Amo Acres Subdivision

Final Drainage Report

PCD File No: SF2623

All Terrain Engineering Project No: 24030

October 2026

Prepared for:

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Prepared by:

All Terrain Engineering LLC

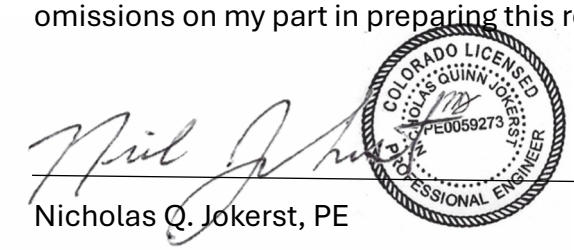
Contact: Nicholas Q. Jokerst

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ENGINEER'S STATEMENT

The attached drainage plan and report were prepared under my direction and supervision and are correct to the best of my knowledge and belief. Said drainage report has been prepared according to the criteria established by the County for drainage reports and said report is in conformity with the applicable master plan of the drainage basin. I accept responsibility for any liability caused by any negligent acts, errors or omissions on my part in preparing this report.



10/05/2026

Nicholas Q. Jokerst, PE Date

State of Colorado No. 59273

For and on behalf of All Terrain Engineering LLC

DEVELOPER'S STATEMENT

I, the owner/developer, have read and will comply with all of the requirements specified in this drainage report and plan.

10/5/26

Dan Wilson/Sandra Wilson Date

10/6/26

Paul Haggerty Date

In Behalf of Alex DeConza/Windland

EL PASO COUNTY ONLY

Filed in accordance with the requirements of the Drainage Criteria Manual, Volumes 1 and 2, El Paso County Engineering Criteria Manual and Land Development Code as amended.

Joshua J. Palmer, P.E. Date
County Engineer/ECM Administrator

Conditions:

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I. General Purpose, Location & Description

a. Purpose & Project Description

The purpose of the Final Drainage Report (FDR) for Amo Acres Subdivision is to describe the site's onsite and offsite drainage patterns, existing and proposed storm infrastructure, and to safely route developed stormwater to adequate outfalls. There will be no proposed site improvements or disturbances associated with this drainage report.

b. Location

Amo Acres Subdivision, referred to as 'the site' herein, is parcel of land being a portion of the Southwest Quarter of Section 36, Township 13 South, Range 64 West of the 6th P.M. The site is bound by unplatted land to the north and east, Slocum Road to the west and Tract 2 – 4 of Amo Acres to the south. A vicinity map is presented in Appendix A.

c. Description of Property

d. Amo Acres Filing No. 1 is a 38.06 acre parcel. The project will subdivide the site into (2) 19.03 acre lots. The existing property is occupied with (2) residential houses, (2) barns, associated sheds and (2) separate gravel driveways to each house.

In general, the site slopes south & west towards Amo Acres. A portion of the site drains directly to an unnamed tributary of Black Squirrel Creek with Zone A floodplain. Onsite elevations range from 6385' – 6435' with approximate slopes ranging 1 – 33%Per an NRCS soil survey, the site is made up of Type A Truckton Sandy Loam and Type B Blendon Sandy Loam. On-site, existing utilities include services for water, sewer, irrigation, gas, communications and electric. An existing drainage map is presented in Appendix F.

The ultimate receiving waters for the site are Black Squirrel Creek.

e. Floodplain Statement

Based on FEMA Firm map 08041C0785G dated December 7, 2018, the site is Zone X and Zone A. Zone X are areas determined to be outside the 0.2% annual chance flood hazard. Zone A are areas determined to be within the 1% annual chance of flood. The site's existing buildings are located within Zone X. Zone A portions of the site are designated in a No-Build tract.

II. Drainage Basins

a. Major Basin Description

The site is located within the Solberg Ranch Drainage Basin. At the time of this FDR, Solberg Ranch does not have a published Drainage Basin Planning Study.

b. Existing Subbasin Description

The existing site's drainage patterns are south and west. The site is divided into 9 existing drainage basins. There will be no construction or site disturbance associated with the subdividing of the existing parcel.

Therefore, a proposed conditions subbasin analysis is not included. In the event the developer proposes improvements or disturbances to the site, **this FDR shall be amended to account for the proposed condition**.

Basin OS1 is 7.36 acres of offsite, undeveloped area. Basin OS1 stormwater (Q_5 = 1.7 cfs Q_{100} = 11.4 cfs) flows onsite at DP1 and continues south through Basin 1 to DP5 (Q_5 = 4.4 cfs Q_{100} = 29.6 cfs). DP5 follows historic drainage patterns offsite to the south.

Basin OS2 is 18.8 acres of offsite, undeveloped area. Basin OS2 stormwater (Q_5 = 3.6 cfs Q_{100} = 24.3 cfs) flows onsite at DP2 and continues south through Basin 3 to DP7 (Q_5 = 7.4 cfs Q_{100} = 48.0 cfs). DP7 follows historic drainage patterns offsite to the south.

Basin OS3 is 3.98 acres of offsite, undeveloped area. Basin OS3 stormwater (Q_5 = 0.9 cfs Q_{100} = 5.9 cfs) flows onsite at DP3 and continues south through Basin 4 to DP9 (Q_5 = 11.8 cfs Q_{100} = 76.8 cfs). DP9 is captured by an unnamed tributary of Black Squirrel Creek and follows historic drainage patterns southeast within the tributary.

Basin OS4 is 42.57 acres of offsite, undeveloped area, Slocum Road and a portion of Blue Sage subdivision. Basin OS4 stormwater (Q_5 = 4.8 cfs Q_{100} = 32.1 cfs) flows onsite at DP4 via an existing 18" HDPE culvert. The culvert conveys flow under an existing gravel driveway and into Basin 5. A hydraulic analysis of the existing culvert is presented in Appendix C. In the 5 year scenario, the existing 18" HDPE culvert has a HW/D ratio of 0.89, an approximate exit velocity of 3.24 ft/s and no overtopping flow. In the 100-year scenario, the existing 18" HDPE culvert has a HW/D ratio of 1.83, an approximate exit velocity of 6.2 ft/s and approximately 21.6 cfs overtopping at a depth less than 6". It should be noted that the basin limits of OS4 were determined using El Paso County's LIDAR topography from 2011. The total flow at DP4 is likely overstated based upon upstream depression storage and infiltration that the Rational Method does not account for. Additionally, the existing topography demonstrates that flow in the roadside ditch along Slocum Road may discharge west across the paved surface prior to the site. However, for a conservative analysis, this flow has been routed towards the site in the roadside ditch.

Basin 1 is 10.53 acres of onsite, undeveloped area. Basin 1 stormwater (Q_5 = 2.5 cfs Q_{100} = 17.0 cfs) flows south through the site to DP5 (Q_5 = 4.4 cfs Q_{100} = 29.6 cfs) where it combines with DP1 flow (Q_5 = 1.7 cfs Q_{100} = 11.4 cfs). DP5 follows historic drainage patterns offsite to the south.

Basin 2 is 4.89 acres of undeveloped area. Basin 2 stormwater (Q_5 = 1.2 cfs Q_{100} = 8.2 cfs) flows south through the site to DP6 (Q_5 = 1.2 cfs Q_{100} = 8.2 cfs). DP6 follows historic drainage patterns offsite to the south.

Basin 3 is 13.46 acres of existing structures, gravel driveways and undeveloped area. Basin 3 stormwater (Q_5 = 3.8 cfs Q_{100} = 22.9 cfs) flows south through the site to DP7 (Q_5 = 7.4 cfs Q_{100} = 48.0 cfs) where it combines with DP2 flow (Q_5 = 3.6 cfs Q_{100} = 24.3 cfs). DP7 follows historic drainage patterns offsite to the south.

Basin 4 is 10.11 acres of existing structures, gravel driveways, Slocum Road and undeveloped area. Basin 4 stormwater (Q_5 = 2.8 cfs Q_{100} = 16.7 cfs) flows south through the site to DP9 (Q_5 = 11.8 cfs Q_{100} = 76.8 cfs) where it combines with DP3 (Q_5 = 0.9 cfs Q_{100} = 5.9 cfs) and DP8 flow (Q_5 = 5.5 cfs Q_{100} = 36.5 cfs). DP9 is

captured by an unnamed tributary of Black Squirrel Creek and follows historic drainage patterns southeast within the tributary.

Basin 5 is 1.13 acres of Slocum Road, existing driveways and onsite, undeveloped area. Basin 5 stormwater (Q_5 = 0.6 cfs Q_{100} = 2.6 cfs) flows south along Slocum Road to DP8 (Q_5 = 5.5 cfs Q_{100} = 36.5 cfs) where it combines with DP4 flow (Q_5 = 4.8 cfs Q_{100} = 32.1 cfs). Currently, DP8 overtops the existing driveway and flows south to DP9 (Q_5 = 11.8 cfs Q_{100} = 76.8 cfs). In the event further development necessitates the need for a culvert at this existing driveway, a hypothetical culvert design is presented in Appendix C. The culvert analysis was based upon assumed entrance and exit grades, assumed driveway configurations & roadside swale location. If the culvert were to be constructed, these assumptions shall be verified by a licensed engineer to confirm field conditions are consistent with the hydraulic analysis. In the 5 year scenario, a 24" CMP culvert would convey the design flow with a HW/D ratio of 0.61, an approximate exit velocity of 2.32 ft/s and no overtopping flow. In the 100-year scenario, the 24" CMP culvert has a HW/D ratio of 1.36, an approximate exit velocity of 5.9 ft/s and approximately 19.3 cfs overtopping at a depth less than 6". It should be noted that this is a hypothetical analysis and no culverts are proposed with the project.

Drainage Design Criteria

a. Development Criteria Reference

The drainage analysis follows the criteria from the "Drainage Criteria Manual County of El Paso, Colorado" Volumes 1 and 2," as amended.

b. Hydrologic Criteria

Onsite drainage analysis included the 5-year storm (minor event) and 100-year storm (major event). Runoff is calculated per EPCDCM Chapter 5 – Storm Runoff Method of Analysis and Volume 1 Update Chapter 6 – Hydrology.

c.

d. Hydraulic Criteria

Hydraulic criteria for channel analysis are obtained from EPCDCM Chapter 9 – Culvert Design and Chapter 10 - Open Channels and Structures.

