



# VARIANCE

A variance is a means whereby the literal terms of these standards and regulations need not be applied if there are practical difficulties or unnecessary hardships associated with the subject site. In granting a variance, the spirit of these standards and regulations shall be observed, public safety and welfare secured, and substantial justice done.

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

- Development Application Form (pg. 3)
- Written Narrative
- Site Plan
- Proof of Ownership (warranty deed or title policy)
- Proof of Water and Sewer Services
- Legal Description
- Statement of Taxes Paid

### Number of Variance Requests:

A variance may only be approved from the dimensional requirements, performance standards, and other special physical requirements contained in the Adams County development standards and regulations.

Type of Variance Request:	# of Requests:
Setback:	
Height:	
Lot Coverage:	
Other:	

Application Fees:	Amount:
Variance	\$500-residential \$700-non-residential <i>*\$100 per each additional request</i>

## Guide to Development Application Submittal

This application shall be submitted electronically to [epermitcenter@adcogov.org](mailto: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](http://www.permits.adcogov.org).

### Written Narrative:

- A written explanation of the project including the existing and proposed zone district and proposed use of the property.

### Scaled Site Plan:

- A site plan prepared to-scale showing at minimum: the request, any existing or proposed structures, existing and proposed setbacks of structures, any hardship, location of well, location of septic field, location of easements, surrounding rights-of-way, north arrow.
- Site plan may be hand-drawn.

### Proof of Ownership (warranty deed or title policy):

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

### Proof of Water and Sewer:

- Public utilities - A written statement from the appropriate water & sanitation district indicating that they will provide service to the property OR a copy of a current bill from the service provider.
- 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.

### Legal Description:

- Geographical description used to locate and identify a property.

### Statement of Taxes

- All taxes on the subject property must be paid in full. Please contact the Adams County Treasurer's Office.
- Or [adcotax.com](http://adcotax.com)



## DEVELOPMENT APPLICATION FORM

### APPLICANT

Name(s):  Phone #:

Address:

City, State, Zip:

2nd Phone #:  Email:

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### OWNER

Name(s):  Phone #:

Address:

City, State, Zip:

2nd Phone #:  Email:

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

Name:  Phone #:

Address:

City, State, Zip:

2nd Phone #:  Email:

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**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

Variance Hearing Request for BDP24-1810

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Div 1  
For Office Use Only

Form No. GWS-11 1/2009  
**STATE OF COLORADO**  
**OFFICE OF THE STATE ENGINEER**  
818 Centennial Bldg., 1313 Sherman St., Denver, CO 80203  
Phone - Info: (303) 866-3587 Main: (303) 866-3581  
Fax: (303) 866-3589 http://www.water.state.co.us

**CHANGE IN OWNER NAME/ADDRESS  
CORRECTION OF THE WELL LOCATION**

Review instruction on the reverse side prior to completing the form.

Name, address and phone of person claiming ownership of the well permit:  
NAME(S): Alma Cox  
Mailing Address: 15849 Harvest Court  
City, St. Zip: Brighton, CO 80603  
Phone: \_\_\_\_\_  
E-mail (optional): alma@whitestarteam.com

RECEIVED  
AUG 27 2018  
WATER RESOURCES  
STATE ENGINEER COLO

This form is filed by the named individual/entity claiming that they are the owner of the well permit as referenced below. This filing is made pursuant to C.R.S. 37-90-143.

WELL LOCATION: Well Permit Number: 248280 Receipt Number: \_\_\_\_\_ Case Number: \_\_\_\_\_  
County Adams Well Name or # (optional) \_\_\_\_\_  
15849 Harvest Court Brighton Colorado 80603  
(Address) (City) (State) (Zip)  
NE 1/4 of the NE 1/4, Sec. 7, Twp. 1  N. or  S., Range 10S  E. or  W., 6TH P.M.  
Distance from Section Lines: 1150 Ft. From  N. or  S., 250 Ft. From  E. or  W. Line.  
Subdivision Name VAN AIRE Lot 7, Block 1, Filing/Unit \_\_\_\_\_

The above listed owner(s) say(s) that he, she (they) own the well permit described herein. The existing record is being amended for the following reasons:  
 Change in name of owner  Change in mailing address  Correction of location for exempt wells permitted prior to May 8, 1972 and non-exempt wells permitted before May 17, 1965.  
Please see the reverse side for further information regarding correction of the well location.

I (we) claim and say that I (we) (are) the owner(s) of the well permit described above, know the contents of the statements made herein, and state that they are true to my (our) knowledge.

Signature(s) of the new owner <u>Alma Cox</u>	Please print the Signer's Name & Title Alma Cox	Date <u>8-20-18</u>
--	--	------------------------

It is the responsibility of the new owner of this well permit to complete and sign this form. Signatures of agents are acceptable if an original letter of agency signed by the owner is attached to the form upon its receipt.

ACCEPTED AS A CHANGE IN OWNERSHIP AND/OR MAILING ADDRESS. For Office Use Only

Alma Cox State Engineer By Austin Anderson Date 8/27/2018

Area 1.84  
Parcel# 0156707104027

**INSTRUCTIONS FOR CHANGE IN OWNER NAME/ADDRESS/LOCATION CORRECTION  
NO FEE IS REQUIRED**

The form must be typewritten or printed in **BLACK OR BLUE INK**. Initial and date any changes you make on the form.

WHEN RECORDED RETURN TO:  
**Alma Cox**  
**15849 Harvest Court**  
**Brighton, CO 80603**



**First American**

File Number: 5523-3100004

## WARRANTY DEED

**THIS DEED**, Made this Twentieth day of August, 2018, between **Howard Hugh Hillman and Susan Louise Hillman** of the County of Adams and State of Colorado, grantor, and **Alma Cox** whose legal address is 15849 Harvest Court, Brighton, CO 80603 of the County of Adams and State of Colorado, grantee:

**WITNESSETH**, That the grantor, for and in consideration of the sum of **FIVE HUNDRED FIFTY THOUSAND AND NO/100 DOLLARS (\$550,000.00)**, the receipt and sufficiency of which is hereby acknowledged, has granted, bargained, sold and conveyed, and by these presents does grant, bargain, sell, convey and confirm, unto the grantee, his heirs, successors and assigns forever, Tenants in Severalty all the real property, together with improvements, if any, situate, lying and being in the County of Adams, State of Colorado, described as follows:

### PARCEL A:

**LOT 7, EXCEPT THE EAST 65 FEET OF SAID LOT, BLOCK 1, VAN-AIRE, COUNTY OF ADAMS, STATE OF COLORADO.**

### TOGETHER WITH

### PARCEL B:

**A NON EXCLUSIVE EASEMENT FOR INGRESS AND EGRESS OVER THE EAST 65 FEET OF LOT 7, BLOCK 1, VAN-AIRE, COUNTY OF ADAMS, STATE OF COLORADO.**

also known by street and number as: **15849 Harvest Court, Brighton, CO 80603**

**TOGETHER** with all and singular the hereditaments and appurtenances thereunto belonging, or in anywise appertaining and the reversion and remainders, rents, issues and profits thereof; and all the estate, right, 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 said grantee, his heirs and assigns forever. And the grantor, for himself, his heirs and personal representatives, does covenant, grant, bargain and agree to and with the grantee, his heirs and assigns, that at the time of the ensembling and delivery of these presents, he is well seized of the premises above conveyed, has good, sure, perfect, absolute and indefeasible estate of inheritance, in law, in fee simple, and has good right, full power and lawful authority to grant, bargain sell and convey the same in manner and form aforesaid, and that the same are free and clear from all former and other grants, bargains, sales, liens, taxes, assessments, encumbrances and restrictions of whatever kind or nature soever, and except general taxes for the current year and subsequent years, and except easements, covenants, reservations, restrictions, and right of way, if any, of record.

The grantor shall and will **WARRANT AND FOREVER DEFEND** the above-bargained premises in the quiet and peaceable possession of the grantee, his heirs and assigns, against all and every person or persons lawfully claiming the whole or any part thereof.

The singular number shall include the plural, the plural the singular, and the use of any gender shall be applicable to all genders.

Doc Fee: \$55.00

**IN WITNESS WHEREOF**, The grantor has executed this deed on the date set forth above.

*Howard Hugh Hillman by*  
*Susan Louise Hillman as Attorney In Fact*  
Howard Hugh Hillman by Susan Louise Hillman  
as Attorney In Fact  
*Susan Louise Hillman*  
Susan Louise Hillman

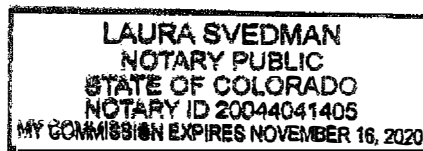
State of **Colorado**

County of **Adams**

The foregoing instrument was acknowledged to before me this Twentieth day of August, 2018 by **Susan Louise Hillman as Attorney in fact for Howard Hugh Hillman and Susan Louise Hillman.**

Witness my hand and official seal.  
My commission expires:

*Laura Svedman*  
\_\_\_\_\_  
Notary Public



## Use Permit For An On-site Waste Water Treatment System

**PROPERTY INFORMATION:**

**Address:** 15849 Harvest Ct  
Brighton, CO 80601--  
**County:** Adams  
**APN:** 0156707104027

**OWNER INFORMATION:**

**Dwelling Type:** Single Family  
**No. of Bedrooms:** 4  
**Water Supply:** Not Specified  
**Onsite ID:**

**Address:** 15849 Harvest Court  
Brighton, CO 80603-  
**Phone:** 303-503-1718

**PERMIT INFORMATION:** ON0036282

**Permit Type:** OWTS

**Construction Phase:** Complete - Use Permit

**Tank 1**

**Tank Capacity Built (Gal):** 1,250  
**Tank Type:** T-Treatment  
**Tank Material:** C-Concrete  
**Tank Baffle:** Baffles  
**No of Compartments:** 2  
**Effluent Screen?** No

**Soil Treatment Area Built:**

**Type:** BD: Bed with Rock  
**Area (Sq ft):** 1,000  
**Final Depth (inches):**  
**Chamber Type:**  
**No of Chambers:**  
**Application Method:** Gravity

NOTE: A "Not Specified" comment indicates that either the information was not available or not applicable at the time the permit was issued.

### FOR AN ON-SITE WASTE WATER TREATMENT SYSTEM

**CONDITIONS FOR USE**

This certifies that the On-Site Wastewater Treatment System (OWTS) was either installed or inspected at the property location and was in conformance with the Tri-County Health Department OWTS regulation in effect at the indicated date, and the engineer design (if applicable). This certification for Use allows the owner to use the system until one of the following occurs:

- \* Sale of the property to another owner.
- \* Change of use in the property.
- \* Addition of up to one bedroom.
- \* Addition of a modular unit or mobile home.
- \* Other circumstances as deemed appropriate by Tri-County Health Dept.

Tri-County Health Department must be contacted if any of the above occurs.

**MAINTENANCE REQUIREMENTS**

- \* The septic tank must be inspected once every four years and pumped according to the Requirements in the current Tri-County Health Department OWTS Regulation.
- \* If the septic or dosing tank is equipped with an effluent filter, the filter must be cleaned at manufacturer recommended intervals or more often.
- \* If the system has alternating beds or is a drip or low pressure pipe system, beds or zones must be rotated annually.
- \* Additional maintenance requirements may apply. Refer to the Tri-County Health Department "Your Septic System Guidelines and Records" or engineer's report for specific requirements.

## Use Permit For An On-site Waste Water Treatment System

**PROPERTY INFORMATION:**

**OWNER INFORMATION:**

Address: 15849 Harvest Ct  
Brighton, CO 80601--  
County: Adams  
APN: 0156707104027

Dwelling Type: Single Family  
No. of Bedrooms: 4  
Water Supply: Not Specified  
Onsite ID:

Address: 15849 Harvest Court  
Brighton, CO 80603-  
Phone: 303-503-1718

**PERMIT INFORMATION:** ON0036282

**Permit Type:** OWTS

**Construction Phase:** Complete - Use Permit

**LIMITATIONS AND DISCLAIMER**

Issuance of a **Use Permit** is subject to the applicable conditions, restrictions and limitation set forth in the OWTS regulations, and is based solely on the conditions observed on the date of inspection(s) and on Department Records at the time of permitting. The issuance of a Use Permit does not constitute a guarantee, warranty or representation by the Department that the system was installed correctly, or that the system will operate properly or will not fail.

