Community & Economic Development Department www.adcogov.org

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

Re-submittal Form

Case	e Name/ Number:
Case	e Manager:
Re-s	ubmitted Items:
	Development Plan/ Site Plan
	Plat
	Parking/ Landscape Plan
	Engineering Documents
	Subdivision Improvements Agreement (Microsoft Word version)
	Other:
All r	e-submittals must have this cover sheet and a cover letter addressing review comments.
Pleas	se note the re-submittal review period is 21 days.
The o	cover letter must include the following information:
•	Restate each comment that requires a response
•	Provide a response below the comment with a description of the revisions
•	Identify any additional changes made to the original document
F	For County Use Only:
D	Date Accepted:
S	staff (accepting intake):
R	Resubmittal Active: Engineering; Planner; Right-of-Way; Addressing; Building Safety;

Neighborhood Services; Environmental), Parks; Attorney; Finance; Plan Coordination

APPLICANT RESPOSES FOR THIS REVIEW PACKET CAN BE FOUND ON THE FOLLOWING PAGES:

ENG1: Pages 25-65

PLN01: Pages 66-67

PLN02: Pages 68-88

PLN03: Pages 89-90

ENV4: Pages 91-103

ENV5: Pages 91-103

ENV6: Pages 91-103

ENV7: Page 104

Van Aire Neighbor Concerns: Pages 105-106



Community & Economic Development Department 4430 S. Adams County Pkwy. 1st Floor, Suite W2000B Brighton, CO 80601 PHONE 720.523.6800 EMAIL epermitcenter@adcogov.org adcogov.org

Development Review Team Comments

Date: 5/9/2025

- Project Number: PRA2025-00003
- Project Name: Cox Harvest Hangar Variances

BOARD OF COUNTY COMMISSIONERS

Julie Duran Mullica

Kathy Henson

Emma Pinter

Steve O'Dorisio

Commenting Division: Development Engineering Review

Name of Reviewer: Arthur Gajdys

Date: 05/09/2025

Email:

Resubmittal Required

--- Unresolved, response is required ---

ENG1: Applicant must demonstrate how stormwater runoff from the proposed barn will be mitigated so that it does not negatively impact the neighbors property with the requested setbacks.

--- Resolved, no response required ----

ENG2: A reduction in the side setback for the barn appears to meet all criteria of the Adams County "Minimum Sight Distance Requirements". The "Minimum Sight Distance Requirements" can be found on the County's website at the following web address:

https://adcogov.org/sites/default/files/Minimum_Site_Distance_Requirements.pdf

--- Information only, no response required ----

ENG3: According to the Federal Emergency Management Agency's January 20, 2016 Flood Insurance Rate Map (FIRM Panel #08001C0355H), the project site is NOT located within a regulated 100-yr floodplain. A Floodplain Use Permit is NOT required.

ENG4: Property is NOT in Adams County MS4 Stormwater Permit area. A Stormwater Quality (SWQ) Permit is NOT required, but a State Permit COR400000 WILL be required if one (1) acre or more is disturbed. Applicant is responsible for installation and maintenance of Erosion and Sediment Control BMPs. Builder/developer is responsible for adhering to all the regulations of Adams County Ordinance 11 regarding illicit discharge.

ENG5: No new access is requested. Must use existing access to property. Any modifications to the existing driveway or adding additional driveways will require additional permitting. No additional access to be approved for this lot at this time. *Existing access permitted under: ACC2024-00002.

ENG6: All improvements to the property must be done outside of Adams County Right-of-Way.

BOARD OF COUNTY COMMISSIONERS

Julie Duran Mullica

Kathy Henson

Emma Pinter DISTRICT 3

Steve O'Dorisio

Commenting Division: Planner Review

Name of Reviewer: Greg Barnes

Date: 05/09/2025

Email: gjbarnes@adcogov.org

Complete

PLN01: The site plan indicates that the lot is 1.84 acres. This is not correct. The lot is actually 1.54 acres. The east-west measurement of the lot is approximately 335 feet. The north-south measurement of the lot is approximately 200 feet. This results in an estimated 67,185 square feet (or 1.54 acres). I believe the error may be because the calculation you provided does not include a right-of-way dedication that occurred decades ago. As a result of the accurate measurements. I estimate your proposed lot coverage to be approximately 19.9%. Please revise the site plan and written explanation to reflect an accurate depiction of the requests.

PLN02: Please provide elevation drawings or images to show what the proposed structure will look like. Please include a measurement of structure height on this drawing. Based on your written explanation, I have to assume that the height of the structure is proposed to be 28 feet, but I would rather not have to assume this.

PLN03: Please indicate the accurate and precise locations of your water well and leach field on the site plan.

BOARD OF COUNTY COMMISSIONERS

Julie Duran Mullica

Kathy Henson

Emma Pinter

Steve O'Dorisio

Commenting Division:

Environmental Analyst Review

Name of Reviewer: Megan Grant

Date: 05/08/2025

Email:

Resubmittal Required

BOARD OF COUNTY COMMISSIONERS

Julie Duran Mullica

Kathy Henson

Emma Pinter DISTRICT 3

Steve O'Dorisio

Lynn Baca

The following comments apply to the proximity to the airport:

ENV1. Due to the proximity of the subject parcel to Denver International Airport (DIA), it is covered by the Airport Height Overlay (AHO), which restricts certain building height and development. More information can be found in Section 3-37 of the Adams County Development Standards and Regulations (ACDSR).

a) Landowners may be required to install, operate, and maintain, at the owner's expense, such markers and lights which may be necessary to indicate to flyers the presence of a hazard which affects the aviation facility. This marking and lighting requirement may also extend to objects of natural growth (trees, primarily) on site.

b) An FAA aeronautical study may be required to determine if the proposed development could be a hazard to air navigation.

The applicant shall communicate with the FAA regarding the proposed project and provide this information to Adams County for review.

ENV2. Due to the proximity of the subject parcel to DIA, it is covered by the Airport Noise Overlay (ANO). The portions of the commercial or industrial structures devoted to office uses, or occupied by members of the public, must incorporate noise level reduction measures sufficient to achieve an interior noise level of 45 dB on the A-weighted scale. Assurance that these measures have been incorporated into the structure is illustrated by submission of noise reduction plans certified by a registered professional engineer at the time of application for a building permit, and implemented prior to issuance of a Certificate of Occupancy. Please see ACDSR Section 3-39 for more information.

ENV3. In accordance with the ANO, a signed "Aircraft Activity Covenant with Disclosure" must be filed prior to issuance of a building permit.

The following comments apply to sewer/septic and water:

ENV4. Please provide proof of sewer (or septic). This is a requirement of the application. If sewer/septic is not planned for this project, please include that information in your project narrative.

ENV5. Please provide an updated site plan demonstrating location of water well, existing buildings, existing septic system components (including tanks, piping, and leach field), and the proposed building. Please provide linear distances between these items. No structures, paving, storage, or parking would be permitted on top of the septic system components or water well.

ENV6. Per Adams County Health Department (ACHD) Regulation O-22, setback distances from septic tanks, pipes, and soil treatment areas (also called leach fields) must be maintained for proposed and existing structures. The regulation, including setback requirements, can be found at https://adamscountyhealthdepartment.org/onsite-wastewater-treatment-systems-septic-systems.

ENV7. The applicant has included a water well permit in the application packet, presumably as proof of water. If this indicates that water will be supplied via the water well for the proposed project, Colorado Division of Water Resources (DWR) review and approval will be required. The current well permit allows for well water use in "one single family dwelling" on the subject parcel. If water is to be supplied to the proposed building, the water well permit would need to be reviewed, modified, and approved for this use. DWR approval documentation will be required for Adams County review at time of building permit, and the applicant is recommended to contact DWR well prior to that time. More information can be found at https://dwr.colorado.gov/ and on the existing water well permit.

BOARD OF COUNTY COMMISSIONERS

Julie Duran Mullica

Kathy Henson DISTRICT 2 Emma Pinter DISTRICT 3

Steve O'Dorisio

Neighborhood Services Review **Commenting Division:**

Name of Reviewer: Gail Moon

05/02/2025 Date:

Email: gmoon@adcogov.org

Complete

Code Compliance has an OPEN violation case (VIO2024-00132) at this location for: a fence over 42 inches in height with no approved permit.

Commenting Division: Parks Review

Name of Reviewer: Nolan Egan 04/17/2025

Date:

Email:

Complete

BOARD OF COUNTY COMMISSIONERS

Julie Duran Mullica DISTRICT I

Kathy Henson DISTRICT 2

Emma Pinter DISTRICT 3

Steve O'Dorisio DISTRICT 4

Greg Barnes

From:	Gregory Thompson <gthompson@sd27j.net></gthompson@sd27j.net>
Sent:	Thursday, April 10, 2025 2:52 PM
То:	Greg Barnes
Subject:	Re: For Review: Cox Harvest Hangar Variances (PRA2025-00003)

Please be cautious: This email was sent from outside Adams County

Greg -

Thank you for the opportunity to review the proposed variance requests. After careful consideration, School District 27J has noted no comments in relation to the proposed variances.

On Thu, Apr 10, 2025 at 2:33 PM Greg Barnes <<u>GJBarnes@adcogov.org</u>> wrote:

The Adams County Board of Adjustment is requesting comments on the following application:

1. Variance to allow an accessory structure to be 10 feet from a side property lines, where a minimum of 10 feet is required; 2. Variance to allow a lot coverage of 16.6% where the maximum allowed structure coverage is 7.5%. The site is located within the Agricultural-1 zone district. This request is located at 15849 Harvest Court. The Assessor's Parcel Number is 0156707104027.

Please forward any written comments on this application to the Community and Economic Development Department at 4430 South Adams County Parkway, Suite W2000A Brighton, CO 80601-8216 or call (720) 523-6800 by May 7, 2025, in order that your comments may be taken into consideration in the review of this case. If you would like your comments included verbatim please send your response by way of e-mail to <u>GJBarnes@adcogov.org.</u> Once comments have been received and the staff report written, the staff report and notice of public hearing dates may be forwarded to you upon request. The full text of the proposed request and additional colored maps can be obtained by contacting this office or by accessing the Adams County web site at [current-land-use-cases].

Thank you for your review of this case.



Greg Barnes Pronouns: he/him/his

Principal Planner, Community and Economic Development Dept.

ADAMS COUNTY, COLORADO

4430 S. Adams County Parkway, 1st Floor, Suite W2000A



Thank you for contacting the Colorado Department of Public Health and Environment (CDPHE). Please note that the following requirements and recommendations apply to many but not all projects referred by local governments. Also, they are not intended to be an exhaustive list and it is ultimately the responsibility of the applicant to comply with all applicable rules and regulations. CDPHE's failure to respond to a referral should not be construed as a favorable response.

Hazardous and Solid Waste

The applicant must comply with all applicable hazardous and solid waste rules and regulations.

Hazardous waste regulations are available here: https://www.colorado.gov/pacific/cdphe/hwregs.

Solid waste regulations are available here: https://www.colorado.gov/pacific/cdphe/swregs.

Applicable requirements may include, but are not limited to, properly characterizing all wastes generated from this project and ensuring they are properly managed and disposed of in accordance with Colorado's solid and hazardous waste regulations.

If this proposed project processes, reclaims, sorts, or recycles recyclable materials generated from industrial operations (including, but not limited to construction and demolition debris and other recyclable materials), then it must register as an industrial recycling facility in accordance with Section 8 of the Colorado Solid Waste Regulations. The industrial recycling registration form is available here:

https://www.colorado.gov/pacific/cdphe/sw-recycling-forms-apps.

If you have any questions regarding hazardous and/or solid waste, please contact CDPHE's Hazardous Materials and Waste Management Division (HMWMD) by emailing <u>comments.hmwmd@state.co.us</u> or calling 303-692-3320.

Water Quality

The applicant must comply with all applicable water quality rules and regulations. The Water Quality Control Division (WQCD) administers regulatory programs that are generally designed to help protect both Colorado's natural water bodies (the clean water program) and built drinking water systems. Applicants must comply with all applicable water quality rules and regulations relating to both clean water and drinking water. All water quality regulations are available here:

https://cdphe.colorado.gov/water-quality-control-commission-regulations.



Clean Water Requirements

Stormwater

Applicable clean water requirements may include, but are not limited to, obtaining a stormwater discharge permit if construction activities disturb one acre or more of land or if they are part of a larger common plan of development that will disturb one or more acres of land. In determining the area of construction disturbance, WQCD looks at the entire plan, including disturbances associated with utilities, pipelines or roads constructed to serve the facility.

Please use the Colorado Environmental Online Services (CEOS) to apply for new construction stormwater discharge permits, modify or terminate existing permits and change permit contacts.