III. Drainage Facility Design

a. General Concept

The proposed site will be subdivided into (2) 19.03 acre lots served by gravel, private driveways. Site stormwater will maintain existing drainage patterns and overland flow through the site to historic outfalls. Water quality and detention will not be provided for the site as the lots exceed the 2.5 acre threshold and no disturbances are proposed.

b. Water Quality & Detention

Water quality and detention will not be provided for the site as the lots exceed the 2.5 acre threshold and no disturbances are proposed. A PCM Applicability form is included in Appendix D.

c. Inspections & Maintenance

An Inspection and Maintenance Manual will not be provided as the site does not contain any permanent BMPs or PCMs.

d. Grading & Erosion Control Plan

A Grading & Erosion Control Plan will not be provided as no site disturbances are proposed.

e. Four Step Method

Step 1 – Employ Runoff Reduction Practices: Existing roof drains discharge to undeveloped areas. Stormwater overland flows through landscaping and open space which will help slow runoff and increase infiltration.

Step 2 – Stabilize Drainageways: All new and re-development projects are required to construct or participate in the funding of channel stabilization measures. Drainage basin fees paid, at the time of platting, go towards channel stabilization with the drainage basin. Refer to Section F for drainage basin fee calculations.

Step 3 – Provide WQCV: Water quality treatment is not required for the site.

Step 4 – Consider the need for source controls: No industrial uses are proposed within this development and therefore no source controls are proposed.

f. Drainage Basin & Bridge Fees

The site is within the Solberg Ranch Drainage Basin. Drainage basin and bridge fees are due at time of platting. The 2026 Solberg Ranch Basin Fee per impervious acre is $27,282. Solberg Ranch Drainage Basin does not have an associated bridge fee. The composite impervious for the site is 3.2%. The total platted area is 38.06 acres. Therefore, there are 1.22 impervious acres.

Basin Fee: 1.22 impervious acres x $27,282/impervious ac = $33,284

g. Engineer's Opinion of Probable Cost

An El Paso County 2026 Financial Assurance estimate is not provided as no improvements are proposed.

IV. Summary

Amo Acres Subdivision remains consistent with pre-development drainage conditions. The proposed development will not adversely affect downstream stormwater infrastructure or surrounding developments. This report is in accordance with the latest El Paso County Drainage criteria.

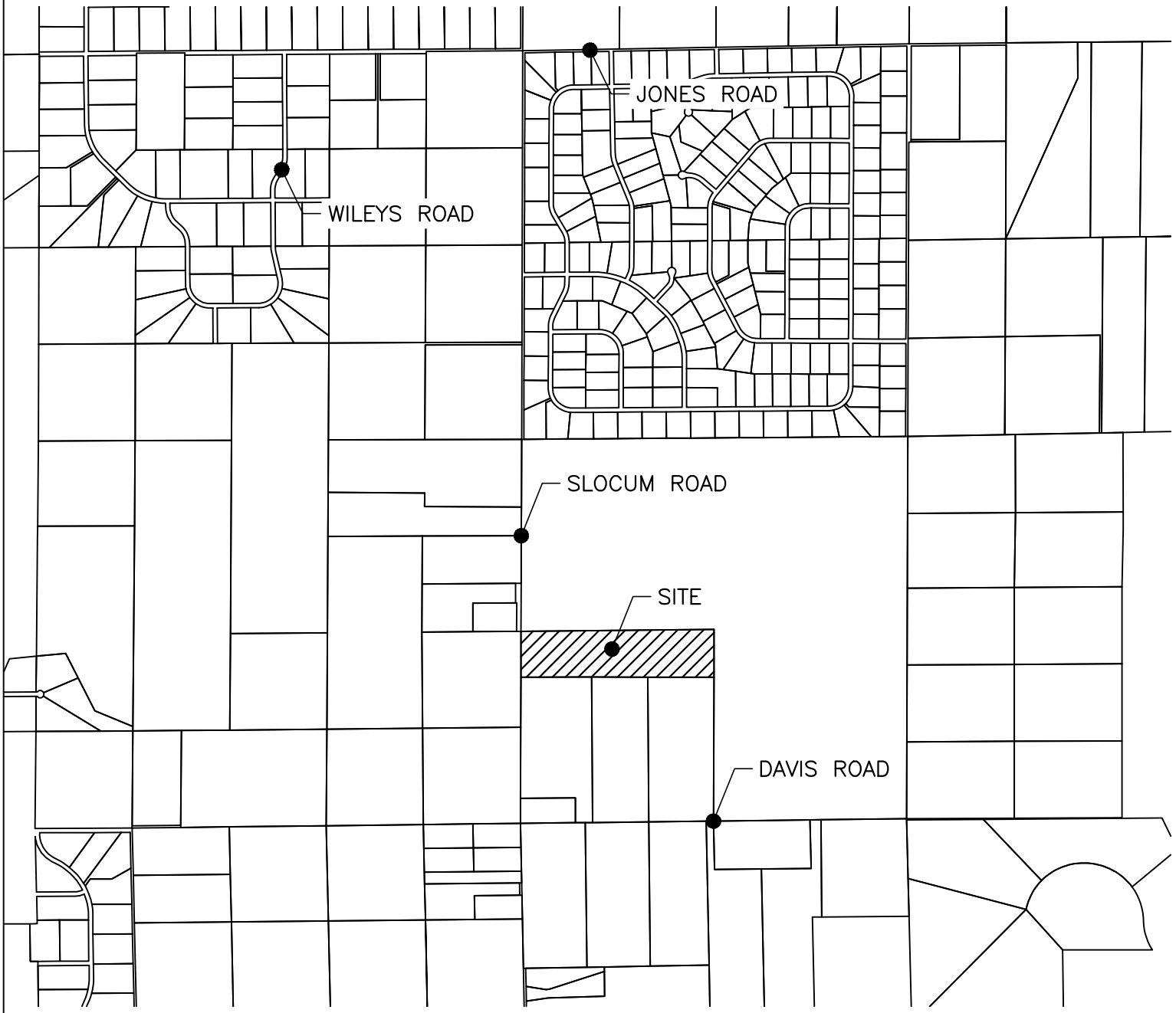
V. References

1. El Paso County – Drainage Criteria Manual, 2018 as amended.
2. Urban Storm Drainage Criteria Manual, Mile High Flood District, March 2024.
3. Federal Emergency Management Agency, Flood Map Service Center - https://msc.fema.gov/portal/home, September 2024.
4. Web Soil Survey, Natural Resources Conservation Service - https://websoilsurvey.nrcs.usda.gov/app/, September 2024.

APPENDIX A – VICINITY MAP, FEMA MAP, NRCS WEB SOIL SURVEY

AMO ACRES FILING NO. 1

VICINITY MAP



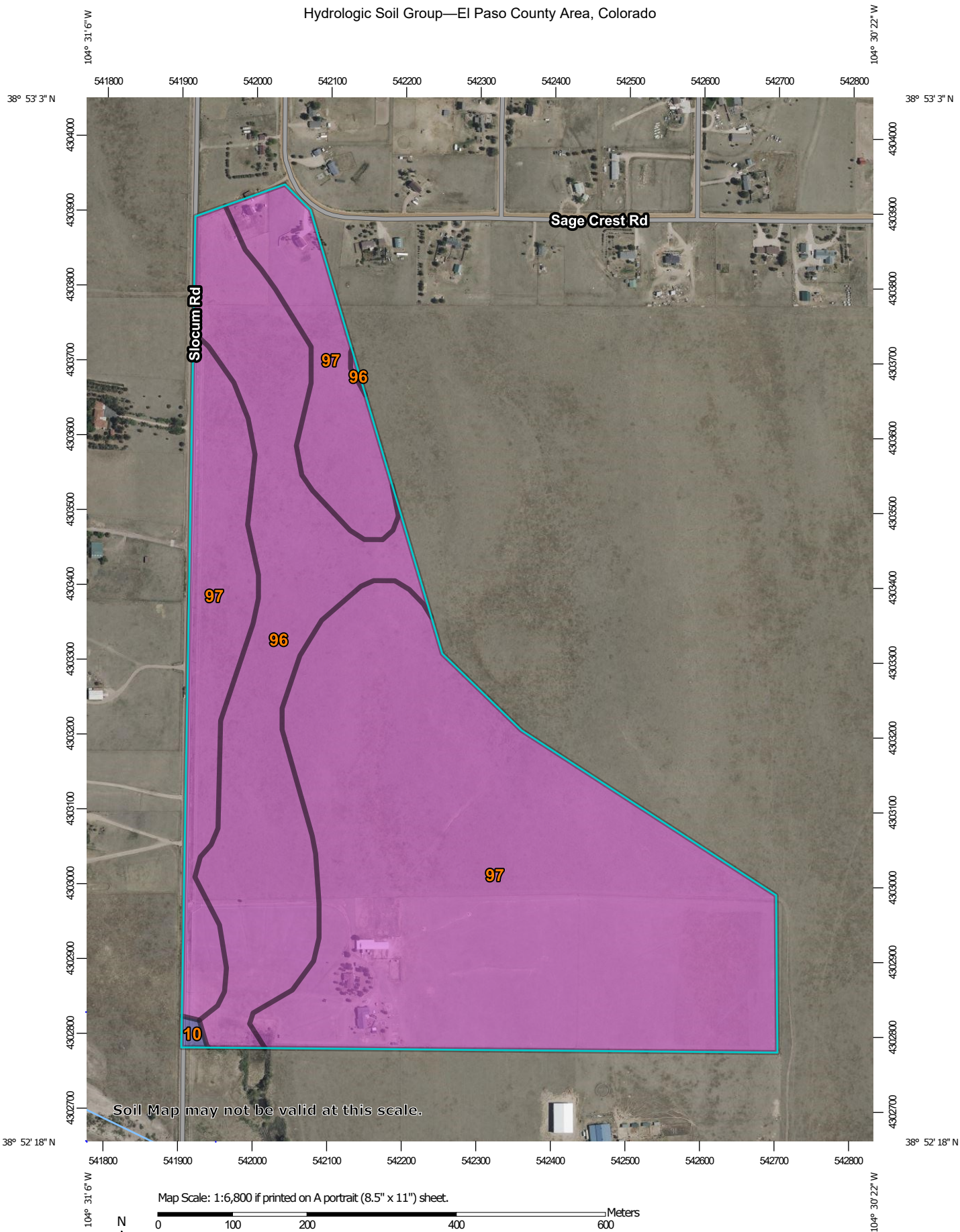
N

2000 1000 0 2000 4000

ORIGINAL SCALE: 1" = 2,000'

VICINITY MAP	
AMO ACRES F1	
JOB NO. 24030	
LOCATION: EPC	SHEET 1
08/10/2026	

ALL TERRAIN ENGINEERING
1004 WEST VAN BUREN STREET
COLORADO SPRINGS, CO 80907



Map Scale: 1:6,800 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 23, Aug 29, 2025