**PERMIT VALID FROM:**

7/31/2018



Jeff McCarron 07/31/2018



## WESTERN ENGINEERING CONSULTANTS,

127 S. Denver Avenue, Ft. Lupton, CO 80621

2501 Mill St. Brush, CO 80723

Office: 720-685-9951

Cell: 303-913-7341, Fax: 720-294-1330

Email: [clindwin.cox@westerneci.com](mailto:clindwin.cox@westerneci.com)

Inc LLC

August 23, 2024

Adams County  
Public Works Department  
4430 Adams County Parkway  
Brighton, CO 80601

**RE: 15849 HARVEST COURT DRAINAGE NARRATIVE LETTER**

Western Engineering Consultants Inc. LLC (WEC) appreciates the opportunity to submit this Drainage Narrative Letter on behalf of Mr. Cox.

Attached to this letter are the following:

- Vicinity Map
- Key map (Google Exhibit)
- FEMA Firmette
- NRCS Soils Report
- Rational Method Runoff Calculations
- WEC Plans

### PARCEL DESCRIPTION

The 1.54-acre overall property owned by Alma Cox consists of one parcel – 15849 Harvest Court, Brighton, CO (Parcel No.: 0156707104027). The property exists on the west side of Harvest Court, approximately 100 feet west of Harvest Road and 4,000 feet north of E 152<sup>nd</sup> Ave. The entire parcel is noted as being in the NE ¼ of Section 7, Township 1 South, Range 65 West of the 6<sup>th</sup> P.M.

### EXISTING CONDITIONS

A concrete driveway and a gravel access exist off of Harvest Court. A concrete driveway also exists onto the Van-Aire Subdivision Taxi-lane. A 4,716 sq. ft. residence exists near the east side of the property and a 3,829 sq. ft. garage exists in the southeast corner.

Runoff from the property is tributary to the Van-Aire drainage system, which flows north to the E 160<sup>th</sup> Ave Right-of-Way. Runoff from this area is ultimately tributary to the South Platte River approximately seven miles to the west.

### FLOODPLAIN

15489 Harvest Court does not lie within a Master Flood or Drainage Planned Study. The entire site is within Zone X "Area of Minimal Flood Hazard" and not within the 100-year floodplain per FEMA FIRM 08001C0355H – effective March 5, 2007. See also the attached FEMA Firmette.

### PROPOSED IMPROVEMENTS

A 6,400 sq. ft. hangar is proposed in the northwest corner of the property. A concrete driveway off of Harvest Court is proposed to replace the existing gravel access. A concrete driveway onto the Van-Aire Subdivision taxi-lane is also proposed.

### **HISTORIC / EXISTING RATIONAL DRAINAGE DESCRIPTION**

The entire 1.54-acre property has been mapped as a single Historic Basin.

Historically, the site drained from southeast to northwest at roughly 1.1% (per USGS Quad Maps). The runoff calculated for the 1.54-acre Historic Basin is 0.02 cfs and 2.53 cfs for the minor (5yr) and major (100yr) storm events, respectively.

The existing site was broken into two Existing Basins (EX W & EX E) and three Off-Site Basins (OFF E, OFF SE, & OFF SW).

The entire site consists of NRCS Hydrologic Type B soils per the attached USOA Web Soil Survey.

Basin EX W (1.20 ac.) consists of the southwest three-quarters of the property. This basin drains from the peak of the roof of the existing residence overland to the west and north into the Van-Aire taxi-lane roadside ditch at roughly 2.2%. The existing effective imperviousness of the basin is 36.66%, as the basin contains the southwest three-quarters of the existing residence, the existing garage, and the existing concrete driveways. The calculated runoff is 0.80 cfs and 3.63 cfs for the minor (5yr) and major (100yr) storm events, respectively.

Basin EX E (0.34 ac.) consists of the northeast quarter of the property. This basin drains from the peak of the roof of the existing residence overland to the north and west onto the property to the north at roughly 2.2%. The existing effective imperviousness of the basin is 20.04%, as the basin contains the northeast quarter of the existing residence and the existing gravel access. The calculated runoff is 0.11 cfs and 0.85 cfs for the minor (5yr) and major (100yr) storm events, respectively.

Basin OFF E (0.10 ac.) consists of the portion of Harvest Court to the east that drains onto the property. This basin drains from the crown of the road to the west into the roadside ditch at roughly 2.0%, then north along the ditch and onto the site at roughly 1.0%. The existing effective imperviousness of the basin is 90.76%, as the basin contains the existing asphalt road and a portion of the existing concrete driveway. The calculated runoff is 0.29 cfs and 0.74 cfs for the minor (5yr) and major (100yr) storm events, respectively.

Basin OFF SE (0.59 ac.) consists of the portion of the adjacent property to the south that drains onto the southeast side of the property. This basin drains from the peak of the roof of an existing residence overland to the north onto this property at roughly 4.7%. The existing effective imperviousness of the basin is 22.63%, as the basin contains the north half of an existing residence. The calculated runoff is 0.30 cfs and 1.99 cfs for the minor (5yr) and major (100yr) storm events, respectively.

Basin OFF SW (0.53 ac.) consists of the portion of the adjacent property to the south that drains onto the southwest side of the property. This basin drains from the peak of the roof of an existing hangar overland to the west and north onto this property at roughly 1.9%. The existing effective imperviousness of the basin is 15.56%, as the basin contains the north half of an existing hangar. The calculated runoff is 0.14 cfs and 1.31 cfs for the minor (5yr) and major (100yr) storm events, respectively.

### **DEVELOPED RATIONAL DRAINAGE ANALYSIS**

The attachments below include all Rational Method runoff calculations summarizing the 5-, 10-, and 100-year events for the proposed Developed Basins. Each minor storm event referred to below is the 5-year event and each major storm event referred to below is the 100-year event.

Currently, the grading and drainage design is intended to convey all on-site runoff to the existing Van-Aire taxi-lane roadside drainage ditch.

The proposed site was broken into two Developed Basins (N & S) and three Off-Site Basins (OFF E, OFF SE, & OFF SW).

The entire site consists of NRCS Hydrologic Type B soils per the attached USDA Web Soil Survey.

Basin N (0.63 ac.) consists of the north half of the property. This basin drains from the peak of the roof of the existing residence overland to the north and west to the proposed drainage pan / swale on the east and north sides of the proposed hangar at roughly 4.4%. Runoff then flows north and west along the pan / swale at roughly 1.2% to the existing Van-Aire taxi-lane drainage ditch at design point 4. The developed effective imperviousness of the basin is 49.90%, as the basin contains the north quarter of the existing residence, the north half of the proposed hangar, and the proposed concrete driveways. The calculated runoff is 0.78 cfs and 2.81 cfs for the minor (5yr) and major (100yr) storm events, respectively.

Basin S (0.91 ac.) consists of the south half of the property. This basin drains from the peak of the roof of the existing residence overland to the west and north to the south swale at roughly 4.6%. Runoff then flows west and north along the swale at roughly 0.5% onto Basin N at design point 3. The developed effective imperviousness of the basin is 50.63%, as the basin contains the south three-quarters of the existing residence, the existing garage, the existing concrete driveways, and the south half of the proposed hangar. The calculated runoff is 1.09 cfs and 3.93 cfs for the minor (5yr) and major (100yr) storm events, respectively.

Basin OFF E (0.10 ac.) consists of the portion of Harvest Court to the east that drains onto the property. This basin drains from the crown of the road to the west into the roadside ditch at roughly 2.0%, then north along the ditch and onto the site at roughly 1.0%. The developed effective imperviousness of the basin is 93.18%, as the basin contains the existing asphalt road and a portion of the proposed concrete driveway. The calculated runoff is 0.30 cfs and 0.75 cfs for the minor (5yr) and major (100yr) storm events, respectively.

Basins OFF SE and OFF SW are to remain as existing as noted above.

#### **WATER QUALITY**

The entire property is outside of the Adams County MS4 area; however, the Adams County Low Impact Development Standards and Requirements still apply.

Water quality will be provided by overland runoff. All runoff from the site will flow across landscaped areas and grassed swales before flowing off-site. The entire site will receive on-site water quality through either sedimentation or filtration from the proposed / existing grassed areas in accordance with Adams County Low Impact Development (LID) Standards and Requirements (Section 9-01-03-14).

Additional LID source controls will also be installed, primarily building roof drains being directed towards landscape areas.

#### **CONCLUSION**

Relief from the Adams County Stormwater Detention requirements is requested per Sec. 9-01-11-#1 of the Adams County Storm Drainage Design and Technical Criteria, which states "Exemptions from flood control detention requirements may be granted by the County based upon the following criteria: 1. The total change in impervious area covers approximately 10,000 square feet or less".

This project proposes to add 6,400 sq. ft. of building area / 8,022 sq. ft. of concrete / 579 sq. ft. of gravel and proposes to remove 5,385 sq. ft. of gravel. The property will see a net change in impervious area of 9,638 sq. ft. as a result of this project, achieving exemption #1.

The attached designs are intended to meet or exceed the minimum requirements of the Adams County Storm Drainage Design and Technical Criteria.

This drainage design and concept quantifies the requirements to manage stormwater runoff.

Please contact me with any questions or comments you may have on the development project!

15489 Harvest Court - Drainage Narrative Letter

August 23, 2024

Western Engineering Consultants inc LLC

Page 4 of 4

Sincerely,

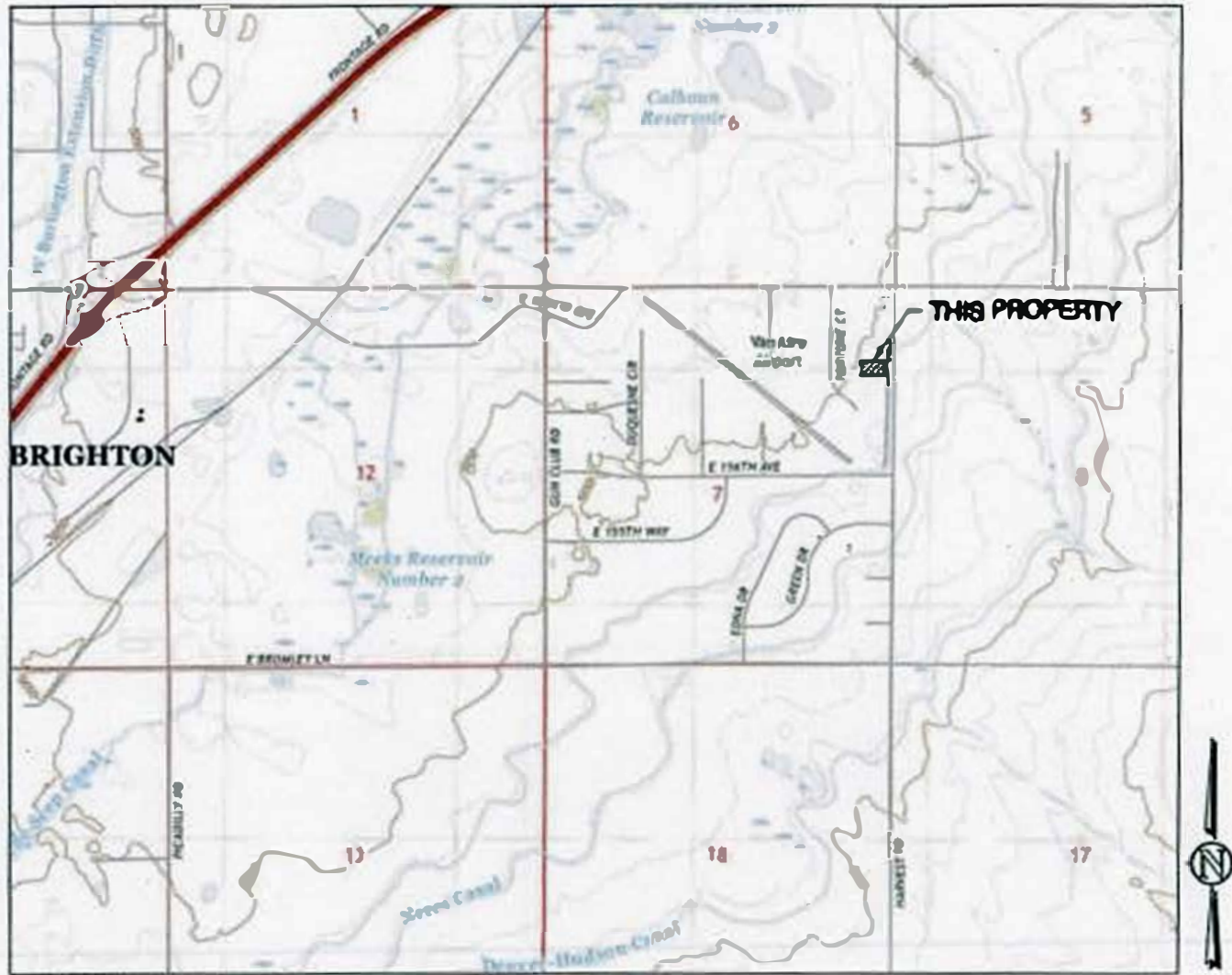


Western Engineering Consultants inc. LLC  
Chadwin F. Cox, P.E.  
Senior Project Manager

Encl. USGS Vicinity Map, Google Site Plan Exhibit, FEMA Firmette, NRCS Soils Report, WEC Historic, Existing, & Developed Rational Drainage Calcs, Conveyance Calculations, and WEC Drainage Plans

## **APPENDIX A**

**Vicinity Map (USGS) / Key Map / FEMA Flood Insurance Rate Map  
(FIRM) / Soil Survey Map and Soil Legend / Geotechnical Report**



**VICINITY MAP**

NE 1/4, S7, T13S, R65W, 6TH P.M.