For CEOS support please see the following WQCD website: <u>https://cdphe.colorado.gov/cor400000-stormwater-discharge</u> or contact: Email: cdphe_ceos_support@state.co.us or cdphe_wqcd_permits@state.co.us CEOS Phone: 303-691-7919 Permits Phone: 303-692-3517

Domestic Wastewater

Some projects with wastewater collection may have domestic wastewater treatment works (i.e., treatment plant, interceptor sewer, or lift station) with a design capacity to receive greater than 2,000 gallons per day (gpd) and are subject to state-wide site location, design, and permitting requirements implemented by the Water Quality Control Division. State review and approval of the site location application and design is required by the Colorado Water Quality Control Act (Act), Section 25-8-702, C.R.S. which states in part that:

"No person shall commence the construction of any domestic wastewater treatment works or the enlargement of the capacity of an existing domestic wastewater treatment works, unless the site location and the design for the construction or expansion have been approved by the division."

State review may also be necessary for projects with multiple on-site wastewater treatment systems (OWTS) on a single property, unless the OWTS meet the requirements of division's "Site Application Policy 6: Multiple On-Site Wastewater Treatment Systems" (Policy 6).

If applicable, the project would need to meet all applicable regulatory requirements including, but not limited to, site location and design review, discharge permitting, having a certified operator; and routine monitoring and reporting. For questions regarding domestic wastewater regulation applicability or other assistance and resources, visit these websites: https://cdphe.colorado.gov/design

https://cdphe.colorado.gov/clean-water-permitting-sectors



Drinking Water Requirements

The definition of a public water system is self-implementing. It is the responsibility of all water systems in Colorado to assess whether their system is a public water system and to comply with the regulations accordingly. There is not a notification process whereby a system only becomes a public water system if the Department notifies that system. A system becomes subject to regulation as a public water system at the point the system begins operating a system meeting the definition of a public water system under Regulation 11.

Some projects may also need to address drinking water regulations if the proposed project meets the definition of a "Public Water System" per the Colorado Primary Drinking Water Regulations (Regulation 11):

A Public Water System means a system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least fifteen service connections or regularly serves an average of at least 25 individuals daily at least 60 days per year. A public water system is either a community water system or a non-community water system. Such term does not include any special irrigation district. Such term includes:

(a) Any collection, treatment, storage, and distribution facilities under control of the supplier of such system and used primarily in connection with such system.

(b) Any collection or pretreatment storage facilities not under such control, which are used primarily in connection with such system.

If applicable, the project would need to meet all applicable requirements of Regulation 11 including, but not limited to, design review and approval; technical, managerial and financial review and approval; having a certified operator; and routine monitoring and reporting. If it is determined that your facility meets the definition of a public water system please submit a drinking water inventory update form to the department. For questions regarding drinking water regulation applicability or other assistance and resources, visit these websites:

https://cdphe.colorado.gov/drinking-water https://cdphe.colorado.gov/dwtrain

If you have any other questions regarding either clean or drinking water quality, please contact CDPHE's WQCD by emailing cdphe.commentswqcd@state.co.us or calling 303-692-3500.

<u>Air Quality</u>

The applicant must comply with all relevant state and federal air quality rules and regulations. Air quality regulations are available here: <u>https://www.colorado.gov/pacific/cdphe/aqcc-regs</u>.



Air Pollutant Emissions Notices (APENs) and Permits

Applicable requirements may include, but are not limited to, reporting emissions to the Air Pollution Control Division (APCD) by completing an APEN. An APEN is a two in one form for reporting air emissions and obtaining an air permit, if a permit will be required. While only businesses that exceed the Air Quality Control Commission (AQCC) reporting thresholds are required to report their emissions, all businesses - regardless of emission amount - must always comply with applicable AQCC regulations.

In general, an APEN is required when uncontrolled actual emissions for an emission point or group of emission points exceed the following defined emission thresholds:

Table 1				
APEN Thresholds				
Pollutant Category	UNCONTROLLED ACTUAL EMI	SSIONS		
	Attainment Area	Non-attainment Area		
Criteria Pollutant	2 tons per year	1 ton per year		
Lead	100 pounds per year	100 pounds per year		
Non-Criteria Pollutant	250 pounds per year	250 pounds per year		

Uncontrolled actual emissions do not take into account any pollution control equipment that may exist. A map of the Denver Metropolitan Ozone Non-attainment area can be found on the following website: <u>http://www.colorado.gov/airquality/ss_map_wm.aspx</u>.

In addition to these reporting thresholds, a Land Development APEN (Form APCD-223) may be required for land development. Under Colorado air quality regulations, land development refers to all land clearing activities, including but not limited

to land preparation such as excavating or grading, for residential, commercial or industrial development. Land development activities release fugitive dust, a pollutant regulation by APCD. Small land development activities are not subject to the same reporting and permitting requirements as large land activities. Specifically, land development activities that are less than 25 contiguous acres and less than 6 months in duration do not need to report air emissions to APCD.

It is important to note that even if a permit is not required, fugitive dust control measures included the Land Development APEN Form APCD-223 must be followed at the site. Fugitive dust control techniques commonly included in the plan are included in the table below.

Control Options for Unpaved Roadways		
Watering	Use of chemical stabilizer	
Paving	Controlling vehicle speed	
Graveling		
Control Options for Mud and Dirt Carry-Out Onto Paved Surfaces		
Gravel entry ways	Washing vehicle wheels	
Covering the load	Not overfilling trucks	
Control Options for Disturbed Areas		



Watering	Application of a chemical stabilizer
Revegetation	Controlling vehicle speed
Compaction	Furrowing the soil
Wind Breaks	Minimizing the areas of disturbance
	Synthetic or Natural Cover for Slopes

Additional information on APENs and air permits can be found on the following website: <u>https://www.colorado.gov/pacific/cdphe/air/do-you-need-an-apen.</u> This site explains the process to obtain APENs and air quality permits, as well as information on calculating emissions, exemptions, and additional requirements. You may also view AQCC Regulation Number 3 at <u>https://www.colorado.gov/pacific/cdphe/aqcc-regs</u> for the complete regulatory language.

If you have any questions regarding Colorado's APEN or air permitting requirements or are unsure whether your business operations emit air pollutants, please call the Small Business Assistance Program (SBAP) at 303- 692-3175 or 303-692-3148.

Asbestos and Lead-Based Paint

In Colorado there are regulations regarding the appropriate removal and handling of asbestos and lead-based paint as part of a demolition, renovation, or remodeling project. These regulations are presented in AQCC Number 8 (asbestos) and Number 19 (lead-based paint) which can be found on the following website: <u>https://www.colorado.gov/cdphe/aqcc-regs</u>.

These regulations may require the use of, or inspection by, companies or individuals that are certified to inspect or remove these hazards **prior to renovation or demolition**. APCD must also be notified of abatement or demolition activities prior to beginning any work in the case of asbestos. For additional guidance on these regulations and lists of certified companies and individuals please visit the following website for asbestos:

https://www.colorado.gov/cdphe/categories/services-and-information/environment/asbestos and the following website for lead-based paint: https://www.colorado.gov/pacific/cdphe/categories/services-and-information/lead.

If you have any questions about Colorado's asbestos and lead-based paint regulations or are unsure whether you are subject to them please call the Indoor Environment Program at 303-692-3100.

If you have more general questions about air quality, please contact CDPHE's APCD by emailing <u>cdphe.commentsapcd@state.co.us</u> or calling 303-692-3100.

Environmental Justice and Health Equity

CDPHE is dedicated to promoting and protecting the health and environment for all Coloradans. As part of those efforts, we strive to achieve health equity and environmental justice.



ENVIRONMENTAL JUSTICE is the fair treatment and meaningful involvement of all people regardless of race, color, national origin or income. Environmental justice recognizes that all people have a right to breathe clean air, drink clean water, participate freely in decisions that affect their environment, live free of dangerous levels of toxic pollution, experience equal protection of environmental policies, and share the benefits of a prosperous and vibrant pollution-free economy.

HEALTH EQUITY is when all people, regardless of who they are or what they believe, have the opportunity to attain their full health potential. Achieving health equity requires valuing all people equally with focused and ongoing efforts to address inequalities.

The Environmental Justice Act (HB21-1266) builds upon these efforts by declaring a statewide policy to advance environmental justice, defining disproportionately impacted communities, and creating an Environmental Justice Action Task Force, Environmental Justice Ombudsperson, and Environmental Justice Advisory Board. The Environmental Justice Act also directs the Air Quality Control Commission to promulgate certain rules to reduce emissions in disproportionately impacted communities. The Environmental Justice Act further requires the Air Quality Control Commission to conduct enhanced outreach in disproportionately impacted communities.

The Environmental Justice Act's definition of disproportionately impacted communities includes low-income communities, communities of color, and housing cost-burdened communities, as well as communities that experience cumulative impacts and with a history of environmental racism. CDPHE's <u>Climate Equity Data Viewer</u> can be used to identify census block groups that meet those three criteria.

CDPHE notes that certain projects have potential to impact communities of color and low-income communities that are already disproportionately impacted by cumulative impacts across environmental media and challenges outside the environmental context. It is our strong recommendation that your organization consider the potential for disproportionate environmental and health impacts on specific communities within the project scope and take action to avoid, mitigate, and minimize those impacts.

To ensure the meaningful involvement of disproportionately impacted communities, we recommend that you interface directly with the communities in the project area to better understand community perspectives on the project to receive feedback on how it may impact them during development and construction as well as after completion. This feedback should be taken into account wherever possible, and reflected in changes made to the project plan to implement the feedback.

Additionally, to ensure the fair treatment of disproportionately impacted communities, we recommend that you consider substantive measures to avoid, minimize, and mitigate impacts to disproportionately impacted communities. This may include considering alternative facility siting locations, using best management practices to reduce impacts to air, water, soil, noise, light, or odor, or offsetting impacts by reducing impacts from other nearby facilities as appropriate.



We have included some general resources for your reference.

Resources: <u>CDPHE Environmental Justice Website</u> <u>CDPHE's Health Equity Resources</u> <u>CDPHE's "Sweet" Tools to Advance Equity</u> <u>EPA's Environmental Justice and NEPA Resources</u>



Greg Barnes

From:	Cicione - CDPHE, Brendan <brendan.cicione@state.co.us></brendan.cicione@state.co.us>
Sent:	Monday, April 14, 2025 11:06 AM
То:	Greg Barnes
Subject:	Re: For Review: Cox Harvest Hangar Variances (PRA2025-00003)

Please be cautious: This email was sent from outside Adams County

Hi Greg,

Thank you for your email. There are no comments from the Air Pollution Control Division. Please do not hesitate to contact me with any questions.

Thanks,

Brendan Cicione *(he/him)* Air Quality and Transportation Planner

×

4300 Cherry Creek Drive S. | Denver, CO 80246-1530 <u>brendan.cicione@state.co.us</u> | <u>https://cdphe.colorado.gov/</u>

On Mon, Apr 14, 2025 at 9:11 AM Localreferral - CDPHE, CDPHE < <u>cdphe_localreferral@state.co.us</u> > wrote:

Hello,

Please see the email below. Please add comments by 5/5.

Thank you!

------ Forwarded message ------From: **Greg Barnes** <<u>GJBarnes@adcogov.org</u>> Date: Thu, Apr 10, 2025 at 2:33 PM Subject: For Review: Cox Harvest Hangar Variances (PRA2025-00003) To: Greg Barnes <<u>GJBarnes@adcogov.org</u>>

The Adams County Board of Adjustment is requesting comments on the following application:

1. Variance to allow an accessory structure to be 10 feet from a side property lines, where a minimum of 10 feet is required; 2. Variance to allow a lot coverage of 16.6% where the maximum allowed structure coverage is 7.5%. The site is located within the Agricultural-1 zone district. This request is located at 15849 Harvest Court. The Assessor's Parcel Number is 0156707104027.

Greg Barnes

From:	Flores, Miguel <miguel_flores@comcast.com></miguel_flores@comcast.com>
Sent:	Thursday, May 1, 2025 2:11 PM
То:	Greg Barnes
Subject:	RE: For Review: Cox Harvest Hangar Variances (PRA2025-00003)

Please be cautious: This email was sent from outside Adams County

Hello Greg,

Comcast's facilities are underground front easement and do not conflict with their build plans.

Thanks,

Miguel Flores

Construction Manager – Denver / NoCo 720-413-0113 mobile

COMCAST

From: Greg Barnes <GJBarnes@adcogov.org>
Sent: Thursday, April 10, 2025 2:34 PM
To: Greg Barnes <GJBarnes@adcogov.org>
Subject: [EXTERNAL] For Review: Cox Harvest Hangar Variances (PRA2025-00003)

The Adams County Board of Adjustment is requesting comments on the following application: **1. Variance to allow an accessory structure to be 10 feet from a side property lines, where a minimum of 10 feet is required; 2. Variance to allow a lot coverage of 16.6% where the maximum allowed structure coverage is 7.5%. The site is located within the Agricultural-1 zone district.** This request is located at 15849 Harvest Court. The Assessor's Parcel Number is 0156707104027.

