



ADAMS COUNTY
COLORADO

FINAL PLAT

(MINOR SUBDIVISION)

Community & Economic Development Department
Planning & Development

4430 S. Adams County Pkwy., 1st Floor, Suite W2000B

Brighton, CO 80601-8218

Phone: 720.523.6800

Website: adcogov.org

A minor subdivision shall only be used to divide parcels of less than twenty (20) acres into four (4) or fewer lots. Minor subdivisions are processed through this application for final plat. Two public hearings are required in the processing of this application. A separate application for Subdivision Engineering Review must be filed in addition to this application for final plat.

Please include this page with your submittal. Submittal instructions and more information about checklist items can be found on pages 2-3.

Required Checklist Items

- ☒ Development Application Form
- ☒ Written Explanation
- ☒ Final Plat
- ☒ Legal Description
- ☒ Conceptual Site Plan
- ☒ Proof of Ownership
- ☒ Proof of Water and Sewer Services
- ☒ **Proof of Utilities**
- ☒ **Certificate of Taxes Paid**
- ☒ Receipt of Payment to Colorado Geological Survey

Discretionary Checklist Items

- ☐ School Impact Analysis
- ☐ Subdivision Engineering Review Application. If already filed, please identify the case number here:

Fees Due When Application is Deemed Complete	
Minor Subdivision (final plat)	• \$1,600

Guide to Development Application Submittal

This application shall be submitted electronically to epermitcenter@adcogov.org. If the submittal is too large to email as an attachment, the application may be sent as an unlocked Microsoft OneDrive link. Alternatively, the application may be delivered on a flash drive to the One-Stop Customer Service Center. All documents should be combined in a single PDF, although you may provide multiple PDFs to ensure no file exceeds 100 MB. Once a complete application has been received, fees will be invoiced and payable online at www.permits.adcogov.org.

Required Checklist Items

Written Explanation of the Project:

- A clear and concise description of the proposal. Please include the purpose of the project, and improvements that will be made to the site.
- Identify the number of tracts and number of lots being proposed.
- Please keep written explanation to three pages or less.

Final Plat Prepared by Registered Land Surveyor:

- A map or maps together with supporting documentation of certain described land providing permanent and accurate record of the legal description, dedications, exact size, shape, and location of lots, blocks, streets, easements, and parcels

Legal Description:

- A version of the legal description (from the final plat) that we can copy and paste. You may provide this in PDF or Microsoft Word versions.

Conceptual Site Plan Showing Proposed Development:

- A detailed drawing of existing and proposed improvements
- Including:
 - Streets, roads, and intersections
 - Driveways, access points, and parking areas
 - Existing and proposed structures, wells, and septic systems,
 - Easements, utility lines, and no build or hazardous areas
 - Scale, north arrow, and date of preparation
- An Improvement Location Certificate or Survey may be required during the official review

Proof of Ownership:

- A deed may be found in the Office of the Clerk and Recorder
- A title commitment is prepared by a professional title company

Proof of Water and Sewer:

- Public utilities - A written statement from the appropriate water and/or sanitation district indicating that they will provide service to the property
- Private utilities - Well permit(s) information can be obtained from the Colorado State Division of Water Resources at (303) 866-3587. A written statement from Adams County Health Department indicating the viability of obtaining Onsite Wastewater Treatment Systems

Proof of Utilities (Gas, Electric, etc.):

- A written statement from the appropriate utility provider indicating that they will provide service to the property
- Copy of a current bill from the service provider

Certificate of Taxes Paid:

- A Statement of Taxes Paid is not the equivalent of a Certificate of Taxes Paid. Colorado State Statutes require a Certificate of Taxes Paid to be submitted with this application.
- All taxes on the subject property must be paid in full. A certificate of taxes paid can be obtained in-person at the Adams County Treasurer's office. As of July 2023, the cost is \$10.
- You may also request a Certificate of Taxes Paid by e-mailing treasurer@adcogov.org, and credit card payment can be processed by telephone.

Receipt of Payment from Colorado Geological Survey:

- The Colorado Geological Survey requires a fee payment for the review of any subdivision. These payments can be made at: <https://commerce.cashnet.com/MinesCGS>. A receipt of this pre-payment must be provided in this application submittal.

Discretionary Checklist Items

School Impact Analysis:

- Contact the applicable school district for the analysis. If the school district does not provide this, please include an email from them.
- Should include the increase in elementary, middle, and high school students and the existing school sites and structure of the applicable district in which the subdivision is proposed to be located.

Subdivision Engineering Review Application:

- Contact the cedd-eng@adcogov.org to determine if a subdivision engineering review is required. If it is determined that an application is not required, please include an email from them.
- This is a separate application submittal from the minor subdivision final plat. Please refer to the application checklist located at: <https://epermits.adcogov.org/submittal-checklists>.

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4430 South Adams County Parkway
1st Floor, Suite W2000
Brighton, CO 80601-8204
PHONE 720.523.6800
FAX 720.523.6998

PROJECT NAME: Meraz Subdivision

APPLICANT

Name(s): Lynda Reyes Phone #: 303-526-6406
Address: P.O. Box 2311
City, State, Zip: Littleton CO 80161
2nd Phone #: Email: mgmt@archams.com

OWNER

Name(s): Luis Meraz Phone #: (720) 490-9622
Address: 9315 E 160th Ave
City, State, Zip: Brighton, CO
2nd Phone #: Email: luis@centennialstatedrywall.com

TECHNICAL REPRESENTATIVE (Consultant, Engineer, Surveyor, Architect, etc.)

Name: Alfredo Martinez Phone #: 303-246-7039
Address: P.O. Box 2311
City, State, Zip: Littleton CO 80161
2nd Phone #: Email: alfredo_ms@archams.com

DESCRIPTION OF SITE

Address:

9315 E 160th Ave

City, State, Zip:

Brighton, CO 80602

Area (acres or square feet):

3.57

Tax Assessor Parcel Number

01571033000006

Existing Zoning:

A-1

Existing Land Use:

Agricultural

Proposed Land Use:

Residencial

Have you attended a Conceptual Review? YES ☒ NO ☐

If yes, please list PRE#:

I hereby certify that I am making this application as owner of the above-described property or acting under the authority of the owner (attached authorization, if not owner). I am familiar with all pertinent requirements, procedures, and fees of the County. I understand that the Application Review Fee is non-refundable. All statements made on this form and additional application materials are true to the best of my knowledge and belief.

Name:

Luis Merz

Date:

March 18, 2025

Owner's Printed Name

Name:

Signed by:

Luis Meraz

6EF30C81E5F240D...

Owner's Signature

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Minor Subdivision Final Plat Requirements

1. **Subdivision Name, Subtitle:** Name of subdivision at the top of the sheet, followed by a subtitle identifying the section, township and range information along with County and State.
2. **Property Description:** An accurate and clear property (legal) description of the overall boundary of the subdivision with the acreage of the subdivision. All courses in the property (legal) description shall be shown and labeled on the plat drawing, with all bearings having the same direction as called out in the legal description. The only exception being where more than one description is required, going a different direction over the same course. The direction shall then hold for the description having more weight (i.e., the overall boundary) for purposes of the plat. If both record and "as-measured" dimensions are being used, show both and clearly label on the plat drawing. Point of commencement and/or point of beginning shall be clearly labeled on the plat drawing.
3. **Ownership Certificate:**
 - a. Know all men by these presents that (owner name(s)), being the sole owner of the following described tract of land:
 - b. Legal Description
 - c. Have (Has) by these presents laid out, platted and subdivided the same into lots, streets and easements as shown on this plat under the name and style of (subdivision name).
4. **Dedication Statements:** Statements of land to be dedicated to the County for parks or other public uses, grants of easements and dedication of public streets to the Adams County are required.
 - a. All plats with public streets shall have the following sentence in the dedication statement: *All public streets are hereby dedicated to Adams County for public use.*
 - b. All plats with public easements and/or tracts must have the following sentence in the dedication statement: *The undersigned does hereby dedicate, grant and convey to Adams County those Public Easements (and tracts) as shown on the plat; and further restricts the use of all Public Easement to Adams County and/or its assigns, provided however, that the sole right and authority to release or quitclaim all or any such Public Easements shall remain exclusively vested in Adams County.*
 - c. All plats with private streets shall have the following sentence in the dedication statement: *All private streets (insert names) are privately owned and maintained by (list owner name, Owner's Association, etc.).*
 - d. All plats with other tracts being dedicated to the County shall have:

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- i. A sentence in the dedication statement similar to "Tract X is hereby dedicated to Adams County for public use".
 - ii. A special numbered plat note defining the purpose and perpetual maintenance responsibility for the tract such as "Tract X is for public drainage, landscaping, trail and open space with maintenance of the surface being vested in the (District Name) Special Maintenance District".
5. **Surveyor's Statement:** Statement by a registered land surveyor, professionally licensed by the State of Colorado, to the effect that the layout represents a survey made by him and that the monuments thereon actually exist as located and that all dimensional and other details are correct.
6. **Access Provisions:**
 - a. **Statement Restricting Access:** A statement restricting access rights across the right-of-way lines of major highways, parkways, streets or freeways, where required as a provision of approval.
7. **Easement Statement:**
 - a. Six-foot (6') wide utility easements are hereby dedicated on private property adjacent to the front lot lines of each lot in the subdivision. In addition, eight-foot (8') wide dry utility easements are hereby dedicated around the perimeter of tracts, parcels and/or open space areas. These easements are dedicated to Adams County for the benefit of the applicable utility providers for the installation, maintenance, and replacement of utilities. Utility easements shall also be granted within any access easements and private streets in the subdivision. Permanent structures, improvements, objects, buildings, wells, water meters and other objects that may interfere with the utility facilities or use thereof (Interfering Objects) shall not be permitted within said utility easements and the utility providers, as grantees, may remove any Interfering Objects at no cost to such grantees, including, without limitation, vegetation.
8. **Storm Drainage Facilities Statement:**
 - a. The policy of the County requires that maintenance access shall be provided to all storm drainage facilities to assure continuous operational capability of the system. The property owners shall be responsible for the maintenance of all drainage facilities including inlets, pipes, culverts, channels, ditches, hydraulic structures, and detention basins located on their land unless modified by the subdivision development agreement. Should the owner fail to maintain said facilities, the County shall have the right to enter said land for the sole purpose of operations and maintenance. All such maintenance cost will be assessed to the property owners.
9. **Layout:**
 - a. **Boundary Lines:** The subdivision boundary will be clearly distinguishable from other map lines by use of a distinct line type and/or thickness. All lines will be labeled with a complete bearing

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and distance, and all curves will be labeled with a central angle (delta), radius and arc length. Radial bearings and/or chord bearings will be provided for all nontangent curves. All dimensions to be determined by accurate field survey which must balance and close within limit of one in five thousand (5,000). Show adjacent and/or intersecting plat/deed lines and label appropriately to include recording information (book and page and/or reception number).

- b. **Streets:** All street rights of way defined by the plat will be clearly distinguishable from other map lines by use of a distinct line type and/or thickness. All lines will be labeled with a complete bearing and distance, and all curves will be labeled with a central angle (delta), radius and arc length. Radial bearings and/or chord bearings will be provided for all nontangent curves. Widths shall be labeled from each right-of-way line normal to the corresponding street center line. All street center lines defined by the plat will be clearly distinguishable from other map lines by use of distinct line type and/or thickness. All lines will be labeled with a complete bearing and distance and all curves will be labeled with a central angle (delta), radius and arc length. Radial bearings and/or chord bearings will be provided for all nontangent curves. The plat shall show the right-of-way lines, widths, locations and street names of all existing and proposed public or private streets:
 - i. Within the proposed subdivision, and
 - ii. Immediately abutting the proposed subdivision, and
 - iii. Any private street shall include the designation "(Private)" immediately following street name; any other private right of way that is not named shall include the designation "(Private)" in a manner that clearly conveys such a status.
- c. **Easements:** All easements as required by Adams County and other public and quasi-public agencies. Said easements shall be clearly labeled to include width, use and identification as public or private, if necessary. Tie to property lines and annotate with bearings and distances as necessary. Clearly show and label all existing easements, to include width and recording information, that cross, abut or are located within the subdivision boundary.
- d. **Lots and Blocks:** All lines of lots, blocks and other parcels of land defined by the plat will be clearly distinguishable from other map lines by use of a distinct line type and/or thickness. All lines will be labeled with a complete bearing and distance and all curves will be labeled with a radius and arc length. Lots must close to one in five thousand (5,000).
- e. **Readability:** All line annotation and all other text will be easily and clearly readable. No text shall overwrite other text or be overwritten by map lines.
- f. **Leader Lines:** Use leader lines whenever a dimension is not clearly and unmistakably associated with a given line, line segment or arc.

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- g. **Multiple Sheets:** Whenever a plat drawing spans multiple sheets, clear and well labeled match lines and a key map shall be included on each sheet. Labels will be of the nature "See Sheet of ". Duplicate street names, widths, lot numbers, tract names, easement labeling or any such labeling when any feature is shown on multiple sheets.
 - h. **Identification System:** All lots and blocks in the subdivision shall be numbered, beginning with the numeral "1" and continuing consecutively throughout the tract, with no omissions or duplications. All tracts shall be likewise labeled beginning with the letter "A". Lots and tracts shall be labeled with the area of the lot or tract.
 - i. **Legend:** Provide a legend which designates all lines and symbols except where called out on plat drawing.
 - j. **Inundation Mark:** The plat shall clearly show the 100-year floodplain line. Reference the appropriate FEMA panel by which the location of this line has been determined.
10. **Easements:** Book and page and/or reception number for all existing and newly created easements.
 11. **Adjacent Subdivision:** Names of adjacent platted areas along with the reception and/or plat book and page number shall be shown. If unplatted, so indicate. Existing street rights of way that intersect the subdivision boundary or are adjacent to said boundary lines shall be clearly labeled with the street name, right of way width and appropriate deed or plat recording information wherein the right of way is defined. Show and label all existing lots and blocks that are immediately adjacent to the subdivision boundary.
 12. **Basis of Bearings:** A clearly defined basis of bearings shall be provided, both verbally and graphically. All monumentation defining said line shall be shown and labeled on the plat drawing. When said line is not common with the subdivision boundary, it shall be accurately tied to the boundary with bearings and distances.
 13. **Monuments:** All monuments used to determine and/or describe a boundary (including basis of bearings, point of beginning and point of commencement) shall be shown and clearly labeled on the plat drawing. Monuments for corners defined by the plat, or otherwise found to be missing in the field, shall be placed and set in accord with the requirements of the State of Colorado.
 14. **Not A Part Of Subdivision:** All areas enclosed within the subdivision boundary which do not constitute a part of the subdivision shall be labeled "Not a part of this subdivision". All lines pertaining to such areas shall be dashed.
 15. **Square Footage:** The area in square feet of all lot and tracts sought to be platted.
 16. **Operation and Maintenance Manual reference:** Refer to the Operation and Maintenance Manual approved with this Subdivision for Additional Drainage Guidelines.

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17. All other information required by State law.

Alfredo Martinez-Suarez

PO Box 2311, Littleton CO

(720) 307-2797

alfredo_ms@archams.com

March 6th, 2025

Attn: Adams County

Re: 9315 E 160th Ave, Brighton, CO 80602

The Owner is looking to subdivide the current 3.52 Acre A1 property into (3) lots of plus/minus 1.17 acres and apply for a rezoning of such new lots to be RE zoning meeting current Adams County standards set forth.

The Owner will build a new 4,662 sq ft single-family dwelling unit w/ a detached accessory structure (Barn) of approximately 1,500 sq ft at the northern lot of the new subdivision that will occupy as his primary residence.

The new lot located at the SW portion of the new subdivision will keep an existing single family dwelling unit of 1,000 sq ft

All three new lots will be accessed through the new 26'-0" vehicle access proposed. The existing 14'-0" wide access currently accessing the existing single-family-dwelling unit will be cancelled.

Public Water and sewer will be provided by High Land Acres Water and Sanitation. Power will be provided by United Power.

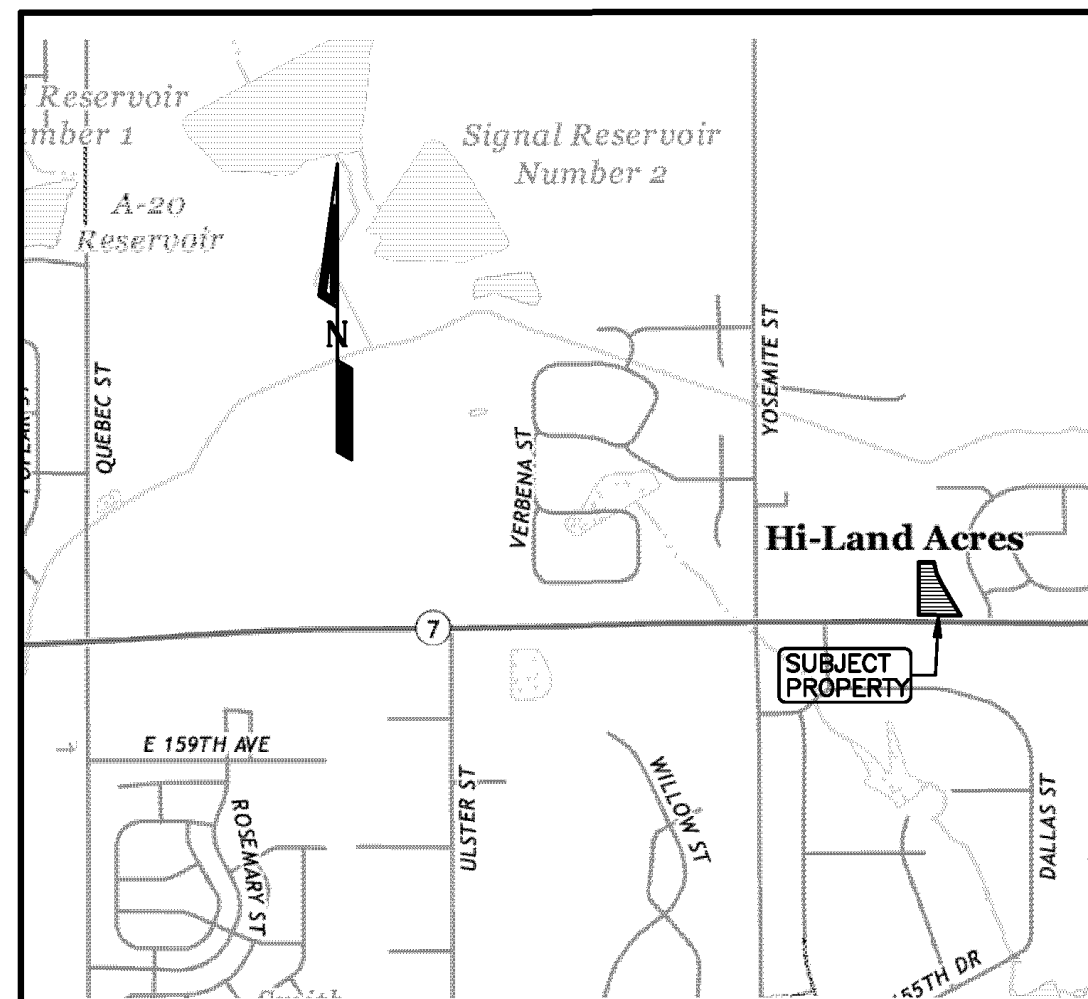
Should you have any questions please let me know,

Best regards,

Alfredo Martinez Suarez
Architect

Part of the Southwest 1/4 of Section 3,
Township 1 South, Range 67 West of the 6th P.M.,
County of Adams, State of Colorado

UNPLATTED
(BK 5259, PG 967)



- 1) BASIS OF BEARINGS: BEARINGS SHOWN HEREON ARE BASED UPON THE COLORADO STATE PLANE COORDINATE SYSTEM, NORTH ZONE, WITH THE SOUTH LINE OF THE SOUTHWEST 1/4 SECTION 34, TOWNSHIP 33N, RANGE 10W, MERIDIAN 10TH P.M., IN DAMS COUNTY, COLORADO, HAVING A BEARING OF NORTH 89°32'43" WITH IN MONUMENTS COMING FROM THE EAST END BY A 3/4" REBAR WITH 1 1/2" ALUMINUM CAP, 126288.72286 FEET TO THE CENTER OF THE MONUMENT, AND S 230227.37 FEET TO THE CENTER OF THE MONUMENT, BEING THE CENTER OF THE MONUMENT, IN MONUMENT BOX, WITH ALL BEARINGS SHOWN HEREON RELATIVE THERETO.
- 2) ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR LAND BOUNDARY MONUMENT OR ACCESSORY, COMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUTE 18-4-508, C.R.S.
- 3) 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 OPINION, AND DOES NOT RECORDING THOSE FACTS OF FINDINGS WHICH ARE SUBJECT OF THE CERTIFICATION, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EITHER EXPRESS OR IMPLIED.
- 4) ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTIONS BASED UPON A DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER THE DEFECT. (IN THIS SURVEY THE DEFECT IS BASED UPON THE FACTS IN THIS SURVEY ARE MORE CORRECTED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.
- 5) AMERICAN WEST LAND SURVEYING CO. RELIED UPON TITLE COMMITMENT PROVIDED BY THE QUINCY TITLE COMPANY, QUINCY, ILLINOIS, 02021, AREA 70838976-3 FOR INFORMATION REGARDING EASEMENTS AND RIGHTS-OF-WAY OF RECORD.
- 6) DISTANCES ON THIS DRAWING ARE EXPRESSED IN U.S. SURVEY FEET AND DECIMALS THEREOF. A U.S. SURVEY FOOT IS DEFINED AS EXACTLY 1200/3937 METERS.

SIX-FOOT (6') WIDE UTILITY EASEMENTS ARE HEREBY DEDICATED ON PRIVATE PROPERTY ADJACENT TO THE INTERIOR SIDE LOT LINES AS SHOWN HEREON. THESE EASEMENTS ARE DEDICATED TO ADAMS COUNTY FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF UTILITIES. UTILITY EASEMENTS SHALL BE USED ONLY FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF UTILITIES, THE SUBDIVISION, PERMANENT STRUCTURES, IMPROVEMENTS, OBJECTS, BUILDINGS, WELLS, WATER METERS AND OTHER OBJECTS THAT MAY INTERFERE WITH THE UTILITY FACILITIES OR USE THEREOF (INTERFERING OBJECTS) SHALL NOT BE PERMITTED WITHIN SAID UTILITY EASEMENTS AND SHALL BE REMOVED AT THE OWNERS RISK AND WITHOUT COMPENSATION TO THE OBJECTS AT NO COST TO SUCH GRANTEES, INCLUDING, WITHOUT LIMITATION, VEGETATION.

THE POLICY OF THE COUNTY REQUIRES THAT MAINTENANCE ACCESS SHALL BE PROVIDED TO ALL STORM DRAINAGE FACILITIES TO ASSURE CONTINUOUS OPERATIONAL CAPABILITY OF THE SYSTEM. THE PROPERTY OWNERS SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL DRAINAGE FACILITIES INCLUDING INLETS, PIPES, CULVERTS, CHANNELS, DITCHES, HYDRAULIC STRUCTURES, AND DETENTION BASINS LOCATED ON THEIR LAND UNLESS OTHERWISE SPECIFIED BY A WRITTEN AGREEMENT. SHOULD THE OWNER FAIL TO MAINTAIN SAID FACILITIES, THE COUNTY SHALL HAVE THE RIGHT TO ENTER SAID LAND FOR THE SOLE PURPOSE OF OPERATIONS AND MAINTENANCE. ALL SUCH MAINTENANCE COST WILL BE ASSESSED TO THE PROPERTY OWNERS.

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP DATED MARCH 5, 2007, MAP NO. 08001C0307H, THE SUBJECT PROPERTY SHOWN HEREON LIES WITHIN FLOOD ZONE X (AREAS OF MINIMAL FLOOD HAZARD).

* = ALIQUOT MONUMENT, AS NOTED
 ● = SET 5/8" X 24" REBAR WITH 2" ALUMINUM CAP, PLS 37971
 ○ = FOUND 3/8" REBAR
 ■ = FOUND 60d FLAGGED NAIL
 (M) = AS MEASURED BY THIS SURVEY
 (R) = MEASUREMENT OF RECORD

LINE	BEARING	DISTANCE
L1	S89°06'19"E	13.30'
L2	S89°06'19"E	16.70'

KNOW ALL MEN BY THESE PRESENTS THAT LUIS RICARDO MERAZ MOLINA AND MARISOL ROBLES CORTEZ, AS JOINT TENANTS, BEING THE OWNER'S OF THAT PART OF THE SOUTH-
WEST 1/4 OF SECTION 3, TOWNSHIP 1 SOUTH, RANGE 67 WEST OF THE 6TH PRINCIPAL
MERIDIAN, AS DESCRIBED IN DEED RECORDED MAY 30, 2024 AS RECEPTION NO.
2024000028899, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THAT PART OF THE SOUTHWEST 1/4 OF SECTION 3, TOWNSHIP 1 SOUTH, RANGE 67 WEST
OF THE 6TH PRINCIPAL MERIDIAN DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF SAID SECTION 3; THENCE SOUTH 89°52'30" EAST, ALONG THE WESTERLY LINE OF THE SOUTHWEST 1/4 OF SECTION 3, A DISTANCE OF 15.1 FEET TO THE TRUE POINT OF BEGINNING; THENCE CONTINUING S. 89°52'30" EAST, A DISTANCE OF 490.8 FEET TO THE SOUTHWEST CORNER OF HI-LAND ACRES; THENCE ALONG THE WESTERLY LINE OF HI-LAND ACRES BY THE FOLLOWING COURSES AND DISTANCES:

- 1) THENCE NORTH 29°32'30" WEST, 500.0 FEET;
2) THENCE NORTH 26°32'30" WEST, 125.0 FEET;
3) THENCE NORTH 13°12'30" WEST, 147.0 FEET;
TO THE SOUTHWEST 1/4, A DISTANCE OF 159.13 FEET; THENCE SOUTH
00°16'30" WEST, PARALLEL TO THE WEST LINE OF THE SOUTHWEST 1/4, A DISTANCE OF
659.50 FEET TO THE TRUE POINT OF BEGINNING

EXCEPT THE SOUTH 30.0 FEET THEREOF AND EXCEPT THE PARCEL OF LAND CONVEYED TO THE BOARD OF COUNTY COMMISSIONERS OF ADAMS COUNTY AND THE DEPARTMENT OF HIGHWAYS, STATE OF COLORADO, IN RULE AND ORDER RECORDED JANUARY 30, 1967, IN BOOK 1342 AT PAGE 358, COUNTY OF ADAMS, STATE OF COLORADO

HAS BY THESE PRESENTS LAID OUT, PLATTED AND SUBDIVIDED THE SAME INTO LOTS AND EASEMENTS AS SHOWN ON THIS PLAT UNDER THE NAME AND STYLE OF MERAZ MINOR SUBDIVISION. THE UNDERSIGNED DOES HEREBY DEDICATE, GRANT AND CONVEY TO ADAMS COUNTY THOSE PUBLIC EASEMENTS AS SHOWN ON THE PLAT; AND FURTHER RESTRICTS THE USE OF ALL PUBLIC EASEMENTS TO ADAMS COUNTY AND/OR ITS ASSIGNS, PROVIDED HOWEVER, THAT THE SOLE RIGHT AND AUTHORITY TO RELEASE OR QUITCLAIM ALL OR ANY SUCH PUBLIC EASEMENTS SHALL REMAIN EXCLUSIVELY VESTED IN ADAMS COUNTY.