SHOWN VICINITY MAP TAKEN FROM USGS QUAD MAPS - MILE HIGH LAKES QUADRANGLE, CO, 7.5-MINUTE

NTS

The USGS Exhibit above details historic topography of the project site, adjacent properties, surrounding roads, and surrounding ditches.



**SITE MAP**

**NTS**

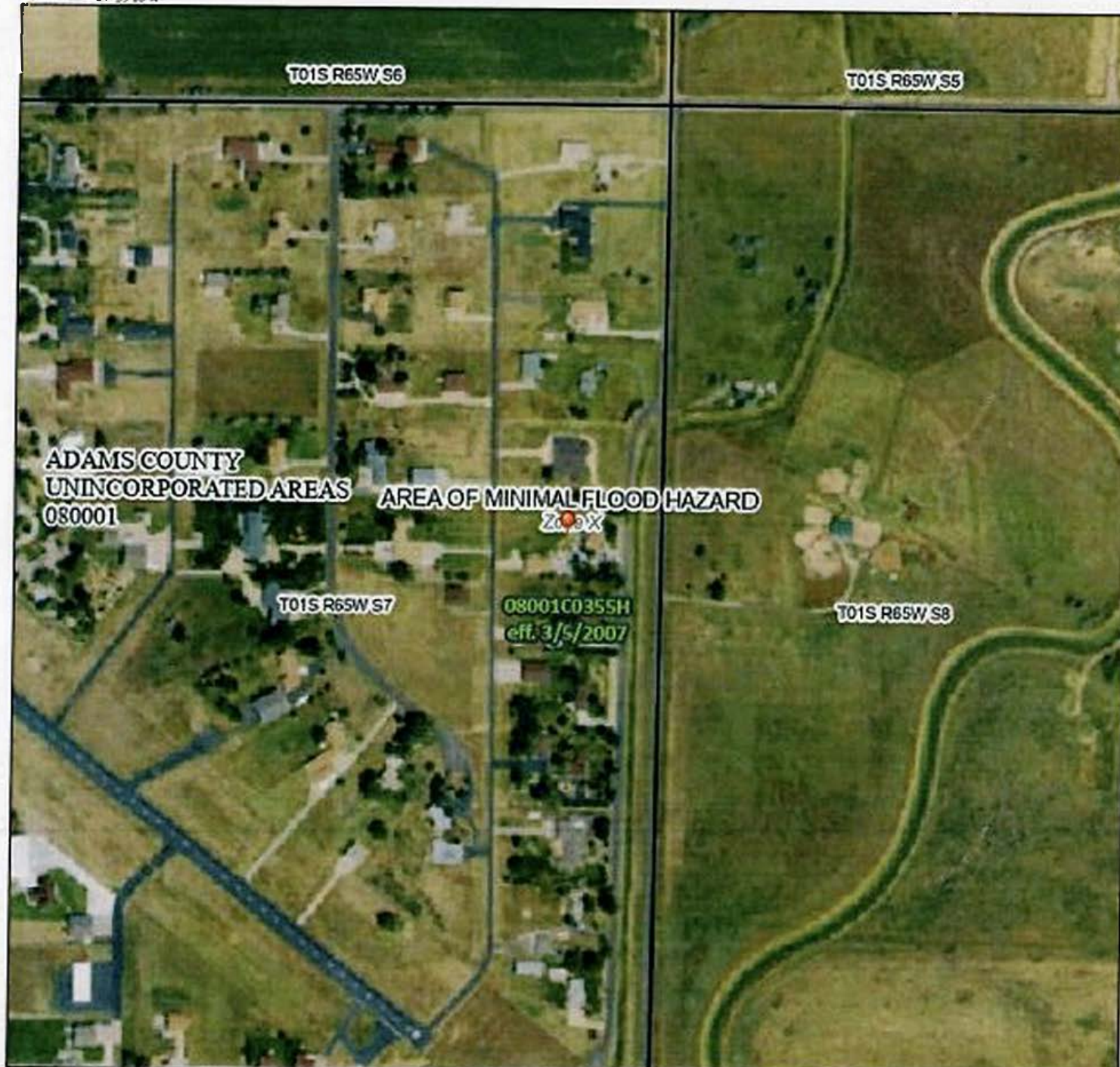
SHOWN VICINITY MAP TAKEN FROM AUTOCAD GEOLOCATION

The Google Earth Exhibit above shows the site / adjacent properties and their relationship to The Van Aire Skyport and surrounding roads.

# National Flood Hazard Layer FIRMette



104°42'17"W 39°19'16"N



## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- |                             |  |  |
|-----------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS  |  | Without Base Flood Elevation (BFE)<br>Zone A, V, AE9   |
|                             |  | With BFE or Depth Zone AE, AD, AH, VE, AP  |
|                             |  | Regulatory Floodway  |
| OTHER AREAS OF FLOOD HAZARD |  | 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone |
|                             |  | Future Conditions 1% Annual Chance Flood Hazard Zone X   |
|                             |  | Area with Reduced Flood Risk due to Levee. See Notes, Zone X   |
|                             |  | Area with Flood Risk due to Levee Zone C   |
| OTHER AREAS                 |  | NO SCREEN Area of Minimal Flood Hazard Zone X  |
|                             |  | Effective LOMRs  |
|                             |  | Area of Undetermined Flood Hazard Zone   |
| GENERAL STRUCTURES          |  | Channel, Culvert, or Storm Sewer   |
|                             |  | Levee, Dike, or Floodwall  |
| OTHER FEATURES              |  | 20.2 Cross Sections with 1% Annual Chance  |
|                             |  | 17.5 Water Surface Elevation   |
|                             |  | Coastal Transect   |
|                             |  | Base Flood Elevation Line (BFE)  |
|                             |  | Limit of Study   |
|                             |  | Jurisdiction Boundary  |
|                             |  | Coastal Transect Baseline  |
|                             |  | Profile Baseline   |
|                             |  | Hydrographic Feature   |
| MAP PANELS                  |  | Digital Data Available   |
|                             |  | No Digital Data Available  |
|                             |  | Unmapped   |
- The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

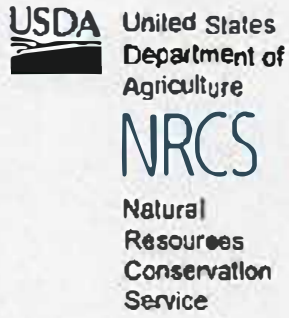
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/23/2024 at 4:16 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

0 250 500 1,000 1,500 2,000 Feet

1:6,000

104°41'34"W 39°58'48"N



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

**WHITE STAR ELECTRIC**



August 2, 2024

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## How Soil Surveys Are Made

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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

## 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.



**MAP LEGEND**

**MAP INFORMATION**

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

## Custom Soil Resource Report

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.

Custom Soil Resource Report

**Minor Components**

**Olnest**

*Percent of map unit: 10 percent*  
*Landform: Interfluves*  
*Landform position (two-dimensional): Summit*  
*Landform position (three-dimensional): Tread*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Ecological site: R067BY024CO - Sandy Plains*  
*Hydric soil rating: No*

**Vona**

*Percent of map unit: 5 percent*  
*Landform: Interfluves*  
*Landform position (two-dimensional): Summit*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Ecological site: R067BY024CO - Sandy Plains*  
*Hydric soil rating: No*

## Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

United States Department of Agriculture, Soil Conservation Service, 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_052290.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf)

# **APPENDIX B**

**Precipitation Data / Rational Method  
Runoff Calculations**



**POINT PRECIPITATION FREQUENCY ESTIMATES**

Sandra Perica, Deborah Martin, Sandra Peralta, Ishani Roy, Mitchell St Laurent, Carl Toppala, Dale Urrutia, Michael Yekta, Geoffrey Borran

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aerials](#)