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

Date(s) aerial images were photographed: May 27, 2024—Jul 28, 2024

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
10	Blendon sandy loam, 0 to 3 percent slopes	B	0.3	0.2%
96	Truckton sandy loam, 0 to 3 percent slopes	A	30.0	24.6%
97	Truckton sandy loam, 3 to 9 percent slopes	A	91.6	75.1%
Totals for Area of Interest			**121.9**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

National Flood Hazard Layer FIRMette

FEMA

104°31'12"W 38°52'40"N



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

1:6,000

104°30'34"W 38°52'12"N

Basemap Imagery Source: USGS National Map 2023

Legend

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

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/10/2026 at 11:19 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

APPENDIX B – HYDROLOGIC CALCULATIONS

Subdivision:	Amo Acres
Location:	El Paso County
Project Name:	Amo Acres
Project Number:	24030
Calculated By:	NQJ
Checked By:	REB
Date:	8/10/2026

BASIN SUMMARY TABLE

Basin	Area (ac)	Impervious	C_5	C_{100}	t_c (min)	$Q_{5\text{-YR}}$ (cfs)	$Q_{100\text{-YR}}$ (cfs)
OS1	7.36	0.0%	0.09	0.36	28.3	1.7	11.4
OS2	18.80	0.0%	0.09	0.36	37.6	3.6	24.3
OS3	3.98	0.0%	0.09	0.36	30.5	0.9	5.9
OS4	42.57	0.2%	0.09	0.36	68.4	4.8	32.1
1	10.53	2.0%	0.09	0.36	26.5	2.5	17.0
2	4.89	2.0%	0.09	0.36	24.5	1.2	8.2
3	13.46	3.7%	0.10	0.37	25.1	3.8	22.9
4	10.11	3.6%	0.10	0.37	26.4	2.8	16.7
5	1.13	8.9%	0.15	0.40	15.8	0.6	2.6

DESIGN POINT SUMMARY TABLE

DP#	$Q_{5\text{-YR}}$	$Q_{100\text{-YR}}$
1	1.7	11.4
2	3.6	24.3
3	0.9	5.9
4	4.8	32.1
5	4.4	29.6
6	1.2	8.2
7	7.4	48.0
8	5.5	36.5
9	11.8	76.8

COMPOSITE % IMPERVIOUS CALCULATIONS - EXISTING CONDITIONS

Subdivision: Amo Acres
Location: El Paso County

Project Name: Amo Acres
Project No.: 24030.00
Calculated By: NQJ
Checked By: REB
Date: 8/10/26

		Gravel Drives				Paved				Roofs				Undeveloped				Weighted C_5 & C_{100}		Basins Total Weighted % Imp.
Basin ID	Total Area (ac)	C_5	C_{100}	Area (ac)	% Imp.	C_5	C_{100}	Area (ac)	% Imp.	C_5	C_{100}	Area (ac)	% Imp.	C_5	C_{100}	Area (ac)	% Imp.	C_5	C_{100}	
OS1	7.36	0.59	0.70	0.00	80.0%	0.90	0.96	0.00	100.0%	0.73	0.81	0.00	90.0%	0.09	0.36	7.36	0.0%	0.09	0.36	0.0%
OS2	18.80	0.59	0.70	0.00	80.0%	0.90	0.96	0.00	100.0%	0.73	0.81	0.00	90.0%	0.09	0.36	18.80	0.0%	0.09	0.36	0.0%
OS3	3.98	0.59	0.70	0.00	80.0%	0.90	0.96	0.00	100.0%	0.73	0.81	0.00	90.0%	0.09	0.36	3.98	0.0%	0.09	0.36	0.0%
OS4	42.57	0.59	0.70	0.00	80.0%	0.90	0.96	0.02	100.0%	0.73	0.81	0.05	90.0%	0.09	0.36	42.50	0.0%	0.09	0.36	0.2%
1	10.53	0.59	0.70	0.00	80.0%	0.90	0.96	0.00	100.0%	0.73	0.81	0.00	90.0%	0.09	0.36	10.53	2.0%	0.09	0.36	2.0%
2	4.89	0.59	0.70	0.00	80.0%	0.90	0.96	0.00	100.0%	0.73	0.81	0.00	90.0%	0.09	0.36	4.89	2.0%	0.09	0.36	2.0%
3	13.46	0.59	0.70	0.12	80.0%	0.90	0.96	0.00	100.0%	0.73	0.81	0.15	90.0%	0.09	0.36	13.19	2.0%	0.10	0.37	3.7%
4	10.11	0.59	0.70	0.00	80.0%	0.90	0.96	0.08	100.0%	0.73	0.81	0.09	90.0%	0.09	0.36	9.94	2.0%	0.10	0.37	3.6%
5	1.13	0.59	0.70	0.00	80.0%	0.90	0.96	0.08	100.0%	0.73	0.81	0.00	90.0%	0.09	0.36	1.05	2.0%	0.15	0.40	8.9%
Onsite	**40.12**																			**3.2%**
Total	**112.83**																			**1.1%**

STANDARD FORM SF-2 - EXISTING CONDITIONS
TIME OF CONCENTRATION

Subdivision: Amo Acres
Location: El Paso County

Project Name: Amo Acres
Project No.: 24030.00
Calculated By: NQJ
Checked By: REB
Date: 8/10/26

SUB-BASIN DATA						INITIAL/OVERLAND (T_i)			TRAVEL TIME (T_t)					*tc* CHECK (URBANIZED BASINS)			FINAL
BASIN ID	D.A. (ac)	Hydrologic Soils Group	Weighted C_5	Weighted C_{100}	Impervious (%)	L (ft)	S_o (%)	t_i (min)	L_t (ft)	S_t (%)	K	VEL. (ft/s)	t_t (min)	COMP. t_c (min)	TOTAL LENGTH (ft)	Urbanized t_c (min)	t_c (min)
OS1	7.36	B	0.09	0.36	0.0%	300	3.3%	21.3	306	6.2%	2.5	0.6	8.2	29.5	606.0	28.3	28.3
OS2	18.80	B	0.09	0.36	0.0%	300	2.6%	23.0	1068	2.9%	2.5	0.4	41.8	64.9	1368.0	37.6	37.6
OS3	3.98	B	0.09	0.36	0.0%	300	4.0%	20.0	326	1.8%	2.5	0.3	16.2	36.2	626.0	30.5	30.5
OS4	42.57	B	0.09	0.36	0.2%	300	5.0%	18.5	3247	2.0%	2.5	0.4	153.1	171.6	3547.0	68.4	68.4
1	10.53	A	0.09	0.36	2.0%	300	4.3%	19.5	492	2.8%	7.0	1.2	7.0	26.5	792.0	30.9	26.5
2	4.89	A	0.09	0.36	2.0%	300	4.7%	19.0	423	3.3%	7.0	1.3	5.5	24.5	723.0	29.8	24.5
3	13.46	A	0.10	0.37	3.7%	300	5.7%	17.6	570	3.3%	7.0	1.3	7.5	25.1	870.0	30.9	25.1
4	10.11	A/B	0.10	0.37	3.6%	300	5.0%	18.3	556	2.7%	7.0	1.2	8.1	26.4	856.0	31.3	26.4
5	1.13	A/B	0.15	0.40	8.9%	167	5.9%	12.4	244	2.9%	7.0	1.2	3.4	15.8	411.0	26.8	15.8

NOTES:

$$t_c = t_i + t_t$$

Where:

t_c = computed time of concentration (minutes)

t_i = overland (initial) flow time (minutes)

t_t = channelized flow time (minutes).

Eq

$$t_i = \frac{0.395(1.1 - C_5)\sqrt{L_i}}{S_o^{0.33}}$$

Where:

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

Equation 6-3

Table 6-2. NRCS Conveyance factors, K

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

$$t_t = \frac{L_t}{60K\sqrt{S_o}} = \frac{L_t}{60V_t}$$

Where:

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

Equation 6-4 $t_c = (26 - 17i) + \frac{L_t}{60(14i + 9)\sqrt{S_t}}$

s:

t_c = minimum time of concentration for first design point when less than t_c from Equation 6-1.
L_t = length of channelized flow path (ft)
i = imperviousness (expressed as a decimal)
S_t = slope of the channelized flow path (ft/ft).

Equation 6-5

Use a minimum t_c value of 5 minutes for urbanized areas and a minimum t_c value of 10 minutes for areas that are not considered urban. Use minimum values even when calculations result in a lesser time of concentration.

STANDARD FORM SF-3 - EXISTING CONDITIONS

STORM DRAINAGE SYSTEM DESIGN

(RATIONAL METHOD PROCEDURE)

Subdivision: Amo Acres
Location: El Paso County
Design Storm: 5-Year

Project Name: Amo Acres
Project No.: 24030.00
Calculated By: NQJ
Checked By: REB
Date: 8/10/26

		DIRECT RUNOFF							TOTAL RUNOFF				OVERLAND			PIPE				TRAVEL TIME			
DESCRIPTION	Design Point	Basin ID	Area (Ac)	Runoff Coeff.	t_c (min)	C* A (Ac)	I (in/hr)	Q (cfs)	tc (min)	C* A (ac)	I (in/hr)	Q (cfs)	$Q_{overland}$ (cfs)	C* A (ac)	Slope (%)	Q_{pipe} (cfs)	C* A (ac)	Slope (%)	Pipe Size (inches)	Length (ft)	Velocity (fps)	t_t (min)	REMARKS
	1	OS1	7.36	0.09	28.3	0.66	2.57	1.7					1.7	0.66	3.6					792	1.3	9.9	BASIN OS1 @ DP1, FLOWS SOUTH TO DP5
	2	OS2	18.80	0.09	37.6	1.69	2.14	3.6					3.6	1.69	4					870	1.4	10.4	BASIN OS2 @ DP2, FLOWS SOUTH TO DP7
	3	OS3	3.98	0.09	30.5	0.36	2.46	0.9					0.9	0.36	3.8					856	1.4	10.5	BASIN OS3 @ DP3, FLOWS SOUTH TO DP9
	4	OS4	42.57	0.09	68.4	3.88	1.25	4.8					4.8	3.88	2.2					270	1.0	4.3	BASIN OS4 @ DP4, CAPTURED BY EX 18" HDPE CULVERT, FLOWS SOUTH TO DP8
		1	10.53	0.09	26.5	0.95	2.67	2.5															BASIN 1 @ DP5
	5								36.5	1.61	2.19	4.4											COMBINED DP1 & BASIN 1 @ DP5, FOLLOWS HISTORIC PATTERNS SOUTH
	6	2	4.89	0.09	24.5	0.44	2.79	1.2															BASIN 2 @ DP6, FOLLOWS HISTORIC PATTERNS SOUTH
		3	13.46	0.10	25.1	1.37	2.75	3.8															BASIN 3 @ DP7
	7								37.6	3.06	2.14	7.4											COMBINED DP2 & BASIN 3 @ DP7, FOLLOWS HISTORIC PATTERNS SOUTH
		4	10.11	0.10	26.4	1.03	2.67	2.8															BASIN 4 @ DP9
	8	5	1.13	0.15	15.8	0.17	3.44	0.6	72.7	4.05	1.15	5.5	5.5	4.05	4.1					430	1.4	5.1	BASIN 5 & DP4 @ DP8, CONTINUES SOUTH TO DP9
	9								41.0	5.44	2.01	11.8											COMBINED DP3, DP8 & BASIN 4 @ DP9, FOLLOWS HISTORIC PATTERNS SOUTH

Notes:
Street and Pipe C*A values are determined by Q/i using the catchment's intensity value.