OWNERS:

LUIS RICARDO MERAZ MOLINA

MARISOL ROBLES CORTEZ

ACKNOWLEDGEMENT

COLORADO

ADAMS COUNTY) SS

THE FOREGOING OWNERSHIP AND DEDICATION CERTIFICATE WAS ACKNOWLEDGED BEFORE ME BY: LUIS RICARDO MERAZ MOLINA AND MARISOL ROBLES CORTEZ, AS JOINT TENANTS

EXECUTED THIS _____ DAY OF _____, 20____

NOTARY PUBLIC

MY COMMISSION EXPIRES:_____

MY ADDRESS IS:

I, CURTIS D. HOOS, A PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THE SURVEY REPRESENTED BY THIS PLAT WAS MADE BY ME OR UNDER MY DIRECT SUPERVISION, AND THIS PLAT ACCURATELY REPRESENTS SAID SURVEY TO THE BEST OF MY KNOWLEDGE AND BELIEF.

CURTIS D. HOOS, PLS 37971
FOR AND ON BEHALF OF:
AMERICAN WEST LAND SURVEYING CO.
A COLORADO CORPORATION

REVIEWED BY THE ADAMS COUNTY PLANNING COMMISSION THIS _____
DAY OF _____ A.D. 20____

CHAIR

APPROVED BY THE ADAMS COUNTY BOARD OF COUNTY COMMISSIONERS THIS _____
DAY OF _____ A.D., 20____

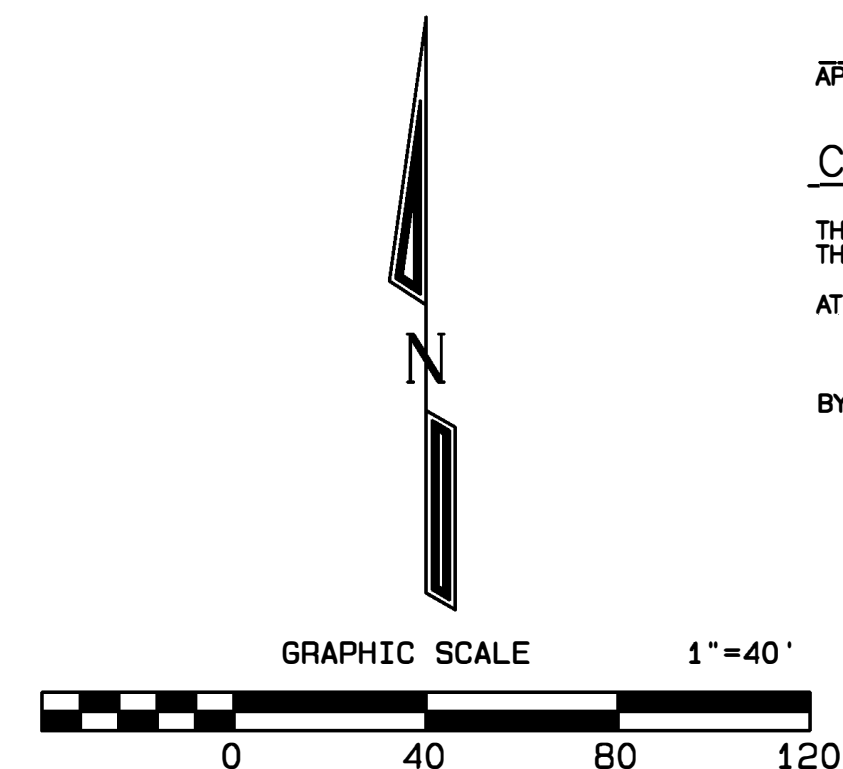
CHAIR

APPROVED AS TO FORM

THIS SUBDIVISION PLAT AMENDMENT WAS FILED FOR RECORD IN THE OFFICE OF
THE ADAMS COUNTY CLERK AND RECORDER, IN THE STATE OF COLORADO,

AT _____ M. ON THE _____ DAY OF _____, A.D. 20_____.

BY: _____
DEPUTY CLERK AND RECORDER RECEPTION NUMBER _____



Adams County

Residential Property Profile

Parcel Number: 0157103300006

Owners Name and Address:	Property Address:
MOLINA LUIS RICARDO MERAZ AND CORTEZ MARISOL ROBLES 764 PLANET PL THORNTON CO 80260-4845	9315 E 160TH AVE

Account Summary

Legal Description

SECT,TWN,RNG:3-1-67 DESC: A PARC IN SW4 OF SEC 3 DESC AS BEG AT SW COR OF SEC 3 TH S 89D 52M 30S E A DIST OF 1242/8 FT TO THE POB TH CONT S 89D 52M 30S E A DIST OF 490/8 FT TO SW COR OF HI LAND ACRES TH N 29D 32M 30S W 500 FT TH N 26D 32M 30S W 125 FT TH N 13D 12M 30S W 116/47 FT TH N 89D 52M 30S W 159/13 FT TH S 00D 16M 30S W 659/50 FT TO POB EXC S 30 FT AND EXC HWY (BK1342 PG358) 3/571 AC

Subdivision Plat

N/A

Account Summary

Account Numbers	Date Added	Tax District	Mill Levy
R0008123	On or Before 01/01/1996	295	107.900

Permits

Permit Cases

BDC13-00057 BDC13-00142 BDL13-00544 BDP06-1005 BDP09-1819 BDP14-0168 BDP14-0169 BDP14-0170 BDP24-1704 CEC2013-00762 PRC2025-00005 PRE2024-00053 VIO2006-49169 VIO2006-49170 VIO2007-55193 VIO2007-55194 VIO2007-56508 VIO2010-00755 VIO2014-00082

Sales Summary

Sale Date	Sale Price	Deed Type	Reception Number	Book	Page	Grantor	Grantee	Doc. Fee	Doc. Date
05/06/1999	\$10.00	OTH	C0539457	5744	766	PERKINS LLOYD		\$0	05/06/1999
12/08/2003	\$10.00	OTH	C1249262			PERKINS LLOYD	FRANKLIN KIMBERLY DAWN	\$0	12/08/2003
12/08/2003	\$212,000.00	PRD	C1249263			PERKINS LLOYD	FRANKLIN KIMBERLY DAWN	\$21.2	12/08/2003
02/11/2005	\$290,000.00	WD	2005000157370	2005	0215	FRANKLIN KIMBERLY DAWN	TABARES TRINIDAD JR	\$29	02/15/2005
04/12/2006	\$10.00	QC	2006000389870	2006	0417	TABARES TRINIDAD JR	TOTAL AUTO COVERAGE CORPORATION	\$0	04/17/2006
09/19/2022	\$0	OTH	2023000027470			TABARES TRINIDAD AKA TABARES TRINIDAD JR AKA TABARES TJ	TABARES TRINIDAD AKA TABARES TRINIDAD JR AKA TABARES TJ	\$0	05/16/2023
01/30/2023	\$0	D	2023000005472			TOTAL AUTO COVERAGE CORPORATION	POZUELOS CHRISTINA AS PERSONAL REPRESENTATIVE OF THE, ESTATE OF TRINIDAD TABARES	\$0	01/31/2023
05/30/2024	\$640,000.00	SWD	2024000028899			POZUELOS CHRISTINA AS PERSONAL REPRESENTATIVE OF THE, ESTATE OF TRINIDAD TABARES	MOLINA LUIS RICARDO MERAZ AND , CORTEZ MARISOL ROBLES	\$64	05/30/2024

Click [here](#) to go to Clerk / Recorder search page

Valuation Summary

Land Valuation Summary

Account Number	Land Type	Unit of Measure	Number of Units	Fire District	School District	Vacant/Improved	Actual Value	Assessed Value
R0008123	Residential	Acres	3.5700	GREATER BRIGHTON FIRE PROTECTION DISTRICT 6	School District 27J- Brighton	I	\$151,000.00	\$10,120.00
Land Subtotal:							\$151,000.00	\$10,120.00

Improvements Valuation Summary

Account Number	Actual Value	Assessed Value
R0008123	\$379,949.00	\$25,460.00
Improvements Subtotal:	\$379,949.00	\$25,460.00

Total Property Value	\$530,949.00	\$35,580.00
----------------------	--------------	-------------

	Adjusted Actual Value	Adjusted Assessed Value
*Total Adjusted Value	\$475,949.00	\$31,890.00

*Per SB24-233 the value may be reduced by \$55,000.00 for residential and \$30,000 for commercial. For more information, go to the [Assessor's website](#).

Building Summary

Building Number: 1.00

Individual Built As Detail

Built As:	Ranch 1 Story
Year Built:	1934
Building Type:	Residential
Construction Type:	Frame Siding
Built As SQ Ft:	1000
Number of Rooms:	5
Number of Baths:	1.00
Number of Bedrooms:	3
Attached Garage SQ Ft:	
Detached Garage Square Ft:	450
Basement SQ Ft:	775
Finished Basement SQ Ft:	

Building Number: 2.00

Individual Built As Detail

Built As:	Farm Utility Building
Year Built:	1934
Building Type:	Out Building
Construction Type:	
Built As SQ Ft:	512
Number of Rooms:	0
Number of Baths:	0.00
Number of Bedrooms:	0
Attached Garage SQ Ft:	
Detached Garage Square Ft:	
Basement SQ Ft:	
Finished Basement SQ Ft:	

Building Number: 3.00

Individual Built As Detail

Built As:	Farm Utility Building
Year Built:	1934
Building Type:	Out Building
Construction Type:	
Built As SQ Ft:	288
Number of Rooms:	0
Number of Baths:	0.00
Number of Bedrooms:	0
Attached Garage SQ Ft:	
Detached Garage Square Ft:	
Basement SQ Ft:	
Finished Basement SQ Ft:	

Tax Summary

Click [here](#) to go to Treasurer's search page

Enterprise Zone Summary

Property within Enterprise Zone

False

Precincts and Legislative Representatives Summary

Precinct

163

Commissioner Representative

Commissioner District	Link to Representative
1	Click Here

State House Representative

House District	Link to Representative
48	Click Here

State Senate Representative

Senate District	Link to Representative
13	Click Here

US Congress Representative

Congressional District	Link to Representative
8	Click Here

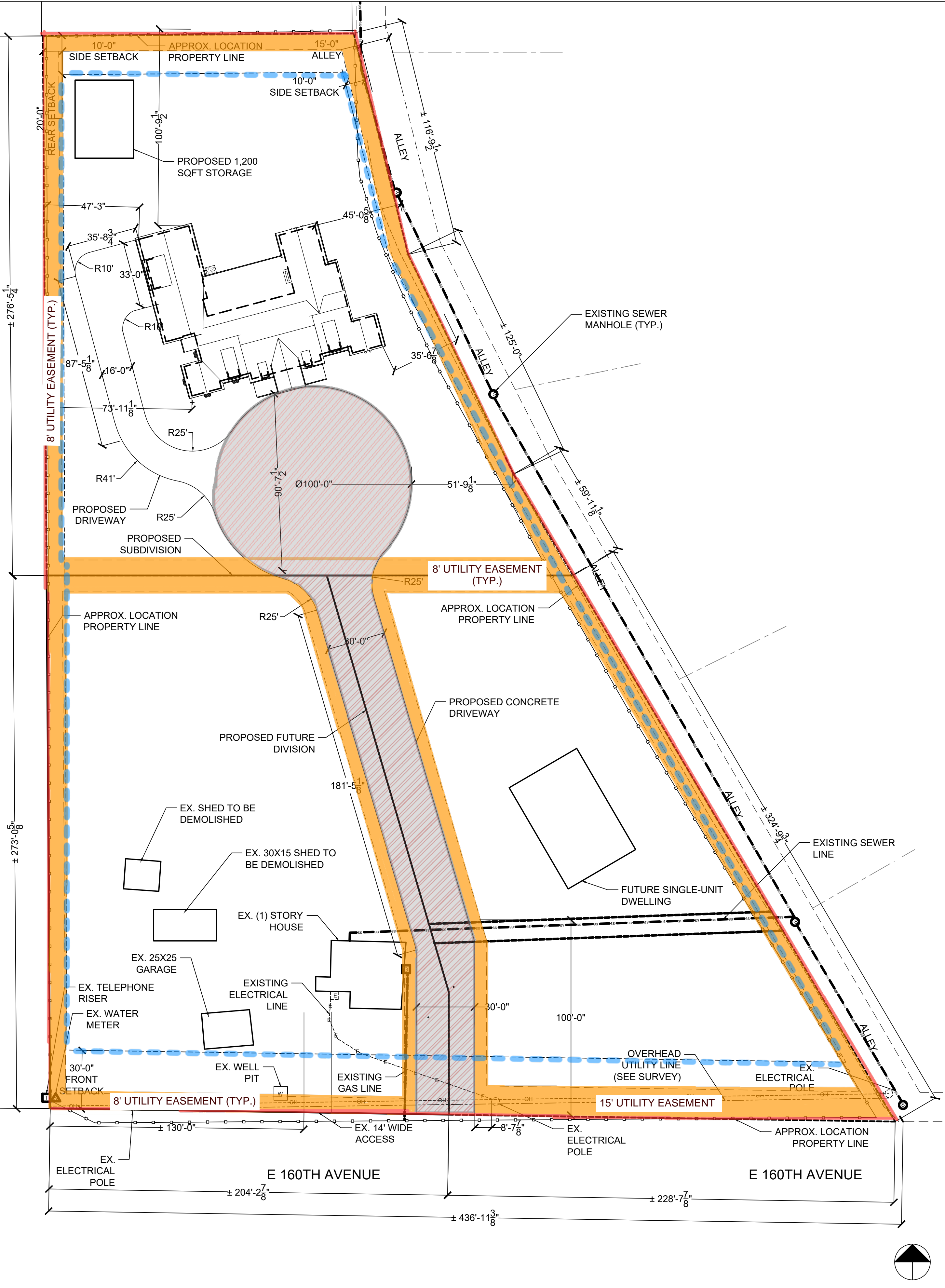
Zoning Summary

Zoning Summary

Zoning Authority	Zoning
Adams County	A-1

Note: Data is updated daily. Above data was updated as of: 03/26/25

Legal Disclaimer: Although every reasonable effort has been made to ensure the accuracy of the public information data and graphic representations, Adams County cannot be responsible for consequences resulting from any omissions or errors contained herein. Adams County assumes no liability whatsoever associated with the use or misuse of this data



SITE PLAN LEGENDS

- PROPERTY LOT LINE
- SETBACK LINE
- EXTERIOR BUILDING FOOTPRINT
- ROOF LINE
- EX. ADJ. STRUCTURE FOOTPRINT
- EASEMENT/ALLEY
- FENCE
- DITCH (SEE SURVEY)
- SEWER LINE
- GAS LINE
- WATER LINE
- OVER HEAD POWER LINE
- ELECTRICAL LINE



"...Building affinity through design..."

ARCHITECT:

P.O. Box 2311, LITTLETON, CO. 80161-2311
(720) 307-2797
alfredo_ms@archams.com
ALFREDO MARTINEZ-SUAREZ

1. THE CONTRACTOR WORK INCLUDES FURNISHING ALL MATERIAL, EQUIPMENT, TOOLS, LABOR AND SERVICES NECESSARY FOR COMPLETION OF THE PROJECT UNLESS NOTED OTHERWISE.

2. ALL WORK SHALL BE DONE AS SHOWN ON THE DRAWINGS & CALLED FOR IN THE SPECIFICATIONS & IN A MANNER AS DIRECTED BY THE ARCHITECT & GENERAL TRADE PRACTICES. THE SUPERVISION OF THE CONTRACT WORK SHALL BE DONE BY THE PERSON OR COMPANY LISTED IN THE CONTRACT AGREEMENT. IN CASE NO SUPERVISION BY AN ARCHITECT IS PROVIDED IN THE CONTRACT, THE FUNCTIONS OF THE ARCHITECT, WHEREVER CALLED FOR IN THE PLANS AND/OR SPECIFICATIONS, SHALL BE EXERCISED BY THE OWNER.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE SITE WHILE JOB IS IN PROGRESS AND UNTIL BUILDING IS OCCUPIED.

4. ALL DETAILS & SECTIONS SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL BE CONSTRUED TO APPLY TO ANY SIMILAR SITUATION ELSEWHERE IN THE WORK EXCEPT WHERE A DIFFERENT DETAIL IS SHOWN.

5. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE & SEQUENCE TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION.

6. DO NOT SCALE THESE DRAWINGS. DRAWING SCALES IN THESE DRAWINGS ARE FOR 24X36 PRINTS.

7. ANY DISCREPANCY BETWEEN THESE DRAWINGS & ACTUAL SITE/FIELD CONDITIONS SHALL BE REPORTED IN WRITING TO THE OWNER & THE ARCHITECT BEFORE COMMENCING ANY WORK.

MERAZ' SUBDIVISION

9315 E 160th Ave,
Brighton, CO 80602

ISSUE	DATE	DESCRIPTION
01	03/12/25	SUBDIVISION

DRAWN BY:

CHECKED BY:

RR

LR/AM

THESE DRAWINGS HAVE BEEN PREPARED BY ME OR UNDER MY DIRECT SUPERVISION

COPYRIGHT M-S ARCHITECTURE, INC. - 2025

SITE PLAN

A-100

Scale

1

SITE PLAN
1/32"=1'-0"

0 16'-0" 32'-0" 64'-0"
SCALE: 1/32" = 1'-0"

SPECIAL WARRANTY DEED

State Doc Fee: \$64.00
Recording Fee: \$13.00

THIS DEED is dated the 30th day of May, 2024, and is made between
(whether one, or more than one),

Christina Pozuelos

the "Grantor" of the County of Adams and State of Colorado and

Luis Ricardo Meraz Molina, as joint tenants and Marisol Robles Cortez, as joint tenants

LM initial M.R. initial

(whether one, or more than one), the "Grantee", whose legal address is 764 Planet Place, 9315 E 160th Avenue Thornton CO 80260 of the County of and State of Colorado.

WITNESS, that the Grantor, for and in consideration of the sum of **Six Hundred Forty Thousand Dollars and No Cents (\$640,000.00)**, the receipt and sufficiency of which is hereby acknowledged, hereby grants, bargains, sells, conveys and confirms unto the Grantee and the Grantee's heirs and assigns forever, all the real property, together with any improvements thereon, located in the County of Adams and State of Colorado described as follows:

****SELLER TO RESERVE ALL MINERAL RIGHTS ******

That part of the SW 1/4 of Section 3, Township 1 South, Range 67 West of the Sixth Principal Meridian described as follows:

Beginning at the Southwest corner of said Section 3; thence South 89°52'30" East along the South line of SW 1/4 of Section 3, a distance of 1242.8 feet to the true point of beginning; thence continuing South 89°52'30" East a distance of 490.8 feet to the Southwest corner of Hi-Land Acres; thence along the Westerly line of Hi-Land Acres by the following courses and distances:

North 29°32'30" West 500.0 feet;

thence North 26°32'30" West 125.0; feet;

thence North 13°12'30" West 116.47 feet;

thence North 89°52'30" West parallel to the South line of said SW 1/4 a distance of 159.13 feet;

thence South 00°16'30" West parallel to the West line of SW 1/4 a distance of 630.0 feet to the true point of beginning.

EXCEPT the South 30.0 feet thereof and EXCEPT the parcel of land conveyed to the Board of County Commissioners of Adams County and the Department of Highways, State of Colorado, in Rule and Order recorded January 30, 1967, in Book 1342 at Page 358. County of Adams, State of Colorado.

AND MORE CORRECTLY DESCRIBED AS:

That part of the SW 1/4 of Section 3, Township 1 South, Range 67 West of the Sixth Principal Meridian described as follows:

Beginning at the Southwest corner of said Section 3; thence South 89°52'30" East along the South line of SW 1/4 of Section 3, a distance of 1242.8 feet to the true point of beginning; thence continuing South 89°52'30" East a distance of 490.8 feet to the Southwest corner of Hi-Land Acres; thence along the Westerly line of Hi-Land Acres by the following courses and distances:

North 29°32'30" West 500.0 feet;

thence North 26°32'30" West 125.0 feet;

thence North 13°12'30" West 116.47 feet;

thence North 89°52'30" West parallel to the South line of said SW 1/4 a distance of 159.13 feet;

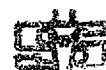
thence South 00°16'30" West parallel to the West line of SW 1/4 a distance of 659.50 feet to the true point of beginning.

EXCEPT the South 30.0 feet thereof and EXCEPT the parcel of land conveyed to the Board of County Commissioners of Adams County and the Department of Highways, State of Colorado, in Rule and Order recorded January 30, 1967, in Book 1342 at Page 358. County of Adams, State of Colorado.

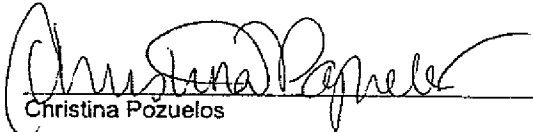
also known by street address as: 9315 E 160th Avenue, Brighton, CO 80602

TOGETHER with all and singular the hereditaments and appurtenances thereto belonging, or in anywise appertaining, the reversions, remainders, rents, issues and profits thereof, and all the estate, right, title, interest, claim and demand whatsoever of the Grantor, either in law or equity, of, in and to the above bargained premises, with the hereditaments and appurtenances;

TO HAVE AND TO HOLD the said premises above bargained and described, with the appurtenances, unto the Grantee, and the Grantee's heirs and assigns forever. The Grantor, for the Grantor and the Grantor's heirs and assigns, does covenant, grant, bargain, and agree that the Grantor shall and will **WARRANT THE TITLE AND DEFEND** the above described premises, in the quiet and peaceable possession of the Grantee and the heirs and assigns of the Grantee, against all and every person or persons claiming the whole or any part thereof, by, through, or under the Grantor except and subject to: Statutory Exceptions as defined in C.R.S. § 38-30-113(5)(a).

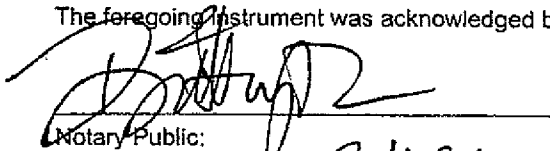


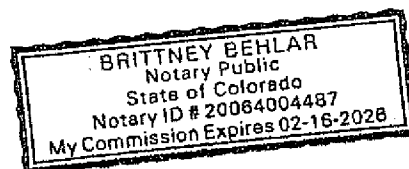
IN WITNESS WHEREOF, the Grantor has executed this deed on the date set forth above.


Christina Pozuelos

State of Colorado
County of Adams

The foregoing instrument was acknowledged before me this 30th day of May, 2024 by Christina Pozuelos.


Notary Public:
My Commission Expires: 2-16-2028



Hi-Land Acres
Water and Sanitation District
P O Box 218
Brighton, CO 90601

www.hilandacreswater.org

Lynda Sue Reyes
M-S Architecture
Via e-mail

Subject: "Will Serve" Letter for Water and Sewer Service for 9315 E 160th Ave Brighton,
CO 80602

Dear Lynda Sue Reyes, Project Coordinator with M-S Architecture

The Hi-land Acres Water & Sanitation District ("the District") has reviewed your request for water and sewer service to a parcel of land at 9315 E 160th Avenue which is currently within our District lines. This parcel is served by a Hi-land Acres water tap. The request is for service for 3, ¾" water taps and 3 sewer taps. The District has an existing sewer system which connects into the Metro Reclamation District's Wastewater plant that allows for additional capacity in our system to provide sewer service for 9315 E 160th Avenue. Hi-land Acres has sufficient water and sewer capacity to provide the requested service for this proposed development. Any and all costs associated with the water and sewer main extensions to the District main, acquisition of right of way and/or easements, administrative and permitting costs will be the responsibility of the developers of the 9315 E 106th Avenue.

This letter is non-transferable.