**PF tabular**

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) <sup>1</sup>										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.231 (0.181-0.297)	0.283 (0.221-0.363)	0.379 (0.285-0.488)	0.471 (0.365-0.609)	0.615 (0.468-0.842)	0.739 (0.548-1.02)	0.875 (0.625-1.23)	1.03 (0.703-1.48)	1.24 (0.819-1.84)	1.42 (0.907-2.11)
10-min	0.339 (0.265-0.434)	0.414 (0.323-0.531)	0.555 (0.432-0.715)	0.690 (0.534-0.891)	0.900 (0.685-1.23)	1.08 (0.800-1.49)	1.28 (0.916-1.81)	1.50 (1.03-2.17)	1.82 (1.20-2.89)	2.08 (1.33-3.09)
15-min	0.413 (0.323-0.530)	0.505 (0.394-0.648)	0.677 (0.527-0.871)	0.841 (0.651-1.09)	1.10 (0.836-1.50)	1.32 (0.978-1.82)	1.56 (1.12-2.20)	1.83 (1.26-2.64)	2.22 (1.46-3.28)	2.64 (1.82-3.77)
30-min	0.565 (0.442-0.725)	0.684 (0.534-0.878)	0.910 (0.708-1.17)	1.13 (0.873-1.46)	1.47 (1.12-2.02)	1.77 (1.31-2.44)	2.10 (1.50-2.88)	2.47 (1.61-3.58)	3.00 (1.98-4.44)	3.44 (2.18-5.10)
60-min	0.692 (0.541-0.888)	0.835 (0.652-1.07)	1.11 (0.862-1.43)	1.37 (1.06-1.78)	1.80 (1.37-2.47)	2.17 (1.60-3.00)	2.58 (1.84-3.64)	3.03 (2.08-4.39)	3.70 (2.44-5.48)	4.25 (2.71-6.30)
2-hr	0.819 (0.648-1.04)	0.985 (0.778-1.25)	1.31 (1.03-1.68)	1.62 (1.26-2.07)	2.12 (1.64-2.89)	2.56 (1.92-3.51)	3.05 (2.20-4.27)	3.60 (2.49-5.15)	4.40 (2.93-6.44)	5.06 (3.28-7.41)
3-hr	0.889 (0.704-1.12)	1.06 (0.843-1.34)	1.41 (1.11-1.78)	1.74 (1.37-2.21)	2.28 (1.77-3.08)	2.75 (2.07-3.74)	3.28 (2.38-4.55)	3.86 (2.69-5.48)	4.72 (3.18-6.86)	5.43 (3.52-7.99)
6-hr	1.05 (0.842-1.32)	1.24 (0.994-1.56)	1.62 (1.29-2.03)	1.98 (1.57-2.49)	2.56 (2.00-3.43)	3.08 (2.34-4.14)	3.65 (2.66-5.01)	4.29 (3.02-6.02)	6.22 (3.83-7.50)	5.99 (3.92-8.61)
12-hr	1.29 (1.04-1.60)	1.60 (1.21-1.86)	1.91 (1.53-2.37)	2.30 (1.84-2.88)	2.92 (2.30-3.64)	3.46 (2.84-4.58)	4.05 (3.00-5.48)	4.71 (3.35-6.53)	6.67 (3.88-8.04)	6.47 (4.28-9.18)
24-hr	1.54 (1.25-1.89)	1.81 (1.47-2.22)	2.30 (1.86-2.82)	2.74 (2.21-3.38)	3.41 (2.69-4.40)	3.97 (3.05-5.17)	4.67 (3.40-6.08)	5.22 (3.73-7.11)	6.15 (4.23-8.67)	8.90 (4.61-9.88)
2-day	1.75 (1.44-2.13)	2.11 (1.74-2.57)	2.72 (2.23-3.31)	3.24 (2.64-3.88)	3.98 (3.14-5.03)	4.57 (3.53-5.83)	5.17 (3.87-6.75)	5.80 (4.17-7.75)	6.68 (4.61-8.11)	7.32 (4.94-10.1)
3-day	1.91 (1.58-2.30)	2.28 (1.88-2.75)	2.90 (2.39-3.61)	3.43 (2.81-4.16)	4.18 (3.32-5.24)	4.78 (3.71-6.09)	5.39 (4.05-6.98)	6.02 (4.35-7.98)	6.88 (4.80-9.35)	7.56 (5.13-10.4)
4-day	2.04 (1.69-2.45)	2.41 (1.99-2.89)	3.02 (2.50-3.64)	3.65 (2.92-4.29)	4.30 (3.43-5.37)	4.90 (3.82-6.19)	5.52 (4.17-7.12)	6.17 (4.48-8.14)	7.06 (4.93-8.53)	7.74 (5.28-10.6)
7-day	2.33 (1.95-2.78)	2.71 (2.26-3.23)	3.35 (2.79-4.00)	3.90 (3.23-4.68)	4.68 (3.78-5.78)	5.29 (4.18-6.61)	6.03 (4.51-7.56)	6.68 (4.82-8.60)	7.48 (5.28-10.0)	8.18 (5.63-11.1)
10-day	2.58 (2.17-3.06)	2.98 (2.60-3.54)	3.66 (3.06-4.34)	4.23 (3.52-5.04)	5.03 (4.06-6.17)	5.66 (4.47-7.02)	6.31 (4.82-7.89)	6.97 (5.13-8.04)	7.87 (5.59-10.5)	8.67 (5.83-11.5)
20-day	3.30 (2.80-3.81)	3.77 (3.19-4.42)	4.53 (3.82-5.33)	5.17 (4.34-6.10)	6.05 (4.92-7.32)	6.73 (5.36-8.24)	7.42 (5.73-9.27)	8.12 (6.03-10.4)	9.05 (6.48-11.8)	9.76 (6.83-12.9)
30-day	3.88 (3.30-4.52)	4.41 (3.75-5.14)	5.27 (4.48-6.16)	5.98 (5.05-7.01)	6.95 (5.68-8.34)	7.70 (6.16-9.34)	8.44 (6.55-10.4)	9.18 (6.98-11.6)	10.2 (7.32-13.2)	10.9 (7.68-14.3)
45-day	4.56 (3.91-5.28)	5.20 (4.45-6.02)	6.22 (5.31-7.22)	7.05 (5.99-8.22)	8.17 (6.71-9.71)	9.01 (7.25-10.8)	9.63 (7.67-12.1)	10.6 (7.89-13.4)	11.7 (8.47-15.0)	12.5 (8.84-16.3)
60-day	5.12 (4.41-5.81)	5.86 (5.04-6.76)	7.04 (6.04-8.14)	7.99 (6.82-9.27)	9.25 (7.62-10.9)	10.2 (8.23-12.2)	11.1 (8.69-13.9)	12.0 (9.03-15.0)	13.1 (9.54-16.7)	13.9 (10.92-18.1)

<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

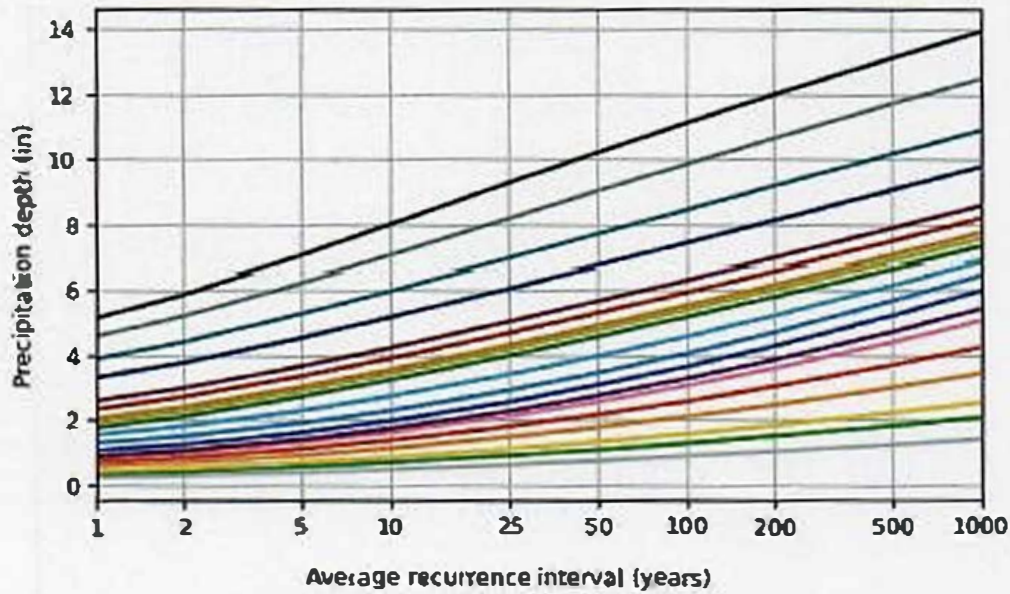
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[PF graphical](#)

PDS-based depth-duration-frequency (DDF) curves  
 Latitude: 39.9840°, Longitude: -104.6976°



Average recurrence interval (years)
1
2
5
10
25
50
100
200
500
1000

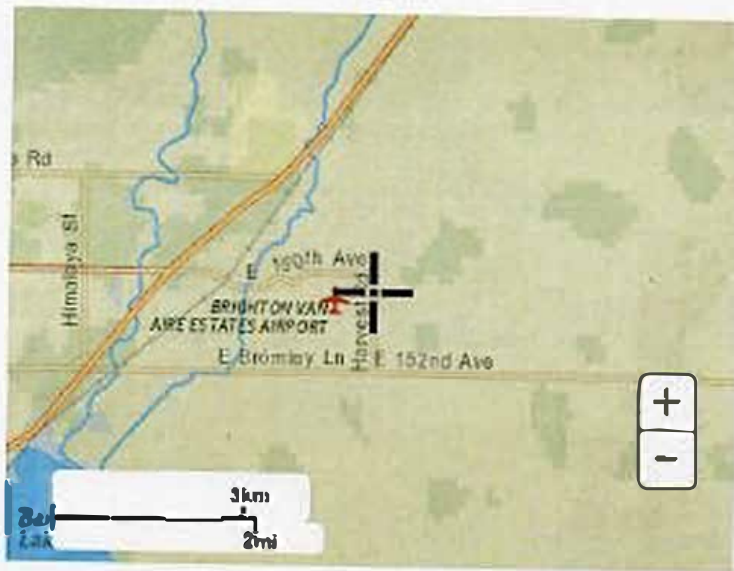


Duration	
5-min	2-day
10-min	3-day
15-min	4-day
30-min	7-day
60-min	10-day
2-hr	20-day
3-hr	30-day
6-hr	45-day
12-hr	60-day
24-hr	

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**Maps & aerials**

Small scale terrain



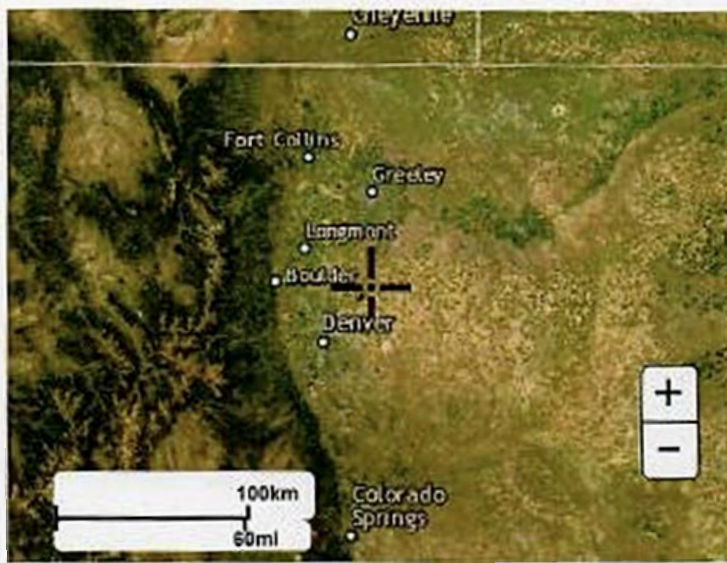
Large scale terrain



Large scale map



Large scale aerial



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US Department of Commerce  
National Oceanic and Atmospheric Administration  
National Weather Service  
National Water Center  
1325 East West Highway  
Silver Spring, MD 20910  
Questions?: [HDSC.Questions@noaa.gov](mailto:HDSC.Questions@noaa.gov)

Disclaimer

Historic Runoff Table - 15489 Harvest Court							
BASIN	Impervious	C-YR	I	A	CI(A/YR-historic)	Flow	DESIGN POINT
H							
C <sub>2</sub> (MHFD 2018)	2.00	0.01	1.21	1.54	0.02	cfs	H1
C <sub>3</sub>	2.00	0.01	1.60	1.54	0.02	cfs	
C <sub>1a</sub>	2.00	0.07	1.98	1.54	0.21	cfs	
C <sub>1b</sub>	2.00	0.44	3.73	1.54	2.53	cfs	

**15489 Harvest Court - Historic Runoff Calcs**  
8/23/2024

for soils - C<sub>2</sub> C<sub>3</sub> C<sub>4</sub> C<sub>5</sub> C<sub>6</sub> C<sub>7</sub> C<sub>8</sub> C<sub>9</sub> C<sub>10</sub> C<sub>100</sub> → from Table RO-6  
 \*\*for TI calculations - only C<sub>3</sub> is used

$TI = (1.49 S^{1.49} (1.1 - C_p)^{1.49} (L^2)^{0.77} (S)^{0.49}$   
 From MHPD (UDFCO) 2018, Equation G-3

1-Hour Point Rain	2	5	10	100
	0.84	1.11	1.37	2.55

H	Historic - 2, 5, 10, 100 yr NRCS Type 100% B	1,543 acres	C <sub>p</sub> (from impervious %)	TI**	Velocity	TI	T <sub>c</sub>	Time To	Δ CUA existing	CUA existing	CUA existing
2yr			0.01	33.48	1.05	0.95	34.43	34.43	1.21	1.54	0.02 cfs
		Length Slope									
		Initial travel									
5yr		300 0.011		33.48	1.05	0.95	34.43	34.43	1.80	1.54	0.02 cfs
		60 0.011	0.01								
		350									
10yr	Overland flow 300 ft max for urban, 600 ft max for rural Keweenawer coded as travel		0.07	33.48	1.05	0.95	34.43	34.43	1.98	1.54	0.21 cfs
100yr		C <sub>p</sub> = 10	0.44	33.48	1.05	0.95	34.43	34.43	3.73	1.54	2.53 cfs

H	NRCS Type 100% B Imperviousness %	1,543 acres					EFFECTIVE
		Undeveloped	Gravel	Building	Concrete	Water/Asphalt	
C2	2	40.00	50.00	100.00	100.00	2.90	
C5	0.01	0.29	0.74	0.84	0.84	0.01	
C10	0.01	0.32	0.78	0.85	0.85	0.01	
C100	0.07	0.38	0.78	0.85	0.85	0.07	
	0.44	0.61	0.84	0.89	0.89	0.44	
AREA	1.543	0.00	0.00	0.00	0.00	1.54	

H	NRCS Type 100% B Imperviousness %	0.000 acres					EFFECTIVE
		Undeveloped	Gravel	Building	Concrete	Water/Asphalt	
C2	2	40.00	50.00	100.00	100.00	2.90	
C5	0	0	0	0	0	0	
C10	0	0	0	0	0	0	
C100	0	0	0	0	0	0	
AREA	0.000	0.00	0.00	0.00	0.00	0.00	

TABLE RO-2 (taken from MHPD (UDFCO Manual - Vol. 1))

Type of Land Surface	Conveyance coefficient
Heavy Meadow	2.5
Tillage/field	5
Short pasture/Lawns	7
Nearly Bare Ground	10.00
Grassed Waterway	15.00
Paved areas and shallow paved swales	20.00