Please forward any written comments on this application to the Community and Economic Development Department at 4430 South Adams County Parkway, Suite W2000A Brighton, CO 80601-8216 or call (720) 523-6800 by May 7, 2025, in order that your comments may be taken into consideration in the review of this case. If you would like your comments included verbatim please send your response by way of e-mail to <u>GJBarnes@adcogov.org</u>. Once comments have been received and the staff report written, the staff report and notice of public hearing dates may be forwarded to you upon request. The full text of the proposed request and additional colored maps can be obtained by contacting this office or by accessing the Adams County web site at <u>www.adcogov.org/current-land-use-cases</u>.

Thank you for your review of this case.

Written Narrative for Variance Request

- Which dimensional standard(s), performance standard(s), or physical requirement(s) cannot be met? (Include code section reference from <u>Adams County Standards and Regulations</u>) Reach out to the Planner of the Day (cedd-plan@adcogov.org) if you have any questions.
- Why are you unable to meet this standard?

Lot Line/SetBacks: After an informational conversation with a neighbor on north side of my property, I'd like to keep the setback at 10 feet. Going to 14 feet would be inefficient and an overall waste of property space. The 14 foot setback would also create difficulties for maneuverability of aircraft and or equipment. Keeping the setback at 10 feet would eliminate both of these issues creating a safer, more efficient, and maneuverable property.

Lot Coverage: Per Van Aire standards, homeowners are allowed 3 aircraft per lot. The existing hangar currently on the property only allows for one airplane to be stored. I am submitting variance for larger lot coverage in order to keep the high value equipment safe and protected. Without the larger space and adequate storage my valuable equipment is subject to harsh conditions and exposure; which can create severely negative maintenance, operational, and financial impacts.

Greg Barnes

From:	White Star Electric <alma@whitestarteam.com></alma@whitestarteam.com>
Sent:	Tuesday, April 8, 2025 3:40 PM
То:	Greg Barnes
Subject:	Re: Case Manager Introduction: Cox Hangar Variances (PRA2025-00003

Please be cautious: This email was sent from outside Adams County

Hey Greg,

Thank you for working through this variance with me. I wanted to make a note on the application. The setback portion remains the same. However, the lot coverage has changed. After the previous review I found there was a miscalculation of the lot coverage. The previous coverage was calculated to be 22%, after having professional measurements done the lot coverage is actually 16% which is updated on the most recently submitted lot plan. This is very important to the application, please let me know how you would like me to make sure this is added to my variance.

Thank you,



Alma Cox White Star Electric

(702) 235-9292 | Alma@WhiteStarTeam.com (720) 534-1901 | Office@WhiteStarTeam.com

On Tue, Apr 8, 2025 at 3:23 PM Greg Barnes <<u>GJBarnes@adcogov.org</u>> wrote:

Hi Alma,

Thank you for submitting complete applications to the Adams County Community and Economic Development Department for: Two variances regarding lot coverage and setback requirements. This letter is to inform you that I will be the project manager and your point-of-contact for your applications. The applications have been sent for review by various Adams County teams. As part of the review process, you will receive comments from Adams County staff and various referral agencies on or before May 8, 2025. I will also be inviting you to a Review Comment Consultation in a separate email.

Case Name: Cox Harvest Hangar Variances

Case Number: PRA2025-00003

The County's Review Team for this project will be:

Greg Barnes, Planning: gjbarnes@adcogov.org

Justin Blair, Building Safety: jblair@adcogov.org

Caio Gajdys, Engineering: agajdys@adcogov.org

David Dittmer, Addressing and Right-of-Way: ddittmer@adcogov.org

Megan Grant, Environment: mgrant@adcogov.org

If you reach out to any specific reviewer, please be sure to copy me on the correspondence. Please contact me if you have any further questions. Thank you, and we look forward to working with you on this project.



Greg Barnes

Principal Planner, Community and Economic Development Dept.

ADAMS COUNTY, COLORADO

4430 S. Adams County Parkway, 1st Floor, Suite W2000A

Brighton, CO 80601-8216

720.523.6853 gjbarnes@adcogov.org

adcogov.org

My work schedule is:

Monday: Alternating weeks of: 7 am – 3:30 pm and off (work from home)

Tuesday: 7:30 am - 5:00 pm (in office)

Wednesday: 7:00 am – 4:30 pm (work from home)

Thursday: 7:30 am - 5:00 pm (in office)

Friday: 7:30 am – 5:00 pm (in office)

Current hangar does hold two airplanes.

Why do you need two airplanes when you only fly one at a time?

Will it create movement issues for the neighbor to get out of the hangar to the taxiway?

Greg Barnes

From: Sent: To: Subject: jccons81@aol.com Friday, May 2, 2025 11:34 AM Greg Barnes PRA2025-00003

You don't often get email from jccons81@aol.com. Learn why this is important

Please be cautious: This email was sent from outside Adams County

Hello Mr. Barnes,

In reference to the property at 15849 Harvest court, Cox residence, I object to him being allowed to have a variance let alone build another so called hangar

on his property. Inefficiency, safety and aircraft maneuverability of aircraft has nothing to do with this, He has already exceeded the amount of coverage on the

property per the Bi laws of the community. He doesn't know how to fly let alone own an airplane. The present hangar is large enough to house 2 airplane's, the

previous owner had a Cessna 182 and a Beechcraft Bonanza in there at the same time. Therefore, his comment of only being able to hold 1 airplane is false.

He wants to house construction equipment, not airplane's in the proposed building. He's had trailers, tractors, trucks and all kinds of heavy equipment on his

property ever since he moved in there, all of which are against the Bi Laws. This is an aviation community not an industrial park. There are also Bi-laws against

running a business out of the properties at VanAire, which he has ignored. His disrespect for his neighbors and their property is another reason why this should not be allowed.

Respectfully, Concerned neighbor.

THE FOLLOWING PAGES CONTAIN APPLICANT RESPOSES TO:

ENG1: Pages 25-65

PLN01: Pages 66-67

PLN02: Pages 68-88

PLN03: Pages 89-90

ENV4: Pages 91-103

ENV5: Pages 91-103

ENV6: Pages 91-103

ENV7: Page 104

Van Aire Neighbor Concerns: 105-106

ENG1: Applicant must demonstrate how stormwater runoff from the proposed barn will be mitigated so that it does not negatively impact the neighbors property with the requested setbacks.

Applicant Response to ENG1:

The following pages contain a gutter plans, drainage letter, and plans showing stormwater runoff mitigation. The gutter plans have been highlighted in pink.





$\forall \neq \checkmark \checkmark$

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 Bnail: chadwin.cox/investemeci.com IncLLC

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 152rd Ave. The entire parcel is noted as being in the NE ½ of Section 7, Township 1 South, Range 65 West of the 6th 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 comer.

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

FLOOOPI.AIN

15489 Harvest Court does <u>not</u> 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 flood plain 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-Alre Subdivision taxi-lane is also proposed.

15489 Harves! Court - Drainage Narralive Letter

Western Engineering Consultants Inc LLC

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 root 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 solls per the attached USDA Web Soil Survey.

August 23, 2024

Page 2 of 4

15489 Harvest Court - Drainage Narrative Letter

August 23, 2024

Western Engineering Consultants inc LLC

Page 3 of 4

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 elong the pan / swale at roughly 1,2% to the existing Van-Aire taxi-fane 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 nunoff 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 sile 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 lowards 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 5,365 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 contactime with any questions or comments you may have on the development project!

15489 Harvest Court - Drainage Narrative Letter

Western Engineering Consultants inc LLC

Sincerely,

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

End.

USGS Vicinity Map, Google Sta Plan Exhibit, FEMA Firmette, NRCS Solts Report, WEC Historic, Existing, & Developed Rational Drainage Calcs, Convoyance Calculatoria, and WEC Drainage Plans



August 23, 2024

Page 4 of 4

APPENDIX A

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







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





USDA United States Department of Agriculture



Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effor! 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
alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscelleneous areas in a specific area. They include a description of the solls 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 soit. 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 boundarles 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, dimate, 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 elassification 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 frees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.



imogery displayed on these maps. As a rearth. some minor shifted of map unit boundaries may be evident. MAP INFORMATION **Custom Soil Resource Report** Ŧ MAP LEGEND

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 en example.

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: R057BY024CO - 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: R067EY024CO - Sandy Plains Hydric soil rating: No 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/scient/sts/?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

United States Department of Agriculture, Soll Conservation Service, 1961. Land capability classification, U.S. Department of Agriculture Handbook 210. http:// www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

APPENDIX B Precipitation Data / Rational Method Runoff Calculations



NOAA Atlas 14, Volume 8, Version 2 Location name: Brighton, Colorado, USA* Latitude: 39.984*, Longitude: -104,6976* Elevation: 5058 ft** * source: ESRI Maps * source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Senje Perice, Deburat: Mertin, Sancta Panovic, Istani Roy, Michael St. Leuran, Carl Trypolus, Date Linud, Michael Yoka, Geoffery Borsin

HOAA. Hational Weather Service, Silver Spring, Maryland

PE labular | PF graphical | Maps & senials

PF tabular

Duration				Average	recurronce	Interval (y	eare)			
Careton	1	2	5	10	25	50	100	200	500	1000
8-min	0.231 (0.181-0.297)	0.283	0.379 kn 295.0.488)	0,471	0.615 (0.468-0.642)	0.739	0.875	1.03	1.24	1.42
10-min	0.339 (0.265-0.434)	0.414 (0.323-0.531)	0.555 (0.432-0.715)	0.690	0.900	1.08 (0.800-1.49)	1.28	1.50	1.82	2.08
15-min	0.413 (0.323-0.530)	0.505 (0.394-0.648)	0.677	0.841 (0.551-1.09)	1.10 (0.835-1.50)	1.32 (0.976.1.82)	1.56	1.83	2.22	2.54
30-min	0.565	0.684 (0.534-0.878)	0.910	1.13 (0.873-1.46)	1.47 (1.12-2.02)	1.77 (1.31-2.44)	2.10 (1.50-2.98)	2.47	3.00	3.44
60-min	0.692 (0.541-0.888)	0.835	1.11 (0.862-3.43)	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	3.70	4.25
2-hr	0.619 (0.648.1.04)	0.985 (0.776.1.25)	1.31 <u>{1</u> .03.1.66}	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	5.06
3-hr	0.889 (0.704-1.12)	1.06 (0.643-1,34)	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	4.72	5.43 (3.52-7.98)
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	3.65	4.29	6.22 (3.83-7.50)	5.99
12-hr	1.29 (1.04-1.60)	1.50 (1.21-1.85)	1.91 (1.59-2.37)	2.30 {1 84.2.88}	2.92	3.46 (2.64-4.58)	4.05	4.71	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)	4.57	5.22 (3.73.7.11)	8.15 (4.23-8.67)	8.90 (4.61-9.68)
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 (3.87-8.75)	5.80	6.68 (4.61-9.11)	7.32
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 (3.71-6.05)	5.39 (4.05.8.98)	8.02	6.88 (4.80-9.35)	7.56
4-day	2.04 (1.69-2.45)	2,41 (1.99-2.89)	3.02 (2.50-3.64)	3.65	4.30 (3.435.37)	4.90 (3.82-8.19)	5.52 (4.17-7.12)	6.17 (4.48-6.14)	7.06	7.74
7.day	2.33 (1.95.2.78)	2.71 (2.26-3.23)	3,35 (2.79-4.00)	3.90 (3,234.68)	4.58 (3.76.5.78)	5.29 (4.18-8.61)	6.93 (4,51-7.56)	6.58 (4.82-8.60)	7.48	8.18
10-day	2.58 (2.17-3.06)	2.98 (2.60-3.54)	3.66 (3.(16-4.34)	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	8.67
20-day	3.30 (2.80.3.87)	3.77 (3.19-4.42)	4.53 (3.82-5.33)	5.17 (4.34-0.10)	8.05 (4.92-7.32)	6.73 (5.36-3.24)	7.42	8.12 (8.03-10.4)	9.05	9.76
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	8.44	9.18	10.2	10.9
45-diay	4.56	5.20 (4.45-8.02)	6.22 (5.31-7.22)	7.05	8.17	9.01	9.63 (7.67-12.1)	10.6	11.7	12.5
60-day	5.12	5.86	7.04	7.99	9.25	10.2	11.1	12.0	13.1	13.9

¹ Predipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF esemates at lower and upper bounds of the 90% confidence interval. The probability that proceptation 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 enacted against probable maximum precipitation (PM P) estimates and may be traiter than currency value PMP values. Please refer to NOAA Adas 14 document for more information.