Sincerely,

Susan Findling, Treasurer
Jim Roos, President



Statement Of Taxes Due

Account Number R0008123

Assessed To

Parcel 0157103300006

MOLINA LUIS RICARDO MERAZ AND
C/O:CORTEZ MARISOL ROBLES
764 PLANET PL
THORNTON, CO 80260-4845

Legal Description

SECT,TWN,RNG:3-1-67 DESC: A PARC IN SW4 OF SEC 3 DESC AS BEG AT SW COR OF SEC 3 TH S 89D 52M 30S E A DIST OF 1242/8 FT TO THE POB TH CONT S 89D 52M 30S E A DIST OF 490/8 FT TO SW COR OF HI LAND ACRES TH N 29D 32M 30S W 500 FT TH N 26D 32M 30S W 125 FT TH N 13D 12M 30S W 116/47 FT TH N 89D 52M 30S W ... Additional Legal on File

Situs Address

9315 E 160TH AVE

Year	Tax	Interest	Fees	Payments	Balance
Tax Charge					
2024	\$3,440.94	\$0.00	\$0.00	\$0.00	\$3,440.94
Total Tax Charge					\$3,440.94
Grand Total Due as of 01/23/2025					\$3,440.94

Tax Billed at 2024 Rates for Tax Area 295 - 295

Authority	Mill Levy	Amount	Values	Actual	Assessed
RANGEVIEW LIBRARY DISTRICT	3.6670000	\$116.94	RES IMPRV LAND	\$151,000	\$9,070
FIRE DISTRICT 6 - GREATER B	16.7930000	\$535.53	SINGLE FAMILY RES	\$379,949	\$22,820
GENERAL	22.8200000	\$727.73	Total	\$530,949	\$31,890
HI-LAND ACRES WATER & SANIT	2.8520000	\$90.95			
RETIREMENT	0.3140000	\$10.01			
ROAD/BRIDGE	1.3000000	\$41.46			
DEVELOPMENTALLY DISABLED	0.2570000	\$8.20			
SD 27 BOND (Brighton)	20.9840000	\$669.18			
SD 27 GENERAL (Brighton)	35.6600000	\$1,137.20			
URBAN DRAINAGE SOUTH PLATTE	0.1000000	\$3.19			
URBAN DRAINAGE & FLOOD CONT	0.9000000	\$28.70			
SOCIAL SERVICES	2.2530000	\$71.85			
Taxes Billed 2024	107.9000000	\$3,440.94			

Tax amounts are subject to change due to endorsement, advertising, or fees.

Please call the office to confirm amount due after August 1st.

All Tax Lien Redemption payments must be made with cash or cashier's check.

Adams County Treasurer & Public Trustee
4430 S Adams County Parkway, Suite W1000
Brighton, CO 80601
720-523-6160

Thank you for your payment

1 message

CGS_LUR@mines.edu <CGS_LUR@mines.edu>
To: mgmt@archams.com

Tue, Mar 18, 2025 at 3:16 PM

Receipt Number: 913504
Colorado Geological Survey
Date: 03/18/2025

Description	Amount
Pre-Pay the Colorado Geological Survey Land Use Review Fee	\$600.00
Must select project size to calculate a price: Very Small Residential Subdivision - Project Name: Meraz Subdivision County of Project: Adams Applicant's Name: Alfredo Martinez Applicant's Address (line 1): PO Box 2311 Applicant's City: Littleton Applicant's State: CO Applicant's Zip Code: 80161 Applicant's Phone: 3035266406 Applicant's Email: mgmt@archams.com Section: 3 Township: 1 Range: 67 Pre-Pay the Colorado Geological Survey Land Use Review Fee	
Total	\$600.00

Payments Received	Amount
CC MasterCard XXXXXXXXXXXX5066 Authorization # 08740Q	\$600.00
Total	\$600.00

Thank you for the payment.

MEMORANDUM

To: Adams County Community and Economic Development Department

From: Cassie Slade, PE, PTOE

Date: January 14, 2025

Project: Jorge Equiarte Subdivision, Meraz Property – Brighton, CO

Subject: Trip Generation Letter

The Fox Tuttle Transportation Group (Fox Tuttle) has completed a transportation analysis for the proposed subdivision of the Meraz property that is proposed to be subdivided from a single lot to three (3) lots that will allow construction of new single-family homes. There is currently one single-family home on the site and several storage sheds. It is understood that the existing home will remain, there will be a new 5,280± square foot home, plus the possibility of two (2) accessory dwelling units (ADU). The property is located in Adams County, CO at 9315 E. 160th Avenue. A vicinity map of the subject property is shown on **Figure 1**. This traffic letter summarizes the anticipated trip generation for the project.



Figure 1. Project Location

Existing Conditions

The land surrounding the project site includes rural residential properties and single-family home neighborhoods. There is an private access on E. 160th Avenue that serves the existing home. There are no auxiliary lanes at the driveway; however, there are wide shoulders and the eastbound left-turn for Lomand Circle begins along the Meraz property.

Roadways

The primary public roadway that will directly serve the project is E. 160th Avenue (State Highway 7). This east-west roadway is a two-lane regional arterial with one (1) travel lane per direction. The speed limit on E. 160th Avenue adjacent to the project property is 60 miles per hour (mph). Based on traffic counts gathered on December 5, 2024, this roadway serves approximately 16,390 vehicles per day (vpd) with 3.7% heavy vehicles. The collected count data indicated that the driveway serves approximately 1,335 vehicles per hour (vph) in the AM peak hour and 1,406 vph in the PM peak hour. The count data is attached to this letter and volumes are shown on **Figure 2**.

Pedestrian and Bicycle

Currently, there are no sidewalks or on-street bike lanes on E. 160th Avenue. There are paved shoulders on both sides of the road that can be utilized as necessary, and bicyclists are allowed to travel in the general-purpose lanes.

Transit

Portions of Adams County is serviced by the Regional Transportation District (RTD) which provides local and regional transit services throughout the Front Range. There are no bus stops near the Meraz property. The closest bus stops are at the park-n-ride named US 85/Bridge Street, which is approximately 2.75 miles to the east near US Highway 85. This station is served by Routes 120L, 145X, 520, RX, and the Brighton Flex Route. Each of these routes link the City of Brighton to adjacent communities (Thornton, Northglenn) or regional destinations (Denver, DIA). It is understood that there will be a future Bus Rapid Transit service along E. 160th Avenue (SH 7) that will connect Brighton to Boulder, as well as non-auto amenities to create a multi-modal corridor.

Trip Generation

The Meraz property currently has one single-family home that does not have any traffic in the peak hours according to the gathered traffic counts. To establish the proposed volume of trips associated with the proposed subdivision, the data contained in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*¹ was applied using ITE land use #210: "Single-Family Detached Housing". The proposed project is expected to experience mostly new trips, known as 'primary trips', as discussed below:

Primary Trips. These trips are made specifically to visit the site and are considered "new" trips. Primary trips would not have been made if the proposed project did not exist. Therefore, this is the only trip type that increases the total number of trips made on a regional basis.

The estimated trip generation is summarized on **Table 1** for weekday daily, AM, and PM periods. **It is anticipated that the proposed three (3) lots on the Meraz property will generate up to 28 daily trips, up to two (2) AM peak hour trips, and up to three (3) PM peak hour trips.** It is anticipated that most of the trips associated with the new homes will be light vehicles with the occasional delivery truck, moving vehicle, and/or recreational vehicles. The highest volumes were estimated to occur in the PM peak hour.

Table 1 – Trip Generation

Land Use	Size	Unit	Average Daily Trips				AM Peak Hour Trips				PM Peak Hour Trips			
			Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total	In	Out
ITE 210 - Single-Family Detached Housing ⁽¹⁾	3	Dwelling Units	9.43	28	14	14	0.74	2	1	1	0.94	3	2	1
Total Trips				28	14	14		2	1	1		3	2	1

⁽¹⁾ Source: ITE Trip Generation 11th Edition, 2021.

Proposed Access

The Jorge Equiarte subdivision project proposes to relocate the existing driveway to the east by approximately 95 feet to serve the three (3) proposed lots. The driveway will be approximately 26 feet in width and connect perpendicular to E. 160th Avenue. The driveway will continue to provide full-movement access with side-street stop control. It is anticipated that the trips will be split 50% west and 50% east on E. 160th Avenue, and this may fluctuate depending on the growth of adjacent communities and where residents work, play, or go for services and retail. The estimated trips are shown on **Figure 2**, as well as the existing traffic volumes through the intersection on E. 160th Avenue without and with the proposed project.

¹ *Trip Generation Manual*, 11th Edition, Institute of Transportation Engineers, 2021.

Future Traffic

Adams County and the City of Brighton are growing areas within the Front Range due to proximity to larger cities, the regional roadway network, and the anticipated developable land. Based on the CDOT forecasting data, E. 160th Avenue was projected to have a 20-year growth factor of 1.36, which equates to a 1.55% annual growth rate. Based on this data, it is anticipated that the traffic on E. 160th Avenue will serve approximately 22,300 vpd in the 20-year horizon if the predicted growth occurs within the area.

Capacity Analysis

Synchro (v12) and the *Highway Capacity Manual* (7th Edition) were utilized to evaluate the performance for the intersection of E. 160th Avenue and the existing driveway. The existing volumes and with project volumes were evaluated to understand the anticipated delay with the trips associated with the proposed homes. **Table 2** summarizes the delays, level of service, 95th percentile queues for the study intersection.

Table 2 – Summary of Level of Service and 95th Percentile Queues

Movement	Existing + Project						2045 Background + Project					
	AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
	Delay (sec)	LOS	95 th % Queue	Delay (sec)	LOS	95 th % Queue	Delay (sec)	LOS	95 th % Queue	Delay (sec)	LOS	95 th % Queue
Overall	0	A		0	A		0	A		0	A	
<i>EB Left+Thru</i>	10	A	0'	9	A	0'	11	B	0'	10	A	0'
<i>WB Through+Right</i>	0	A	0'	0	A	0'	0	A	0'	0	A	0'
<i>SB Left+Right</i>	16	C	0'	13	B	0'	20	C	0'	17	C	0'

It can be seen that the intersection of the driveway on E. 160th Avenue will continue to operate acceptably with the additional trips. Based on the turn volumes and capacity analysis, auxiliary lanes are not warranted into or out of the driveway when comparing to the Adams County volume standards.

Conclusions

The Jorge Equiarte project proposes to subdivide the Meraz property to create three (3) lots for single-family homes in Adams County, CO. It was estimated that the project will generate up to 28 weekday daily trips, two (2) weekday AM peak hour trips, and three (3) weekday PM peak hour trips.

It is anticipated that a full traffic impact analysis will not be required for the Jorge Equiarte project since the estimated daily volumes are well below the Adams County threshold of 50 vehicles per day to when a more detailed traffic study is required.

Please contact our office with any questions.

Sincerely,

FOX TUTTLE TRANSPORTATION GROUP, LLC



Cassie Slade, PE, PTOE
Principal

Attachments:

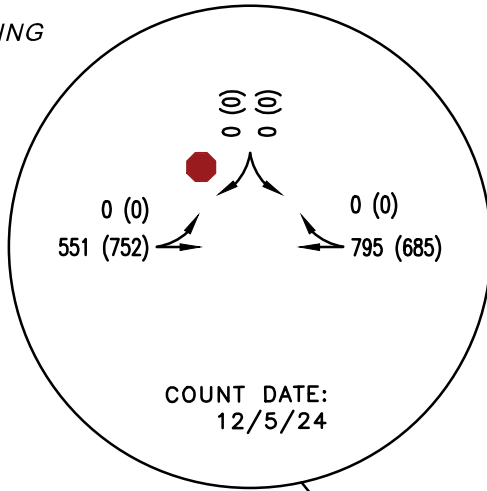
Figure 2: Traffic Volumes for Each Scenario

Level of Service Descriptions

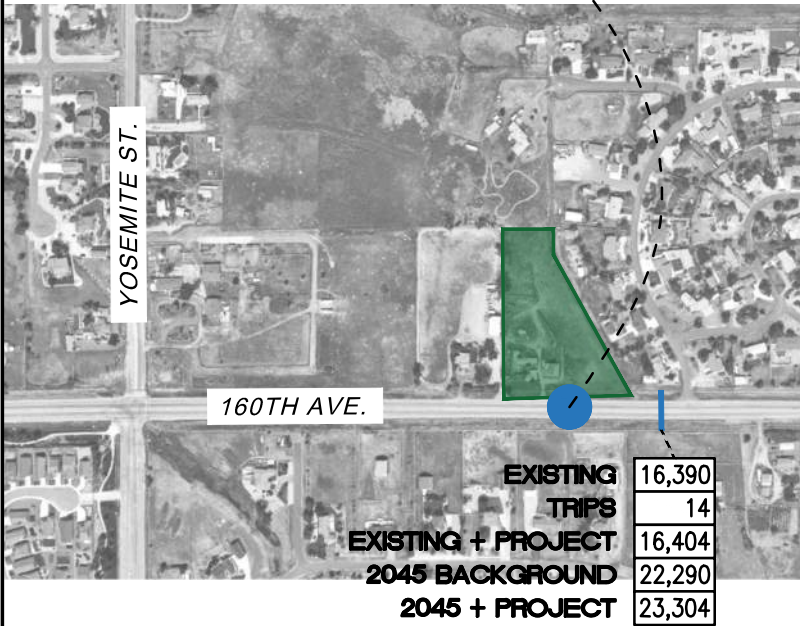
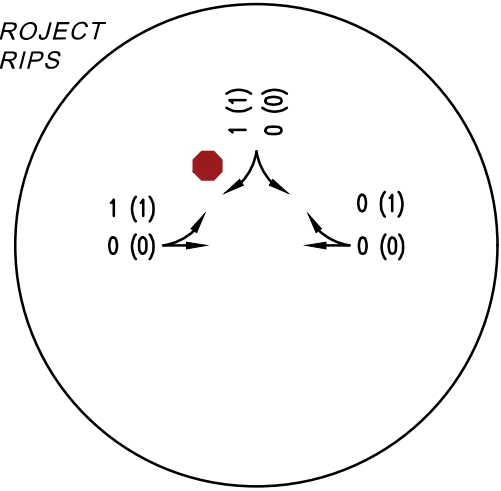
Traffic Count Data

Intersection Capacity Analysis and Queuing Worksheets

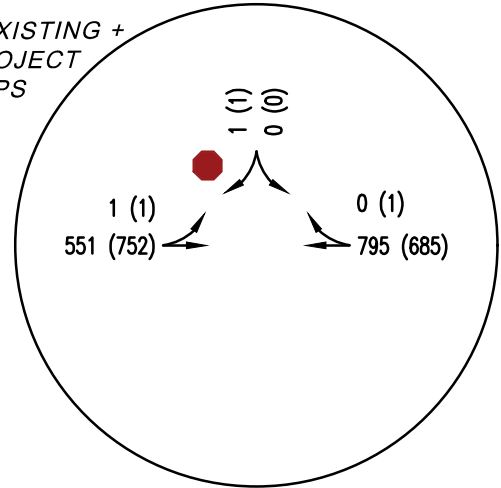
EXISTING



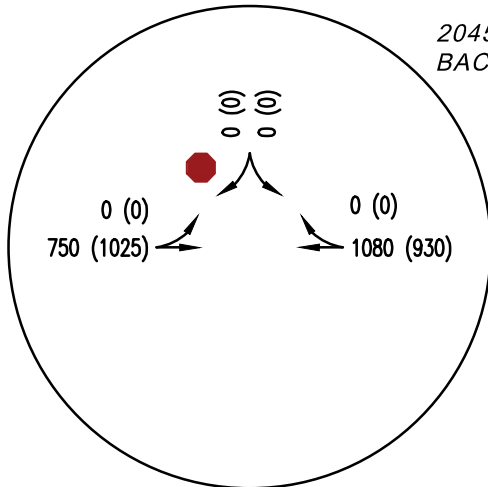
PROJECT
TRIPS



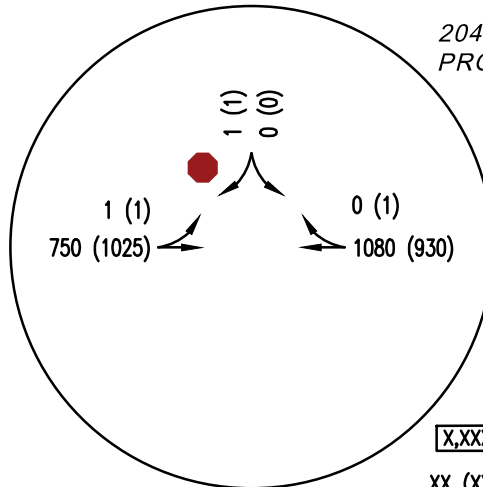
EXISTING +
PROJECT
TRIPS



2045
BACKGROUND



2045 +
PROJECT TRIPS



KEY

- [X,XXX] DAILY TRAFFIC VOLUME
- XX (XX) AM (PM) PEAK HOUR TRAFFIC VOLUME
- LANE CONFIGURATION



LEVEL OF SERVICE DEFINITIONS

In rating roadway and intersection operating conditions with existing or future traffic volumes, “Levels of Service” (LOS) A through F are used, with LOS A indicating very good operation and LOS F indicating poor operation. Levels of service at signalized and unsignalized intersections are closely associated with vehicle delays experienced in seconds per vehicle. More complete level of service definitions and delay data for signal and stop sign controlled intersections are contained in the following table for reference.

Level of Service Rating	Delay in seconds per vehicle (a)		Definition
	Signalized	Unsignalized	
A	0.0 to 10.0	0.0 to 10.0	Low vehicular traffic volumes; primarily free flow operations. Density is low and vehicles can freely maneuver within the traffic stream. Drivers are able to maintain their desired speeds with little or no delay.
B	10.1 to 20.0	10.1 to 15.0	Stable vehicular traffic volume flow with potential for some restriction of operating speeds due to traffic conditions. Vehicle maneuvering is only slightly restricted. The stopped delays are not bothersome and drivers are not subject to appreciable tension.
C	20.1 to 35.0	15.1 to 25.0	Stable traffic operations, however the ability for vehicles to maneuver is more restricted by the increase in traffic volumes. Relatively satisfactory operating speeds prevail, but adverse signal coordination or longer vehicle queues cause delays along the corridor.
D	35.1 to 55.0	25.1 to 35.0	Approaching unstable vehicular traffic flow where small increases in volume could cause substantial delays. Most drivers are restricted in ability to maneuver and selection of travel speeds due to congestion. Driver comfort and convenience are low, but tolerable.
E	55.1 to 80.0	35.1 to 50.0	Traffic operations characterized by significant approach delays and average travel speeds of one-half to one-third the free flow speed. Vehicular flow is unstable and there is potential for stoppages of brief duration. High signal density, extensive vehicle queuing, or corridor signal progression/timing are the typical causes of vehicle delays at signalized corridors.
F	> 80.0	> 50.0	Forced vehicular traffic flow and operations with high approach delays at critical intersections. Vehicle speeds are reduced substantially, and stoppages may occur for short or long periods of time because of downstream congestion.

(a) Delay ranges based on Highway Capacity Manual (6th Edition, 2016) criteria.



Location: E 160th Ave_E-O Driveway

Date: 12/05/2024

Count Duration: 24 HRS

Site Code: ADT 1

		Light Vehicles		Heavy Vehicles		Total
Time		Volume		Volume		
		EB	WB	EB	WB	
0:00		8	8	0	0	58
0:15		10	8	1	0	
0:30		6	2	0	1	
0:45		8	4	1	1	
1:00		8	4	0	0	37
1:15		5	4	0	1	
1:30		4	3	0	0	
1:45		7	1	0	0	
2:00		6	6	0	0	49
2:15		4	9	0	1	
2:30		4	10	1	0	
2:45		5	1	1	1	
3:00		3	8	1	0	67
3:15		5	8	0	0	
3:30		6	19	1	0	
3:45		5	11	0	0	
4:00		12	10	0	0	182
4:15		11	17	0	0	
4:30		17	37	0	2	
4:45		40	32	2	2	
5:00		15	47	0	2	429
5:15		40	83	3	1	
5:30		42	68	1	2	
5:45		36	88	0	1	
6:00		58	126	1	3	936
6:15		54	148	0	8	
6:30		84	149	4	9	
6:45		108	174	2	8	
7:00		105	180	5	17	1335
7:15		118	227	1	13	
7:30		132	204	1	11	
7:45		153	152	5	11	
8:00		133	170	8	7	1095
8:15		104	186	8	9	
8:30		101	135	5	6	
8:45		100	117	3	3	
9:00		71	124	3	7	843
9:15		74	116	8	4	
9:30		92	115	12	6	
9:45		95	102	8	6	
10:00		72	99	11	12	791
10:15		79	107	6	5	
10:30		73	103	5	7	
10:45		97	106	1	8	
11:00		100	99	9	7	870
11:15		90	133	6	7	
11:30		93	108	9	5	
11:45		97	104	1	2	
12:00		124	118	8	2	958
12:15		96	144	3	5	
12:30		112	124	4	4	
12:45		96	108	4	6	
13:00		92	107	4	7	891
13:15		122	93	1	5	
13:30		108	109	1	3	
13:45		122	104	9	4	

	Bikes on Road		Total
Time	Volume		
	EB	WB	
0:00	0	0	0
0:15	0	0	
0:30	0	0	
0:45	0	0	
1:00	0	0	0
1:15	0	0	
1:30	0	0	
1:45	0	0	
2:00	0	0	0
2:15	0	0	
2:30	0	0	
2:45	0	0	
3:00	0	0	0
3:15	0	0	
3:30	0	0	
3:45	0	0	
4:00	0	0	0
4:15	0	0	
4:30	0	0	
4:45	0	0	
5:00	0	0	0
5:15	0	0	
5:30	0	0	
5:45	0	0	
6:00	0	0	0
6:15	0	0	
6:30	0	0	
6:45	0	0	
7:00	0	0	0
7:15	0	0	
7:30	0	0	
7:45	0	0	
8:00	0	0	0
8:15	0	0	
8:30	0	0	
8:45	0	0	
9:00	0	0	0
9:15	0	0	
9:30	0	0	
9:45	0	0	
10:00	0	0	0
10:15	0	0	
10:30	0	0	
10:45	0	0	
11:00	0	0	0
11:15	0	0	
11:30	0	0	
11:45	0	0	
12:00	0	0	0
12:15	0	0	
12:30	0	0	
12:45	0	0	
13:00	0	0	0
13:15	0	0	
13:30	0	0	
13:45	0	0	



Location: E 160th Ave_E-O Driveway

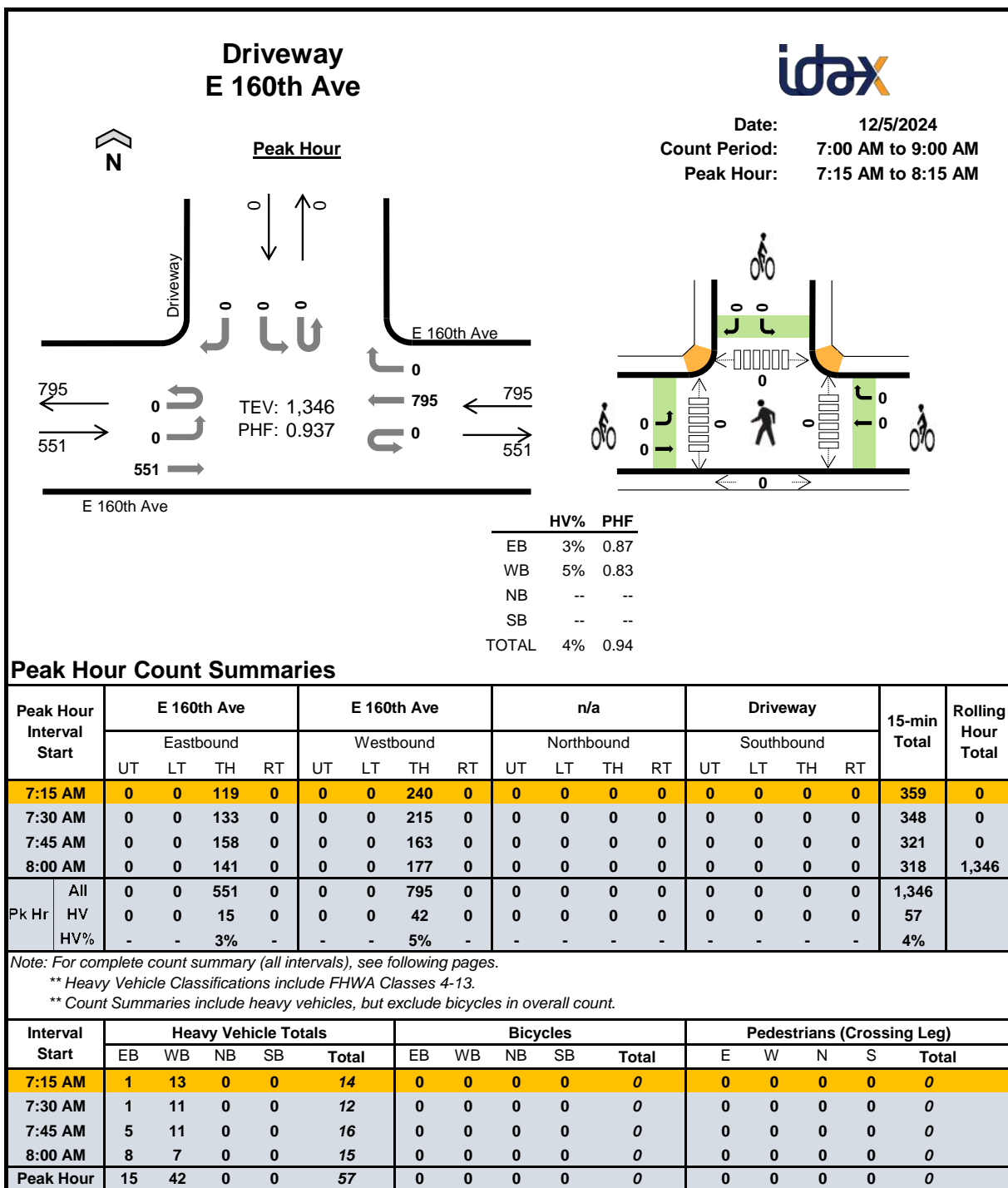
Date: 12/05/2024

Count Duration: 24 HRS

Site Code: ADT 1

	Light Vehicles		Heavy Vehicles		Total
Time	Volume		Volume		
	EB	WB	EB	WB	
14:00	106	106	3	7	1121
14:15	143	127	6	6	
14:30	153	139	6	9	
14:45	165	136	5	4	
15:00	158	152	11	2	1336
15:15	171	131	8	1	
15:30	174	143	2	5	
15:45	233	131	9	5	
16:00	182	141	8	5	1406
16:15	194	155	5	5	
16:30	162	168	11	2	
16:45	205	159	4	0	
17:00	170	177	6	0	1353
17:15	189	177	5	2	
17:30	179	147	3	2	
17:45	185	105	4	2	
18:00	135	103	3	3	917
18:15	151	119	5	2	
18:30	132	106	3	4	
18:45	77	73	0	1	
19:00	112	74	2	1	647
19:15	84	68	1	1	
19:30	80	77	2	0	
19:45	86	56	1	2	
20:00	78	25	3	1	444
20:15	84	34	0	3	
20:30	61	54	0	2	
20:45	54	42	2	1	
21:00	54	28	0	0	291
21:15	47	25	0	0	
21:30	49	28	0	1	
21:45	37	21	1	0	
22:00	63	16	0	0	210
22:15	26	19	0	0	
22:30	23	21	0	0	
22:45	28	14	0	0	
23:00	23	20	0	0	124
23:15	22	10	0	0	
23:30	12	9	0	1	
23:45	14	13	0	0	
24-HOUR TOTAL	7763	8028	287	312	16390