STANDARD FORM SF-3 - EXISTING CONDITIONS

STORM DRAINAGE SYSTEM DESIGN

(RATIONAL METHOD PROCEDURE)

Subdivision: Amo Acres
Location: El Paso County
Design Storm: 100-Year

Project Name: Amo Acres
Project No.: 24030.00
Calculated By: NQJ
Checked By: REB
Date: 8/10/26

		DIRECT RUNOFF							TOTAL RUNOFF				OVERLAND			PIPE				TRAVEL TIME			
STREET	Design Point	Basin ID	Area (ac)	Runoff Coeff.	t_c (min)	C*A (ac)	I (in/hr)	Q (cfs)	t_c (min)	C*A (ac)	I (in/hr)	Q (cfs)	$Q_{OVERLAND}$ (cfs)	C*A (ac)	Slope (%)	Q_{pipe} (cfs)	C*A (ac)	Slope (%)	Pipe Size (inches)	Length (ft)	Velocity (fps)	t_t (min)	REMARKS
	1	OS1	7.36	0.36	28.3	2.65	4.31	11.4					11.4	2.65	3.6					792	1.3	9.9	BASIN OS1 @ DP1, FLOWS SOUTH TO DP5
	2	OS2	18.80	0.36	37.6	6.77	3.59	24.3					24.3	6.77	4					870	1.4	10.4	BASIN OS2 @ DP2, FLOWS SOUTH TO DP7
	3	OS3	3.98	0.36	30.5	1.43	4.12	5.9					5.9	1.43	3.8					856	1.4	10.5	BASIN OS3 @ DP3, FLOWS SOUTH TO DP9
	4	OS4	42.57	0.36	68.4	15.36	2.09	32.1					32.1	15.36	2.2					270	1.0	4.3	BASIN OS4 @ DP4, CAPTURED BY EX 18" HDPE CULVERT, FLOWS SOUTH TO DP8
		1	10.53	0.36	26.5	3.79	4.47	17.0															BASIN 1 @ DP5
	5								36.5	6.44	3.67	29.6											COMBINED DP1 & BASIN 1 @ DP5, FOLLOWS HISTORIC PATTERNS SOUTH
	6	2	4.89	0.36	24.5	1.76	4.67	8.2															BASIN 2 @ DP6, FOLLOWS HISTORIC PATTERNS SOUTH
		3	13.46	0.37	25.1	4.95	4.62	22.9															BASIN 3 @ DP7
	7								37.6	11.72	3.59	48.0											COMBINED DP2 & BASIN 3 @ DP7, FOLLOWS HISTORIC PATTERNS SOUTH
		4	10.11	0.37	26.4	3.73	4.49	16.7															BASIN 4 @ DP9
	8	5	1.13	0.40	15.8	0.45	5.78	2.6	72.7	15.81	1.93	36.5	36.5	15.81	4.1					430	1.4	5.1	BASIN 5 & DP4 @ DP8, CONTINUES SOUTH TO DP9
	9								41.0	20.98	3.38	76.8											COMBINED DP3, DP8 & BASIN 4 @ DP9, FOLLOWS HISTORIC PATTERNS SOUTH

Notes:
Street and Pipe C*A values are determined by Q/i using the catchment's intensity value.

APPENDIX C – HYDRAULIC CALCULATIONS

Culvert Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Friday, Aug 21 2026

Ex 18-in HDPE Culvert (DP4 Q5 = 4.8 cfs)

Invert Elev Dn (ft)	=	6401.99
Pipe Length (ft)	=	39.91
Slope (%)	=	3.16
Invert Elev Up (ft)	=	6403.25
Rise (in)	=	18.0
Shape	=	Circular
Span (in)	=	18.0
No. Barrels	=	1
n-Value	=	0.012
Culvert Type	=	Circular Corrugate Metal Pipe
Culvert Entrance	=	Projecting
Coeff. K,M,c,Y,k	=	0.034, 1.5, 0.0553, 0.54, 0.9

Embankment

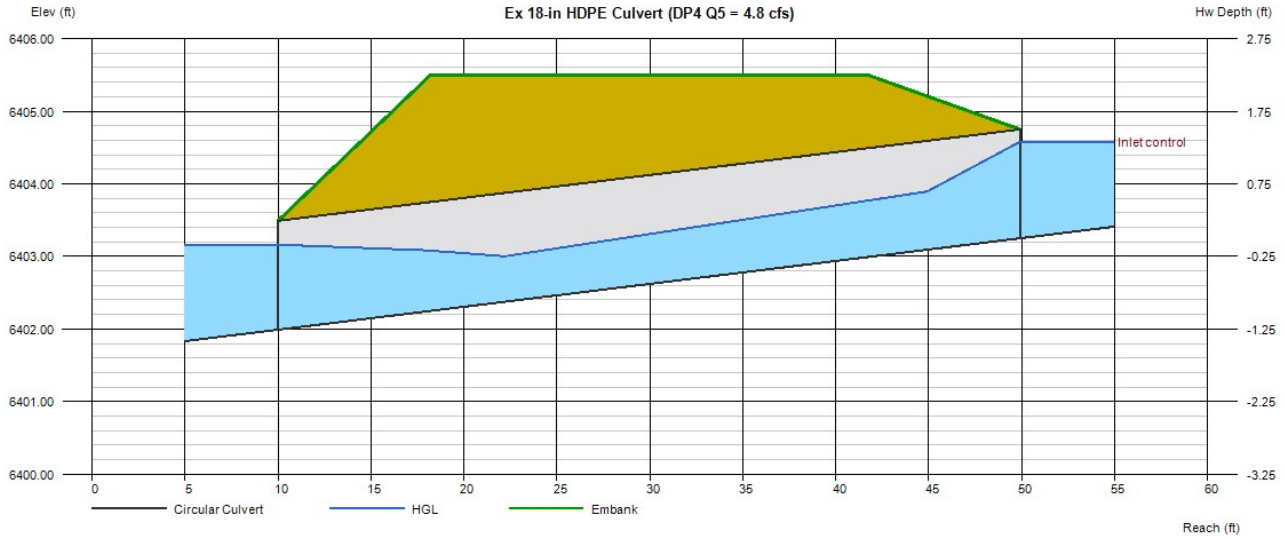
Top Elevation (ft)	=	6405.50
Top Width (ft)	=	23.50
Crest Width (ft)	=	20.00

Calculations

Qmin (cfs)	=	4.00
Qmax (cfs)	=	4.90
Tailwater Elev (ft)	=	(dc+D)/2

Highlighted

Qtotal (cfs)	=	4.80
Qpipe (cfs)	=	4.80
Qovertop (cfs)	=	0.00
Veloc Dn (ft/s)	=	3.24
Veloc Up (ft/s)	=	4.70
HGL Dn (ft)	=	6403.16
HGL Up (ft)	=	6404.09
Hw Elev (ft)	=	6404.58
Hw/D (ft)	=	0.89
Flow Regime	=	Inlet Control



Culvert Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Friday, Aug 21 2026

Ex 18-in HDPE Culvert (DP4 Q100 = 32.1 cfs)

Invert Elev Dn (ft)	=	6401.99
Pipe Length (ft)	=	39.91
Slope (%)	=	3.16
Invert Elev Up (ft)	=	6403.25
Rise (in)	=	18.0
Shape	=	Circular
Span (in)	=	18.0
No. Barrels	=	1
n-Value	=	0.012
Culvert Type	=	Circular Corrugate Metal Pipe
Culvert Entrance	=	Projecting
Coeff. K,M,c,Y,k	=	0.034, 1.5, 0.0553, 0.54, 0.9

Embankment

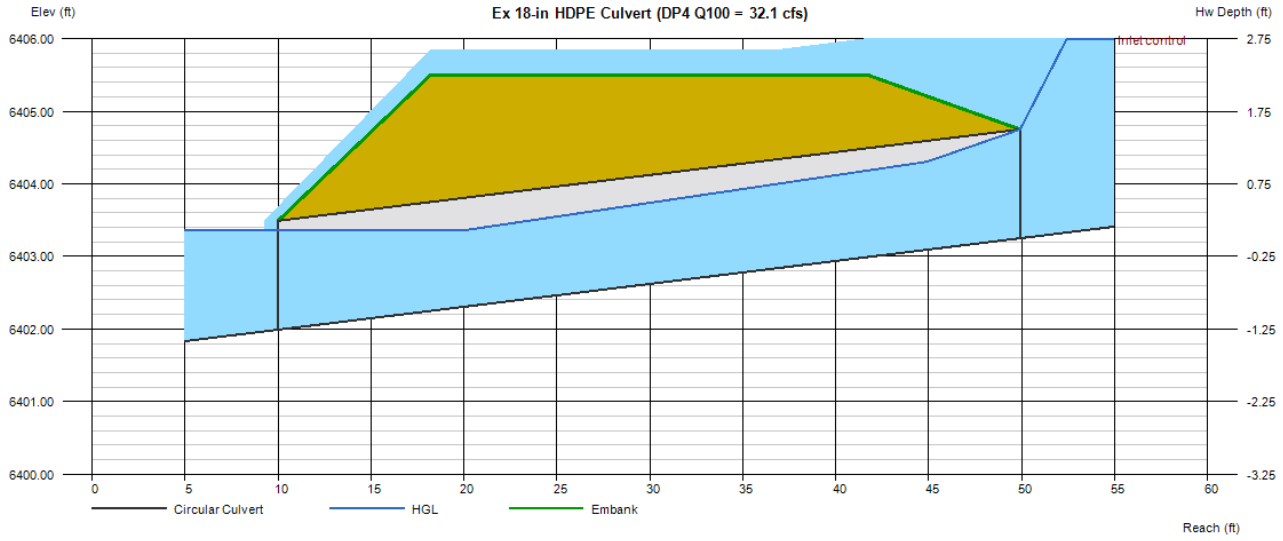
Top Elevation (ft)	=	6405.50
Top Width (ft)	=	23.50
Crest Width (ft)	=	20.00

