding: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 9, 2026 at 11:04 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here's another public comment on the Avalon Arvada/Welby Gardens project.

Sincerely,
Rozalynne

---------- Forwarded mes
From: **Kelly Boeckman** [redacted]
Date: Mon, Mar 9, 2026 at 10:59 AM
Subject: Regarding: Avalon Arvada Apartments – DA2025-0035
To: <lsimpson@arvada.org>, <rmoorman@arvada.org>, <sambrose@arvada.org>, <rlovisone@arvada.org>, <bfifer@arvada.org>, <sdavis@arvada.org>, <mgriffith@arvada.org>
Cc: <rthompson@arvada.org>

Hello,

I'm writing to express grave concern over the proposed Avalon apartment complex at 64th and Easley. I am a resident of the Fieldstone Neighborhood, also at 64th and Easley. Simply put, our area cannot absorb the 1000+ people and 2800+ new car trips per day that according to studies would be a result of this development.

We have lived in Fieldstone for 12 years. In these 12 years, our area of West Arvada has grown into a *huge* risk for wildfire. We are now in Xcel's regular shutoff region when winds come. In December, we went three full days without power as a result of a planned shut off. The power outages have impacted us enough that we are now considering installing a whole home backup generator.

I cannot fathom adding this many MORE people to this area given the mounting wildfire risk. That is 1000 MORE homes that will lose power when the winds arrive. 1000 MORE people needing to evacuate if, God forbid, the Xcel lines that traverse through Long Lake Regional Park go down and a fire starts. 1000 MORE cars exiting onto 64th via a single entrance/exit that also routes by a senior living community. A senior living community that needs active assistance from emergency services and should also be prioritized for evacuation. *It is, simply, too big, with too many people, and too many cars.*

I am all for redeveloping the Welby Gardens site into something, but this large, dense Avalon development is NOT IT. Please vote no on approving this.

Thank you,
Kelly Boeckman
17747 W. 63rd Place

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Mar 12, 2026 at 8:48 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is a public comment on the Avalon Arvada/Welby Gardens project.

Sincerely,
Rozalynne

---------- Forward
From: **Kim Car** [redacted]>
Date: Wed, Mar 11, 2026 at 8:00 PM
Subject: Avalon Arvada Apartments – DA2025-0035
To: Rozalynne Thompson – <rthompson@arvada.org>

Hi,

My name is Kim Carl, and I live in the West Woods Ranch Links III neighborhood, directly east of the proposed apartment development at Welby Gardens. I am writing to express my concerns about the negative impacts this project would have on my neighborhood.

I am not opposed to development. However, I strongly oppose the construction of a high-rise apartment building in an established residential area made up primarily of single-family homes.

Affordable housing is certainly a challenge in our area, but many residents are looking for homes to purchase rather than rental units. This site would be much better suited for townhomes or patio homes. When the senior living center was developed at this location, the City indicated that the area needed additional housing options for older residents. If that need still exists, patio homes would be a logical and appropriate fit for this location.

additionally, the proposed development does not align with the State of Colorado’s guidance encouraging multi-family housing near mass transit hubs. This site is not close to mass transit, meaning residents will rely heavily on personal vehicles. The proposed parking is inadequate for two vehicles per unit, and while the developer has suggested that apartments typically house only one person, this is not a requirement and cannot be enforced. The result will likely be increased overflow parking in the neighboring residential streets to the east, including my neighborhood.

Increased vehicle ownership will also significantly impact traffic on 64th Avenue, which is already difficult to navigate between Quaker and Indiana due to congestion. Traffic from events at the NAC and Long Lake further compounds this issue.

Finally, evacuation safety is a serious concern. The Marshall Fire demonstrated the very real wildfire risks we face and the importance of careful planning by cities to manage evacuation routes and traffic during emergencies. Adding a high-density development in this location increases that risk and should be carefully reconsidered.

I attended the meetings with developer and found the people dishonest and not respectful of the neighborhood. The representative repeated several times that they did not need to have community meetings when in fact the Arvada planning commission required the meetings. He also said he didn't need permission and the site was zoned for the high rise development and was trying to be a good neighbor, but in fact they do need approval. My feeling when leaving the meeting was an absent landlord who would not address issues with their property problems

I respectfully ask the City Council to reconsider this proposal and explore alternative housing options that are more appropriate for the location and surrounding neighborhoods.

This is the first time I have written to a city council expressing concern about a develpment or any issue in Arvada.

Kim Carl

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Avalon Arvada - Project DA2025-0035

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 2, 2026 at 8:17 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment on the Avalon Arvada/Welby Gardens project.

Sincerely,
Rozalynne

---------- Forwarded message ---------
From: **Kate Heit** [redacted]>
Date: Sat, Feb 28, 2026 at 3:50 PM
Subject: Avalon Arvada - Project DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>
Cc: rmoorman@arvada.org <rmoorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>, rthompson@arvada.org <rthompson@arvada.org>

Hello City Council Members,

I am writing in regard to the Public Hearing scheduled for 4/7/26, that concerns the proposed Avalon Arvada Apartments project.

I have an objection to this development. I live in Sunrise Ridge community, and my residence is located at the corner of Easley road and 64th. , The traffic at that intersection is already congested. The community has been in need of a traffic light there for years, but that is another issue. As a pedestrian, it is difficult, and depending on certain times of the day, it is dangerous to attempt to cross the street. Adding more traffic will put more drivers and pedestrians at risk.

In addition, more housing will put more demand on local services and emergency services, already strained by a high-density population.

Please consider our community needs and the impact adding additional community will have on our quality of life.

Thank you, Kate Heit, concerned resident
[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Opposition to the Avalon Bay Apartment complex

1 message

Josie Suk <jsuk@arvada.org> Tue, Mar 17, 2026 at 8:17 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Mon, Mar 16, 2026, 5:29 PM
Subject: Fwd: Opposition to the Avalon Bay Apartment complex
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded m
From: **Kiley Kunkle** [redacted] >
Date: Fri, Mar 13, 2026 at 3:13 PM
Subject: Re: Opposition to the Avalon Bay Apartment complex
To: <lsimpson@arvada.org>, <RMoorman@arvada.org>, <SAmbrose@arvada.org>, <RLovisone@arvada.org>, <bfifer@arvada.org>, <MGriffith@arvada.org>, <RThompson@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, <krush@arvada.org>

Dear Council Members,

I am writing to follow up on my email sent March 4th regarding the proposed apartment complex near West Woods. As of today, I have not received an acknowledgment of my correspondence.

To ensure my concerns are part of the public record for this proposal, I would appreciate a brief confirmation of receipt. To summarize, my opposition is rooted in three critical areas:

• Public Safety & Fire Risk: The high density (approx. 1,000 residents) combined with limited access points creates a dangerous bottleneck for emergency evacuations in a known wildfire-risk zone.

• Neighborhood Context: The proposed density is a sharp departure from the low-density Comprehensive Plan and the established character of West Arvada.

• Infrastructure Realities: The current site cannot responsibly support this level of population concentration.

Furthermore, I would like to reiterate a question that remains unanswered: Why is the City Council seeking ways to build support for this project when it is overwhelmingly opposed by the surrounding neighborhoods most impacted by it? Representing the community requires a balance between growth and the safety and will of the existing residents. I look forward to hearing how the Council intends to address these specific safety and density concerns.

Thank you for your time and for acknowledging this outreach.

Sincerely,
Kiley Kunkler

On Wed, Mar 4, 2026 at 10:58 AM Kiley Kunkle [redacted]> wrote:

> Dear Members of City Council,
>
> I'm writing as someone who cares deeply about this community, as someone who was born and raised about a mile from West Woods.
>
> I left for college and spent several years on the East Coast, but when it came time to raise my own children, there was no question where I wanted to be. I came home. I chose to raise my kids here because of what this area represents. I wanted space, community, safety, and that unmistakable neighborhood feel that makes West Arvada special. We specifically chose the West Woods area because of its low density and family-friendly character. That wasn't accidental. It was intentional.
>
> The proposed apartment complex would completely change the feel of this pocket of West Arvada. I simply cannot wrap my head around the density being proposed. Adding roughly 1,000 people to this site does not remotely match the surrounding neighborhood context. This level of density is a mismatch… plain and simple.
>
> Beyond the character concerns, this proposal feels like a disaster waiting to happen. There is effectively one viable access point for a project concentrating over 1,000 residents. That creates serious evacuation and emergency-response risks. We live in an area with documented and increasing wildfire risk. At the risk of staying the obvious, we are experiencing unprecedented dry seasons and concentrating this many people with limited access in a wildfire-prone area is not just concerning, it feels irresponsible.
>
> I also have to say, it is perplexing to see efforts by members to build support for this project when it's clear, through petitions and the volume of emails you've received, that the surrounding neighborhoods are not in favor of this. Why push for a project that is not broadly supported by the very community it will most directly impact?
>
> This isn't Smart growth and it isn't listening to the people you represent. Growth that aligns with the Comprehensive Plan of low density makes sense. Growth that respects neighborhood context. Growth that preserves what makes West Arvada such a special place to raise a family.
>
> Bottom line: this project, at this density, is not supported for a variety of legitimate reasons. I respectfully urge you to require significantly reduced density that better accommodates safety, infrastructure realities, and preserves what so many of us love about living in this part of West Arvada.
>
> Thank you for your time, your service, and for listening to the residents you represent.
>
> Sincerely,
>
> Kiley Kunkler
>
> West Arvada Resident

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Opposition to the Avalon Bay Apartment complex

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Mar 13, 2026 at 3:27 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment regarding Avalon Arvada/Welby Gardens.

Rozalynne

---------- Forwarded m
From: **Kiley Kunkle** [redacted]
Date: Fri, Mar 13, 2026 at 3:13 PM
Subject: Re: Opposition to the Avalon Bay Apartment complex
To: <lsimpson@arvada.org>, <RMoorman@arvada.org>, <SAmbrose@arvada.org>, <RLovisone@arvada.org>, <bfifer@arvada.org>, <MGriffith@arvada.org>, <RThompson@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, <krush@arvada.org>

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Furthermore, I would like to reiterate a question that remains unanswered: Why is the City Council seeking ways to build support for this project when it is overwhelmingly opposed by the surrounding neighborhoods most impacted by it? Representing the community requires a balance between growth and the safety and will of the existing residents. I look forward to hearing how the Council intends to address these specific safety and density concerns.

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>
> Bottom line: this project, at this density, is not supported for a variety of legitimate reasons. I respectfully urge you to require significantly reduced density that better accommodates safety, infrastructure realities, and preserves what so many of us love about living in this part of West Arvada.
>
> Thank you for your time, your service, and for listening to the residents you represent.
>
> Sincerely,
>
> Kiley Kunkler
>
> West Arvada Resident

--

Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Avalon Arvada - Project DA2025-0035

Rozalynne Thompson <rthompson@arvada.org> Wed, Feb 25, 2026 at 8:01 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Good morning Dixie and Heidi,

Please see the public comment regarding Avalon Arvada below.

Rozalynne

---------- Forwarded message ---------
From: **Kathy Smith** <[redacted]>
Date: Tue, Feb 24, 2026 at 5:39 PM
Subject: Avalon Arvada - Project DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>, <moorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Hello Arvada City Council Members,

I am writing because of my concern over the proposed Avalon Arvada Apartments project. It is my understanding that the project has proposed 384 apartments and 51 townhomes housed in 4-story and 3-story buildings which would equate to at least 1,000 new residents at the corner of Easley Street on West 64th Avenue.

My husband and I have lived in Sunrise Ridge, which is directly south of this area, for the last 23 years, and over those 2 decades, the traffic has increased exponentially. I do not see how this area can possibly handle a resident influx of this proportion with the road infrastructure and services that are currently in place. Many peaceful neighborhoods, like Fieldstone and Sunrise Ridge, will significantly feel the impact of this traffic. We chose to live here to be away from the traffic and overcrowding. Such a change in the neighborhood will likely result in us moving.

Have you considered the safety of residents due to lack of infrastructure and emergency response risks, especially given the wildfire history in the region? Narrow Route 93 going north and south along the foothills is already bumper to bumper at peak travel times. Overall roadway capacity and transit support to safely accommodate this scale of development does not seem possible without degrading the safety and quality of life for existing residents. \

My hope is that the Council will reconsider how this influx of new residents has strong potential to negatively impact our tranquil western corridor of Arvada.

With kindest regards,
Kathy Smith

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Notice of Administrative Application DA2026-0005 Response Letter

1 message

Rozalynne Thompson <rthompson@arvada.org> Tue, Feb 24, 2026 at 3:14 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is a letter opposed to the Site Plan application for Avalon Arvada.

Sincerely,
Rozalynne

---------- Forwarded m
From: **Loren Perlan** [redacted]
Date: Tue, Feb 24, 2026 at 2:56 PM
Subject: Notice of Administrative Application DA2026-0005 Response Letter
To: rthompson@arvada.org <rthompson@arvada.org>

Dear Ms. Thompson

Please see the attached response letter to the Notice of Administrative Application DA2026-0005, 17201 W. 64th Ave.

Sincerely,

Loren Perlan

Field Stone Resident.

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436

Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

Arvada Notice of Adminsitrative Application Response Letter.pdf
181K

TURNKEY
General Contractors, Inc.

February 23, 2026

Avalon Project

Dear Sir or Madam,

Pursuant to the received February 10, 2026 **Notice Of Administrative Application**, (DA2026-0005) below are Code Violations by the Avalon development proposal.

IFC 2015 Section D106
MULTIPLE-FAMILY RESIDENTIAL DEVELOPMENTS

D106.2 Projects having more than 200 dwelling units.
Multiple-family residential projects having more than 200 *dwelling units* shall be provided with two separate and *approved* fire apparatus access roads regardless of whether they are equipped with an *approved automatic sprinkler system.*

D106.3 Remoteness. Where two fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between accesses.

This condition is not met by the Avalon design.

IFC 2015 Section 104
GENERAL AUTHORITY AND RESPONSIBILITIES
[A] 104.1 General. The *fire code official* is hereby authorized to enforce the provisions of this code and shall have the authority to render interpretations of this code, and to adopt policies, procedures, rules and regulations in order to clarify the application of its provisions. Such interpretations, policies, procedures, rules and regulations shall be in compliance with the intent and purpose of this code and shall not have the effect of waiving requirements specifically provided for in this code.

According to IFC 2015, the Avalon project does NOT meet the requirement of **D1106.2** and **D106.3** shown above and the fire code official, according to **[A] 104.1** does NOT have the authority to override this. These are Life Safety Issues that must be complied with.

City of Arvada MX-S (Mixed-Use Suburban) District states that the intention of this use is “to provide a variety of residential **and** non-residential uses in vertically mixed-use, horizontally mixed-use, or single-use configurations. The MX-S district may be used to provide for neighborhood and community-serving centers such as: suburban offices, research or medical campuses, shopping centers, or developments with a **mix** of residential and non-residential uses.”

It is further stated under 1-4-2 Mixed Use Suburban
A. *Purpose*. The purpose of the Mixed Use Suburban (MX-S) zoning district is to provide for a variety of residential **and** nonresidential uses, in vertically mixed-use , horizontally mixed-use”

1. Provide for neighborhood and community serving centers, such as suburban offices, research, or medical campuses, shopping centers, or developments with a **mix** of residential **and** nonresidential uses”

The Avalon project is solely and completely residential with zero mix of nonresidential, a clear violation of the intent and definition as well as the will of the people.

Your October 2024 W. 64th Avenue Sub-Area Plan Community Comments Summary show a 7X disapproval of more apartments/condos/townhomes or multifamily. This was also seen when 90+% of speakers, who are residents around the development area and will be directly affected, were against the Avalon development during the most recent public comments meeting. Those in the meeting in favor of the development were people who stood to gain financially and would not live or be affected by this development. Furthermore, one of your council members has been known to be advocating for this project, which is illegal for a quasi-judicial proceeding. In addition, during a break in public comment, it was heard by several witnesses one of the planning commission members stating to an individual in favor of the development that, “it may not look

like things are going very good right now, but it will be okay in the end", intimating that the fix was already in on the vote. Again, a clear legal violation that will also be pursued.

As a Colorado native who has lived in Arvada since 1990, a graduate of Colorado School of Mines, a commercial design build general contractor, who's wife and kids have all graduated from Arvada West High School, I am vehemently opposed to the Avalon project. This will bring a **permanent**, 24/7 influx of thousands of people in a concentrated area of a high-end neighborhood whose country feel, tranquility and safety would be destroyed. It is a historical fact that when apartments are constructed in a neighborhood, no matter how "nice" the apartments are, crime increases. This causes more of our city resources to be consumed and surrounding property values to go down. Arvada already has more than enough apartments and more are not needed, nor wanted here and it is a complete mismatch for this jewel of a community. The Avalon development will also certainly overload our King Soopers grocery store. While the traffic increase will cause safety issues for our kids and those who walk, run and ride in the neighborhood. It was mentioned in the public comment meeting that adding a traffic light would solve the problem. This does not even begin to pass the smell test of authenticity or accuracy. Common sense alone bears this out.

We live in a representative government where elected officials are to govern according to the will of the people. We all know this land will be developed but we are all staunchly opposed to the Avalon development and anything like it.

Sincerely,
Field Stone Resident

Loren Perlan

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon project DA2025-0035

1 message

Josie Suk <jsuk@arvada.org> Tue, Mar 17, 2026 at 10:04 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Tue, Mar 17, 2026, 9:50 AM
Subject: Fwd: Avalon project DA2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Randy Moorman** <rmoorman@arvada.org>
Date: Mon, Mar 16, 2026 at 8:29 PM
Subject: Re: Avalo
To: Lauren Stelley [redacted]>
Cc: Council <Council@arvada.org>, Kristen Rush <kristen@arvada.org>

Dear Lauren and family,

Thank you for reaching out. I've copied all council members and the city clerk so that your comments may be included in the permanent record. You may also attend the upcoming meeting on April 7th and speak directly to council during the public comment portion of the meeting if you wish.

Sincerely,
Randy Moorman
Arvada Mayor Pro Tem
District 1 Councilmember
720-772-6651

On Sat, Mar 14, 2026 at 7:32 PM Lauren Stelle [redacted] rote:

> We don't need high density housing the furthest west you can go. Nothing walkable (no stores, restaurants or gas stations) this is residential million dollar homes area & townhomes. There is a beautiful Townhome community called Sunrise Ridge that is across the way. If Arvada was to mirror THAT I think everyone would be ok with. I live in this area to get away from the density, enjoy the views and pay A LOT in property taxes! There are 30 Jeffco schools closing/closed. More people are moving out of Colorado for the first time in 20 years. Let's not ruin beautiful West Arvada our country roads can't take the stress. I know of at least 3 homes that are selling because of this. That does

> not build strong communities. I have lived in Arvada since 1998. My mom is 86 and lives in the same neighborhood I want to keep her in her lovely million dollar home for as long as I can. I fear if there is an emergency it will be hard to get her out. Also the declining home values when selling her home. One neighbor is listing his home WAY under value just to get rid of it quickly. This is not taking care of Arvadans. So please make changes to the density & Height or deny the project.
> PS with the increased traffic, fires, winds, water restrictions and power shut offs that we are currently going through and now this, We too may consider leaving the area as well.
> The Stelley's
> Sent from my iPad

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon development @ Welby Gardens Project DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 16, 2026 at 8:21 AM
To: Heidi Van Gieson <hvangieson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>

Hi Heidi and Dixie,

Here is a public comment regarding Avalon Arvada/Welby Gardens.

Sincerely,
Rozalynne

---------- Forwarded me
From: **Lauren Stelley** [redacted]
Date: Sat, Mar 14, 2026 at 7:29 PM
Subject: Avalon development @ Welby Gardens Project DA2025-0035
To: <lsimpson@arvada.org>
Cc: <rthompson@arvada.org>

We don't need high density housing the furthest west you can go. Nothing walkable (no stores, restaurants or gas stations) this is residential million dollar homes area & townhomes. There is a beautiful Townhome community called Sunrise Ridge that is across the way. If Arvada was to mirror THAT I think everyone would be ok with. I live in this area to get away from the density, enjoy the views and pay A LOT in property taxes! There are 30 Jeffco schools closing/closed. More people are moving out of Colorado for the first time in 20 years. Let's not ruin beautiful West Arvada our country roads can't take the stress. I know of at least 3 homes that are selling because of this. That does not build strong communities. I have lived in Arvada since 1998. My mom is 86 and lives in the same neighborhood I want to keep her in her lovely million dollar home for as long as I can. I fear if there is an emergency it will be hard to get her out. Also the declining home values when selling her home. One neighbor is listing his home WAY under value just to get rid of it quickly. This is not taking care of Arvadans. So please make changes to the density & Height or deny the project.
PS with the increased traffic, fires, winds, water restrictions and power shut offs that we are currently going through and now this, We too may consider leaving the area as well.

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Avalon Arvada-project DA2025-0035

Rozalynne Thompson <rthompson@arvada.org> Wed, Feb 25, 2026 at 2:54 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Here is the first copy of the public comment I just sent.

Rozalynne

---------- Forwarded message ---------
From: **Leslie Wheeler** [redacted]>
Date: Wed, Feb 25, 2026 at 2:20 PM
Subject: Avalon Arvada-project DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Ms. Simpson

My husband and I have lived in Arvada since 1969. We moved from the area at Independence and 88th to Sunrise Ridge at 64th and Easley. This is such a lovely part of Arvada and this proposed development has much too high of density for our area. There is only one entrance and exit which makes this very dangerous —especially for the Morningside Senior Living area. It is definitely not a good fit for our neighborhood. It will degrade our quality of living and our safety. Please do not vote for this project.
Leslie and Jack Wheeler

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Avalon Arvada-project DA2025-0035

Rozalynne Thompson <rthompson@arvada.org> Wed, Feb 25, 2026 at 2:55 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Here is a second copy of the public comment.

Rozalynne

---------- Forwarded message ---------
From: **Leslie Wheeler** [redacted]>
Date: Wed, Feb 25, 2026 at 2:29 PM
Subject: Avalon Arvada-project DA2025-0035
To: sdavis@arvada.org <sdavis@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Ms. Davis,

My husband and I have lived in Arvada since 1969. In 2000 we moved to the area near 64th and Easley and love living here. But this new development is too high of density for our neighborhood. The entrance and exit access is only one street coming on to 64th and that will be dangerous for those who have to access 64th and for those living at Morningstar Senior Living. Please do not vote for this development as it is not compatible with the area it is proposed to be built in.
Leslie Wheeler

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Avalon Arvada-project DA2025-0035

Rozalynne Thompson <rthompson@arvada.org> Wed, Feb 25, 2026 at 2:53 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is one of three comments from the sender. They are each addressed to a council member. I will forward the other two to you.

Rozalynne

---------- Forwarded message ---------
From: **Leslie Wheeler** [redacted]>
Date: Wed, Feb 25, 2026 at 2:11 PM
Subject: Avalon Arvada-project DA2025-0035
To: bfifer@arvada.org <bfifer@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Bob,
My husband and I have lived in Arvada since 1969. We love this city and moved from one house for 25 years to another for 25 years. Our new home is near 64th and Easley. This development that is proposed is much too high of density for the neighborhoods around it. It will cause extreme traffic on both 64th and Easley with only one entrance and exit. We believe we need lower densities in Arvada rather than higher. You will be degrading the quality of life for those of us who live near it. Please do not vote for this project.
Leslie and Jack Wheeler

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Planning Commission - Jan 21, 2026 - Project # DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Mar 19, 2026 at 2:23 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Please see public comment regarding Avalon Arvada/Welby Gardens below.

Sincerely,
Rozalynne

---------- Forwarded m
From: **Mike Faunda** [redacted]>
Date: Thu, Mar 19, 2026 at 2:17 PM
Subject: Planning Commission - Jan 21, 2026 - Project # DA2025-0035
To: <RThompson@arvada.org>, <RSmetana@arvada.org>
Cc: <LSimpson@arvada.org>

Good afternoon,

I am writing with reference to the planned Avalon Arvada development at the former Welby Gardens site on West 64th Avenue.

I am concerned that all public comments were not taken into account nor considered for the planning commission meeting that took place on January 21, 2026. It is clearly indicated on the planning commission website that public comments can be mailed, emailed, or made in person.

I emailed the commission, before the published deadline for emails, on January 19th with my concerns. Those concerns are not included in the meeting minutes nor is there any mention of the number of mailed or emailed correspondence either in favor of or against the development. Lacking that data, the discussion of emailed and mailed correspondence did not occur and therefore, the planning commission failed to properly take those public comments into consideration before making their decision.

I request that this effort be sent back to the planning commission for a new hearing with instructions to hear all emailed and mailed public comments read aloud before the commission and for a new vote to be taken.

Thank you.
Mike Faunda
16899 W 63rd Ln
Arvada, CO

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Proposed Avalon Arvada Project (old Welby Gardens site)

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 9, 2026 at 2:53 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment regarding Avalon Arvada/Welby Gardens.

Rozalynne

---------- Forwarded mess
From: **Michael Hagihara** [redacted]>
Date: Mon, Mar 9, 2026 at 2:22 PM
Subject: Proposed Avalon Arvada Project (old Welby Gardens site)
To: <lsimpson@arvada.org>, <rmoorman@arvada.org>, <sambrose@arvada.org>, <rlovisone@arvada.org>, <bfifer@arvada.org>, <sdavis@arvada.org>, <mgriffith@arvada.org>, <rthompson@arvada.org>

Dear City Council,
I am writing to ask that you do not allow residential development to occur on the old Welby Gardens site near 64th and Easley. My concerns stem from the current traffic design and it's inability to handle a high volume of vehicles. I travel 64th between Quaker and Hwy 93 most weekdays and on multiple occasions I have had to break for cars trying to either cross 64th from Easley on the north to Easley on the south, or for cars making left turns from Easley onto 64th (in both directions). Just this morning both myself traveling west and a car traveling east on 64th had to break for a car trying to cross 64th from Easley on the north.

Additionally, there is a crosswalk marking across 64th near Easley that is not well marked nor well complied with by cars on 64th. Adding more residents to the old Welby Gardens site is not sustainable or safe with the current traffic configuration.

I have resided in Arvada for about a decade now and I do not hear concerns from fellow residents regarding the need for more housing. Rather most of the concerns that my fellow residents and I share are related to the existing traffic infrastructure and the challenges that we as a city face to maintain and improve this existing infrastructure. I ask that you please do not make the situation unnecessarily worse by approving residential development in an area that is not well situated to handle an influx of additional residents.

Sincerely,
Michael Hagihara

--
Michael E. Hagihara

[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Avalon Arvada-Project DA2025-0035

Rozalynne Thompson <rthompson@arvada.org> Wed, Feb 25, 2026 at 2:52 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Heidi and Dixie,

Here's another public comment.

Rozalynne

---------- Forwarded message ---------
From: **MICHAEL L ROTH** <[redacted]>
Date: Wed, Feb 25, 2026 at 12:02 PM
Subject: Avalon Arvada-Project DA2025-0035
To: bfifer@arvada.org <bfifer@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Dear Mr. Fifer,

The gross overpopulation as a result of this development will seriously strain our resources. The damaging effect on roadways, sewer, traffic and other city services needs to be considered. After your thoughtful consideration I urge you to reject the proposal for the former Welby Greenhouse property.

Thank you,
Susan Roth
Sunrise Ridge
Sent from my iPad

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada - Project DA2025-0035 NO!!

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 9, 2026 at 8:10 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment on the Avalon Arvada/Welby Gardens project.

Sincerely,
Rozalynne

---------- Forwarded mes
From: **michelle singe** [redacted]>
Date: Fri, Mar 6, 2026 at 12:47 PM
Subject: Avalon Arvada - Project DA2025-0035 NO!!
To:
Cc [redacted]>

Afternoon

We have been advised of the Welby Gardens/Avalon Arvada Apartments Proposal. Only 384 apartments and 51 townhomes, in twelve 3 story and 4 story structures, impacting traffic on 64th Avenue and Easley.
This is a minimum of 2800 vehicles a day. 64th is already too busy with too much traffic due to all the homes built west of Indiana and 64th.

Many, many concerns:

- Public safety and evacuation risk
- Fire access and redundancy
- Mismatch with the Comprehensive Plan: This level of density conflicts with the Comprehensive Plan's clear direction for lower density development to the west and does not align with the surrounding neighborhood context.
- Overbuilding a constrained site: The site lacks the roadway capacity, connectivity, and transit support to safely accommodate this scale of development without degrading safety and quality of life for existing residents.
- Deferring critical issues to later: Key safety, access, and infrastructure questions are being deferred to later approvals, when City Council is the body responsible for deciding whether this project is appropriate at all.
- Significant Traffic Concerns – 2800 additional Trips a Day, probably far more
- Accidents off of 64th and McIntyre St by Walgreens constantly

We live off of 64th and McIntyre and with the development of condos and townhomes and the 250 units and 500 people driving in out and of there is over kill.

How can we accommodate that many more people living in a small area, with all the traffic and grocery store to accommodate all these people. We (Arvada) do not need to build on every single piece of dirt just to get more taxes for Arvada. We have too many people and apts, condo, townhomes etc in the Arvada area.

Michelle Singer

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org

Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada - Project DA2025-0035 NO!!

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 9, 2026 at 8:10 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment on the Avalon Arvada/Welby Gardens project.

Sincerely,
Rozalynne

---------- Forwarded mes
From: **michelle singe** [redacted]
Date: Fri, Mar 6, 2026 at 12:47 PM
Subject: Avalon Arvada - Project DA2025-0035 NO!!
To:
Cc [redacted]

Afternoon

We have been advised of the Welby Gardens/Avalon Arvada Apartments Proposal. Only 384 apartments and 51 townhomes, in twelve 3 story and 4 story structures, impacting traffic on 64th Avenue and Easley.
This is a minimum of 2800 vehicles a day. 64th is already too busy with too much traffic due to all the homes built west of Indiana and 64th.

Many, many concerns:

- Public safety and evacuation risk
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- Mismatch with the Comprehensive Plan: This level of density conflicts with the Comprehensive Plan's clear direction for lower density development to the west and does not align with the surrounding neighborhood context.
- Overbuilding a constrained site: The site lacks the roadway capacity, connectivity, and transit support to safely accommodate this scale of development without degrading safety and quality of life for existing residents.
- Deferring critical issues to later: Key safety, access, and infrastructure questions are being deferred to later approvals, when City Council is the body responsible for deciding whether this project is appropriate at all.
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- Accidents off of 64th and McIntyre St by Walgreens constantly

We live off of 64th and McIntyre and with the development of condos and townhomes and the 250 units and 500 people driving in out and of there is over kill.

How can we accommodate that many more people living in a small area, with all the traffic and grocery store to accommodate all these people. We (Arvada) do not need to build on every single piece of dirt just to get more taxes for Arvada. We have too many people and apts, condo, townhomes etc in the Arvada area.

Michelle Singer

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org

Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Apartment DA 2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 9, 2026 at 8:12 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment.

Rozalynne

---------- Forwarded messag
From: **mikecstover Stove** [redacted]
Date: Sun, Mar 8, 2026 at 10:32 AM
Subject: Avalon Apartment DA 2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Dear Counsel members,
I am a senior citizen who has lived and paid taxes in the city of Arvada for over 50 years and have upgraded my location in Arvada 3 times during that time. After finally finding my dream home in the Fieldstone community, to live here in tranquility and peace only to see my Home lose it's mountain views due to a THREE STORY senior community take our views away and increase sound due to the tall building across the street from my house. Now we have to see a developer try to squeeze in the most number of people & cars into the area from the high rises apartment buildings is totally NOT ACCEPTABLE!!!!!

I would like to ask the City Council not to approval the Avalon project for an apartment complex, please consider a plan that fits in with the surrounding area consisting of single family homes.

Sincerely,

Michael Stover
Sent from my iPhone

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Avalon Arvada/Project DA2025-0036

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 2, 2026 at 3:34 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment for the record.

Rozalynne

---------- Forwarded message ---------
From: **ND Ward** <[redacted]>
Date: Mon, Mar 2, 2026 at 3:33 PM
Subject: Avalon Arvada/Project DA2025-0036
To: <lsimpson@arvada.org>, <rmoorman@arvada.org>, <sambrose@arvada.org>, <bfifer@arvada.org>, <sdavis@arvada.org>, <mgriffith@arvada.org>, <rthompson@arvada.org>

Dear Arvada City Council members,

As a concerned Arvada citizen for over 57 years, I feel this project needs to be reviewed and minimized.

My concerns are as follow:
Fire access and redundancy
Public safety and evacuation risk
Overbuilding this area
Traffic Concerns for this area.

Arvada is growing too fast and it looks like you as our employee's don't really care what we think!!! From the current growth and poor planning on your part 58th Avenue looks like an apartment village. This also goes for 58th and Ward Road, it is just disgusting as far as I'm concerned. Bigger is not Better!! We are no longer the quite little City that feels like home. Please stop all this ridiculous instant growth. Put this issue on a ballot and really hear how Arvadan's feel about too fast and too much growth.

Yours,
Noreen Ward

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Avalon Arvada Project DA2025-0035

Josie Suk <jsuk@arvada.org> Mon, Mar 2, 2026 at 3:34 PM
To: Heidi Van Gieson <hvangieson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Mon, Mar 2, 2026 at 2:41 PM
Subject: Fwd: Avalon Arvada Project DA2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Don Wick** <dwick@arvada.org>
Date: Mon, Mar 2, 2026 at 2:40 PM
Subject: Fwd: Avalon Arvada Project DA2025-0035
To: Kristen Rush <kristen@arvada.org>, Bryan Goddard <bgoddard@arvada.org>

FYI regarding comment on the pending hearing.

---------- Forwarded message ---------
From: **Nancy Willingham** <[redacted]>
Date: Mon, Mar 2, 2026 at 1:20 PM
Subject: Fwd: Avalon Arvada Project DA2025-0035
To: dwick@arvada.org <dwick@arvada.org>

---------- Forwarded message ---------
From: **Nancy Willingham** [redacted]>
Date: Mon, Mar 2, 2026 at 1:01 PM
Subject: Avalon Arvada Project DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, <sdavis@arvada.irg>, mgriffith@arvada.org <mgriffith@arvada.org>, rthompson@arvada.org <rthompson@arvada.org>

Dear Arvada Council Representatives,

I write you in concern of your proposed project of 384 apartments and 51 townhouses located by MorningStar Senior Living Center. While I realize that growth in our community is important, there are some negative impacts which create issues for previous residents. My husband and I have resided in three different homes in Arvada between 1998 to present: Forest Springs, Saddlebrook and now Westwood Villas on Broad Lake. We have witnessed the increased construction of additional residents and businesses over the years. Here are the concerns we have:

* INCREASED TRAFFFIC on 64th, Indiana, McIntyre, and SH93. We presently have no traffic signal at 63rd and McIntyre to exit on McIntyre. It's dangerous and overloaded. There was a nursing home facility, Amira, built across the street adding more traffic, yet no traffic light. There is a proposed warehouse trucking company we are presently battling, which will truly impact McIntyre again. Now you are proposing a new development west of us with hundreds of dwelling units to impact us even more. This new proposal will add 2800 additional trips on our already overcrowded, dangerous roads.

* PUBLIC SAFETY CONCERNS: this area has a past history of wildfires and with the climate change exemplified by this winter, we are headed toward a concerning summer of wildfires and shortage of water due to little snow / moisture. Look what happened in Superior in December of 2021. Are we ready for a safe evacuation when we overbuild? This new proposal could impact MorningStar Senior Living and other residents.

* COMPREHENSIVE PLAN: this proposal of more dwelling units conflicts with your comprehensive plan for lower density. If built, it will create safety hazards for existing residents.

In summary, my husband and I urge you to strongly reconsider the Avalon Arvada Project as it has too many negative impacts for our area. Thank you for your time and consideration.

Sincerely,
Nancy and Tom Willingham

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

Arvada City Council suspends attorney-client privilege in councilmember ethics investigation

Communications between Councilmember Davis and the city attorney will be released to 3rd-party investigator

BY RYLEE DUNN
RDUNN@COLORADOCOMMUNITYMEDIA.COM

Arvada City Council passed a motion at a Feb. 10 special meeting to waive attorney-client privilege between City Attorney Rachel Morris and Councilmember Sharon Davis for communications between the two parties that could be relevant to the ongoing ethics investigation into Davis.

On Feb. 3, council approved a third-party investigator to look into whether Davis' conduct regarding the Welby Gardens development broke the city's code of conduct. Public records show that Davis contacted a community member and asked them to drum up support for the project, which Davis said had received "a few dissenting comments."