Time	Bikes on Road		Total
	Volume		
	EB	WB	
14:00	0	0	0
14:15	0	0	
14:30	0	0	
14:45	0	0	
15:00	0	0	0
15:15	0	0	
15:30	0	0	
15:45	0	0	
16:00	0	0	0
16:15	0	0	
16:30	0	0	
16:45	0	0	
17:00	0	0	0
17:15	0	0	
17:30	0	0	
17:45	0	0	
18:00	0	0	0
18:15	0	0	
18:30	0	0	
18:45	0	0	
19:00	0	0	0
19:15	0	0	
19:30	0	0	
19:45	0	0	
20:00	0	0	0
20:15	0	0	
20:30	0	0	
20:45	0	0	
21:00	0	0	0
21:15	0	0	
21:30	0	0	
21:45	0	0	
22:00	0	0	0
22:15	0	0	
22:30	0	0	
22:45	0	0	
23:00	0	0	0
23:15	0	0	
23:30	0	0	
23:45	0	0	
24-HOUR TOTAL	0	0	0



Count Summaries - All Vehicles

Interval Start		E 160th Ave				E 160th Ave				n/a				Driveway				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	110	0	0	0	197	0	0	0	0	0	0	0	0	0	307	0
7:15 AM		0	0	119	0	0	0	240	0	0	0	0	0	0	0	0	0	359	0
7:30 AM		0	0	133	0	0	0	215	0	0	0	0	0	0	0	0	0	348	0
7:45 AM		0	0	158	0	0	0	163	0	0	0	0	0	0	0	0	0	321	1,335
8:00 AM		0	0	141	0	0	0	177	0	0	0	0	0	0	0	0	0	318	1,346
8:15 AM		0	0	112	0	0	0	195	0	0	0	0	0	0	0	0	0	307	1,294
8:30 AM		0	0	106	0	0	0	141	0	0	0	0	0	0	0	0	0	247	1,193
8:45 AM		0	0	103	0	0	0	120	0	0	0	0	0	0	0	0	0	223	1,095
Count Total		0	0	982	0	0	0	1,448	0	0	0	0	0	0	0	0	0	2,430	
Pk Hr	All	0	0	551	0	0	0	795	0	0	0	0	0	0	0	0	0	1,346	
	HV	0	0	15	0	0	0	42	0	0	0	0	0	0	0	0	0	57	
	HV%	-	-	3%	-	-	-	5%	-	-	-	-	-	-	-	-	-	4%	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	5	17	0	0	22	0	0	0	0	0	0	0	0	0	0
7:15 AM	1	13	0	0	14	0	0	0	0	0	0	0	0	0	0
7:30 AM	1	11	0	0	12	0	0	0	0	0	0	0	0	0	0
7:45 AM	5	11	0	0	16	0	0	0	0	0	0	0	0	0	0
8:00 AM	8	7	0	0	15	0	0	0	0	0	0	0	0	0	0
8:15 AM	8	9	0	0	17	0	0	0	0	0	0	0	0	0	0
8:30 AM	5	6	0	0	11	0	0	0	0	0	0	0	0	0	0
8:45 AM	3	3	0	0	6	0	0	0	0	0	0	0	0	0	0
Count Total	36	77	0	0	113	0	0	0	0	0	0	0	0	0	0
Peak Hour	15	42	0	0	57	0	0	0	0	0	0	0	0	0	0

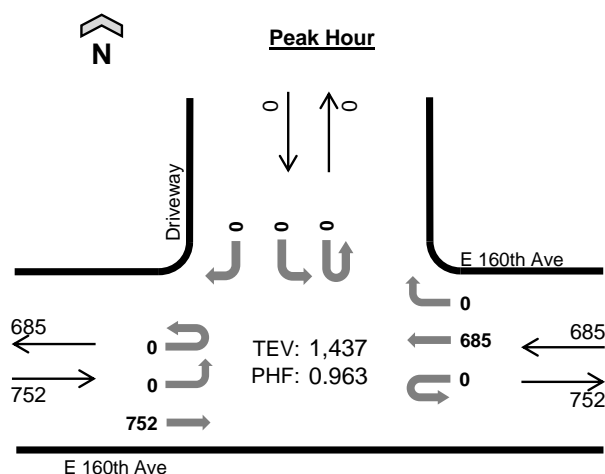
Count Summaries - Heavy Vehicles

Interval Start	E 160th Ave				E 160th Ave				n/a				Driveway				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	5	0	0	0	17	0	0	0	0	0	0	0	0	0	22	0
7:15 AM	0	0	1	0	0	0	13	0	0	0	0	0	0	0	0	0	14	0
7:30 AM	0	0	1	0	0	0	11	0	0	0	0	0	0	0	0	0	12	0
7:45 AM	0	0	5	0	0	0	11	0	0	0	0	0	0	0	0	0	16	64
8:00 AM	0	0	8	0	0	0	7	0	0	0	0	0	0	0	0	0	15	57
8:15 AM	0	0	8	0	0	0	9	0	0	0	0	0	0	0	0	0	17	60
8:30 AM	0	0	5	0	0	0	6	0	0	0	0	0	0	0	0	0	11	59
8:45 AM	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	6	49
Count Total	0	0	36	0	0	0	77	0	0	0	0	0	0	0	0	0	113	
Pk Hr Heavy	0	0	15	0	0	0	42	0	0	0	0	0	0	0	0	0	57	

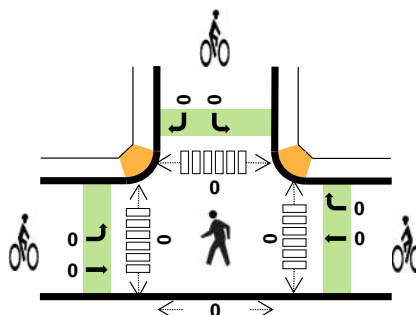
Count Summaries - Bikes

Interval Start	E 160th Ave				E 160th Ave				n/a				Driveway				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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
7:45 AM	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	0
8:15 AM	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
8:45 AM	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	0	0	0	0	0	0	0	
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Driveway E 160th Ave



Date: 12/5/2024
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV%	PHF
EB	3%	0.90
WB	1%	0.96
NB	--	--
SB	--	--
TOTAL	2%	0.96

Peak Hour Count Summaries

Peak Hour Interval Start		E 160th Ave				E 160th Ave				n/a				Driveway				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:30 PM		0	0	173	0	0	0	170	0	0	0	0	0	0	0	0	0	343	0
4:45 PM		0	0	209	0	0	0	159	0	0	0	0	0	0	0	0	0	368	0
5:00 PM		0	0	176	0	0	0	177	0	0	0	0	0	0	0	0	0	353	0
5:15 PM		0	0	194	0	0	0	179	0	0	0	0	0	0	0	0	0	373	1,437
Pk Hr	All	0	0	752	0	0	0	685	0	0	0	0	0	0	0	0	0	1,437	
	HV	0	0	26	0	0	0	4	0	0	0	0	0	0	0	0	0	30	
	HV%	-	-	3%	-	-	-	1%	-	-	-	-	-	-	-	-	-	2%	

Note: For complete count summary (all intervals), see following pages.

** Heavy Vehicle Classifications include FHWA Classes 4-13.

** Count Summaries include heavy vehicles, but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:30 PM	11	2	0	0	13	0	0	0	0	0	0	0	0	0	0
4:45 PM	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
5:00 PM	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0
5:15 PM	5	2	0	0	7	0	0	0	0	0	0	0	0	0	0
Peak Hour	26	4	0	0	30	0	0	0	0	0	0	0	0	0	0

Count Summaries - All Vehicles

Interval Start		E 160th Ave				E 160th Ave				n/a				Driveway				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	190	0	0	0	146	0	0	0	0	0	0	0	0	0	336	0
4:15 PM		0	0	199	0	0	0	160	0	0	0	0	0	0	0	0	0	359	0
4:30 PM		0	0	173	0	0	0	170	0	0	0	0	0	0	0	0	0	343	0
4:45 PM		0	0	209	0	0	0	159	0	0	0	0	0	0	0	0	0	368	1,406
5:00 PM		0	0	176	0	0	0	177	0	0	0	0	0	0	0	0	0	353	1,423
5:15 PM		0	0	194	0	0	0	179	0	0	0	0	0	0	0	0	0	373	1,437
5:30 PM		0	0	182	0	0	0	149	0	0	0	0	0	0	0	0	0	331	1,425
5:45 PM		0	0	189	0	0	0	107	0	0	0	0	0	0	0	0	0	296	1,353
Count Total		0	0	1,512	0	0	0	1,247	0	0	0	0	0	0	0	0	0	2,759	
Pk Hr	All	0	0	752	0	0	0	685	0	0	0	0	0	0	0	0	0	1,437	
	HV	0	0	26	0	0	0	4	0	0	0	0	0	0	0	0	0	30	
	HV%	-	-	3%	-	-	-	1%	-	-	-	-	-	-	-	-	-	2%	




Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	8	5	0	0	13	0	0	0	0	0	0	0	0	0	0
4:15 PM	5	5	0	0	10	0	0	0	0	0	0	0	0	0	0
4:30 PM	11	2	0	0	13	0	0	0	0	0	0	0	0	0	0
4:45 PM	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
5:00 PM	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0
5:15 PM	5	2	0	0	7	0	0	0	0	0	0	0	0	0	0
5:30 PM	3	2	0	0	5	0	0	0	0	0	0	0	0	0	0
5:45 PM	4	2	0	0	6	0	0	0	0	0	0	0	0	0	0
Count Total	46	18	0	0	64	0	0	0	0	0	0	0	0	0	0
Peak Hour	26	4	0	0	30	0	0	0	0	0	0	0	0	0	0

Count Summaries - Heavy Vehicles

Interval Start	E 160th Ave				E 160th Ave				n/a				Driveway				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	8	0	0	0	5	0	0	0	0	0	0	0	0	0	13	0
4:15 PM	0	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	10	0
4:30 PM	0	0	11	0	0	0	2	0	0	0	0	0	0	0	0	0	13	0
4:45 PM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	40
5:00 PM	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6	33
5:15 PM	0	0	5	0	0	0	2	0	0	0	0	0	0	0	0	0	7	30
5:30 PM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5	22
5:45 PM	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	6	24
Count Total	0	0	46	0	0	0	18	0	0	0	0	0	0	0	0	0	64	
Pk Hr Heavy	0	0	26	0	0	0	4	0	0	0	0	0	0	0	0	0	30	

Count Summaries - Bikes




Interval Start	E 160th Ave				E 160th Ave				n/a				Driveway				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	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	0	0	0	0	0	0		
Pk Hr Bike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	551	795	0	0	1
Future Vol, veh/h	1	551	795	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	83	83	88	88
Heavy Vehicles, %	0	3	5	0	0	0
Mvmt Flow	1	633	958	0	0	1

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	958	0	0 1593 958
Stage 1	-	-	- 958 -
Stage 2	-	-	- 636 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	726	-	- 119 315
Stage 1	-	-	- 376 -
Stage 2	-	-	- 531 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	726	-	- 119 315
Mov Cap-2 Maneuver	-	-	- 119 -
Stage 1	-	-	- 375 -
Stage 2	-	-	- 531 -

Approach	EB	WB	SB
HCM Control Delay, s/v 0.02		0	16.47
HCM LOS			C




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	3	-	-	-	315
HCM Lane V/C Ratio	0.002	-	-	-	0.004
HCM Control Delay (s/veh)	10	0	-	-	16.5
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	752	685	1	0	1
Future Vol, veh/h	1	752	685	1	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	96	96	80	80
Heavy Vehicles, %	0	3	1	0	0	0
Mvmt Flow	1	836	714	1	0	1

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	715	0	0 1552 714
Stage 1	-	-	- 714 -
Stage 2	-	-	- 838 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	895	-	- 126 435
Stage 1	-	-	- 489 -
Stage 2	-	-	- 428 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	895	-	- 126 435
Mov Cap-2 Maneuver	-	-	- 126 -
Stage 1	-	-	- 488 -
Stage 2	-	-	- 428 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.01	0	13.31
HCM LOS			B




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	2	-	-	-	435
HCM Lane V/C Ratio	0.001	-	-	-	0.003
HCM Control Delay (s/veh)	9	0	-	-	13.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	750	1080	0	0	1
Future Vol, veh/h	1	750	1080	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	92	92	83	50	50
Heavy Vehicles, %	0	3	5	0	0	0
Mvmt Flow	1	815	1174	0	0	2

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1174	0	0 1991 1174
Stage 1	-	-	- 1174 -
Stage 2	-	-	- 818 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	602	-	- 67 236
Stage 1	-	-	- 296 -
Stage 2	-	-	- 437 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	602	-	- 67 236
Mov Cap-2 Maneuver	-	-	- 67 -
Stage 1	-	-	- 295 -
Stage 2	-	-	- 437 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.02	0	20.39
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	3	-	-	-	236
HCM Lane V/C Ratio	0.002	-	-	-	0.008
HCM Control Delay (s/veh)	11	0	-	-	20.4
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1025	930	1	0	1
Future Vol, veh/h	1	1025	930	1	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	92	96	96	50	50
Heavy Vehicles, %	0	3	1	0	0	0
Mvmt Flow	1	1114	969	1	0	2

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	970	0	0 2086 969
Stage 1	-	-	- - 969 -
Stage 2	-	-	- - 1116 -
Critical Hdwy	4.1	-	- - 6.4 6.2
Critical Hdwy Stg 1	-	-	- - 5.4 -
Critical Hdwy Stg 2	-	-	- - 5.4 -
Follow-up Hdwy	2.2	-	- - 3.5 3.3
Pot Cap-1 Maneuver	719	-	- - 59 310
Stage 1	-	-	- - 371 -
Stage 2	-	-	- - 316 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	719	-	- - 59 310
Mov Cap-2 Maneuver	-	-	- - 59 -
Stage 1	-	-	- - 370 -
Stage 2	-	-	- - 316 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.01	0	16.68
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	2	-	-	-	310
HCM Lane V/C Ratio	0.002	-	-	-	0.006
HCM Control Delay (s/veh)	10	0	-	-	16.7
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0



Adams County
Community and Economic Development
4430 S Adams County Pkwy, 1st Floor, Suite W2000B
Brighton, CO 80601

December 20, 2024

RE: Drainage Letter
9315 E. 160th Avenue, Brighton, CO

Dear Staff,

This Drainage Letter is in regards to the proposed new structures and new concrete drive and turaround to be located at 9315 E. 160th Avenue, Brighton, Colorado, and is intended to verify general conformance with Adams County Criteria. The project site is located just northwest of the intersection of E. 160th Avenue and Lomand Circle (please see Figure 1, Vicinity Map, below).

The proposed project includes a new home with rooftop area of approximately 5280 square feet as well as a new concrete driveway with turnaround. A 1200 square foot storage structure is proposed along with two future ADU structures. Please see **Attachment 3** for a site plan provided to Front Range Stormwater & Floodplain Consulting by the site Architect, M-S Architecture. The purpose of this report is to evaluate the impact to existing site drainage as well as drainage in the immediate area of this additional impervious area.

Per USDA Soil Mapping (<https://websoilsurvey.sc.egov.usda.gov/>) of the area, the predominant soil in the area of the proposed access turnaround and home construction is “Ulm Loam”, which falls in Hydrologic Soil Group C. We have provided excerpts of the USDA Soil report in **Attachment 2**.

In general, historic drainage patterns from the project site direct runoff generally east in the form of sheet flow. A copy of the USGS Quadrangle mapping for the area, “Eastlake Quadrangle” dated 2022 is provided in **Attachment 6**. As shown in USGS Quadrangle mapping, in a larger scale, runoff generally flows south and west as sheet flow, with the ultimate outfall being the roadside swale of 160th Avenue. There is a 36-inch diameter corrugated metal pipe (CMP) culvert, approximately 500-feet west of the site which conveys drainage under E. 160th Avenue. The culvert conveys flows south into a large drainageway south of the road which carries flows generally south and east into Todd Creek.

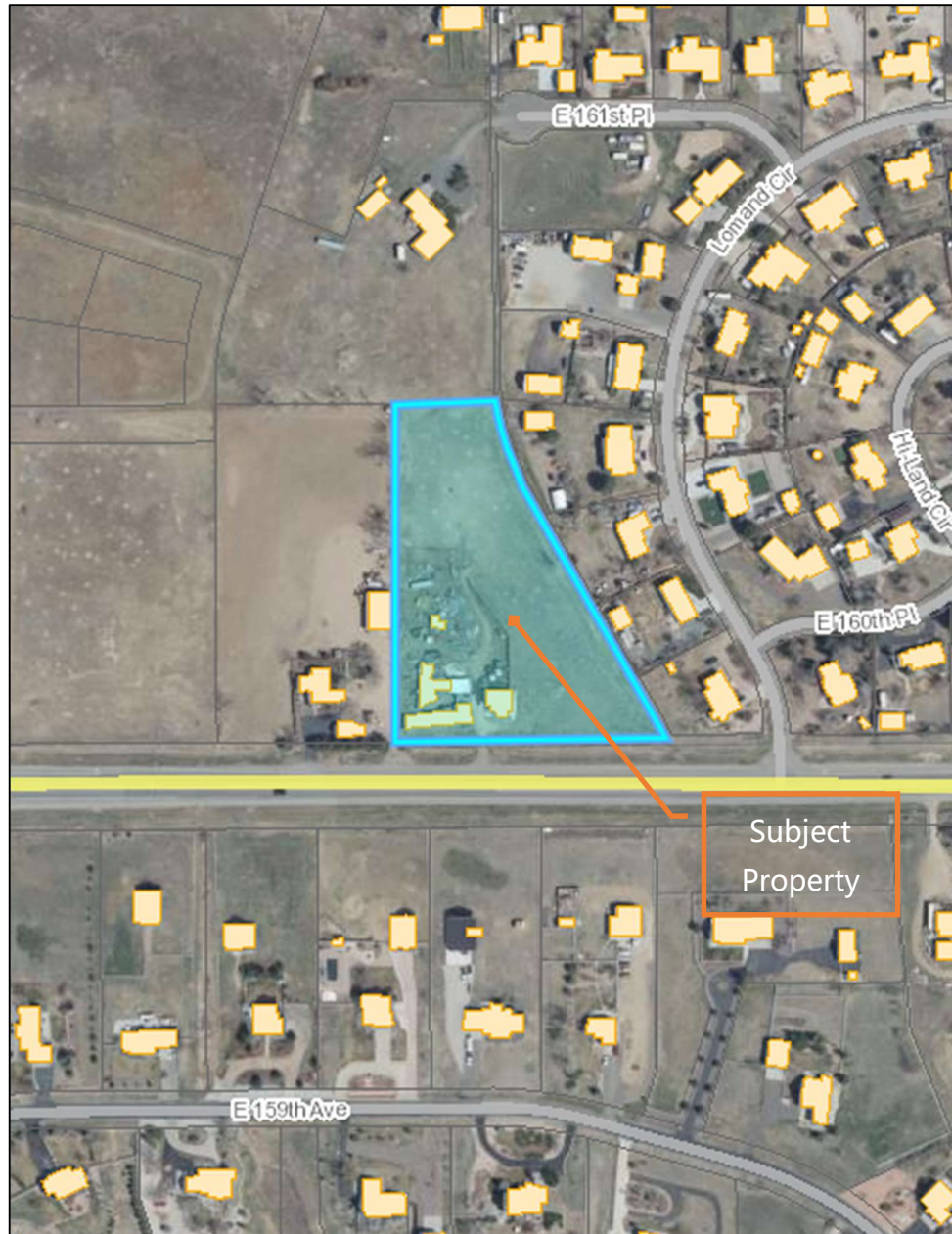


Figure 1 – Vicinity Map
Adams County GIS (<https://gisapp.adcogov.org/>)

As shown in mapping data compiled in this study, all proposed runoff will travel south and west as sheet flow, which is consistent with USGS mapping of the area, with an outfall near the southwest corner of the property. There is an existing roadside ditch along the north side of East 160th Ave. which conveys drainage along the north side of the roadway west into a large culvert (36-inch diameter CMP). General drainage patterns will not be altered with the construction of the new home, drive and future ADU structures.



Photo 1 – E.160th Ave. Existing Residential Structure
Photo Perspective: Looking North; A.Cvar, 2024-12-05



Photo 2 – Existing Residential Structure
Photo Perspective: Looking South; A.Cvar, 2024-12-05



Photo 3– E.160th Ave. Roadside Ditch
Photo Perspective: Looking West; A.Cvar, 2024-12-05



Photo 4 – E.160th Ave. Roadside Ditch
Photo Perspective: Looking East; A.Cvar, 2024-12-05



Photo 5 – E.160th Ave. 36-Inch Dia. CMP Culvert
Photo Perspective: Looking South; A.Cvar, 2024-12-05

Existing and proposed impervious areas have been evaluated based on existing aerial mapping and proposed site plan provided by M-S Architecture, as well as site data collected December 5, 2024, and LIDAR data as shown in Figures 2 and 3 below.