Existing Runoff Table - 15489 Harvest Court							
BASIN	Impervious	C-YR	I	A	CUA <sub>YR</sub> (inches)	Flow	DESIGN POINT
<b>EX W</b>							
<b>C<sub>2</sub> (MHFD 2018)</b>	38.66	0.30	1.65	1.20	0.59	cfs	E3
C <sub>5</sub>	38.66	0.31	2.18	1.20	0.80	cfs	
C <sub>10</sub>	38.66	0.35	2.69	1.20	1.13	cfs	
C <sub>100</sub>	38.66	0.60	5.06	1.20	3.63	cfs	
<b>EX E</b>							
<b>C<sub>2</sub> (MHFD 2018)</b>	20.04	0.15	1.55	0.34	0.08	cfs	E4
C <sub>5</sub>	20.04	0.16	2.05	0.34	0.11	cfs	
C <sub>10</sub>	20.04	0.22	2.52	0.34	0.19	cfs	
C <sub>100</sub>	20.04	0.52	4.76	0.34	0.85	cfs	
<b>OFF E</b>							
<b>C<sub>2</sub> (MHFD 2018)</b>	90.76	0.76	2.85	0.10	0.22	cfs	E5
C <sub>5</sub>	90.76	0.78	3.76	0.10	0.29	cfs	
C <sub>10</sub>	90.76	0.79	4.65	0.10	0.37	cfs	
C <sub>100</sub>	90.76	0.85	8.75	0.10	0.74	cfs	
<b>OFF SE</b>							
<b>C<sub>2</sub> (MHFD 2018)</b>	22.63	0.18	2.06	0.59	0.22	cfs	E2
C <sub>5</sub>	22.63	0.19	2.72	0.59	0.30	cfs	
C <sub>10</sub>	22.63	0.24	3.36	0.59	0.47	cfs	
C <sub>100</sub>	22.63	0.53	6.32	0.59	1.99	cfs	
<b>OFF SW</b>							
<b>C<sub>2</sub> (MHFD 2018)</b>	15.56	0.12	1.60	0.53	0.11	cfs	E1
C <sub>5</sub>	15.56	0.13	2.12	0.53	0.14	cfs	
C <sub>10</sub>	15.56	0.18	2.81	0.53	0.25	cfs	
C <sub>100</sub>	15.56	0.50	4.92	0.53	1.31	cfs	



Yr	NRCS Type 100% B	Cv	T <sub>1</sub> **	Velocity	T <sub>2</sub>	T <sub>3</sub>	check	Use T <sub>3</sub>	I	Δ CIA <sub>100yr</sub>	
2yr		0.12	21.19	1.65	0.00	21.19	23.35	21.19	1.92	0.53	0.11 cfs
5yr	Initial travel	Length: 217, Slope: 0.018	0.13	1.66	0.00	21.19	23.35	21.19	2.12	0.53	CIA <sub>5yr</sub> existing
	travel	0, Slope: 0.018									0.14 cfs
15yr	Overland flow 200 ft max for urban, 100 ft max for rural Remainder routed as travel		0.18	1.66	0.00	21.19	23.35	21.19	2.51	0.53	CIA <sub>15yr</sub> existing 0.25 cfs
100yr		Cv: 12	0.50	1.65	0.00	21.19	23.35	21.19	4.92	0.53	CIA <sub>100yr</sub> existing 1.31 cfs

EX W	1.200 acres					EFFECTIVE
	Undeveloped	Gravel	Building	Concrete	Water/Asphalt	
NRCS Type 100% B						
Imperviousness %	2	40.00	90.00	100.00	100.00	38.86
C2	0.01	0.29	0.74	0.84	0.84	0.30
C6	0.01	0.32	0.76	0.86	0.86	0.31
C10	0.07	0.38	0.78	0.88	0.88	0.35
C100	0.44	0.51	0.84	0.89	0.89	0.60
AREA	0.733	0.04	0.18	0.22	0.02	1.20

EX E	0.343 acres					EFFECTIVE
	Undeveloped	Gravel	Building	Concrete	Water/Asphalt	
NRCS Type 100% B						
Imperviousness %	2	40.00	90.00	100.00	100.00	20.04
C2	0.01	0.29	0.74	0.84	0.84	0.15
C6	0.01	0.32	0.76	0.86	0.86	0.16
C10	0.07	0.38	0.78	0.88	0.88	0.22
C100	0.44	0.51	0.84	0.89	0.89	0.62
AREA	0.227	0.08	0.01	0.02	0.01	0.34

OFF E	0.100 acres					EFFECTIVE
	Undeveloped	Gravel	Building	Concrete	Water/Asphalt	
NRCS Type 100% B						
Imperviousness %	2	40.00	90.00	100.00	100.00	22.76
C2	0.01	0.29	0.74	0.84	0.84	0.76
C6	0.01	0.32	0.76	0.86	0.86	0.78
C10	0.07	0.38	0.78	0.88	0.88	0.79
C100	0.44	0.51	0.84	0.89	0.89	0.85
AREA	0.008	0.00	0.00	0.00	0.00	0.10

OFF SE	0.590 acres					EFFECTIVE
	Undeveloped	Gravel	Building	Concrete	Water/Asphalt	
NRCS Type 100% B						
Imperviousness %	2	40.00	90.00	100.00	100.00	22.63
C2	0.01	0.29	0.74	0.84	0.84	0.18
C6	0.01	0.32	0.76	0.86	0.86	0.19
C10	0.07	0.38	0.78	0.88	0.88	0.24
C100	0.44	0.51	0.84	0.89	0.89	0.53
AREA	0.461	0.00	0.05	0.01	0.07	0.59

OFF SW	0.530 acres					EFFECTIVE
	Undeveloped	Gravel	Building	Concrete	Water/Asphalt	
NRCS Type 100% B						
Imperviousness %	2	40.00	90.00	100.00	100.00	15.56
C2	0.01	0.29	0.74	0.84	0.84	0.12
C6	0.01	0.32	0.76	0.86	0.86	0.13
C10	0.07	0.38	0.78	0.88	0.88	0.18
C100	0.44	0.51	0.84	0.89	0.89	0.59
AREA	0.453	0.00	0.03	0.04	0.00	0.53

E6	0.000 acres					EFFECTIVE
	Undeveloped	Gravel	Building	Concrete	Water/Asphalt	
NRCS Type 50% B, 50% C2						
Imperviousness %	0	40.00	90.00	100.00	100.00	NDIV/00
C2	0.00	0.00	0.00	0.00	0.00	NDIV/00
C6	0.00	0.00	0.00	0.00	0.00	NDIV/00
C10	0.00	0.00	0.00	0.00	0.00	NDIV/00
C100	0.00	0.00	0.00	0.00	0.00	NDIV/00
AREA	0.000	0.00	0.00	0.00	0.00	0.00

Type of Land Surface	Conveyance coefficient, Cv
Heavy Meadow	2.5
Tillage/field	5
Short pasture/Lawns	7
Nearly Bare Ground	10.00
Grassed Waterway	15.00
Paved areas and shallow paved swales	20.00

Developed Runoff Table - 15489 Harvest Court							
BASIN	Impervious	C-YR	I	A	C(A*YR.DEVELOPED)	cfs	DESIGN POINT
<b>N</b>							
<b>C<sub>2</sub> (MHFD 2018)</b>	49.90	0.41	2.20	0.63	0.57	cfs	4
<b>C<sub>5</sub></b>	49.90	0.42	2.91	0.63	0.78	cfs	
<b>C<sub>10</sub></b>	49.90	0.46	3.59	0.63	1.03	cfs	
<b>C<sub>100</sub></b>	49.90	0.66	6.76	0.63	2.81	cfs	
<b>S</b>							
<b>C<sub>2</sub> (MHFD 2018)</b>	50.63	0.42	2.12	0.91	0.81	cfs	3
<b>C<sub>5</sub></b>	50.63	0.43	2.80	0.91	1.09	cfs	
<b>C<sub>10</sub></b>	50.63	0.46	3.45	0.91	1.48	cfs	
<b>C<sub>100</sub></b>	50.63	0.68	6.50	0.91	3.93	cfs	
<b>OFF E</b>							
<b>C<sub>2</sub> (MHFD 2018)</b>	93.18	0.78	2.85	0.10	0.22	cfs	5
<b>C<sub>5</sub></b>	93.18	0.80	3.76	0.10	0.30	cfs	
<b>C<sub>10</sub></b>	93.18	0.81	4.65	0.10	0.37	cfs	
<b>C<sub>100</sub></b>	93.18	0.86	8.75	0.10	0.75	cfs	
<b>OFF SE</b>							
<b>C<sub>2</sub> (MHFD 2018)</b>	22.63	0.18	2.06	0.59	0.22	cfs	2
<b>C<sub>5</sub></b>	22.63	0.19	2.72	0.59	0.30	cfs	
<b>C<sub>10</sub></b>	22.63	0.24	3.36	0.59	0.47	cfs	
<b>C<sub>100</sub></b>	22.63	0.53	6.32	0.59	1.99	cfs	
<b>OFF SW</b>							
<b>C<sub>2</sub> (MHFD 2018)</b>	15.56	0.12	1.60	0.53	0.11	cfs	1
<b>C<sub>5</sub></b>	15.56	0.13	2.12	0.53	0.14	cfs	
<b>C<sub>10</sub></b>	15.56	0.18	2.61	0.53	0.25	cfs	
<b>C<sub>100</sub></b>	15.56	0.50	4.82	0.53	1.31	cfs	



OFF SE	Developed - 2, 5, 10, 100 yr NRCS Type 100% B	0.69 acres		C <sub>s</sub>	I <sub>1</sub>	Velocity	I <sub>2</sub>	I <sub>c</sub>	check	Use I <sub>c</sub>	Calculation	I	Δ CIA <sub>s</sub> developed		
2yr		Length	Slope	0.19	12.68	1.77	0.00	12.68	22.15	12.68	0.18	2.08	0.59	0.22 cfs	
5yr		initial travel	1.29	0.047	0.19	12.68	1.77	0.00	12.68	22.15	12.68	0.19	2.72	0.59	0.30 cfs
		travel	0	0.020											
			1.29	0.047											
10yr	Overland flow 300 ft max for urban, 500 ft max for rural Remainder carried on travel				0.18	12.68	1.77	0.00	12.68	22.15	12.68	0.24	3.58	0.59	0.47 cfs
100yr		C <sub>u</sub>	12.00		0.19	12.68	1.77	0.00	12.68	22.15	12.68	0.53	6.32	0.59	1.00 cfs

OFF SW	Developed - 2, 5, 10, 100 yr NRCS Type 100% B	0.53 acres		C <sub>s</sub>	I <sub>1</sub>	Velocity	I <sub>2</sub>	I <sub>c</sub>	check	Use I <sub>c</sub>	Calculation	I	Δ CIA <sub>s</sub> developed		
2yr		Length	Slope	0.13	21.19	1.80	0.00	21.19	23.35	21.19	0.12	1.80	0.53	0.11 cfs	
5yr		initial travel	2.17	0.019	0.13	21.19	1.80	0.00	23.35	21.19	0.13	2.12	0.53	0.14 cfs	
		travel	0	0.010											
			2.17	0.010											
10yr	Overland flow 300 ft max for urban, 500 ft max for rural Remainder carried on travel				0.13	21.19	1.80	0.00	23.35	21.19	0.18	2.61	0.53	0.25 cfs	
100yr		C <sub>u</sub>	12.00		0.13	21.19	1.80	0.00	23.35	21.19	0.50	4.92	0.53	1.31 cfs	

N NRCS Type 100% B	TOTAL AREA		0.630 acres		Water/Asphalt		EFFECTIVE
	Landscaping	Gravel	Building	Concrete	Asphalt		
I	2	40.00	90.00	100.00	100.00		69.88
C2	0.01	0.29	0.74	0.84	0.84		0.41
C5	0.01	0.32	0.76	0.86	0.86		0.43
C10	0.07	0.38	0.78	0.88	0.88		0.46
C100	0.44	0.61	0.84	0.89	0.89		0.66
AREA	0.31	0.00	0.10	0.21	0.01		0.600