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PF graphical



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



Dura	tion
6-men	2-day
- 10-mm	- 3-day
- 15-man	- 4-day
- 30-min	- 7-day
- 60-min	- 10-day
- 2-hr	- 20-day
3-la	30-day
B-hv	- 45-day
- 12-hr	- 60-day
- 24 tr	

NOAA Atlas 14, Volume 8, Version 2

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Maps & aerials

Small scale terrain



Large scale terrain





Large scale serial



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US Department of Commerce National Oceanic and Abrosoheric Administration National Whather Service National Whather Service 1325 East West Highway Silver Spring, MD 20910 Questions?: HDSC. Ouestions@boaa.gov

Discipimer

BASIN	Impervious	C-YR	1.1	4	Cloum sumitive	Elses	Land Down
Н					CINCERT SIGNED	FINW	DESIGN POIN
C2 (MHFD 2018)	2.00	0.01	1.21	1.54	0.02	cte	111
Cs	2.00	0.01	1.60	1.54	0.02	cfs	
Cia	2.00	0.07	1.98	1.54	0.21	cfs	W New York
Cim	2.00	0.44	3.73	1.54	2,53	cfs	

			A STATEMENT	154	489 Harvest	Court - H	listoric	Runoff Calcs				
						8/23/2(324		Summer of			T
	8 f	or solls - C, Ca	Circ Circ -> from	Table RO 6 Used				-1/("0"1"1),58E")-U	4) (S)*	3]
								1 Hour Point Rain	9.44	•5	121	241
x &	Historic - 2, 5, 10, 100 yr NRCS Type 100% B	treel	Sime	C	41 11 11 11 11 11 11 11 11 11 11 11 11 1	Acres Metodar 1.05	11 095	X A La	and solv	121	A Clones	tice cfs
**	ALC: NO	88	0011	100	33.48	105	0.85	34,63	a.v.	00 ÷	Oleaner	à ce ch
tope	Overland flow 300 times for view, 900 1 mer to			200	33.45	105	080	3445	945	5	TAN CANAD	02: 05
stoyr	Portentie const in trad	o	10	0.44	21.45	1.00	96.0	3443	848	61	12	2.55 cfs
H NRCS Type 100% 8 Introneters %	Understoped 2	1.543 Gravel 40.00	Durking Buiking	Concrets	WaterAphan	GFECTINE	1223	IC Type 10% a		0.000 scres	Miling Concre	to Weterlaphart
28688	0.01 0.01 0.07 0.44	070 032 038 038	078 078 078	180 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	880 880 880	001	=10 0 0 0	22 8 8 01 01	NDOOD		80000	80000
AREA	1563	0.00	000	80	000	1.54	4		0.000	000	0000	000 000

TABLE RO-2 (taken from MHFD (UI	DFCD Manual - Vol. I)
Type of Land Surface	Conversione coefficien
Heary Meadow	2.5
Tilsgefield	5
Short pesture/Lawns	1
Nearly Bare Ground	10.00
Grassed V/atterwar	15.00
Not areas and shallow payed swales	20.00

NON NON NON 000

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10Th

	E	visiting Run	off Table -	15489 H	arvest Court		
BASIN	Impervious	C-YR		A	CUAYA-EXISTING!	Elon	DESIGN POIN
EXW							DECIGITIEN
C2 (MHFD 2018)	38.66	0.30	1.65	1.20	0.59	cfs	E2
C ₈	36.66	0.31	2.18	1.20	08.0	de	
C19	38.66	0.35	2.69	1.20	1.13	cis	
C ₁₀₀	36.66	0.60	5.06	1.20	3.63	cis	
EX E	++	T					
C2 (MHFD 2018)	20.04	0.15	1.55	0.34	0.08	No	
C,	20.04	0.16	2.05	0.34	0.00	cfe	
Cia	20.04	0.22	2.52	0.34	0.19	efe	
C100	20.04	0.52	4.76	0 34	0.85	cfs	
OFFE							
C, (MHFD 2018)	90.76	0.76	2.85	0.10	0.72	-	
C.	90.76	0.78	3.78	0.10	0.22	C19	E5
C ₁₄	90.76	0791	4 65	0.10	0.23	Crs	-
Cial	90.76	0.85	8.75	0.10	0.74	crs	
OFESE							
C. (NHED 2018)	23.82	0.48	0.001	0.00		12.12	
C.	22.03	0.10	2.06	0.591	0.22	cfa	E2
C.,	22.03	0.19	2.72	0.59	0.301	Cta	
	22.03	0.24	3.36	0.59	0.47	cfs	
	22.03	0.53	6.32	0.59	1,99	ds	
OFFSW			-	-		_	
C, (MHFD 2018)	15 56	0.12	1.60	0.53	0.11	de	Es
C,	15.56	0.13	2.12	0.53	0.14	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
C	15.56	0.18	2.61	0 53	0.25	- Geo	-
Cies	15.58	0.50	4.92	0.53	1.31	cla	
	1		20112				1

				15489 Harvest	Court.	- Existing	Runoff Calcs		-1	A CONTRACTOR			
					8/23	12024				Contraction of the local division of the loc			
	for a	ols - C2 Ci Ci Ci Ci	or the lateral			-t-	(395(1,1-0,1/1,-0)() 1,1115(0)(-00)(0)(0)	Symm Beusten 6-3					
	ł	Ti celoutations - on	fy Ce is used			Ŧ	ur Point Raintas		2 NO	9 111	88	18	
						102	IMIFO >>> To Check	= (28-170 + (Leave	0(6+1410-00175	((g log			
* *	Existing - 2, 6, 16, 160 yr NRCS Type 100% 8	Level	C. 030	58 80 원 원 원 원 문		11 037	21,84 21,84	010 010	1 m 1 c	181	A Cluster	10 69 G	
ĸ	ister ister	00 15 15 15 15 15 15 15 15 15 15 15 15 15	0.01	21.67	-	0.37	21.84	20.13	20.02	2.18	and ari	0 43 646	
	Overland flow 300 n mar for even, 600 n men for n	3	0.35	21.47	1.40	420	21.84	502	88	240	C.C.	1.13 669	
760	As worker parted as travel	ď	14 0.60	21.12	1.40	150	21.84	20.15	5152	603	CUM-	353 CM	
Y E	Enseing - 2, 5, 9, 100 yr NRCS Type 100% B	Lanch Stee	C	RL CZ	Abort A	41°	and Sec	check 22.05	Libe Tc 22.65	8	A CH	d &l ete	
	104EX	0 0 (R)	0.6	22,78	1.78	000	87.22	2.49	15.59	206	- ND NO	0.11 ch	
k	Overfand flow 300 finan branke, 500 finan fan ru	,	0.22	22.78	1.78	800	82.22	22.09	22.50	. 84	CH	8)39 4fs	
a)r	Tament as that rais reduktor with	ę	12 0.52	22.78	1.78	000	22.78	22.69	**	53	Coloniana D34	0.85 045	
Ξ.	Deeling - 2, 5, 95, 500 yr NRCS Type 100% B	Limith Sloce	G. winner	0,100 acre 11.1 10,1	Vetocta 1.90	11.16 1.16	277 2775	E2662 11.69	Line Ic	1 245	a 10	ers c/a	
	initial Served	R HB	010	101	81	1.8	2.77	11.68	8	87.6	ar: 04.	624 cfs	
F	Overland tow 300 mere for alter, 500 meets ra	ł	щo	181	81	911	277	811	800	ş	Drid ClAi	037 04	
Dyr		Q.	19 0.85	1.61	81	110	277	11.56	8.0	875	d to	0,74 cfb	
i se	Existing - 2, 4, 10, 100 yr NPCS Type 100% B	(and these	C	0.450 acre 12.68	Melbotte 177	1000 0000	12 Eb	2002	1261C	- 57	A CA	0.22 CH	
	SANT SANT	123 00	019	12.66	1.77	000	828	215	12.66	212	CM	010 01	
	Overland flow 200 mm be anal, 500 E methy na	1	0.24	12.68	1.77	80	12.68	22.43	12.08	228	010 CM	0 a7 cPs	
214	Polymerate carried as travel	ę r	25 0.63	12.08	1.77	0.00	12.66	22.45	12.65	623	Con	50 8 -	
F SW	Exhibing - 2, 5, 10, 105 yr			0.530 acres									1

6	6	ŧ	ę	FFECTIVE	20.05	0.15	0.16	0.22 0.22	0.34		FFECTINE	22.63	0.10	0,19	0.26	050	1	FECTIVE	NOTION	MUNICH	ADIVIDE	PLANAL	000
0.11	0.14	22	131 6	- Ind	100.001	0.84	1000	8.9	0.0	- New		00.001	8.8	23	89	0.07	- Inter		100.00	8	000	88	100
-	-	WINNE	Week	Waterida						WateriAap							Water/Asp					-	
₩0	88	989	5 88	Concrete	100.000	100	0.96	600	0.00	Concrete		100 M	530	8 8	080	900	Concrete	- and the second					000
1.001	212	261	1 87	Building	80.08	074	200	0.84	00	Building	~~~~	140	and a	1000	0.84	900	Building		NAX A			0000	0.00
21.15 21.15	8.15	21,15	21.15	0.343 ao Griwel	40:00	028	0.32	120	800	0.050 acr Gravel		0.29	035	20	0.61	000	0.000 acr	10.00	CO De	wu	Ann	18	000
01405 25.25	20.02	2.5	23.35	ļ	2	100	100	0.44	0227	Underwitoped		100	004	200	0.44	0.461			AAA	980	200	100 B	0000
ពុទ ភ	31.19	21,19	21.19	E 38 Type 100% B	T MANAGE MANAGE T				*	SE	S - 1 ype 10.7% B					*		A THE AVE D. OUNT	The second second				
88	000	00	80	821		83	32	5	NR	5	Sec.	3	3	CIO	5	Met	a	1	10	18	610	010	ARS
VERSELA 1.05	1.00	1.66	1.65	IFFECTIVE Mark		11.4	10.0	000	8		20.76	0.76	0.78	0.79	0.85	0.10	SECTIVE	14.66	0.12	0.53	0.48	0.50	0.52
H ²	21.10	21.13	21.19	WaterMaphant	1000	120	980	0.89	900	-	100.001	1980	0.05	0.85	0.69	800		100.001	0.84	0.00	0.69	010	000
Q12	0.13	0.15	050	Centrate			040	660	220	Concrete	100.001	0.24	0/90	0.36	080	80	Constrate	100.001	0.84	0.85	0.85	0.89.	0.04
Sope	0.019		12	Building	ATA	120	0.78	0.54	0.18	Bulding	80.00	0.74	82.0	82.0	0.84	000	Bulding	90.00	0.74	0.76	0.78	0.84	88
Langh	112 0	and a second	ð	1,200 e Gravel	100		800	0.81	000	Gravel	40.00	0.29	0.32	033	0.61	800	Gravel	40.00	020	260	0.38	061	000
NRCS Type 100% B	inths traves	Deriand flow 00 t motor stary (00 t sur	And in barren spin and		0.04	100	200	0.44	0.730	Understoped	2	100	100	001	044	0000		2	100	100	200	0.44	0.453
4	14	16yr 0	100%	EX.W NHCS Type 100% 8 Interviousness %	63	18	C10	C100	AREA	OFF E Not 200% B	Inpaniscenses %	3	8	Cie	C100	WEV	OFF SW VPCS Type 102% B	Inpenforense %	8	8	510	C100	VAEA

Type of Land Surface	Conveyance coefficient. Cv
Heavy Meadow	25
Tillage/fiold	'n
Short posture/Lawns	7
Nearly Bare Ground	10.00
Grassed Waterway	15.00
aved areas and shallow poved avaies	20.00

	Dev	sloped Runo	ft Table - 15	6489 Harvo	si Court	490	
BASIN	Impervious	C-YR	1	A	CIANA DEVELOPED	dis	DESIGN POINT
N					1 S 11 11		
C2 (MHFD 2018)	49.90	0.41	2 20	0.63	0.57	ds	4
C,	49.90	0.42	2.91	0.83	0.78	dis	
C 10	49.90	0.46	3.59	0.63	1.03	ds	
C ₁₀₀	49.90	0.66	6.76	0.63	2.81	cfs	
S							
C2 (MHFD 2018)	50.63	0.42	2,12	0.91	0.81	cts	3
C,	50.63	0.43	2.80	0.93	1 09	de	
C 30	50.63	0.46	3.45	0.91	1.48	de	
C100	50.63	0.68	6.50	0.91	3.93	ds	
OFF E							
C; (MHFD 2018)	93.18	0.78	2.85	0.10	0.22	cfs	5
C,	93.18	0.80	3.76	0.10	0.30	cfe	
C ₁₀	93.18	0.81	4.65	0.10	0.37	cfe	N
C ₁₀₀	93.18	0.86	8.75	0.10	0.75	cís	
OI F SE	-			_			
C2 (MHFD 2018)	22.63	0.18	2.08	0.58	0.22	de	2
C ₆	22.63	0.19	2.72	0.59	0.30	Cfe	
C1.	22.63	0.24	3.36	0.58	0.50	ICTS	
C100	22.63	0.53	6.32	0.59	1.99	cfs	
OFF SW							
C2 (MHFD 2018)	15.58	0.12	1.60	0.53	0.11	cis	1
C ₁	15.56	0.13	2.12	0.53	0.14	cfs	
C ₁₉	15.56	0.18	2.61	0.53	0.25	cts	
C100	15.66	0.50	4,92	0.53	1.31	crs	
						1.	