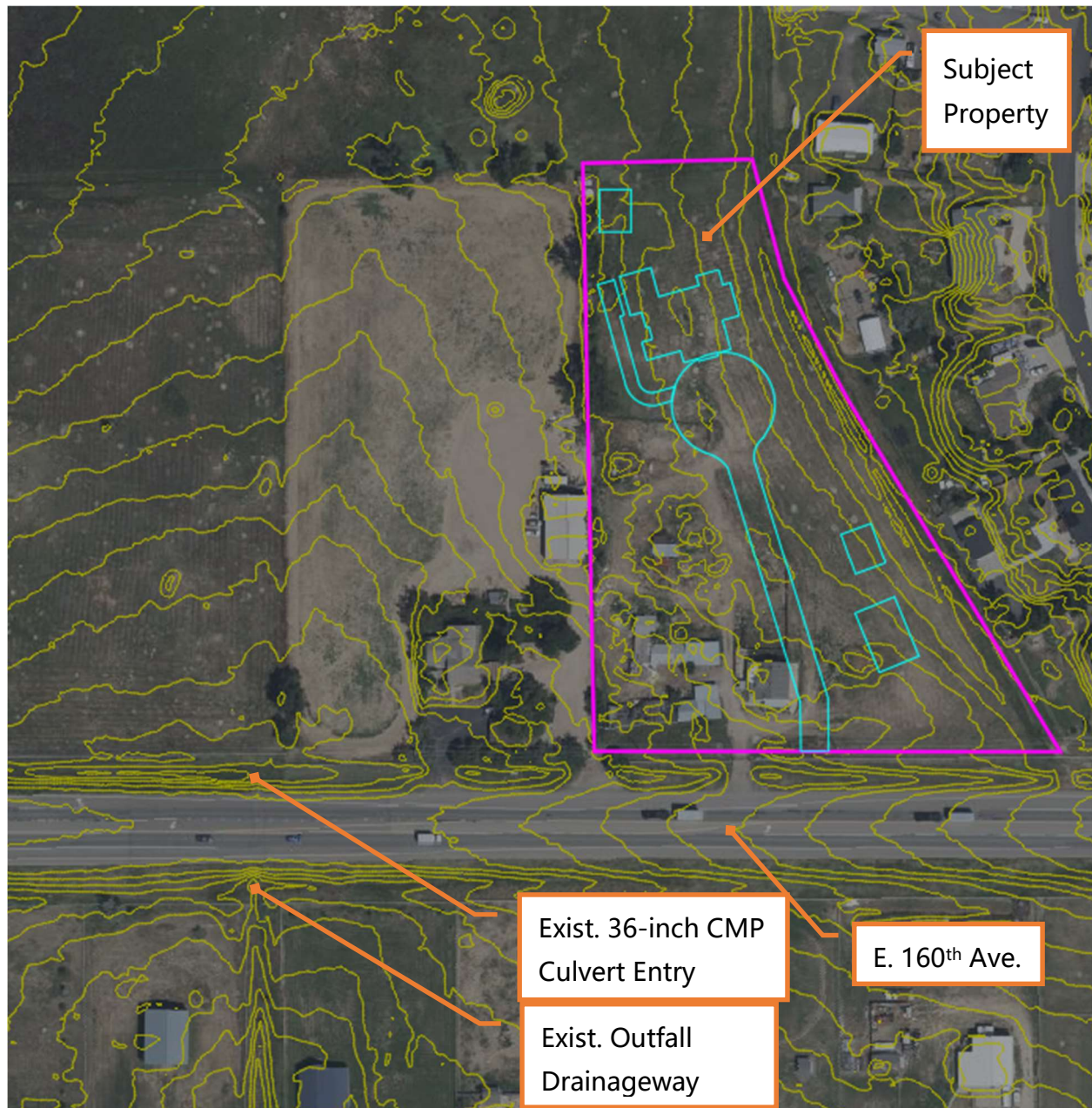


Figure 2 – Aerial Imagery-Existing Conditions

Property Lines from Adams County GIS Mapping (<https://gisapp.adcogov.org/>); Background Contours: CWCB LIDAR (<https://coloradohazardmapping.com/>)

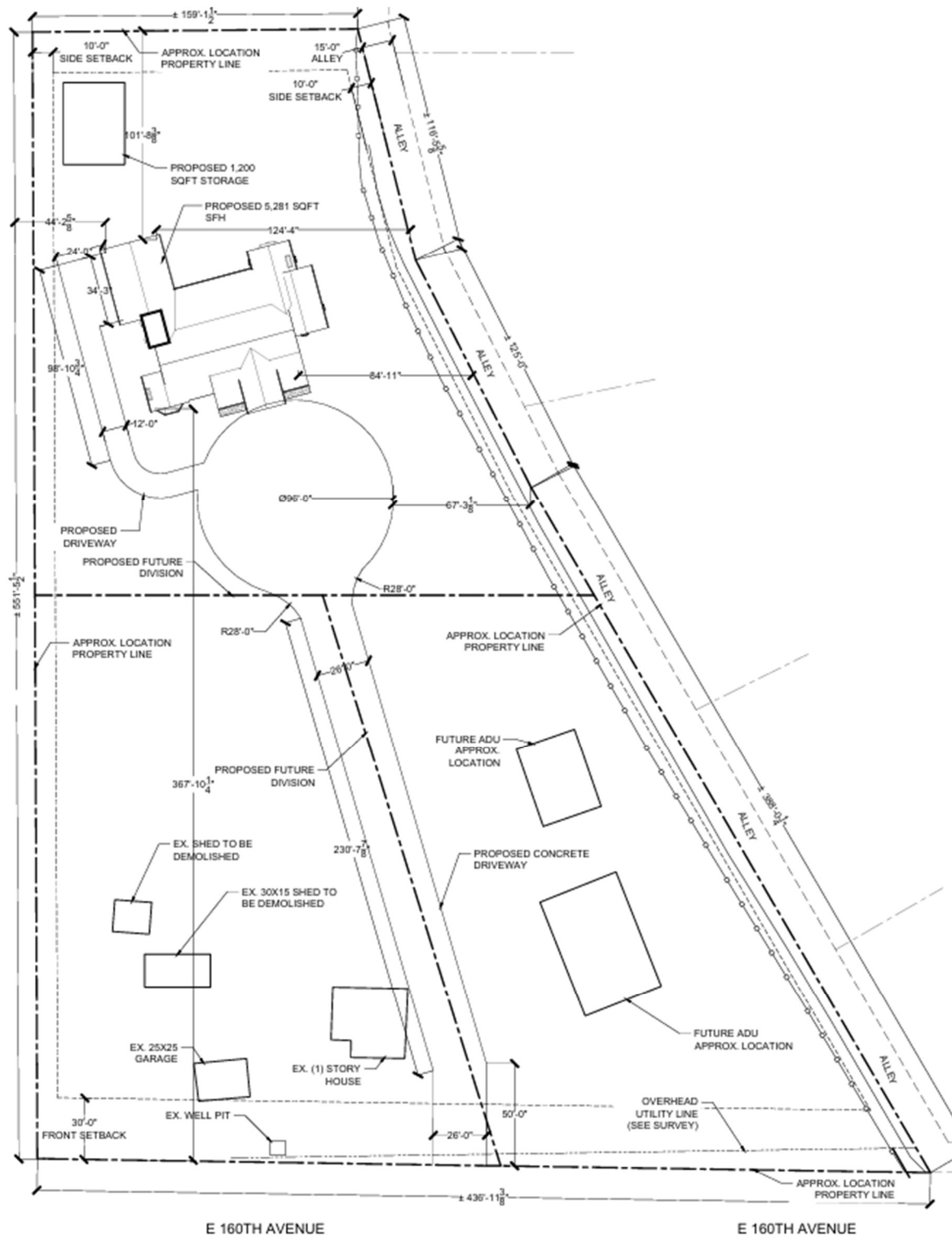


Figure 3 – Proposed Site Plan

Provided by M-S Architecture

Based on data collected and information provided by M-S Architecture, there will be the following additions of impervious areas/surfacing:

- New home with rooftop area of approximately 5280 square feet.
- New concrete driveway with turnaround (as shown in current proposed site plan).
- 1200 square foot storage structure.
- Two future ADU structures(as shown in current proposed site plan).

Based on the computations provided in **Attachment 1**, the addition of the above listed features will create a relatively low increase imperviousness when looking at the property as a whole. The increase in the major (100-Year) event is minimal, and will have no significant effect on the downstream receiving culvert under E. 160th Avenue and major drainage swale. We have calculated the capacity of the E. 160th Avenue culvert at 46.1 cfs and the downstream receiving swale at 109.6 cfs. Please see culvert and swale calculations provided in **Attachments 4 and 5**, respectively.

Please see Tables 1 through 3, below, which summarize historic and proposed percent imperviousness, runoff calculations, and calculation of increase in runoff in the 2-, 5- and 100-Year storm events.

BASIN ID	BASIN AREA (AC)	CALCULATED AVE. BASINS IMP. (%)	CALCULATED C ₂	CALCULATED C ₅	CALCULATED C ₁₀₀
1	3.58	19.25%	0.13	0.19	0.56
Hist 1	3.58	4.19%	0.02	0.07	0.50

Table 1 – Historic vs. Developed Percent Impervious Summary

DESIGN POINT	BASIN(S)	AREA (AC)	Q2	Q5	Q100
1	1	3.58	0.96	2.01	10.98
Hist 1	Hist 1	3.58	0.17	0.70	9.53

Table 2 – Historic vs. Developed Runoff Summary

DESIGN POINT	BASIN(S)	AREA (AC)	Q2	Q5	Q100
1	1	3.58	0.96	2.01	10.98
Hist 1	Hist 1	3.58	0.17	0.70	9.53
Hist 1 CFS Increases Due to Additional Impervious Area (Include 2 Future ADU)			0.79	1.30	1.46

Table 3 – 2-, 5-, and 100-Year Increase in Runoff

In conclusion, based on the calculations and information we have gathered, the increases in runoff as well as the minor modifications to site drainage patterns will not present a signification change or alteration to existing drainage. Existing downstream drainage infrastructure in vicinity to the proposed improvements will not be adversely impacted due to the construction of the new home, storage shed, proposed concrete driveway with turnaround, and two future ADU structures as currently shown.

Please feel free to contact me with any questions you may have at 970-690-0493.

Sincerely,

FRONT RANGE STORMWATER & FLOODPLAIN CONSULTING



Aaron Cvar, PhD, PE
President



Attachment 1

Rational Method calculations

C-VALUE CALCULATION DEVELOPED CONDITIONS

Surface Treatment	Percent Imp	C2	C5	C100
Concrete Pavement	90%	0.74	0.77	0.85
Asphalt Pavement	100%	0.83	0.86	0.89
Rooftop	90%	0.74	0.77	0.85
Gravel Surfacing	40%	0.30	0.36	0.65
Open Space/Landscaping	2%	0.01	0.05	0.49

Project: MSArch-013

By: A.Cvar

Date: 12/12/2024

<p><i>Notes/Assumptions:</i></p> <p><i>USDCM Volume 1 utilized for C-Value Computations. Per USDA Soil Report, overall soil type is Hydrologic Group B.</i></p>

[illegible]

<i>RUNOFF CALCULATION</i> <i>DEVELOPED CONDITIONS</i>	
--	--

Equation: _____

Project: MSArch-013

Q = CIA	C=Runoff Coefficient I = Rainfall Intensity (In/Hr.) A = Basin Area (Ac.) Q = Peak Flow (CFS)
----------------	--

Q = CIA	C=Runoff Coefficient I = Rainfall Intensity (In/Hr.) A = Basin Area (Ac.) Q = Peak Flow (CFS)
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Q = CIA	C=Runoff Coefficient I = Rainfall Intensity (In/Hr.) A = Basin Area (Ac.) Q = Peak Flow (CFS)
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Q = CIA	C=Runoff Coefficient I = Rainfall Intensity (In/Hr.) A = Basin Area (Ac.) Q = Peak Flow (CFS)
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By: A.Cvar

Date: 12/12/2024

Notes/Assumptions:

USDCM Vol. 1 utilized for all runoff equations, Rainfall Intensity Values from Adams County Drainage Criteria.

[illegible]

Table 6-3. Recommended percentage imperviousness values

Land Use or Surface Characteristics	Percentage Imperviousness (%)
Business:	
Downtown Areas	95
Suburban Areas	75
Residential lots (lot area only):	
Single-family	
2.5 acres or larger	12
0.75 – 2.5 acres	20
0.25 – 0.75 acres	30
0.25 acres or less	45
Apartments	75
Industrial:	
Light areas	80
Heavy areas	90
Parks, cemeteries	10
Playgrounds	25
Schools	55
Railroad yard areas	50
Undeveloped Areas:	
Historic flow analysis	2
Greenbelts, agricultural	2
Off-site flow analysis (when land use not defined)	45
Streets:	
Paved	100
Gravel (packed)	40
Drive and walks	90
Roofs	90
Lawns, sandy soil	2
Lawns, clayey soil	2

Table 6-4. Runoff coefficient equations based on NRCS soil group and storm return period

NRCS Soil Group	Storm Return Period						
	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year	500-Year
A	$C_A =$ $0.84i^{1.302}$	$C_A =$ $0.86i^{1.276}$	$C_A =$ $0.87i^{1.232}$	$C_A =$ $0.88i^{1.124}$	$C_A =$ $0.85i+0.025$	$C_A =$ $0.78i+0.110$	$C_A =$ $0.65i+0.254$
B	$C_B =$ $0.84i^{1.169}$	$C_B =$ $0.86i^{1.088}$	$C_B =$ $0.81i+0.057$	$C_B =$ $0.63i+0.249$	$C_B =$ $0.56i+0.328$	$C_B =$ $0.47i+0.426$	$C_B =$ $0.37i+0.536$
C/D	$C_{C/D} =$ $0.83i^{1.122}$	$C_{C/D} =$ $0.82i+0.035$	$C_{C/D} =$ $0.74i+0.132$	$C_{C/D} =$ $0.56i+0.319$	$C_{C/D} =$ $0.49i+0.393$	$C_{C/D} =$ $0.41i+0.484$	$C_{C/D} =$ $0.32i+0.588$

Where:

i = % imperviousness (expressed as a decimal)

C_A = Runoff coefficient for Natural Resources Conservation Service (NRCS) HSG A soils

C_B = Runoff coefficient for NRCS HSG B soils

$C_{C/D}$ = Runoff coefficient for NRCS HSG C and D soils.

The values for various catchment imperviousness and storm return periods are presented graphically in Figures 6-1 through 6-3, and are tabulated in Table 6-5. These coefficients were developed for the Denver region to work in conjunction with the time of concentration recommendations in Section 2.4. Use of these coefficients and this procedure outside of the semi-arid climate found in the Denver region may not be valid. The UD-Rational Excel workbook performs all the needed calculations to find the runoff coefficient given the soil type and imperviousness and the reader may want to take advantage of this macro-enabled Excel workbook that is available for download from the UDFCD's website www.udfcd.org.

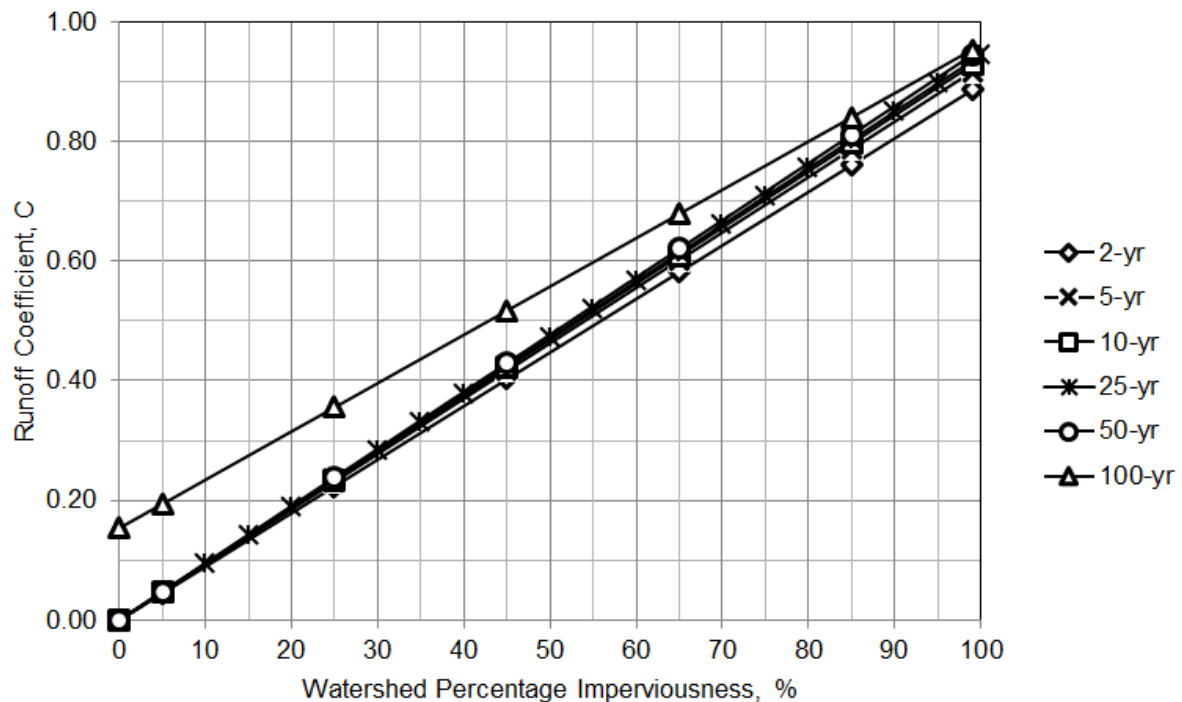
See Examples 7.1 and 7.2 that illustrate the Rational Method.

Table 6-5. Runoff coefficients, *c*

Total or Effective % Impervious	NRCS Hydrologic Soil Group A						
	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year	500-Year
2%	0.01	0.01	0.01	0.01	0.04	0.13	0.27
5%	0.02	0.02	0.02	0.03	0.07	0.15	0.29
10%	0.04	0.05	0.05	0.07	0.11	0.19	0.32
15%	0.07	0.08	0.08	0.1	0.15	0.23	0.35
20%	0.1	0.11	0.12	0.14	0.2	0.27	0.38
25%	0.14	0.15	0.16	0.19	0.24	0.3	0.42
30%	0.18	0.19	0.2	0.23	0.28	0.34	0.45
35%	0.21	0.23	0.24	0.27	0.32	0.38	0.48
40%	0.25	0.27	0.28	0.32	0.37	0.42	0.51
45%	0.3	0.31	0.33	0.36	0.41	0.46	0.54
50%	0.34	0.36	0.37	0.41	0.45	0.5	0.58
55%	0.39	0.4	0.42	0.45	0.49	0.54	0.61
60%	0.43	0.45	0.47	0.5	0.54	0.58	0.64
65%	0.48	0.5	0.51	0.54	0.58	0.62	0.67
70%	0.53	0.55	0.56	0.59	0.62	0.65	0.71
75%	0.58	0.6	0.61	0.64	0.66	0.69	0.74
80%	0.63	0.65	0.66	0.69	0.71	0.73	0.77
85%	0.68	0.7	0.71	0.74	0.75	0.77	0.8
90%	0.73	0.75	0.77	0.79	0.79	0.81	0.84
95%	0.79	0.81	0.82	0.83	0.84	0.85	0.87
100%	0.84	0.86	0.87	0.88	0.88	0.89	0.9
Total or Effective % Impervious	NRCS Hydrologic Soil Group B						
	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year	500-Year
2%	0.01	0.01	0.07	0.26	0.34	0.44	0.54
5%	0.03	0.03	0.1	0.28	0.36	0.45	0.55
10%	0.06	0.07	0.14	0.31	0.38	0.47	0.57
15%	0.09	0.11	0.18	0.34	0.41	0.5	0.59
20%	0.13	0.15	0.22	0.38	0.44	0.52	0.61
25%	0.17	0.19	0.26	0.41	0.47	0.54	0.63
30%	0.2	0.23	0.3	0.44	0.49	0.57	0.65
35%	0.24	0.27	0.34	0.47	0.52	0.59	0.66
40%	0.29	0.32	0.38	0.5	0.55	0.61	0.68
45%	0.33	0.36	0.42	0.53	0.58	0.64	0.7
50%	0.37	0.4	0.46	0.56	0.61	0.66	0.72
55%	0.42	0.45	0.5	0.6	0.63	0.68	0.74
60%	0.46	0.49	0.54	0.63	0.66	0.71	0.76
65%	0.5	0.54	0.58	0.66	0.69	0.73	0.77
70%	0.55	0.58	0.62	0.69	0.72	0.75	0.79
75%	0.6	0.63	0.66	0.72	0.75	0.78	0.81
80%	0.64	0.67	0.7	0.75	0.77	0.8	0.83
85%	0.69	0.72	0.74	0.78	0.8	0.82	0.85
90%	0.74	0.76	0.78	0.81	0.83	0.84	0.87
95%	0.79	0.81	0.82	0.85	0.86	0.87	0.88
100%	0.84	0.86	0.86	0.88	0.89	0.89	0.9

Table 6-5. Runoff coefficients, *c* (continued)

Total or Effective % Impervious	NRCS Hydrologic Soil Group C						
	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year	500-Year
2%	0.01	0.05	0.15	0.33	0.40	0.49	0.59
5%	0.03	0.08	0.17	0.35	0.42	0.5	0.6
10%	0.06	0.12	0.21	0.37	0.44	0.52	0.62
15%	0.1	0.16	0.24	0.4	0.47	0.55	0.64
20%	0.14	0.2	0.28	0.43	0.49	0.57	0.65
25%	0.18	0.24	0.32	0.46	0.52	0.59	0.67
30%	0.22	0.28	0.35	0.49	0.54	0.61	0.68
35%	0.26	0.32	0.39	0.51	0.57	0.63	0.7
40%	0.3	0.36	0.43	0.54	0.59	0.65	0.71
45%	0.34	0.4	0.46	0.57	0.62	0.67	0.73
50%	0.38	0.44	0.5	0.6	0.64	0.69	0.75
55%	0.43	0.48	0.54	0.63	0.66	0.71	0.76
60%	0.47	0.52	0.57	0.65	0.69	0.73	0.78
65%	0.51	0.56	0.61	0.68	0.71	0.75	0.79
70%	0.56	0.61	0.65	0.71	0.74	0.77	0.81
75%	0.6	0.65	0.68	0.74	0.76	0.79	0.82
80%	0.65	0.69	0.72	0.77	0.79	0.81	0.84
85%	0.7	0.73	0.76	0.79	0.81	0.83	0.86
90%	0.74	0.77	0.79	0.82	0.84	0.85	0.87
95%	0.79	0.81	0.83	0.85	0.86	0.87	0.89
100%	0.83	0.85	0.87	0.88	0.89	0.89	0.9

**Figure 6-1. Runoff coefficient vs. watershed imperviousness NRCS HSG A**

2.4 Time of Concentration

One of the basic assumptions underlying the Rational Method is that runoff is a function of the average rainfall rate during the time required for water to flow from the most remote part of the drainage area under consideration to the design point. However, in practice, the time of concentration can be an empirical value that results in reasonable and acceptable peak flow calculations. The time of concentration relationships recommended in this *Manual* are based in part on the rainfall-runoff data collected in the Denver metropolitan area and are designed to work with the runoff coefficients also recommended in this *Manual*. As a result, these recommendations need to be used with a great deal of caution whenever working in areas that may differ significantly from the climate or topography found in the Denver region.

For urban areas, the time of concentration, t_c , consists of an initial time or overland flow time, t_i , plus the travel time, t_t , in the storm sewer, paved gutter, roadside drainage ditch, or drainage channel. For non-urban areas, the time of concentration consists of an overland flow time, t_i , plus the time of travel in a defined form, such as a swale, channel, or drainageway. The travel portion, t_t , of the time of concentration can be estimated from the hydraulic properties of the storm sewer, gutter, swale, ditch, or drainageway. Initial time, on the other hand, will vary with surface slope, depression storage, surface cover, antecedent rainfall, and infiltration capacity of the soil, as well as distance of surface flow. The time of concentration is represented by Equation RO-2 for both urban and non-urban areas:

$$t_c = t_i + t_t \quad (\text{RO-2})$$

in which:

t_c = time of concentration (minutes)

t_i = initial or overland flow time (minutes)

t_t = travel time in the ditch, channel, gutter, storm sewer, etc. (minutes)

2.4.1 Initial Flow Time

The initial or overland flow time, t_i , may be calculated using equation RO-3:

$$t_i = \frac{0.395(1.1 - C_5)\sqrt{L}}{S^{0.33}} \quad (\text{RO-3})$$

in which:

t_i = initial or overland flow time (minutes)

C_5 = runoff coefficient for 5-year frequency (from [Table RO-5](#))

L = length of overland flow (500 ft maximum for non-urban land uses, 300 ft maximum for urban land uses)

S = average basin slope (ft/ft)

Equation RO-3 is adequate for distances up to 500 feet. Note that, in some urban watersheds, the overland flow time may be very small because flows quickly channelize.

2.4.2 Overland Travel Time

For catchments with overland and channelized flow, the time of concentration needs to be considered in combination with the overland travel time, t_t , which is calculated using the hydraulic properties of the swale, ditch, or channel. For preliminary work, the overland travel time, t_t , can be estimated with the help of [Figure RO-1](#) or the following equation (Guo 1999):

$$V = C_v S_w^{0.5} \quad (\text{RO-4})$$

in which:

V = velocity (ft/sec)

C_v = conveyance coefficient (from Table RO-2)

S_w = watercourse slope (ft/ft)

Table RO-2—Conveyance Coefficient, C_v

Type of Land Surface	Conveyance Coefficient, C_v
Heavy meadow	2.5
Tillage/field	5
Short pasture and lawns	7
Nearly bare ground	10
Grassed waterway	15
Paved areas and shallow paved swales	20

The time of concentration, t_c , is then the sum of the initial flow time, t_i , and the travel time, t_t , as per Equation RO-2.

2.4.3 First Design Point Time of Concentration in Urban Catchments

Using this procedure, the time of concentration at the first design point (i.e., initial flow time, t_i) in an urbanized catchment should not exceed the time of concentration calculated using Equation RO-5.

$$t_c = \frac{L}{180} + 10 \quad (\text{RO-5})$$

in which:

t_c = maximum time of concentration at the first design point in an urban watershed (minutes)

2.4.1 Initial or Overland Flow Time

The initial or overland flow time, t_i , may be calculated using Equation 6-3:

$$t_i = \frac{0.395(1.1 - C_5)\sqrt{L_i}}{S_o^{0.33}} \quad \text{Equation 6-3}$$

Where:

- t_i = overland (initial) flow time (minutes)
- C_5 = runoff coefficient for 5-year frequency (from Table 6-4)
- L_i = length of overland flow (ft)
- S_o = average slope along the overland flow path (ft/ft).

Equation 6-3 is adequate for distances up to 300 feet in urban areas and 500 feet in rural areas. Note that in a highly urbanized catchment, the overland flow length is typically shorter than 300 feet due to effective man-made drainage systems that collect and convey runoff.

2.4.2 Channelized Flow Time

The channelized flow time (travel time) is calculated using the hydraulic properties of the conveyance element. The channelized flow time, t_t , is estimated by dividing the length of conveyance by the velocity. The following equation, Equation 6-4 (Guo 2013), can be used to determine the flow velocity in conjunction with Table 6-2 for the conveyance factor.

$$t_t = \frac{L_t}{60K\sqrt{S_o}} = \frac{L_t}{60V_t} \quad \text{Equation 6-4}$$

Where:

- t_t = channelized flow time (travel time, min)
- L_t = waterway length (ft)
- S_o = waterway slope (ft/ft)
- V_t = travel time velocity (ft/sec) = $K\sqrt{S_o}$
- K = NRCS conveyance factor (see Table 6-2).