The development in question is a planned 384-apartment, 51-townhome complex located at 17201 W. 64th Avenue that will be voted on by council at the April 7 business meeting. Councilmembers are asked to assume a "quasi-judicial" role during public hearings, which includes approaching the hearing with impartiality.

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Arvada Avalon Apartments - DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Mar 11, 2026 at 3:51 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment regarding Avalon Arvada/Welby Gardens.

Rozalynne

---------- Forwarded m
From: **Patty Kruege** [redacted]
Date: Wed, Mar 11, 2026 at 3:40 PM
Subject: Arvada Avalon Apartments - DA2025-0035
To: Lsimpson@arvada.org <Lsimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Good Afternoon Arvada City Council Members,

I wanted to write a short note regarding the development planned for the old Welby Gardens site, near 64th and Easley.
I would say that mostly we still enjoy a fairly peaceful neighborhood, despite the many changes to the area over the past 2 decades.
The added businesses and housing have added a lot of traffic already, especially to 64th. Evidenced by the numerous stoplights, it continues to add to everyone's commute, who heads east on 64th. McIntyre, too, used to be a quiet (2 lane) road, but it has
also become quite congested, especially during rush hours. If this new high density sub-division goes in, we are concerned about the amount of traffic it will add to the already congested roads and to the side roads.
I suspect we will also see people looking for work-arounds, and cutting through our neighborhood, Fieldstone and Westwoods; creating safety concerns and other hazards to our lifestyle and the wellbeing.
Traffic is a huge concern, but our biggest concern is what this does to our quality of life and property values. There are custom homes that will now back to apartments, lowering property values. This seems like a gross mismatch in terms of well-planned community
and definitely doesn't match the housing in the surrounding communities. Views that have long been enjoyed by many neighbors will vanish. This seems like such a lack of consideration in planning as to what fits in with the existing neighborhoods.

Last thing, it is perplexing to us - there are apartments being built everywhere there is an empty piece of land! Vacancies are going up, as the saturation point is tipping. Which makes

me wonder if many of these will sit vacant.
How about getting a builder to put in single family homes that match the surrounding neighborhoods?!
Please take a look and consider the concerns of the many neighbors that I am sure are reaching out.

Thank you for your time and consideration. We care about Arvada, and want it to be a great place to live for future generations!

Patty and Mike Krueger
Sunrise Ridge residents.

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

Scenic Heights West MD Service Plan Application Packet, 2026-02-23.pdf
2569K

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada - Project DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Tue, Mar 17, 2026 at 1:35 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is a public comment regarding Avalon Arvada/Welby Gardens.

Sincerely,
Rozalynne

---------- Forwarde
From: **Rick Cole** [redacted] >
Date: Tue, Mar 17, 2026 at 1:32 PM
Subject: Avalon Arvada - Project DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, bfifer@arvada.org <b[redacted]v[redacted]@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>
C [redacted]>, rthompson@arvada.org <rthompson@arvada.org>

Good Afternoon –

As a resident of Sunrise Ridge in Arvada, our family has concerns regarding this new residential development. Our neighborhood already has trouble every morning and evening with heavy traffic on 2-lane roads between McIntyre and Easley on 60th. Not only is there heavy traffic, but also no sidewalks for a narrow portion of the road as it passes by the south end of Kelly Trucking property. In addition to traffic congestion, we are VERY concerned about egress from our property in the event of wildfire, which is seemingly more of a risk every day. The addition of an estimated 2800 trips a day will put a significant burden on traffic and emergency egress.

This is in addition to the EXISTING traffic and safety concerns we already have “as is”.

For reference, the area indicated below is already a massive concern for the neighborhood and the safety of our children as they navigate a 2-lane road with NO SHOULDER or SIDEWALKS, fenced on both sides with no way to defend against traffic. Adding significant traffic will only increase the risks:

Regards,

Rick Cole
Manager Lighting Business Development
[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: #DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Mar 19, 2026 at 1:32 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

I am forwarding the public comment below for inclusion in the City Council packet.

Sincerely,
Rozalynne

---------- Forwarded mess
From: **Richard Gradise** [redacted]
Date: Thu, Mar 19, 2026 at 1:26 PM
Subject: #DA2025-0035
To: <RThompson@arvada.org>

Sent from my iPhone The proposed development referenced above first and foremost does not fit into Arvada's strategic plan. Many of us moved to Arvada to avoid the traffic and congestion of other areas. This proposed development will add 2800 cars coming and going at the intersection of Easley and 64th St. Currently the area is a nice golf community with parks and recreation and the added congestion will do nothing but prove to be a detriment to the area. Adding three and four story housing units to an area of single-family homes as well as nearby nursing home and condos will not improve the aesthetics or safety of the area. Public safety is a concern in the area in the event of an emergency evacuation with the population of nursing home residents as well as single-family dwelling residents with only one egress route. Please don't destroy our beautiful residential community by overpopulating due to greed- in the name of progress.
Sincerely,
Richard E. Gradisek

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby Gardens / Avalon Bay Development Concerns (DA 20 25–0035) - At-risk child

1 message

Josie Suk <jsuk@arvada.org> Mon, Mar 16, 2026 at 12:16 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Mon, Mar 16, 2026 at 11:23 AM
Subject: Fwd: Welby Gardens / Avalon Bay Development Concerns (DA 20 25–0035) - At-risk child
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Ask Arvada** <askarvada@arvada.org>
Date: Mon, Mar 16, 2026 at 10:51 AM
Subject: Fwd: Welby Gardens / Avalon Bay Development Concerns (DA 20 25–0035) - At-risk child
To: Kristen Rush <kristen@arvada.org>, Bryan Goddard <bgoddard@arvada.org>

Hello,
If this has not already been forwarded to you, could you please be sure it gets logged in the Public Record?

Thank you,
Ben Perko

---------- Forwarded message ---------
From: **Shawna Ambrose** <sambrose@arvada.org>
Date: Fri, Mar 13, 2026 at 5:20 PM
Subject: Re: Welby G nt Concerns (DA 20 25–0035) - At-risk child
To: Richard Lindgre [redacted]>
Cc: <lsimpson@arvada.org>, <[redacted]>, <bfifer@arvada.org>, <mgriffith@arvada.org>, <sdavis@arvada.org>, <rlovisone@arvada.org>, Arvada Ask <askarvada@arvada.org>

Dear Mr. Lindgren,

My heart goes out to you as you provide care for your son, and I hope for his full recovery.

I apologize we did not acknowledge your earlier communication. We are not able to comment on land-use matters due to the quasi-judicial role we will have in it. We do receive and read every communication. We will ensure it makes it into the public record.

Thank you for reaching out,
Shawna

Sent from my iPhone

> On Mar 13, 2026, at 1:17 PM, Richard Lindgren [redacted] wrote:
>
> Dear Arvada Leaders,

I previously wrote to the City Council nearly 6 months ago with my concerns on this, and I did not get one response. Additionally, leadership may have changed, so I am re-circulating

Since my previous email my concern for my 9-year-old-in-remission is only getting only more real as it seems an already-banned substance was found in many of the soil samples (Dieldrin). It seems this was BANNED by the EPA in 1987, yet still traces of it 39-years later!

My name is Richard Lindgren, and I live in the Westwoods / Trail Village area with my wife, Ashley, and two children (ages 5 and 9). We have lived here for almost 6 years.

I am writing to express my concerns about the proposed 4-story development on Welby Gardens in West Arvada.

While there are many concerns (sheer density, access/traffic) the one that **scares** me the most is the fact that this is large-scale-development on a **50+ year old commercial nursery.**

As a father of a 9 year old son, **who has already battled cancer/leukemia for 3 years**, the **fear of pesticides/non-clean substances** hits us incredibly close. While pesticides have become very front-of-mind for nurseries/home-owners of the past decade or so, I cannot imagine the types of toxic substances that were used from 1950 - 2000 in this space -- and have since seeped into the ground.

I assume the development of this project is going to involve incredible amounts of deep-digging and piping. The chances of toxic-substances being airborne (as well as other avenues) as a result of mass-development seems **extremely high**. Honestly, being just 2 blocks away from this development is extremely scary, considering my **9-year-old-in-remission and a younger 5-year old still in their physically-formative years**. They would be breathing this "who knows what is in this air" in for months-on-end (potentially years?). Not to mention, the general vicinity houses a **public K-5 school (less than a mile away!)** -- as well as 40% (an educated guess) population of young families with 3-10 year olds.

While I understand the need for more housing in Arvada in general, and I support the growth -- in this case -- the pure physical location is an incredibly high-risk endeavour and causes extreme concern for my family,

I really struggle to understand how the incredible risk of this particular site has allowed this project to even make it this far.

Please ensure this full letter is logged as public record.

Thank you for your consideration and time.

-Rich and Ashley Lindgren
17454 West 67th Place
Arvada, CO 80007

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419

E-Mail: jsuk@arvada.org

Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Avalon Arvada - Project DA2025-0035

Rozalynne Thompson <rthompson@arvada.org> Wed, Mar 4, 2026 at 8:03 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here's another public comment on the Avalon Arvada/Welby Gardens project.

Sincerely,
Rozalynne

---------- Forwarded message ---------
From: **saman hakimifar** <[redacted]>
Date: Tue, Mar 3, 2026 at 9:07 PM
Subject: Avalon Arvada - Project DA2025-0035
To: <mgriffith@arvada.org>, <sdavis@arvada.org>, <bfifer@arvada.org>, <rlovisone@arvada.org>, <sambrose@arvada.org>, <lsimpson@arvada.org>, <rmoorman@arvada.org>
Cc: <rthompson@arvada.org>

Dear Arvada City Council Members

I live in the Sunrise Ridge neighborhood and I strongly oppose Avalon Arvada (Project DA2025-0035). Adding hundreds of apartments and townhomes will significantly increase traffic and overcrowding in an area that already struggles with congestion. Local roads, including Easley and nearby neighborhood streets, are not equipped to handle this level of growth, which will negatively impact safety and quality of life.

I ask that the council carefully consider the impact this project would have on the surrounding community and reconsider approving it in its current form.

Thank you for your time and consideration.

Thanks,

Sunrise Ridge Community Member

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Heidi Van Gieson <hvangieson@arvada.org>

Fwd: Avalon Arvada - Project DA2025-0035

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 2, 2026 at 8:20 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment on the Avalon Arvada project.

Sincerely,
Rozalynne

---------- Forwarded message ---------
From: **S TUSSEY** [redacted]
Date: Sun, Mar 1, 2026 at 8:16 PM
Subject: Avalon Arvada - Project DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

I live 2 ½ blocks south of the proposed building site of this project. I listen to traffic all day long on Easley as it has gotten busier and busier in the 5 years I've owned my townhouse. On the weekends, I hear traffic well into the night. The last thing I want to hear is more traffic. The last thing I want to encounter flashing in my bedroom window at night is a stop light after one is installed at the corner of 64th and Easley.

I live out west in Arvada because I like the open space that surrounds us. I like that I feel safe here and had not anticipated another condo/townhome project to be built just 2 ½ blocks north of my home.

The neighborhood has an assisted living community right in front of this proposed project. I see these elderly folks out walking on a daily basis. This creates a huge safety concern for these folks as there is only one exit/entrance into this proposed community unless residents cut through the parking lot of the assisted living home. The potential for someone to get run over or killed increases dramatically.

As our climate gets drier and drier, and fire becomes a constant concern for our community, there is no way for residents of this proposed project to get out of that corner where the proposed project would be built safely with only one exit. In fact, the housing community just across the street from the proposed project has two entrances/exits out of that community. Why would the City of Arvada approve a project that does not have more than one entrance/exit? Potential fire danger in our open space parks is real and very close by.

The building of so many additional units will stress water resources that have already become a huge concern for our community due to the dry, hot winter we've had. The addition of so many new units, including the building of the new condos/townhomes down the road at McIntyre and 64th in the last 5 years, as well as the new memory care building in progress on McIntyre south of 64th and the new homes being built just south of the YMCA, have all added stress to our community's water resources, sewage treatment resources, and fire department resources.

Living in West Arvada is not cheap. The more our resources are stressed, the more expensive it gets to live here. I don't want to move, but if the City of Arvada is not willing to listen to the residents and the

community resources that this project will impact, then I will be forced to move from this city I've grown to love and the area I love to live in.

Concerned Resident
Sherry Tussey

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada - Project DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 9, 2026 at 8:14 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment.

Rozalynne

--------- ---------
From [redacted]
Date: Sun, Mar 8, 2026 at 5:54 PM
Subject: Avalon Arvada - Project DA2025-0035
To: <lsimpson@arvada.org:rmoorman@arvada.org>, <sambrose@arvada.org>, <rlovisone@arvada.org>, <bfifer@arvada.org>, <sdavis@arvada.org>, <mgriffith@arvada.org>
Cc: <rthompson@arvada.org>, <rsmetana@arvada.org>, <jegarner@arvada.org>

Hello City Council members/Planning Department,

My wife and I have been homeowners in the Westwood's area of Arvada for the last 30 years. We have raised our family here. We still love the area.

The Welby Garden/Avalon Arvada Apartments proposal has been brought to our attention. The infrastructure of our roads, such as Easley and 64th (and Indiana) is sadly lacking. The new developments that Arvada has approved over the years, with all the congestion that was created for the new developments, has left Arvada with a volume of traffic that the roadways cannot handle. It is also worth mentioning: With all the wildfire danger in this area, more apartments/townhomes pose a safety risk of being able to evacuate the area quickly should the need arise.

Now to hear that Arvada is considering more apartments and townhomes in this area is unthinkable. This state thinks backwards. I am originally from the Phoenix area. This is not the way things are done down there. First the roads, to allow for the anticipated heavier traffic, then the developments. It makes more sense, don't you think?

re 100% opposed to this proposal. If you need any further information, I can be reached at: [redacted]

Sincerely,

Tony and Tina Sherrick

6529 Poppy Street

Arvada, CO

[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Mar 19, 2026 at 2:49 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another comment regarding Avalon Arvada/Welby Gardens.

Sincerely,
Rozalynne

---------- Forwarded
From: **Timothy Fry** [redacted]>
Date: Thu, Mar 19, 2026 at 2:39 PM
Subject: Avalon Arvada Apartments – DA2025-0035
To: rmoorman@arvada.org <rmoorman@arvada.org>, lsimpson@arvada.org <lsimpson@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Lauren Simpson lsimpson@arvada.org
Randy Moorman rmoorman@arvada.org
Shawna Ambrose sambrose@arvada.org
Rebecka Lovisone rlovisone@arvada.org
Bob Fifer (District Rep) bfifer@arvada.org
Sharon Davis sdavis@arvada.org

Michael Griffith mgriffith@arvada.org

Rozalynne Thompson — rthompson@arvada.org

I am writing this email regarding the Avalon Arvada Conditional Use Permit (DA2025-0035).

As a local resident and professional engineer, I have a few questions and concerns regarding the proposed Avalon development. I thank the city staff and for council for their efforts in reviewing the proposed plan and conditional use permit to this point.

1. In reviewing the proposed site plan, I am assuming that the proposed detention is set at the low points for each drainage area. If not, this will need to be reviewed. Based on the proposed development, each facility will be 3-4 ft deep minimum to meet Full Spectrum Detention Volume requirements.

   Comment: This seems like a standard max unit design, where detention and WQ are shoved to a corner and forced to fit. Can it work, yes, but is this what we want for Arvada? I understand that the developer will claim that the green space shown will also provide WQ enhancement, but the truth is that these areas seldom do unless specifically designed as such and not simply rock/tree landscaping or traditional lawns.

2. Does the density fit with the surrounding land use?

   Comment: While I understand that under a conditional use permit, there are no density requirements**;** I think we need to consider the existing/surrounding land uses. Yes, there is a Senior community to the south and

patio homes to the west, to place 3-4 story apartments seems inconsistent with this area. Wouldn't townhomes or patio homes seem more reasonable and appropriate for this area? Is this what the City's Land Plan shows for this area?

3. Does the Traffic Impact Study adequately represent the impacts to the local roadways? What are the regional and long-term risks and impacts to the communities?

   Comments: Traffic is a significant impact to the surrounding roadways and communities. The TIS shows that the intersection of Easley and 64th is already failing and will only get worse with this development. The proposed number of trips from this development with only one way in and out is over 2,000 trips daily. That is a significant increase in the number of cars on this one intersection. Yes, a light will help and is currently already needed. I understand that this development would be responsible for the implementation of this light, which is a positive for this area, but I think the TIS study limits and does not fully account for the traffic impacts that would occur on the surrounding streets. While this may be outside of what is 'required' I believe it is our responsibility to recognize and plan for more than the simple bubble around the site. In fact, good engineering and stewardship requires it. The TIS only accounted for the intersections along 64th. These intersections will be less impacted as this is a major arterial roadway with multiple traffic lights. Basically, it should be able to handle the additional traffic loads. But what about the surrounding local roadways that are more abundantly used than is recognized. Part of the reason that the intersection of Easley and 64th is currently failing is because there is a large number of vehicles that use Easley to 60th or even Easley to 54th. The large number of vehicles that will be increased on Easley is understated! The intersection at 60th is already a high hazard intersection and 54th Avenue was never intended to route as many vehicles as it does. Multiple pedestrians cross Easley in multiple spots and the hazard that this number of vehicles will present only puts residents at risk. While this may not be a priority for Arvada with this project, it should be. These impacts cannot simply be played off as they are not our problem with this project, they are directly linked. Honestly, this places risk on both the developer and Arvada and should be considered with any future development within the region that has impacts upon these roadways. In addition, there appears to be only one access point in and out of the development. This indicates that it exceeds the international fire code and poses a risk/hazard to local residents and the surrounding neighborhood. Emergency access should not be considered through or around the Senior development.

4. Concerns of Soils and Environmental Impacts.

   Comment: I appreciate all the efforts that have been done to evaluate and recommendations to mitigate the contaminated soils onsite. I would just like to comment that there are always hazards and risks both immediate and long term with these types of conditions and that extra care will need to be considered should any type of development go forward.

5. Is that really a Park or a buffer zone?

   Comment: Again, this seems like a standard max density project that tries to use after thought amenities for space and areas that cannot be used for anything else. The use of the term urban park is not appropriate here. It really should be stated as buffer zone, which is what it really is. It is a bit disappointing that the City will consider this as a park. I have seen multiple great parks and have helped design some around Arvada and this honestly is an embarrassment. Is this really beneficial to the City of Arvada and the community to meet the required public-land dedication requirements?

Based on the lack of traffic impact information and analysis regionally as well as the large number of vehicles anticipated to be developed due to the number of units, I would not recommend this project and density.

I believe that the number of units per acre should be reduced to be consistent with the surrounding land uses. It appears to me that there are some serious challenges with this site and that the development is clearly trying to maximize the number of units it can have versus developing a great project that is a benefit to the community.

Thank you for taking the time to read and consider my experience and expertise in these matters.

Timothy J. Fry, PhD, P.E., BC.WRE

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby Gardens

1 message

Josie Suk <jsuk@arvada.org> Mon, Feb 23, 2026 at 1:42 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Mon, Feb 23, 2026 at 1:08 PM
Subject: Welby Gardens
To: Josie Suk <jsuk@arvada.org>

See attached

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

CITY OF ARVADA

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

Written Public Comment for City Council-Terri VanGelder.pdf
123K

Written Public Comment for City Council

02/23/2026 12:54 PM (MST)

ArvadaCO.gov | Arvada City Council Meetings

Written Public Comment for the Public Record

All public comment submitted here will be shared with all City Councilmembers. Comments related to Public Hearings will be added to the public record.

To comment on multiple topics you will need to fill out this form once per topic.

Please Note: Written comments are a way to share your thoughts directly with the City Council. However, they are not a forum for conversation or Q&A with Councilmembers or city staff. If you have a question that requires a response or follow-up, please use AskArvada, which is the appropriate platform for inquiries.

Email Address	[redacted]
Name	Terri VanGelder
Address	6458 Umber Cir, Arvada CO 80007
Phone Number	[redacted]
Your Comment/Testimony	Dear Trusted City Council Members, We are writing to you as longtime residents of Arvada. We've personally lived here since 1971 and, over the years, have purchased and lived in seven different homes within our city. Each move was a conscious decision to remain in Arvada while "moving up" and gradually relocating farther west, seeking the quality of life and character that west Arvada has long represented. From all the facts, reports, and public input you have surely been inundated with regarding the proposed overbuilding of the Welby Gardens acreage, we would like to leave you with one central concern: How will overpopulating that single plot of land truly change west Arvada? West Arvada has been defined by its open feel, manageable traffic, mountain views, and sense of community. Concentrating such a high level of density in one area will inevitably impact traffic congestion, infrastructure strain, school capacity, public safety response times, and the overall character that residents have invested in for decades. For many of us, westward movement within Arvada has represented growth while still preserving lifestyle. We cannot move any farther west without leaving Arvada altogether. That reality weighs heavily when considering decisions that may permanently alter the very part of the city many of us worked our entire lives to remain in. We respectfully ask you to carefully consider the long-term impact of this

development—not just the immediate benefits, but how it will shape west Arvada for generations to come. Thoughtful growth is important, but so is preserving the integrity and livability of the community that so many of us have proudly called home for over 50 years.

Thank you for your time, your service, and your careful consideration.

Sincerely,

Mary Reimer
Terri Van Gelder
LaRon VanGelder

Thank you! A copy of your responses will be emailed to the address you provided.

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Public Comment for Case DA 20 25–0035 – Concerns Regarding Avalon Arvada Welby Center Proposal

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Mar 26, 2026 at 8:30 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Please find a public comment regarding the Avalon Arvada/Welby Gardens project.

Rozalynne

---------- Forwarded me
From: **Autumn Unga** [redacted]
Date: Sun, Mar 22, 2026 at 8:37 AM
Subject: Public Comment for Case DA 20 25–0035 – Concerns Regarding Avalon Arvada Welby Center Proposal
To: <LSimpson@arvada.org>, <RMoorman@arvada.org>, <BFifer@arvada.org>, <SAmbrose@arvada.org>, <MGriffith@arvada.org>, <SDavis@arvada.org>, <RLovisone@arvada.org>
Cc: <RThompson@arvada.org>, <RSmetana@arvada.org>, <JEGarner@arvada.org>

To Whom It May Concern,

Please include this correspondence in the official public record for **Case DA 20 25–0035** regarding the proposed Avalon Arvada Welby Center development.

I am writing as a parent in the West Woods Elementary School community to express significant concern about the inclusion of additional residential units within our already capacity-constrained school zone.

Current School Capacity Constraints
West Woods Elementary has been operating at or near maximum capacity for years. Since opening in 1996, the school has relied on multiple “temporary” external classrooms that have effectively become permanent fixtures. These modular classrooms are not a short-term solution—they reflect a longstanding inability to accommodate the student population within the building itself.

At present:

- The school is functionally full.
- Multiple external classrooms are in continuous use.
- Shared spaces (e.g., cafeteria, specials, intervention areas) are already under strain.

Lack of Expansion or Mitigation Plan
There are currently no communicated or approved plans from Jeffco Public Schools to expand West Woods Elementary or otherwise increase capacity to absorb additional students generated by new residential development. This is particularly concerning given:

- The district is operating under a significant budget deficit.
- Historically, West Woods Elementary has not received meaningful capital investment to address its space limitations.
- No clear, funded, or time-bound plan has been presented to accommodate future enrollment growth tied to this proposal.

Concerns with Developer and Supporting Claims
The Avalon Arvada Welby Center materials suggest that school impacts will be minimal or manageable. From a parent and community perspective, these claims do not align with the lived reality of our school’s current conditions:

- **Claim: Schools can absorb new students.**
  Reality: West Woods Elementary is already at capacity with no physical room to absorb additional students

without further reliance on temporary structures or degradation of shared resources.

- **Claim: Student generation rates are limited.**
  Reality: Even modest increases in enrollment are impactful when a school is already operating at its limits. There is no buffer capacity to absorb incremental growth.
- **Claim: Coordination with the school district mitigates impact.**
  Reality: There has been no transparent, detailed, or publicly vetted plan from Jeffco Public Schools outlining how additional students would be accommodated at West Woods specifically.

Community Representation and Notification Gaps
We also request that the City of Arvada take additional steps to properly notify and actively include neighboring communities in this process. This should explicitly include outreach to local PTSAs and District Accountability Committee (DAC) representatives within Jeffco Public Schools. As an active member of both, I have not seen any direct communication or engagement regarding this proposal, nor any direct feedback requested to ensure your committee is fully understanding and considering the community perspective.

Without intentional outreach to these groups, the City risks making decisions without a full and accurate understanding of community impact—particularly as it relates to schools, which are a central part of neighborhood infrastructure.

At times, development decisions can appear to prioritize projected revenue over existing community constraints. This is one of those moments where it is critical to evaluate the proposal through the lens of those who live here day-to-day—families directly experiencing the limitations of current infrastructure.

Community Impact
While we have full confidence in the dedication and professionalism of the school's educators and staff, capacity constraints directly affect:

- Class sizes
- Access to shared learning spaces
- Student support services
- Overall quality of the educational environment

Without a credible, funded, and specific plan from Jeffco Public Schools, it is difficult to see how this development would not negatively impact both current and future students, as well as the broader neighborhood.

Request
We respectfully request that the City of Arvada:

1. Require a detailed, binding plan from Jeffco Public Schools addressing capacity impacts specific to West Woods Elementary (and other impacted schools) before approving additional residential density.
2. Reevaluate the residential component of this proposal in light of existing infrastructure limitations.
3. Ensure that school capacity considerations are weighted appropriately in the decision-making process.
4. Expand and formalize community outreach efforts to include impacted neighborhoods, local PTSAs, and DAC representatives prior to any approval decisions.

This is not a theoretical concern—it is an immediate and observable constraint affecting our community today.

Thank you for your consideration and for including this letter in the public record.

Sincerely,
Autumn Ungar
West Woods Elementary Parent
President, West Woods Elementary PTSA
District Accountability Committee Representative, Jeffco Public Schools - Articulation Area Representative, Ralston Valley Articulation Area

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Mar 26, 2026 at 8:32 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Please see the public comment regarding the Avalon Arvada/Welby Gardens project below.

Sincerely,
Rozalynne

---------- Forwarded me
From: **FRED SHARPE** [redacted]>
Date: Sat, Mar 21, 2026 at 2:36 PM
Subject: Avalon DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>, RSmetana@Arvada.org <RSmetana@arvada.org>, JEGarner@Arvada.org <JEGarner@arvada.org>

Dear Arvada Council Members and Planning Staff,

We have researched the information provided for the proposed Avalon development and are strongly opposed to proceeding with this new development. Frankly, a moratorium/municipal ban (ie, City of Boulder moratorium) should have already been enacted in Arvada for any new building projects. The infrastructure strain and excessive rapid growth is not in compliance with the residents' community goals. West Arvada has already lost its 'open space' feel/aspect which was once appealing to its residents. Arvada residents, including many Seniors, are already concerned with safety and excessive city traffic. Seems like many Arvada residents are curious to know about possible plans for the excessive traffic back-ups daily on Indiana Street causing frustration. Adding another new housing development is not the answer but new open space areas might be appealing to Arvada residents. Thank you for the opportunity to comment on the proposed Avalon development.

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF
ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Homeowner Concern: Avalon Arvada – Project DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 30, 2026 at 8:03 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Good morning Dixie and Heidi,

This looks like it might be copy of the email that I just forwarded to you. This person probably sent it to all of the councilmembers.

Rozalynne

---------- Forw
From: **AKrul** [redacted]
Date: Sun, Mar 29, 2026 at 8:35 AM
Subject: Homeowner Concern: Avalon Arvada – Project DA2025-0035
To: <rmoorman@arvada.org>
Cc: <rthompson@arvada.org>

Hi Randy,

My name is Alex Krull and I am a homeowner in The Trails community off of 58th and Easley. I'm writing today to express my opposition to the Avalon Arvada development at 64th and Easley. After reviewing the proposal my concerns lie in the following two areas:

- **Density**: This project focuses on hundreds of apartments and dozens of townhomes, which, IMO, is not a good fit for this area. There will be thousands of additional trips made at that intersection, and, with no services nearby, nearly 100% vehicle dependent. This area is a bedroom community with focus on single family homes and overall lower density. I believe maximizing the number of humans in one area in the pursuit of profits is very shortsighted
- **Height**: At 3-4 stories, this project does not mesh with the surrounding environment. I feel terrible for those immediately next to the site, imagining that something nearly twice the height of their home could be just a couple of hundred feet away.

I understand growth is top of mind. However, I would urge you to reconsider the proposal in its current state. Between this and the 58th and McIntyre trucking facility I'm fearful for the future of space and relaxed living on the west side of town.

Thank you for reading this.

Alex

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Homeowner Concern: Avalon Arvada – Project DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 30, 2026 at 9:39 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here's the same comment from this morning.

Rozalynne

---------- Forw
From: **AKrul** [redacted]
Date: Mon, Mar 30, 2026 at 9:38 AM
Subject: Homeowner Concern: Avalon Arvada – Project DA2025-0035
To: <rlovisone@arvada.org>
Cc: <rthompson@arvada.org>

Hi Rebecka,

My name is Alex Krull and I am a homeowner in The Trails community off of 58th and Easley. I'm writing today to express my opposition to the Avalon Arvada development at 64th and Easley. After reviewing the proposal my concerns lie in the following two areas:

- **Density**: This project focuses on hundreds of apartments and dozens of townhomes, which, IMO, is not a good fit for this area. There will be thousands of additional trips made at that intersection, and, with no services nearby, nearly 100% vehicle dependent. This area is a bedroom community with focus on single family homes and overall lower density. I believe maximizing the number of humans in one area in the pursuit of profits is very shortsighted
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Thank you for reading this.

Alex

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Resident Concern: Avalon Arvada – Project DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 30, 2026 at 9:40 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

And another copy of the comment.

Rozalynne

---------- Forw
From: **AKrul** [redacted]
Date: Mon, Mar 30, 2026 at 9:38 AM
Subject: Resident Concern: Avalon Arvada – Project DA2025-0035
To: <sambrose@arvada.org>
Cc: <rthompson@arvada.org>

Hi Shawna,

My name is Alex Krull and I am a homeowner in The Trails community off of 58th and Easley. I'm writing today to express my opposition to the Avalon Arvada development at 64th and Easley. After reviewing the proposal my concerns lie in the following two areas:

- **Density**: This project focuses on hundreds of apartments and dozens of townhomes, which, IMO, is not a good fit for this area. There will be thousands of additional trips made at that intersection, and, with no services nearby, nearly 100% vehicle dependent. This area is a bedroom community with focus on single family homes and overall lower density. I believe maximizing the number of humans in one area in the pursuit of profits is very shortsighted
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Thank you for reading this.

Alex

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
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Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Homeowner Concern: Avalon Arvada – Project DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 30, 2026 at 9:40 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Here's another copy of the comment.

Rozalynne

---------- Forw
From: **AKrul** [redacted]
Date: Mon, Mar 30, 2026 at 9:40 AM
Subject: Homeowner Concern: Avalon Arvada – Project DA2025-0035
To: <bfifer@arvada.org>
Cc: <rthompson@arvada.org>

Hi Bob,

My name is Alex Krull and I am a homeowner in The Trails community off of 58th and Easley. I'm writing today to express my opposition to the Avalon Arvada development at 64th and Easley. After reviewing the proposal my concerns lie in the following two areas:

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I understand growth is top of mind. However, I would urge you to reconsider the proposal in its current state. Between this and the 58th and McIntyre trucking facility I'm fearful for the future of space and relaxed living on the west side of town.

Thank you for reading this.

Alex

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Homeowner Concern: Avalon Arvada – Project DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Tue, Mar 31, 2026 at 9:45 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another copy of the public comment that I sent yesterday.

Rozalynne

---------- Forw
From: **AKrul** [redacted]>
Date: Tue, Mar 31, 2026 at 9:42 AM
Subject: Homeowner Concern: Avalon Arvada – Project DA2025-0035
To: <sdavis@arvada.org>
Cc: <rthompson@arvada.org>

Hi Sharon,

My name is Alex Krull and I am a homeowner in The Trails community off of 58th and Easley. I'm writing today to express my opposition to the Avalon Arvada development at 64th and Easley. After reviewing the proposal my concerns lie in the following two areas:

- **Density**: This project focuses on hundreds of apartments and dozens of townhomes, which, IMO, is not a good fit for this area. There will be thousands of additional trips made at that intersection, and, with no services nearby, nearly 100% vehicle dependent. This area is a bedroom community with focus on single family homes and overall lower density. I believe allowing a developer to maximize the number of humans in one area in the pursuit of profits is very shortsighted
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I understand growth is top of mind. However, I would urge you to reconsider the proposal in its current state. Between this and the 58th and McIntyre trucking facility I'm fearful for the future of space and relaxed living on the west side of town.

Thank you for reading this.

Alex

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Homeowner Concern: Avalon Arvada – Project DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Tue, Mar 31, 2026 at 9:56 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is the same public comment from yesterday.

Sincerely,
Rozalynne

---------- Forw
From: **AKrul** [redacted]
Date: Tue, Mar 31, 2026 at 9:42 AM
Subject: Homeowner Concern: Avalon Arvada – Project DA2025-0035
To: <mgriffith@arvada.org>
Cc: <rthompson@arvada.org>

Hi Michael,

My name is Alex Krull and I am a homeowner in The Trails community off of 58th and Easley. I'm writing today to express my opposition to the Avalon Arvada development at 64th and Easley. After reviewing the proposal my concerns lie in the following two areas:

- **Density**: This project focuses on hundreds of apartments and dozens of townhomes, which, IMO, is not a good fit for this area. There will be thousands of additional trips made at that intersection, and, with no services nearby, nearly 100% vehicle dependent. This area is a bedroom community with focus on single family homes and overall lower density. I believe allowing a developer to maximize the number of humans in one area in the pursuit of profits is very shortsighted
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I understand growth is top of mind. However, I would urge you to reconsider the proposal in its current state. Between this and the 58th and McIntyre trucking facility I'm fearful for the future of space and relaxed living on the west side of town.

Thank you for reading this.

Alex

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Citizen Concern: Avalon Arvada – Project DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 30, 2026 at 8:02 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Good morning Dixie and Heidi,

Please find a public comment regarding the Avalon Arvada/Welby Gardens project below.

Thanks,
Rozalynne

---------- Forw
From: **AKrul** [redacted]
Date: Sun, Mar 29, 2026 at 8:34 AM
Subject: Citizen Concern: Avalon Arvada – Project DA2025-0035
To: <lsimpson@arvada.org>
Cc: <rthompson@arvada.org>

Hi Lauren,

My name is Alex Krull and I am a homeowner in The Trails community off of 58th and Easley. I'm writing today to express my opposition to the Avalon Arvada development at 64th and Easley. After reviewing the proposal my concerns lie in the following two areas:

- **Density**: This project focuses on hundreds of apartments and dozens of townhomes, which, IMO, is not a good fit for this area. There will be thousands of additional trips made at that intersection, and, with no services nearby, nearly 100% vehicle dependent. This area is a bedroom community with focus on single family homes and overall lower density. I believe maximizing the number of humans in one area in the pursuit of profits is very shortsighted
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I understand growth is top of mind. However, I would urge you to reconsider the proposal in its current state. Between this and the 58th and McIntyre trucking facility I'm fearful for the future of space and relaxed living on the west side of town.

Thank you for reading this.

Alex

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby Gardens Residential Comm - DA2025-0035 - In Support

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Apr 9, 2026 at 10:32 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment on Avalon Arvada/Welby Gardens.

Sincerely,
Rozalynne

---------- Forwarded m
From: **Alaina Marle** [redacted]
Date: Thu, Apr 9, 2026 at 10:27 AM
Subject: Fwd: Welby Gardens Residential Comm - DA2025-0035 - In Support
To: pson@arvada.org>
Cc [redacted]

Hi Arvada-

I live in Candelas on the west side of town and was excited to see this project come through the City.

I support converting this property to residential. Our community needs more places to live, and this feels like a thoughtful and appropriate use of the land. I reviewed the site plan and appreciate the buffers around the site and its proximity to existing commercial areas. It seems well planned and fits nicely with the surrounding development.

I would like to express my support and hope this project moves forward.

Thank you for your time and consideration.