S NRCS Type 100% B	TOTAL AREA		0.913 acres		Water/Asphalt		EFFECTIVE
	Landscaping	Gravel	Building	Concrete	Asphalt		
I	2	40.00	90.00	100.00	100.00		90.63
C2	0.01	0.29	0.74	0.84	0.84		0.43
C5	0.01	0.32	0.76	0.86	0.86		0.43
C10	0.07	0.38	0.78	0.88	0.88		0.48
C100	0.44	0.61	0.84	0.89	0.89		0.66
AREA	0.43	0.01	0.25	0.21	0.01		0.913

OFF E NRCS Type 100% B	TOTAL AREA		0.100 acres		Water/Asphalt		EFFECTIVE
	Landscaping	Gravel	Building	Concrete	Asphalt		
I	2	40.00	90.00	100.00	100.00		93.18
C2	0.01	0.29	0.74	0.84	0.84		0.78
C5	0.01	0.32	0.76	0.86	0.86		0.80
C10	0.07	0.38	0.78	0.88	0.88		0.81
C100	0.44	0.61	0.84	0.89	0.89		0.85
AREA	0.01	0.00	0.00	0.01	0.09		0.100

OFF SE NRCS Type 100% B	TOTAL AREA		0.590 acres		Water/Asphalt		EFFECTIVE
	Landscaping	Gravel	Building	Concrete	Asphalt		
I	2	40.00	90.00	100.00	100.00		22.63
C2	0.01	0.29	0.74	0.84	0.84		0.18
C5	0.01	0.32	0.76	0.86	0.86		0.19
C10	0.07	0.38	0.78	0.88	0.88		0.24
C100	0.44	0.61	0.84	0.89	0.89		0.53
AREA	0.46	0.00	0.05	0.01	0.07		0.590

OFF SW	TOTAL AREA Landscaping	0.330 acres				EFFECTIVE
		Gravel	Building	Concrete	Water/ Asphalt	
NRCS Type 100% B						
I	2	40.00	03.00	703.00	100.00	15.98
C2	0.01	0.28	0.74	11.04	0.84	0.12
C5	0.01	0.32	0.78	0.88	0.88	0.13
C10	0.07	0.38	0.78	0.88	0.80	0.18
C100	0.44	0.61	0.84	0.88	0.88	0.50
AREA	0.45	0.63	0.03	0.04	0.00	0.570

P6	TOTAL AREA Landscaping	0.000 acres				EFFECTIVE
		Gravel	Building	Concrete	Water/ Asphalt	
NRCS Type 50% R, 50% CD						
I	2	40.00	80.00	180.00	100.00	#DIV/0!
C2	0.00	0.00	0.00	0.00	0.00	#DIV/0!
C8	0.00	0.00	0.00	0.00	0.00	#DIV/0!
C10	0.00	0.00	0.00	0.00	0.00	#DIV/0!
C100	0.00	0.00	0.00	0.00	0.00	#DIV/0!
AREA	0.00	0.00	0.00	0.00	0.00	0.000

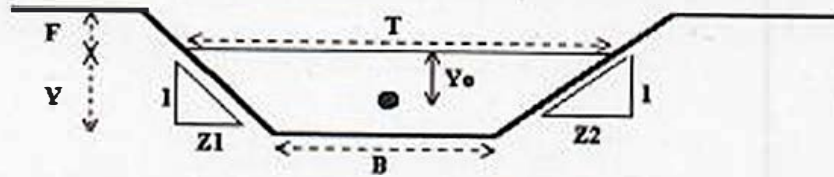
Type of Land Surface	Conveyance coefficient, Cv
Heavy Meadow	2.5
Tillage field	5
Short pasture/Lawns	7
Nearly Bare Ground	10.00
Grass Waterway	15.00
Paved areas and shallow paved swales	20.00

# **APPENDIX C**

## **Conveyance Calculations**

## Normal Flow Analysis - Trapezoidal Channel

Project: **15488 Harvest Court**  
 Channel ID: **North Swale (Basin N)**



### Design Information (Input)

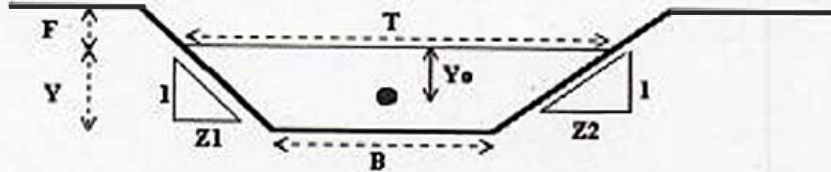
Channel Invert Slope	$S_o =$	0.0050 ft/ft
Manning's n	$n =$	0.040
Bottom Width	$B =$	0.00 ft
Left Side Slope	$Z_1 =$	3.00 ft/ft
Right Side Slope	$Z_2 =$	4.00 ft/ft
Freeboard Height	$F =$	0.23 ft
Design Water Depth	$Y =$	0.77 ft

### Normal Flow Condition (Calculated)

Discharge	$Q =$	2.81 cfs
Froude Number	$Fr =$	0.39
Flow Velocity	$V =$	1.36 fps
Flow Area	$A =$	2.07 sq ft
Top Width	$T =$	5.38 ft
Wetted Perimeter	$P =$	5.60 ft
Hydraulic Radius	$R =$	0.37 ft
Hydraulic Depth	$D =$	0.38 ft
Specific Energy	$E_s =$	0.80 ft
Centroid of Flow Area	$Y_o =$	0.25 ft
Specific Force	$F_s =$	0.04 kip

## Normal Flow Analysis - Trapezoidal Channel

Project: 16489 Harvest Court  
 Channel ID: South Swale (Basin S)



### Design Information (Input)

Channel Invert Slope	$S_o =$	0.0050 ft/ft
Manning's n	$n =$	0.040
Bottom Width	$B =$	0.00 ft
Left Side Slope	$Z_1 =$	25.00 ft/ft
Right Side Slope	$Z_2 =$	10.00 ft/ft
Freeboard Height	$F =$	0.53 ft
Design Water Depth	$Y =$	0.47 ft

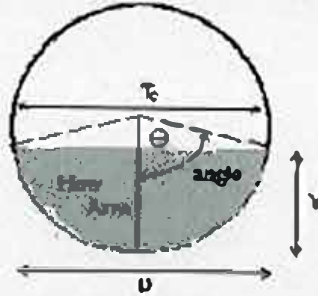
### Normal Flow Condition (Calculated)

Discharge	$Q =$	3.93 cfs
Froude Number	$Fr =$	0.36
Flow Velocity	$V =$	1.01 fps
Flow Area	$A =$	3.91 sq ft
Top Width	$T =$	16.54 ft
Wetted Perimeter	$P =$	16.57 ft
Hydraulic Radius	$R =$	0.24 ft
Hydraulic Depth	$D =$	0.24 ft
Specific Energy	$E_s =$	0.49 ft
Centroid of Flow Area	$Y_o =$	0.16 ft
Specific Force	$F_b =$	0.05 kip

# CIRCULAR CONDUIT FLOW (Normal & Critical Depth Computation)

MHFD-Culvert, Version 1.00 (May 2020)

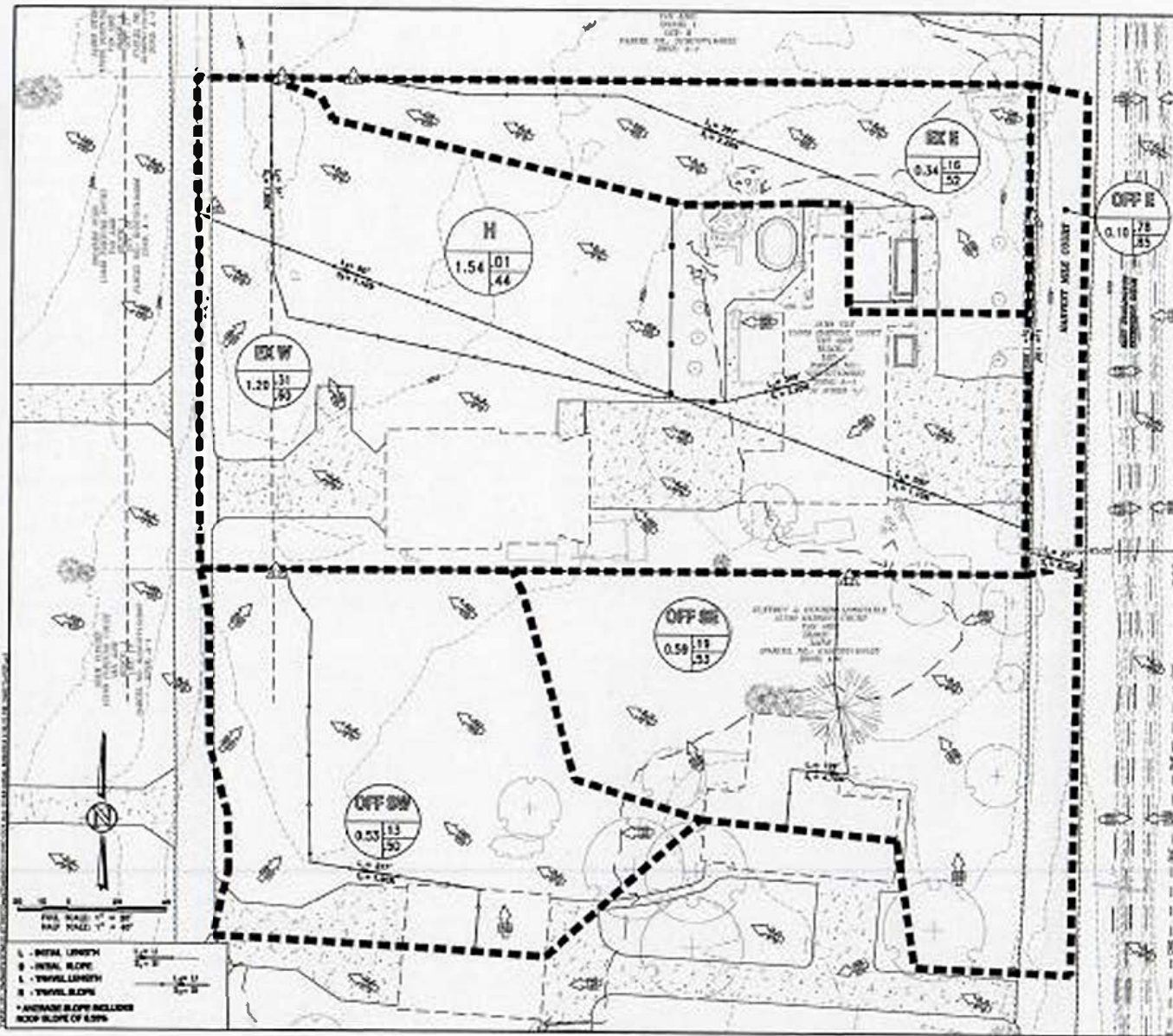
Project: 15489 Harvest Court  
 Pipe ID: Taxi Lane Access Culvert



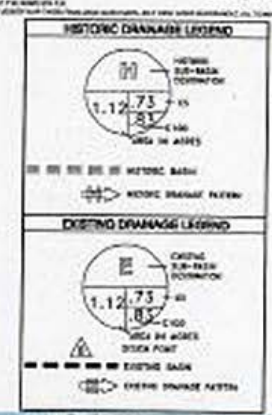
Design Information (INPUT)	
Pipe Invert Slope	$S_o = 0.0125$ ft/ft
Pipe Manning's n-value	$n = 0.0130$
Pipe Diameter	$D = 12.00$ ft
Design discharge	$Q = 3.93$ cfs
Full-Flow Capacity (Calculated)	
Full-flow area	$A_f = 0.79$ sq ft
Full-flow wetted perimeter	$P_f = 3.14$ ft
Half Central Angle	$\theta = 3.14$ radians
Full-flow capacity	$Q_f = 3.99$ cfs
Calculation of Normal Flow Condition	
Half Central Angle ( $0 < \theta < 3.14$ )	$\theta = 2.23$ radians
Flow area	$A_n = 0.68$ sq ft
Top width	$T_n = 0.79$ ft
Wetted perimeter	$P_n = 2.23$ ft
Flow depth	$Y_n = 0.81$ ft
Flow velocity	$V_n = 5.00$ fps
Discharge	$Q_n = 3.93$ cfs
Percent of Full Flow	flow = 98.4% of full flow
Normal Depth Froude Number	$Fr_n = 1.10$ supercritical
Calculation of Critical Flow Condition	
Half Central Angle ( $0 < \theta_c < 3.14$ )	$\theta_c = 2.32$ radians
Critical flow area	$A_c = 0.71$ sq ft
Critical top width	$T_c = 0.73$ ft
Critical flow depth	$Y_c = 0.84$ ft
Critical flow velocity	$V_c = 5.59.57$ fps
Critical Depth Froude Number	$Fr_c = 1.00$