Table 6-2. NRCS Conveyance factors, K

Type of Land Surface	Conveyance Factor, K
Heavy meadow	2.5
Tillage/field	5
Short pasture and lawns	7
Nearly bare ground	10
Grassed waterway	15
Paved areas and shallow paved swales	20

Attachment 2

USDA Soils report



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Adams County Area, Parts of Adams and Denver Counties, Colorado



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

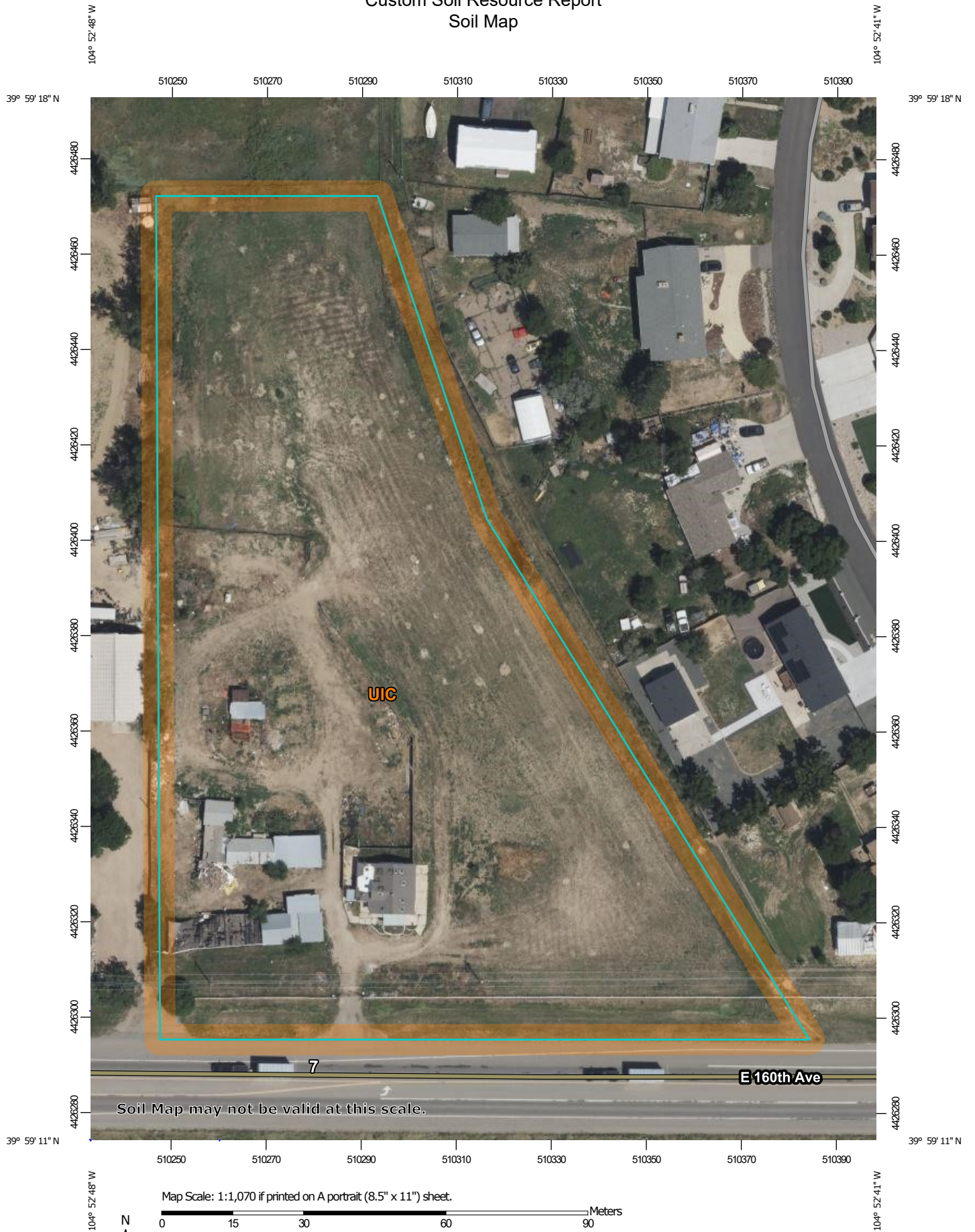
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.


Custom Soil Resource Report Soil Map




Custom Soil Resource Report


MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)


Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit


 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water


 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole


 Slide or Slip


 Sodic Spot


 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals


Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Adams County Area, Parts of Adams and Denver Counties, Colorado
Survey Area Data: Version 21, Aug 29, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 1, 2023—Sep 1, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
UIC	Ulm loam, 3 to 5 percent slopes	3.8	100.0%
Totals for Area of Interest		3.8	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Adams County Area, Parts of Adams and Denver Counties, Colorado

UIC—Ulm loam, 3 to 5 percent slopes

Map Unit Setting

National map unit symbol: 34x4
Elevation: 4,000 to 5,600 feet
Mean annual precipitation: 12 to 14 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 125 to 155 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Ulm and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ulm

Setting

Landform: Plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 7 inches: loam
H2 - 7 to 13 inches: silty clay
H3 - 13 to 30 inches: clay
H4 - 30 to 48 inches: clay loam
H5 - 48 to 52 inches: unweathered bedrock

Properties and qualities

Slope: 3 to 5 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: R067BY002CO - Loamy Plains
Hydric soil rating: No

Minor Components

Renohill

Percent of map unit: 13 percent

Hydric soil rating: No

Shingle

Percent of map unit: 5 percent

Hydric soil rating: No

Apishapa

Percent of map unit: 2 percent

Landform: Swales

Ecological site: R067BY035CO - Salt Meadow

Hydric soil rating: Yes

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Attachment 3

M-S Architecture Plans 11/22/24



Scale

Attachment 4

Culvert Calculations

HY-8 Culvert Analysis Report

Project Data

Project Title:

Designer:

Project Date:Monday, December 23, 2024

Project Notes:

Project Units: U.S. Customary Units

Outlet Control Option: Profiles

Exit Loss Option: Standard Method

Crossing Data: Exist 36-in Culv

Crossing Notes:

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 5.00 cfs

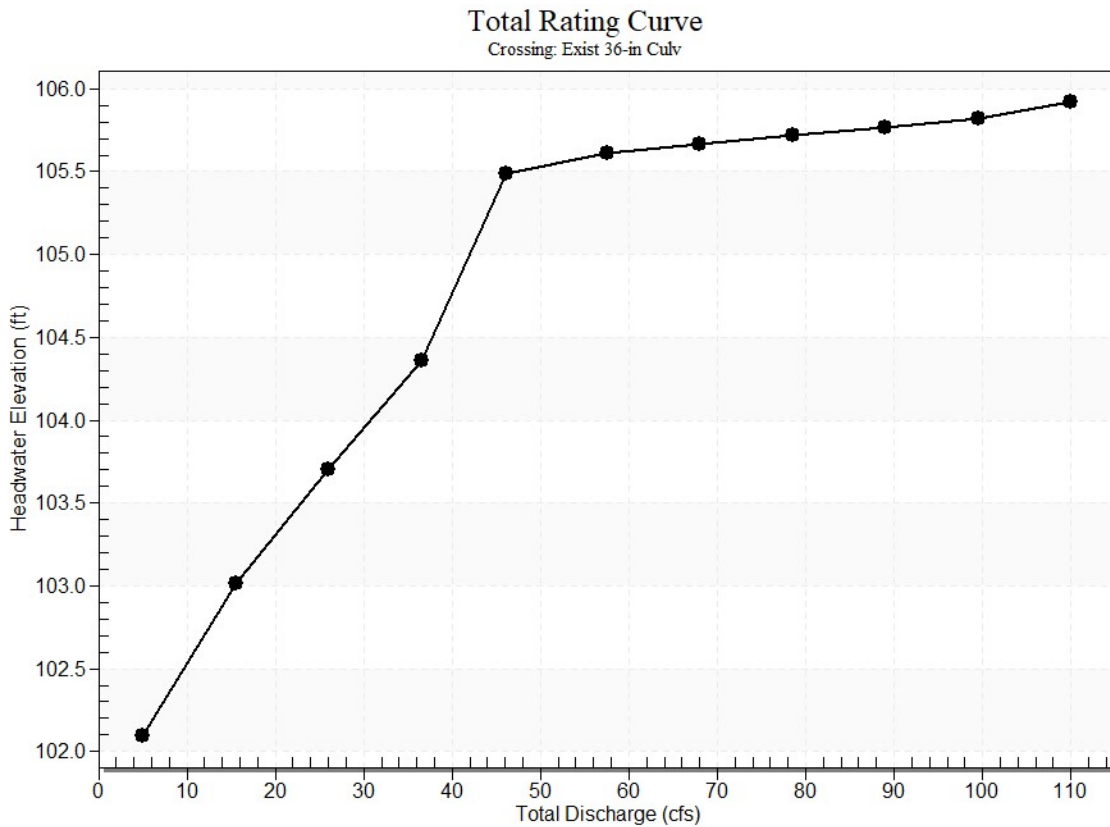
Design Flow: 46.10 cfs

Maximum Flow: 110.00 cfs

Table 1 - Summary of Culvert Flows at Crossing: Exist 36-in Culv

Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
102.10	5.00	5.00	0.00	1
103.01	15.50	15.50	0.00	1
103.70	26.00	26.00	0.00	1
104.36	36.50	36.50	0.00	1
105.49	46.10	46.10	0.00	1
105.61	57.50	41.91	15.54	8
105.67	68.00	37.44	30.53	6
105.72	78.50	32.33	46.13	5
105.77	89.00	26.25	62.74	5
105.82	99.50	18.30	81.16	4
105.92	110.00	4.76	105.54	8
105.50	46.13	46.13	0.00	Overtopping

Rating Curve Plot for Crossing: Exist 36-in Culv



Culvert Data: Culvert 1

Culvert Notes:

Table 1 - Culvert Summary Table: Culvert 1

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
5.00 cfs	5.00 cfs	102.10	1.00	1.097	2-M2c	0.75	0.70	0.70	0.55	3.99	3.02
15.50 cfs	15.50 cfs	103.01	1.85	2.014	2-M2c	1.36	1.26	1.26	1.22	5.52	4.24
26.00 cfs	26.00 cfs	103.70	2.49	2.702	3-M2t	1.86	1.65	1.79	1.79	5.89	4.83
36.50 cfs	36.50 cfs	104.36	3.19	3.363	3-M2	2.44	1.96	2.34	2.34	6.17	5.20

					t						
46.10	46.10	105.49	3.99	4.49	7-	3.00	2.21	2.8	2.82	6.69	5.45
cfs	cfs			0	M2			2			
					t						
57.50	41.91	105.61	3.62	4.60	4-	3.00	2.11	3.0	3.38	5.93	5.67
cfs	cfs			9	FFf			0			
68.00	37.44	105.67	3.26	4.66	4-	2.52	1.99	3.0	3.89	5.30	5.83
cfs	cfs			8	FFf			0			
78.50	32.33	105.72	2.89	4.72	4-	2.18	1.84	3.0	4.40	4.57	5.95
cfs	cfs			1	FFf			0			
89.00	26.25	105.77	2.51	4.77	4-	1.88	1.65	3.0	4.90	3.71	6.06
cfs	cfs			0	FFf			0			
99.50	18.30	105.82	2.03	4.81	4-	1.50	1.37	3.0	5.39	2.59	6.15
cfs	cfs			9	FFf			0			
110.0	4.76	105.92	0.98	4.91	4-	0.73	0.68	3.0	5.89	0.67	6.22
0 cfs	cfs			9	FFf			0			

Culvert Barrel Data

Culvert Barrel Type Straight Culvert

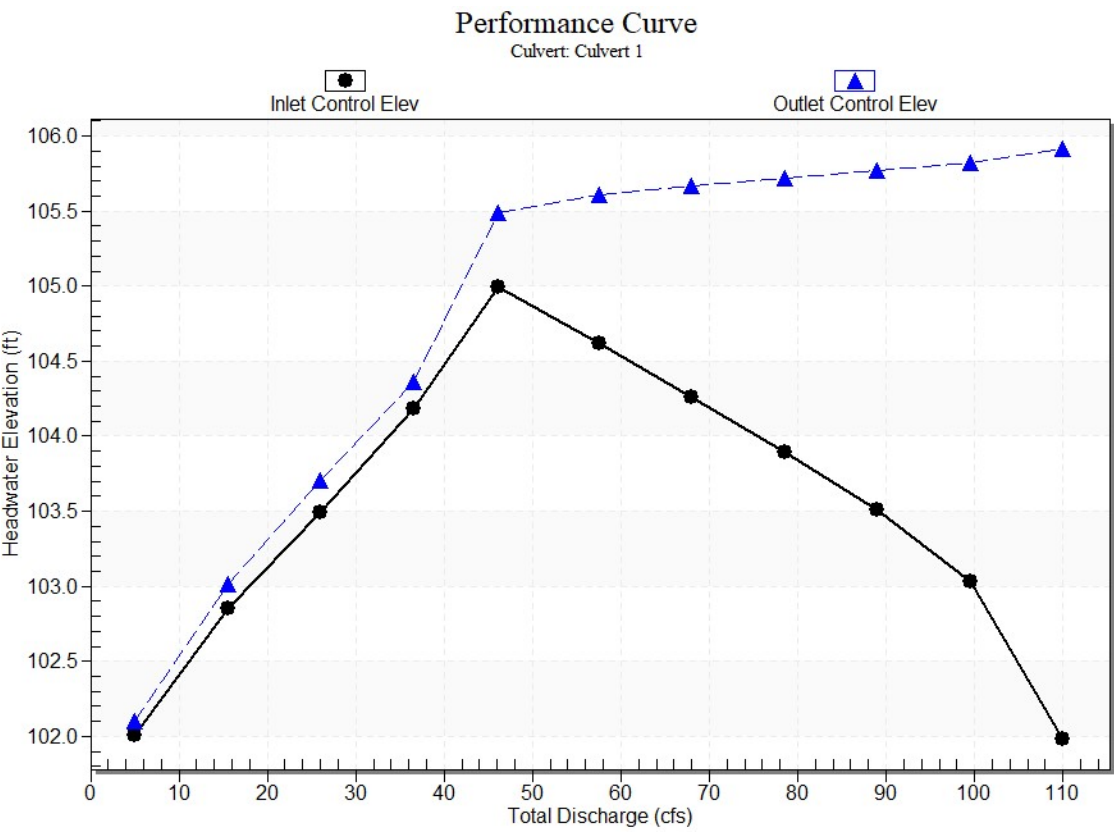
Inlet Elevation (invert): 101.00 ft,

Outlet Elevation (invert): 100.00 ft

Culvert Length: 97.11 ft,

Culvert Slope: 0.0103

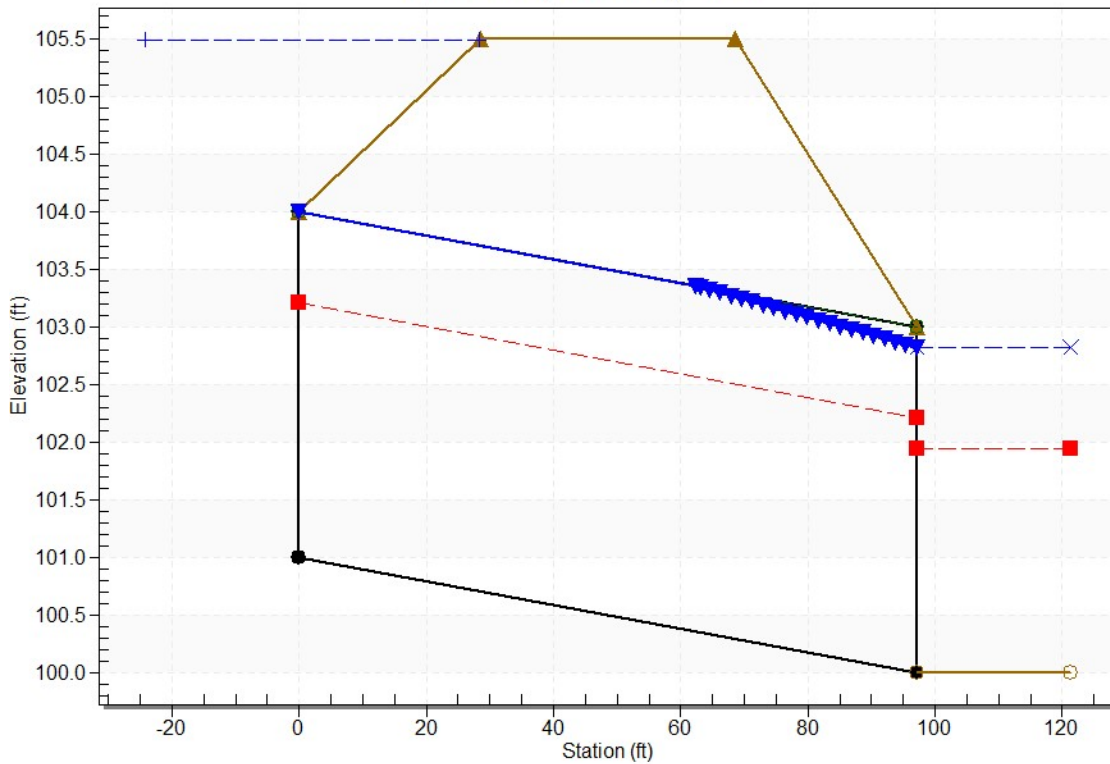
Culvert Performance Curve Plot: Culvert 1



Water Surface Profile Plot for Culvert: Culvert 1

Crossing - Exist 36-in Culv, Design Discharge - 46.1 cfs

Culvert - Culvert 1, Culvert Discharge - 46.1 cfs



Site Data - Culvert 1

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 101.00 ft

Outlet Station: 97.10 ft

Outlet Elevation: 100.00 ft

Number of Barrels: 1

Culvert Data Summary - Culvert 1

Barrel Shape: Circular

Barrel Diameter: 3.00 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Mitered to Conform to Slope (Ke=0.7)

Inlet Depression: None

Tailwater Data for Crossing: Exist 36-in Culv

Table 2 - Downstream Channel Rating Curve (Crossing: Exist 36-in Culv)

Flow (cfs)	Water Surface Elev (ft)	Velocity (ft/s)	Depth (ft)	Shear (psf)	Froude Number
5.00	100.55	0.55	3.02	0.96	0.72
15.50	101.22	1.22	4.24	2.13	0.68
26.00	101.79	1.79	4.83	3.14	0.64
36.50	102.34	2.34	5.20	4.09	0.60
46.10	102.82	2.82	5.45	4.93	0.57
57.50	103.38	3.38	5.67	5.91	0.54
68.00	103.89	3.89	5.83	6.80	0.52
78.50	104.40	4.40	5.95	7.68	0.50
89.00	104.90	4.90	6.06	8.55	0.48
99.50	105.39	5.39	6.15	9.43	0.47
110.00	105.89	5.89	6.22	10.29	0.45