Sincerely.
Alaina Marler
15518 W 95th Ave
Arvada 80007

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Bryan Goddard <bgoddard@arvada.org>

Fwd: Avalon Arvada Apartments~DA2026-0005

Ben Perko <bperko@arvada.org> Mon, Mar 30, 2026 at 11:31 AM
To: Kristen Rush <kristen@arvada.org>, Bryan Goddard <bgoddard@arvada.org>

---------- Forwarded message ---------
From: **Tom Brayden** [redacted]
Date: Sat, Mar 28, 2026 at 10:14 AM
Subject: Avalon Arvada Apartments~DA2026-0005
To: <Council@arvada.org>

The Avalon Arvada Apartments and Townhomes will affect my quality of life to the point that it could be life-threatening. The only traffic access is just 30 feet from my porch. The gasoline fumes, especially at rush hours, will be poisonous for me. Noise pollution is another problem. Please consider all of us at MorningStar who will be breathing poisonous air. Vote NO to this building project.

Beverly A. Brayden, Apartment 1011

--
Ben Perko
Constituent Services Liaison
City Manager's Office
720-898-7511
bperko@arvada.org

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada - Project DA2025-0035

1 message

Josie Suk <jsuk@arvada.org> Fri, Mar 27, 2026 at 1:15 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Fri, Mar 27, 2026 at 8:33 AM
Subject: Fwd: Avalon Arvada - Project DA2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Ask Arvada** <askarvada@arvada.org>
Date: Fri, Mar 27, 2026 at 8:10 AM
Subject: Fwd: Avalon Arvada - Project DA2025-0035
To: Kristen Rush <kristen@arvada.org>, Bryan Goddard <bgoddard@arvada.org>

Good morning,

If this has not already been forwarded to you, could you please be sure it gets logged in the Public Record?

Thank you,
Gwen Gagne

---------- Forwarded message ---------
From: **Shawna Ambrose** <sambrose@arvada.org>
Date: Thu, Mar 26, 2026 at 10:45 PM
Subject: Fwd: Avalon Arvada - Project DA2025-0035
To: Arvada Ask <askarvada@arvada.org>

Please add to record. Thanks!

Shawna

Sent from my iPhone

Begin forwarded message:

> **From:** Cynthia Kul [redacted]
> **Date:** March 26, 2026 at 7:36:34 PM MDT
> **To:** lsimpson@arvada.org, rmoorman@arvada.org, sambrose@arvada.org, rlovisone@arvada.org, bfifer@arvada.org, sdavos@arvada.org, groffotj@arvada.org
> **Cc:** rthompson@arvada.org
> **Subject: Avalon Arvada - Project DA2025-0035**
>
> Here's a high priority concern on my part about the planned Avalon Arvada project. Easley Road is our "country road" where children, animals, and exercise
> enthusiasts flourish. Presently, when my husband rides his bike on that narrow road, residents carefully pass and he is kept safe.

What will happen when that roadway turns into a major commuting access? How many accidents and deaths would be caused in the future?

Please continue your use of common sense to prohibit this massive influx of people into this very small area surrounded by homes.

Counting on you,
Lloyd and Cynthia Kull

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada - Project DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Mar 27, 2026 at 8:04 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment on the Avalon Arvada/Welby Gardens project.

Sincerely,
Rozalynne

---------- Forwarded
From: **Cynthia Kul** [redacted]
Date: Thu, Mar 26, 2026 at 7:36 PM
Subject: Avalon Arvada - Project DA2025-0035
To: <lsimpson@arvada.org>, <rmoorman@arvada.org>, <sambrose@arvada.org>, <rlovisone@arvada.org>, <bfifer@arvada.org>, <sdavos@arvada.org>, <groffotj@arvada.org>
Cc: <rthompson@arvada.org>

Here's a high priority concern on my part about the planned Avalon Arvada project. Easley Road is our "country road" where children, animals, and exercise
enthusiasts flourish. Presently, when my husband rides his bike on that narrow road, residents carefully pass and he is kept safe.

What will happen when that roadway turns into a major commuting access? How many accidents and deaths would be caused in the future?

Please continue your use of common sense to prohibit this massive influx of people into this very small area surrounded by homes.

Counting on you,
Lloyd and Cynthia Kull

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Arvada City Council

Ref.: DA2026-0005/Avalon Arvada

Council Members: Please see the referenced admin application

1. The applicant used a "fait accompli" misinformation tactic directed at residents "living within 500 feet of the proposed development'. This appears to be an effort to persuade the residents to withdraw their objections to the development, or at least not express them to Council. Pretty sneaky!

2. Furthermore, during the Planning Commission hearing—where opposition outweighed support by a four to one margin—Avalon's lead speaker utilized a "scare tactic", stating that the property will eventually be redeveloped and that a future project might be even more objectionable to adjacent property owners. For an exact quote please contact Ms. Rozalynne Thompson with the Planning Department.

Adding to the narrative, one of the individuals who spoke in favor of the project appeared to me to be a professional , and identified himself as being from south east Denver metro (again confirm with Ms Thompson). Why was someone from 20 miles away speaking?

3. In reviewing the Planning Dept. site I came across a document re: "Stocke-Walter PUD-R which is "intended to retain the character of the neighborhood". Exactly!! The proposed Avalon redevelopment is decidedly NOT retaining the character of the neighborhood.

4. I recently walked the east edge of the Welby Garden's property and was struck by a couple of thoughts. I believe that a development of this population density is fraught with the danger presented by the lack of adequate egress. I think Council members would agree if they would walk the site and see the the potential for disaster. The property is long and narrow south to north and reminds of a "Box Canyon"of old time westerns. The only escape route would vie with the ingress of emergency vehicles.

In the early 1980's North Jefferson Recreation District held a fireworks display at what became the "Youth Memorial Sports Complex" on Alkire St. We were living in our dome house north of the fireworks display and enjoyed it immensely. The AFPD banned the display for the following year as having inadequate ingress/egress.

In January 1969 my family lived through the biggest wind storm to ever strike Boulder. The wind speed pegged the meters of NCAR at 155 mph, and Boulder was ringed by fire. A conflagration at the proposed Welby Gardens redevelopment during a wind storm ,such as we have too frequently across Westwoods Golf Course, would be disastrous. Exacerbated by the too tall buildings.

5. I hope Council is filled with wisdom when making a decision on the Avalon/Arvada redevelopment.

Clarence Lederhos
6735 Terry Ct
Arvada CO, 80007

[redacted]

CITY OF ARVADA

NOTICE OF ADMINISTRATIVE APPLICATION

This notice is to inform you that the City has received an application for development within 1500 feet of your property. This application will be reviewed administratively, per the regulations of the City's Land Development Code.

DATE OF NOTICE:	February 10, 2026
CASE NAME:	Avalon Arvada
DEVELOPMENT APPLICATION NUMBER:	DA2026-0005
PROPERTY LOCATION:	17201 W 64TH AVE
APPLICATION SUMMARY:	Avalon Arvada is located on 20.1 acres, north of the existing MorningStar Senior Living of Arvada, and will comprise of 384 multi-family units and a 2-acre Urban Park.
APPLICANT CONTACT:	**Andrew Johnson**
PHONE NUMBER:	**(720) 245-6963**
EMAIL ADDRESS:	**andrew_johnson@avalonbay.com**
CITY OF ARVADA STAFF CONTACT:	Rozalynne Thompson
PHONE NUMBER:	7208987436
EMAIL ADDRESS:	rthompson@arvada.org

The purpose of the notice of administrative application is to inform surrounding residents, businesses and organizations of pending development applications, and to provide contact information for the applicant and City staff where interested members of the community can request information and ask questions regarding the pending application.

Applications subject to administrative review are evaluated pursuant to the regulations contained in the City's Land Development Code. If the Community and Economic Development Director determines that the application complies with the requirements of the Code, it shall be approved without the need for public hearings.

Additional information regarding the project can be found through www.arvadapermits.org by searching the above referenced development application number (DA2026-0005) under the Projects tab.

A project vicinity map has been included on the reverse side of this notice.

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Apr 10, 2026 at 10:45 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment regarding the Avalon Arvada/Welby Gardens project.

Sincerely,
Rozalynne

---------- Forwarded message
From: **Diane Ben-Avraham** [redacted] >
Date: Fri, Apr 10, 2026 at 10:36 AM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <bfifer@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, Lauren Simpson <lsimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, rthompson@arvada.org <rthompson@arvada.org>

Dear Mayor and Members of City Council,

My name is Diane Ben-Avraham, and I have lived in West Arvada for 10 years. I am writing to urge you to deny the Avalon Arvada Apartments proposal (DA2025-0035) as currently designed because it intensifies a long-standing pattern in West Arvada: approving more housing while giving very little consideration to the basic resources and infrastructure existing residents rely on.

In the decade I've lived here, West Arvada has grown rapidly, but our roads, schools, and services have not kept pace. Indiana has effectively become a giant roadblock, yet there has been no meaningful expansion to accommodate the traffic generated by all the new developments. I know that this is not a city of Arvada road, but it is the cities role to continue discussions with the state to figure out a solution. Don't worry, I've already connected in the past with Brianna Titone on this issue with no results as usual. Our schools are still overcrowded and relying on temporary classrooms, West Woods, for example, has had kids in temps the entire time I've lived here. That is not a sign of a community whose needs are being planned for. No coordination or planning is done with Jefferson County schools with any of these developments to determine if we have the capacity for all the kids that will be moving into the neighborhood.

On top of that, we still have only three grocery stores in the entire West Arvada area, two of which are the same chain. We have almost no variety of businesses that support a normal, modern living experience: no big-box hardware store, no major general retail like Walmart or Target, and far fewer everyday amenities than our neighbors to the east enjoy.

Against this backdrop, the Avalon proposal would bring over a thousand more residents to an area that already lacks sufficient roads, school capacity, and basic retail and services. I've contacted member of the city council and the mayor to add more grocery options such as Trader Joe's to bring more businesses to accommodate our growing area but alas nothing changes. This development adds density without addressing any of the deficits we've been living with for years. From a resident perspective, it reinforces the impression that West Arvada is treated as a place to stack more housing units to collect taxes, not as a community whose residents deserve equal priority and investment.

I respectfully ask you to recognize this imbalance and either require a fundamentally different, more compatible project that is supported by real infrastructure commitments, or deny the Avalon proposal as submitted. West Arvada residents are not second-class citizens; we deserve the same level of planning, resources, and respect given to other parts of the city.

Thank you,

Diane

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Welby Gardens

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Apr 9, 2026 at 8:10 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is a public comment on the Avalon Arvada/Welby Gardens project.

Sincerely,
Rozalynne

---------- Forwarded m
From: **Dan Kennedy** [redacted]
Date: Wed, Apr 8, 2026 at 6:09 PM
Subject: Welby Gardens
To: <lsimpson@arvada.org>, <rmoorman@arvada.org>, <sambrose@arvada.org>, <rlovisone@arvada.org>, <bfifer@arvada.org>, <sdavis@arvada.org>, <mgriffith@arvada.org>, <rthompson@arvada.org>

Dear Council Members,

I live in the Fieldstone neighborhood and will keep this short out of respect for your time and effort on the council.

I believe the proposed Webley Gardens development is a bad idea for West Arvada.

I understand progress and the desire for more housing, but certainly this area would be better suited for single-family homes that would not significantly increase traffic, block views, or put a thousand residents trying to use one exit in case of a fire or other emergency.

In addition, this type of development seems to fly in the face of the comprehensive development plan. Higher-density developments are great, but belong closer to the city, other resources and public transportation.

Thank you,
Dan Kennedy

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Concerns Regarding Avalon Arvada (Project #DA2025-0035)

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Apr 3, 2026 at 4:45 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment on the Avalon Arvada/Welby Gardens project.

Sincerely,
Rozalynne

---------- ---------
From [redacted]
Date: Fri, Apr 3, 2026 at 4:27 PM
Subject: Concerns Regarding Avalon Arvada (Project #DA2025-0035)
To: <LSimpson@arvada.org>, <RMoorman@arvada.org>, <BFifer@arvada.org>, <SAmbrose@arvada.org>, <MGriffith@arvada.org>, <SDavis@arvada.org>, <RLovisone@arvada.org>, <RThompson@arvada.org>, <RSmetana@arvada.org>, <JEGarner@arvada.org>

Subject: Concerns Regarding Avalon Arvada (Project #DA2025-0035)

Dear Mayor, Members of City Council and Members of the Planning Commission

We are writing as residents of west Arvada regarding the proposed Avalon Arvada development at 17201 W 64th Avenue.

We respectfully ask that you carefully evaluate this proposal, as there are several significant concerns related to safety, compatibility, and consistency with the City's Comprehensive Plan.

1. Emergency Access and Public Safety
The project proposes a single primary access point for approximately 400+ residential units. This raises serious concerns regarding emergency response and evacuation, particularly given the need for a variance. Comparable nearby neighborhoods have multiple access points for far fewer homes. This configuration appears inconsistent with prudent life-safety planning.

2. Traffic Safety and Incomplete Analysis
The development is expected to generate thousands of daily vehicle trips onto W 64th Avenue. Existing conditions already present challenges, and it has been noted that the current traffic study may be insufficient. Independent validation and clearly defined mitigation measures should be required prior to any approval.

3. Compatibility with Surrounding Neighborhoods
The proposed density, building height, and lack of meaningful transition are not compatible with the adjacent single-family homes. The scale of this development represents a significant departure from the established character of the area. Step-down height transitions, increased setbacks, and buffering should be required.

4. Consistency with the Comprehensive Plan
While the site is zoned MX-S, the proposal does not appear to meet key characteristics described in the Comprehensive Plan, including pedestrian orientation, integration of uses, and appropriate transitions to surrounding development. This raises concerns about whether the proposal truly aligns with the intent of the designation.

5. Environmental Due Diligence
Given the site's long-term agricultural use, it is important that thorough environmental testing and public disclosure be completed prior to approval to ensure there are no risks to residents or nearby natural resources.

Request
Based on these concerns, we respectfully request that City Council either deny the proposal in its current form or require substantial modifications, including:

- A second access point for safety
- Reduced density and building height near existing homes
- Verified traffic mitigation measures
- Adequate buffering and transition design
- Completion and disclosure of environmental assessments
- Respectfully consider the existing Senior Apartments, as the traffic and parking is already an issue for these people

Thank you for your time and your service to our community.

Sincerely,
Maria Lukas and David Pool
17095 W. 62nd Circle, Arvada CO. 80403

(Sunrise Ridge Residents)

Dave Pool

[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada - Project DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Apr 2, 2026 at 3:46 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

I am forwarding this public comment regarding Avalon Arvada/Welby Gardens to be included into the packet.

Sincerely,
Rozalynne

---------- Forwarded me
From: **Greg Sprenge** [redacted]
Date: Thu, Apr 2, 2026 at 10:58 AM
Subject: Avalon Arvada - Project DA2025-0035
To: <lsimpson@arvada.org>, <rmoorman@arvada.org>, <sambrose@arvada.org>, <rlovisone@arvada.org>, <bfifer@arvada.org griffith@arvada.org>
Cc: Greg Sprenge [redacted], <rthompson@arvada.org>

Arvada City Council Members,

Please do not approve the Avalon Arvada Project - DA2025-0035.

I have lived in Arvada for 65 years, mostly on the west side of town. As you can imagine, I have witnessed a lot of change in the area...some good and some not so good.

Growth can be good, it can maintain the vibrancy of a community. As families age and children move on, new and young families take their place to make a home for themselves.

However, the recent pace of growth has brought crowded neighborhoods, resulting in,

- traffic congestion,
- a decrease in safety for autos, bicyclists, and pedestrians,
- installation of numerous traffic control signals which interrupts traffic flow,
- increased traffic noise,
- etc.

Constructing the proposed high density development (over 500 additional housing units) at 64th and Easley will compound this already poor situation, increasing anticipated traffic volume by an additional 2,800 daily trips! Easley is an attractive route for bicyclists, me included. With growth in West Arvada over the past couple decades, traffic has increased while the road has not been improved. Easley has become more dangerous to ride and will get much worse with the proposed development.

Growth can be good, but should be balanced, providing different neighborhood environments for different family preferences.

- High density, multifamily housing is appropriate in the down-town area. It provides walking access to services and entertainment for residents that prefer a higher energy neighborhood. And by observation, this philosophy has been embraced by Arvada City management. There are a tremendous number of new multi-family housing structures being added to the Arvada skyline.
- However, lower density, single family dwellings are appropriate on the outskirts. This provides families desiring a less crowded, more calm living environment with immediate access to outdoor activities in open-spaces.

I ask you to respect the choice we have made to live in West Arvada, away from density and closer to magnificent open spaces.

Do not approve the Alavon Arvada Project.

Thank you.

Greg Sprenger

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: STOP RUINING ARVADA!!!!!!!!!!!!!!! NO TO WELBY GARDENS DEVELOPMENT!!!

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Apr 10, 2026 at 10:57 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment regarding Avalon Arvada/Welby Gardens.

Sincerely,
Rozalynne

---------- Forward
From: **Geraldin** [redacted]>
Date: Fri, Apr 10, 2026 at 10:55 AM
Subject: STOP RUINING ARVADA!!!!!!!!!!!!!!! NO TO WELBY GARDENS DEVELOPMENT!!!
To: lsimpson@arvada.org <lsimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Please please please stop ruining Arvada. I have been an Arvada resident since 1970 and wanted to stay here and raise my family because of the small town feel we used to have. All the building and development over the years has taken this from us. You have ruined Olde Town, you have ruined Ralston Road and made it so over crowded, now you want to ruin West Arvada.

I live off 64th & Quaker. 64th is the main way out of our development and it is getting more trafic and problems all the time. There are times when traffic has been backed up from 64th & Indiana all the way to the traffic light at Kohls dept store. It can take 15 minutes just to go the 1/2 mile from 64th & Pike to get past the light at 64th & Indiana.

There is constant construction and or repairs at 64th & Indiana. I have seen this personally and I am hoping someone on the board will look into the statistics before you vote.

I am AGAINST the high density plan to take over the Welby Gardens area. This will have a negative impact on the citizens that live near this area for more reason than just the traffic.

PLEASE VOTE NO!!!! Stop money grubbing and stop ruining our city! I have little faith in any of you doing the right thing, please show me that you care about our city and vote NO on this issue.

Thank you,
Geraldine Wright

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada - Project DA2025-0035

1 message

Josie Suk <jsuk@arvada.org> Thu, Apr 2, 2026 at 4:10 PM
To: Heidi Van Gieson <hvangieson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>

Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Thu, Apr 2, 2026, 2:09 PM
Subject: Fwd: Avalon Arvada - Project DA2025-0035
To: Josie Suk <jsuk@arvada.org>

Sent from my iPhone

Begin forwarded message:

From: Ask Arvada <askarvada@arvada.org>
Date: April 2, 2026 at 12:13:39 PM MDT
To: Kristen Rush <kristen@arvada.org>, Bryan Goddard <bgoddard@arvada.org>
Subject: Fwd: Avalon Arvada - Project DA2025-0035

Forwarding to add to Public Record

---------- Forwarded messa
From: **Shawna Ambrose** [redacted]>
Date: Thu, Apr 2, 2026 at 11:48 AM
Subject: Re: Avalo 0035
To: Greg Sprenge [redacted]
Cc: <lsimpson@arvada.org>, <[redacted]@arvada.org>, <rlovis rvada.org>, <sdavis@arvada.org>, <mgriffith@arvada.org>, Greg Sprenge [redacted]>, <rthompson@arvada.org>, Arvada Ask <askarvada@arvada.org>

Due to our role in this matter we can't comment on it. Thank you for reaching out and we will add it to the public record.

Shawna

Sent from my iPhone

On Apr 2, 2026, at 10:58 AM, Greg Sprenge [redacted] > wrote:

Arvada City Council Members,

Please do not approve the Avalon Arvada Project - DA2025-0035.

I have lived in Arvada for 65 years, mostly on the west side of town. As you can imagine, I have witnessed a lot of change in the area...some good and some not so good.

Growth can be good, it can maintain the vibrancy of a community. As families age and children move on, new and young families take their place to make a home for themselves.

However, the recent pace of growth has brought crowded neighborhoods, resulting in,

- traffic congestion,
- a decrease in safety for autos, bicyclists, and pedestrians,
- installation of numerous traffic control signals which interrupts traffic flow,
- increased traffic noise,
- etc.

Constructing the proposed high density development (over 500 additional housing units) at 64th and Easley will compound this already poor situation, increasing anticipated traffic volume by an additional 2,800 daily trips! Easley is an attractive route for bicyclists, me included. With growth in West Arvada over the past couple decades, traffic has increased while the road has not been improved. Easley has become more dangerous to ride and will get much worse with the proposed development.

Growth can be good, but should be balanced, providing different neighborhood environments for different family preferences.

- High density, multifamily housing is appropriate in the down-town area. It provides walking access to services and entertainment for residents that prefer a higher energy neighborhood. And by observation, this philosophy has been embraced by Arvada City management. There are a tremendous number of new multi-family housing structures being added to the Arvada skyline.
- However, lower density, single family dwellings are appropriate on the outskirts. This provides families desiring a less crowded, more calm living environment with immediate access to outdoor activities in open-spaces.

I ask you to respect the choice we have made to live in West Arvada, away from density and closer to magnificent open spaces.

Do not approve the Alavon Arvada Project.

Thank you.

Greg Sprenger

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Apr 10, 2026 at 11:26 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment regarding the Avalon Arvada/Welby Gardens project.

Sincerely,
Rozalynne

---------- Forwarded mes
From: **Judy Fischbac** [redacted]
Date: Fri, Apr 10, 2026 at 11:25 AM
Subject: Avalon Arvada Apartments – DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Dear Arvada City Council,

I am writing to express my opposition to the proposed Avalon Arvada Apartments project. As a resident of the Westwoods area for the past 30 years, I have serious concerns about the safety and appropriateness of this development.

The proposal concentrates over 1,000 residents with essentially one viable public access point, creating significant risks for evacuation and emergency response—particularly given the west area's wildfire history. This concern is deeply personal for my family, as our home is directly east of the proposed site and have pets and a child with mobility challenges, making safe and timely evacuation critical.

The number and height of the buildings are also a major concern. I am particularly troubled by the proposal for 384 luxury apartments and 51 townhomes across twelve 3–4 story buildings—exceeding the height of MorningStar and any other building in the area by up to 45 feet!

Additionally, the plan's reliance on a secondary access that is not truly independent—and that routes emergency traffic through a senior living facility—raises serious real-world safety concerns. The scale of the project also appears inconsistent with the City's Comprehensive Plan, which calls for lower-density development in this area and compatibility with the surrounding neighborhood.

The site itself lacks the roadway capacity, connectivity, and transit infrastructure to support a development of this size. With an estimated 2,800 additional vehicle trips per day, traffic and safety impacts on existing residents will be significant. It is also concerning that key issues related to access, safety, and infrastructure are being deferred to later stages, rather than addressed at this critical decision point.

On April 21, I respectfully urge City Council to require meaningful changes to this proposal or deny it as currently presented.

Thank you for your consideration.

Sincerely,
Judy Fischbach

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Concerns Regarding Proposed Avalon Development

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Apr 10, 2026 at 8:12 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Please find a public comment regarding Avalon Arvada/Welby Gardens.

Sincerely,
Rozalynne

---------- Forwarded m
From: **Jeff Galasso** [redacted]
Date: Fri, Apr 10, 2026 at 7:48 AM
Subject: Concerns Regarding Proposed Avalon Development
To: <lsimpson@arvada.org>, <rmoorman@arvada.org>, <sambrose@arvada.org>, <rlovisone@arvada.org>, <bfifer@arvada.org>, <sdavis@arvada.org>, <mgriffith@arvada.org>, <rthompson@arvada.org>

Good Afternoon,

First, I would like to thank you for your service to our wonderful City of Arvada.

I am an adjacent neighbor to Welby Gardens (as shown in the attached photo), residing at 6537 Torrey Ct. My wife and I purchased our home in 1997, where we raised our two daughters. I have also been a longtime resident of Arvada, having lived here since 1978, when my family moved here from North Denver.

I would like to share my concerns regarding the proposed Avalon development. While I understand and support responsible growth, I am particularly concerned about the plan for a single access point in and out at 64th Avenue and Easley Road. I believe this design will create significant traffic congestion in the surrounding area.

Has there been any consideration given to adding a secondary entrance/exit on the west side of the development to help alleviate traffic at this intersection?

Additionally, I would like to propose that 64th Circle on the far west end be permanently closed to prevent westbound vehicles waiting at the future light on 64th Avenue from cutting through our subdivision to access the apartment complex. Please see the attached photos for reference.

Lastly, I am concerned about the potential loss of my view of the mountain range, which has been a valued and meaningful aspect of our home for nearly three decades.

Inline image

Inline image

Inline image

Inline image

Thank you for your time and consideration.

Sincerely,
Jeff & Nili Galasso

<1775687144550blob.jpg>

<1775693524443blob.jpg>

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org

Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Apr 10, 2026 at 9:56 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

---------- Forwarded me
From: **Jodi Thomson** [redacted]>
Date: Fri, Apr 10, 2026 at 9:47 AM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <rmoorman@arvada.org>
Cc: Rozalynne Thompson <Rthompson@arvada.org>

Mr. Moorman,

It is with great frustration that I am contacting you today. I am so disappointed with the potential Avalon development.

We have lived in our home (adjacent to the proposed development) for 17 years. We weathered the construction of MorningStar, a building that made sense for the area. But the Avalon development does NOT make sense at all!

Although I have many concerns, my greatest concern is the ridiculous number of cars coming and going with inadequate access. How are 2,000 or more cars going to travel in and out of the development on one single block? Not to mention how will my own neighborhood be able to handle all the runoff traffic? I am imagining all of the neighborhood kids waiting for the school bus each morning endangered by frustrated commuters speeding down our street to try and get out to work.

The other concern is how do the surrounding streets absorb all of this traffic? It will be a massive change to our quality of life!

It seems extremely unfair that Arvada would even consider this development.

Jodi Thomson
[redacted] 4th Drive
[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Apr 10, 2026 at 9:56 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

---------- Forwarded m
[redacted]
To: <sambrose@arvada.org>
Cc: Rozalynne Thompson <Rthompson@arvada.org>

Ms. Ambrose,

It is with great frustration that I am contacting you today. I am so disappointed with the potential Avalon development.

We have lived in our home (adjacent to the proposed development) for 17 years. We weathered the construction of MorningStar, a building that made sense for the area. But the Avalon development does NOT make sense at all!

Although I have many concerns, my greatest concern is the ridiculous number of cars coming and going with inadequate access. How are 2,000 or more cars going to travel in and out of the development on one single block? Not to mention how will my own neighborhood be able to handle all the runoff traffic? I am imagining all of the neighborhood kids waiting for the school bus each morning endangered by frustrated commuters speeding down our street to try and get out to work.

The other concern is how do the surrounding streets absorb all of this traffic? It will be a massive change to our quality of life!

It seems extremely unfair that Arvada would even consider this development.

Jodi Thomson
[redacted] 4th Drive
[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Apr 10, 2026 at 9:56 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

---------- Forwarded me
From: **Jodi Thomson** [redacted]
Date: Fri, Apr 10, 2026 at 9:49 AM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <rlovisone@arvada.org>
Cc: Rozalynne Thompson <Rthompson@arvada.org>

Ms. Lovisone,

It is with great frustration that I am contacting you today. I am so disappointed with the potential Avalon development.

We have lived in our home (adjacent to the proposed development) for 17 years. We weathered the construction of MorningStar, a building that made sense for the area. But the Avalon development does NOT make sense at all!

Although I have many concerns, my greatest concern is the ridiculous number of cars coming and going with inadequate access. How are 2,000 or more cars going to travel in and out of the development on one single block? Not to mention how will my own neighborhood be able to handle all the runoff traffic? I am imagining all of the neighborhood kids waiting for the school bus each morning endangered by frustrated commuters speeding down our street to try and get out to work.

The other concern is how do the surrounding streets absorb all of this traffic? It will be a massive change to our quality of life!

It seems extremely unfair that Arvada would even consider this development.

Jodi Thomson
4th Drive
[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Apr 10, 2026 at 9:56 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

---------- Forwarded me
From: **Jodi Thomson** [redacted]
Date: Fri, Apr 10, 2026 at 9:51 AM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <bfifer@arvada.org>
Cc: Rozalynne Thompson <Rthompson@arvada.org>

Mr. Fifer,

It is with great frustration that I am contacting you today. I am so disappointed with the potential Avalon development.

We have lived in our home (adjacent to the proposed development) for 17 years. We weathered the construction of MorningStar, a building that made sense for the area. But the Avalon development does NOT make sense at all!

Although I have many concerns, my greatest concern is the ridiculous number of cars coming and going with inadequate access. How are 2,000 or more cars going to travel in and out of the development on one single block? Not to mention how will my own neighborhood be able to handle all the runoff traffic? I am imagining all of the neighborhood kids waiting for the school bus each morning endangered by frustrated commuters speeding down our street to try and get out to work.

The other concern is how do the surrounding streets absorb all of this traffic? It will be a massive change to our quality of life!

It seems extremely unfair that Arvada would even consider this development.

Jodi Thomson
4th Drive
[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
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Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Apr 10, 2026 at 9:57 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

---------- Forwarded me
From: **Jodi Thomson** [redacted] >
Date: Fri, Apr 10, 2026 at 9:51 AM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <sdavis@arvada.org>
Cc: Rozalynne Thompson <Rthompson@arvada.org>

Ms. Davis,

It is with great frustration that I am contacting you today. I am so disappointed with the potential Avalon development.

We have lived in our home (adjacent to the proposed development) for 17 years. We weathered the construction of MorningStar, a building that made sense for the area. But the Avalon development does NOT make sense at all!

Although I have many concerns, my greatest concern is the ridiculous number of cars coming and going with inadequate access. How are 2,000 or more cars going to travel in and out of the development on one single block? Not to mention how will my own neighborhood be able to handle all the runoff traffic? I am imagining all of the neighborhood kids waiting for the school bus each morning endangered by frustrated commuters speeding down our street to try and get out to work.

The other concern is how do the surrounding streets absorb all of this traffic? It will be a massive change to our quality of life!

It seems extremely unfair that Arvada would even consider this development.

Jodi Thomson
4th Drive
[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Apr 10, 2026 at 9:57 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

---------- Forwarded me
From: **Jodi Thomson** [redacted]>
Date: Fri, Apr 10, 2026 at 9:52 AM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <mgriffith@arvada.org>
Cc: Rozalynne Thompson <Rthompson@arvada.org>

Mr. Griffith,

It is with great frustration that I am contacting you today. I am so disappointed with the potential Avalon development.

We have lived in our home (adjacent to the proposed development) for 17 years. We weathered the construction of MorningStar, a building that made sense for the area. But the Avalon development does NOT make sense at all!

Although I have many concerns, my greatest concern is the ridiculous number of cars coming and going with inadequate access. How are 2,000 or more cars going to travel in and out of the development on one single block? Not to mention how will my own neighborhood be able to handle all the runoff traffic? I am imagining all of the neighborhood kids waiting for the school bus each morning endangered by frustrated commuters speeding down our street to try and get out to work.

The other concern is how do the surrounding streets absorb all of this traffic? It will be a massive change to our quality of life!

It seems extremely unfair that Arvada would even consider this development.

Jodi Thomson
[redacted] 4th Drive
[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Apr 10, 2026 at 9:55 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment on the Avalon Arvada/Welby Gardens. This comment has been sent to the other councilmembers, so I will forward those to you as well.

Rozalynne

---------- Forwarded me
From: **Jodi Thomson** [redacted]
Date: Fri, Apr 10, 2026 at 9:45 AM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <lsimpson@arvada.org>
Cc: Rozalynne Thompson <Rthompson@arvada.org>

Ms. Simpson,

It is with great frustration that I am contacting you today. I am so disappointed with the potential Avalon development.

We have lived in our home (adjacent to the proposed development) for 17 years. We weathered the construction of MorningStar, a building that made sense for the area. But the Avalon development does NOT make sense at all!

Although I have many concerns, my greatest concern is the ridiculous number of cars coming and going with inadequate access. How are 2,000 or more cars going to travel in and out of the development on one single block? Not to mention how will my own neighborhood be able to handle all the runoff traffic? I am imagining all of the neighborhood kids waiting for the school bus each morning endangered by frustrated commuters speeding down our street to try and get out to work.

The other concern is how do the surrounding streets absorb all of this traffic? It will be a massive change to our quality of life!

It seems extremely unfair that Arvada would even consider this development.

Jodi Thomson
[redacted] 4th Drive
[redacted]

--
Rozalynne D. Thompson, AICP, J.D.

Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon development

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Apr 10, 2026 at 8:13 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment on the Avalon Arvada/Welby Gardens project.

Sincerely,
Rozalynne

---------- Forwarded mess
From: **Kathleen Harvey** [redacted]
Date: Fri, Apr 10, 2026 at 7:46 AM
Subject: Avalon development
To: <lsimpson@arvada.org>
Cc: <rthompson@arvada.org>

Lauren,
Please vote against the development on the Welby gardens site. It will overtax the emergency and fire response teams, cause traffic issues, pollution, not to mention being in a flood plain. People are moving out of Colorado because it has become too populated.
ey
[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Written Public Comment for City Council

03/29/2026 3:44 PM (MDT)

ArvadaCO.gov | Arvada City Council Meetings

Written Public Comment for the Public Record

All public comment submitted here will be shared with all City Councilmembers. Comments related to Public Hearings will be added to the public record.

To comment on multiple topics you will need to fill out this form once per topic.

Please Note: Written comments are a way to share your thoughts directly with the City Council. However, they are not a forum for conversation or Q&A with Councilmembers or city staff. If you have a question that requires a response or follow-up, please use AskArvada, which is the appropriate platform for inquiries.

Email Address	[redacted]
Name	Keith Turgeon
Address	17476 West 58th place
Phone Number	[redacted]
Your Comment/Testimony	I'm not a city resident but live adjacent to the Avalon Welby Gardens redevelopment in the Trails HOA. I think it is a great place to add density to the city on 64th and only request that traffic lights are considered for 64th and McIntyre and possibly Easley and McIntyre to handle the additional traffic. I applaud the city for considering higher density to help lower the cost of living and placing in in a needed spot.

Thank you! A copy of your responses will be emailed to the address you provided.

Written Public Comment for City Council

03/29/2026 3:18 PM (MDT)

ArvadaCO.gov | Arvada City Council Meetings

Written Public Comment for the Public Record

All public comment submitted here will be shared with all City Councilmembers. Comments related to Public Hearings will be added to the public record.

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Email Address	[redacted]
Name	mark breese
Address	6533 Umber Circle Arvada, CO 80007
Phone Number	[redacted]
Your Comment/Testimony	Dear Mayor and City Council, I am writing to respectfully request clarification on a critical public safety issue in the review of the Avalon apartment proposal (DA25-0035): why no evacuation analysis has been conducted despite the project's direct impact on a nearby senior living facility. This concern is not speculative—it is grounded in established fire safety requirements, state regulations, and national emergency planning standards. 1. Arvada Fire Requirements: Evacuation and Access Are Core Safety Obligations Arvada Fire requires assisted living facilities to maintain formal evacuation planning that includes: "Primary evacuation routes… [and] secondary evacuation routes" "Procedures for evacuating occupants, including those who need evacuation assistance" "The normal routes of fire department vehicle access" (Arvada Fire – Fire Safety Checklist for Assisted Living Facilities) These are not optional considerations—they are mandatory life-safety requirements. Any external change that affects these routes—such as increased congestion, altered access, or shared emergency pathways—directly impacts the validity of

these required plans.

2. Arvada Policy: Plans Must Be Updated When Physical Conditions Change

Arvada Fire further states:

"Fire safety and evacuation plans shall be reviewed or updated... as necessitated by changes in... the physical arrangement of the building."

(Arvada Fire – Emergency Planning and Preparedness Guide)

A large-scale development that introduces significant traffic volume and relies on overlapping access routes is, by definition, a change in physical conditions affecting evacuation.

Yet there is no evidence in the record that any such reevaluation has occurred.

3. Colorado Regulations: Emergency Planning Must Reflect Site-Specific Risk

Colorado regulations governing assisted living facilities require:

"A risk assessment of all hazards... tailored to the geographic location and unique risks."

(Colorado Code of Regulations, Emergency Preparedness for Assisted Living Residences)

This is a critical point:
Evacuation planning is not generic—it must reflect actual, site-specific conditions, including access constraints, congestion, and surrounding development.

A project of this scale—introducing substantial traffic onto a constrained local access point—clearly alters those conditions.