# **APPENDIX D**

**WEC Drainage Plans**



L - INITIAL LENGTH  
 S - INITIAL SLOPE  
 L - FINISH LENGTH  
 S - FINISH SLOPE  
 \* ANCHOR SLOPE INCLUDES  
 3000' SLOPE OF 4.0%



EXISTING DRAINAGE		EXISTING BASIN		EXISTING DRAINAGE		EXISTING BASIN	
NO.	DESCRIPTION	NO.	DESCRIPTION	NO.	DESCRIPTION	NO.	DESCRIPTION
1	EXISTING DRAINAGE	1	EXISTING BASIN	1	EXISTING DRAINAGE	1	EXISTING BASIN
2	EXISTING DRAINAGE	2	EXISTING BASIN	2	EXISTING DRAINAGE	2	EXISTING BASIN
3	EXISTING DRAINAGE	3	EXISTING BASIN	3	EXISTING DRAINAGE	3	EXISTING BASIN
4	EXISTING DRAINAGE	4	EXISTING BASIN	4	EXISTING DRAINAGE	4	EXISTING BASIN
5	EXISTING DRAINAGE	5	EXISTING BASIN	5	EXISTING DRAINAGE	5	EXISTING BASIN
6	EXISTING DRAINAGE	6	EXISTING BASIN	6	EXISTING DRAINAGE	6	EXISTING BASIN
7	EXISTING DRAINAGE	7	EXISTING BASIN	7	EXISTING DRAINAGE	7	EXISTING BASIN
8	EXISTING DRAINAGE	8	EXISTING BASIN	8	EXISTING DRAINAGE	8	EXISTING BASIN
9	EXISTING DRAINAGE	9	EXISTING BASIN	9	EXISTING DRAINAGE	9	EXISTING BASIN
10	EXISTING DRAINAGE	10	EXISTING BASIN	10	EXISTING DRAINAGE	10	EXISTING BASIN

W & E  
 122 S. GARDNER AVE.  
 FT. LARSEN, CO. WYO.  
 307-426-1111  
 www.wandecompany.com  
 W & E ENGINEERING COMPANY, INC. LLC  
 HISTORIC & EXISTING DRAINAGE  
 ALMA COX  
 15849 HARVEST COURT.  
 WEST OF ROCKY MOUNTAIN, COLORADO





Federal Aviation  
Administration

[« OE/AAA](#)

## Case Submission Success

Project Alma-608699587-24 has been submitted successfully to the FAA.

Your filing is assigned Aeronautical Study Number (ASN):  
**2024-ANM-2284-NRA**

Please refer to the assigned ASN on all future inquiries regarding this filing.

Please return to the system at a later date for status updates.

*To ensure e-mail notifications are delivered to your inbox please add [noreply@faa.gov](mailto:noreply@faa.gov) to your address book. Notifications sent from this address are system generated FAA e-mails and replies to this address will NOT be read or forwarded for review. Each system generated e-mail will contain specific FAA contact information in the text of the message.*



STATE OF COLORADO \_\_\_\_\_)

COUNTY OF Adams \_\_\_\_\_)

The foregoing instrument was acknowledged before me this 8<sup>th</sup> day of July, 2024  
by Alma Coy.

IN WITNESS WHEREOF, I have hereto set my hand and official seal.



Diane Rodriguez  
Notary Public

My commission expires: 11/29/2025

**LIMITED AVIGATION EASEMENT**

WHEREAS, Alma Cox, whose legal address is 15849 Harvest Ct hereinafter called "Grantor," is the owner in fee of that certain parcel of land situated in the County of Adams, State of Colorado, more particularly described as follows:

Exhibit A

SUB: VAN AIRE BLK:1 LOT:7 DESC: EXC E 65 FT  
Hereinafter called "Grantor's Property"

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, GRANTOR, for themself, their heirs, administrators, executors, successors and assigns, does hereby grant, bargain, sell, and convey into the City of County of Denver, a body corporate and public existing under and by virtue of the laws of the State of Colorado, whose address is 8500 Pena Blvd hereinafter called "GRANTEE," its successors and assigns, for the use and benefit of the public, an easement and right of way, appurtenant to the Denver International Airport for the unobstructed passage of all aircraft, in all air space above the surface of GRANTOR's property, to an infinite height above said GRANTOR'S property ("Aircraft" being defined for the purpose of this instrument as any contrivance now known or hereafter invented, used or designed for navigation of or flight in the air) by whomsoever owned and operated.

TO HAVE TO HOLD said easement and right of way, and all rights appurtenant thereto unto the GRANTEE, its successors, and assigns, until said Denver International Airport shall be abandoned and shall cease to be used for public airport purposes.

AND for the consideration hereinabove set forth, the GRANTOR, for them, their heirs, administrators, executors, successors, and assigns, does hereby agree that during the life of said easement and right of way, they will not hereafter construct or operate an airstrip, airport of aircraft facility of any type whatsoever or suffer the use of GRANTOR'S property in such a manner as to create electrical interference with radio communication between any installation upon said airport and aircraft, or as to make it difficult for flyer to distinguish between airport lights and others, or as to impair visibility in the vicinity of the airport or as otherwise to endanger the landing, takings off or maneuvering of aircraft, it being understood and agreed that the aforesaid covenants and agreements shall run with the land.

IN WITNESS WHEREOF, the GRANTOR has hereunto set their hand and seal the 8 day of 7, 2024.

Alma Cox

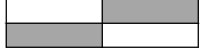
By:

Print Title:

JAMES DUBA  
15868 FORTUNE COURT  
VAN AIRB  
BLOCK: 1  
LOT: 17  
PARCEL NO.: 0156707104005  
ZONE: A-1

BLOCK: 1  
LOT: 8  
PARCEL NO.: 0156707104032  
ZONE: A-1

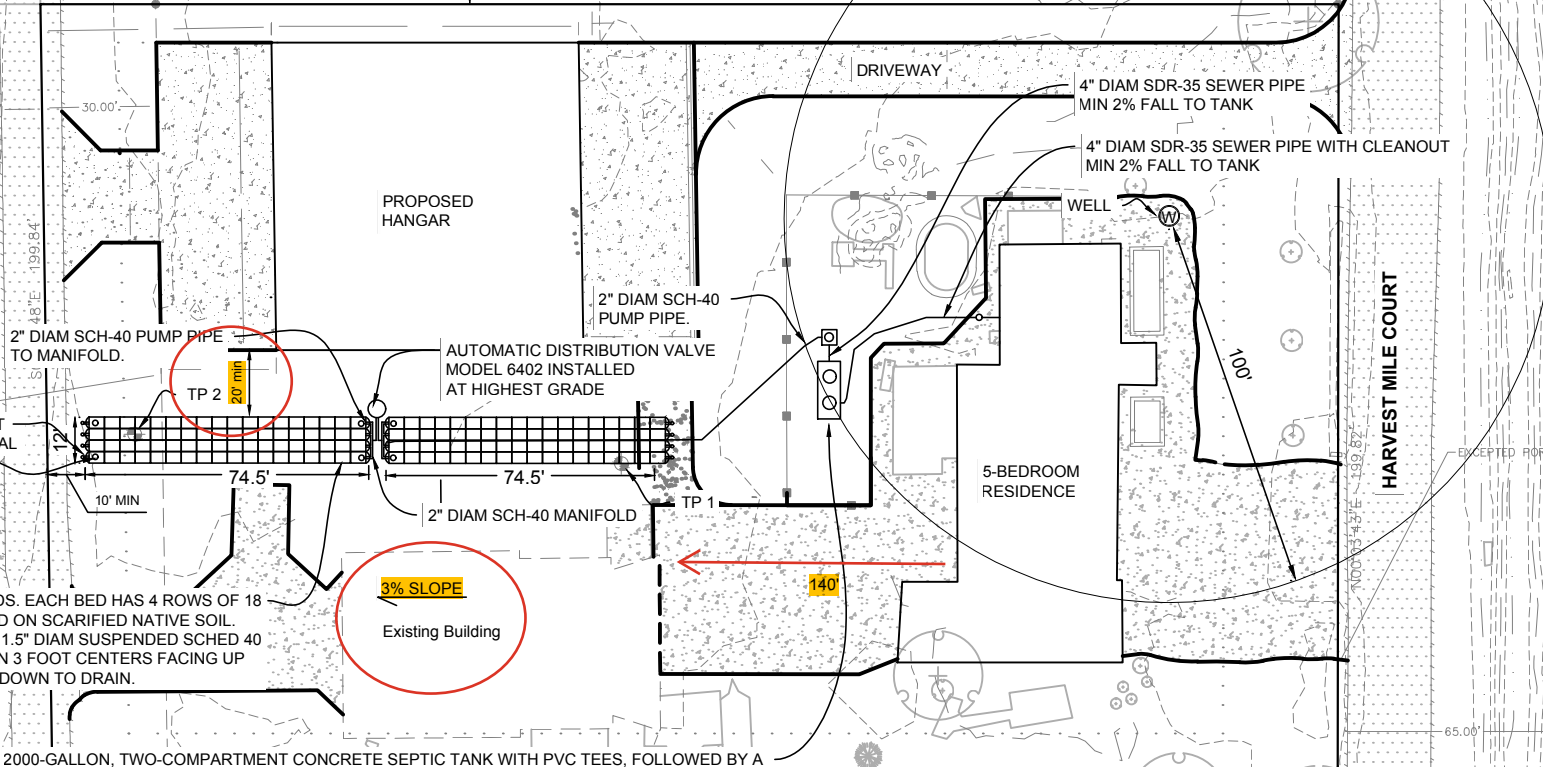
N



0 25' 50'  
SCALE 1 to 50'

PROPERTY LINE

S89°59'44"W 338.04'



144 GRAVELLESS CHAMBERS IN TWO BEDS. EACH BED HAS 4 ROWS OF 18 CHAMBERS. CHAMBERS MUST BE PLACED ON SCARIFIED NATIVE SOIL. EACH ROW OF CHAMBERS MUST HAVE A 1.5" DIAM SUSPENDED SCHED 40 LATERAL PIPE WITH 5/32" DIAM HOLES ON 3 FOOT CENTERS FACING UP WITH TWO HOLES PER LATERAL FACING DOWN TO DRAIN.

2000-GALLON, TWO-COMPARTMENT CONCRETE SEPTIC TANK WITH PVC TEES, FOLLOWED BY A 500 GALLON CONCRETE PUMP TANK WITH AN ORENCO PUMP PACKAGE, (PF5005) RISERS AND LIDS TO GRADE