Calculations

Qmin (cfs)	=	32.10
Qmax (cfs)	=	32.40
Tailwater Elev (ft)	=	(dc+D)/2

Highlighted

Qtotal (cfs)	=	32.10
Qpipe (cfs)	=	10.51
Qovertop (cfs)	=	21.59
Veloc Dn (ft/s)	=	6.20
Veloc Up (ft/s)	=	6.70
HGL Dn (ft)	=	6403.36
HGL Up (ft)	=	6404.50
Hw Elev (ft)	=	6405.99
Hw/D (ft)	=	1.83
Flow Regime	=	Inlet Control



Culvert Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Friday, Aug 21 2026

24-in CMP Culvert (DP8 Q5 = 5.5 cfs)

Invert Elev Dn (ft)	=	6390.95
Pipe Length (ft)	=	40.00
Slope (%)	=	2.00
Invert Elev Up (ft)	=	6391.75
Rise (in)	=	24.0
Shape	=	Circular
Span (in)	=	24.0
No. Barrels	=	1
n-Value	=	0.012
Culvert Type	=	Circular Corrugate Metal Pipe
Culvert Entrance	=	Projecting
Coeff. K,M,c,Y,k	=	0.034, 1.5, 0.0553, 0.54, 0.9

Embankment

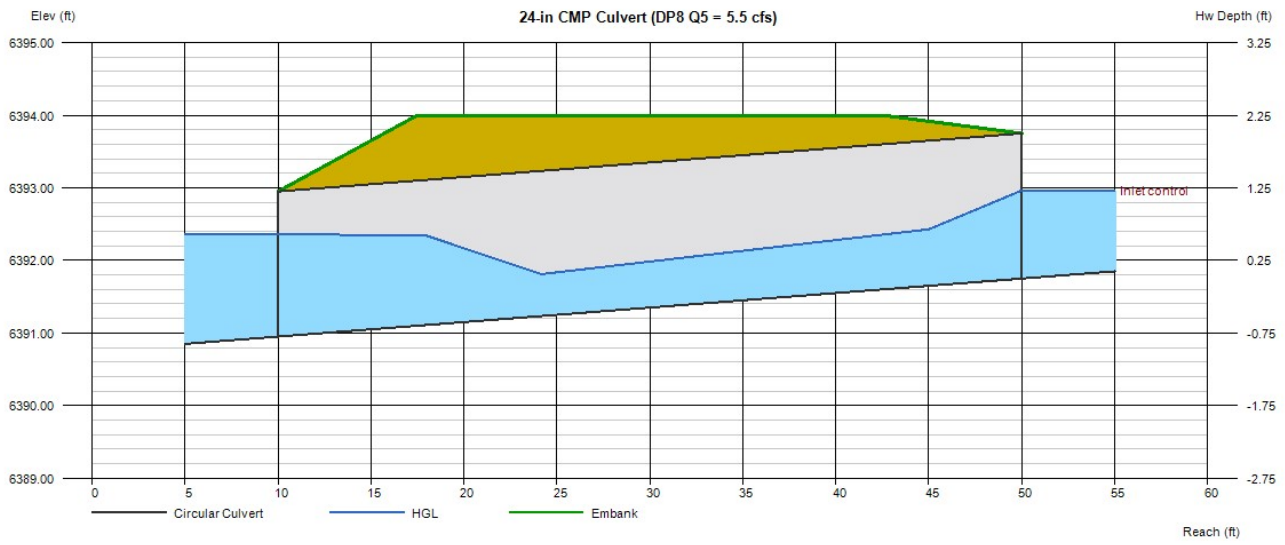
Top Elevation (ft)	=	6394.00
Top Width (ft)	=	25.00
Crest Width (ft)	=	20.00

Calculations

Qmin (cfs)	=	5.00
Qmax (cfs)	=	6.00
Tailwater Elev (ft)	=	(dc+D)/2

Highlighted

Qtotal (cfs)	=	5.50
Qpipe (cfs)	=	5.50
Qovertop (cfs)	=	0.00
Veloc Dn (ft/s)	=	2.32
Veloc Up (ft/s)	=	4.48
HGL Dn (ft)	=	6392.36
HGL Up (ft)	=	6392.58
Hw Elev (ft)	=	6392.96
Hw/D (ft)	=	0.61
Flow Regime	=	Inlet Control



Culvert Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Friday, Aug 21 2026

24-in CMP Culvert (DP8 Q100 = 36.5 cfs)

Invert Elev Dn (ft)	=	6390.95
Pipe Length (ft)	=	40.00
Slope (%)	=	2.00
Invert Elev Up (ft)	=	6391.75
Rise (in)	=	24.0
Shape	=	Circular
Span (in)	=	24.0
No. Barrels	=	1
n-Value	=	0.012
Culvert Type	=	Circular Corrugate Metal Pipe
Culvert Entrance	=	Projecting
Coeff. K,M,c,Y,k	=	0.034, 1.5, 0.0553, 0.54, 0.9

Embankment

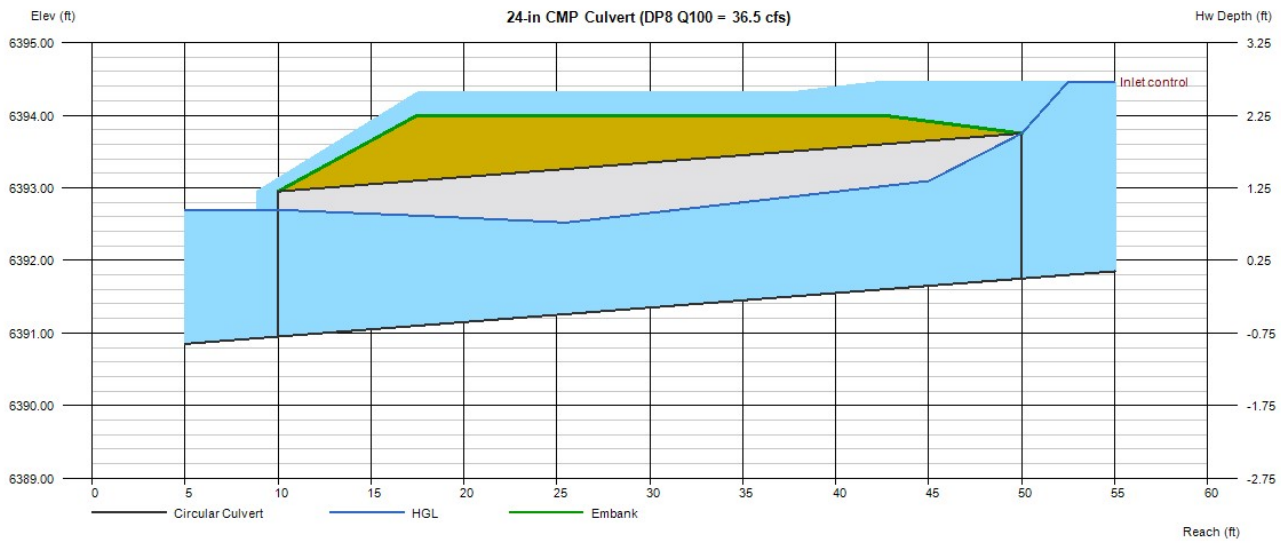
Top Elevation (ft)	=	6394.00
Top Width (ft)	=	25.00
Crest Width (ft)	=	20.00

Calculations

Qmin (cfs)	=	36.00
Qmax (cfs)	=	36.60
Tailwater Elev (ft)	=	(dc+D)/2

Highlighted

Qtotal (cfs)	=	36.50
Qpipe (cfs)	=	17.16
Qovertop (cfs)	=	19.34
Veloc Dn (ft/s)	=	5.90
Veloc Up (ft/s)	=	6.83
HGL Dn (ft)	=	6392.70
HGL Up (ft)	=	6393.24
Hw Elev (ft)	=	6394.46
Hw/D (ft)	=	1.36
Flow Regime	=	Inlet Control



APPENDIX D – WATER QUALITY & DETENTION

2880 International Circle, Suite 110
Colorado Springs, CO 80910
Phone: 719-520-6300
Email: Stormwater@elpasoco.com
publicworks.elpasoco.com/stormwater/

EL PASO COUNTY
PCM APPLICABILITY FORM

EPC Project Number: SF2623

This form is to be used by the Engineer of Record to determine if the proposed construction activities are eligible for an exclusion to stormwater quality permanent control measure (PCM) requirements. All "applicable construction activity" within El Paso County (EPC) must comply with the post-construction stormwater management criteria. Reference ECM Appendix I for information about PCMs.

Note that this form only addresses stormwater quality for the site. Even if the site is fully excluded from needing a stormwater quality PCM, the site may still need to address stormwater detention (per DCMv1 Chap 1.5 and ECM Chap 3.2.8.B). However, if the site requires stormwater detention, then it must also address stormwater quality (per DCMv2 Chap 4.1 and ECM Appendix I.7.3). Refer to the Reference Information pages below for more guidance.

Part I. Project Summary			
Project Name:	Amo Acres Subdivision		
Is Stormwater Detention Required?	☐ Yes ☒ No	**Is Water Quality Treatment Required? (i.e.: non-excluded disturbance >1ac)**	☐ Yes ☒ No
Is an ESQCP Required? If "No," Check Applicable Reason	☐ Yes ☒ No	☐ Not an Applicable Construction Activity ☐ Oil & Gas ☐ R-Factor	
Engineer of Record Email Address:	NJOKERST@ALLTERRAINENG.COM		

Part II. PCM Exclusions

Note: Questions A through K directly correlate to Part I.E.4.a.i (A) to (K) on page 27 of the 2016 CDPS Statewide Standard MS4 General Permit COR090000 (i.e.: the MS4 Permit), as amended. Document exclusions that apply to the whole project or parts of it.

Questions	Excluded Acreage	Yes	No	Notes
A. Is this project a "Pavement Management Site?"			X	This exclusion applies to the maintenance, rehabilitation, and reconstruction of pavement on existing roads, bridges, bike lanes, and parking along roads. Areas used primarily for parking (i.e.: separate lots not along roadway) or access to parking are not included. No increase in impervious area is allowable.
B. Review two options below to see if project is an "Excluded Roadway Development."				Does not include sidewalks. Does include curb & gutter.
• Does the project include improvements to an existing roadway that adds < 1 acre of paved or gravel area per mile of roadway?			X	If selected, list the proposed additional acreage per mile in Part IV Notes below.
• Does the project include improvements to an existing roadway that adds ≤ 8.25 ft of paved width at any location?			X	If selected, list the proposed additional width in Part IV Notes below.