4. National Standards (IFC and FEMA): Vulnerable Populations Require Enhanced Evacuation Planning

The International Fire Code (as adopted by Arvada) and FEMA guidance consistently recognize that:

Facilities serving elderly or mobility-impaired populations require reliable, redundant access
Evacuation planning must account for delayed movement, assisted evacuation, and congestion risk
Access and egress reliability are fundamental life-safety considerations

These are not abstract principles—they are the basis for requiring multiple access points, separation of routes, and avoidance of conflicting evacuation flows.

5. The Critical Question for Council

Given these requirements, the question is straightforward:

Where in the record is the analysis demonstrating that evacuation for the adjacent senior living facility remains safe under the conditions created by this development?

Specifically:

How has increased traffic volume on a local street been evaluated for its impact on evacuation timing?
How has potential conflict between resident evacuation and project access been assessed?
How has emergency vehicle access reliability been validated under peak or emergency conditions?

At present, there appears to be no documented evacuation modeling, no hazard-specific analysis, and no updated risk assessment reflecting these changed conditions.

6. Conclusion: A Required Safety Determination Is Missing

The City's own fire safety requirements, state regulations, and national standards all point to the same conclusion:

When conditions affecting evacuation and emergency access change—especially for vulnerable populations—those impacts must be evaluated before approval.

Without that evaluation, the City cannot reasonably determine that:

Required evacuation plans remain valid
Emergency access is adequate
Life safety obligations are being met

I respectfully request that the City clarify:

Whether an evacuation impact analysis has been conducted
If so, where it can be found in the public record
If not, why this evaluation has not been required given the known risks

This is fundamentally a health and safety issue affecting one of our most vulnerable populations, and it deserves a clear, evidence-based answer.

Thank you for your attention to this matter.

Sincerely,
Mark Breese

Thank you! A copy of your responses will be emailed to the address you provided.

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon DA25-0025

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Mar 30, 2026 at 8:06 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Good morning Dixie and Heidi,

Please find a public comment regarding the Avalon Arvada/Welby Gardens project below.

Thanks,
Rozalynne

---------- Forwarded m
From: **Mark Breese** [redacted]
Date: Sun, Mar 29, 2026 at 3:16 PM
Subject: Avalon DA25-0025
To: <council@arva [redacted] on <rthom [redacted] hel Morris <rmorris@arvada.org> [redacted]>, Scott Hallowell [redacted]>, Jim Cheatham [redacted]>

Dear Mayor and City Council,

I am writing to respectfully request clarification on a critical public safety issue in the review of the Avalon apartment proposal: **why no evacuation analysis has been conducted despite the project's direct impact on a nearby senior living facility.**

This concern is not speculative—it is grounded in **established fire safety requirements, state regulations, and national emergency planning standards**.

---

1. Arvada Fire Requirements: Evacuation and Access Are Core Safety Obligations

Arvada Fire requires assisted living facilities to maintain formal evacuation planning that includes:

- "Primary evacuation routes… [and] secondary evacuation routes"
- "Procedures for evacuating occupants, including those who need evacuation assistance"
- "The normal routes of fire department vehicle access"

(Arvada Fire – Fire Safety Checklist for Assisted Living Facilities)

These are not optional considerations—they are **mandatory life-safety requirements**.
Any external change that affects these routes—such as increased congestion, altered access, or shared emergency pathways—directly impacts the validity of these required plans.

---

2. Arvada Policy: Plans Must Be Updated When Physical Conditions Change

Arvada Fire further states:

> "Fire safety and evacuation plans shall be reviewed or updated… as necessitated by changes in… the physical arrangement of the building."

(Arvada Fire – Emergency Planning and Preparedness Guide)

A large-scale development that introduces significant traffic volume and relies on overlapping access routes is, by definition, a **change in physical conditions affecting evacuation**.

Yet there is no evidence in the record that any such reevaluation has occurred.

---

3. Colorado Regulations: Emergency Planning Must Reflect Site-Specific Risk

Colorado regulations governing assisted living facilities require:

> "A risk assessment of all hazards… tailored to the geographic location and unique risks."

(Colorado Code of Regulations, Emergency Preparedness for Assisted Living Residences)

This is a critical point:
Evacuation planning is not generic—it must reflect **actual, site-specific conditions**, including access constraints, congestion, and surrounding development.

A project of this scale—introducing substantial traffic onto a constrained local access point—clearly alters those conditions.

---

4. National Standards (IFC and FEMA): Vulnerable Populations Require Enhanced Evacuation Planning

The International Fire Code (as adopted by Arvada) and FEMA guidance consistently recognize that:

- **Facilities serving elderly or mobility-impaired populations require reliable, redundant access**
- **Evacuation planning must account for delayed movement, assisted evacuation, and congestion risk**
- **Access and egress reliability are fundamental life-safety considerations**

These are not abstract principles—they are the basis for requiring **multiple access points, separation of routes, and avoidance of conflicting evacuation flows**.

---

5. The Critical Question for Council

Given these requirements, the question is straightforward:

Where in the record is the analysis demonstrating that evacuation for the adjacent senior living facility remains safe under the conditions created by this development?

Specifically:

- How has increased traffic volume on a local street been evaluated for its impact on evacuation timing?
- How has potential conflict between resident evacuation and project access been assessed?
- How has emergency vehicle access reliability been validated under peak or emergency conditions?

At present, there appears to be **no documented evacuation modeling, no hazard-specific analysis, and no updated risk assessment** reflecting these changed conditions.

---

6. Conclusion: A Required Safety Determination Is Missing

The City's own fire safety requirements, state regulations, and national standards all point to the same conclusion:

> When conditions affecting evacuation and emergency access change—especially for vulnerable populations—those impacts must be evaluated before approval.

Without that evaluation, the City cannot reasonably determine that:

- Required evacuation plans remain valid
- Emergency access is adequate
- Life safety obligations are being met

I respectfully request that the City clarify:

1. Whether an evacuation impact analysis has been conducted

2. If so, where it can be found in the public record
3. If not, why this evaluation has not been required given the known risks

This is fundamentally a **health and safety issue affecting one of our most vulnerable populations**, and it deserves a clear, evidence-based answer.

Thank you for your attention to this matter.

Sincerely,
Mark Breese

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Bryan Goddard <bgoddard@arvada.org>

Fwd: Avalon Arvada Apartments - DA2026-0005

Ben Perko <bperko@arvada.org> Mon, Mar 30, 2026 at 11:30 AM
To: Kristen Rush <kristen@arvada.org>, Bryan Goddard <bgoddard@arvada.org>

I did not see this or the following email from Tom Brayden in Council's stack of comments, so I am forwarding to be sure they are properly recorded.

---------- Forwarded message ---------
From: **Mary Pflum** <[redacted]
Date: Fri, Mar 27, 2026 at 11:42 AM
Subject: Avalon Arvada Apartments - DA2026-0005
To: <Council@arvada.org>

To Whom It May Concern:
As a member of the Morning Star Senior Living Community, I would like to express some of my concerns with the proposed Avalon Development Project.
First on my list of concerns is the access. Avalon has proposed two entrances which are approximately ten yards apart. They both access Easley, which is the entrance onto 64th Ave. This is for approximately 600 cars. I can't see how this would be a viable option.
Secondly, Avalon Development intends to close off our access to Easley for 2 years. Not only is that an inconvenience, it can pose a safety risk by leaving Morning Star with one access to 64th Ave.
Thirdly, Avalon has proposed an emergency entrance through our parking lot. This will certainly pose a safety risk to our residents, many of whom are mobility impaired and use the parking lot for exercise.
Fourth, there seems to be no clear plan for the height of the buildings, window placement, and number of buildings.
Five. Emergency evacuation would be a complete disaster. If a fire were to come, exiting the area would be impossible. Also if an accident were to happen on Easley, what is the exit plan?
Six. In this time of drought, it seems irresponsible to add that many more water taps to an already overloaded water supply.
I think that this is an ill-conceived plan, and I'm more than certain that you would not want it in your back yard.
Thank you for your attention,
Mary Pflum

--
Ben Perko
Constituent Services Liaison
City Manager's Office
720-898-7511
bperko@arvada.org

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments - DA2026-0005

1 message

Josie Suk <jsuk@arvada.org> Mon, Mar 30, 2026 at 12:22 PM
To: Heidi Van Gieson <hvangieson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Mon, Mar 30, 2026 at 11:46 AM
Subject: Fwd: Avalon Arvada Apartments - DA2026-0005
To: Josie Suk <jsuk@arvada.org>

Sent from my iPhone

Begin forwarded message:

From: Ben Perko <bperko@arvada.org>
Date: March 30, 2026 at 11:30:48 AM MDT
To: Kristen Rush <kristen@arvada.org>, Bryan Goddard <bgoddard@arvada.org>
Subject: Fwd: Avalon Arvada Apartments - DA2026-0005

I did not see this or the following email from Tom Brayden in Council's stack of comments, so I am forwarding to be sure they are properly recorded.

---------- Forwarded
From: **Mary Pflum** [redacted]
Date: Fri, Mar 27, 2026 at 11:42 AM
Subject: Avalon Arvada Apartments - DA2026-0005
To: <Council@arvada.org>

To Whom It May Concern:
As a member of the Morning Star Senior Living Community, I would like to express some of my concerns with the proposed Avalon Development Project.
First on my list of concerns is the access. Avalon has proposed two entrances which are approximately ten yards apart. They both access Easley, which is the entrance onto 64th Ave. This is for approximately 600 cars. I can't see how this would be a viable option.
Secondly, Avalon Development intends to close off our access to Easley for 2 years. Not only is that an inconvenience, it can pose a safety risk by leaving Morning Star with one access to 64th Ave.
Thirdly, Avalon has proposed an emergency entrance through our parking lot. This will certainly pose a safety risk to our residents, many of whom are mobility impaired and use the parking lot for exercise.

Fourth, there seems to be no clear plan for the height of the buildings, window placement, and number of buildings.
Five. Emergency evacuation would be a complete disaster. If a fire were to come, exiting the area would be impossible. Also if an accident were to happen on Easley, what is the exit plan?
Six. In this time of drought, it seems irresponsible to add that many more water taps to an already overloaded water supply.
I think that this is an ill-conceived plan, and I'm more than certain that you would not want it in your back yard.
Thank you for your attention,
Mary Pflum

--
Ben Perko
Constituent Services Liaison
City Manager's Office
720-898-7511
bperko@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: WESTWOODS WELB Y GARDENS VENUE

1 message

Josie Suk <jsuk@arvada.org> Fri, Mar 27, 2026 at 1:57 PM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Mon, Mar 23, 2026 at 9:14 AM
Subject: Fwd: WESTWOODS WELB Y GARDENS VENUE
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Ask Arvada** <askarvada@arvada.org>
Date: Mon, Mar 23, 2026 at 9:13 AM
Subject: Fwd: WESTWOODS WELB Y GARDENS VENUE
To: Kristen Rush <kristen@arvada.org>, Bryan Goddard <bgoddard@arvada.org>

Hi Kristen and Bryan,

forwarding this to you to be added to the public record if you have not received it already.
Thank you!

Gwen Gagne

---------- Forwarded message ---------
From: **Shawna Ambrose** <sambrose@arvada.org>
Date: Fri, Mar 20, 2026 at 5:49 PM
Subject: Fwd: WESTWOODS WELB Y GARDENS VENUE
To: Arvada Ask <askarvada@arvada.org>, Council <council@arvada.org>

Hello, please see below to add to public record.
Thanks,
Shawna

Sent from my iPhone

Begin forwarded message:

From [redacted]
Date: March 20, 2026 at 5:18:32 PM MDT
To: lsimpson@arvada.org, rmoorman@arvada.org, sambrose@arvada.org, rlovisone@arvada.org, bfifer@arvada.org, mgriffith@arvada.org, sdavis@arvada.orgsdavis
Subject: [redacted] **ELB Y GARDENS VENUE**
Reply-To [redacted]

RE: The proposed multifamily project on the current Welby Gardens property.

I am distressed that the City Council would even consider another high-rise multifamily project on this site. It is nested within the borders of West Wood Estates. There is no infrastructure to support such a large development. The plot should be developed into single family homes patio homes or at the very least senior duplexes similar to Ironstone or Trail Village. When the City Council allowed West Town to be built it threw the traffic intersection at 64th and McIntyre into a high traffic zone similar to 52nd and Wadsworth. It is a nightmare. If this project goes forward it would devastate current environment on 64th and Quaker west to Virgil, again with no infrastructure to support it. The landscape created by developers and approved by city planners, building one area of little gray boxes after another will be appalling in West Arvada which before this current building fashion was a pristine community and embraced the open space in our region. I urge you to drive around the area and see the effect of what you are considering.

I pray that you will stop this project from going forward and find a developer who is willing to support a project that matches the current architecture and structure of West Woods Estates.

With kind regards,

Nan Waller Burnett

Nan Waller Burnett, MA
Advanced Practitioner -ACR / High Conflict Specialist
Dispute Resolution Professionals, LLC
6437 Umber Circle
[redacted]

CONFIDENTIAL
This communication may contain CONFIDENTIAL INFORMATION, which may include, but not be limited to, Protected Health Information and be Legally Privileged and is intended only for the use by the Addressee named above. If the reader of this e-mail is not the intended recipient or his or her authorized agent, the reader is hereby notified that any dissemination, distribution, or copying of this e-mail.

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org

Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

Written Public Comment for City Council

03/29/2026 10:23 AM (MDT)

CITY OF ARVADA

ArvadaCO.gov | Arvada City Council Meetings

Written Public Comment for the Public Record

All public comment submitted here will be shared with all City Councilmembers. Comments related to Public Hearings will be added to the public record.

To comment on multiple topics you will need to fill out this form once per topic.

Please Note: Written comments are a way to share your thoughts directly with the City Council. However, they are not a forum for conversation or Q&A with Councilmembers or city staff. If you have a question that requires a response or follow-up, please use AskArvada, which is the appropriate platform for inquiries.

Email Address	[redacted]
Name	PHILIP R LUNNON
Address	6473 UMBER CIRCLE. ARVADA, CO 80007
Phone Number	[redacted]
Your Comment/Testimony	My wife and I are writing to voice our opposition to the Avalon Development on the Welby Gardens site. We initially moved to the Fieldstone neighborhood at 64th and Easley Road in the fall of 2014. The area suits us well because of its well thought out plan, including its density, beautiful views and open spaces with trails and bike paths. In 2019, we decided to downsize and found what we believed would be our "forever home" in Trail Village Villas, right across the street from Fieldstone and next to the Morningstar facility at 64th & Easley. We knew that the Welby Gardens site would someday likely be developed, and were prepared for that eventuality; in fact, we welcome a thoughtfully approved development. While we do not object to development on that site, we trusted that the City of Arvada would work to maintain the suburban feel of the area with housing densities consistent and compatible with current developments in the area and in accordance with the Comprehensive Plan adopted by the City. We strongly believe that the proposed development, if approved, would betray that trust for the following reasons: 1. The proposed development would be inconsistent with the area in providing housing for an additional approximately 1,000 residents. That small site would have significantly higher density than any of the surrounding neighborhoods. 2. All of the surrounding neighborhoods are built with one- and two-story structures. The proposed development would include buildings that are up to twice the height of the tallest of the surrounding structures, apparently in the name of significantly increasing density in the area with little regard to foreseeable negative effects. 3. The additional population would inevitably lead to congestion on the existing roadways leading to less safe intersections. At a minimum, the developer should

be required to mitigate the predictable dangers inherent with increased traffic.
4. This winter has made it acutely obvious that this area is vulnerable to natural disaster. Between the lack of moisture on the already dry grasses in the open spaces to the west and north and the continuous winds, we have already experienced one 3-day Public Safety Power Shutoff by Xcel Energy, and have been notified that we should be prepared for more of the same in the future, including mandatory evacuation notices as conditions may require. Considering the very limited exit routes from this proposed development, as well as the foreseeable increased traffic congestion due to the development, this neighborhood would be vulnerable to a major disaster in the event of a wildfire such as the Marshall Fire or other natural occurrence. To discount the possibility of such an event would be imprudent, to say the least.

As previously stated, we would welcome development on the site that is consistent with the current MX-S zoning. However, the area does not need an overabundance of additional residential units exclusively. Instead, the area needs a thoughtful mix of other approved uses including hospitality, commercial and community services. For the above reasons, as well as others, we believe that the development under consideration as proposed would be detrimental to the area. The City of Arvada can and should do better for its citizens.

Thank you for your consideration,
Phil Lunnon
Elaine Lunnon

Thank you! A copy of your responses will be emailed to the address you provided.

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada apartment development

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Apr 6, 2026 at 8:21 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is a public comment regarding the Avalon Arvada/Welby Gardens project.

Sincerely,
Rozalynne

---------- Forwarded me
From: **Peter Whedbee** [redacted] >
Date: Sun, Apr 5, 2026 at 6:11 PM
Subject: Avalon Arvada apartment development
To: Lauren Simpson <lsimpson@arvada.org>, Randy Moorman <rmoorman@arvada.org>, Shawna Ambrose <sambrose@arvada.org>, Rebecka Lovisone <rlovisone@arvada.org>, Bob Fifer <bfifer@arvada.org>, Sharon Davis <sdavis@arvada.org>, Michael Griffith <mgriffith@arvada.org>, Rozalynne Thompson <rthompson@arvada.org>

Hi all,

I am writing to oppose this development project.

There are lots of technical issues that I am sure you are aware of.
What I can see, having looked at the map and read up on the impact upon the community: traffic, resources, density and so on, is that if one were to set aside for a moment the profit motive, then this would not be a good idea.
I am not against building housing. But I am against building housing in a way that will make life harder for more people.

We are already facing a big trucking terminal coming over by Hyatt Lake. Lots of those trucks will go right by this proposed development.
How about waiting to see what that looks like before piling on more?

Again, make decisions based on everything except profit: don't build these apartments in this location.

thanks,
Peter Whedbee
6097 Rogers Circle
Arvada, CO
80403

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF
ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Reference the project number: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Apr 3, 2026 at 10:31 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Here is a copy of the last comment. I will forward you the other copies as well.

Rozalynne

---------- Forwarded mes
From: **R. Brian Adams** [redacted]
Date: Fri, Apr 3, 2026 at 10:28 AM
Subject: Reference the project number: Avalon Arvada Apartments – DA2025-0035
To: <rmoorman@arvada.org>
Cc: <rthompson@arvada.org>

Dear Council Member Moorman,

I wanted to take the opportunity to share with you my concern about a proposed residential development that will be reviewed at the April 7 City Council Business Meeting.

Avalon Arvada (Welby Center) is to build a high-density residential development consisting of three and four-story tall buildings. The entire development will 435 housing units with 1,000+ residents into an area that is already built out.

My concerns are many, including increased traffic density in a residential area, fire risk, and public safety and increase in petty theft/crime. I live across 64th from Welby Gardens in the Fieldstone neighborhood. We have lived here for nine years now and selected this area due to it's low density and compatibility with safely raising our children. I am VERY concerned about the increase in traffic density when we cram in an additional 1,000 residents in this region. Easily Rd is already a dangerous thoroughfare for a 30 MPH country road that locals use to end-around McIntyre. JeffCo Sheriff rarely conducts traffic enforcement on Easley and there have already been bicyclist deaths on this double lane road.

The Avalon project is not compatible with this area's comprehensive plan. It is out-of-place with the adjacent and local neighborhoods. Homeowners moved out here to be away from high-rise buildings and heavy traffic. Please consider my objections to this development and raise your voice against it.

Thank you,

Robert Adams
17563 W 60th Ln
403
[redacted]

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Apr 3, 2026 at 10:31 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

---------- Forwarded mes
From: **R. Brian Adams** [redacted]>
Date: Fri, Apr 3, 2026 at 10:29 AM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <sambrose@arvada.org>
Cc: <rthompson@arvada.org>

Dear Council Member Ambrose,

I wanted to take the opportunity to share with you my concern about a proposed residential development that will be reviewed at the April 7 City Council Business Meeting.

Avalon Arvada (Welby Center) is to build a high-density residential development consisting of three and four-story tall buildings. The entire development will 435 housing units with 1,000+ residents into an area that is already built out.

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Thank you,

Robert Adams
17563 W 60th Ln
403
[redacted]

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Apr 3, 2026 at 10:32 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

---------- Forwarded mes
From: **R. Brian Adams** [redacted]>
Date: Fri, Apr 3, 2026 at 10:30 AM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <rlovisone@arvada.org>
Cc: <rthompson@arvada.org>

Dear Council Member Lovisone,

I wanted to take the opportunity to share with you my concern about a proposed residential development that will be reviewed at the April 7 City Council Business Meeting.

Avalon Arvada (Welby Center) is to build a high-density residential development consisting of three and four-story tall buildings. The entire development will 435 housing units with 1,000+ residents into an area that is already built out.

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Thank you,

Robert Adams
17563 W 60th Ln
403
[redacted]

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Apr 3, 2026 at 10:32 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

---------- Forwarded mes
From: **R. Brian Adams** [redacted]
Date: Fri, Apr 3, 2026 at 10:31 AM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <sdavis@arvada.org>
Cc: <rthompson@arvada.org>

Dear Council Member Davis,

I wanted to take the opportunity to share with you my concern about a proposed residential development that will be reviewed at the April 7 City Council Business Meeting.

Avalon Arvada (Welby Center) is to build a high-density residential development consisting of three and four-story tall buildings. The entire development will 435 housing units with 1,000+ residents into an area that is already built out.

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Thank you,

Robert Adams
17563 W 60th Ln
403
[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Apr 3, 2026 at 10:32 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

---------- Forwarded mes
From: **R. Brian Adams** [redacted]
Date: Fri, Apr 3, 2026 at 10:31 AM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <mgriffith@arvada.org>
Cc: <rthompson@arvada.org>

Dear Council Member Griffith,

I wanted to take the opportunity to share with you my concern about a proposed residential development that will be reviewed at the April 7 City Council Business Meeting.

Avalon Arvada (Welby Center) is to build a high-density residential development consisting of three and four-story tall buildings. The entire development will 435 housing units with 1,000+ residents into an area that is already built out.

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Thank you,

Robert Adams
17563 W 60th L
4 [redacted]
[redacted]

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Apr 3, 2026 at 10:33 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

---------- Forwarded mes
From: **R. Brian Adams** [redacted]>
Date: Fri, Apr 3, 2026 at 10:32 AM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <bfifer@arvada.org>
Cc: <rthompson@arvada.org>

Dear District Representative Fifer,

I wanted to take the opportunity to share with you my concern about a proposed residential development that will be reviewed at the April 7 City Council Business Meeting.

Avalon Arvada (Welby Center) is to build a high-density residential development consisting of three and four-story tall buildings. The entire development will 435 housing units with 1,000+ residents into an area that is already built out.

My concerns are many, including increased traffic density in a residential area, fire risk, and public safety and increase in petty theft/crime. I live across 64th from Welby Gardens in the Fieldstone neighborhood. We have lived here for nine years now and selected this area due to it's low density and compatibility with safely raising our children. I am VERY concerned about the increase in traffic density when we cram in an additional 1,000 residents in this region. Easily Rd is already a dangerous thoroughfare for a 30 MPH country road that locals use to end-around McIntyre. JeffCo Sheriff rarely conducts traffic enforcement on Easley and there have already been bicyclist deaths on this double lane road.

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Thank you,

Robert Adams
17563 W 60th Ln
403
[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Apr 3, 2026 at 10:30 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Here is another public comment on the Avalon Arvada/Welby Gardens project.

Sincerely,
Rozalynne

---------- Forwarded mes
From: **R. Brian Adams** [redacted]
Date: Fri, Apr 3, 2026 at 10:26 AM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <lsimpson@arvada.org>
Cc: <rthompson@arvada.org>

Dear Council Member Simpson,

I wanted to take the opportunity to share with you my concern about a proposed residential development that will be reviewed at the April 7 City Council Business Meeting.

Avalon Arvada (Welby Center) is to build a high-density residential development consisting of three and four-story tall buildings. The entire development will 435 housing units with 1,000+ residents into an area that is already built out.

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Thank you,

Robert Adams
17563 W 60th Ln
403
[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF
ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments~DA2026-0005

1 message

Josie Suk <jsuk@arvada.org> Mon, Mar 30, 2026 at 12:22 PM
To: Heidi Van Gieson <hvangieson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Mon, Mar 30, 2026 at 11:46 AM
Subject: Fwd: Avalon Arvada Apartments~DA2026-0005
To: Josie Suk <jsuk@arvada.org>

Sent from my iPhone

Begin forwarded message:

From: Ben Perko <bperko@arvada.org>
Date: March 30, 2026 at 11:31:17 AM MDT
To: Kristen Rush <kristen@arvada.org>, Bryan Goddard <bgoddard@arvada.org>
Subject: Fwd: Avalon Arvada Apartments~DA2026-0005

---------- Forwarded m
From: **Tom Brayden** [redacted]
Date: Sat, Mar 28, 2026 at 10:14 AM
Subject: Avalon Arvada Apartments~DA2026-0005
To: <Council@arvada.org>

The Avalon Arvada Apartments and Townhomes will affect my quality of life to the point that it could be life-threatening. The only traffic access is just 30 feet from my porch. The gasoline fumes, especially at rush hours, will be poisonous for me. Noise pollution is another problem. Please consider all of us at MorningStar who will be breathing poisonous air. Vote NO to this building project.

Beverly A. Brayden, Apartment 1011

--
Ben Perko
Constituent Services Liaison
City Manager's Office
720-898-7511
bperko@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627

Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Water Shortages, new construction and infrastructure concerns

1 message

Rozalynne Thompson <rthompson@arvada.org> Fri, Mar 27, 2026 at 9:34 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

I just received this public comment. While it does not specifically address the Avalon Arvada/Welby Gardens project, we may want to include it in the City Council packet as the general concerns do relate to the project.

Sincerely,
Rozalynne

---------- Forwarded me
From: **Wendy Caspar** [redacted]
Date: Fri, Mar 27, 2026 at 9:20 AM
Subject: Water Shortages, new construction and infrastructure concerns
To: <RThompson@arvada.org>

Dear Principal Planner Rozalynne Thompson,

I have been a resident of the City of Arvada for 57 years. I am writing to express my deep concern regarding our community's development strategies regarding the water shortage, infrastructure concerns and maintaining the integrity of our community. I would like you to consider the need for a moratorium of any new construction/additional housing in the city of Arvada until the water shortage and infrastructure issues are resolved. The impacts facing our current residents are substantial and life changing, these challenges are not just temporary inconveniences—There are clear indicators that our current water supply is under significant strain and may not be able to support continued growth without even more serious consequences.

Preparing land for development and constructing new homes requires substantial amounts of water. This was obvious as I was driving through Candelas yesterday and saw water trucks spraying water on dirt for the earth movers to move soil around where they are building new communities. Beyond that, every additional household permanently increases demand on an already limited resource. When existing residents are being asked to conserve, it becomes difficult to justify approving new developments that will intensify the strain on our water system.

These concerns are especially pressing in western Arvada, where the area has historically maintained a rural, open, country feel. High-density housing proposals are fundamentally at odds with the character of this part of the community. Such developments would not only place additional pressure on our water supply but also alter the landscape, traffic patterns, and overall livability of an area valued precisely for its spaciousness and natural environment.

For these reasons, I urge you to consider implementing a temporary moratorium on additional building permits—particularly for high-density projects—until a comprehensive, data-driven assessment of our long-term water capacity and infrastructure needs can be completed. A pause would allow the city to:

- *Evaluate whether current water supplies can sustainably support further population growth*

- *Assess the cumulative impact of high-density housing on both water demand and rural community character*
- *Identify infrastructure improvements or conservation measures needed to stabilize the system*
- *Ensure that existing residents are not disproportionately burdened by shortages caused by new development*
- *Protect the long-term health, safety, and identity of our community*

A moratorium is a responsible, precautionary measure that acknowledges the reality of our water limitations and the importance of preserving the integrity of Arvada. Growth must be aligned with available resources and with the values of the community that already lives here.

I respectfully ask that you prioritize the well-being of current and future residents by taking decisive action. Our community cannot afford to ignore the warning signs any longer.

Thank you for your attention to this critical issue and for your commitment to safeguarding our shared resources and the character of our community.

Sincerely,

Wendy Caspari

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CED Boards and Commission <cedboardsandcommission@arvada.org>

Welby Gardens Residential Comm - DA2025-0035 - In Support

1 message

Alaina Marler [redacted] Mon, Apr 6, 2026 at 2:06 PM
To: cedboardsandcommission@arvada.org

I live in Candelas on the west side of town and was excited to see this project come through the City.

I support converting this property to residential. Our community needs more places to live, and this feels like a thoughtful and appropriate use of the land. I reviewed the site plan and appreciate the buffers around the site and its proximity to existing commercial areas. It seems well planned and fits nicely with the surrounding development.

I would like to express my support and hope this project moves forward.

Thank you for your time and consideration.

Sincerely.
Alaina Marler
15518 W 95th Ave
Arvada 80007

Council@Arvada.org

Re: Avalon Arvada Apartments – DA 2026-0005

Honorable Mayor and City Council Members:

I am a resident of MorningStar Arvada, and herewith am expressing my concerns about the proposed use of Welby Gardens property near the western edge of Arvada.

Mixed Use Zoning means just what it says—not merely four-story apartments which changes the meaning of the zone to high density. The City should reject the application of the developers' plan, because it does not meet the tests of the Conditional Use Permit or the Comprehensive Plan. This area can and should be used to complement the surrounding neighborhoods with a mix of lower density housing and businesses to support the area.

Traffic and safety concerns are paramount. MorningStar Senior Apartments will be harmed by the development as proposed, as will the surrounding neighborhoods. If Council members would come West to view the hazardous situation proposed by the developer, they would be easily convinced that there is a much better and safer use of the land that wouldn't violate the Comprehensive Plan.

Respectfully,

Avalon Arvada Apartments – DA2026-0005

Dear Council Members:

It has come to my attention that High Density Apartment development is being proposed for the area immediately north of my residence, MorningStar Senior Apartments. Of course, the Owner of the property has every right to sell it, but it does not seem appropriate to have our residential property damaged by a development that is not in keeping with the lovely residential single-family homes which border the acreage.

MX-S zoning does not allow for 100% high density residential, and local zoning is the protection that we and the home-owners nearby rely upon. The applicant's poorly designed plan would squeeze 435 apartments and townhomes and nearly 1000 cars onto a 20 acre lot with only one exit onto Easley Road.

Easley Road is currently used by MorningStar residents, staff and visitors, as well as the residents in West Woods Links 3. Additionally, staff and visitors often park on Easley Road when the parking lot is full. Introducing 1000 more cars onto this dead end street in a quiet neighborhood is introducing real safety concerns for MorningStar residents. Safety is non-negotiable!

Please reject the Conditional Use Permit for this proposed development.

Sincerely yours,

Darlene Macrina

Darlene Macrina, Apartment 3035

Hellmut and Barbara Fritz

MorningStar Senior Living

council@Arvada.org

Avalon Arvada Apartments—DA2026-0005

My wife and I are new residents at MorningStar Senior Apartments. Much to our dismay, we find that the acreage behind our building is being proposed for high density apartments.

The Arvada plan calls for lower density housing near the foothills in the western part of the city. Please adhere to the plan and vote against high density development in West Arvada.

We walk around our building for pleasure and exercise and fear for our safety if this proposal becomes reality. It sounds as though the east parking lot for MorningStar will have no exit onto Easley Road, and the traffic in front of our building will, by necessity, be routed past the entrance of our building. This creates a dangerous situation for our residents. Safety of residents should be the most important consideration.

Please vote no on the Conditional Use Permit for the Avalon Arvada Apartments. It does not meet the standards of the Comprehensive Plan.

Sincerely,

Hellmut and Barbara Fritz

Barbara G. Fritz

Hellmut W. Fritz

Avalon Arvada Apartments – DA2026-0005

Dear Mayor and City Council Members:

My name is Jody Applegate, and I live at MorningStar Senior Apartments in Unit 3001. Citizens who live here with me are sad to hear that a developer is planning to change the western part of Arvada into high-density city residential area.

The Arvada Comprehensive Plan requires lower density residential development near the western edge of Arvada. This proposed development is located in the Western-most part of Arvada. Morningstar residents love this area because it is near the mountains, very quiet, and helps us feel safe.

The approximately 20-Acre plot is surrounded by single-family homes—a very quiet residential area. To insert four story apartment buildings with over 400 units in the center of this area destroys the Planning ideas put forth in the document which is supposed to guide the Council in development decisions. We ask that Council Members vote against the plan as presented, as it is not compatible with the surrounding neighborhoods and is not compliant with the Comprehensive Plan.

Respectfully yours,

Jody Applegate

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Apr 13, 2026 at 8:06 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Please find a public comment on the Avalon Arvada project below.

Sincerely,
Rozalynne

---------- Forwarded mess
From: **JENNIFER SAM** [redacted]
Date: Sat, Apr 11, 2026 at 9:40 AM
Subject: Avalon Arvada Apartments – DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>, rmoorman@arvada.org <rmoorman@arvada.org>, sambrose@arvada.org <sambrose@arvada.org>, rlovisone@arvada.org <rlovisone@arvada.org>, bfifer@arvada.org <bfifer@arvada.org>, sdavis@arvada.org <sdavis@arvada.org>, mgriffith@arvada.org <mgriffith@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Jennifer Samp
17073 W 64th Cir
Arvada, Colorado 80007
West Woods Links III

Regarding: Project number: Avalon Arvada Apartments – DA2025-0035

Dear Arvada City Council Members,

I have lived in my home in the West Woods Links III neighborhood for over 20 years. This is not just where I live—it is where my family has built a life. I care deeply about preserving the safety, character, and livability of this community.

I am writing to express urgent and serious concern regarding the proposed development directly west of our neighborhood. The scale and impact of this project threaten to fundamentally and irreversibly change our community in ways that cannot be undone.

Traffic congestion is already a daily issue along Easley Road, a primary route for residents commuting to work and accessing surrounding areas. Adding a significant volume of new traffic will overwhelm infrastructure that is already strained. This is not a minor inconvenience—it will disrupt daily life not only in our neighborhood but across the broader area.

Equally concerning is the plan for the new development to rely on our neighborhood's limited access points. We have only two entrances and exits. Forcing a large influx of additional traffic through these routes is not sustainable and will place residents at risk. Streets that are currently used safely by families will become

high-traffic corridors. Children will no longer be able to ride bikes or scooters safely. Simple activities like walking through the neighborhood will become dangerous.

This limited access also creates a serious and unacceptable risk for emergency response. With only two points of entry and exit, increased congestion could delay or block access for fire trucks, ambulances, and law enforcement. In an emergency, seconds matter. If these routes are congested or obstructed, it could prevent first responders from reaching residents quickly or safely. This is not just an inconvenience—it is a direct threat to public safety.

Crossing nearby roads such as 64th Avenue is already difficult during peak hours. Increased traffic will make it even more hazardous—potentially to the point of being unsafe for both pedestrians and drivers. These are not hypothetical concerns; they are predictable outcomes based on current conditions.

Beyond traffic, there are serious safety and environmental concerns. Increased traffic flow through residential streets will reduce security and increase the presence of unfamiliar vehicles, changing the sense of safety that residents rely on. Additionally, disturbing land known to contain toxic residues from past greenhouse use raises legitimate health risks. There are already reports of families being affected by environmental exposure. Expanding development without fully addressing these hazards is irresponsible.

This development will also erode the quiet, residential character that defines our neighborhood. Increased noise, density, and overuse of land will permanently alter the environment we chose for our families. People moved here for space, safety, and quality of life—this proposal undermines all of those reasons.

I want to be clear: I am not opposed to growth or change. However, this proposal is excessive in scale and fails to account for the real and lasting impacts on existing residents. It is not in the best interest of the community it will affect most directly.

I urge you to carefully consider the consequences of this decision. The number of residents who have spoken out—through letters, meetings, and public input—reflects the seriousness of these concerns. We deserve meaningful consideration and a voice in decisions that will so profoundly impact our lives.

This is not just a development decision—it is a decision about the future of our community.