3% SLOPE

Existing Building

BENCHMARKS	
NUMBER	LOCATON
100'	AT HOUSE
98'	PUMP OUTLET
103'	WELL
97'	BOTTOM OF STA

NOT FOR CONSTRUCTION

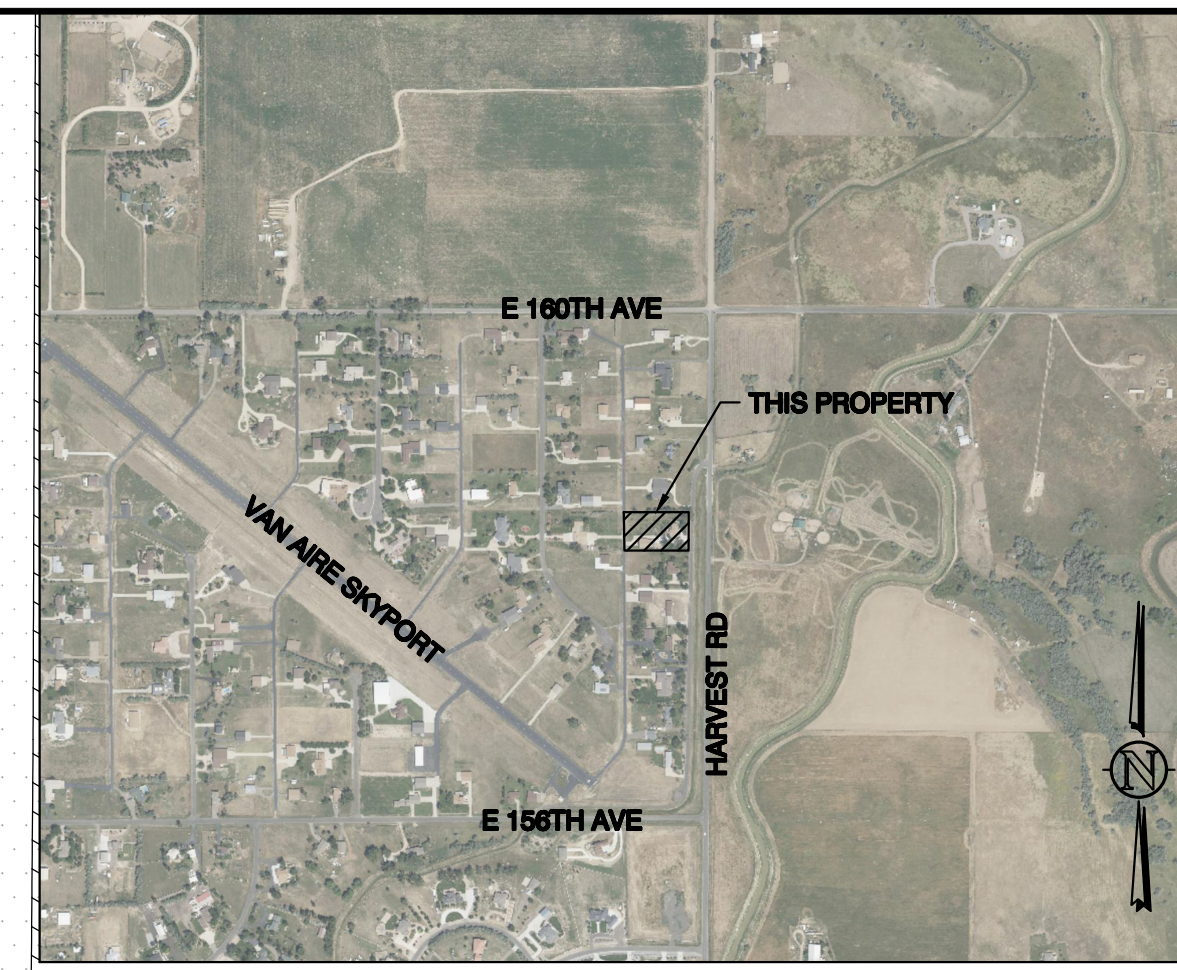
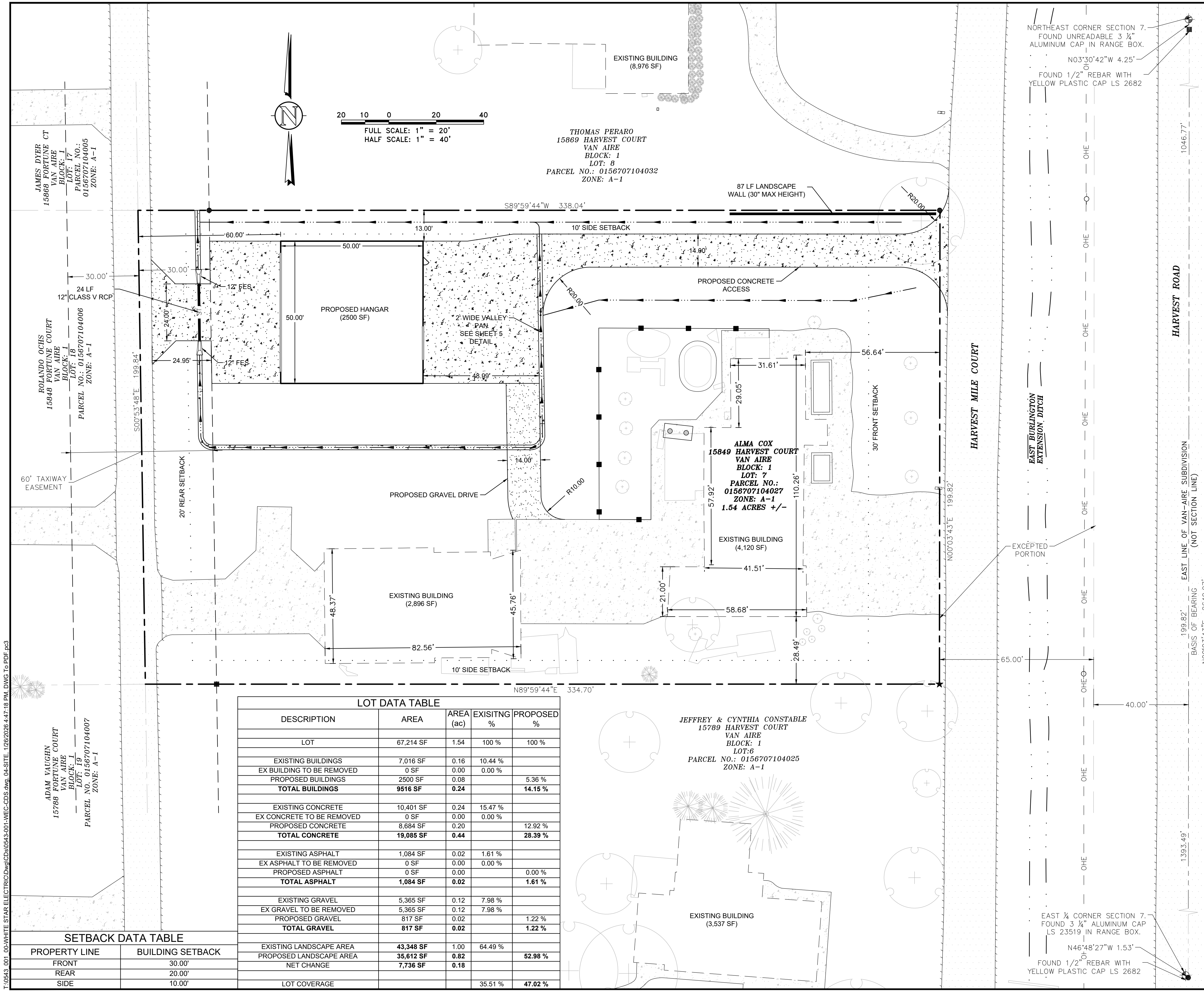


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15849 HARVEST MILE COURT  
Alma Cox Residence  
Adams County, Colorado  
1425E

W1  
1 of 5

T:\0643\_001\_00\WHITE STAR ELECTRIC\DWG\0543-001-WEC-CDS.dwg 04-SITE - 1/26/2026 4:47:18 PM DWG To PDF PLOT



**SITE MAP**  
SCALE 1" = 1,000'  
SHOWN VICINITY MAP TAKEN FROM AUTOCAD GEOLOCATION

**NOTES**

THIS PLAN IS INTENDED AS THE SITE PLAN FOR ALMA COX.

ALL IMPROVEMENTS ARE PROPOSED UNLESS NOTED AS EXISTING.

IT IS THE OWNER AND/OR THE CONTRACTOR'S RESPONSIBILITY TO ATTAIN ALL APPROPRIATE PERMITS AND REVIEW APPROVALS FROM THE STATE OF COLORADO AND ADAMS COUNTY RESPECTIVELY.

SEE COVER SHEET FOR BASIS OF BEARING & BENCHMARK.

ANY REFERENCE TO EASEMENTS, SURVEY POINTS, OR EXISTING UTILITIES AND FEATURES ARE BASED SOLELY FROM SURVEY INFORMATION PROVIDED BY AMERICAN WEST ON OCTOBER 6, 2023 & AERIAL DRONE SURVEY BY WEC, DATED DECEMBER 8, 2023 (HORIZONTAL & VERTICAL CONTROL PROVIDED BY AMERICAN WEST).

NOT ALL UNCC UTILITY LOCATES HAVE BEEN PERFORMED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL UTILITIES ARE LOCATED AND SURVEY PROVIDED TO THE OWNER AND ENGINEER PRIOR TO CONSTRUCTION DRAWING RELEASE.

**SYMBOL LEGEND**

- WATER METER
- FIRE HYDRANT
- RESTRAINED VALVE
- UTILITY POLE
- LIGHT POLE
- BUILDING LIGHTING TRANSFORMER
- RD ROOF DRAIN
- TRASH ENCLOSURE
- OH OVERHEAD DOOR
- EX TREES /SHRUBS
- GATE VALVE GV
- CURB STOP
- MANHOLE
- SECTION CONTROL MONUMENT AS NOTED HEREON
- SET 5/8" X 24" REBAR WITH 2" ALUMINUM CAP LS 38046
- FOUND 1/2" REBAR WITH YELLOW PLASTIC CAP LS 2682
- FOUND 1/2" REBAR WITH NO CAP
- FOUND 5/8" REBAR WITH FADED PLASTIC CAP LS 12330

- EXISTING CONC
- EXISTING ASPHALT
- EXISTING GRAVEL
- PROPOSED CONC
- PROPOSED GRAVEL

**LINETYPE LEGEND**

- LOT / PROPERTY / SECTION LINE
- RIGHT OF WAY LINE
- EASEMENT
- SETBACK
- TO BE ABANDONED LOT LINE
- EXISTING BUILDING CURB
- EDGE OF ASPHALT or GRAVEL RD
- WOOD OR METAL FENCE
- CHAINLINK FENCE
- WIRE FENCE
- POND WQ W/S
- SWALE
- EXISTING OVERHEAD ELEC
- EXISTING ELECTRICAL LINE
- EXISTING STORM LINE
- EXISTING SANITARY LINE
- EXISTING WATER LINE
- EXISTING GAS LINE
- EXISTING FIBER OPTIC LINE
- EXISTING TELEPHONE LINE

LOT DATA TABLE				
DESCRIPTION	AREA	AREA (ac)	EXISTING %	PROPOSED %
LOT	67,214 SF	1.54	100 %	100 %
EXISTING BUILDINGS	7,016 SF	0.16	10.44 %	
EX BUILDING TO BE REMOVED	0 SF	0.00	0.00 %	
PROPOSED BUILDINGS	2,500 SF	0.08		5.36 %
<b>TOTAL BUILDINGS</b>	<b>9,516 SF</b>	<b>0.24</b>		<b>14.15 %</b>
EXISTING CONCRETE	10,401 SF	0.24	15.47 %	
EX CONCRETE TO BE REMOVED	0 SF	0.00	0.00 %	
PROPOSED CONCRETE	8,684 SF	0.20		12.92 %
<b>TOTAL CONCRETE</b>	<b>19,085 SF</b>	<b>0.44</b>		<b>28.39 %</b>
EXISTING ASPHALT	1,084 SF	0.02	1.61 %	
EX ASPHALT TO BE REMOVED	0 SF	0.00	0.00 %	
PROPOSED ASPHALT	0 SF	0.00		0.00 %
<b>TOTAL ASPHALT</b>	<b>1,084 SF</b>	<b>0.02</b>		<b>1.61 %</b>
EXISTING GRAVEL	5,365 SF	0.12	7.98 %	
EX GRAVEL TO BE REMOVED	5,365 SF	0.12	7.98 %	
PROPOSED GRAVEL	817 SF	0.02		1.22 %
<b>TOTAL GRAVEL</b>	<b>817 SF</b>	<b>0.02</b>		<b>1.22 %</b>
EXISTING LANDSCAPE AREA	43,348 SF	1.00	64.49 %	
PROPOSED LANDSCAPE AREA	35,612 SF	0.82		52.98 %
NET CHANGE	7,736 SF	0.18		
LOT COVERAGE			35.51 %	47.02 %

SETBACK DATA TABLE	
PROPERTY LINE	BUILDING SETBACK
FRONT	30.00'
REAR	20.00'
SIDE	10.00'

127 S. DENVER AVE  
FT. LUTON, CO 80621  
www.westerneci.com  
email@westerneci.com  
(720) 885-9951  
FAX (720) 294-1330

**Western Engineering Consultants, Inc LLC**

**SITE PLAN**  
**ALMA COX**  
**15849 HARVEST COURT,**  
CITY OF BRIGHTON, ADAMS COUNTY COLORADO

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FOR APPROVAL

ONLY VALID FOR CONSTRUCTION  
IF SEAL & SIGNATURE  
ARE ON EACH SHEET

INITIAL PLAN  
RELEASE: 08/28/24  
DESIGNED BY: CFC  
DRAWN BY: CFC  
CHECKED BY: CFC

PROJECT NO.  
01-0543.001.00  
DOC CON #  
0004-SITE  
SHEET  
4 OF 15