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Colorado Springs, CO 80910
Phone: 719-520-6300
Email: Stormwater@elpasoco.com
publicworks.elpasoco.com/stormwater/

EL PASO COUNTY
PCM APPLICABILITY FORM

EPC Project Number: SF2623

Part II. PCM Exclusions (continued)				
Questions	**Excluded Acreage**	**Yes**	**No**	**Notes**
C. Does the project include "Excluded Existing Roadway Areas?"			X	For redevelopment of existing roadways. This exclusion only excludes the original roadway area, it does NOT apply to the entire project. This exclusion applies only when the proposed project will expand the existing roadway width by <2x on average. If selected, list the proposed expanded width in Part IV Notes below.
D. Is the project considered an Aboveground or Underground Utilities activity?			X	Activity can not permanently alter the terrain, ground cover, or drainage patterns from existing conditions.
E. Is the project considered a "Large Lot Single-Family Site"? *This exclusion only pertains to the lots and does not include roadways.*	38.06 ac	X		Must be a single-family residential lot or agricultural zoned land with ≥ 2.5 acres per dwelling and total lot impervious area < 10%. If "Yes," notate the percent impervious below in Part IV: Notes.
F. Do Non-Residential or Non-Commercial Infiltration Conditions exist? *Post-development surface conditions do not result in concentrated stormwater flow or surface water discharge during an 80th percentile stormwater runoff event, and the 80th percentile event must be infiltrated.*			X	Exclusion does not apply to residential or commercial sites for buildings. A site-specific study is required and must show rainfall and soil conditions, allowable slopes, surface conditions, and ratios of imperviousness area to pervious area.
G. Is the project land disturbance to Undeveloped Land where undeveloped land remains undeveloped following the activity?			X	Project must be on land with no human made structures such as buildings or pavement. The proposed development must return the disturbed area to its historical condition. See CDPHE's "Standard MS4 Permit FAQ" for more detail on how this exclusion applies.
H. Is the project a Stream Stabilization Site?			X	
I. Is the project a Bike or Pedestrian Trail?			X	Bike lanes for roadways are not included in this exclusion but may qualify if attached to a larger roadway activity that is excluded in A, B or C above. Pedestrian trails (e.g. sidewalks) that are attached to a roadway do not apply.
J. Is the project Oil and Gas Exploration?			X	Activities and facilities associated with oil and gas exploration are excluded.
K. Is the project in a County Growth Area?				El Paso County does not apply this exclusion.

If any exclusions above apply (via a "Yes" for any row), runoff from those areas is excluded from stormwater quality treatment requirements. All runoff from remaining non-excluded disturbed areas will need to be treated by a stormwater quality PCM, unless remaining area is <1ac. If remaining area is >1ac, select at least one Design Standard on the next page.

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EL PASO COUNTY
PCM APPLICABILITY FORM

EPC Project Number: SF2623

Part III: PCM Information		
Questions	**Yes**	**No**
1. Which of the following Design Standard(s) will the project utilize? *(If a PCM is required, you must select at least one. See Control Measure Requirements identified in MS4 Permit Part I.E.4.a.iv on page 29.)*		
A. Water Quality Capture Volume (WQCV) Standard		
B. Pollutant Removal Standard - 80% Total Suspended Solids Removal (TSS) *(must treat runoff to <30mg/L of TSS)*		
C. Runoff Reduction Standard		
D. Applicable Development Site Draining to a Regional WQCV Control Measure *(no conveyance via "Waters of the State")*		
E. Applicable Development Site Draining to a Regional WQCV Facility *(conveyance allowable via "Waters of the State," if the 8 conditions in the MS4 permit are met and documented in the drainage report)*		
F. Constrained Redevelopment Sites Standard *(must be pre-approved by ECM Administrator)*		
G. Previous Permit Term Standard		
2. Will any of the PCMs be located within any other jurisdiction besides EPC?		

Part IV: Notes

Provide info regarding all applicable PCM(s) and PCM Exclusion(s) including location, PCM name(s)/number(s), and additional relevant filings or reports or maintenance agreements, etc. Attach an additional sheet if you need more space. Attaching a detailed summary table would replace the need for any notes here.

The site area is approximately 38.06 acres. The site will be subdivided into (2) 19.03 rural residential lots. There will be no disturbance or construction activity associated with this subdivision and therefore WQ & detention are not required.

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EL PASO COUNTY
PCM APPLICABILITY FORM

EPC Project Number: SF2623

Part V: Signatures

Applicant: This PCM Applicability Form was prepared under my direction and supervision and is correct to the best of my knowledge and belief. It was prepared along with the project design, construction plans, drainage report, specifications, and maintenance and access agreements as required. And it has been reviewed for compliance with the Post Construction Stormwater Management criteria and MS4 Permit requirements.

COLORADO LICENSED NICHOLAS QUINN JOKERST PE0059273 07/31/26 PROFESSIONAL ENGINEER

Signature and Stamp of Engineer of Record

10/05/2026
Date

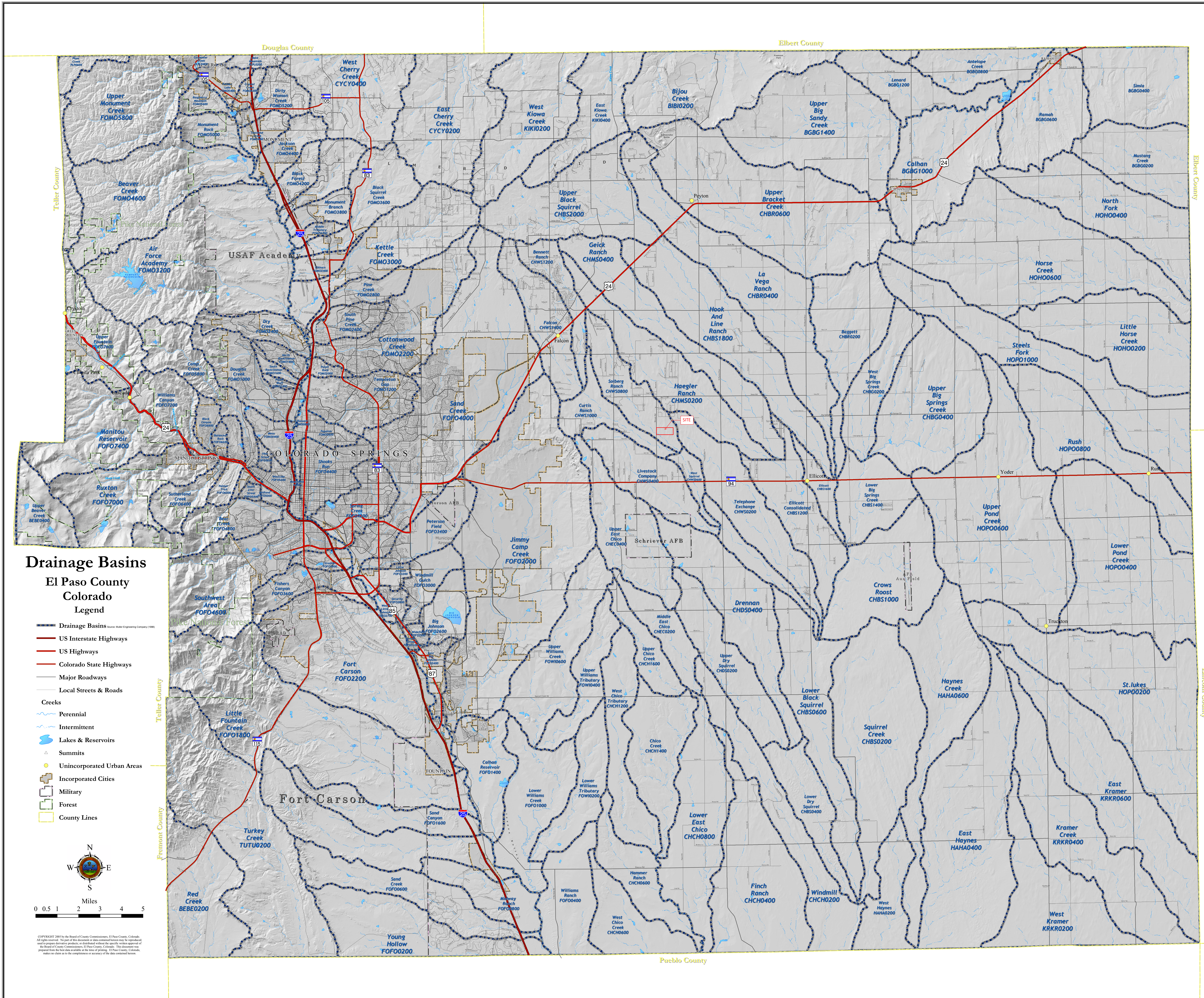
(If the project is not an Applicable Construction Activity, this line can be signed by the Applicant or their rep, they do not have to be an engineer)

El Paso County: This PCM Applicability Form has been reviewed and the project design, construction plans, drainage report, specifications, and maintenance and access agreements as required, have been reviewed for compliance with the Post Construction Stormwater Management process and MS4 Permit requirements.