Respectfully,
Jennifer Samp

West Woods Links III Resident

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Josie Suk <jsuk@arvada.org> Tue, Apr 14, 2026 at 7:50 AM
To: Heidi Van Gieson <hvangieson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Mon, Apr 13, 2026 at 10:43 PM
Subject: Fwd: Avalon Arvada Apartments – DA2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Randy Moorman** <rmoorman@arvada.org>
Date: Mon, Apr 13, 2026 at 8:36 PM
Subject: Re: Avalo -0035
To: Jodi Thomson [redacted], Council <Council@arvada.org>, Kristen Rush <kristen@arvada.org>

Dear Jodi,

Thank you for reaching out. I've copied all council members and the city clerk so that your comments may be included in the permanent record. You may also attend the upcoming meeting on April 21st and speak directly to council during the public comment portion of the meeting if you wish.

Sincerely,
Randy Moorman
Arvada Mayor Pro Tem
District 1 Councilmember
720-772-6651

On Fri, Apr 10, 2026 at 9:47 AM Jodi Thomson [redacted] wrote:

> Mr. Moorman,
>
> It is with great frustration that I am contacting you today. I am so disappointed with the potential Avalon development.
>
> We have lived in our home (adjacent to the proposed development) for 17 years. We weathered the construction of MorningStar, a building that made sense for the area. But the Avalon development does NOT make sense at all!
>
> Although I have many concerns, my greatest concern is the ridiculous number of cars coming and going with inadequate access. How are 2,000 or more cars going to travel in and out of the development on one single block? Not to mention how will my own neighborhood be able to handle all the runoff traffic? I am imagining all of the

neighborhood kids waiting for the school bus each morning endangered by frustrated commuters speeding down our street to try and get out to work.

The other concern is how do the surrounding streets absorb all of this traffic? It will be a massive change to our quality of life!

It seems extremely unfair that Arvada would even consider this development.

Jodi Thomson
4th Drive
[redacted]

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

Alert: City of Arvada Planning and Building Staff will not send you an invoice for your fees unless it is requested. Bad actors may send phishing emails using public hearing information to request payment. If you receive a suspicious invoice, please verify first by contacting us at buildingpermits@arvada.org or 720-898-7620.

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Apr 16, 2026 at 8:08 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Copy 2 of 7

---------- Forwarded
From: **Kim DeLisa** [redacted]
Date: Wed, Apr 15, 2026 at 9:19 PM
Subject: Avalon Arvada Apartments – DA2025-0035
To: rmoorman@arvada.org <rmoorman@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Hello,

My name is Kim DeLisa, and I have been a resident of Arvada for over forty years. I was raised in Arvada and graduated from Arvada West High School. Since 1997, I have been a teacher at West Woods Elementary. It has been a privilege to educate the future residents of our community. In 2011, I relocated with my family to our current home at 6690 Violet Way in the West Woods neighborhood. I am reaching out with my personal concerns regarding the Avalon development.

Our home is located in the Trail Village neighborhood, on the northwest side of the proposed Avalon project. I have attached photographs to illustrate our unique situation and demonstrate our opposition to this high-rise development. Our home is situated at the base of a hill, in a valley. The proposed development plans to construct 35-foot-tall apartments atop the existing hill. This extensive development aims to maximize its golf course views and create a straight line of three-story balconies that will look directly into our backyard and home. As a result, our daily sunlight will be restricted, and our ability to enjoy our backyard and deck will be adversely affected. The noise and light pollution from multiple balconies will negatively impact our daily lives. We will be in the shadow of the development, witnessing and hearing the negative effects of overcrowding. If we are forced to move out of Arvada due to this development, it will impact the resale value of our home as well as the heartbreak of being forced to leave the place we have called home for over fifteen years.

During the January 21st city council meeting, I listened attentively to the public comments and repeatedly heard concerns regarding overcrowding, fire safety, traffic congestion, and the lack of public transportation. While I acknowledge the validity of these concerns, I would like to present these photographs to illustrate the significant impact of this large development on our family home. The Avalon company's primary concern is maximum profitability, disregarding the well-being of Arvada residents. I know we are only one family, but I feel our concerns should be acknowledged. I understand this land needs to be developed, but a complex with this many residents is not the right fit for Arvada or the West Woods community. I have faith in the process of our local government to hear my concerns and act in the best interest of the Arvada constituents. I urge you to be brave and have courage to reject the high-rise Avalon project as proposed.

Thank you,
Zack and Kim DeLisa and Family
6690 Violet Way

[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org>
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Copy 2 of 7

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From: **Kim DeLisa** [redacted]
Date: Wed, Apr 15, 2026 at 3:19 PM
Subject: Avalon Arvada Apartments – DA2025-0035
To: rmoorman@arvada.org <rmoorman@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

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Thank you,
Zack and Kim DeLisa and Family
6690 Violet Way

[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Apr 16, 2026 at 8:09 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Copy 3 of 7

---------- Forwarded
From: **Kim DeLisa** [redacted]
Date: Wed, Apr 15, 2026 at 9:19 PM
Subject: Avalon Arvada Apartments – DA2025-0035
To: sambrose@arvada.org <sambrose@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Hello,

My name is Kim DeLisa, and I have been a resident of Arvada for over forty years. I was raised in Arvada and graduated from Arvada West High School. Since 1997, I have been a teacher at West Woods Elementary. It has been a privilege to educate the future residents of our community. In 2011, I relocated with my family to our current home at 6690 Violet Way in the West Woods neighborhood. I am reaching out with my personal concerns regarding the Avalon development.

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Thank you,
Zack and Kim DeLisa and Family
6690 Violet Way

[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org>
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Copy 3 of 7

---------- Forwarded message ---------
From: **Kim DeLisa** <kimdelisa@hotmail.com>
Date: Wed, Apr 15, 2026 at 9:19 PM
Subject: Avalon Arvada Apartments – DA2025-0035
To: sambrose@arvada.org <sambrose@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

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Thank you,
Zack and Kim DeLisa and Family
6690 Violet Way
Arvada, CO
(303) 947-5256

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Apr 16, 2026 at 8:09 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Copy 4 of 7

---------- Forwarded
From: **Kim DeLisa** [redacted]
Date: Wed, Apr 15, 2026 at 9:19 PM
Subject: Avalon Arvada Apartments – DA2025-0035
To: rlovisone@arvada.org <rlovisone@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Hello,

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Thank you,
Zack and Kim DeLisa and Family
6690 Violet Way

[redacted]

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
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CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

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Rozalynne Thompson <rthompson@arvada.org>
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Subject: Avalon Arvada Apartments – DA2025-0035
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Thank you,
Zack and Kim DeLisa and Family
6690 Violet Way

[redacted]

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

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1 message

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To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Copy 5 of 7

---------- Forwarded
From: **Kim DeLisa** [redacted]
Date: Wed, Apr 15, 2026 at 9:19 PM
Subject: Avalon Arvada Apartments – DA2025-0035
To: bfifer@arvada.org <bfifer@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

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My name is Kim DeLisa, and I have been a resident of Arvada for over forty years. I was raised in Arvada and graduated from Arvada West High School. Since 1997, I have been a teacher at West Woods Elementary. It has been a privilege to educate the future residents of our community. In 2011, I relocated with my family to our current home at 6690 Violet Way in the West Woods neighborhood. I am reaching out with my personal concerns regarding the Avalon development.

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During the January 21st city council meeting, I listened attentively to the public comments and repeatedly heard concerns regarding overcrowding, fire safety, traffic congestion, and the lack of public transportation. While I acknowledge the validity of these concerns, I would like to present these photographs to illustrate the significant impact of this large development on our family home. The Avalon company's primary concern is maximum profitability, disregarding the well-being of Arvada residents. I know we are only one family, but I feel our concerns should be acknowledged. I understand this land needs to be developed, but a complex with this many residents is not the right fit for Arvada or the West Woods community. I have faith in the process of our local government to hear my concerns and act in the best interest of the Arvada constituents. I urge you to be brave and have courage to reject the high-rise Avalon project as proposed.

Thank you,
Zack and Kim DeLisa and Family
6690 Violet Way

[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Apr 16, 2026 at 8:10 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Copy 6 of 7

---------- Forwarded
From: **Kim DeLisa** [redacted]
Date: Wed, Apr 15, 2026 at 9:19 PM
Subject: Avalon Arvada Apartments – DA2025-0035
To: sdavis@arvada.org <sdavis@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Hello,

My name is Kim DeLisa, and I have been a resident of Arvada for over forty years. I was raised in Arvada and graduated from Arvada West High School. Since 1997, I have been a teacher at West Woods Elementary. It has been a privilege to educate the future residents of our community. In 2011, I relocated with my family to our current home at 6690 Violet Way in the West Woods neighborhood. I am reaching out with my personal concerns regarding the Avalon development.

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Thank you,
Zack and Kim DeLisa and Family
6690 Violet Way

[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Apr 16, 2026 at 8:10 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Copy 7 of 7

---------- Forwarded
From: **Kim DeLisa** [redacted]
Date: Wed, Apr 15, 2026 at 9:20 PM
Subject: Avalon Arvada Apartments – DA2025-0035
To: mgriffith@arvada.org <mgriffith@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Hello,

My name is Kim DeLisa, and I have been a resident of Arvada for over forty years. I was raised in Arvada and graduated from Arvada West High School. Since 1997, I have been a teacher at West Woods Elementary. It has been a privilege to educate the future residents of our community. In 2011, I relocated with my family to our current home at 6690 Violet Way in the West Woods neighborhood. I am reaching out with my personal concerns regarding the Avalon development.

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Thank you,
Zack and Kim DeLisa and Family
6690 Violet Way

[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Thu, Apr 16, 2026 at 8:08 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Good morning Dixie and Heidi,

I received another public comment regarding Avalon Arvada/Welby Gardens and I am forwarding it to you. A copy was sent to each councilmember, so I will forward the remaining copies.

Sincerely,
Rozalynne

---------- Forwarded
From: **Kim DeLisa** [redacted]
Date: Wed, Apr 15, 2026 at 9:18 PM
Subject: Avalon Arvada Apartments – DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Hello,

My name is Kim DeLisa, and I have been a resident of Arvada for over forty years. I was raised in Arvada and graduated from Arvada West High School. Since 1997, I have been a teacher at West Woods Elementary. It has been a privilege to educate the future residents of our community. In 2011, I relocated with my family to our current home at 6690 Violet Way in the West Woods neighborhood. I am reaching out with my personal concerns regarding the Avalon development.

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Thank you,
Zack and Kim DeLisa and Family
6690 Violet Way

[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org>
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Good morning Dixie and Heidi,

I received another public comment regarding Avalon Arvada/Welby Gardens and I am forwarding it to you. A copy was sent to each councilmember, so I will forward the remaining copies.

Sincerely,
Rozalynne

---------- Forwarded [redacted]
Subject: Avalon Arvada Apartments – DA2025-0035
To: lsimpson@arvada.org <lsimpson@arvada.org>
Cc: rthompson@arvada.org <rthompson@arvada.org>

Hello,

My name is Kim DeLisa, and I have been a resident of Arvada for over forty years. I was raised in Arvada and graduated from Arvada We 1997, I have been a teacher at West Woods Elementary. It has been a privilege to educate the future residents of our community. In 2011 family to our current home at 6690 Violet Way in the West Woods neighborhood. I am reaching out with my personal concerns regarding t

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Thank you,
Zack and Kim DeLisa and Family
6690 Violet Way

[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Josie Suk <jsuk@arvada.org> Mon, Apr 13, 2026 at 9:49 AM
To: Heidi Van Gieson <hvangieson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Sat, Apr 11, 2026 at 4:28 PM
Subject: Fwd: Avalon Arvada Apartments – DA2025-0035
To: Josie Suk <jsuk@arvada.org>

Sent from my iPhone

Begin forwarded message:

From: Sharon Davis <sdavis@arvada.org>
Date: April 11, 2026 at
To: Kinsey Ringenberg [redacted]>
Cc: Kristen Rush <kristen@arvada.org>
Subject: Re: Avalon Arvada Apartments – DA2025-0035

Good morning,

Thank you for your response. I appreciate your concern about this project. I am forwarding your message to the City Clerk to be included in the official record which is shared with the Council and City leadership.

Regards,

Sharon Davis
Council Member, At Large
720-450-4825 (Cell)
SDavis@arvada.org

On Fri, Apr 10, 2026 at 5:12 PM Kinsey Ringenber [redacted] wrote:

> Dear Sharon,
>
> I have lived in Westwoods for 19 years. Over this time I have seen many building projects completed. I have never voiced a concern about any of these projects because they have fit in with the flow of the community.
>
> I have significant concerns about the Avalon Apartments. I don't oppose growth in that area, but it's too much for the local infrastructure. The same footprint with 2-story buildings instead of the proposed 3- and 4-story buildings would be much more reasonable. There are several reasons for the opposition, including inadequate amounts of commercial retail (grocery stores and restaurants) in this area. But the biggest concerns come from our experience with the Superior fire a few years ago. The roads in this area do not allow for adequate evacuation as it is, but adding this many units will put further strain on an already under-resourced road system. Please consider the safety of our residents before development.

> We would welcome other ideas or modifications to the current proposal, but we ask that you vote against the current proposal as is.
>
> With Gratitude,
> Kinsey Ringenberg
> [redacted]

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

Alert: City of Arvada Planning and Building Staff will not send you an invoice for your fees unless it is requested. Bad actors may send phishing emails using public hearing information to request payment. If you receive a suspicious invoice, please verify first by contacting us at buildingpermits@arvada.org or 720-898-7620.

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada – Project DA2025-0035

1 message

Josie Suk <jsuk@arvada.org> Mon, Apr 13, 2026 at 12:57 PM
To: Heidi Van Gieson <hvangieson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Bryan Goddard** <bgoddard@arvada.org>
Date: Mon, Apr 13, 2026 at 9:57 AM
Subject: Fwd: Avalon Arvada – Project DA2025-0035
To: Josie Suk <jsuk@arvada.org>

On Fri, Apr 10, 2026 at 5:10 PM Kinsey Ringenberg [redacted] wrote:

> Dear Shawna,
>
> I have lived in Westwoods for 19 years. Over this time I have seen many building projects completed. I have never voiced a concern about any of these projects because they have fit in with the flow of the community.
>
> I have significant concerns about the Avalon Apartments. I don't oppose growth in that area, but it's too much for the local infrastructure. The same footprint with 2-story buildings instead of the proposed 3- and 4-story buildings would be much more reasonable. There are several reasons for the opposition, including inadequate amounts of commercial retail (grocery stores and restaurants) in this area. But the biggest concerns come from our experience with the Superior fire a few years ago. The roads in this area do not allow for adequate evacuation as it is, but adding this many units will put further strain on an already under-resourced road system. Please consider the safety of our residents before development.
>
> We would welcome other ideas or modifications to the current proposal, but we ask that you vote against the current proposal as is.
>
> With Gratitude,
> erg
> [redacted]

--
Ben Perko
Constituent Services Liaison
City Manager's Office
720-898-7511
bperko@arvada.org

--
Bryan Goddard
Administrative Specialist - City Clerk
(720) 898-7548
bgoddard@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

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CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada – Project DA2025-0035

1 message

Josie Suk <jsuk@arvada.org> Tue, Apr 14, 2026 at 7:50 AM
To: Heidi Van Gieson <hvangieson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Mon, Apr 13, 2026 at 10:43 PM
Subject: Fwd: Avalon Arvada – Project DA2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Randy Moorman** <rmoorman@arvada.org>
Date: Mon, Apr 13, 2026 at 8:25 PM
Subject: Re: Avalon Arv 5
To: Kinsey Ringenberg [redacted] Kristen Rush <kristen@arvada.org>, Council <Council@arvada.org>

Dear Kinsey,

Thank you for reaching out. I've copied all council members and the city clerk so that your comments may be included in the permanent record. You may also attend the upcoming meeting on April 21st and speak directly to council during the public comment portion of the meeting if you wish.

Sincerely,
Randy Moorman
Arvada Mayor Pro Tem
District 1 Councilmember
720-772-6651

On Fri, Apr 10, 2026 at 5:09 PM Kinsey Ringenberg [redacted] > wrote:

> Dear Randy,
>
> I have lived in Westwoods for 19 years. Over this time I have seen many building projects completed. I have never voiced a concern about any of these projects because they have fit in with the flow of the community.
>
> I have significant concerns about the Avalon Apartments. I don't oppose growth in that area, but it's too much for the local infrastructure. The same footprint with 2-story buildings instead of the proposed 3- and 4-story buildings would be much more reasonable. There are several reasons for the opposition, including inadequate amounts of commercial retail (grocery stores and restaurants) in this area. But the biggest concerns come from our experience with the Superior fire a few years ago. The roads in this area do not allow for adequate evacuation as it is, but adding this many units will put further strain on an already under-resourced road system. Please consider the safety of our residents before development.
>
> We would welcome other ideas or modifications to the current proposal, but we ask that you vote against the current proposal as is.
>
> With Gratitude,
> erg
> [redacted]

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

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CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Apr 13, 2026 at 8:05 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Please find the public comment on the Avalon Arvada/Welby Gardens project below.

Sincerely,
Rozalynne

---------- Forwarded messag
From: **Kinsey Ringenberg** [redacted]
Date: Fri, Apr 10, 2026 at 5:14 PM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <rthompson@arvada.org>

Dear Rozalynne,

I have lived in Westwoods for 19 years. Over this time I have seen many building projects completed. I have never voiced a concern about any of these projects because they have fit in with the flow of the community.

I have significant concerns about the Avalon Apartments. I don't oppose growth in that area, but it's too much for the local infrastructure. The same footprint with 2-story buildings instead of the proposed 3- and 4-story buildings would be much more reasonable. There are several reasons for the opposition, including inadequate amounts of commercial retail (grocery stores and restaurants) in this area. But the biggest concerns come from our experience with the Superior fire a few years ago. The roads in this area do not allow for adequate evacuation as it is, but adding this many units will put further strain on an already under-resourced road system. Please consider the safety of our residents before development.

We would welcome other ideas or modifications to the current proposal, but we ask that you vote against the current proposal as is.

With Gratitude,
erg
[redacted]

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Apr 15, 2026 at 8:07 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

I am forwarding the public comment below on the Avalon Arvada/Welby Gardens project to both of you.

Sincerely,
Rozalynne

---------- Forwarded
From: **KYSawada** [redacted]>
Date: Tue, Apr 14, 2026 at 10:36 PM
Subject: Avalon Arvada Apartments – DA2025-0035
To: BFifer@Arvada.org <BFifer@arvada.org>, rthompson@arvada.org <rthompson@arvada.org>

Dear Mr. Fifer:

You and I met long ago in a professional manner - I was your dermatologist. I remembered that you had just become a member of the Arvada City Council and I was so excited for you and your enthusiasm going forward. I believe you were an engineer but I might be wrong since it has been awhile. I remember you inviting me to reach out to you should I have any questions or concerns.

I am happy to tell you that I have "retired" from my practice and I have been enjoying my retirement and busier now more than ever. I have lived in the High Pointe section of Westwoods Ranch (near the 8th hole of Sleeping Indian) for 22 years and in Arvada since 1964 and yes, I have seen and enjoyed Arvada's growth and development. However, I must tell you that the current call to massive high density building is alarming given our concerns for the environment and infrastructure and available resources.

In particular, I am concerned about the Avalon proposal to build this 832 unit structure where the old Veldekamp (Welby Gardens) greenhouses once stood. I have seen the proposed 4 story buildings and the layout and I am worried about having such apartments and rentals stuck in the middle of an established neighborhood that is truly one of the most beautiful areas we have in Arvada. I recalled that something similar was proposed for the area just south of 72nd that abutted the golfing range but that failed and now it has single family dwellings on it and is a nice addition to the neighborhood. I worry about fire evacuation should that high density area be built and there is limited egress and access to 64th Avenue or Highway 93. I worry about the fact that the area had greenhouses on it for over 50 years and the soil has been exposed to insecticides, fungicides and fertilizers (arsenicals are possible in such ingredients). I wonder if anyone has study the water run off into Church Ranch Ditch which is near to the golf course on the northside should we ever enjoy a normal rainfall/snowfall again. I worry that the city council has not paid proper attention to this development and has not considered other types of development in lieu of this incessant drive to build high density unattractive, expensive block like rentals, townhouses that are dotting all of the old Arvada sites (Timberline gardens, Ward Road, 58th, Ralston for example).

Personally, and perhaps selfishly, I would like to see more developments catering to seniors with associated amenities, more senior living places as we are a very active bunch along with mixed use, businesses and libraries and meeting areas for development of a community and recreation rather than an emphasis on a commuter community.

There are a lot of hard working people who are looking at this proposal from all the angles and with respect to the impact to the neighborhoods in the areas surrounding this

development. I just request that you and your colleagues take a good look at this proposal and think about where Arvada should grow and how it should grow. We still have an area of the Denver Metro that has a lot to offer and I would hate to see it become a suburban jungle for the sake of "growth and development".

Thank you for your consideration;
Kathleen Y. Sawada MD F.A.A.D., Capt. MC USNR (ret)

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Apr 13, 2026 at 8:10 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Copy 2 of 7

---------- Forwarded m
From: **Larry Wrigh** [redacted]
Date: Sun, Apr 12, 2026 at 7:43 PM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <rmoorman@arvada.org>
Cc: <rthompson@arvada.org>

Dear Council Member Moorman,

I am a long time resident of Arvada. I've lived in different areas of Arvada since the 70's. Currently reside in the Westwoods area. That has been for almost 20 years now. During that time I have seen the area grow substantially. Along with that growth has come the increased traffic, noise, crowded parking lots, etc. That's going to happen with growth, understandable. The problem is created when the infrastructure can't support it. The traffic often is absurd at times. Roads are not able to support the traffic and congestion. An obvious huge reason is because the absolute ridiculous and quite embarrassing, when you say you live in Arvada, is the fact that Arvada, and Golden as well, can't come up with the solution to connecting 470. That just channels all that traffic through side streets in West Arvada where it should be on a connecting highway or at minimum a parkway. That is inexcusable. As projects come up and add to this dilemma it not only adds the amount of frustrations from traffic, congestion and noise but increases the issues with emergency response workers.

We need to look beyond the dollar signs that come into some people's eyes when these type projects come up and think about the affect they have on the lives of thousands of people already living in an area impacted by such decisions.

Thank you,

Larry Wright

16228 W 65th Pl

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Apr 13, 2026 at 8:11 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Copy 3 of 7

---------- Forwarded m
From: **Larry Wrigh** [redacted]
Date: Sun, Apr 12, 2026 at 7:46 PM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <sambrose@arvada.org>
Cc: <rthompson@arvada.org>

Dear Council Member Ambrose ,

I am a long time resident of Arvada. I've lived in different areas of Arvada since the 70's. Currently reside in the Westwoods area. That has been for almost 20 years now. During that time I have seen the area grow substantially. Along with that growth has come the increased traffic, noise, crowded parking lots, etc. That's going to happen with growth, understandable. The problem is created when the infrastructure can't support it. The traffic often is absurd at times. Roads are not able to support the traffic and congestion. An obvious huge reason is because the absolute ridiculous and quite embarrassing, when you say you live in Arvada, is the fact that Arvada, and Golden as well, can't come up with the solution to connecting 470. That just channels all that traffic through side streets in West Arvada where it should be on a connecting highway or at minimum a parkway. That is inexcusable. As projects come up and add to this dilemma it not only adds the amount of frustrations from traffic, congestion and noise but increases the issues with emergency response workers.

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Thank you,

Larry Wright

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Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Apr 13, 2026 at 8:11 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Copy 4 of 7

---------- Forwarded m
From: **Larry Wrigh** [redacted]
Date: Sun, Apr 12, 2026 at 7:49 PM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <rlovisone@arvada.org>
Cc: <rthompson@arvada.org>

Dear Council Member Lovisone,

I am a long time resident of Arvada. I've lived in different areas of Arvada since the 70's. Currently reside in the Westwoods area. That has been for almost 20 years now. During that time I have seen the area grow substantially. Along with that growth has come the increased traffic, noise, crowded parking lots, etc. That's going to happen with growth, understandable. The problem is created when the infrastructure can't support it. The traffic often is absurd at times. Roads are not able to support the traffic and congestion. An obvious huge reason is because the absolute ridiculous and quite embarrassing, when you say you live in Arvada, is the fact that Arvada, and Golden as well, can't come up with the solution to connecting 470. That just channels all that traffic through side streets in West Arvada where it should be on a connecting highway or at minimum a parkway. That is inexcusable. As projects come up and add to this dilemma it not only adds the amount of frustrations from traffic, congestion and noise but increases the issues with emergency response workers.

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Larry Wright

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Principal Planner
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Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

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Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Apr 13, 2026 at 8:12 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Copy 5 of 7

---------- Forwarded m
From: **Larry Wrigh** [redacted]
Date: Sun, Apr 12, 2026 at 7:51 PM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <sdavis@arvada.org>
Cc: <rthompson@arvada.org>

Dear Council Member Davis,

I am a long time resident of Arvada. I've lived in different areas of Arvada since the 70's. Currently reside in the Westwoods area. That has been for almost 20 years now. During that time I have seen the area grow substantially. Along with that growth has come the increased traffic, noise, crowded parking lots, etc. That's going to happen with growth, understandable. The problem is created when the infrastructure can't support it. The traffic often is absurd at times. Roads are not able to support the traffic and congestion. An obvious huge reason is because the absolute ridiculous and quite embarrassing, when you say you live in Arvada, is the fact that Arvada, and Golden as well, can't come up with the solution to connecting 470. That just channels all that traffic through side streets in West Arvada where it should be on a connecting highway or at minimum a parkway. That is inexcusable. As projects come up and add to this dilemma it not only adds the amount of frustrations from traffic, congestion and noise but increases the issues with emergency response workers.

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Larry Wright

16228 W 65th Pl

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Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Apr 13, 2026 at 8:18 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Copy 6 of 7

---------- Forwarded m
From: **Larry Wrigh** [redacted]>
Date: Sun, Apr 12, 2026 at 7:53 PM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <mgriffith@arvada.org>
Cc: <rthompson@arvada.org>

Dear Council Member Griffith,

I am a long time resident of Arvada. I've lived in different areas of Arvada since the 70's. Currently reside in the Westwoods area. That has been for almost 20 years now. During that time I have seen the area grow substantially. Along with that growth has come the increased traffic, noise, crowded parking lots, etc. That's going to happen with growth, understandable. The problem is created when the infrastructure can't support it. The traffic often is absurd at times. Roads are not able to support the traffic and congestion. An obvious huge reason is because the absolute ridiculous and quite embarrassing, when you say you live in Arvada, is the fact that Arvada, and Golden as well, can't come up with the solution to connecting 470. That just channels all that traffic through side streets in West Arvada where it should be on a connecting highway or at minimum a parkway. That is inexcusable. As projects come up and add to this dilemma it not only adds the amount of frustrations from traffic, congestion and noise but increases the issues with emergency response workers.

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Thank you,

Larry Wright

16228 W 65th Pl

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Apr 13, 2026 at 9:43 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Copy 7 of 7

---------- Forwarded m
From: **Larry Wrigh** [redacted]
Date: Sun, Apr 12, 2026 at 7:56 PM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <bfifer@arvada.org>
Cc: <rthompson@arvada.org>

Dear District Rep Fifer,

I am a long time resident of Arvada. I've lived in different areas of Arvada since the 70's. Currently reside in the Westwoods area. That has been for almost 20 years now. During that time I have seen the area grow substantially. Along with that growth has come the increased traffic, noise, crowded parking lots, etc. That's going to happen with growth, understandable. The problem is created when the infrastructure can't support it. The traffic often is absurd at times. Roads are not able to support the traffic and congestion. An obvious huge reason is because the absolute ridiculous and quite embarrassing, when you say you live in Arvada, is the fact that Arvada, and Golden as well, can't come up with the solution to connecting 470. That just channels all that traffic through side streets in West Arvada where it should be on a connecting highway or at minimum a parkway. That is inexcusable. As projects come up and add to this dilemma it not only adds the amount of frustrations from traffic, congestion and noise but increases the issues with emergency response workers.

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Thank you,

Larry Wright

16228 W 65th Pl

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Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Josie Suk <jsuk@arvada.org> Tue, Apr 14, 2026 at 7:50 AM
To: Heidi Van Gieson <hvangieson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>

---------- Forwarded message ---------
From: **Kristen Rush** <kristen@arvada.org>
Date: Mon, Apr 13, 2026 at 10:43 PM
Subject: Fwd: Avalon Arvada Apartments – DA2025-0035
To: Josie Suk <jsuk@arvada.org>

---------- Forwarded message ---------
From: **Sharon Davis** <sdavis@arvada.org>
Date: Mon, Apr 13, 2026 at 9:00 PM
Subject: Re: Ava DA2025-0035
To: Larry Wrigh [redacted]
Cc: Kristen Rush <kristen@arvada.org>

Thank you, Mr. Wright for your concerns.

I am forwarding this to the City Clerk for the official record which is shared with the entirely of the Council fr their consideration.

Regards,

Sharon Davis
Council Member, At Large
720-450-4825 (Cell)
SDavis@arvada.org

On Sun, Apr 12, 2026 at 7:51 PM Larry Wrigh [redacted] wrote:

> Dear Council Member Davis,
>
> I am a long time resident of Arvada. I've lived in different areas of Arvada since the 70's. Currently reside in the Westwoods area. That has been for almost 20 years now. During that time I have seen the area grow substantially. Along with that growth has come the increased traffic, noise, crowded parking lots, etc. That's going to happen with growth, understandable. The problem is created when the infrastructure can't support it. The traffic often is absurd at times. Roads are not able to support the traffic and congestion. An obvious huge reason is because the absolute ridiculous and quite embarrassing, when you say you live in Arvada, is the fact that Arvada, and Golden as well, can't come up with the solution to connecting 470. That just channels all that traffic through side streets in West Arvada where it should be on a connecting highway or at minimum a parkway. That is inexcusable. As projects come up and add to this dilemma it not only adds the amount of frustrations from traffic, congestion and noise but increases the issues with emergency response workers.

> We need to look beyond the dollar signs that come into some people's eyes when these type projects come up and think about the affect they have on the lives of thousands of people already living in an area impacted by such decisions.
>
> Thank you,
>
> Larry Wright
>
> 16228 W 65th Pl

--
Kristen Rush
City Clerk
720-898-7546 (Work)
303-915-5246 (Cell)
kristen@arvada.org

--
Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

Alert: City of Arvada Planning and Building Staff will not send you an invoice for your fees unless it is requested. Bad actors may send phishing emails using public hearing information to request payment. If you receive a suspicious invoice, please verify first by contacting us at buildingpermits@arvada.org or 720-898-7620.

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Apr 13, 2026 at 8:10 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Please find a public comment on the Avalon Arvada/Welby Gardens below. The comment was sent to all seven councilmembers, so I am going to forward the remaining six copies.

Sincerely,
Rozalynne

---------- Forwarded m
From: **Larry Wrigh** [redacted]
Date: Sun, Apr 12, 2026 at 8:55 AM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <lsimpson@arvada.org>
Cc: <rthompson@arvada.org>

Dear Council Member Simpson,

I am a long time resident of Arvada. I've lived in different areas of Arvada since the 70's. Currently reside in the Westwoods area. That has been for almost 20 years now. During that time I have seen the area grow substantially. Along with that growth has come the increased traffic, noise, crowded parking lots, etc. That's going to happen with growth, understandable. The problem is created when the infrastructure can't support it. The traffic often is absurd at times. Roads are not able to support the traffic and congestion. An obvious huge reason is because the absolute ridiculous and quite embarrassing, when you say you live in Arvada, is the fact that Arvada, and Golden as well, can't come up with the solution to connecting 470. That just channels all that traffic through side streets in West Arvada where it should be on a connecting highway or at minimum a parkway. That is inexcusable. As projects come up and add to this dilemma it not only adds the amount of frustrations from traffic, congestion and noise but increases the issues with emergency response workers.

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Thank you,

Larry Wright

16228 W 65th Pl

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436

Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Executive Summary Regarding DA2025-0035

1 message

Josie Suk <jsuk@arvada.org> Wed, Apr 15, 2026 at 10:18 AM
To: Rozalynne Thompson <rthompson@arvada.org>, Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Josie Suk
Deputy Director
Community and Economic Development
Desk: 720-898-7627
Mobile: 720-582-4419
E-Mail: jsuk@arvada.org
Regular Office Hours: Monday through Friday 8:00 am - 5:00 pm

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CITY OF ARVADA

---------- Forwarded message ---------
From: **Rachel Morris** <rmorris@arvada.org>
Date: Wed, Apr 15, 2026, 9:39 AM
Subject: Fwd: Executive Summary Regarding DA2025-0035
To: Kelsy Sargent <ksargent@arvada.org>, Josie Suk <jsuk@arvada.org>

Here you go!

Rachel

Rachel Morris
City Attorney
Arvada City Attorney's Office
(720) 898-7193
rmorris@arvada.org

ATTORNEY-CLIENT PRIVILEGED INFORMATION
CONFIDENTIALITY NOTICE

This e-mail and any attachments contain information that may be confidential and legally privileged. This information is intended only for the use of the addressee as indicated above. If you are not the intended recipient, any disclosure, copying, distribution, or action taken in reliance on the contents of the information contained in this e-mail is strictly prohibited. If you have received this e-mail in error, please delete the message. Thank you.

- Forwarded message ---------
From: **Mark Breese** [redacted]>
Date: Wed, Apr 15, 2026 at 5:54 AM
Subject: Executive Summary Regarding DA2025-0035
To: <cedboardsandcommission@arvada.org>, Rozalynne Thompson <rthompson@arvada.org>, Rachel Morris <rmorris@arvada.org>

Cc: <council@ non [redacted] Cheatham [redacted],
Scott Hallowel [redacted] Jeff Welch [redacted], Jordan Porte [redacted]

Dear Mayor, Members of Council, and Staff,

We are submitting the attached Executive Summary for the upcoming quasi-judicial hearing regarding the Avalon CUP application.

This summary is intended to assist Council by clearly organizing the key issues in the record and aligning them with the applicable Code criteria and Comprehensive Plan provisions. We have made a deliberate effort to focus on the governing standards and the evidence before you, and to present our analysis in a concise and accessible format.

We also appreciate the clarity provided regarding the hearing process, including the structure allowing individuals to combine time for a single 10-minute presentation. That guidance has been helpful in preparing materials that are focused and respectful of Council's time. And, again, we want to thank Staff for their engagement on this process and helpful support.

We recognize the demands on Council's schedule and appreciate your consideration of these materials in advance of the hearing. Our goal is to be constructive and helpful to your review of the application under the required findings.

The full, detailed supporting materials will be provided separately for inclusion in the record.

Please let us know if there are any questions or if additional information would be helpful.

Respectfully submitted,

Mark Breese

Executive Summary - DA2025-0035 (PWWN).pdf
295K

CITY OF ARVADA, COLORADO

CITY COUNCIL (QUASI-JUDICIAL PROCEEDING)

IN RE: APPLICATION NO. DA2025-0035

AVALON ARVADA APARTMENTS

CONDITIONAL USE PERMIT (CUP)

EXECUTIVE SUMMARY OF EVIDENTIARY SUBMITTAL AND BRIEF IN OPPOSITION TO APPROVAL

ON BEHALF OF AFFECTED NEIGHBORING COMMUNITIES AND RESIDENTS

Submitted by:
Protect West Woods Neighbors (PWWN)

On behalf of:
PWWN
Trail Village Villas HOA
Trail Village HOA
West Woods Links III HOA
Fieldstone HOA
Concerned Citizens of Western Arvada

Date of Hearing: April 21, 2026
Submitted: April 15, 2026

This submittal is provided for inclusion in the official quasi-judicial record.

Executive Summary
Evidentiary Submittal and Brief In Opposition to Approval

IN RE: APPLICATION NO. DA2025-0035

AVALON ARVADA APARTMENTS

CONDITIONAL USE PERMIT (CUP)

Legal Framework

This application comes before Council in a quasi-judicial posture governed by the Land Development Code and the Comprehensive Plan. Council's role is not to evaluate whether the project is desirable, but whether the required findings can be made based on the evidence in the record.

Under the Code, those findings are mandatory. The term "**shall**" is not discretionary. Each of the six Conditional Use Permit criteria must be satisfied, and each must be supported by evidence in the record at the time of decision. If any one finding cannot be made, the Code requires denial.

This review is therefore grounded in the Code and the Comprehensive Plan, and focused on whether the evidentiary record supports the findings Council is required to make.

It does not.

More importantly, the gaps in the record are not minor. They are specific, identifiable, and in several cases acknowledged by reviewing agencies. They go directly to whether the required findings can be made. They cannot be resolved through a subsequent Site Plan or through deferred analysis.

Test 1 — Compliance with Applicable Regulations

Test 1 is a threshold requirement: the project must comply with all applicable City regulations, including the International Fire Code.