88	a bolow for affec	ctive C values as c	siculated from	Table RO-5		48	ABETA LOWILAN	07(S)*	3			1	
ř	ir Ti caloulations	 anty Cs is used 						Pol	A Reinfall	2084	8 111	6 ^t	100
						102	MHFD >>> To Ch	odk = (28-170	- Ritmond / Q	10,/(24i + B)(30	Ngu		
Developed -2, 6, 10, NRCS Type 100% B	100 yr Lenoth		88	0.63 ao	National Vited	10 2.60	ম ম ম	<u>check</u> 20.27	Like Tc 10.84	C	1 280	A CIAL	0250
Initia	280	0.044 0.012 0.018	042	16.7	164	2.93	10.04	12.02	10.64	0.42	2.91	CIAL-	0.78 cf
Overland Row 200 firms for urten, 500 ft	macheman		042	167	1.64	203	10.04	2027	ND.04	946	359	CIAnase 063	1,03 cf
Retarder carried as have	8	15.05	0.42	7.91	1,64	203	10.64	2027	10.04	0.66	6.76	CIAma.	281 cf
Developed -2, 5, 16, 1 NRCS Type 100% B	100 yr Lengh	Stope	98	0.91 ac	1001	1 231	21 88 11	Scheck 12 55	Uhe Tc 11 09	Caramiter 0.42	2.12	A CIM	0.81 cf
Interest	111	0.025	043	898	1.06	231	11,09	19.55	11.05	8/0	2.80	CIA.	100 ch
Overland flow 300 fram for urber, 500 fr	nucleoned		043	9.56	1.06	231	11.09	57 E1	98115	0.46	3.45	CMmmm	1.48 G
Remainder carlied as travel	8	15:00	043	95'8	1.06	16.5	11,09	12.55	6811	990	6.50	CIAma.	386
Developed -2, 5, 10, 1 NRCS Type 100% B	100 yr Lenath	Shoe	0 00 C	0.10 acr 1.50	Metochy 1.95	٩g	285	Streds 11.10	<u>Use Tc</u> 5:0	0.18	1 285	A ClAsses	1023 ch
inita travel	N 28 25	0,000	030	1.50	1.85	113	263	9713	\$00	00'0	378	0.10	0.30 cfs
Overfland flow 300 fi mus for urbas, 500 ft o	nucler new		06.0	1.50	8	1.13	203	9111	805	1910	4.85	CIAna and	0.37 cfs
Razaleder carried as Itowe	ş	19.20	090	1.50	1.96	1.13	2002	11.16	85	0.05	8.75	CIAmor	0.75 cfs

FFSC	Developed 2.6.1	0. HO VI			0 CA	Arres -								
	NRCS Type 100% (0		5		Valocita	F	Te	chuck	Ino Te				
		renge	9 Sope	019	12.09	11.1	000	12.68	22.15	12.55	0.18	2.06	0.50	0.22 cfs
		Z.	0000	0.19	12.68	1.77	800	12,68	22.15	12,68	0.19	-272	0.56	CIAn annual 0.30 cfs
	Overland Bow 2004 nor ty alwe, 347	Threat fired		6,18	12.68	£4~4	0070	12.68	22.15	12,68	0.24	3.38	500	ClAss 047 ch
	Remards Cartes as bu	6	. 12.60	219	12.68	1.77	0.00	12.06	2.15	12.08	0.63	6.32	9.56	CA
MS	Dwintend 2, 5, 16 NICCS Type 100% B	9, 100 yr		69 013	0.65 10 21.10	DAL 1 MORPHAN	1900 1900	21.15 21.15	Shick B CC	Uten Tc 21.19	Cr.man	181	A O	ClAr Annew 0.11 ch
	REAL		0010	61.9	21.19	1.63	0.00	21.19	21.15	21.19	0.13	2.12	0.03	Channel Otto da
	Overland filter 200 filters for uses	I mai lit eand		C.13	21,19	1.05	000	21.19	\$6.02	21.19	0.18	261	0.63	ClAn meret
		C	1200	Q13	21.19	1.00	000	21.19	22.33	21.19	05.0	4.92	0.53	ClAss and 1.31 cfs
You sook	10TAL AREA	CASO Cravel	actes Defining	Concrets	Water	DTECTWE	S NRCS TW	L 001 00	TOTAL AREA	0.913 a Gravel	Building	Concrete	Wated Asphalt	EFFICTIVE
	HO.0	6.50	174	Tev	100.001		-		2	40.00	00'00	100.001	100.00	30 61
	LOID	220	0.76	086	0.00	0.40	3 2		10'0	070	200	0.84	0.84	043
	000	0.40	ero	680	0.86	970	3 2		500	100	220	0.00	600	20
	0,46	0.61	0.64	680	0.89	0.44	010		0.44	0.61	0.84	0.89	080	170
	0.31	0010	0.10	150	10.0	009/0	AREA		0.43	0.01	0.25	0.21	100	e e 13
type kook i	TOTAL AREA Landwaphe	Gravel Gravel	Borts Bedding	Concrete	Mariner Mariner	DFECINE	OFF SE NRCS TYP	ve 100% B	TOTAL AREA	0.590 a Gravel	Building	Concrete	Wated	OFFICITIVE
	0.01	0.0	240	and the second			_		2	40.00	00'05	100.001	100.00	22.63
	10.0	AL D	010	500		0.78	82		100	020	0.74	180	084	0.18
	002	970	070	900	960	110	35		200	8.8	220	980	0.88	0.19
	94	15/0	084	620	980	8	C160		0.44	0.61	0.84	0.80	680	0.63
	0.01	000	000	100	0.09	0.100	AREA		0.46	000	0.05	0.01	0,07	01210

-10	_	1	1	1	1
Vistori	100.00	000	000	800	000
concrete	00000	000			000
and the o	0008		1	880	000
0.000 ac	40.00	A			800
TOTAL AREA	100	-	000	000	0.00
NRCS Type 50% IL	E	3 2	1	6160	ABER .
EFFECTIVE	210	0.13	0.12	0.50	0.500
Manda Manda		0.26	0.00	0.00	0.00
Comme	10.0	800	800	000	50
Building	074	0.70	0.70	0.04	009
0.530 a Gravel 40.00	0.28	220	90.0	0.61	0.00
TOTAL AREA Landscaping	0.01	0.01	001	0.44	61/0

(1. IOF CO) (12mm2/ (00-00) (11)	Conveyance coefficient.	2.5	0	2	10.00	\$5.00	20.00
TABLE RO 2 (Laken from MI	Type of Land Suitace	Heavy Mendow	Tittegenticald	Short people fund	Neary Bare Ground	Gra seed Wetenway	Pared areas and challers served as

DIFECTIVE

Conveyance Calculations

APPENDIX C



	Normal Flow A	nalysis - Trapezoidal Channel
Project: Channel ID:	Constant of the second	15489 Harvest Court
	F 🗘 🦕	
		∫¥•
	· · · ·	
	21	<> 22
	Design Information (input	
	Channel Inven Slope	So = <u>0.0050</u> f/f
		n = <u>0.040</u>
	Let Side Steps	B = 0.00 ft
146.17	Piebt Side Class	21 = 25.00 fVh
	Fight Side Sidge	22 = 10.00 h/h
	Costa Martin Dunth	F = 0.53 ft
	Design water Depth	Y = 0.47 ft
1.023	Normal Flow Condition (Ca	Iculated)
	Discharge	Q = 3.93 cts
	Froude Number	Fr = 0.36
	Flow Velocity	V = 1.01 fps
	Flow Area	A = 3.91 sq ft
	Top Width	T = 16. (54A
	Wetled Perimeter	P = 16.57 A
	Hydraulic Radius	R = 0.24 ft
	Hydraul ic Depth	D = 0.24 H
	Specific Energy	Es = 0.49 ft
	Centroid of Flow Area	Yo = 0.16 ft
1.1.1	Specific Force	Fa = 0.05 kip

CIRCULAR CONDUIT FLOW (Normal & Critical Depth Computation) Project: 15489 Harvest Court Pipe ID: Taxilane Access Cuivert

	E	1	
	the angle] 	
Design Information (1990)	-		
Pipe Invert Slope	So =	0.0125	- Ale
Pipe Manning's n-value	0.8	0.0130	
Pipe Diameter	D-	12.00	-
Design discharge	Q =	3.93	lds
Ful Flow Capacity (Calculated)			
Full-four step		1.6	
	Af =	0.79	sq ft
THE CONTROL & GOLD	Pf =	3.14	A
	Theta =	3.14	radians
unition caboolth	Qf =	3.99	ds
Calculation of Normal Flow Condition	0		
at Central Angle (0 <thata<3.14)< td=""><td>Theta =</td><td>2 23</td><td>Inadiana</td></thata<3.14)<>	Theta =	2 23	Inadiana
low area	An	0.69	
09 width	Tn =	0.79	
Wetted parameter	Pti w	2 23	
How depth	Yn =	0.81	
How veloaity	¥0 =	5.80	for
Jisch argu	0	3 03	-left
ercent of Full Flow	Flow -	98.496	of the Sour
Normal Capth Fixede Number	Fre =	1.10	supercritical
Calculation of Critical Flow Condition			
Late Control Apple (1 a That are 2 14)			
the four ways (U< HCB-C< 3.14)	Theta c =	2_32	radians
uruces how wide	Ac =	0.71	In pre
Take UP WICH	Tc =	0.73	R
areas inter opposite	¥c =	0.84	<u>π</u>
alical Danih Erouria Number	VC =	5 59.57	1pt
A ment of the second se		1.00	

APPENDIX D

WEC Drainage Plans



dininica section



PLN01: The site plan indicates that the lot is 1.84 acres. This is not correct. The lot is actually 1.54 acres. Theeast-west measurement of the lot is approximately 335 feet. The north-south measurement of the lot is approximately 200 feet. This results in an estimated 67,185 square feet (or 1.54 acres). I believe the error may be because the calculation you provided does not include a right-of-way dedication that occurred decades ago. As a result of the accurate measurements. I estimate your proposed lot coverage to be approximately 19.9%. Please revise the site plan and written explanation to reflect an accurate depiction of the requests.

Applicant Response to PLN01:

The following page contains the lot coverage plan. The coverage plan has been revised to show accurate square feet and percentages.



PLN02: Please provide elevation drawings or images to show what the proposed structure will look like. Please include a measurement of structure height on this drawing. Based on your written explanation, I have to assume that the height of the structure is proposed to be 28 feet, but I would rather not have to assume this.

Applicant Response to PLN02:

The Following plans show the full scope for the building, including height

UNIVERSAL STEEL BUILDINGS ALMA COX

BRIGHTON, CO 80603

FO# 28367

Building 1 of 1



Page	Drawing Title	REV NO.
	Cover Page	0
1	Specifications	0
2	Anchor Bolt Plan	0
3	Rigid Frame Reactions	0
4	EndWall Reactions, Design Criteria	0
5	Anchor Bolt Details	0
6	Roof Framing	0
7	Roof Panel Layout	0
8	Rigid Frame #1	0
9	Rigid Frame #2	0
10	Rigid Frame #3	0