Tailwater Channel Data - Exist 36-in Culv

Tailwater Channel Option: Rectangular Channel

Bottom Width: 3.00 ft

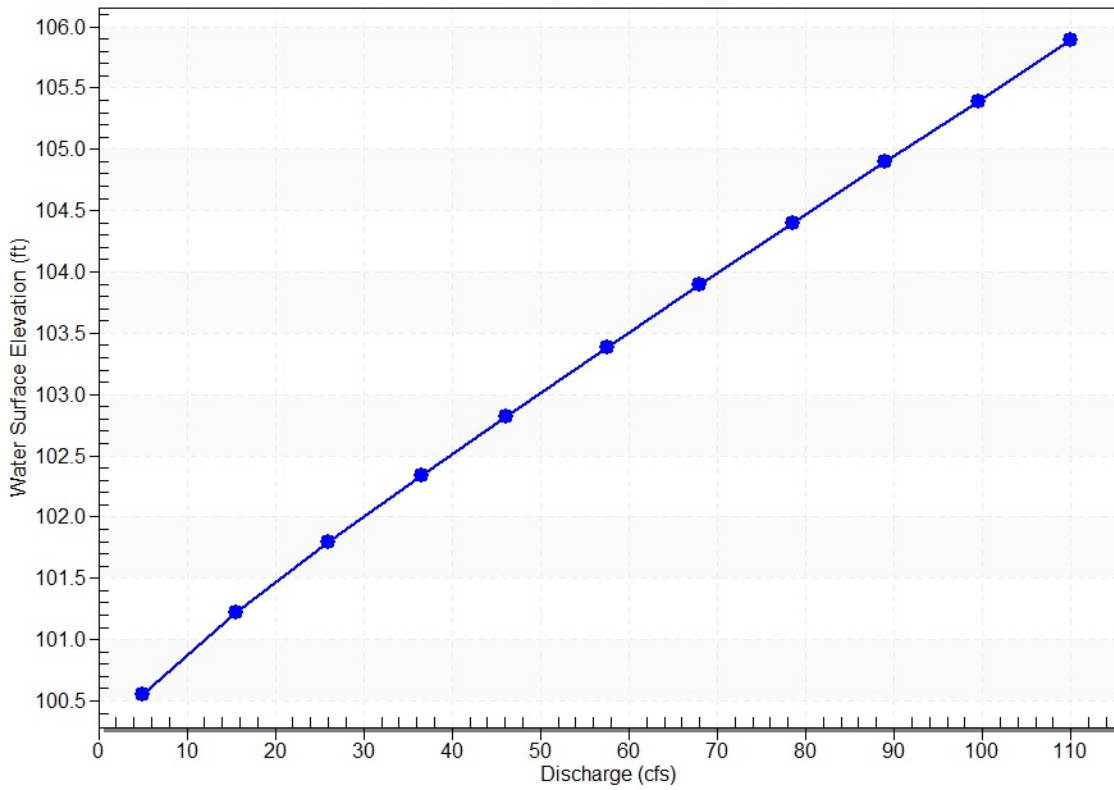
Channel Slope: 0.0280

Channel Manning's n: 0.0450

Channel Invert Elevation: 100.00 ft

Tailwater Rating Curve Plot for Crossing: Exist 36-in Culv

Downstream Channel Rating Curve



Roadway Data for Crossing: Exist 36-in Culv

Roadway Profile Shape: Constant Roadway Elevation

Crest Length: 150.00 ft

Crest Elevation: 105.50 ft

Roadway Surface: Paved

Roadway Top Width: 40.00 ft

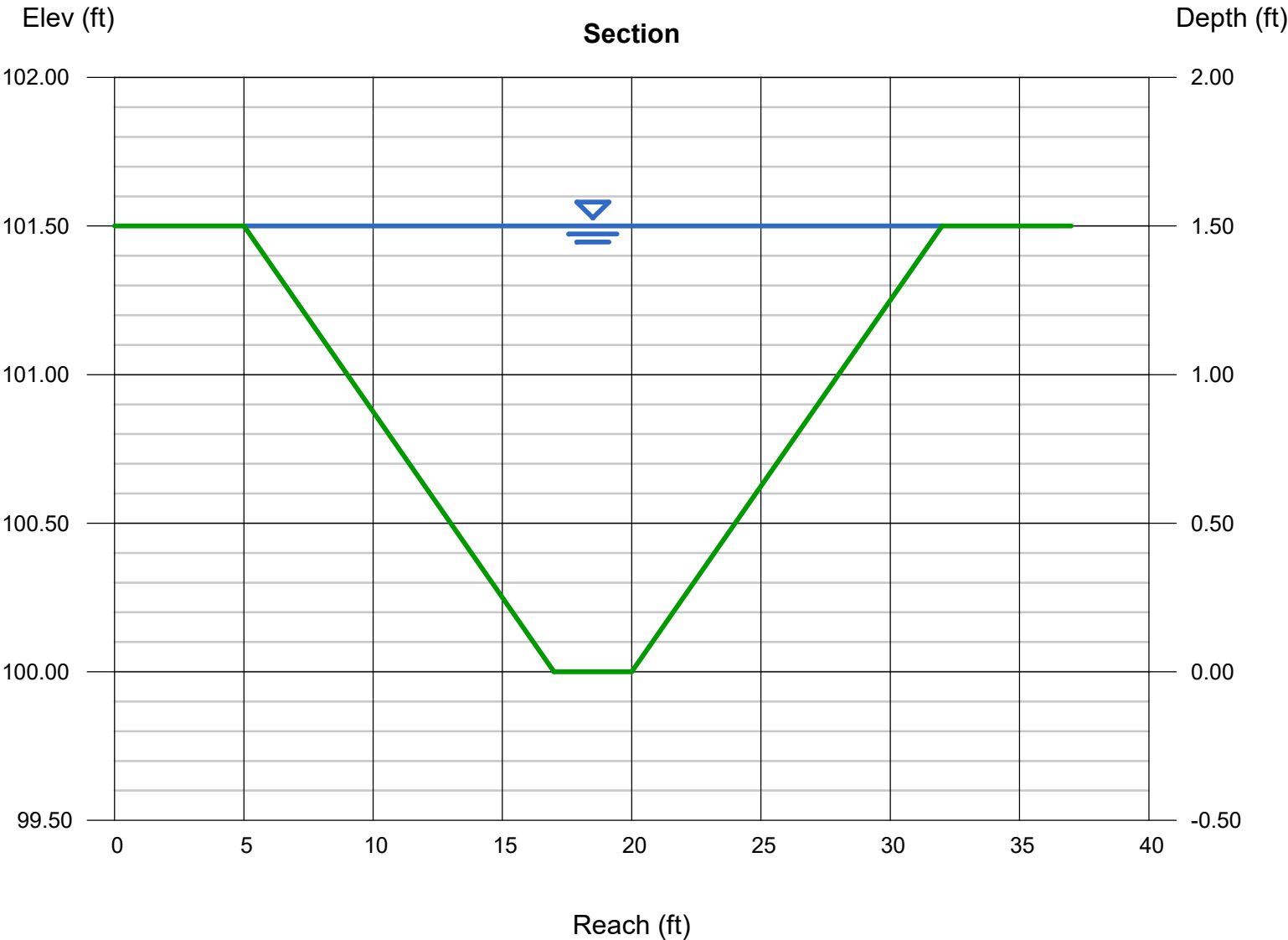
Attachment 5

Open Channel Calculations

Channel Report

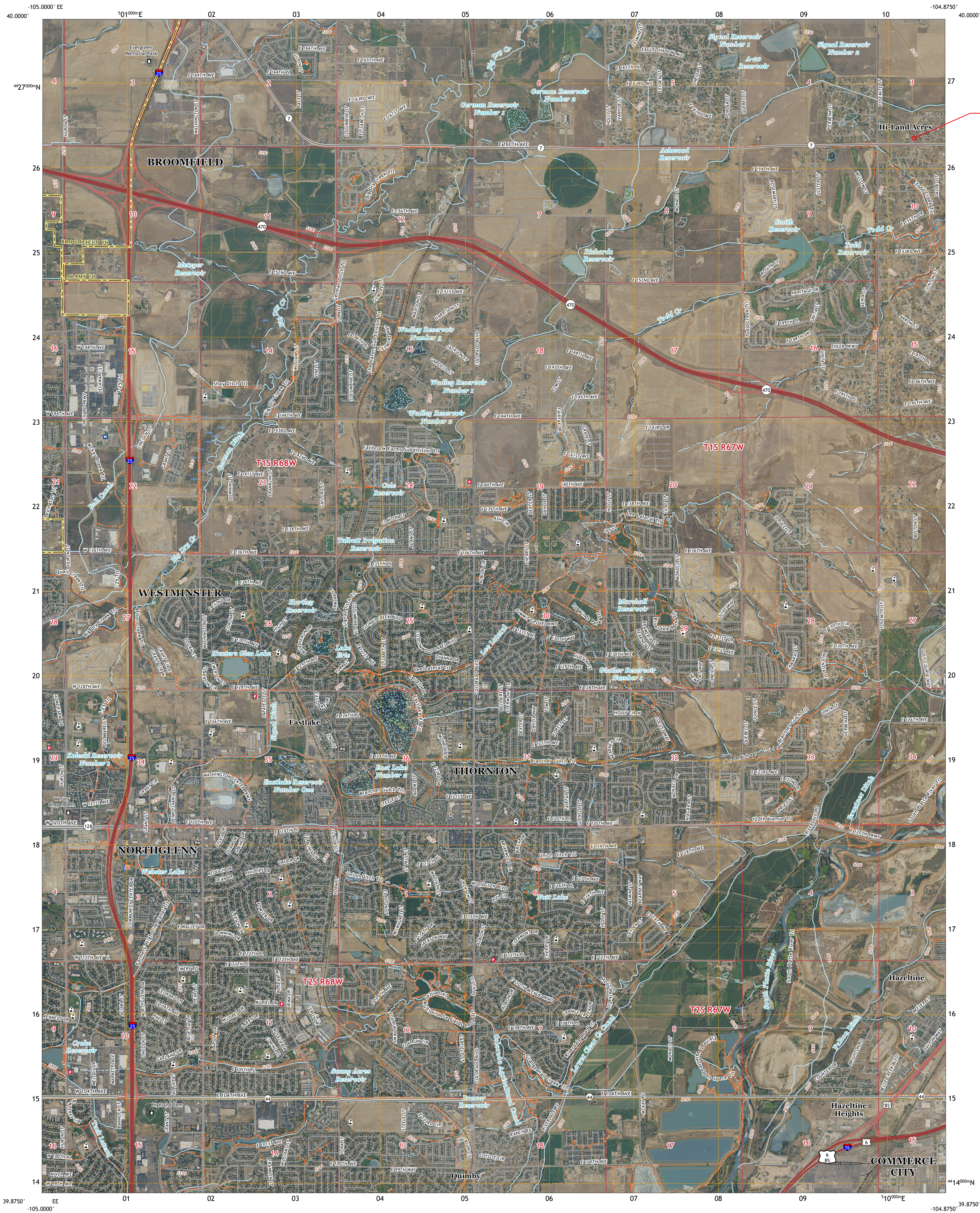
Exist Recv Drngwy

Trapezoidal		Highlighted	
Bottom Width (ft)	= 3.00	Depth (ft)	= 1.50
Side Slopes (z:1)	= 8.00, 8.00	Q (cfs)	= 109.59
Total Depth (ft)	= 1.50	Area (sqft)	= 22.50
Invert Elev (ft)	= 100.00	Velocity (ft/s)	= 4.87
Slope (%)	= 2.80	Wetted Perim (ft)	= 27.19
N-Value	= 0.045	Crit Depth, Yc (ft)	= 1.46
Calculations		Top Width (ft)	= 27.00
Compute by:		EGL (ft)	= 1.87
No. Increments	Q vs Depth		
	= 25		



Attachment 6

USGS Topographic Mapping

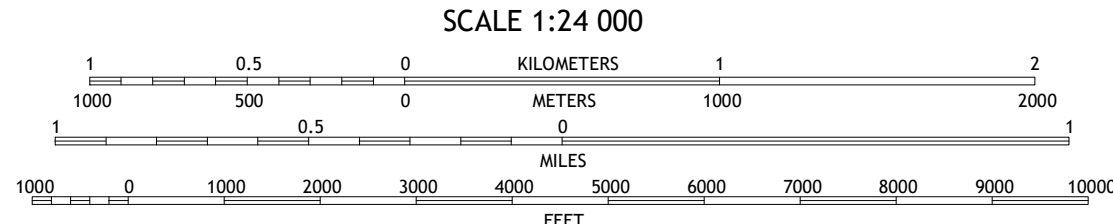
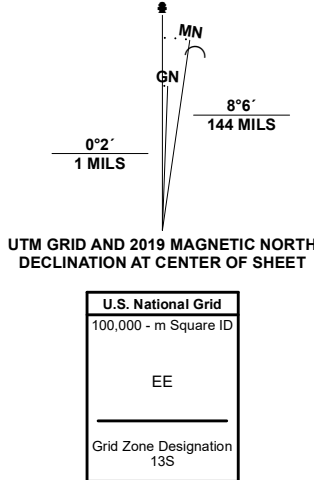


PROJECT
LOCATION

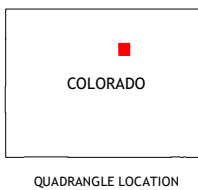
Produced by the United States Geological Survey

North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid/Universal Transverse Mercator, Zone 13S
This map is not a legal document. Boundaries may be
generalized for this map scale. Private lands within government
reservations may not be shown. Obtain permission before
entering private lands.

Imagery.....NAIP, September 2017 - October 2017
Roads.....U.S. Census Bureau, 2016
Names.....GNIS, 1978 - 2021
Hydrography.....National Hydrography Dataset, 2004 - 2020
Contours.....National Elevation Dataset, 2022
Boundaries.....Multiple sources; see metadata file 2019 - 2021
Public Land Survey System.....BLM, 2021
Wetlands.....FWS National Wetlands Inventory 1975 - 2010

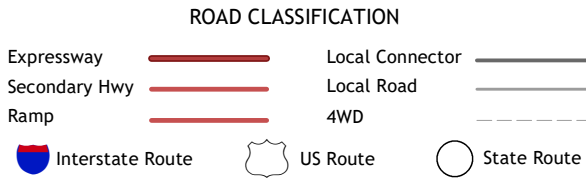


CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988
This map was produced to conform with the
National Geospatial Program US Topo Product Standard.



1	2	3
4	5	6
7	8	9

1 Erie
2 Frederick
3 Fort Lupton
4 Lafayette
5 Brighton
6 Arvada
7 Commerce City
8 Montbello



EASTLAKE, CO
2022



Attachment 7

FEMA Floodplain Mapping

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 13. The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NNGS12
National Geodetic Survey
SSMC-3, #8202
1315 East-West Highway
Silver Spring, MD 20910-3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov/>.

Base map information shown on this FIRM was provided by the Adams County and Commerce City GIS departments. The coordinate system used for the production of the digital FIRM is Universal Transverse Mercator, Zone 13N, referenced to North American Datum of 1983 and the GRS 80 spheroid, Western Hemisphere.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the *Flood Insurance Study report (which contains authoritative hydraulic data)* may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

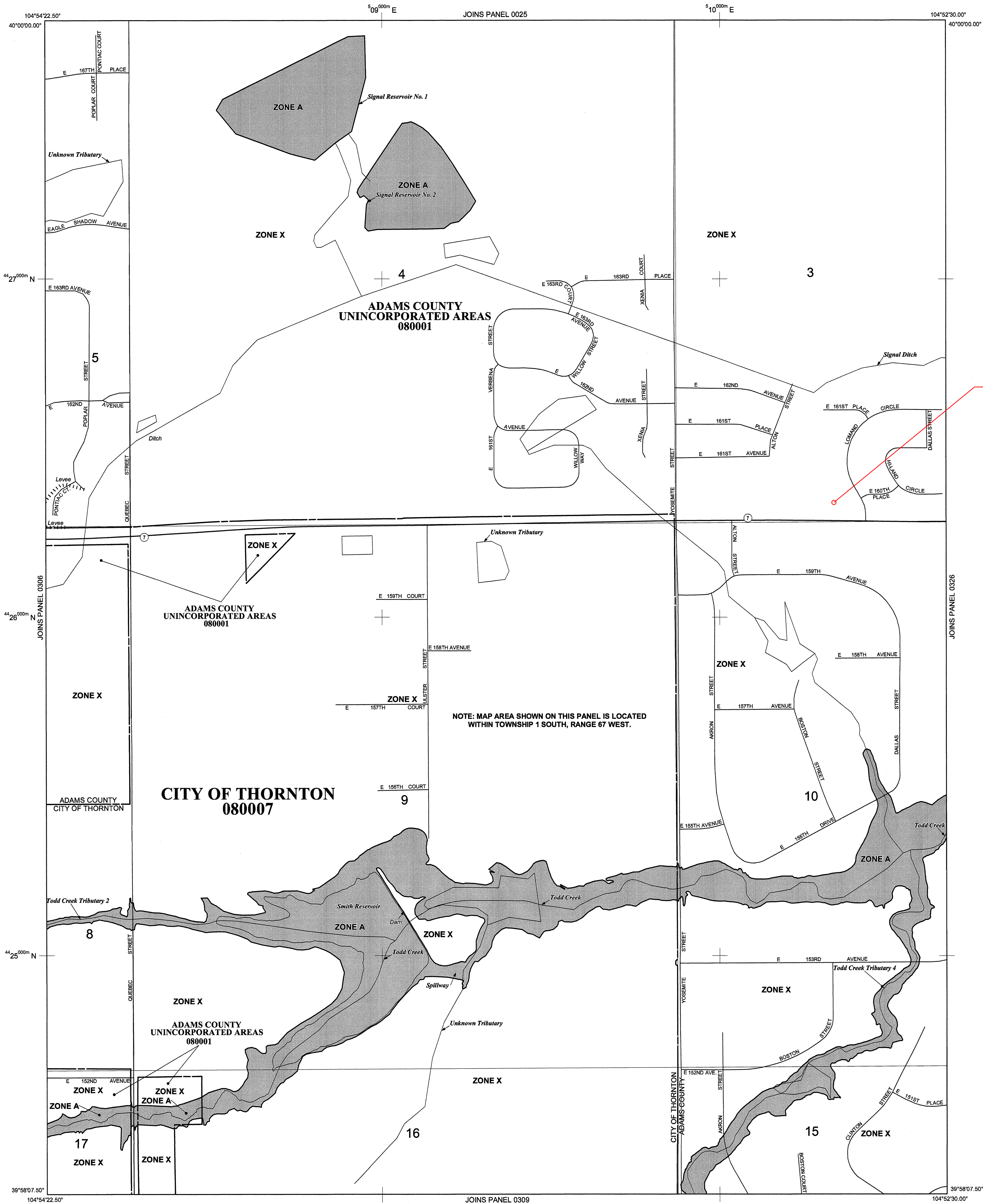
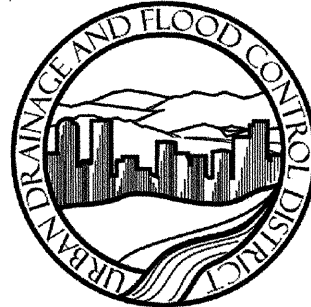
Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a *Flood Insurance Study report*, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at <http://www.msc.fema.gov/>.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/>.

This digital Flood Insurance Rate Map (FIRM) was produced through a cooperative partnership between the State of Colorado Water Conservation Board, the Urban Drainage and Flood Control District, and the Federal Emergency Management Agency (FEMA). The State of Colorado Water Conservation Board and the Urban Drainage and Flood Control District have implemented a long-term approach of floodplain management to reduce the costs associated with flooding. As part of this effort, both the State of Colorado and the Urban Drainage and Flood Control District have joined in Cooperating Technical Partner agreements with FEMA to produce this digital FIRM.

Additional flood hazard information and resources are available from local communities, the Colorado Water Conservation Board, and the Urban Drainage and Flood Control District.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

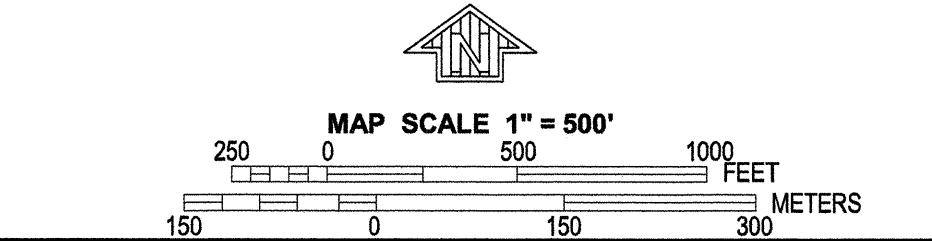
- Cross section line
- Transect line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 1000-meter Universal Transverse Mercator grid ticks, zone 13
- 5000-foot grid ticks: Alabama State Plane coordinate system, east zone (FIPSZONE 0101), Transverse Mercator

- Bench mark (see explanation in Notes to Users section of this FIRM panel)
- River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index.

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
August 16, 1995
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
March 5, 2007 - to update map format.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.
To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0307H
FIRM
FLOOD INSURANCE RATE MAP
ADAMS COUNTY,
COLORADO
AND INCORPORATED AREAS

PANEL 307 OF 1150
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ADAMS COUNTY	080001	0307	H
THORNTON CITY OF	080007	0307	H

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
08001C0307H
MAP REVISED
MARCH 5, 2007

Federal Emergency Management Agency



TREASURER & PUBLIC TRUSTEE ADAMS COUNTY, COLORADO CERTIFICATE OF TAXES DUE

Account Number R0008123

Parcel 0157103300006

Assessed To

MOLINA LUIS RICARDO MERAZ AND
C/O:CORTEZ MARISOL ROBLES
764 PLANET PL
THORNTON, CO 80260-4845

Certificate Number 2025-258356

Order Number

Vendor ID Counter

Legal Description

SECT.TWN,RNG:3-1-67 DESC: A PARC IN SW4 OF SEC 3 DESC AS BEG AT SW COR OF SEC 3 TH S 89D 52M 30S E A DIST OF 1242/8 FT TO THE POB TH CONT S 89D 52M 30S E A DIST OF 490/8 FT TO SW COR OF HI LAND ACRES TH N 29D 32M 30S W 500 FT TH N 26D 32M 30S W 125 FT TH N 13D 12M 30S W 116/47 FT TH N 89D 52M 30S W 159/13 FT TH S 00D 16M 30S W 659/50 FT TO POB EXC S 30 FT AND EXC HWY (BK1342 PG358) 3/571 AC

Situs Address

9315 E 160TH AVE

Year	Tax	Interest	Fees	Payments	Balance
Tax Charge					
2024	\$3,440.94	\$0.00	\$0.00	(\$3,440.94)	\$0.00
Total Tax Charge					\$0.00
Grand Total Due as of 04/01/2025					\$0.00

Tax Billed at 2024 Rates for Tax Area 295 - 295

Authority	Mill Levy	Amount	Values	Actual	Assessed
RANGEVIEW LIBRARY DISTRICT	3.6670000	\$116.94	RES IMPRV LAND	\$151,000	\$9,070
FIRE DISTRICT 6 - GREATER B	16.7930000	\$535.53	SINGLE FAMILY RES	\$379,949	\$22,820
ADAMS COUNTY	26.9440000	\$859.25	Total	\$530,949	\$31,890
HI-LAND ACRES WATER & SANIT	2.8520000	\$90.95			
SD 27	56.6440000	\$1,806.38			
URBAN DRAINAGE SOUTH PLATTE	0.1000000	\$3.19			
URBAN DRAINAGE & FLOOD CONT	0.9000000	\$28.70			
Taxes Billed 2024	107.9000000	\$3,440.94			

ALL TAX SALE AMOUNTS ARE SUBJECT TO CHANGE DUE TO ENDORSEMENT OF CURRENT TAXES BY THE LIENHOLDER OR TO ADVERTISING AND DISTRRAINT WARRANT FEES. CHANGES MAY OCCUR; PLEASE CONTACT THE TREASURER'S OFFICE PRIOR TO MAKING A PAYMENT AFTER AUGUST 1. TAX LIEN SALE REDEMPTION AMOUNTS MUST BE PAID BY CASH OR CASHIER'S CHECK.

SPECIAL TAXING DISTRICTS AND THE BOUNDARIES OF SUCH DISTRICTS MAY BE ON FILE WITH THE BOARD OF COUNTY COMMISSIONERS, THE COUNTY CLERK, OR, THE COUNTY ASSESSOR.

This certificate does not include land or improvements assessed under a separate account number, personal property taxes, transfer tax, or, miscellaneous tax collected on behalf of other entities, special or local improvement district assessments, or mobile homes, unless specifically mentioned.

I, the undersigned, do hereby certify that the entire amount of taxes due upon the above described parcels of real property and all outstanding lien sales for unpaid taxes as shown by the records in my office from which the same may still be redeemed with the amount required for redemption on this date are as noted herein. In witness whereof, I have hereunto set my hand and seal.

TREASURER & PUBLIC TRUSTEE, ADAMS COUNTY, Alexander

L Villagran



4430 S. Adams County Parkway

Brighton, CO 80601



Adams County
4430S.AdamsCountyParkway
Suite C2436
Brighton, CO, 80601
720-523-6160
720-523-6171

Receipt2025-04-01-JM-8256

Product	Name	Extended
2	Certificate of Taxes Due R0008123	\$10.00
		Account #: R0008123
		Effective Date: 4/1/25
		Certificate Number: 2025-258356
		Item ID: R0008123/
Certificate of Taxes Due		\$10.00
COTD		(\$10.00)
COTD3		\$10.00
<hr/>		
Total		\$10.00
Tender (Cash)		\$10.00
Payor	MARISOL ROBLES CORTEZ	



Your Touchstone Energy® Cooperative

500 Cooperative Way
Brighton CO 80603-8728

www.unitedpower.com

Member Services 303-637-1300
Payments 844-980-3030
Report an Outage 303-637-1350

LUIS MERAZ
9315 E 160TH AVE
BRIGHTON CO 80602-0000

4 250



Payment Due By
03/27/2025

Total Due
\$53.00

From Date

02/05/2025

To Date

03/06/2025

Days

29

Billing Date

03/07/2025

Service
Address

**9315 E 160TH AVE
RESIDENCE**

Account # **1883705**District **CENTRAL**Cycle **8**

NEVER MISS A DUE DATE
EASY & ON TIME PAYMENTS WITH AUTO PAY

www.unitedpower.com/autopay


Rate	Meter	Prev Rdg	Pres Rdg	Mult	kWh	Dmd
R1	1561235	51859	52104	1	245	1.784
Demand Time/Date		02/19/2025 12:45 AM				

ACTIVITY SINCE LAST BILL

Previous Balance 74.00
Payment Received - Thank You -74.00
Balance Forward 0.00

CURRENT BILLING DETAIL

Energy Charge 245 KWH @ 0.1057 25.90
Demand Charge 1.784 KW @ 4.00 7.14
Fixed Charge 19.00
Round-Up 0.96
Current Month 53.00

TOTAL DUE [PAID BY AUTO PAY ON 03/27/2025] 53.00

LUIS MERAZ
9315 E 160TH AVE
BRIGHTON CO 80602-0000

Account # **1883705**

Payment Due By
03/27/2025

Total Due
\$53.00

Amount Enclosed \$ **PAID BY AUTO PAY**

Pay Your Bill Online
Visit www.unitedpower.com



Pay Your Bill By Phone
Call 844-980-3030



Pay Your Bill By Mail
Return Stub with check payment

Please Make Checks Payable and Return to:

UNITED POWER
PO BOX 173703
DENVER CO 80217-3703

8



00018837057 0000000000 0000053009 0000000000

Electric Usage History

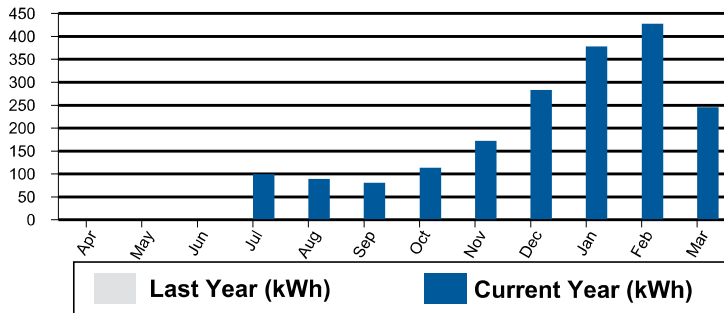
Account #

1883705

From Date

02/05/2025

To Date

03/06/2025**Electric Usage Comparison**

Electric kWh	Days	Total kWh	Avg kWh/Day	kWh Cost/Day
Current Month	29	245	8	\$1.79
Last Month	30	428	14	\$2.45
One Year Ago	0	0	0	\$0.00

Temperature Comparison

Avg Temp	32° F	Avg Temp Last Yr.	38° F
High Temp	69° F	High Temp Date	02/25/2025
Low Temp	-7° F	Low Temp Date	02/13/2025



View detailed 15 minute energy consumption intervals and usage history through the Power Portal.

www.unitedpower.com/PowerPortal

Bill Payment Assistance

For information or to see if you qualify for energy assistance for your winter home heating costs, contact LEAP at 1-866-HEATHelp (1-866-432-8435) or your county department of social services. Additional resources for assistance can be found at www.unitedpower.com/assistance.

Life Sustaining Equipment

Please tell us if you or a member of your household relies on life-sustaining medical devices that are dependent on electricity. We will flag your account accordingly. Protect your loved ones with a back-up plan for disasters or power outages. Learn more at www.unitedpower.com/medical-devices.

Call 811 Before You Dig

Before you begin any digging project, always have underground utilities marked. Notify the Colorado Utility Notification Center at least 3 days before digging. To schedule locates call 811 or visit www.colorado811.org.

¿Necesitas ayuda en español?

Estamos disponibles para ayudarle. Llame al 303-637-1300 opción 9, o visite www.unitedpower.com/espanol.

**UNITED POWER, INC.**

500 Cooperative Way
Brighton, CO 80603

Member Services 303-637-1300
Payments - 24 hrs/day 844-980-3030
Toll Free 800-468-8809

Report an Outage
303-637-1350

www.unitedpower.com/outage

For office locations, hours and more information:

www.unitedpower.com

Convenient Payment Options**Online Account**

Make payments, report outages and enroll in Auto Pay and Paperless Billing at www.unitedpower.com.

**Mobile App**

Download the free United Power mobile app to make payments and report outages on the go.

**Pay by Phone**

Call 844-980-3030 to check account status and pay with a check or credit card (no fees) 24 hours a day.

**Payment Kiosk**

Walk up and pay with cash, check or card. Locations and hours at www.unitedpower.com/payments.

Other Ways to Pay**Auto Pay**

Have your bill automatically paid on your due date from the payment method of your choice.

Paperless Billing

Go paper-free. Receive an email notification, not a statement in the mail. View and pay bills online.

Pay As You Go - Prepaid Billing

Avoid deposits and late fees when you prepay for electricity. You choose how much and when to pay.

Pay Now

No login or password? No problem. Make a quick payment on our website by check or credit card.

MoneyGram

Make cash payments that post immediately to your account at over 40,000 MoneyGram locations.

Budget Billing

Take the ups and downs out of your monthly budget and pay the same amount each month.

Custom Billing Period

Choose a billing timeframe that is most convenient for you, and your budget.



WAIVER FROM SUBDIVISION DESIGN STANDARDS

The purpose of this application is to request a waiver from subdivision design and improvement standards (found within Chapter 5 of the Development Standards & Regulations). A waiver is required to obtain a release from the requirements of subdivision design by resolution of the Board of County Commissioners in accordance with the terms set forth in these standards and regulations. **This application typically accompanies an ongoing subdivision application.**

All applications shall be submitted electronically to epermitcenter@adcogov.org. If the submittal is too large to email as an attachment, the application may be sent as an unlocked OneDrive link. Alternatively, the application may be delivered on a flash drive to the One-Stop Customer Service Center. All documents should be combined in a single PDF. Once a complete application has been received, fees will be invoiced and payable online at <https://permits.adcogov.org/CitizenAccess/>.

Please include this page with your submittal. Submittal instructions and more information about checklist items can be found on pages 2-3.

Development Application Form

An active application for subdivision plat

Written Explanation of Alternative Design: A clear and concise, yet thorough, description of the proposal. Please include, if applicable, timeframe, purpose of project, and improvements that will be made to the site.

Site Plan or Details Showing Proposed Design

Fees Due When Application Deemed Complete	
Waiver from Subdivision Design	\$500



Application Type: Waiver from Subdivision Design Standards

PROJECT NAME:

APPLICANT

Name(s): Phone #:

Address:

City, State, Zip:

2nd Phone #: Email:

OWNER

Name(s): Phone #:

Address:

City, State, Zip:

2nd Phone #: Email:

TECHNICAL REPRESENTATIVE (Consultant, Engineer, Surveyor, Architect, etc.)