The record reflects a direct and unresolved compliance issue.

The Fire Code requires two separate access roads with a defined minimum separation distance. The record reflects that this required separation has not been demonstrated to be met, and no approved IFC modification or equivalency finding appears in the record.

In addition, the record indicates that the two access routes are not functionally independent, and rely in part on a shared internal system and a secondary connection through a third-party property, specifically a senior living facility. That raises additional concerns regarding reliability and impacts to an existing, vulnerable population.

This raises two critical questions for Council:

- Where in the record is the formal IFC modification required to approve a deviation from a mandatory "shall" standard?
- Where are the findings demonstrating that any such modification provides equivalent life safety protection?

Absent those findings, the Code does not authorize approval of a deviation from this requirement.

Further, for a project of this size, the Land Development Code requires internal circulation that connects to two separate external streets. The record indicates that all access ultimately relies on Easley Road, a local street that terminates at the site.

This is not a design refinement issue. It is a question of whether the project complies with mandatory access and circulation requirements, which exist to protect public safety.

Based on the current record, the Council cannot make the finding that the project complies with all applicable regulations.

Test 2 — Consistency with the Comprehensive Plan

The Comprehensive Plan is the governing framework that the Code implements.

The Plan provides clear direction regarding where higher-density development should occur and how mixed-use areas are intended to function.

The record reflects several direct inconsistencies:

- The Plan directs higher-density development to transit-supported areas. The record does not identify existing or planned transit service to this site.
- The Plan establishes a west-to-east transition, including an explicit policy of lower density toward the west. This proposal introduces one of the highest densities in Arvada at the western edge.
- The Plan defines mixed-use areas as integrated activity centers with employment, services, and civic uses. The record does not identify those elements within this proposal.

The key question for Council is:

Where in the record is the evidence that this location—without transit, without services, and at this intensity—is consistent with those Plan requirements?

That evidence is not present.

Test 3 — Consistency with the MX-S Zoning District

Test 3 requires that the project be consistent with the purpose and intent of the MX-S zoning district.

The Code defines that district as providing a mix of residential and non-residential uses and functioning as a mixed-use environment.

The record does not identify any integrated non-residential uses, nor any plan demonstrating how the project will function as a mixed-use environment consistent with that purpose and intent. The proposal consists entirely of residential uses.

A mix of housing types does not establish a mix of land uses.

This raises a straightforward question:

What evidence in the record supports a finding that this project will function as a mixed-use environment as required by the district?

That showing is not present.

This is a structural issue that cannot be addressed through conditions or later phases.

Approval under these circumstances would also have broader implications for the integrity of the zoning framework, effectively eliminating the distinction between mixed-use and residential districts.

Test 4 — Compatibility with Surrounding Uses

Test 4 requires that the project be comparable to surrounding uses in scale, intensity, and development pattern, and that appropriate transitions be provided.

The record does not include a comparative analysis demonstrating that.

The proposal concentrates a population roughly equivalent to multiple surrounding neighborhoods into a single site approximately one-seventh the area, with multi-story structures and a continuous building mass that differs fundamentally from the surrounding pattern of development.

> The question is not whether this form of development is allowed somewhere in the district, but whether it is comparable at this location.

The record does not provide an evidentiary basis to support that finding.

Test 5 — Adequate Public Facilities and Services

Test 5 requires an affirmative finding that infrastructure will serve the project while maintaining adequate levels of service for existing development.

The key issue is the validity of the analysis used to support that finding.

Jefferson County, as a referral agency, identified that the core trip distribution assumption in the traffic study "does not seem reasonable" and requested additional analysis. The record does not include that revised analysis.

> This raises a critical question:
>
> If the underlying assumption driving the traffic study has been identified as unreasonable, and the requested revisions are not in the record, on what evidentiary basis can the Council find that levels of service will be maintained?
>
> In addition, the project directs all traffic through a constrained local network serving existing development, including a senior living facility. The record does not demonstrate how those uses will maintain adequate service under corrected conditions.

The record also does not evaluate the project's demand in the context of known system constraints, including anticipated seasonal water limitations.

Based on the current record, the required showing has not been made.

Test 6 — Mitigation of Adverse Impacts

Test 6 requires that impacts be identified, mitigation be defined, and effectiveness be demonstrated in the record.

Here, the record repeatedly defers mitigation to future processes:

- Environmental conditions are identified, but no defined remediation plan is in the record
- Stormwater and downstream impacts are raised, but no completed management plan is provided
- Transportation mitigation depends on a traffic analysis that has not been validated

Mitigation cannot be evaluated if it is not defined.

The question for Council is:

What specific, defined mitigation measures—supported by evidence in the record—demonstrate that impacts have been mitigated to the degree practicable?

That showing has not been made.

Council Risk and Required Findings

This decision is not about whether the project could be improved, or whether additional work might be done in the future.

It is about whether, today, the Council can make the required findings based on the record before it.

If the Council approves this application, it must make affirmative findings that:

- The project complies with applicable Code requirements, despite identified deficiencies and the absence of required modifications in the record
- The project is consistent with the Comprehensive Plan, despite conflicts with location, intensity, and mixed-use function
- The project satisfies the purpose and intent of the MX-S district, despite the absence of a demonstrated mixed-use environment
- Infrastructure will maintain adequate levels of service, despite a traffic analysis identified as unreasonable and not revised in the record
- Impacts have been mitigated, despite mitigation measures that are undefined or deferred

These are findings of fact that must be supported by evidence in the record.

Based on the current record, that support is not present.

Conclusion

This is not a close evidentiary question.

The record contains identified deficiencies, unresolved agency comments, and missing analyses that go directly to the required findings.

The Council is required to make affirmative findings supported by evidence in the record.

Based on the current record, those findings cannot be supported.

Under the Land Development Code, that requires denial.

CED Boards and Commission <cedboardsandcommission@arvada.org>

Executive Summary Regarding DA2025-0035

1 message

Mark Breese [redacted] Wed, Apr 15, 2026 at 5:54 AM
To: cedboardsandcommission@arvada.org, Rozalynne Thompson <rthompson@arvada.org>, Rachel Morris <rmorris@arvada.org>
Cc: coun[redacted]hannon [redacted]im Cheatham [redacted], Scott Hallowe [redacted], Jeff Wetch [redacted], Jordan Porter [redacted]

Dear Mayor, Members of Council, and Staff,

We are submitting the attached Executive Summary for the upcoming quasi-judicial hearing regarding the Avalon CUP application.

This summary is intended to assist Council by clearly organizing the key issues in the record and aligning them with the applicable Code criteria and Comprehensive Plan provisions. We have made a deliberate effort to focus on the governing standards and the evidence before you, and to present our analysis in a concise and accessible format.

We also appreciate the clarity provided regarding the hearing process, including the structure allowing individuals to combine time for a single 10-minute presentation. That guidance has been helpful in preparing materials that are focused and respectful of Council's time. And, again, we want to thank Staff for their engagement on this process and helpful support.

We recognize the demands on Council's schedule and appreciate your consideration of these materials in advance of the hearing. Our goal is to be constructive and helpful to your review of the application under the required findings.

The full, detailed supporting materials will be provided separately for inclusion in the record.

Please let us know if there are any questions or if additional information would be helpful.

Respectfully submitted,

Mark Breese

Executive Summary - DA2025-0035 (PWWN).pdf
295K

CITY OF ARVADA, COLORADO

CITY COUNCIL (QUASI-JUDICIAL PROCEEDING)

IN RE: APPLICATION NO. DA2025-0035

AVALON ARVADA APARTMENTS

CONDITIONAL USE PERMIT (CUP)

EXECUTIVE SUMMARY OF EVIDENTIARY SUBMITTAL AND BRIEF IN OPPOSITION TO APPROVAL

ON BEHALF OF AFFECTED NEIGHBORING COMMUNITIES AND RESIDENTS

Submitted by:
Protect West Woods Neighbors (PWWN)

On behalf of:
PWWN
Trail Village Villas HOA
Trail Village HOA
West Woods Links III HOA
Fieldstone HOA
Concerned Citizens of Western Arvada

Date of Hearing: April 21, 2026
Submitted: April 15, 2026

This submittal is provided for inclusion in the official quasi-judicial record.

Executive Summary
Evidentiary Submittal and Brief In Opposition to Approval

IN RE: APPLICATION NO. DA2025-0035

AVALON ARVADA APARTMENTS

CONDITIONAL USE PERMIT (CUP)

Legal Framework

This application comes before Council in a quasi-judicial posture governed by the Land Development Code and the Comprehensive Plan. Council's role is not to evaluate whether the project is desirable, but whether the required findings can be made based on the evidence in the record.

Under the Code, those findings are mandatory. The term "**shall**" is not discretionary. Each of the six Conditional Use Permit criteria must be satisfied, and each must be supported by evidence in the record at the time of decision. If any one finding cannot be made, the Code requires denial.

This review is therefore grounded in the Code and the Comprehensive Plan, and focused on whether the evidentiary record supports the findings Council is required to make.

It does not.

More importantly, the gaps in the record are not minor. They are specific, identifiable, and in several cases acknowledged by reviewing agencies. They go directly to whether the required findings can be made. They cannot be resolved through a subsequent Site Plan or through deferred analysis.

Test 1 — Compliance with Applicable Regulations

Test 1 is a threshold requirement: the project must comply with all applicable City regulations, including the International Fire Code.

The record reflects a direct and unresolved compliance issue.

The Fire Code requires two separate access roads with a defined minimum separation distance. The record reflects that this required separation has not been demonstrated to be met, and no approved IFC modification or equivalency finding appears in the record.

In addition, the record indicates that the two access routes are not functionally independent, and rely in part on a shared internal system and a secondary connection through a third-party property, specifically a senior living facility. That raises additional concerns regarding reliability and impacts to an existing, vulnerable population.

This raises two critical questions for Council:

- Where in the record is the formal IFC modification required to approve a deviation from a mandatory "shall" standard?
- Where are the findings demonstrating that any such modification provides equivalent life safety protection?

Absent those findings, the Code does not authorize approval of a deviation from this requirement.

Further, for a project of this size, the Land Development Code requires internal circulation that connects to two separate external streets. The record indicates that all access ultimately relies on Easley Road, a local street that terminates at the site.

This is not a design refinement issue. It is a question of whether the project complies with mandatory access and circulation requirements, which exist to protect public safety.

Based on the current record, the Council cannot make the finding that the project complies with all applicable regulations.

Test 2 — Consistency with the Comprehensive Plan

The Comprehensive Plan is the governing framework that the Code implements.

The Plan provides clear direction regarding where higher-density development should occur and how mixed-use areas are intended to function.

The record reflects several direct inconsistencies:

- The Plan directs higher-density development to transit-supported areas. The record does not identify existing or planned transit service to this site.
- The Plan establishes a west-to-east transition, including an explicit policy of lower density toward the west. This proposal introduces one of the highest densities in Arvada at the western edge.
- The Plan defines mixed-use areas as integrated activity centers with employment, services, and civic uses. The record does not identify those elements within this proposal.

The key question for Council is:

Where in the record is the evidence that this location—without transit, without services, and at this intensity—is consistent with those Plan requirements?

That evidence is not present.

Test 3 — Consistency with the MX-S Zoning District

Test 3 requires that the project be consistent with the purpose and intent of the MX-S zoning district.

The Code defines that district as providing a mix of residential and non-residential uses and functioning as a mixed-use environment.

The record does not identify any integrated non-residential uses, nor any plan demonstrating how the project will function as a mixed-use environment consistent with that purpose and intent. The proposal consists entirely of residential uses.

A mix of housing types does not establish a mix of land uses.

This raises a straightforward question:

What evidence in the record supports a finding that this project will function as a mixed-use environment as required by the district?

That showing is not present.

This is a structural issue that cannot be addressed through conditions or later phases.

Approval under these circumstances would also have broader implications for the integrity of the zoning framework, effectively eliminating the distinction between mixed-use and residential districts.

Test 4 — Compatibility with Surrounding Uses

Test 4 requires that the project be comparable to surrounding uses in scale, intensity, and development pattern, and that appropriate transitions be provided.

The record does not include a comparative analysis demonstrating that.

The proposal concentrates a population roughly equivalent to multiple surrounding neighborhoods into a single site approximately one-seventh the area, with multi-story structures and a continuous building mass that differs fundamentally from the surrounding pattern of development.

> The question is not whether this form of development is allowed somewhere in the district, but whether it is comparable at this location.

The record does not provide an evidentiary basis to support that finding.

Test 5 — Adequate Public Facilities and Services

Test 5 requires an affirmative finding that infrastructure will serve the project while maintaining adequate levels of service for existing development.

The key issue is the validity of the analysis used to support that finding.

Jefferson County, as a referral agency, identified that the core trip distribution assumption in the traffic study "does not seem reasonable" and requested additional analysis. The record does not include that revised analysis.

> This raises a critical question:
>
> If the underlying assumption driving the traffic study has been identified as unreasonable, and the requested revisions are not in the record, on what evidentiary basis can the Council find that levels of service will be maintained?
>
> In addition, the project directs all traffic through a constrained local network serving existing development, including a senior living facility. The record does not demonstrate how those uses will maintain adequate service under corrected conditions.

The record also does not evaluate the project's demand in the context of known system constraints, including anticipated seasonal water limitations.

Based on the current record, the required showing has not been made.

Test 6 — Mitigation of Adverse Impacts

Test 6 requires that impacts be identified, mitigation be defined, and effectiveness be demonstrated in the record.

Here, the record repeatedly defers mitigation to future processes:

- Environmental conditions are identified, but no defined remediation plan is in the record
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Mitigation cannot be evaluated if it is not defined.

The question for Council is:

What specific, defined mitigation measures—supported by evidence in the record—demonstrate that impacts have been mitigated to the degree practicable?

That showing has not been made.

Council Risk and Required Findings

This decision is not about whether the project could be improved, or whether additional work might be done in the future.

It is about whether, today, the Council can make the required findings based on the record before it.

If the Council approves this application, it must make affirmative findings that:

- The project complies with applicable Code requirements, despite identified deficiencies and the absence of required modifications in the record
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Based on the current record, that support is not present.

Conclusion

This is not a close evidentiary question.

The record contains identified deficiencies, unresolved agency comments, and missing analyses that go directly to the required findings.

The Council is required to make affirmative findings supported by evidence in the record.

Based on the current record, those findings cannot be supported.

Under the Land Development Code, that requires denial.

Written Public Comment for City Council

04/15/2026 5:57 AM (MDT)

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Written Public Comment for the Public Record

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Email Address	[redacted]
Name	mark breese
Address	6533 umber circle, arvada, co 80007
Phone Number	[redacted]
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Mark Breese

Please upload any necessary attachments

Executive Summary - DA2025-0035 (PWWN).pdf

Thank you! A copy of your responses will be emailed to the address you provided.

CITY OF ARVADA, COLORADO

CITY COUNCIL (QUASI-JUDICIAL PROCEEDING)

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AVALON ARVADA APARTMENTS
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Under the Land Development Code, that requires denial.

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Westwoods/ Avalon projects proposal

1 message

Rozalynne Thompson <rthompson@arvada.org> Wed, Apr 15, 2026 at 9:51 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

I am forwarding the public comment on the Avalon Arvada/Welby Gardens project below.

Sincerely,
Rozalynne

---------- Forwarded messa
From: **Marcia Schroede** [redacted]>
Date: Wed, Apr 15, 2026 at 9:45 AM
Subject: Westwoods/ Avalon projects proposal
To: <rthompson@arvada.org>

Dear City Planner,
Please do not add high density condo units to degrade the low density area near Westwoods. McIntyre & 64th already are super crowded. More traffic on Indiana would be a horrific nightmare. One fire station, one police substation, one grocery store, one fuel station. Where is the medical care?
This Project would seriously jeopardize evacuation routes. Red flag high fire, danger flags abound in this area.
We built a house off Quaker when it was a gravel road in 1967. Lived there for 30 years. Watched the development of Westwoods, open space was the voters' plan. We still live near there.
When did people start being persuaded into high density low level, costly, condo, projects? It's absolutely dangerous. So sad. Please, as City Planner, kindly reconsider this abject Avalon deal.
Marcia Schroeder

Sent from my iPhone

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

Dixielee Rodriguez <drodriguez@arvada.org>

Fwd: Avalon Arvada Apartments – DA2025-0035

1 message

Rozalynne Thompson <rthompson@arvada.org> Mon, Apr 13, 2026 at 8:08 AM
To: Dixielee Rodriguez <drodriguez@arvada.org>, Heidi Van Gieson <hvangieson@arvada.org>

Hi Dixie and Heidi,

Please find a public comment on the Avalon Arvada/Welby Gardens project below.

Sincerely,
Rozalynne

---------- Forwarded mes
From: **Stephanie Davis** [redacted]
Date: Sat, Apr 11, 2026 at 4:58 PM
Subject: Avalon Arvada Apartments – DA2025-0035
To: <lsimpson@arvada.org>, <rmoorman@arvada.org>, <sambrose@arvada.org>, <rlovisone@arvada.org>, <bfifer@arvada.org>, <sdavis@arvada.org>, <mgriffith@arvada.org>, <rthompson@arvada.org>

Hello,

I'm a resident in the the Meadows at Westwoods neighborhood off 64th between McIntyre and Easley.

I am asking that this new development be reconsidered as it is a poor fit for this community. I have 3 young children who run, play, and ride bikes throughout our neighborhood and the bike paths. We live and work in this community and while I welcome new neighbors, this will have a negative impact on the area as a whole.
I have concerns for my children's safety and my neighbors first and foremost, but so many other factors weighing into my thoughts.
-significant increase of traffic = more money for repairs, along with people cutting through our residential streets where lots of children and elderly live. This is a huge safety concern.
- 64th is already regularly backed up between Indiana and Easley during high traffic times
- Easley road is already unable to handle general traffic as a two lane road with little to no shoulder.
- impact on wildlife with much more traffic along the bike paths
-more pollution from noise, lights, vehicles and general waste
-higher utilization of already low water resources in this area

The list of cons far outweigh the pros for this development. Please reconsider and shut this project down.

Thank you,
Stephanie Davis
NW Arvada resident

Sent from my iPhone

--
Rozalynne D. Thompson, AICP, J.D.
Principal Planner
Phone: 720-898-7436
Email: rthompson@arvada.org
Regular Office Hours: Monday through Friday 8:00 am to 5:00 pm

CITY OF ARVADA

LETTER TO OPPOSE THE CURRENT PROPOSED DEVELOPMENT AT EASLEY STREET AND WEST 64TH AVENUE, ARVADA

WE, THE UNDERSIGNED RESIDENTS OF MORNING STAR SENIOR RESIDENCE, WHO LIVE AT 17351 WEST 64TH AVENUE, ARVADA, CO 80007, OPPOSE THE CURRENT PROPOSAL FOR THE USE OF WELBY PROPERTY.

Miriam Shannon Apt 3034

David H. Shannon Apt. 3034

Beverly Brayden apt 1011

Barbara Bomba Apt 3008

Pat Reinhardt " 3032

Sharon Guthrey apt 3031

Harriet Bender 3002

Harry D [illegible]

[illegible] - 2133

Judy Wolvington - 2120

Charlotte [illegible] 1014

Betty Jean Cole

Claire Sullivan

[illegible]

Sandy Quickenden 1018

Diane M. Thompson 2130

Reid Bicknell 3016

Ann Marron 1009

Shane L. Beery

Patricia A. Neiger

Patricia J. Reinhardt

Jeanne Wright 2017

Dan P Fu

[illegible] 2016

Robert Abercrombie

Loretta Chessmore

Thomas G. Pleasant

[illegible]

Neva Appelhans

Mary [illegible] 3020

Eugene W [illegible] 3020

[illegible] 2015

Phyllis Punshon

Carol Weiser 1005

Jenny Wanberg

Elsie Riley

Joel T. Christiner 2013

Melvin C Archer

Miriam A. Shannon 3034

Lawrence G. Ackermann

Thomas W. Cann

Mary J. Copplegate
Apartment 3001

Jean E. LaCrosse
Apt. 3029

Robert Abercrombie
APT 3011

🛑 Take Action: Oppose AvalonBay Development on Welby Gardens Site!

Petition to Protect Our Community and Preserve Our Neighborhood

City of Arvada Project #: DA2025-0035

🔔 I oppose the proposed high-density development of the Welby Gardens site and urge city officials to reject this proposal due to concerns with noise, light pollution, building height, density, traffic, access, environmental, and incompatibility with the surrounding neighborhoods.

This petition will be formally submitted to the Arvada City Council and the Planning Commission to ensure our voices are heard in the decision-making process.

✍️ Add Your Voice

	Name	Address	Email	Signature
1	Kiley Kunkler	17416 W. 69th Ave	[redacted]	
2	Jay Jennings	17407 W 69th AVE		
3	Andrea Kramme	17447 W 69th Ave		
4	Ryan Kramme	"		
5	Andy Kunkler	17416 W 69 Ave		
6	CRAIG BLINCOW	17406 W 69 AVE		
7	Gail Blincow	17406 W 69th Ave		Gail Blincow
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Add Your Voice

	Name	Address	Neighborhood	Email
1	Jeff Schaffer	17460 W. 67th Ave Arvada, CO 80007	Trail Village II	[redacted]
2	Karen Schaffer	17460 W. 67th Ave. Arvada, CO 80007	Trail Village II	
3	Julie Getz	17450 W. 67th Ave Arvada CO 80007	Trail Village II	
4	Matthew Getz	17451 W. 67th Ave Arvada, CO 80007	Trail Village II	
5	Michele Getz	17451 W. 67th Ave Arvada, CO 80007	Trail Village II	
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Add Your Voice

	Name	Address	Neighborhood	Email
1	Prasanna Yalavarthy	17471 W. 67th Ave Arvada, CO 80007	Trail Village	[redacted]
2	RAJESH YALAVARTHY	17471 W. 67th AVE Arvada, CO. 80007	Trail Village	
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✍️ Add Your Voice

	Name	Address	Email	Signature
1	Colby Knapp	15171 W 70th		
2	Ashley Knapp	15171 W 70th		
3	Kimberly DeLisc	6690 Violet Way	[redacted]	
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Email Address	[redacted]
Name	Dr. Tyler Quick
Address	4295 W. 78th Ave., Westminster, CO 80030
Phone Number	[redacted]
Your Comment/Testimony	Dear esteemed members of the Arvada City Council, My name is Tyler Quick, and I am a longtime resident of Westminster. I am writing you today to express my enthusiasm for the Welby Gardens project. As I am sure that you are aware, we face a serious supply-side issue with affordable housing in our community. This project would address that issue in a meaningful way, and help not only Arvada's efforts, but also every community in our region. Despite being an almost lifelong resident of Adams County and Westminster, I have a lot of love and concern for Arvada. I graduated almost twenty years ago from Standley Lake High School, and both my parents and my mother's parents (and some of my great-grandparents) grew up in Jefferson County. Too many of my friends and relatives have moved on from our community because they cannot find affordable housing. Every person who leaves takes a piece of our culture and history away with them, and I would applaud you for taking serious action to help them stay. As someone who commutes to Edgewater every day for work, I deal with serious traffic-related issues. So, I am particularly excited for this project because it will relieve congestion on our roads. Again, I believe this project will benefit all of us who live in the Northwest Denver Metro Area. Thank you for the opportunity to share my perspective.

Thank you! A copy of your responses will be emailed to the address you provided.

AVALON ARVADA/WELBY GARDENS
CONDITIONAL USE REQUEST
CITY COUNCIL
APRIL 21, 2026

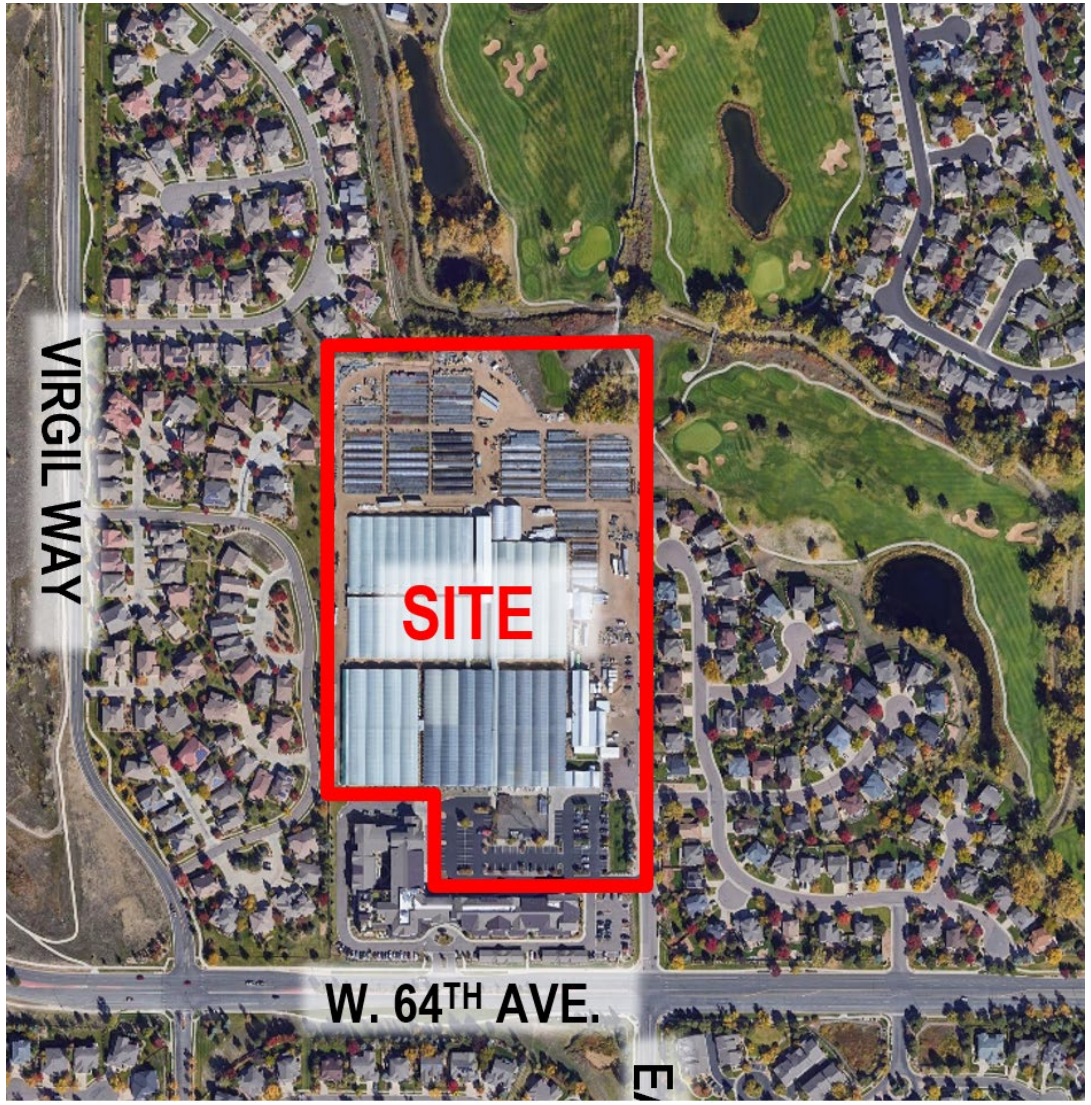
CITY OF ARVADA

OVERVIEW

A Conditional Use application to allow 384 multifamily and 51 townhome units on a site in the MX-S (Mixed- Use, Suburban) zoning district

SITE LOCATION

- The site is approximately 20.1 acres and irregularly-shaped.
- Bounded by West Woods Golf Course to the north, MorningStar Senior Living to the south, and single-unit residences to the east and west.
- Developed with five to six greenhouses, structures, a parking lot, and an access drive to support a wholesale plant nursery operation at the site.
- Vehicles access the site from a drive west of Easley Road.



BACKGROUND

- Development on the property began in 1971, with construction of a greenhouse and office building to the southeast of the site to support a commercial nursery operation.
- A series of greenhouses were constructed on the site between 1971 and 2004 along with storage, warehouse, and other support structures.
- The property was annexed into Arvada in 1997.
- A rezoning was granted in 2004.

PROCEDURAL HISTORY

- Neighborhood Meeting held April 10, 2025.
- Conditional Use application submitted on May 23, 2025.
- Application complete on December 16, 2025.
- Conditional Use request considered by Planning Commission at its January 21, 2026 meeting. Planning Commission voted 5-1 to recommend approval.
- City Council public hearing on Conditional Use request on April 21, 2026.

PROJECT OVERVIEW (CONCEPTUAL)

- **Comprehensive Plan Land Use Designation**: Mixed-Use
- **Zoning**: MX-S
- 384 Multifamily Units
- 51 Townhome Units
- 2-acre Urban Park
- 796 Parking Spaces for Multifamily; 102 Garage Spaces for Townhome units
- 96 Bicycle Parking Spaces for Multifamily
- 325,929 Square Feet of Landscaping
- Two Access Drives from Easley Road

USES ALLOWED IN THE MX-S ZONING DISTRICT

Residential Uses

Use Classification	Use Allowance
Single-Family Detached	C
Duplex	C
Townhome	C
Multiplex	C
Multifamily	C
Cottages, Micro-Homes, or Co-Housing	C

Use Classification	Use Allowance
Boarding, Lodging, or Rooming House	A
Group Home, FFHA	L
Group Home for Juvenile Offenders	C
Group Home, Not Specified Above	C
Live-Work Unit	L

Hospitality, Recreation & Entertainment Uses

Use Classification	Use Allowance
Amusement, Outdoor	L
Bar / Tavern / Nightclub	L
Bed and Breakfast	L
Brew Pub / Distillery Pub / Limited Winery	L
Recreation and Amusement, Indoor	A
Recreation, Outdoor (other)	A
Restaurant	A
Restaurant, Fast Food	L
Theater	A

Commercial Uses

Use Classification	Use Allowance
Animal Day Care / Training	L
Art Studio / Makerspace	A
Continuing Care Facility	A
Office, General or Professional	A
Retail Sales and Services Type 1	L
Retail Sales and Services Type 2	L

Commercial Uses (Cont.)

Use Classification	Use Allowance
Veterinary Offices or Clinics	L
Workshop	A

Community, Civic, Educational, Health Care & Institutional Uses

Use Classification	Use Allowance
Ambulance Services	C
Day Care Center, Adult or Child	A
Funeral Home / Mortuary	L
Hospital	A
Medical Office	A
Public Lands, Parks, Schools or Buildings	A
Place of Assembly	A
Private School, Kindergarten, Elementary, Middle, or High	A
Private School, Vocational, Trade, College, or University	A

Industrial, Processing, Recycling, Storage & Disposal Uses

Use Classification	Use Allowance
Brewery / Winery / Distillery	L
Light Industry	C
Resource Extraction (Minerals)	C
Self-Storage	C

Motor Vehicle Uses

Fueling / Service Station	L
Motor Vehicle Repairs and Service, Light	L
Motor Vehicle Wash	L

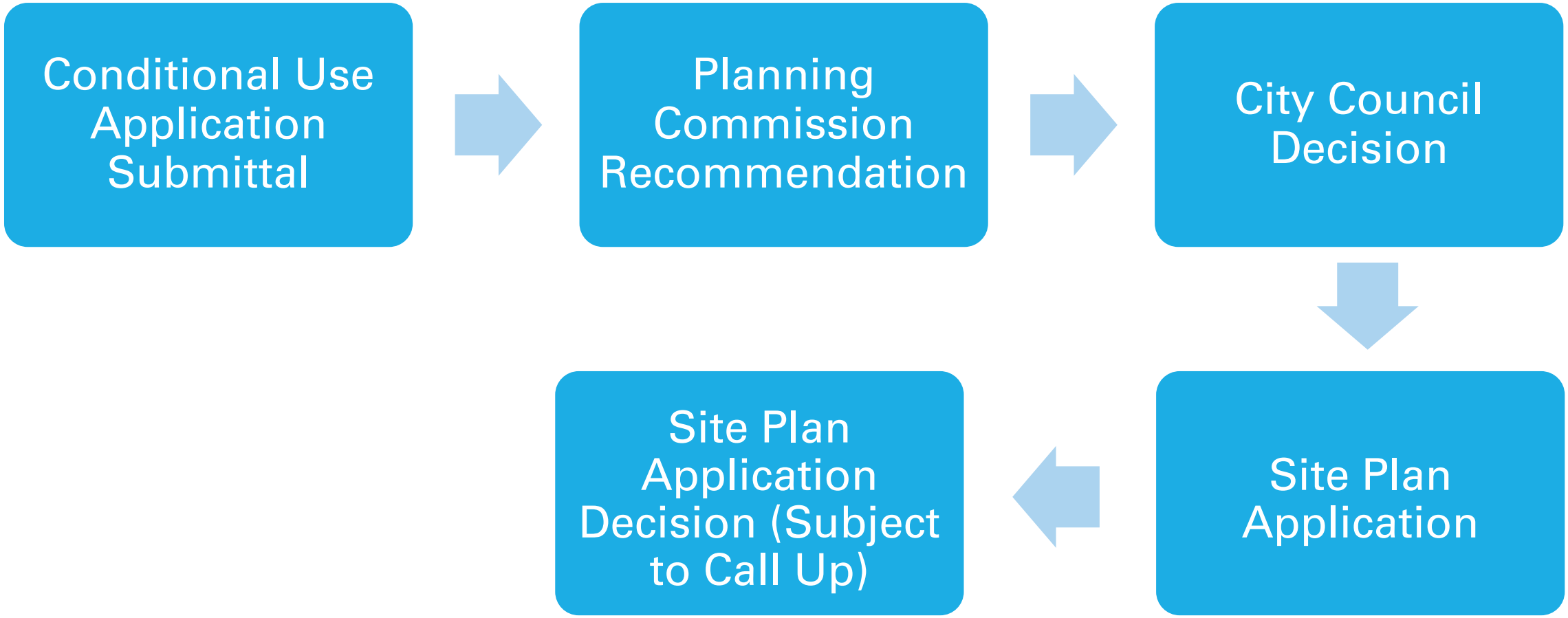
Utility & Communication Uses

Use Classification	Use Allowance
Utilities, Major	C
Utilities, Minor	L
Data Center	C
Overhead Power Lines (110 kV+)	C
Radio or Television Transmission Tower	C
Freestanding Towers	C
Other Wireless Communications Facilities	L
Solar Garden	L

Agriculture Uses

Use Classification	Use Allowance
Agriculture, community	L
Greenhouses/nurseries with retail sales	C

APPLICATION PROCESS



CONDITIONAL USE APPROVAL CRITERIA (LDC SECTION 8-3-5-1)

1. The application complies with the applicable standards of this LDC, other adopted City ordinances, resolutions and regulations including but not limited to any use-specific standards for the proposed Conditional Use in Division 3-1-3, any approved Master Development Plan that includes the property, and any conditions specifically applied to development of the property by the Planning Commission or City Council in a prior decision affecting the property;

2. The application is consistent with the Arvada Comprehensive Plan;

CONDITIONAL USE APPROVAL CRITERIA (LDC SECTION 8-3-5-1)

3. The use is consistent with the purpose and intent of the zoning district in which it is located;

4. The size, scale, height, density, multi-modal traffic impacts, hours of operation and other similar characteristics of the proposed use are comparable with existing and planned uses in the surrounding area and the zoning district regulations;

CONDITIONAL USE APPROVAL CRITERIA (LDC SECTION 8-3-5-1)

5. Facilities and services including sewer, water, storm water, gas, electricity, police and fire protection, and roads and transportation will, prior to or as part of the development, be available to serve the subject property while maintaining adequate levels of service for existing development; and

6. The application mitigates any adverse impacts on the surrounding area to the degree practicable.

STAFF RECOMMENDATION

Based upon project analysis and review of the Land Development Code approval criteria, staff recommends that the City Council approve the project, subject to the conditions of approval listed in the staff report.

CITY OF ARVADA, COLORADO

CITY COUNCIL (QUASI-JUDICIAL PROCEEDING)

IN RE: APPLICATION NO. DA2025-0035
AVALON ARVADA APARTMENTS
CONDITIONAL USE PERMIT (CUP)

EXECUTIVE SUMMARY OF EVIDENTIARY SUBMITTAL AND BRIEF IN OPPOSITION TO APPROVAL

ON BEHALF OF AFFECTED NEIGHBORING COMMUNITIES AND RESIDENTS

Submitted by:
Protect West Woods Neighbors (PWWN)

On behalf of:
PWWN
Trail Village Villas HOA
Trail Village HOA
West Woods Links III HOA
Fieldstone HOA
Concerned Citizens of Western Arvada

Date of Hearing: April 21, 2026
Submitted: April 15, 2026

This submittal is provided for inclusion in the official quasi-judicial record.