Signature of El Paso County Project Engineer

Date

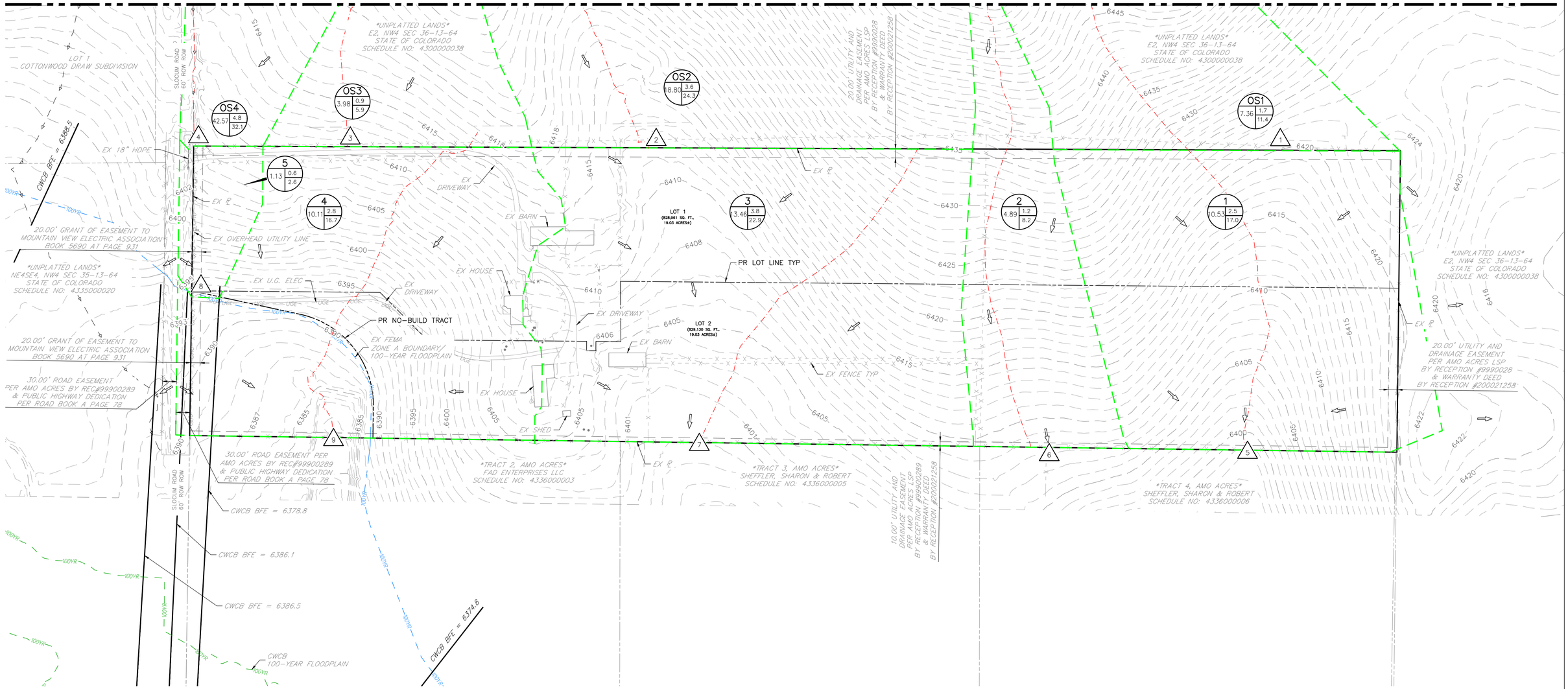
APPENDIX E – REFENCE MATERIAL


Drainage Basins
El Paso County
Colorado
Legend
Drainage Basins Source: Muller Engineering Company (1988)
US Interstate Highways
US Highways
Colorado State Highways
Major Roadways
Local Streets & Roads
Creeks
Perennial
Intermittent
Lakes & Reservoirs
Summits
Unincorporated Urban Areas
Incorporated Cities
Military
Forest
County Lines
N
W
E
S
Miles
0 0.5 1 2 3 4 5
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Douglas County
Elbert County
Teller County
Fremont County
Pueblo County
Lincoln County
PALMER LAKE
MONUMENT
USAF Academy
COLORADO SPRINGS
MANITOU SPRINGS
Pike National Forest
Fort Carson
Peterson AFB
Schriever AFB
FOUNTAIN
CALHAN
RAMAH
Peyton
Falcon
Ellicott
Yoder
Rush
Truckton
Crystola
Chipita Park
Cascade
SITE
Plum Creek PLP0600
Upper Monument Creek FOMO5800
Monument Rock FOMO5000
Raspberry Mountain FOMO5600
Dirty Woman Creek FOMO5200
Jackson Creek FOMO4400
Black Forest FOMO4200
Monument Branch FOMO3800
Black Squirrel Creek FOMO3600
Beaver Creek FOMO4600
Air Force Academy FOMO3200
Kettle Creek FOMO3000
Pine Creek FOMO2800
South Pine Creek FOMO2600
Dry Creek FOMO2400
Cottonwood Creek FOMO2200
Templeton Gap FOMO1200
Douglas Creek FOMO1000
Upper Fountain FOFO7600
Camp Creek FOFO5800
Williams Canyon FOFO7200
Manitou Reservoir FOFO7400
Ruxton Creek FOFO7000
Upper Beaver Creek BEBE0400
Sutherland Creek FOFO6400
Bear Creek FOFO4800
Shooks Run FOFO4400
Spring Creek FOFO4200
Sand Creek FOFO4000
Southwest Area FOFO4600
Fishers Canyon FOFO3600
Peterson Field FOFO3400
Jimmy Camp Creek FOFO2000
Windmill Gulch FOFO3000
Big Johnson FOFO2600
Fort Carson FOFO2200
Little Fountain Creek FOFO1800
Calhan Reservoir FOFO1400
Sand Canyon FOFO1600
Turkey Creek TUTU0200
Red Creek BEBE0200
Sand Creek FOFO0600
Midway Ranch FOFO0800
Young Hollow FOFO0200
West Cherry Creek CYCY0400
East Cherry Creek CYCY0200
West Kiowa Creek KIKI0200
East Kiowa Creek KIKI0400
Bijou Creek BIBI0200
Upper Big Sandy Creek BGBG1400
Antelope Creek BGBG0800
Lenard BGBG1200
Ramah BGBG0600
Simla BGBG0400
Calhan BGBG1000
Mustang Creek BGBG0200
Upper Black Squirrel CHBS2000
Upper Bracket Creek CHBR0600
North Fork HOHO0400
Bennett Ranch CHWS1200
Geick Ranch CHMS0400
La Vega Ranch CHBR0400
Horse Creek HOHO0600
Falcon CHWS1400
Hook And Line Ranch CHBS1800
Baggett CHBR0200
Steels Fork HOPO1000
Little Horse Creek HOHO0200
Solberg Ranch CHWS0800
Haegler Ranch CHMS0200
Curtis Ranch CHWS1000
West Big Springs Creek CHBG0200
Upper Big Springs Creek CHBG0400
Rush HOPO0800
Livestock Company CHWS0400
West Squirrel CHWS0600
Ellicott CHBS1600
Lower Big Springs Creek CHBS1400
Telephone Exchange CHWS0200
Ellicott Consolidated CHBS1200
Upper East Chico CHEC0400
Upper Pond Creek HOPO0600
Lower Pond Creek HOPO0400
Crows Roost CHBS1000
Drennan CHDS0400
Middle East Chico CHEC0200
Upper Williams Creek FOWI0600
Upper Williams Tributary FOWI0400
Upper Chico Creek CHCH1600
Upper Dry Squirrel CHDS0200
West Chico Tributary CHCH1200
Lower Black Squirrel CHBS0600
Haynes Creek HAHA0600
St.lukes HOPO0200
Squirrel Creek CHBS0200
Chico Creek CHCH1400
Lower Williams Creek FOFO1000
Lower Williams Tributary FOWI0200
Lower Dry Squirrel CHBS0400
Lower East Chico CHCH0800
East Kramer KRKR0600
Kramer Creek KRKR0400
East Haynes HAHA0400
Hammer Ranch CHCH0600
Williams Ranch FOFO0400
West Chico Creek CHCH0600
Finch Ranch CHCH0400
Windmill CHCH0200
West Haynes HAHA0200
West Kramer KRKR0200

APPENDIX F – DRAINAGE MAPS

AMO ACRES FILING NO. 1

DRAINAGE MAP



LEGEND

	EXISTING	PROPOSED
BOUNDARY LINE		
PROPERTY LINE		
EASEMENT LINE		
RIGHT OF WAY		
STORM SEWER		
SWALE/WATERWAY FLOWLINE		
INDEX CONTOUR		6100
INTERMEDIATE CONTOUR	6100	
FEMA EFFECTIVE 100-YR FLOODPLAIN	100YR	100YR
CWCB 100-YR FLOODPLAIN	100YR	100YR
FLOW DIRECTION		
BASIN ID	ID / AC / Q5 / Q100	DESIGN POINT DESIGNATION 1
DRAINAGE BASIN		
TC PATH		

BASIN SUMMARY TABLE

Basin	Area (ac)	Impervious	C_5	C_{100}	t_c (min)	$Q_{5\text{-YR}}$ (cfs)	$Q_{100\text{-YR}}$ (cfs)
OS1	7.36	0.0%	0.09	0.36	28.3	1.7	11.4
OS2	18.80	0.0%	0.09	0.36	37.6	3.6	24.3
OS3	3.98	0.0%	0.09	0.36	30.5	0.9	5.9
OS4	42.57	0.2%	0.09	0.36	68.4	4.8	32.1
1	10.53	2.0%	0.09	0.36	26.5	2.5	17.0
2	4.89	2.0%	0.09	0.36	24.5	1.2	8.2
3	13.46	3.7%	0.10	0.37	25.1	3.8	22.9
4	10.11	3.6%	0.10	0.37	26.4	2.8	16.7
5	1.13	8.9%	0.15	0.40	15.8	0.6	2.6

DESIGN POINT SUMMARY TABLE

DP#	$Q_{5\text{-YR}}$	$Q_{100\text{-YR}}$
1	1.7	11.4
2	3.6	24.3
3	0.9	5.9
4	4.8	32.1
5	4.4	29.6
6	1.2	8.2
7	7.4	48.0
8	5.5	36.5
9	11.8	76.8

N

100 50 0 100 200

ORIGINAL SCALE: 1" = 100'