Name: Phone #:

Address:

City, State, Zip:

2nd Phone #: Email:

DESCRIPTION OF SITE

Address:

City, State, Zip:

Area (acres or square feet):

Tax Assessor Parcel Number

Existing Zoning:

Existing Land Use:

Proposed Land Use:

Have you attended a Conceptual Review? YES ☐ NO ☐

If Yes, please list PRE#:

I hereby certify that I am making this application as owner of the above described property or acting under the authority of the owner (attached authorization, if not owner). I am familiar with all pertinent requirements, procedures, and fees of the County. I understand that the Application Review Fee is non-refundable. All statements made on this form and additional application materials are true to the best of my knowledge and belief.

Name:

Date:

Owner's Printed Name

Name:

Owner's Signature



ADAMS COUNTY
COLORADO

FINAL PLAT

(MINOR SUBDIVISION)

Community & Economic Development Department
Planning & Development

4430 S. Adams County Pkwy., 1st Floor, Suite W2000B

Brighton, CO 80601-8218

Phone: 720.523.6800

Website: adcogov.org

A minor subdivision shall only be used to divide parcels of less than twenty (20) acres into four (4) or fewer lots. Minor subdivisions are processed through this application for final plat. Two public hearings are required in the processing of this application. A separate application for Subdivision Engineering Review must be filed in addition to this application for final plat.

Please include this page with your submittal. Submittal instructions and more information about checklist items can be found on pages 2-3.

Required Checklist Items

- ☒ Development Application Form
- ☒ Written Explanation
- ☒ Final Plat
- ☒ Legal Description
- ☒ Conceptual Site Plan
- ☒ Proof of Ownership
- ☒ Proof of Water and Sewer Services
- ☒ Proof of Utilities
- ☒ Certificate of Taxes Paid
- ☒ Receipt of Payment to Colorado Geological Survey

Discretionary Checklist Items

- ☐ School Impact Analysis
- ☐ Subdivision Engineering Review Application. If already filed, please identify the case number here:

Fees Due When Application is Deemed Complete	
Minor Subdivision (final plat)	• \$1,600

Guide to Development Application Submittal

This application shall be submitted electronically to epermitcenter@adcogov.org. If the submittal is too large to email as an attachment, the application may be sent as an unlocked Microsoft OneDrive link. Alternatively, the application may be delivered on a flash drive to the One-Stop Customer Service Center. All documents should be combined in a single PDF, although you may provide multiple PDFs to ensure no file exceeds 100 MB. Once a complete application has been received, fees will be invoiced and payable online at www.permits.adcogov.org.

Required Checklist Items

Written Explanation of the Project:

- A clear and concise description of the proposal. Please include the purpose of the project, and improvements that will be made to the site.
- Identify the number of tracts and number of lots being proposed.
- Please keep written explanation to three pages or less.

Final Plat Prepared by Registered Land Surveyor:

- A map or maps together with supporting documentation of certain described land providing permanent and accurate record of the legal description, dedications, exact size, shape, and location of lots, blocks, streets, easements, and parcels

Legal Description:

- A version of the legal description (from the final plat) that we can copy and paste. You may provide this in PDF or Microsoft Word versions.

Conceptual Site Plan Showing Proposed Development:

- A detailed drawing of existing and proposed improvements
- Including:
 - Streets, roads, and intersections
 - Driveways, access points, and parking areas
 - Existing and proposed structures, wells, and septic systems,
 - Easements, utility lines, and no build or hazardous areas
 - Scale, north arrow, and date of preparation
- An Improvement Location Certificate or Survey may be required during the official review

Proof of Ownership:

- A deed may be found in the Office of the Clerk and Recorder
- A title commitment is prepared by a professional title company

Proof of Water and Sewer:

- Public utilities - A written statement from the appropriate water and/or sanitation district indicating that they will provide service to the property
- Private utilities - Well permit(s) information can be obtained from the Colorado State Division of Water Resources at (303) 866-3587. A written statement from Adams County Health Department indicating the viability of obtaining Onsite Wastewater Treatment Systems

Proof of Utilities (Gas, Electric, etc.):

- A written statement from the appropriate utility provider indicating that they will provide service to the property
- Copy of a current bill from the service provider

Certificate of Taxes Paid:

- A Statement of Taxes Paid is not the equivalent of a Certificate of Taxes Paid. Colorado State Statutes require a Certificate of Taxes Paid to be submitted with this application.
- All taxes on the subject property must be paid in full. A certificate of taxes paid can be obtained in-person at the Adams County Treasurer's office. As of July 2023, the cost is \$10.
- You may also request a Certificate of Taxes Paid by e-mailing treasurer@adcogov.org, and credit card payment can be processed by telephone.

Receipt of Payment from Colorado Geological Survey:

- The Colorado Geological Survey requires a fee payment for the review of any subdivision. These payments can be made at: <https://commerce.cashnet.com/MinesCGS>. A receipt of this pre-payment must be provided in this application submittal.

Discretionary Checklist Items

School Impact Analysis:

- Contact the applicable school district for the analysis. If the school district does not provide this, please include an email from them.
- Should include the increase in elementary, middle, and high school students and the existing school sites and structure of the applicable district in which the subdivision is proposed to be located.

Subdivision Engineering Review Application:

- Contact the cedd-eng@adcogov.org to determine if a subdivision engineering review is required. If it is determined that an application is not required, please include an email from them.
- This is a separate application submittal from the minor subdivision final plat. Please refer to the application checklist located at: <https://epermits.adcogov.org/submittal-checklists>.

Community & Economic
Development Department
www.adcogov.org



4430 South Adams County Parkway
1st Floor, Suite W2000
Brighton, CO 80601-8204
PHONE 720.523.6800
FAX 720.523.6998

PROJECT NAME: Meraz Subdivision

APPLICANT

Name(s): Lynda Reyes Phone #: 303-526-6406
Address: P.O. Box 2311
City, State, Zip: Littleton CO 80161
2nd Phone #: Email: mgmt@archams.com

OWNER

Name(s): Luis Meraz Phone #: (720) 490-9622
Address: 9315 E 160th Ave
City, State, Zip: Brighton, CO
2nd Phone #: Email: luis@centennialstatedrywall.com

TECHNICAL REPRESENTATIVE (Consultant, Engineer, Surveyor, Architect, etc.)

Name: Alfredo Martinez Phone #: 303-246-7039
Address: P.O. Box 2311
City, State, Zip: Littleton CO 80161
2nd Phone #: Email: alfredo_ms@archams.com

DESCRIPTION OF SITE

Address:

9315 E 160th Ave

City, State, Zip:

Brighton, CO 80602

Area (acres or square feet):

3.57

Tax Assessor Parcel Number

01571033000006

Existing Zoning:

A-1

Existing Land Use:

Agricultural

Proposed Land Use:

Residencial

Have you attended a Conceptual Review? YES ☒ NO ☐

If yes, please list PRE#:

I hereby certify that I am making this application as owner of the above-described property or acting under the authority of the owner (attached authorization, if not owner). I am familiar with all pertinent requirements, procedures, and fees of the County. I understand that the Application Review Fee is non-refundable. All statements made on this form and additional application materials are true to the best of my knowledge and belief.

Name:

Luis Merz


Date:

March 18, 2025

Owner's Printed Name

Name:

Signed by:



6EF30C81E5F240D...

Owner's Signature

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Minor Subdivision Final Plat Requirements

1. **Subdivision Name, Subtitle:** Name of subdivision at the top of the sheet, followed by a subtitle identifying the section, township and range information along with County and State.
2. **Property Description:** An accurate and clear property (legal) description of the overall boundary of the subdivision with the acreage of the subdivision. All courses in the property (legal) description shall be shown and labeled on the plat drawing, with all bearings having the same direction as called out in the legal description. The only exception being where more than one description is required, going a different direction over the same course. The direction shall then hold for the description having more weight (i.e., the overall boundary) for purposes of the plat. If both record and "as-measured" dimensions are being used, show both and clearly label on the plat drawing. Point of commencement and/or point of beginning shall be clearly labeled on the plat drawing.
3. **Ownership Certificate:**
 - a. Know all men by these presents that (owner name(s)), being the sole owner of the following described tract of land:
 - b. Legal Description
 - c. Have (Has) by these presents laid out, platted and subdivided the same into lots, streets and easements as shown on this plat under the name and style of (subdivision name).
4. **Dedication Statements:** Statements of land to be dedicated to the County for parks or other public uses, grants of easements and dedication of public streets to the Adams County are required.
 - a. All plats with public streets shall have the following sentence in the dedication statement: *All public streets are hereby dedicated to Adams County for public use.*
 - b. All plats with public easements and/or tracts must have the following sentence in the dedication statement: *The undersigned does hereby dedicate, grant and convey to Adams County those Public Easements (and tracts) as shown on the plat; and further restricts the use of all Public Easement to Adams County and/or its assigns, provided however, that the sole right and authority to release or quitclaim all or any such Public Easements shall remain exclusively vested in Adams County.*
 - c. All plats with private streets shall have the following sentence in the dedication statement: *All private streets (insert names) are privately owned and maintained by (list owner name, Owner's Association, etc.).*
 - d. All plats with other tracts being dedicated to the County shall have:

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- i. A sentence in the dedication statement similar to "Tract X is hereby dedicated to Adams County for public use".
 - ii. A special numbered plat note defining the purpose and perpetual maintenance responsibility for the tract such as "Tract X is for public drainage, landscaping, trail and open space with maintenance of the surface being vested in the (District Name) Special Maintenance District".
5. **Surveyor's Statement:** Statement by a registered land surveyor, professionally licensed by the State of Colorado, to the effect that the layout represents a survey made by him and that the monuments thereon actually exist as located and that all dimensional and other details are correct.
6. **Access Provisions:**
 - a. **Statement Restricting Access:** A statement restricting access rights across the right-of-way lines of major highways, parkways, streets or freeways, where required as a provision of approval.
7. **Easement Statement:**
 - a. Six-foot (6') wide utility easements are hereby dedicated on private property adjacent to the front lot lines of each lot in the subdivision. In addition, eight-foot (8') wide dry utility easements are hereby dedicated around the perimeter of tracts, parcels and/or open space areas. These easements are dedicated to Adams County for the benefit of the applicable utility providers for the installation, maintenance, and replacement of utilities. Utility easements shall also be granted within any access easements and private streets in the subdivision. Permanent structures, improvements, objects, buildings, wells, water meters and other objects that may interfere with the utility facilities or use thereof (Interfering Objects) shall not be permitted within said utility easements and the utility providers, as grantees, may remove any Interfering Objects at no cost to such grantees, including, without limitation, vegetation.
8. **Storm Drainage Facilities Statement:**
 - a. The policy of the County requires that maintenance access shall be provided to all storm drainage facilities to assure continuous operational capability of the system. The property owners shall be responsible for the maintenance of all drainage facilities including inlets, pipes, culverts, channels, ditches, hydraulic structures, and detention basins located on their land unless modified by the subdivision development agreement. Should the owner fail to maintain said facilities, the County shall have the right to enter said land for the sole purpose of operations and maintenance. All such maintenance cost will be assessed to the property owners.
9. **Layout:**
 - a. **Boundary Lines:** The subdivision boundary will be clearly distinguishable from other map lines by use of a distinct line type and/or thickness. All lines will be labeled with a complete bearing

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and distance, and all curves will be labeled with a central angle (delta), radius and arc length. Radial bearings and/or chord bearings will be provided for all nontangent curves. All dimensions to be determined by accurate field survey which must balance and close within limit of one in five thousand (5,000). Show adjacent and/or intersecting plat/deed lines and label appropriately to include recording information (book and page and/or reception number).

- b. **Streets:** All street rights of way defined by the plat will be clearly distinguishable from other map lines by use of a distinct line type and/or thickness. All lines will be labeled with a complete bearing and distance, and all curves will be labeled with a central angle (delta), radius and arc length. Radial bearings and/or chord bearings will be provided for all nontangent curves. Widths shall be labeled from each right-of-way line normal to the corresponding street center line. All street center lines defined by the plat will be clearly distinguishable from other map lines by use of distinct line type and/or thickness. All lines will be labeled with a complete bearing and distance and all curves will be labeled with a central angle (delta), radius and arc length. Radial bearings and/or chord bearings will be provided for all nontangent curves. The plat shall show the right-of-way lines, widths, locations and street names of all existing and proposed public or private streets:
 - i. Within the proposed subdivision, and
 - ii. Immediately abutting the proposed subdivision, and
 - iii. Any private street shall include the designation "(Private)" immediately following street name; any other private right of way that is not named shall include the designation "(Private)" in a manner that clearly conveys such a status.
- c. **Easements:** All easements as required by Adams County and other public and quasi-public agencies. Said easements shall be clearly labeled to include width, use and identification as public or private, if necessary. Tie to property lines and annotate with bearings and distances as necessary. Clearly show and label all existing easements, to include width and recording information, that cross, abut or are located within the subdivision boundary.
- d. **Lots and Blocks:** All lines of lots, blocks and other parcels of land defined by the plat will be clearly distinguishable from other map lines by use of a distinct line type and/or thickness. All lines will be labeled with a complete bearing and distance and all curves will be labeled with a radius and arc length. Lots must close to one in five thousand (5,000).
- e. **Readability:** All line annotation and all other text will be easily and clearly readable. No text shall overwrite other text or be overwritten by map lines.
- f. **Leader Lines:** Use leader lines whenever a dimension is not clearly and unmistakably associated with a given line, line segment or arc.

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- g. **Multiple Sheets:** Whenever a plat drawing spans multiple sheets, clear and well labeled match lines and a key map shall be included on each sheet. Labels will be of the nature "See Sheet of ". Duplicate street names, widths, lot numbers, tract names, easement labeling or any such labeling when any feature is shown on multiple sheets.
 - h. **Identification System:** All lots and blocks in the subdivision shall be numbered, beginning with the numeral "1" and continuing consecutively throughout the tract, with no omissions or duplications. All tracts shall be likewise labeled beginning with the letter "A". Lots and tracts shall be labeled with the area of the lot or tract.
 - i. **Legend:** Provide a legend which designates all lines and symbols except where called out on plat drawing.
 - j. **Inundation Mark:** The plat shall clearly show the 100-year floodplain line. Reference the appropriate FEMA panel by which the location of this line has been determined.
10. **Easements:** Book and page and/or reception number for all existing and newly created easements.
 11. **Adjacent Subdivision:** Names of adjacent platted areas along with the reception and/or plat book and page number shall be shown. If unplatted, so indicate. Existing street rights of way that intersect the subdivision boundary or are adjacent to said boundary lines shall be clearly labeled with the street name, right of way width and appropriate deed or plat recording information wherein the right of way is defined. Show and label all existing lots and blocks that are immediately adjacent to the subdivision boundary.
 12. **Basis of Bearings:** A clearly defined basis of bearings shall be provided, both verbally and graphically. All monumentation defining said line shall be shown and labeled on the plat drawing. When said line is not common with the subdivision boundary, it shall be accurately tied to the boundary with bearings and distances.
 13. **Monuments:** All monuments used to determine and/or describe a boundary (including basis of bearings, point of beginning and point of commencement) shall be shown and clearly labeled on the plat drawing. Monuments for corners defined by the plat, or otherwise found to be missing in the field, shall be placed and set in accord with the requirements of the State of Colorado.
 14. **Not A Part Of Subdivision:** All areas enclosed within the subdivision boundary which do not constitute a part of the subdivision shall be labeled "Not a part of this subdivision". All lines pertaining to such areas shall be dashed.
 15. **Square Footage:** The area in square feet of all lot and tracts sought to be platted.
 16. **Operation and Maintenance Manual reference:** Refer to the Operation and Maintenance Manual approved with this Subdivision for Additional Drainage Guidelines.

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17. All other information required by State law.

Alfredo Martinez-Suarez

PO Box 2311, Littleton CO

(720) 307-2797

alfredo_ms@archams.com

March 6th, 2025

Attn: Adams County

Re: 9315 E 160th Ave, Brighton, CO 80602

The Owner is looking to subdivide the current 3.52 Acre A1 property into (3) lots of plus/minus 1.17 acres and apply for a rezoning of such new lots to be RE zoning meeting current Adams County standards set forth.

The Owner will build a new 4,662 sq ft single-family dwelling unit w/ a detached accessory structure (Barn) of approximately 1,500 sq ft at the northern lot of the new subdivision that will occupy as his primary residence.

The new lot located at the SW portion of the new subdivision will keep an existing single family dwelling unit of 1,000 sq ft

All three new lots will be accessed through the new 26'-0" vehicle access proposed. The existing 14'-0" wide access currently accessing the existing single-family-dwelling unit will be cancelled.

Public Water and sewer will be provided by High Land Acres Water and Sanitation. Power will be provided by United Power.

Should you have any questions please let me know,

Best regards,

Alfredo Martinez Suarez
Architect



"...Building affinity through design..."

ARCHITECT:

P.O. Box 2311, LITTLETON, CO. 80161-2311
(720) 307-2797
alfredo_ms@archams.com
ALFREDO MARTINEZ-SUAREZ

1. THE CONTRACTOR WORK INCLUDES FURNISHING ALL MATERIAL, EQUIPMENT, TOOLS, LABOR AND SERVICES NECESSARY FOR COMPLETION OF THE PROJECT UNLESS NOTED OTHERWISE.

2. ALL WORK SHALL BE DONE AS SHOWN ON THE DRAWINGS & CALLED FOR IN THE SPECIFICATIONS & IN A MANNER AS DIRECTED BY THE ARCHITECT & GENERAL TRADE PRACTICES. THE SUPERVISION OF THE CONTRACT WORK SHALL BE DONE BY THE PERSON OR COMPANY LISTED IN THE CONTRACT AGREEMENT. IN CASE NO SUPERVISION BY AN ARCHITECT IS PROVIDED IN THE CONTRACT, THE FUNCTIONS OF THE ARCHITECT, WHEREVER CALLED FOR IN THE PLANS AND/OR SPECIFICATIONS, SHALL BE EXERCISED BY THE OWNER.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE SITE WHILE JOB IS IN PROGRESS AND UNTIL BUILDING IS OCCUPIED.

4. ALL DETAILS & SECTIONS SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL BE CONSTRUED TO APPLY TO ANY SIMILAR SITUATION ELSEWHERE IN THE WORK EXCEPT WHERE A DIFFERENT DETAIL IS SHOWN.

5. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE & SEQUENCE TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION.

6. DO NOT SCALE THESE DRAWINGS. DRAWING SCALES IN THESE DRAWINGS ARE FOR 24X36 PRINTS.

7. ANY DISCREPANCY BETWEEN THESE DRAWINGS & ACTUAL SITE/FIELD CONDITIONS SHALL BE REPORTED IN WRITTING TO THE OWNER & THE ARCHITECT BEFORE COMMENCING ANY WORK.

MERAZ' SUBDIVISION

9315 E 160th Ave,
Brighton, CO 80602

ISSUE	DATE	DESCRIPTION
01	03/12/25	SUBDIVISION

DRAWN BY:

CHECKED BY: RR

R/AM

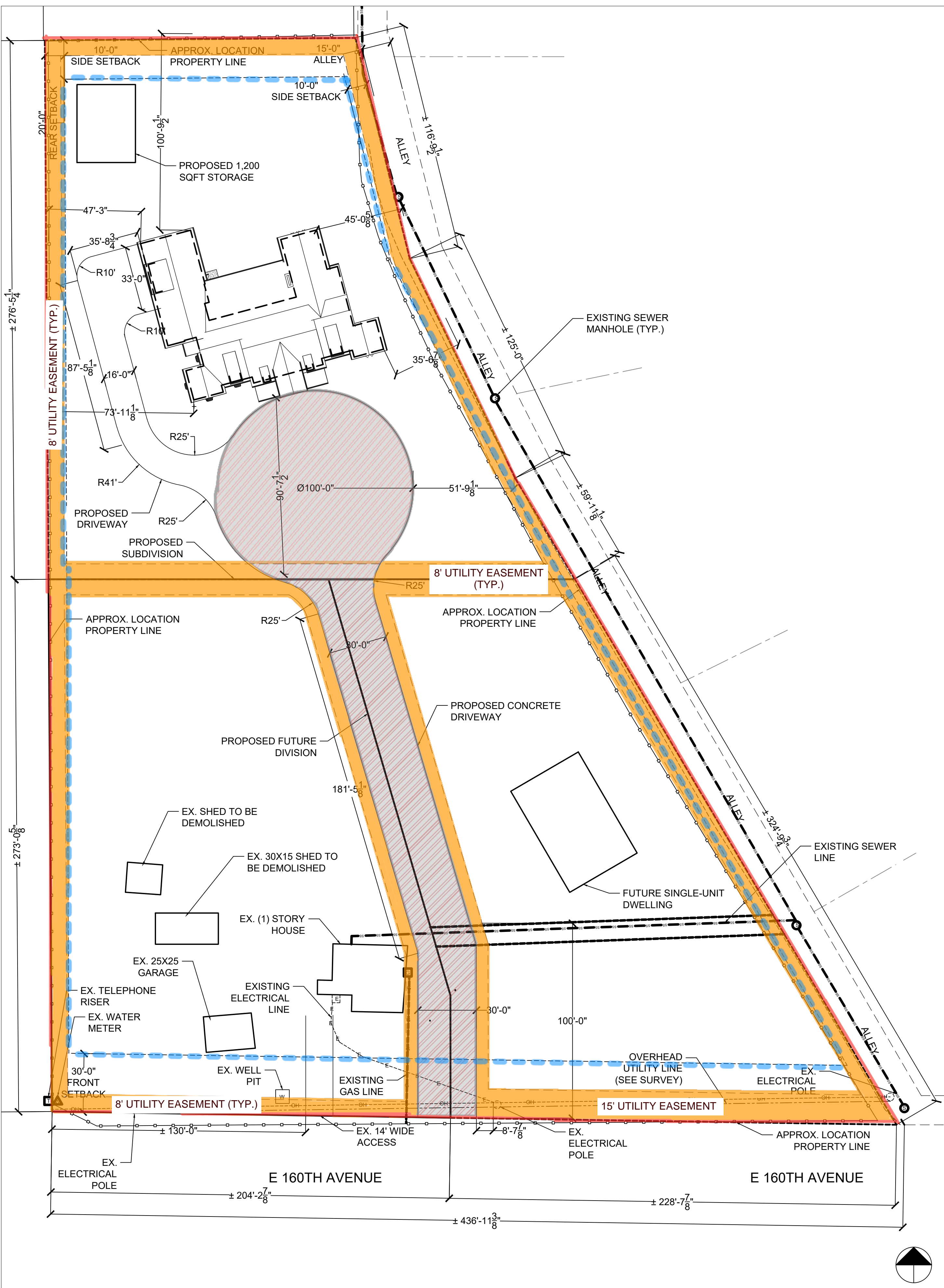
THESE DRAWINGS HAVE BEEN PREPARED BY ME OR UNDER
MY DIRECT SUPERVISION

COPYRIGHT M-S ARCHITECTURE, INC. - 2025

SITE PLAN

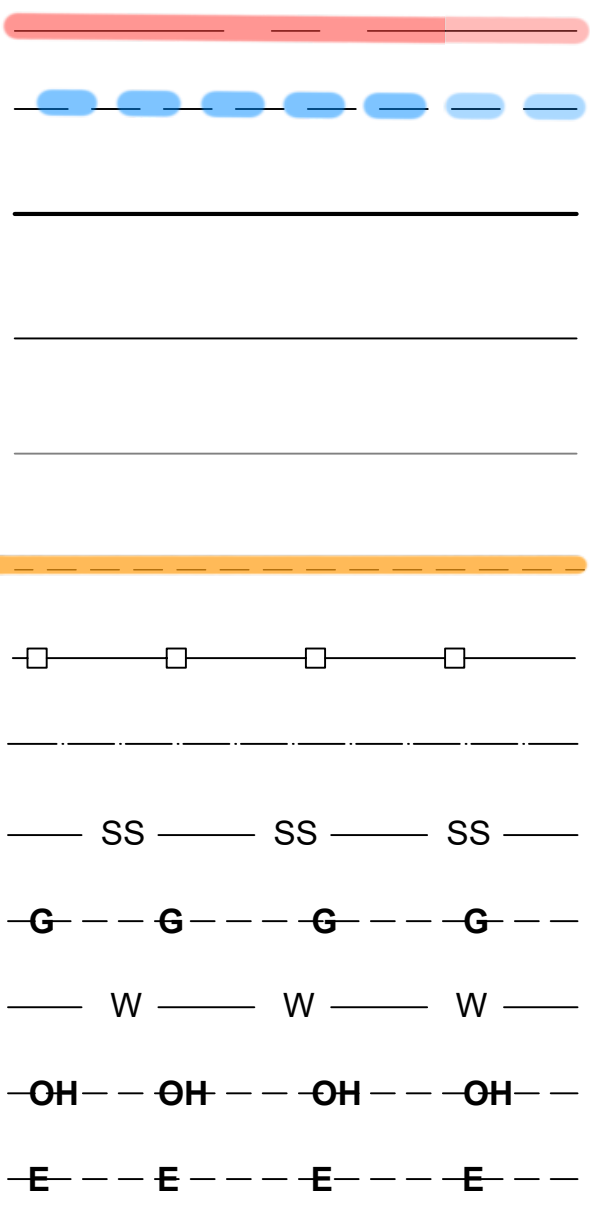
A-100

Scale



SITE PLAN LEGENDS

1. PROPERTY LOT LINE
2. SETBACK LINE
3. EXTERIOR BUILDING FOOTPRINT
4. ROOF LINE
5. EX. ADJ. STRUCTURE FOOTPRINT
6. EASEMENT/ALLEY
7. FENCE
8. DITCH (SEE SURVEY)
9. SEWER LINE
10. GAS LINE
11. WATER LINE
12. OVER HEAD POWER LINE
13. ELECTRICAL LINE



1 SITE PLAN
1/32"=1'-0"