Executive Summary
Evidentiary Submittal and Brief In Opposition to Approval

IN RE: APPLICATION NO. DA2025-0035

AVALON ARVADA APARTMENTS

CONDITIONAL USE PERMIT (CUP)

Legal Framework

This application comes before Council in a quasi-judicial posture governed by the Land Development Code and the Comprehensive Plan. Council's role is not to evaluate whether the project is desirable, but whether the required findings can be made based on the evidence in the record.

Under the Code, those findings are mandatory. The term "**shall**" is not discretionary. Each of the six Conditional Use Permit criteria must be satisfied, and each must be supported by evidence in the record at the time of decision. If any one finding cannot be made, the Code requires denial.

This review is therefore grounded in the Code and the Comprehensive Plan, and focused on whether the evidentiary record supports the findings Council is required to make.

It does not.

More importantly, the gaps in the record are not minor. They are specific, identifiable, and in several cases acknowledged by reviewing agencies. They go directly to whether the required findings can be made. They cannot be resolved through a subsequent Site Plan or through deferred analysis.

Test 1 — Compliance with Applicable Regulations

Test 1 is a threshold requirement: the project must comply with all applicable City regulations, including the International Fire Code.

The record reflects a direct and unresolved compliance issue.

The Fire Code requires two separate access roads with a defined minimum separation distance. The record reflects that this required separation has not been demonstrated to be met, and no approved IFC modification or equivalency finding appears in the record.

In addition, the record indicates that the two access routes are not functionally independent, and rely in part on a shared internal system and a secondary connection through a third-party property, specifically a senior living facility. That raises additional concerns regarding reliability and impacts to an existing, vulnerable population.

This raises two critical questions for Council:

- Where in the record is the formal IFC modification required to approve a deviation from a mandatory "shall" standard?
- Where are the findings demonstrating that any such modification provides equivalent life safety protection?

Absent those findings, the Code does not authorize approval of a deviation from this requirement.

Further, for a project of this size, the Land Development Code requires internal circulation that connects to two separate external streets. The record indicates that all access ultimately relies on Easley Road, a local street that terminates at the site.

This is not a design refinement issue. It is a question of whether the project complies with mandatory access and circulation requirements, which exist to protect public safety.

Based on the current record, the Council cannot make the finding that the project complies with all applicable regulations.

Test 2 — Consistency with the Comprehensive Plan

The Comprehensive Plan is the governing framework that the Code implements.

The Plan provides clear direction regarding where higher-density development should occur and how mixed-use areas are intended to function.

The record reflects several direct inconsistencies:

- The Plan directs higher-density development to transit-supported areas. The record does not identify existing or planned transit service to this site.
- The Plan establishes a west-to-east transition, including an explicit policy of lower density toward the west. This proposal introduces one of the highest densities in Arvada at the western edge.
- The Plan defines mixed-use areas as integrated activity centers with employment, services, and civic uses. The record does not identify those elements within this proposal.

The key question for Council is:

Where in the record is the evidence that this location—without transit, without services, and at this intensity—is consistent with those Plan requirements?

That evidence is not present.

Test 3 — Consistency with the MX-S Zoning District

Test 3 requires that the project be consistent with the purpose and intent of the MX-S zoning district.

The Code defines that district as providing a mix of residential and non-residential uses and functioning as a mixed-use environment.

The record does not identify any integrated non-residential uses, nor any plan demonstrating how the project will function as a mixed-use environment consistent with that purpose and intent. The proposal consists entirely of residential uses.

A mix of housing types does not establish a mix of land uses.

This raises a straightforward question:

What evidence in the record supports a finding that this project will function as a mixed-use environment as required by the district?

That showing is not present.

This is a structural issue that cannot be addressed through conditions or later phases.

Approval under these circumstances would also have broader implications for the integrity of the zoning framework, effectively eliminating the distinction between mixed-use and residential districts.

Test 4 — Compatibility with Surrounding Uses

Test 4 requires that the project be comparable to surrounding uses in scale, intensity, and development pattern, and that appropriate transitions be provided.

The record does not include a comparative analysis demonstrating that.

The proposal concentrates a population roughly equivalent to multiple surrounding neighborhoods into a single site approximately one-seventh the area, with multi-story structures and a continuous building mass that differs fundamentally from the surrounding pattern of development.

> The question is not whether this form of development is allowed somewhere in the district, but whether it is comparable at this location.

The record does not provide an evidentiary basis to support that finding.

Test 5 — Adequate Public Facilities and Services

Test 5 requires an affirmative finding that infrastructure will serve the project while maintaining adequate levels of service for existing development.

The key issue is the validity of the analysis used to support that finding.

Jefferson County, as a referral agency, identified that the core trip distribution assumption in the traffic study "does not seem reasonable" and requested additional analysis. The record does not include that revised analysis.

> This raises a critical question:
>
> If the underlying assumption driving the traffic study has been identified as unreasonable, and the requested revisions are not in the record, on what evidentiary basis can the Council find that levels of service will be maintained?
>
> In addition, the project directs all traffic through a constrained local network serving existing development, including a senior living facility. The record does not demonstrate how those uses will maintain adequate service under corrected conditions.

The record also does not evaluate the project's demand in the context of known system constraints, including anticipated seasonal water limitations.

Based on the current record, the required showing has not been made.

Test 6 — Mitigation of Adverse Impacts

Test 6 requires that impacts be identified, mitigation be defined, and effectiveness be demonstrated in the record.

Here, the record repeatedly defers mitigation to future processes:

- Environmental conditions are identified, but no defined remediation plan is in the record
- Stormwater and downstream impacts are raised, but no completed management plan is provided
- Transportation mitigation depends on a traffic analysis that has not been validated

Mitigation cannot be evaluated if it is not defined.

The question for Council is:

What specific, defined mitigation measures—supported by evidence in the record—demonstrate that impacts have been mitigated to the degree practicable?

That showing has not been made.

Council Risk and Required Findings

This decision is not about whether the project could be improved, or whether additional work might be done in the future.

It is about whether, today, the Council can make the required findings based on the record before it.

If the Council approves this application, it must make affirmative findings that:

- The project complies with applicable Code requirements, despite identified deficiencies and the absence of required modifications in the record
- The project is consistent with the Comprehensive Plan, despite conflicts with location, intensity, and mixed-use function
- The project satisfies the purpose and intent of the MX-S district, despite the absence of a demonstrated mixed-use environment
- Infrastructure will maintain adequate levels of service, despite a traffic analysis identified as unreasonable and not revised in the record
- Impacts have been mitigated, despite mitigation measures that are undefined or deferred

These are findings of fact that must be supported by evidence in the record.

Based on the current record, that support is not present.

Conclusion

This is not a close evidentiary question.

The record contains identified deficiencies, unresolved agency comments, and missing analyses that go directly to the required findings.

The Council is required to make affirmative findings supported by evidence in the record.

Based on the current record, those findings cannot be supported.

Under the Land Development Code, that requires denial.

Avalon Arvada
Conditional Use Permit

City Council

April 21, 2026

AvalonBay
COMMUNITIES

Community Developer

AvalonBay COMMUNITIES

Consultants

TPC THE PACHNER COMPANY

HKS HARRIS KOCHER SMITH

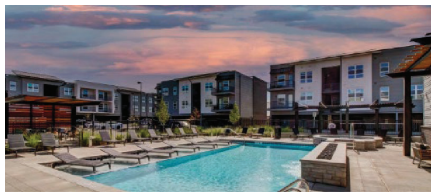
NORRIS DESIGN PEOPLE + PLACEMAKING

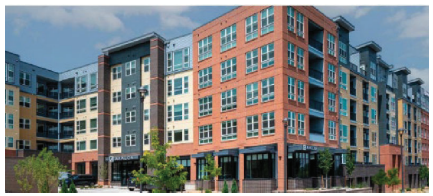
studio PBA

OTTENJOHNSON ROBINSON NEFF + RAGONETTI PC

About AvalonBay

AvalonBay Communities is a leading multifamily company. We develop, build, own, and operate multifamily communities in 10 US regions, including Colorado. Given our long-term ownership structure, we are incentivized by the performance of both the apartment community and the greater communities in which we develop.





POWERED BY PEOPLE, PURPOSE & CULTURE

CREATING A BETTER WAY TO LIVE — COMMITMENT TO INTEGRITY — SPIRIT OF CARING — FOCUS ON CONTINUOUS IMPROVEMENT

Environmental and Social Awards and Recognitions

Awards and Recognition

- Newsweek America's Most Responsible Companies 2023 5th YEAR IN A ROW
- Newsweek America's Greenest Companies 2024
- Forbes Top 100 List of Net Zero Leaders Ranked #48 2nd YEAR ON LIST
- Washington Post Best Places to Work
- Human Rights Campaign – Best Place to Work for LGBTQ+ Equality 2nd YEAR ON LIST
- Associated General Contractors – Diversity & Inclusion Excellence Award 2024
- 3BL Media global list of 100 Best Corporate Citizens 6th YEAR ON LIST

Project Site & Existing Context

Project Site & Existing Context

Our Request

No Rezoning

Conditional Use Permit

Request for a **Conditional Use Permit** in the MX-S zone to allow **Multifamily and Single-family** attached

Current Conceptual Site Plan

Approval Criteria

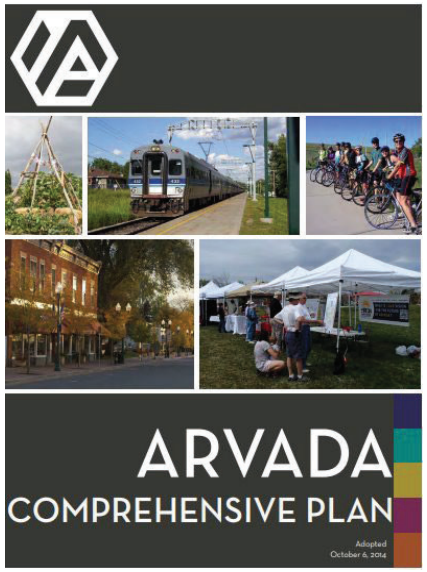
APPROVAL CRITERIA

Follow Along Here

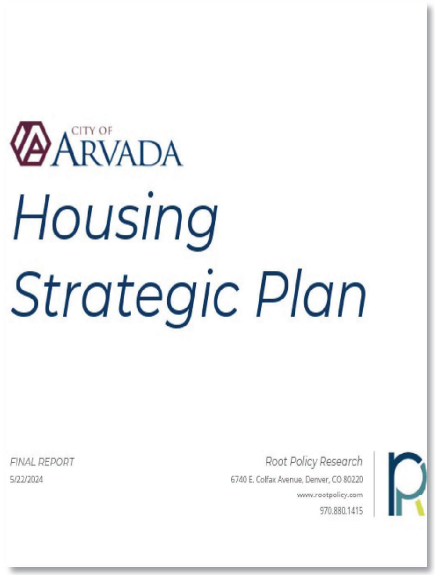
1. The application complies with the applicable standards of this LDC …
2. The application is consistent with the Arvada Comprehensive Plan
3. The use is consistent with the purpose and intent of the zoning district in which it is located
4. The size, scale, height, density, multi-modal traffic impacts, hours of operation and other similar characteristics of the proposed use are comparable with existing and planned use in the surrounding area and the zoning district regulations
5. Facilities and services including sewer, water, storm water, gas, electricity, police and fire protection, and roads and transportation will, prior to or as part of the development be available to serve the subject property while maintaining adequate levels of services for existing development
6. The application mitigates any adverse impacts on the surrounding area to the degree practicable

Our Guiding Documents

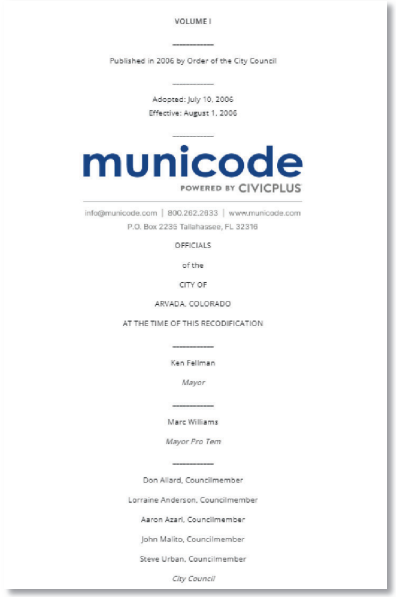
2014 Arvada Comprehensive Plan



2024 Arvada Housing Strategic Plan



Current Arvada Zoning Code

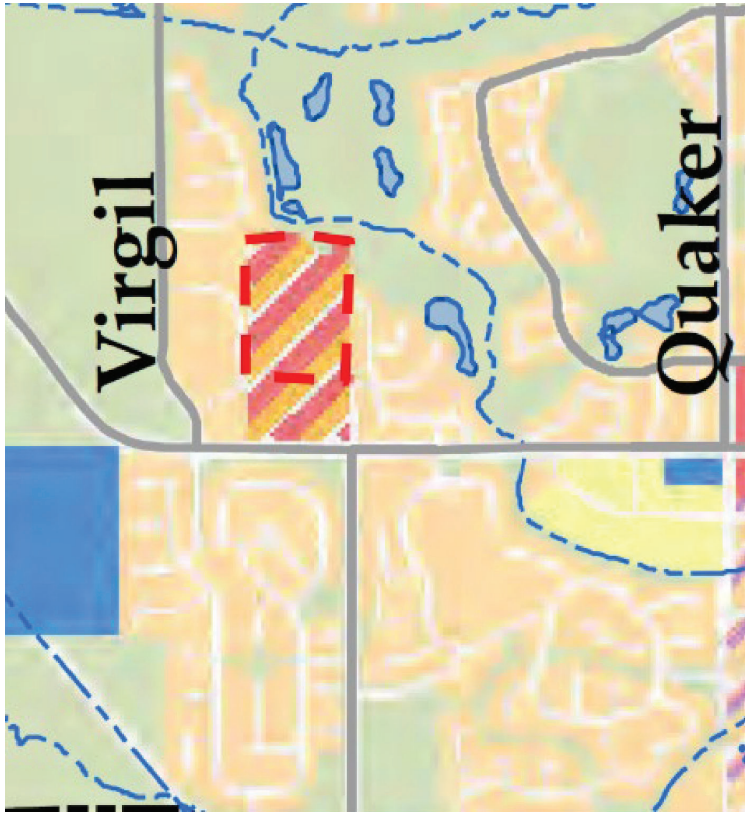


Our Guiding Documents

2014 Arvada Comprehensive Plan

APPROVAL CRITERIA

2 **Comprehensive Plan Compliance**



Legend

- Mixed-Use
- Suburban Residential
- Open Space Parks
- Public/Quasi-Public Facilities
- Low Density Residential

2014 Arvada Comprehensive Plan

Mixed-Use

APPROVAL CRITERIA

2 **Comprehensive Plan Compliance**

POLICY L-3.1: Designated Mixed-Use Areas
"The plan designates mixed-use areas in Arvada to provide a mix of land uses, services, retail and commercial development, employment, and in some cases, a **diversity of higher density housing** . . ." (Arvada Comp Plan)

POLICY L-3.2: Criteria for New and Redeveloping Mixed-Use Areas
"Mixed-use areas are envisioned as strategically located, **high intensity**, pedestrian-oriented activity areas providing a range of retail, business, civic, cultural, and **residential opportunities** for the surrounding trade area." (Arvada Comp Plan)

GOAL L-5: Redevelopment and Infill
"Designate and **promote redevelopment and infill** to generate economic revitalization, improve physical conditions, and provide an appropriate **mix of quality housing choices**. " (Arvada Comp Plan)

Mixed-Use Categories
"Mixed use is not required on a parcel-specific basis. Areas of the city designated as mixed use should contain a mix of uses across proximate parcels." (Arvada Comp Plan)

Primary Uses:

The Mixed-Use category is intended to promote a wide range of land uses, including retail, office, light industrial, live-work, and medium and higher density residential.

"The Comprehensive Plan recommends a density greater than residential zoning districts for residential projects on parcels designated MU, with the goal of providing greater housing diversity..." (Staff Report)

Arvada Housing Strategic Plan

APPROVAL CRITERIA

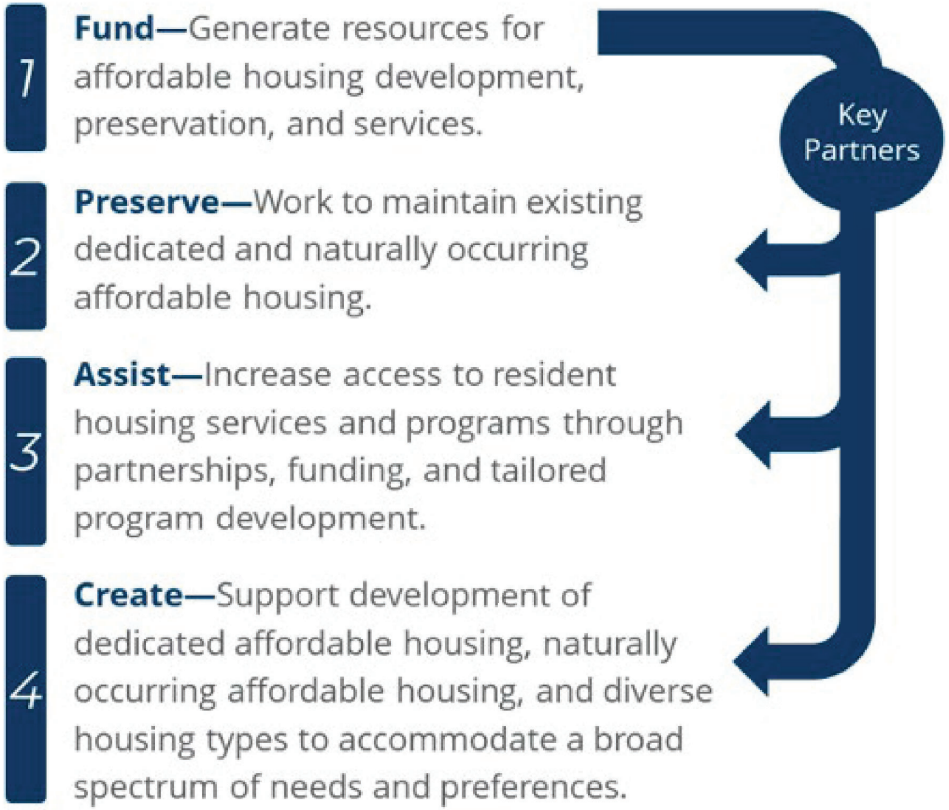
2 **Comprehensive Plan Compliance**

Housing Goals

"Increase production of housing that expands price-point and product diversity in Arvada, including **Multifamily** and "**missing middle**" products that tend to have more attainable price-points."

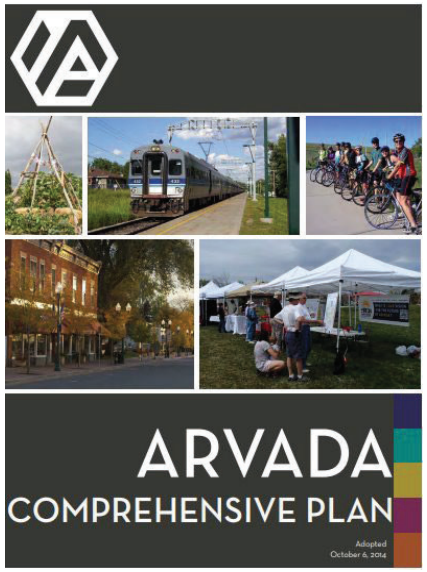
West Arvada Reality

Today, west Arvada offers exceptional access to mountains and trails, but virtually no apartment housing west of Ward road to support diverse living needs.

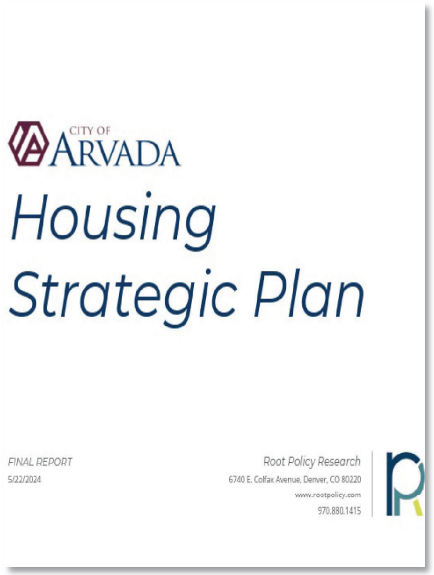


Our Guiding Documents

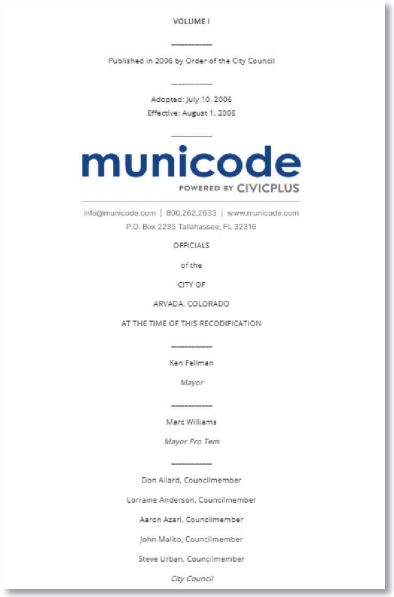
2014 Arvada Comprehensive Plan



2024 Arvada Housing Strategic Plan



Current Arvada Zoning Code



Zoning

Historical Buildout of Site

APPROVAL CRITERIA

3 **Zoning Intent and Consistency**

Year: 1963

Year: 1971

Year: 1994

Zoning

Historical Buildout of Site

APPROVAL CRITERIA

3 **Zoning Intent and Consistency**

Year: 1999

Zoning in 1997 - Permitted Uses

- Drive Thru Restaurant
- Food, Liquor, Store
- Bar, Tavern, Nightclub
- Ambulance Service
- Grocery Store
- Carwash
- Gas Station
- Passenger Terminal
- Auto Accessory Store
- Hospital
- Parking Structure
- Vocational Business School
- Drive Thru Bank
- Motor Vehicle Showroom
- Hotel, Motel
- Assembly Hall
- Hardware and Minor Appliance Store

Zoning

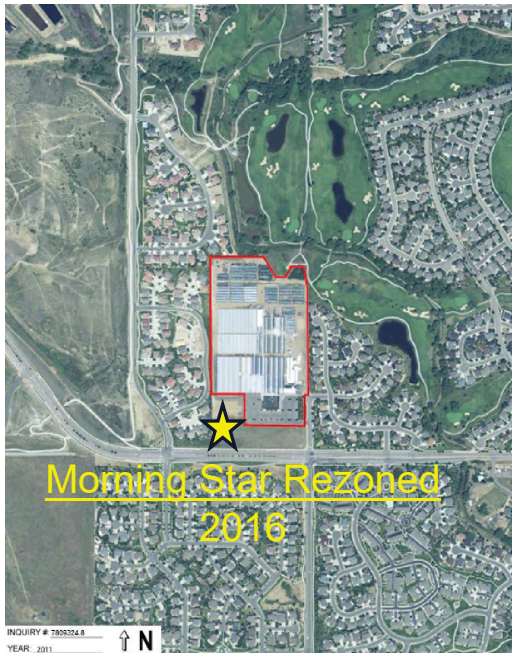
Historical Buildout of Site

APPROVAL CRITERIA

3 **Zoning Intent and Consistency**

Year: 2005

Year: 2011



Year: 2019

Current Zoning

APPROVAL CRITERIA

3 **Zoning Intent and Consistency**

LEGEND

- MX-S - Mixed Use – Suburban
- PUD - Planned Unit Development
- RN 7.5 - Residential Neighborhood 7.5 du/ac
- OS - Open Space

Current Zoning

Allowed Uses W/O Conditional Approval:

- Workshop
- Hospital
- Medical Office
- Office
- Assembly Hall
- Private College
- Private School
- Private Vocational or Trade School
- Indoor Amusement and Recreation
- Restaurant

Allowed Uses with Conditional Approval:

- Greenhouses or Nurseries
- Radio Tower
- Data Center
- Ambulance Services
- Light Industrial
- Resource Extraction (Minerals)
- Self-Storage
- Data Center
- Single Family Detached
- Duplex
- Multiplex

APPROVAL CRITERIA

3 Zoning Intent and Consistency

MX-S ZONING STANDARDS	Residential	Non-Residential
Max Height	45ft	45ft
Max Height (ADU)	30ft	-
Max Height (Accessory bldg.)	18ft	-
Min Landscape Area	25%	25%
Max Density	None	-

Limited Uses:

- Group Home
- Live Work Unit
- Self-Storage
- Data Center
- Bar/Nightclub
- Fast Food
- Animal Training
- Fueling Station
- Motor Vehicle Services
- Vehicle Equipment

Zoning –Existing Context

What MX-S looks like in this area today

APPROVAL CRITERIA

3 **Zoning Intent and Consistency**

Precedent imagery from Morningstar

What MX-S Zoning Looks Like in Arvada

Family Tree Affordable Housing:

- CUP approved 9/11/23
- 51.9 Du/Ac

Marshall Pointe Affordable Housing:

- CUP approved 3/6/23
- 59.6 Du/Ac

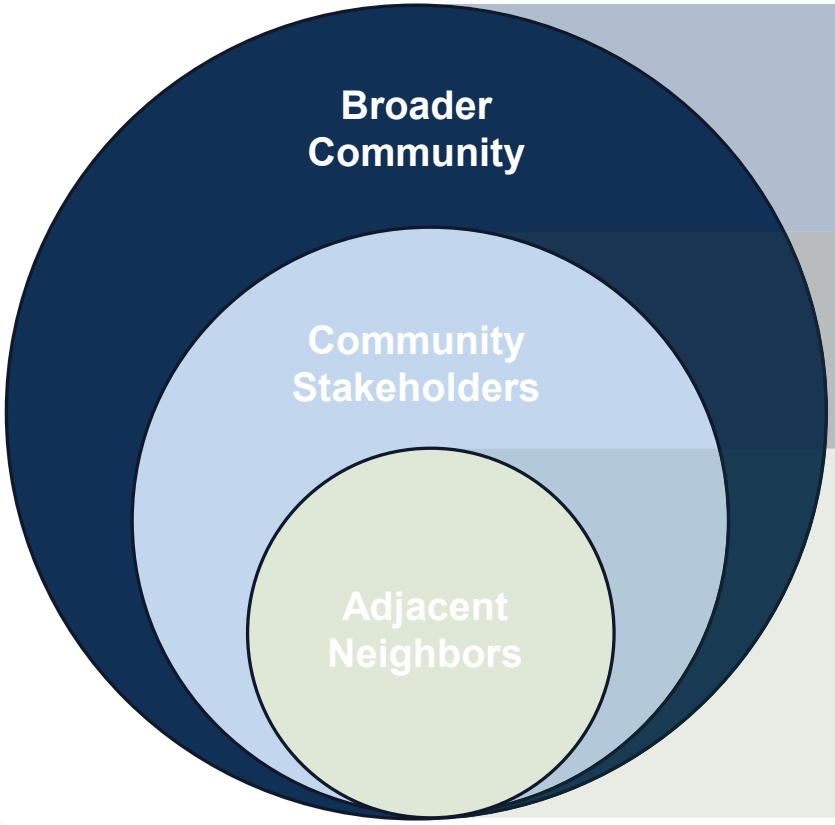
Clear Creek Commons:

- CUP approved 3/15/21
- 63.1 Du/Ac

West 53rd Ave Townhomes

- CUP approved 7/17/23
- 13.5 Du/Ac

Neighborhood Outreach



- Civic Organizations
- Jefferson County Regional Organizations

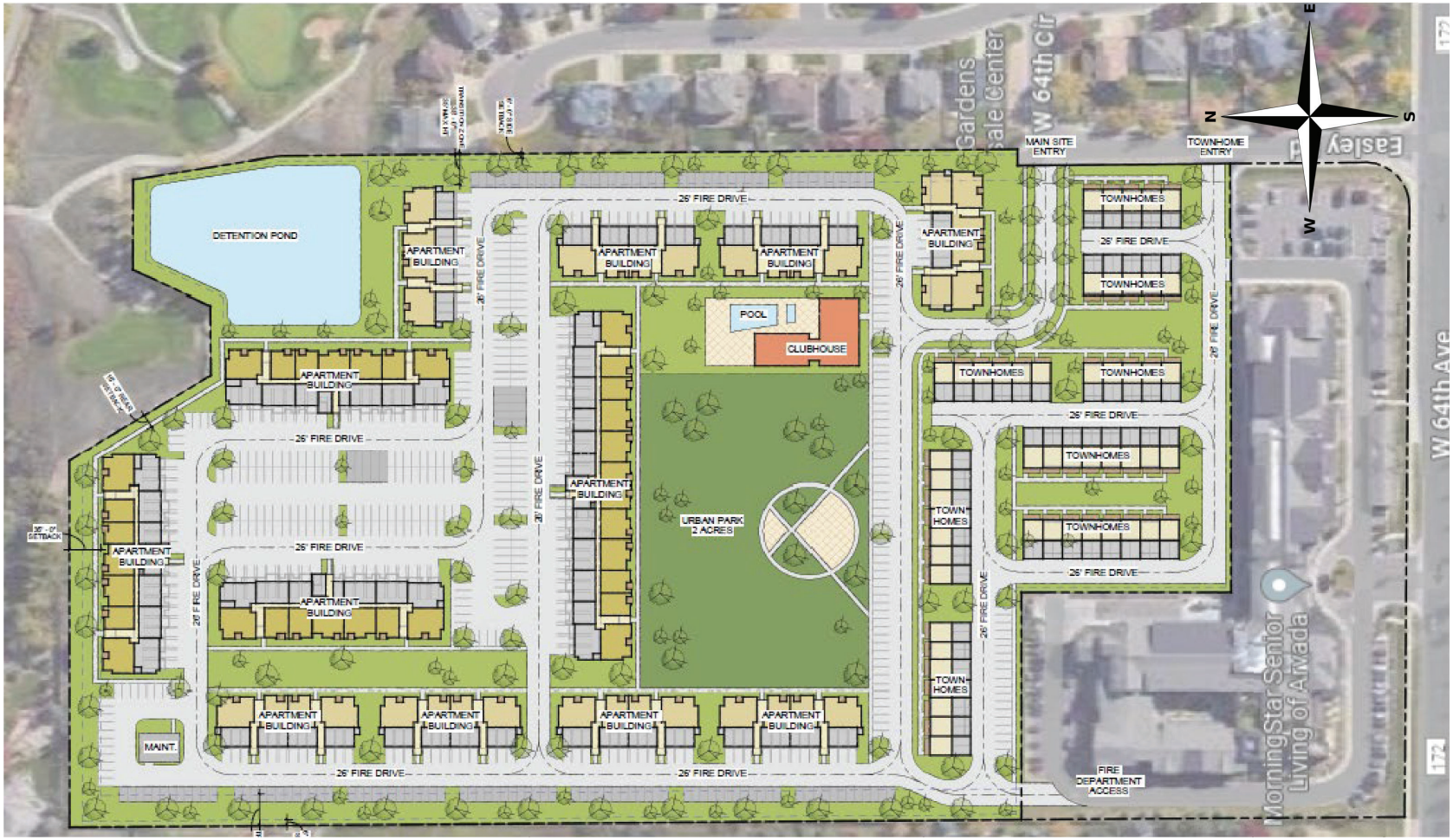
- Nearby Neighborhoods
- Area Businesses

- Westwood Links
- Westwood Ranch
- Trail Village
- Fieldstone
- Sunrise Ridge
- Adjacent

Date of Meeting	Method	Notice
January 13th, 2025	Meeting focused on the abutting eastern neighbors to address buffering	42 Homes • Walked and distributed flyer
February 5th, 2025	Small open house meeting with the Western neighbors and HOA representatives	46 Homes • Walked neighborhood and distributed flyer, notice to HOA & email to previous participants
February 26th, 2025	Neighborhood meeting with Eastern neighbors	76 Homes • Walked neighborhood distributed flyer, email notice to previous participants
April 10th, 2025	Formal and required neighborhood meeting	Within 500' per City's Neighborhood Meeting Guide
April – Present	Multiple meetings with neighbors, organizations, and other interested parties.	Continued Community Engagement
January 21st, 2026	Planning Commission Approval	Within 500' per City's Neighborhood Meeting Guide

Evolution of our Conceptual Site Plan

Initial Conceptual Site Plan



APPROVAL CRITERIA

Current Conceptual Site Plan

4 + 6 Compatibility & Mitigation

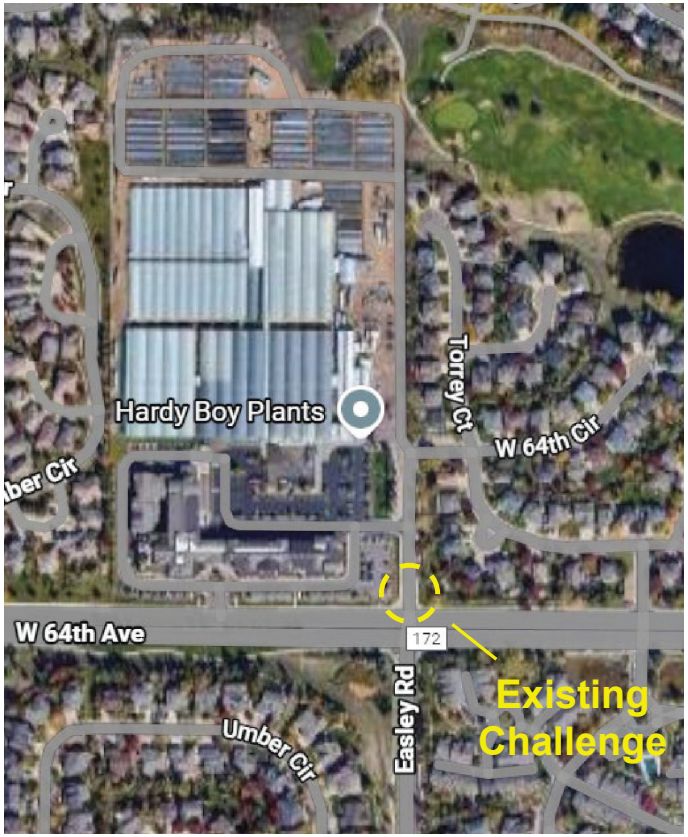
Additional Community Opportunities

These were additional community opportunities raised during outreach, and the following slides outline how the project has responded to each

Traffic – Historic Challenges

APPROVAL CRITERIA

4 + 6 **Compatibility & Mitigation**

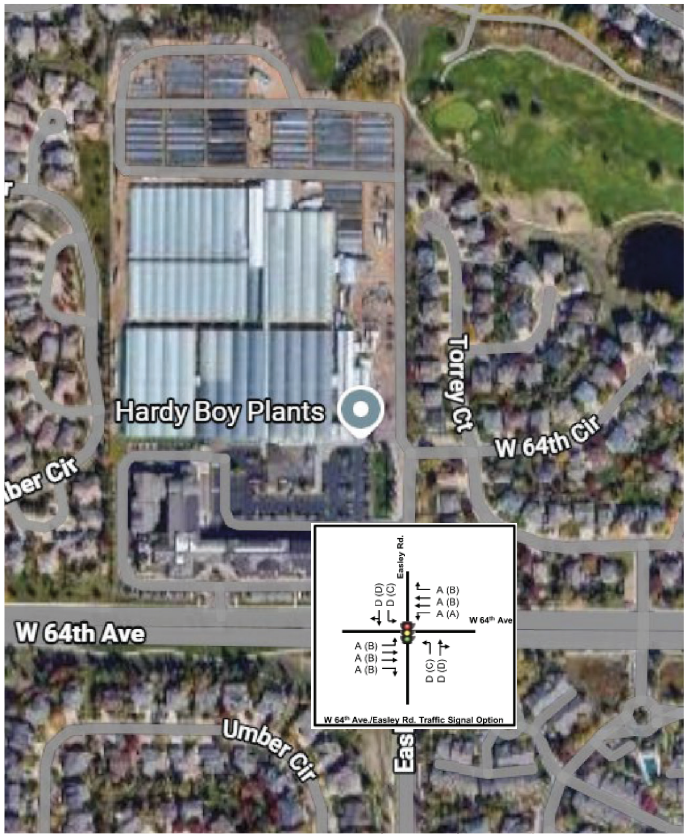


- Existing traffic congestion at W 64th Ave and Easley Rd result in Failing Level of Service (LOS "F") for southbound lane and northbound left turn lane now and for the entire intersection by 2027.
- Existing cut-through traffic impacts to Terry St
- Historic truck/commercial operation traffic to Welby Gardens

Traffic – Project Benefits

APPROVAL CRITERIA

4 + 6 **Compatibility & Mitigation**

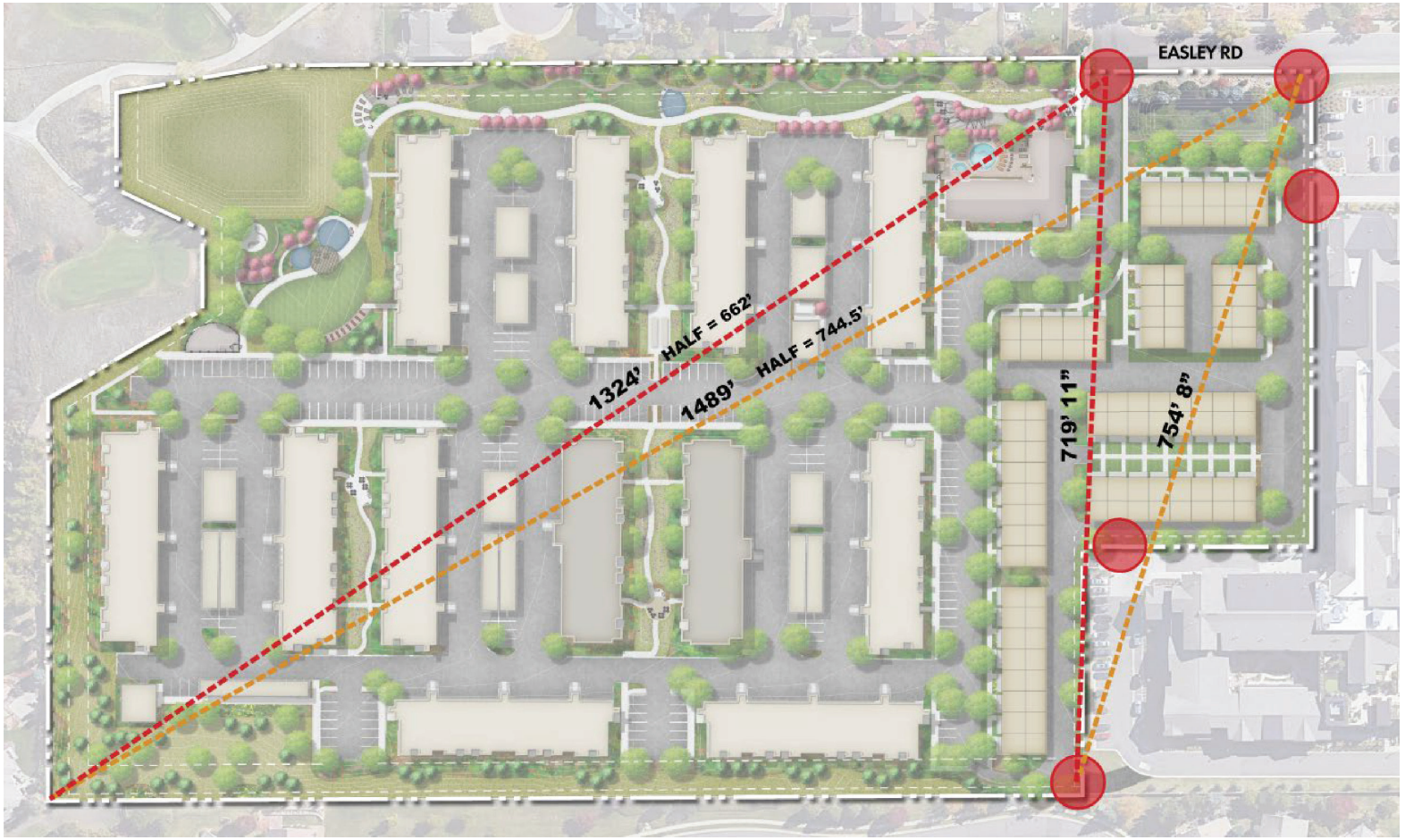


- Avalon Arvada will facilitate and pay for any unfunded portions of signal installation at 64th and Easley
- Addition of a signal improves level of service from existing and future conditions (even with traffic introduced by the project), and ensures no "failing" level of service conditions

Emergency Response – Access

APPROVAL CRITERIA

5 + 6 Services & Mitigation



Emergency Response – Resilience

APPROVAL CRITERIA
5 + 6 Services & Mitigation

- While this project is not subject to the Wildfire Resiliency Code, we have incorporated wildfire resiliency features of the code in our project.