INDEX OF DRAWINGS

Page	Drawing Title	REV NO.
11	Rigid Frame #4	0
12	Front Sidewall Framing	0
13	Back Sidewall Framing	0
14	Left Endwall Framing	0
15	Right Endwall Framing	0
16	Detail Page #1	0
17	Detail Page #2	0
18	Detail Page #3	0
19	Detail Page #4	0
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GENERAL	MATERIALS	ASTM DESIGNATION	MINIMUM YIELD	MATERIALS	
All materials included in the Metal Building System are in accordance with the manufacturer's standard materials and details unless otherwise specified on the order documents. (MBMA 2018 Metal Building Systems Manual, Part IV, Section 2.1)	Hot-Rolled Mill Sections	A 36, A 572, A 992	Fy = 36 ksi and/or 50 ksi	Roof and Wall Sheeting	
<u>DESIGN_RESPONSIBILITY</u> The manufacturer is responsible only for the structural design of the Metal Building System it sells to the purchaser /	Structural Steel Plates	A 572, A 1011	Fy = 55 ksi	Mild Steel Bolts	
customer. Neither the manufacturer nor the manufacturer's engineer is the design professional or engineer of record for the construction project. The manufacturer is not responsible for the design of any component or materials not sold by it, or their interface and connection with Metal Building System unless such design responsibility is specifically required by the order documents. (MBMA 2018 Metal Building Systems Manual, Part IV, Section 3.1)		A 572 or A 529	Fy = 55 ksi	High Strength Bolts	
		A 653 Gr. 55	Fy = 55 ksi	Anchor Rods (If supplied)	
FOUNDATION DESIGN AND ANCHOR BOLTS The manufacturer is not responsible for the design, materials, and workmanship of the foundation. The anchor bolt	Cable Bracing	A 475, EHS	N/A	Pipe and Hollow Structural Sections	
plans prepared by the manufacturer are intended to show only the anchor bolt location, diameter (based on ASTM A36 bolts), and quantity required to connect the Metal Building System to the foundation. (MBMA 2018 Metal Building Systems	Rod Bracing	A 36	Fy = 36 ksi		
Manual, Part 17, Section 3.2.2. It is the responsibility of the end customer to ensure that adequate provisions are made for specifying bolt embedment, bearing angles, tie rods, and / or associated items embedded in the concrete foundation, as well as foundation design based on the loads imposed by the Metal Building System, or other imposed loads, and the bearing capacity of the soil and other conditions of the building site. (MBMA 2018 Metal Building Systems Manual, Part IV, Section 3.2.2) U.SAnchor bolts shall be accurately set to a tolerance of $+/-1/8$ in both elevation and location (AISC Code of Standard Practice for Steel Buildings and Bridges). Canada -Anchor bolts shall be accurately set in accordance with CISC Code of Standard Practice, December 2015, Clause 7.8.1	The correction of n moderate amounts are a normal part Buildings and Bridg Clause 7.15; MBMA	CORRECTION OF ERRORS AND REP The correction of minor misfits by the use of drift pins to draw the moderate amounts of reaming, chipping, and cutting, and the replacer are a normal part of erection and are not subject to claim. (AISC Coo Buildings and Bridges, June 15, 2016, Section 7.14; CISC Code of Standa Clause 7.15; MBMA 2018 Metal Building Systems Manual, Part IV, Section			
ADJACENT EXISTING BUILDINGS The manufacturer does not investigate the influence of the Metal Building System on adjacent existing buildings or structures. The end customer assures that such buildings and structures are adequate to resist snow loads or other conditions as a result of the presence of the Metal Building System. (MBMA 2018 Metal Building Systems Manual, Part IV, Section 3.2.5)	DRAWING DISCREPANCIES In case of discrepancies between the manufacturers steel plans and manufacturers steel plans govern. (AISC Code of Standard Practice f 15, 2016, Section 3.3; CISC Code of Standard Practice, December 2015 Systems Manual, Part IV, Section 3.1).				
SHOP-PRIMED STEEL			DELI	<u>VERIES</u>	
All structural members of the Metal Building System not fabricated of corrosion resistant material or protected by corrosion resistant coating are painted with one coat of shop primer. All surfaces to receive shop primer are cleaned of loose rust, loose mill scale and other foreign matter by using, as a minimum the hand tool cleaning method SSPC-SP2 (Steel Manual, Structures Painting Council) prior to painting. The coat of shop primer is intended to protect the steel framing for only a short period of exposure to ordinary atmospheric conditions. Shop-primed steel should be placed on blocking to prevent contact with the ground, and so positioned as to minimize water holding pockets, dust, mud an other contamination of the primer film. Repairs of damage to primed surfaces and or removal of foreign material due to improper field storage or site conditions are not the responsibility of the manufacturer. (CISC Code of Standard Practice, December 2015, Clauses 6.8 & 6.9; (MBMA 2018 Metal Building Systems Manual, Part IV, Section 4.2.4).	Delivery of any material by the manufacturers carrier, a common car own leased, chartered, or authorized conveyance shall constitute delive material shall be at builders risk. If builder chooses to use its own, or responsible for compliance with all applicable government regulations. builder. The manufacturers responsibility for damage or loss ceases up The manufacturer will endeavor to deliver on the required date. The considered as being late if deliveries are between 8am - 12pm (morn However, the manufacturer cannot be held responsible for circumstance via the manufacturers truck, the manufacturer will only honor claims				
ERECTION-GENERAL	service department	at the time of de le claims with the	livery. For deliv carrier. The ma	veries via contract inufacturer canno	
Systems and is responsible for complying with all applicable local, federal, and state construction and safety regulations including OSHA regulations as well as any applicable requirements of local, national, or international union rules or practices. (CISC Code of Standard Practice, December 2015, Clause 7.3; (MBMA 2018 Metal Building System Manual, Part IV, Section 6.9).	<u>SHDRTAGES</u> The purchaser /customer should make an inspection upon arrival of				
The erector shall erect the Metal Building System in accordance with the erection drawings, the Erection and Detail Manual (2019), and / or the Seam-Lok Technical - Erection manual (2019) as furnished by the manufacturer. The aforementioned erection information is intended to illustrate the layout of the framing members, provide the associated connection details, and suggests sequence of erection. It is not intended to specify any particular method of erection to be followed by the erector. The erector remains solely responsible for the safety and appropriateness of all techniques and methods utilized by its crews in the erection of the Metal Building System. The erector is responsible for supplying any safety devices such as scaffolds, runways, nets, et, which may be required to safely erect the Metal Building System. (MBMA 2018 Metal Building	purchaser/customer must note on the freight bill any missing item(s) customer service department immediately; otherwise, the manufacture shortages. If any item is damaged, note on the bill of lading and file Concealed shortages must be reported to the manufacturers customer following time frames (date from receipt of first delivery), based on t of truck loads used in delivery.				
Systems Manual, Part IV, Section 6.9) The manufacturer expressly disclaims any responsibility for injury to persons in the course of erection or for damages to the product itself. Field erection of a Pre-Engineered Metal Building, as in all construction					
of erection of for damages to the product itself. Field erection of a Free-Engineered Metal Building, as in all construction projects, involves hazards to persons within the area of the construction and risk of damage to the property itself. Only experienced persons who are skilled and qualified in the erection of Metal Building Systems should be permitted to field-erect a building due to the hazards of this construction activity. The manufacturer is not responsible for the erection of the Metal Building System, the supply of any tools or equipment, or any other field work. The manufacturer provides no field supervision for the erection. The erector shall furnish temporary guys and bracing where needed for squaring, plumbing, and securing the structural framing against loads, such as wind loads acting on the exposed framing as well as loads due to erection equipment and erection operation, but not including loads resulting from the performance of work by others. Bracing furnished by the manufacturer for the Metal Building System cannot be assumed to be adequate during erection. Temporary supports such as temporary guys, braces, false work, cribbing, or other elements required for the erection operation will be determined, erected, and installed by the erector. (AISC Code of Standard Practice for Steel Buildings and Bridges, June 15, 2016, Section 7.10.3; CISC Code of Standard Practices, December 2015, Clause 1.5; MBMA 2018 Metal Buildings System Manual, Part IV, Section 6.2.1.5).		The purchaser/customer is responsible for contacting the customer se manufacturer of fabrication problems and corresponding cost estimates responsible for providing the builder with verbal approval to proceed will be done in a timely manner. IF THE BUILDER PROCEEDS WITH CORI MANUFACTURERS APPROVAL, HE DOES SO AT HIS OWN RISK. The manufac any claims where the purchaser/customer has not documented the pr costs for repair, and submitted this documentation for payment within			
		$\frac{\text{INV} \square \text{ICE PAYMENT}}{\text{By acceptance of the materials of services set forth in the invoice, th the invoice amount within the time period specified on the invoice. AT DEDUCT A BACK CHARGE OR SHORTAGE FROM AN INVOICE.}$			
ERECTION TOLERANCES U.S. ; Erection tolerances are those set forth in AISC code of standard practice except individual members are considered, plumb, level and aligned if the deviation does not exceed 1:500. (AISC Code of Standard Practice for Steel Buildings and Bridges June 15, 2016 Section 7.13.1; MBMA 2018 Metal Building Systems Manual, Part IV, Section 6.8) Canada; Erection tolerances are those set forth in CISC Code of Standard Practice except individual members are considered	The manufacturer good job site pract manufacturer, the the job site. The e	is committed to ma ices and a commit manufacturer highl rector should follow	<u>SAFETY</u> anufacturing a ment to safety y recommends y all local, state	PRICEDURES quality product th by the erector ar the erector provid s, and federal hea	
plumb, level and aligned if the deviation does not exceed 1:500. (CISC Handbook of Steel Construction, Eleventh Edition, Third Revised Printing, Part 1, Clause 29.3; MBMA 2018 Metal Building Systems Manual, Part IV, Section 6.8) BOLT TIGHTENING	times. Accident pro procedures. The ma additional informat and health adminis	evention practices s anufacturer also re- ion concerning fede- tration (osha).	hould be imple commends daily ral health and	mented and each meetings to disc safety regulations	
The proper tightening and inspection of all fasteners is the responsibility of the erector (Reference RCSC for structural joints using high strength bolts; June 11, 2020). All high strength (ASTM F3125, A325, A490) bolts and nuts must be tightened by the "turn-of-the-nut" method unless otherwise specified by the end customer in the					
contract documents. Inspection of high strength bolt and nut installation by other than the erector must also be specified in the contract documents and the erector is responsible for ensuring that the installation procedures are		Occu	U.S. Departi pational Safety 200 Constitut Washington www.osh	nent of Labor and Health Adm ion Avenue, N.W. , DC 20210 a.gov	
contract documents. Inspection of high strength bolt and nut installation by other than the erector must also be specified in the contract documents and the erector is responsible for ensuring that the installation procedures are compatible prior to the start of erection (CISC Handbook of Steel Construction, Eleventh Edition, Third Revised Printing, Part 1, Clause 23.7.2), (MBMA 2018 Metal Building Systems Manual, Part IV, Section 6.9).	The manufacturer s follow all applicable	Occu hall not be respon safety regulations	U.S. Departin Institutional Safety 200 Constitut Washington www.osh sible for person and material h	nent of Labor r and Health Adn ion Avenue, N.W. , DC 20210 a.gov al injury or propu andling and insta	

MATERIALS

ASTM DESIGNATION | MINIMUM YIELD |

MATERIALS







FRAME LINES: 1 2 3 4	RIGID FRAME: BASIC COLUMN REACTIONS (K)	
COLUMN LINE	Frame Column Dead Collateral Live Snow Wind_Left1 -Wind_Right1 Line Line Horz Vert Horz Left Horz Vert Horz Left Horz Vert Horz Left Horz Left Left Hor	
	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
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н	Frame Column Dead Collateral Live Snow Wind_Left1 -Wind_Right1 Line Line Horz Vert Horz Left Horz Vert Horz Left Horz Vert Horz Left Horz Left Horz Left <th></th>	
	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
RIGID FRAME: ANCHOR BOLTS & BASE PLATES	Frame Column - Seismic_Long - MIN_SNOW F2UNB_SL_L- F2UNB_SL_R- Line Line Horz Vert Horz Vert Horz Vert 2 G 0.0 -1.5 9.5 15.5 11.4 22.0 11.4 12.9 2 A 0.0 -1.5 -9.5 15.5 -11.4 12.9 -11.4 22.0	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Frame Column Dead Collateral Live Snow Wind_Left1 -Wind_Right1 Line Line Horz Vert Horz Long -10.4 10.9 -15.0 -15.0 -15.0 -15.0 -15.0 -15.0 -15.0 -15.0 -15.0 <	
RIGID FRAME: ANCHOR BOLTS & BASE PLATES	Frame Column Wind_Left2- -Wind_Right2- Wind_Long1- Wind_Long2- -Seismic_Left Seismic_Right Line Line Horz Vert Horz Line A 1.3 -4.1 -3.7 -21.8 -21.8 -0.3 0.2 0.3	
Frm Col AncBolt Base_Plate (in) AFF/BFF Line Line Qty Dia Width Length Thick (in)	Frame Column -Seismic_Long -MIN_SNOW F3UNB_SL_L- F3UNB_SL_R- Line Line Horz Vert Horz Vert 3 G 0.0 -1.5 9.8 16.0 11.8 22.6 11.8 13.3 3 A 0.0 -1.5 -9.8 16.0 -11.8 13.3 -11.8 22.6	
2 G 4 0.750 8.000 11.63 0.500 0.0 2 A 4 0.750 8.000 11.63 0.500 0.0	Frame Column Dead Collateral Live Snow Wind_Left1 -Wind_Right1 Line Line Horz Vert Horz Left Horz Vert Horz Vert Horz Vert Horz Vert Horz Horz Vert Horz <th></th>	
RIGID FRAME: ANCHOR BOLTS & BASE PLATES	Frame Column Wind_Left2- -Wind_Right2- Wind_Long1- Wind_Long2- -Seismic_Left Seismic_Right Line Line Horz Vert Horz Lo 2 0.3	
Line Qty Dia Width Length Inick (in) 3 G 4 0.750 8.000 11.63 0.500 0.0 3 A 4 0.750 8.000 11.63 0.500 0.0	Frame Column -MIN_SNOW F4UNB_SL_L- F4UNB_SL_R- Line Line Horz Vert Horz Vert Horz Vert 4 G 9.8 16.0 11.8 22.6 11.8 13.3 4 A -9.8 16.0 -11.8 13.3 -11.8 22.6	
RIGID FRAME: ANCHOR BOLTS & BASE PLATES		
Frm Col AncBolt Base_Plate (in) AFF/BFF Line Line Qty Dia Width Length Thick (in)		
4 G 4 0.750 8.000 11.63 0.500 0.0 4 A 4 0.750 8.000 11.63 0.500 0.0		