DRAINAGE MAP

AMO ACRES FILING NO. 1

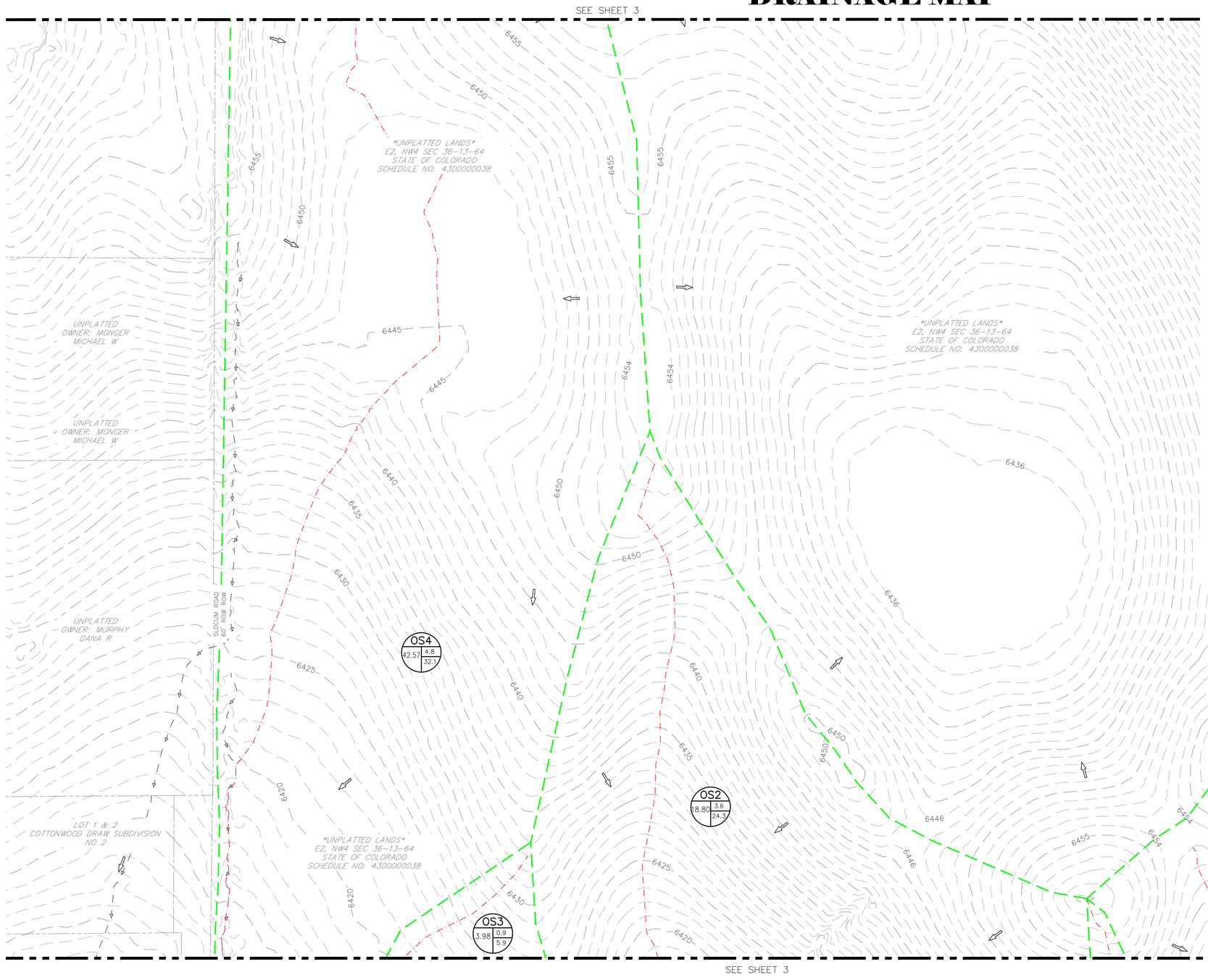
JOB NO. 24030
LOCATION: EPC
10/05/2026

SHEET 1

ALL TERRAIN ENGINEERING

AMO ACRES FILING NO. 1

DRAINAGE MAP



LEGEND

	EXISTING	PROPOSED
BOUNDARY LINE		
PROPERTY LINE		
EASEMENT LINE		
RIGHT OF WAY		
STORM SEWER		
SWALE/WATERWAY FLOWLINE		
INDEX CONTOUR	6100	6100
INTERMEDIATE CONTOUR		
FEMA EFFECTIVE 100-YR FLOODPLAIN	100YR	
CWCB 100-YR FLOODPLAIN	100YR	
FLOW DIRECTION		
BASIN ID	ID / AC / Q5 / Q100	
DESIGN POINT DESIGNATION	1	
DRAINAGE BASIN		
TC PATH		

BASIN SUMMARY TABLE

Basin	Area (ac)	Impervious	C_5	C_{100}	t_c (min)	$Q_{5\text{-YR}}$ (cfs)	$Q_{100\text{-YR}}$ (cfs)
OS1	7.36	0.0%	0.09	0.36	28.3	1.7	11.4
OS2	18.80	0.0%	0.09	0.36	37.6	3.6	24.3
OS3	3.98	0.0%	0.09	0.36	30.5	0.9	5.9
OS4	42.57	0.2%	0.09	0.36	68.4	4.8	32.1
1	10.53	2.0%	0.09	0.36	26.5	2.5	17.0
2	4.89	2.0%	0.09	0.36	24.5	1.2	8.2
3	13.46	3.7%	0.10	0.37	25.1	3.8	22.9
4	10.11	3.6%	0.10	0.37	26.4	2.8	16.7
5	1.13	8.9%	0.15	0.40	15.8	0.6	2.6

DESIGN POINT SUMMARY TABLE

DP#	$Q_{5\text{-YR}}$	$Q_{100\text{-YR}}$
1	1.7	11.4
2	3.6	24.3
3	0.9	5.9
4	4.8	32.1
5	4.4	29.6
6	1.2	8.2
7	7.4	48.0
8	5.5	36.5
9	11.8	76.8

N

100 50 0 100 200

ORIGINAL SCALE: 1" = 100'

DRAINAGE MAP

AMO ACRES FILING NO. 1

JOB NO. 24030 | SHEET 2

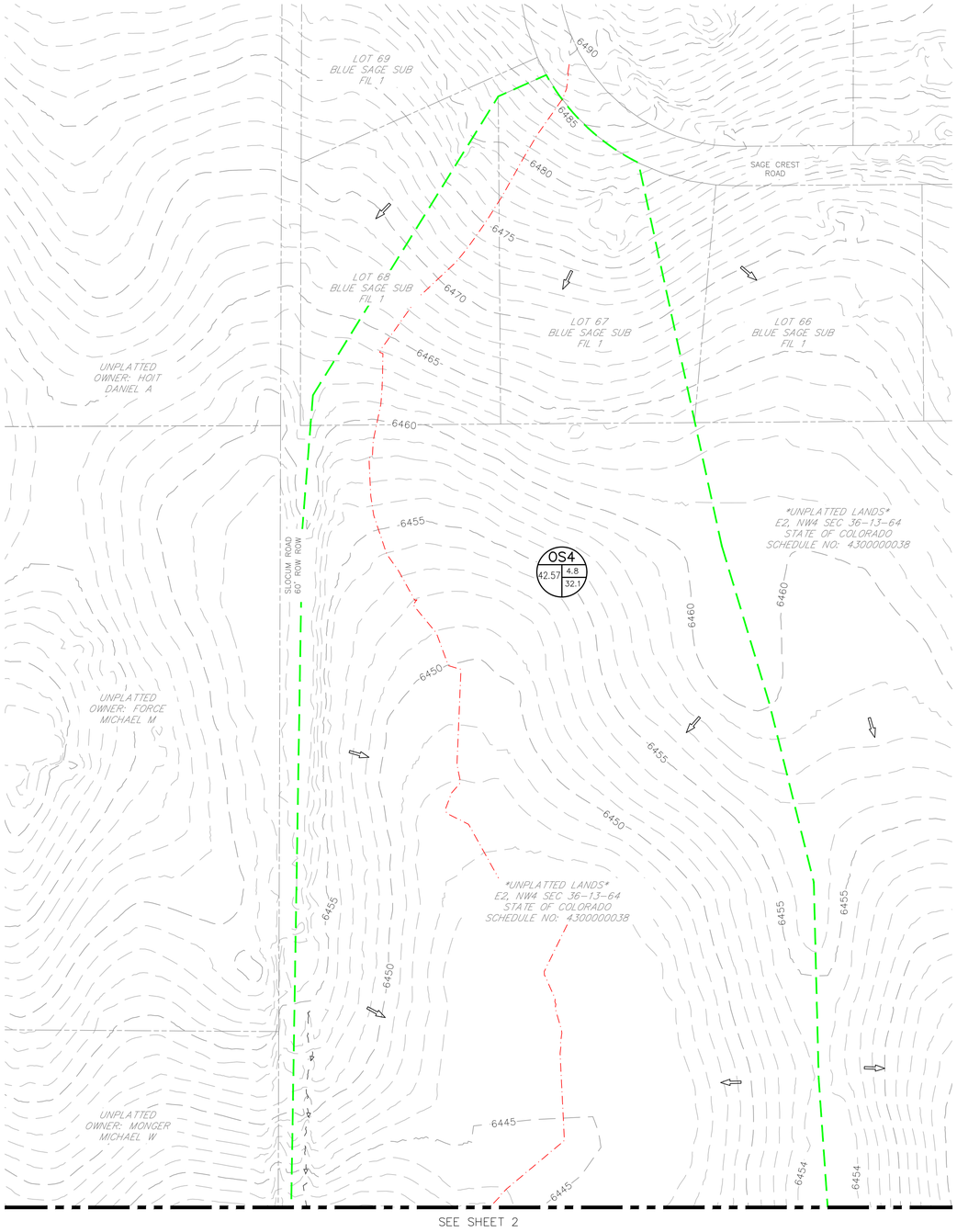
LOCATION: EPC

10/05/2026

ALL TERRAIN ENGINEERING

AMO ACRES FILING NO. 1

DRAINAGE MAP



LEGEND

	EXISTING	PROPOSED
BOUNDARY LINE		
PROPERTY LINE		
EASEMENT LINE		
RIGHT OF WAY		
STORM SEWER		
SWALE/WATERWAY FLOWLINE		
INDEX CONTOUR	6100	6100
INTERMEDIATE CONTOUR		
FEMA EFFECTIVE 100-YR FLOODPLAIN	100YR	
CWCB 100-YR FLOODPLAIN	100YR	
FLOW DIRECTION		
BASIN ID	ID / AC / Q5 / Q100	
DESIGN POINT DESIGNATION	1	
DRAINAGE BASIN		
TC PATH		

BASIN SUMMARY TABLE

Basin	Area (ac)	Impervious	C_5	C_{100}	t_c (min)	$Q_{5\text{-YR}}$ (cfs)	$Q_{100\text{-YR}}$ (cfs)
OS1	7.36	0.0%	0.09	0.36	28.3	1.7	11.4
OS2	18.80	0.0%	0.09	0.36	37.6	3.6	24.3
OS3	3.98	0.0%	0.09	0.36	30.5	0.9	5.9
OS4	42.57	0.2%	0.09	0.36	68.4	4.8	32.1
1	10.53	2.0%	0.09	0.36	26.5	2.5	17.0
2	4.89	2.0%	0.09	0.36	24.5	1.2	8.2
3	13.46	3.7%	0.10	0.37	25.1	3.8	22.9
4	10.11	3.6%	0.10	0.37	26.4	2.8	16.7
5	1.13	8.9%	0.15	0.40	15.8	0.6	2.6

DESIGN POINT SUMMARY TABLE

DP#	$Q_{5\text{-YR}}$	$Q_{100\text{-YR}}$
1	1.7	11.4
2	3.6	24.3
3	0.9	5.9
4	4.8	32.1
5	4.4	29.6
6	1.2	8.2
7	7.4	48.0
8	5.5	36.5
9	11.8	76.8

100 50 0 100 200

ORIGINAL SCALE: 1" = 100'

DRAINAGE MAP

AMO ACRES FILING NO. 1

JOB NO. 24030 | SHEET 3

LOCATION: EPC

10/05/2026

ALL TERRAIN ENGINEERING