- The project site does not fall into a "Class 1 - Low" or "Class 2 - Moderate" fire intensity level based on the 2025 Colorado Wildfire Resiliency Code Map.

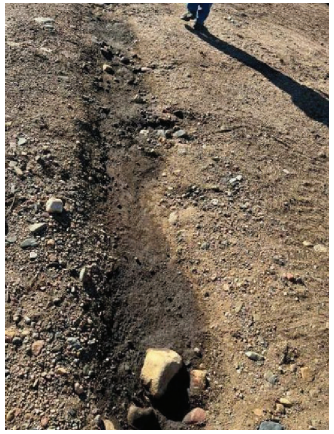
- Our design includes the following resiliency features:
  - Class 1 requirements: Class A roof assembly, flame/ember protection of roofs, noncombustible gutters and downspouts, compliant ventilation openings, exterior walls have noncombustible coverings, compliant flashing between wall sheathing and exterior cladding at ground/decking/roof intersections, underfloor areas enclosed to the ground, noncombustible decks/balconies, etc.
  - Class 2 requirements: Eaves/soffits protected by non-combustible material, noncombustible landscape materials within 5' of structures, noncombustible fencing and retaining walls within 8' of structures, no Juniper or arborvitae trees, etc.

Environmental Remediation

APPROVAL CRITERIA

6 Mitigation

Existing Conditions



Environmental Remediation

APPROVAL CRITERIA

6 Mitigation

Colorado Department of Public Health and Environment (CDPHE) - Cleanup Process

Environmental site cleanup is facilitated by CDPHE, a State agency, to ensure proper cleanup procedures throughout Colorado

- We have coordinated with CDPHE and expect to conduct the required clean up under the Voluntary Cleanup Program.
- AVB will conduct all necessary remediation activities subject to review and approval by CDPHE
- All environmental remediation will be protective of public health and the environment.

Where we are today:

- Completed an Environmental Site Assessment Phase 1
- Completed an Environmental Site Assessment Phase 2
- Follow up testing as recently as 3/6/26
- Multiple meetings with CDPHE prior to and since Planning Commission (incl. 1/28/26 and 4/1/26)
- Voluntary Cleanup Program application in progress

Environmental Remediation

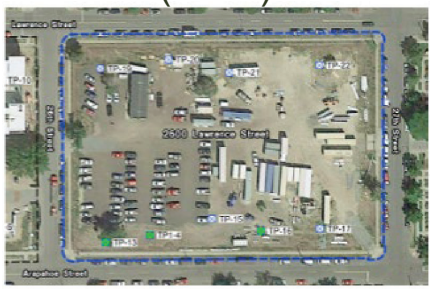
APPROVAL CRITERIA

6 Mitigation

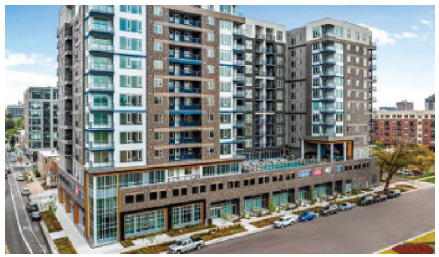
AvalonBay Cleanup Experience

AvalonBay Communities has a proven track record of successfully executing environmental cleanup projects across Colorado and in other states where we develop residential communities. Our team is well-versed in navigating both relatively simple to more complex remediation efforts and restoring each site to a condition that is safe for residential use, and in full compliance with applicable regulations and guidance. Below are a few recent examples.

AVA RiNo (2021)



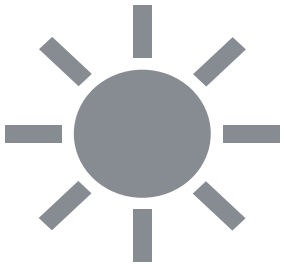
Avalon Gov. Park (2021)



Avalon Montville (2021)

Our Commitment to Sustainability

- Energy-efficient appliances and lighting
- Low-water landscaping and smart irrigation systems
- EV charging infrastructure
- Solar-ready buildings national, recognition for environmental leadership, and responsible development practices
- Numerous green building certification, including multiple LEED Gold Certifications at all new developments within Colorado.



Additional Community Opportunities

APPROVAL CRITERIA

5 **Infrastructure**

Infrastructure and Utility Coordination

Infrastructure Coordination Through Referral

- All required public facilities and services are reviewed through Arvada's referral process

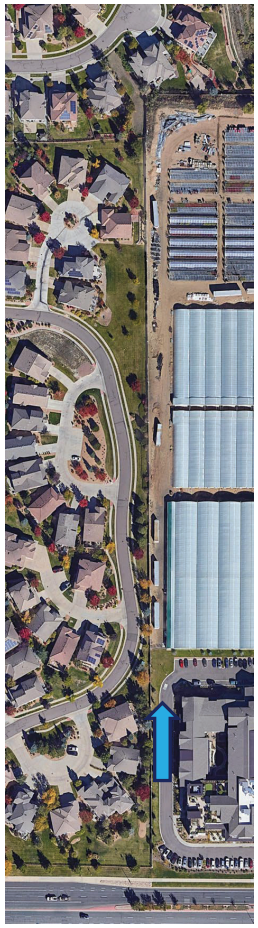
- Agencies involved with Arvada's referral process:
  - Public Works
  - Engineering
  - Utility
  - Fire Protection Districts
  - Police and Law Enforcement
  - Transportation Agencies

The City's referral process ensures infrastructure and services are available while maintaining adequate service levels

Views and Compatibility

APPROVAL CRITERIA

4 Compatibility



Proposed Perspectives – From Southwest

Views and Compatibility

APPROVAL CRITERIA

4 **Compatibility**

Proposed Perspectives – From Southeast

Views and Compatibility

APPROVAL CRITERIA

4 **Compatibility**

Proposed Perspectives – From East

Scale Analysis – Morningstar Senior Living

AvalonBay's Building C

Existing Morningstar Building

Density Comparison

CUP Application

- **~22 Du/Ac**
- 20.1 Acres
- 435 Units
  - 51 Townhomes
  - 384 MF

Morning Star

- **~31 Du/Ac**
- ~4.6 Acres
- 141 Units
  - 112 Independent. & assisted living
  - 29 Specialized Care

Approval Criteria

- [x] 1. The application complies with the applicable standards of this LDC …
- [x] 2. The application is consistent with the Arvada Comprehensive Plan
- [x] 3. The use is consistent with the purpose and intent of the zoning district in which it is located
- [x] 4. The size, scale, height, density, multi-modal traffic impacts, hours of operation and other similar characteristics of the proposed use are comparable with existing and planned use in the surrounding area and the zoning district regulations
- [x] 5. Facilities and services including sewer, water, storm water, gas, electricity, police and fire protection, and roads and transportation will, prior to or as part of the development be available to serve the subject property while maintaining adequate levels of services for existing development
- [x] 6. The application mitigates any adverse impacts on the surrounding area to the degree practicable.

Thank you!
AvalonBay
COMMUNITIES

Easley Road Restriping with Signage

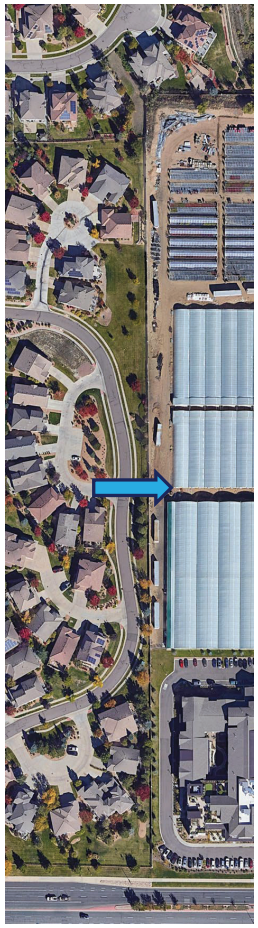
Easley Road and W 64th Circle

Views and Compatibility

APPROVAL CRITERIA

4 Compatibility

Proposed Perspectives – From West

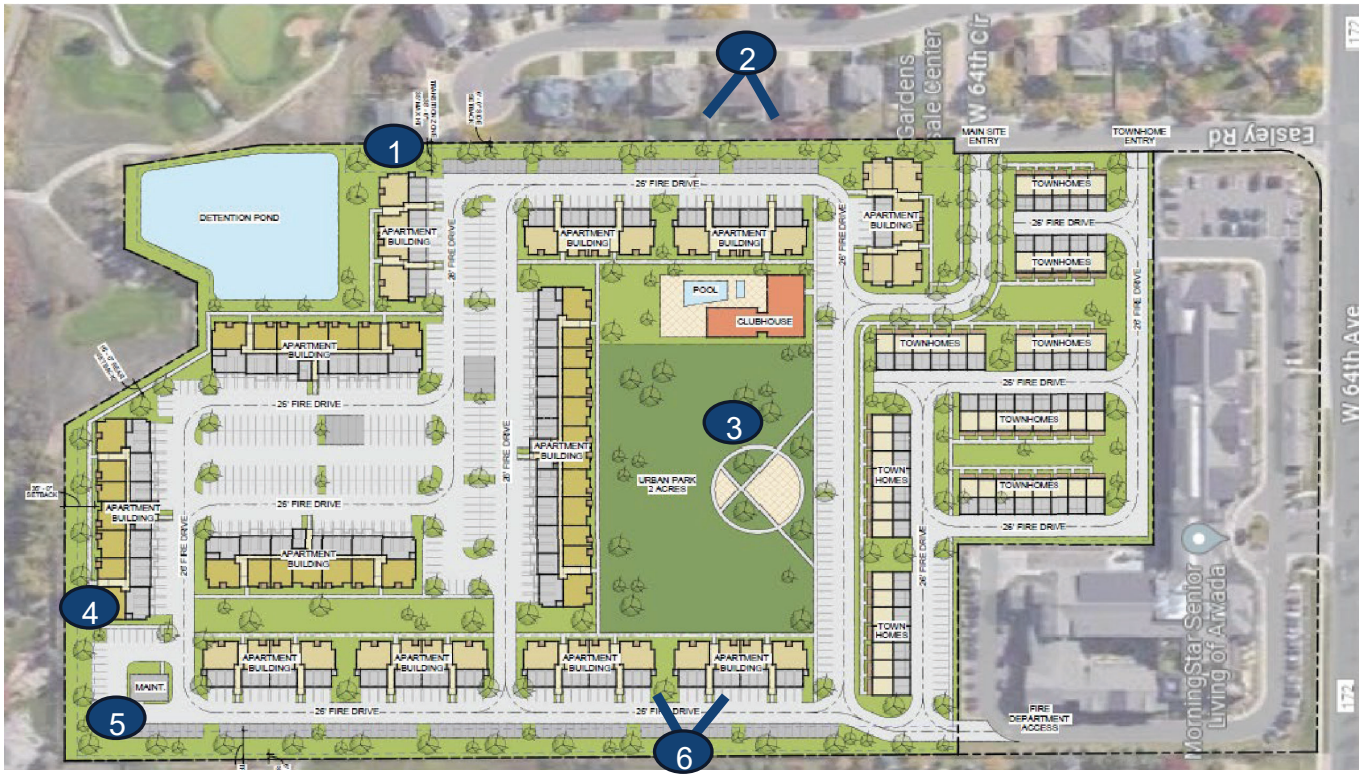


Height Analysis – Arvada Avalon

Building B Elevations

Building A Elevations

What We've Heard - Initial Concept Plan



1. Buffer and screening from existing neighbors
2. View corridors from neighborhood perspectives
3. Reposition park space to enhance buffering and facilitate public access
4. Find appropriate scale of height for adjacent properties
5. Encourage additional buffer space on NW corner of property site.
6. Promote View corridors for adjacent neighborhood

Current Conceptual Site Plan

APPROVAL CRITERIA

4 + 6 Compatibility & Mitigation

1. Significant increase to buffers and screening from existing neighbors. Implementation of park along the east
2. Increase buffer, screening, and reconfigure buildings to maintain view corridors
3. Repurpose park to enhance buffering space between existing neighbors and project buildings
4. Position 4 story structures internal to site to ensure height transition compatibility
5. Provide additional landscape and buffer on NW corner. Reduced building frontage
6. Limit traffic, noise, and impacts on western boundary. Move active uses internal

Understanding the MX-S Designation

MX-S Zoning Context

- The site is zoned MX-S – not commercial
- Mixed use is often misunderstood and interpreted too narrowly

Vertical Mixed-Use Challenges

- Vertical mixed use (retail below, residential above) is rarely built in today's Market
- These types of project frequently struggle financially and often leave ground-floor retail vacant

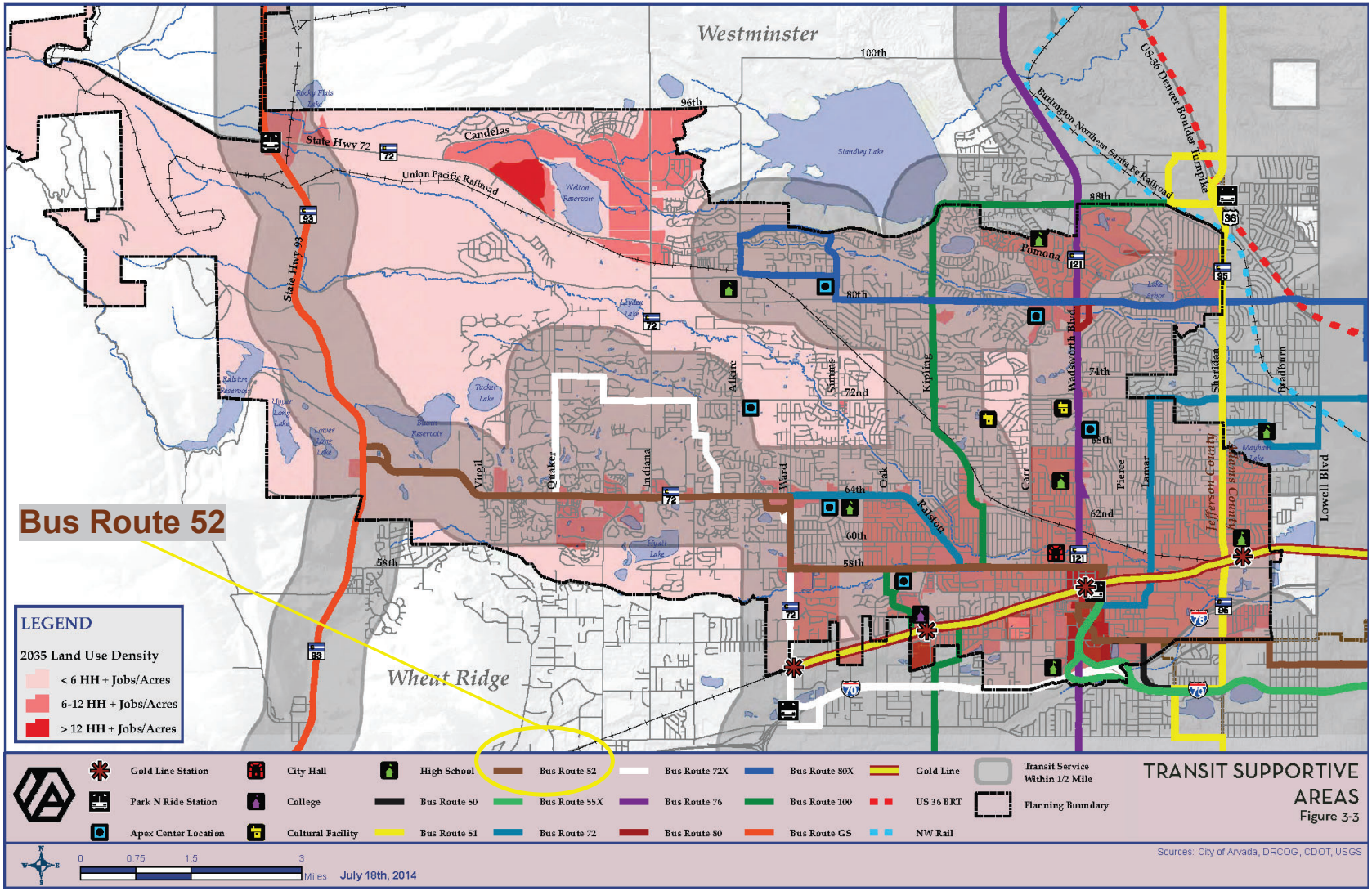
What the Code Allows

- The zoning allows for both vertical and horizontal mixed use.
- Staff has confirmed that horizontal mixed use satisfies the MX-S

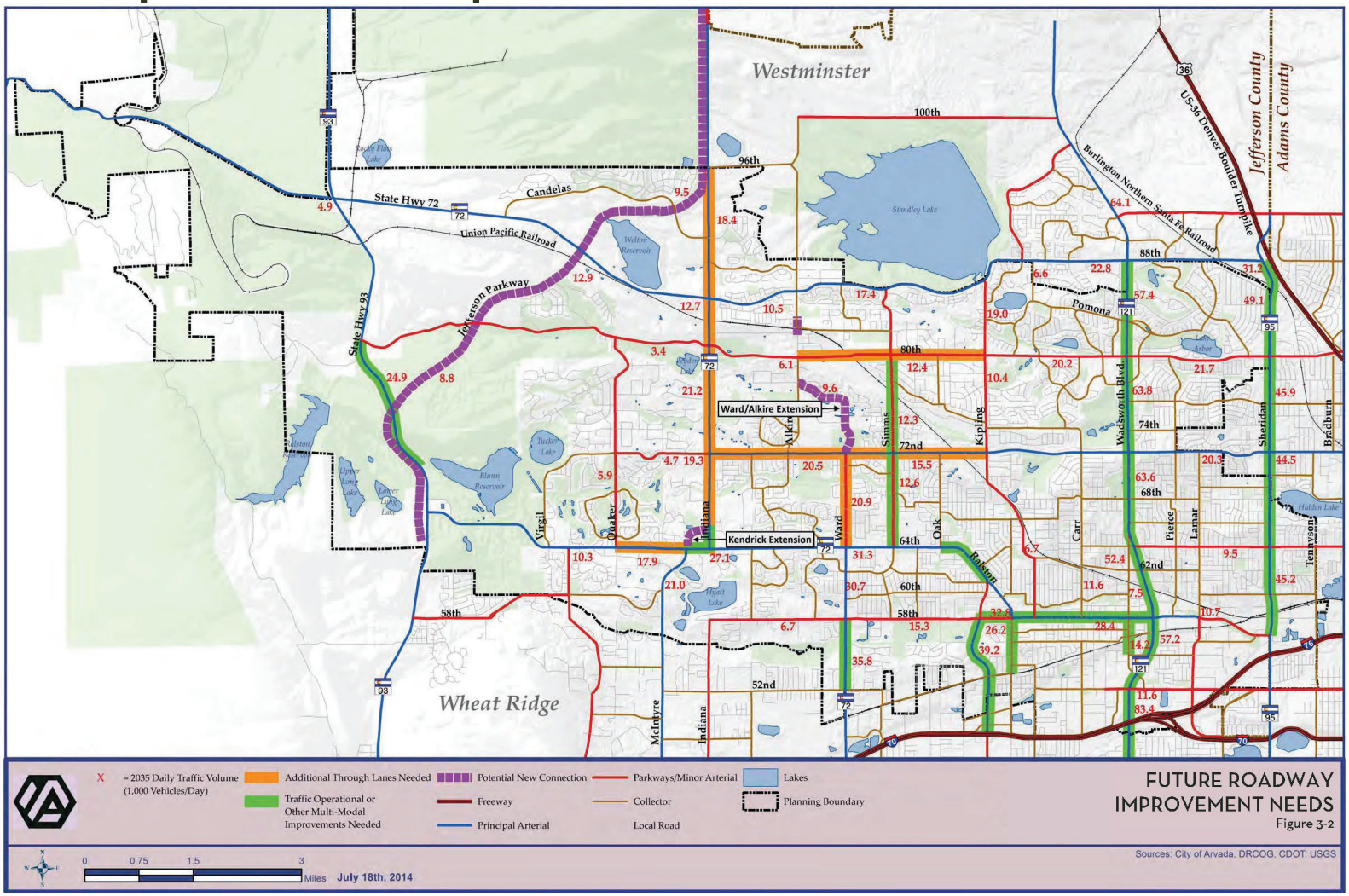
Conclusion

- The Key question for the Commission is whether the proposal meets the conditional use Criteria within MX-S
- Under code definitions of Mixed Use, this propose does meet that standard

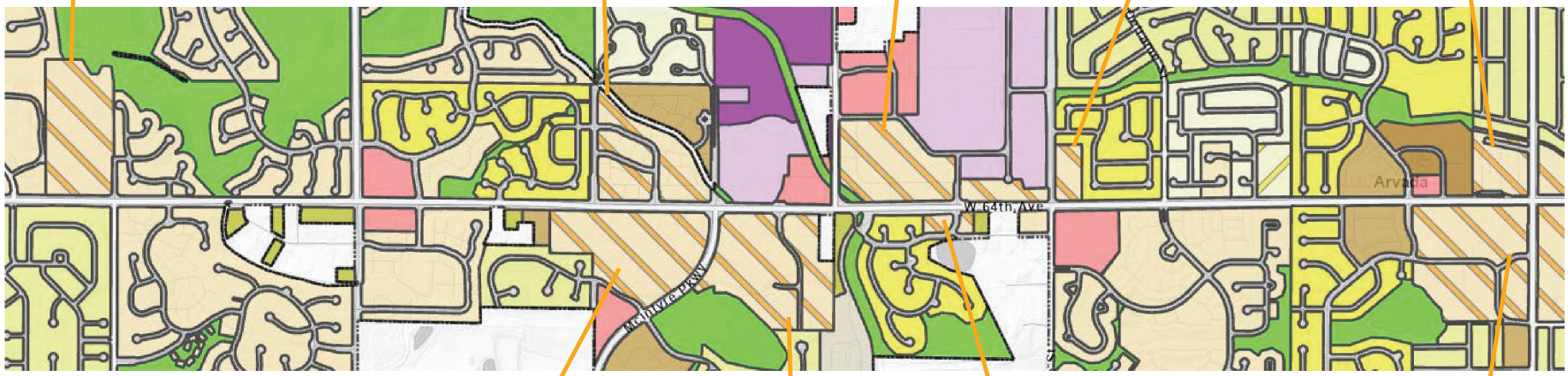
Transit Line -



Anticipated Traffic Improvements



What MX-S looks like today



Morning Star (Residential) & Project Site

Hometown South (Mixed Residential)

Indiana Business Center (Commercial & Office)

Storage Trust Properties (Commercial)

Woodcrest Home Owners (Residential)

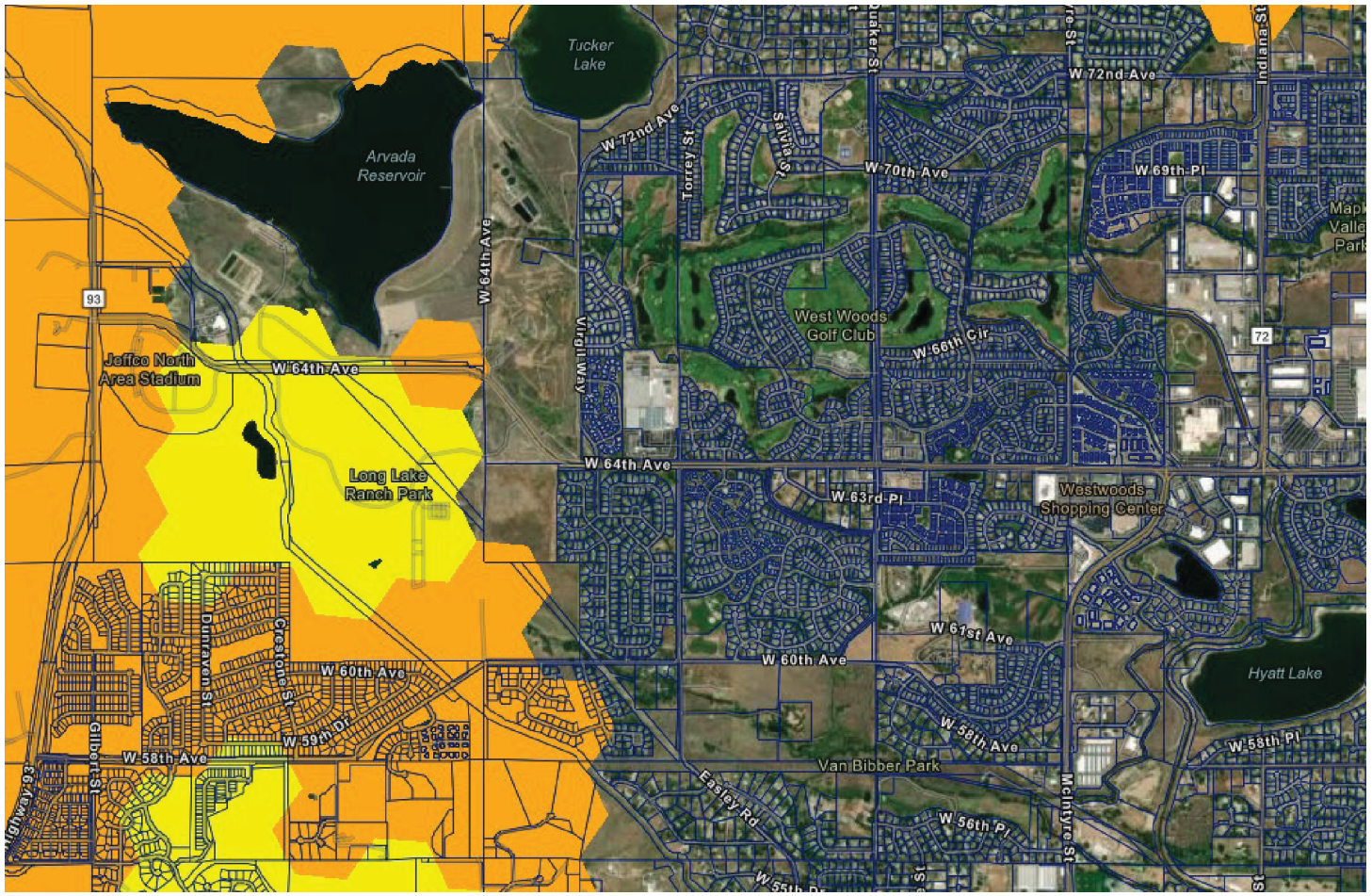
Westwoods Shopping Center (Commercial)

Westwoods Shopping Center (Commercial & Office Space)

Westwoods Kindercare (Commercial)

Ralston Square Shopping Center (Commercial)

Wildfire Risk Area



Legend

- Low Intensity
- Moderate Intensity

CITY OF ARVADA

REPORT FROM CITY COUNCIL

AGENDA ITEM 12.A.

DATE: April 21, 2026

SUBJECT: Council Committee Reports

Report in Brief

City Council members are appointed to various committees and boards as set out on the attached listing. As meetings are held, individual council members will report back to the full City Council any relevant discussions and issues that occurred.

Prepared by:
Chris Koch, CCO Admin

Lauren Simpson	Arvada City Attorney Committee Arvada Municipal Court/Judicial Committee Arvada Urban Renewal Authority Arvada Visitors Center Committee E-470 Authority (Alternate) *Metro Mayors' Caucus Olde Town Business Improvement (BID)(Alternate) Urban Drainage and Flood Control District West Connect Coalition
Randy Moorman	Arvada Audit Committee Arvada Center for the Arts and Humanities Arvada Sustainability Committee CML Policy Committee Jefferson Parkway Public Highway Authority Northwest Parkway Authority (Alternate)
Shawna Ambrose	Adams County Regional Economic Partnership (ACREP) Arvada Economic Development Association Board Arvada Fire Protection District Coordinating Committee Arvada Visitors Center Committee (Alternate) Bond Oversight Committee CML Policy Committee Denver Regional Council of Governments (DRCOG) (Alternate) Jefferson County R-1 Schools Coordinating Committee

Sharon Davis	Apex Coordinating Committee Arvada Fire Protection District Coordinating Committee Arvada Municipal Court/Judicial Committee Denver Regional Council of Governments (DRCOG) E-470 Authority (Alternate) Jefferson County Community Corrections Board Jefferson Economic Development Council (JEDC) Jeffco Transportation Action & Advisory Group (JEFFTAAG)
Bob Fifer	Arvada City Attorney Committee Arvada Transportation Committee Jefferson Parkway Public Highway Authority Northwest Parkway Authority (Alternate) Smart City Advisory Committee
Michael Griffith	Adams County Regional Economic Partnership (ACREP) (Alternate) Arvada Audit Committee Arvada Chamber of Commerce Government Affairs Committee Housing Advisory Committee Jeffco Transportation Action & Advisory Group (JEFFTAAG) (Alternate) Jefferson County Community Corrections Board (Alternate) Smart City Advisory Committee West Connect Coalition (Alternate)
Rebecka Lovisone	Bond Oversight Committee Jefferson County R-1 Schools Coordinating Committee Olde Town Business Improvement (BID)

*asterisked committees are not appointed by Council

CITY OF ARVADA

REPORT TO CITY COUNCIL

AGENDA ITEM 13.A.

TO: THE HONORABLE CITY COUNCIL DATE: April 21, 2026

SUBJECT: Review of Future Workshops and Presentations

Report in Brief

The City Manager's Office maintains a list of upcoming workshops and presentations to be scheduled for City Council meetings. During City Manager Reports, at the end of City Council business meetings, City Manager Don Wick, will review with City Council the tentative schedule and make any adjustments necessary.

Prepared by:
Chris Koch, CCO Admin

Reviewed by:

Approved by:

Rachel Morris, City Attorney	03/27/2026
Allison Scheck, Deputy City Manager	03/27/2026
Linda Haley, Deputy City Manager	03/27/2026
Don Wick, City Manager	03/30/2026

Enclosure, exhibits & attachments required to support the report

2026 CITY COUNCIL WORKSHOPS, STUDY SESSIONS, PRESENTATIONS AND RETREATS (TENTATIVE)

WORKSHOPS	Date	Lead
SW Rate Structure	**Apr 28**	INFRA
ADA Transition Plan Updates	**Apr 28**	INFRA
Wildfire Mitigation	**May 12**	CMO
W/WW/SW Rates and Fees – Why and How	**May 12**	INFRA
Harvard Bloomberg Innovation Project	**May 26**	
System Development Charges	**June 9**	INFRA
No meeting – CML Conference	**June 23**	
No Meeting – Appointee Evaluations	**July 14**	
W/WW/SW Rates and Fees – Financial Scenario	**July 28**	INFRA
W/WW/SW Rates and Fees – Final Scenario	**Aug 25**	INFRA
	Sept 8	
Place holder for additional W/WW/SW Rates and Fees (if needed)	**Sept 22**	INFRA
	Oct 13	
	Oct 27	
	Nov 10	
No Meeting – Holiday Week	**Nov 24**	
Infrastructure Annual Report	**Dec 8**	INFRA
No Meeting – Holiday Week	**Dec 22**	
End of Year City Council Strategic Plan Update	**TBD**	CMO
Building Code Update	**TBD**	CED
Parks Master Plan	**TBD**	VCN
Pavement Program	**TBD**	INFRA
PRESENTATIONS		
Arts & Culture Commission	**May 5**	VCN
STUDY SESSIONS		
Metro Districts	**March 24**	CED/Legal
City Expenditures, BID and Chamber funding	**TBD**	Finance
Waste Diversion Plan	**TBD**	INFRA
COUNCIL JOINT MEETINGS/DINNERS:		
Denver Water Board Apex Board AURA Board Arvada Center Board–Per Coop Agreement - Annually after October 1 of each year Jefferson Parkway Meeting with Jeffco and Broomfield Council Annual Retreat		