END	WAL	L CO	LUMN:	BAS	IC COLUI	MN REA	CTIONS	(k)							
Frm Line 1 1	Col Line F B	Dead Vert 0.7 0.7	Wind Press Horz –7.3 –7.3	Wine s Suc Hor 8.1	d Se t Lo z Ve C O	eis eng ert 9.0 9.0									
Frm Line 5 5 5 5 5 5	Col Line A C D E G	Dead Vert 0.5 1.2 1.1 1.2 0.5	Colla Vert 0.1 0.2 0.2 0.2 0.1	t Live Ver 1.6 4.5 4.5 1.6	s Sr t Ve 5 6 5 6 5 6 5 6	now 2.5 2.8 2.8 2.8 2.5	Wind_L Horz 0.0 0.0 -2.3 0.0 0.0	eft1 Vert -2.1 -6.4 -7.3 -0.2 -1.7	Wind_ Horz 0.0 0.0 0.0 2.3 0.0	Right1 Vert –1.7 –3.7 –0.5 –9.6 –2.1	Wind_L Horz 0.0 0.0 -2.3 0.0 0.0	eft2 Vert -1.2 -4.6 -6.2 1.7 -0.9	Wind_ Horz 0.0 0.0 0.0 2.3 0.0	Right2 Vert -0.9 -1.9 0.5 -7.8 -1.2	Wind Press Horz -2.0 -4.5 -5.2 -4.5 -2.0
Frm Line 5 5 5 5 5	Col Line A C D E G	Wind Suct Horz 2.4 5.0 5.7 5.0 2.4	Wind Horz 0.0 0.0 0.0 0.8 0.0	_Long1 Vert -2.5 -6.4 -2.2 -4.5 -1.6	Wind_ Horz 0.0 0.0 -0.8 0.0 0.0	Long2 Vert –1.6 –3.5 –4.4 –5.2 –2.5	Seis Horz 0.0 0.0 –0.5 0.0 0.0	Left Vert 0.0 0.0 –0.8 0.8 0.0	Seis Horz 0.0 0.0 0.0 0.5	_Right z Vert 0.0 0.0 0.7 0 -0.7 0 0.0	Seis Long Vert 0.0 0.0 0.0 0.0	M Hoi 0. 0. 0. 0.	IIN_SNO rz Ve 0 1 0 2 0 3 0 1	0W ert 1.6 3.9 4.5 1.6	
Frm Line 5 5 5 5 5 5	Col Line A C D E G	E2UNE Horz 0.0 0.0 0.0 0.0 0.0	3_SL_L- Vert 2.3 8.0 5.6 1.6 0.8	E2UNB_ Horz 0.0 0.0 0.0 0.0 0.0 0.0	_SLR- Vert 0.8 1.6 5.6 8.0 2.3										
ANC	HOR	BOL	T SUN	MMAR	ſ										
			Dia	_											
Qty	- Loo 	dwall	(in) 	Туре											
⊕ 32	Fro	ime	3/4"												
BUIL	DING	BR/	ACING	REAC	TIONS										

Note

(h)

8.4 * 1.5 * Bracing, see EW reactions 8.4 * 1.5 *

—Wall

L_EW 1 F_SW A R_EW 5 B_SW G

Loc Line Line

— Col

2,3 D,E 3,2

*See RF reactions table for vertical and

horizontal reactions in plane of the rigid frame. Reactions for seismic represent shear force, Eh Reaction values shown are unfactored

(h)Rigid frame at endwall

END	WALL	COL	_UMN:	ANCI	HOR BOL	.TS & B	ASE PLATES
Frm Line	Col Line	Anc. Qty	_Bolt Dia	Base_ Width	_Plate (i Length	n) Thick	AFF/BFF (in)
1	F	4	0.750	8.000	8.000	0.375	0.0
1	В	4	0.750	8.000	8.000	0.375	0.0
5	Α	4	0.750	6.000	7.875	0.375	0.0
5	С	4	0.750	6.000	8.125	0.375	0.0
5	D	4	0.750	6.000	8.125	0.375	0.0
5	E	4	0.750	6.000	8.125	0.375	0.0
5	G	4	0.750	6.000	7.875	0.375	0.0

DESIGN INFORMATION

1. All loading conditions are examined and only the maximum / minimum H or V and the corresponding H or V are reported.

2. Positive reactions are shown in the sketch. Foundation loads are in opposite directions.

3. Bracing reactions are in the plane of the brace with the H pointing away from the braced bay. The vertical reaction is downward.

4. Building reactions are based on the following building data:

DESIGN CRITERIA	SEISMIC CRITERIA		
Width (ft) Length (ft) Eave Height (ft) Roof Slope (rise/12)	= 80 = 80 = 22 = 2.0:12	Seismic Importance = 7 Risk Category = 1	
Building Code Local Code (State/Prov) Dead Load (psf) Collateral Load (psf) Roof Live Load (psf)	$= IBC 18 \\ = IBC 18 \\ = 2.25 \\ = 1.00 \\ = 20.00$	Mapped Spectral Response Accele Ss = (S1 = (
Frame Live Load (psf) Snow:	= 20.00	———Spectral Response Coefficient Sds	
Ground Snow Load (psf) Snow Importance Thermal Coefficient Snow Exposure Factor	$\begin{array}{rcl} = & 30.00 \\ = & 1.00 \\ = & 1.00 \\ = & 1.0000 \end{array}$	Site Class = o Seismic Design Category = l	
Slippery Roof Roof Snow Load, Pf (psf) Min Roof Snow Load, Pmin (psf)	= N = 30.00 E = 20.0000 L	Base Shear Expanded Formula = 0.667*le* Longitudinal Base Shear (k) = Transverse Base Shear (k) =	
Wind: Ultimate Wind Speed (mph) Risk Category Importance — Wind Wind Exposure Enclosure Classification = C — Enc	= 115 mph = II - Normal - = 1.00 F = C F closed f	Seismic Response Coefficients- Frame = (FSW = (BSW =)	
Internal Pressure Coefficients Pressure Suction	= 0.18 = -0.18	Response Modification Factors- Frame = 7	
Components & Cladding Design Pressure: Pressure (psf) Suction (psf)	E = 23.74 = -31.65	38W = 3	
Equivalent Lateral Brace Force Pro	ocedure.		
Steel systems not specifically deta	ailed for seismic	resistance.	









CONDITION 2: FIRST PURLIN SPACE LESS THAN OR EQUAL TO 2'-0"





Panel "Start" and "End" dimensions must be followed for the proper installation of the gable trim(s) provided.

GENERAL NOTES:

ROOF SHEETING PLAN PANELS: 26 Ga. R - Galvalume

















EAVE TRIM = Black BASE TRIM = Arctic White DOOR TRIM = Black RAKE TRIM = Black LINER TRIM = Liner panel color SOFFIT TRIM = Soffit panel color * ONLY APPLICABLE IF LINER TRIM OR SOFFIT PANEL IS INDICATED ON BUILDING ORDER.







- GENERAL NOTES: Use TEK5WW screws in place of SD150 panel screws at all 10 gage members.
 See detail C7A for field coping of coldform endwall column flange braces.
 All connections to door or window jambs where the clip is not designated in the clip table / drawing are made with JC# clips (#= Girt Depth).



EAVE TRIM = Black

DOOR TRIM = Black

RAKE TRIM = Black













PLN03: Please indicate the accurate and precise locations of your water well and leach field on the site plan.

Applicant Response to PLN03:

On the following page you will see a drawing from All Septic Service. I have highlighted the text showing the leech field setback distances. (The leech field is 20' from the proposed hangar, 20' from the existing building, and 140' from the existing residence. You will also see the 3% slope from the existing building.)



ENV4. Please provide proof of sewer (or septic). This is a requirement of the application. If sewer/septic is not planned for this project, please include that information in your project narrative.

ENV5. Please provide an updated site plan demonstrating location of water well, existing buildings, existing septic system components (including tanks, piping, and leach field), and the proposed building. Please provide linear distances between these items. No structures, paving, storage, or parking would be permitted on top of the septic system components or water well.

ENV6. Per Adams County Health Department (ACHD) Regulation O-22, setback distances from septic tanks, pipes, and soil treatment areas (also called leach fields) must be maintained for proposed and existing structures. The regulation, including setback requirements, can be found at https://adamscountyhealthdepartment.org/onsite-wastewater-treatment-systems-septic-systems.

Applicant Response to ENV4, ENV5, AND ENV6:

The following pages demonstrate the new septic system which is capable of accommodating the existing home and proposed hangar. The included drawings from All Septic Service show location of water well, existing buildings, existing septic system components (including tanks, piping, and leach field), and the proposed building.

PLN03 shows the same drawing highlighting the setback distances.

(The leech field is 20' from the proposed hangar, 20' from the existing building, and 140' from the existing residence. You will also see the 3% slope from the existing building.)



Soils Test and Onsite Wastewater System Engineering

December 4, 2024

Alma Cox alma@whitestarteam.com 15849 Harvest Mile Court Adams County, Colorado

Mr. Cox,

Project No. 1425E

Adams County Health Department 4430 South Adams County Parkway Brighton, CO 80601 303-220-9200

ALL SERVICE septic, LLC performed a soils investigation and completed an onsite wastewater treatment system (OWTS) design for the subject residence. The property is located in Adams County, Colorado in an area where OWTSs are necessary. The property is served by an on-site water well.

SITE CONDITIONS

A 5-bedroom residence and 2-bedroom hanger is proposed on the property. The vegetation in the area of the proposed Soil Treatment Area (STA) consists of native shrubs and grasses. The slope at the proposed STA is 3% to the west .

The subsurface was investigated on December 1, 2024 by digging two soil profile test pits with a mini rubber tire excavator. A visiual and tactile analysis of the soil were performed at approximately 4 feet below grade.

LAND USE – No land use changes will affect the performance of the OWTS. This includes drainages, vegetation, and proximity to current wells. The proposed current land use for the STA is a native area with no landscaping. There is no planned construction on the STA after installation.

The component manufacturers are typical of applications used by contractors and engineers in this area. Alternatives may be considered or recommended by contacting our office. Construction must be to County Land Use Regulations, and On-Site Wastewater Treatment System Regulations, the OWTS Permit provided by the County, and this design.

REVEGETATION REQUIREMENTS

An adequate layer of good quality topsoil capable of supporting revegetation shall be placed over the entire disturbed area of the OWTS installation. A mixture of native grass seed that has good soil stabilizing characteristics (but without taproots), provides a maximum transpiration rate, and competes well with successional species. No trees or shrubs, or any vegetation requiring regular irrigation shall be placed over the STA. Until vegetation is reestablished, erosion and sediment control measures shall be implemented and maintained on site. The owner of the OWTS shall be responsible for maintaining proper vegetation cover.

OPERATION INFORMATION AND MAINTENANCE

The property owner shall be responsible for the operation and maintenance of each OWTS servicing the property. The property owner is responsible for maintaining service contracts for manufactured units, alternating STAs, and any other components needing maintenance.

ADDITIONAL CONSTRUCTION NOTES

If design includes a pump, air release valves and weep holes must be installed to allow pump lines to drain to minimize risk of freezing. The pump shall have an audible and visual alarm notification in the event of excessively high water conditions and shall be connected to a control breaker separate from the high water alarm breaker and from any other control system circuits. The pump system shall have a switch so the pump can be manually operated. If bedrock is encountered our office should be contacted.

Excavation equipment must not drive in excavation of the STA due to the potential to compact soil. Extensions should be placed on all septic tank components to allow access to them from existing grade. Backfill over the STA must be uniform and granular with no material greater than minus 3-inch.

Sincerely,

ALL SERVICE septic, LLC

Timothy R. Petz







www.allserviceseptic.com Phone: 303.908.7823 15849 HARVEST MILE COURT Alma Cox Residence Adams County, Colorado 1425E

Site Plan











Pump Selection for a Pressurized System - Single Family Residence Project

Harvest / Alma Cox

Parameters

Discharge Assembly Size	2.00	inches
Transport Length Before Valve	50	feet
Transport Pipe Class	40	
Transport Line Size	2.00	inches
Distributing Valve Model	6402	
Transport Length After Valve	10	feet
Transport Pipe Class	40	
Transport Pipe Size	2.00	inches
Max Elevation Lift	8	feet
Manifold Length	9	feet
Manifold Pipe Class	40	
Manifold Pipe Size	2.00	inches
Number of Laterals per Cell	8	
Lateral Length	72	feet
Lateral Pipe Class	40	
Lateral Pipe Size	1.50	inches
Orifice Size	5/32	inches
Orifice Spacing	3	feet
Residual Head	3	feet
Flow Meter	None	inches
'Add-on' Friction Losses	0	feet
Calculations		

Minimum Flow Rate per Orifice 0.52 gpm Number of Orifices per Zone 100 Total Flow Rate per Zone 53.0 gpm Number of Laterals per Zone 4 % Flow Differential 1st/Last Orifice 4.6 % Transport Velocity Before Valve 5.1 fps Transport Velocity After Valve 5.1 fps

Frictional Head Losses

Loss through Discharge	5.6	feet
Loss in Transport Before Valve	2.2	feet
Loss through Valve	16.0	feet
Loss in Transport after Valve	0.4	feet
Loss in Manifold	0.1	feet
Loss in Laterals	0.3	feet
Loss through Flowmeter	0.0	feet
'Add-on' Friction Losses	0.0	feet

Pipe Volumes

Vol of Transport Line Before Valve	8.7	gals
Vol of Transport Line After Valve	1.7	gals
Vol of Manifold	1.6	gals
Vol of Laterals per Zone	30.5	gals
Total Vol Before Valve	8.7	gals
Total Vol After Valve	33.8	gals

Minimum Pump Requirements

Design Flow Rate	53.0	gpm
Total Dynamic Head	35.7	feet





PumpData

50 GPM, 1-1/2HP

230V 1Ø 60Hz, 200V 3Ø 60Hz

PF5005 High Head Effluent Pump 50 GPM, 1/2HP 115/230V 1Ø 60Hz, 200/230V 3Ø 60Hz
PF5007 High Head Effluent Pump 50 GPM, 3/4HP 230V 1Ø 60Hz, 200/230/460V 3Ø 60Hz
PF5010 High Head Effluent Pump 50 GPM, 1HP 230V 1Ø 60Hz, 200/460V 3Ø 60Hz
PF5015 High Head Effluent Pump





IM-SERIES SEPTIC TANKS IM-540 • IM-1060 • IM-1530



The Infiltrator IM-Series septic tanks are lightweight, strong and durable. This watertight tank design is offered with Infiltrator's line of custom-fit risers and heavy-duty lids. Infiltrator injection molded tanks provide a revolutionary improvement in plastic septic tank design, offering long-term exceptional strength and watertightness. Available in 475 gallon, 1094 gallon and 1537 gallon working capacity tanks.

Features & Benefits

- Strong injection molded polypropylene construction
- Lightweight plastic construction and inboard lifting lugs allow for easy delivery and handling
- Integral heavy-duty green lids that interconnect with TW[™] risers and pipe riser solutions
- Can be pumped dry during pump-outs
- Can be installed with 6" to 48" of cover
- Structurally reinforced access ports eliminate distortion during installation and pump-
- Reinforced structural ribbing offers additional strength
- Suitable for use as a pump tank or rainwater (non-potable) tank
- No special installation, backfill or water filling procedures are required



MID-SEAM CUTAWAY

outs



Reinforced watertight mid-seam gasketed connection

Infiltrator TW Riser System

Reinforced 24" structural access port



IM-Series Septic Tanks General Specifications and Illustrations

The IM-Series septic tanks are an injection molded two piece mid-seam plastic tank. The IM-Series tanks are injection molded plastic design allows for a mid-seam joint that has precise dimensions for accepting an engineered EPDM gasket. Infiltrator's gasket design utilizes technology from the water industry to deliver proven means of maintaining a watertight seal.

The two-piece design is permanently fastened using a series of non-corrosive plastic alignment dowels and locking seam clips. The IM-Series tanks are assembled and sold through a network of certified Infiltrator distributors.

IM-Series Septic Tank Series							
Parameter	IM-540	IM-1060	IM-1530				
Working Capacity	475 gal (1799L)	1094 gal (4141 L)	1537 gal (5818 L)				
Total Capacity	552 gal (2089 L)	1287 gal (4872 L)	1787 gal (6765 L)				
Airspace	16.2%	16.5%	16.9%				
Length (A)	64.9" (1648 mm)	127" (3226 mm)	176" (4460 mm)				
Width (B)	61.7" (1567 mm)	62.2" (1580 mm)	62" (1567 mm)				
Length-to- Width Ratio	1.1 to 1	2.3 to 1	2.8 to 1				
Height (C)	54.6" (1387 mm)	54.7" (1389 mm)	55" (1384 mm)				
Liquid Level	44" (1118 mm)	44" (1118 mm)	44" (1118 mm)				
Invert Drop	3" (76 mm)	3" (76 mm)	3" (76 mm)				
Fiberglass Supports	0	2	4				
Compartments	1	1 or 2	1 or 2				
Maximum Burial Depth	48" (1219 mm)	48" (1219 mm)	48" (1219 mm)				
Minimum Burial Depth	6" (152 mm)	6" (152 mm)	6" (152 mm)				
Maximum Pipe Diameter	4" (100 mm)	6" (152 mm)	4" (100 mm)				
Weight	169 lbs (77 kg)	320 lbs (145 kg)	501 lbs (228 kg)				



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TOP VIEW



END VIEW



SIDE VIEW



MID-HEIGHT SEAM SECTION

IM31 0814

U.S. Patents: 4,759,661; 5,017,041; 5,156,488; 5,336,017; 5,401,116; 5,401,459; 5,511,903; 5,716,163; 5,588,778; 5,839,844 Canadian Patents: 1,329,959; 2,004,564 Other patents pending. Infiltrator, Equalizer, Quick4, and SideWinder are registered trademarks of Infiltrator Systems, Inc. Infiltrator is a registered trademark in France. Infiltrator Systems, Inc. is a registered trademark in Mexico. Contour, MicroLeaching, PolyTuff, ChamberSpacer, MultiPort, PosiLock, QuickCut, QuickPlay, SnapLock and StraightLock are trademarks of Infiltrator Systems, Inc. PolyLok is a trademark of PolyLok, Inc. TUF-TITE is a registered trademark of TUF-TITE, INC. Ultra-Rib is a trademark of IPEX Inc.

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Contact Infiltrator Systems' Technical Services Department for assistance at 1-800-221-4436

Simplex Control Panels

Submittal Data Sheet



Applications

Orenco Simplex Control Panels are used to control effluent pumps, alarms, and other equipment as specified in pressure sewers and onsite septic systems.



General

Orenco Simplex Control Panels are specifically engineered for pressure sewer (STEP) systems, onsite septic treatment systems, and for pump control into conventional gravity systems. Standard features include circuit breakers, an automatic/manual/off toggle switch, automatic motor control operation, and an audio/visual high water level with auto reset. Other standard features and options are listed on page 2. Orenco Panels are designed for use with mechanical and/or mercury float switches. Listed per UL 508; a UL-Canada listing is available.

Standard Models

S1, S2

Nomenclature

S I III Indicates selected options (see page 2). Indicates voltage 1 = 120 VAC2 = 240 VAC

Specifications

Feature	Specification(s)
Panel Enclosure:	Measures 11.5" high x 9.3" wide x 5.4" deep. NEMA 4X rated. Constructed of UV resistant fiberglass; hinge and latch are stainless steel.
S1 Panel Ratings:	120 VAC, 3/4 hp, 14 amps, single phase, 60 Hz.
S2 Panel Ratings:	240 VAC, 2 hp, 14 amps, single phase, 60 Hz.

Standard Features

Feature	Specification(s)
Motor-Start Contactor	120 VAC: 16 FLA, 1 hp, 60 hz; 2.5 million cycles at FLA (10 million at 50% of FLA).
	240 VAC: 16 FLA, 3 hp, 60 hz; 2.5 million cycles at FLA (10 million at 50% FLA).
Pump Circuit Breaker	20 amps, OFF/ON switch. Single pole 120 VAC, double pole 240 VAC. DIN rail mounting with thermal
	magnetic tripping characteristics.
Controls Circuit Breaker	10 amps, OFF/ON switch. Single pole 120V. DIN rail mounting with thermal magnetic tripping
	characteristics.
Toggle Switch	Single pole-double throw HOA switch rated at 20 amps.
Audio Alarm	95 dB at 24", warble-tone sound.
Audio Alarm	120 VAC, automatic reset. DIN rail mount.
Silence Relay	
Visual Alarm	7/8" diameter red lens, "Push-to-silence." NEMA 4X, 1 Watt bulb, 120 VAC.

Optional Features

Feature	Specification(s)	Product Code Adder
Intrinsically Safe Control Relays	120 VAC. Listed per UL 698A, for Class 1 Div. 1, groups A, B, C, D hazardous locations. Larger enclosure required.	IR
Programmable Timer	120 VAC, Repeat cycle from 0.05 seconds to 30 hours. Separate variable controls for OFF & ON time periods.	РТ
Redundant Off Relay	120 VAC, provides a secondary off. Sounds alarm on low level condition. DIN rail mount.	RO
Heater	Anti-condensation heater. Self-adjusting: radiates additional wattage as temperature drops.	HT
Disconnect Switch	Single pole-single throw, 20 amps, motor rated at 1 hp.	DS
Elapsed Time Meter	120 VAC, 7-digit, non-resettable. Limit of 99,999 hours; accurate to 0.01 hours.	ETM
Event Counter	120 VAC, 6-digit, non-resettable.	СТ
Pump Run Light	7/8" green lens. NEMA 4X, 1 Watt bulb, 120 VAC.	PRL

ENV7. The applicant has included a water well permit in the application packet, presumably as proof of water. If this indicates that water will be supplied via the water well for the proposed project, Colorado Division of Water Resources (DWR) review and approval will be required. The current well permit allows for well water use in "one single family dwelling" on the subject parcel. If water is to be supplied to the proposed building, the water well permit would need to be reviewed, modified, and approved for this use. DWR approval documentation will be required for Adams County review at time of building permit, and the applicant is recommended to contact DWR well prior to that time. More information can be found at https://dwr.colorado.gov/ and on the existing water well permit.

Applicant Response to ENV7:

This does not apply to the variance hearing. If the building is approved we will address the well at that tme.

COMMENTS FROM NEIGHBOR 1:

Current hangar does hold two airplanes. Why do you need two airplanes when you only fly one at a time? Will it create movement issues for the neighbor to get out of the hangar to the taxiway?

APPLICANT RESPONSE TO NEIGHBOR 1:

As a member of the Van Aire Community my intentions are not to upset other members. I have only tried to improve my property, ultimately adding value to the Van Aire Community. I understand the concerns of the community members and assure all additions are being made with respect to Van Aire. To address the concern of the existing hangar, it may have housed 2 airplanes in the past, however renovations that were made by the previous owner to the existing hangar resulted in a size reduction that will no longer accommodate more than one aircraft. This is an airpark community and many members own more than one aircraft. The plans for the proposed hangar will not create any movement issues for the taxiway or any part of Van Aire community.

COMMENTS FROM NEIGHBOR 2:

In reference to the property at 15849 Harvest court, Cox residence, I object to him being allowed to have a variance let alone build another so called hangar on his property. Inefficiency, safety and aircraft maneuverability of aircraft has nothing to do with this, He has already exceeded the amount of coverage on the property per the Bi laws of the community. He doesn't know how to fly let alone own an airplane. The present hangar is large enough to house 2 airplane's, the previous owner had a Cessna 182 and a Beechcraft Bonanza in there at the same time. Therefore, his comment of only being able to hold 1 airplane is false. He wants to house construction equipment, not airplane's in the proposed building. He's had trailers, tractors, trucks and all kinds of heavy equipment on his property ever since he moved in there, all of which are against the Bi Laws. This is an aviation community not an industrial park. There are also Bi-laws against running a business out of the properties at VanAire, which he has ignored. His disrespect for his neighbors and their property is another reason why this should not be allowed.

APPLICANT RESPONSE TO NEIGHBOR 2:

Again my intentions are not to upset other Van Aire members, I am simply trying to improve my property, which ultimately adds value to the Van Aire community as a whole. The plans to add an additional hangar have been approved by the Van Aire Architectural Committee with enthusiasm. Future plans for flying and owning aircraft rely on having adequate space. As previously stated, the existing hangar renovations made by the previous owner reduced the space available for aircraft. The Bi Laws do not restrict the amount of aircraft allowed, and owning more than one aircraft does not negatively affect the Van Aire aviation community in any way. Additionally, there are many other Van Aire community members that have added, or are in the process of adding larger secondary hangars to their properties. I have great relationships with many of my Van Aire neighbors, and enjoy being a member of the community. (My approval letter from the Van Aire Architectural Committee has been included on the next page.)



Hangar Building and Home Addition approvals

2 messages

John Conroy <bigduke6.jc@gmail.com> To: White Star Electric <alma@whitestarteam.com> Fri, Nov 10, 2023 at 10:59 AM

The Architectural Control Committee of Van Aire Skyport Corp (VASC), Brighton, CO, has granted approval to Alma Cox for construction of a new hangar building and garage extension on his home at 15849 Harvest Ct, Brighton, CO 80603.

The designs shall be constructed as submitted and with the setbacks specified in the current Covenants and Bylaws of Van Aire Skyport Corp.

Congratulations, and we look forward to seeing the results!

John Conroy President, VASC 303-503-3126