Siesta Grove Subdivision

Final Drainage Report

PCD File No:

All Terrain Engineering Project No: 26007

September 2026

Prepared for:

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Prepared by:

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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.

Signatures to be provided prior to approval

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.

Signatures to be provided prior to approval

Quentin Dassonville Date

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 the Siesta Grove 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.

b. Location

Siesta Grove Subdivision, referred to as 'the site' herein, is Tract 4 of Eagle Crest Estates located in a portion of Section 35, Township 11 South, Range 66 West of the 6th P.M. The site is bound by High Forest Ranch Filing 2 to the north and west, Siesta Grove to the south, and Farrar Road to the east. A vicinity map is presented in Appendix A.

c. Description of Property

The site is a 35.54 acre parcel El Paso County, Colorado. The site will be subdivided into (3) 2.5 acre lots with the remainder of the site to remain a tract.

In general, the site drainage patterns are east and west. The site is bisected by a ridge that defines East Cherry Creek Drainage Basin to the east and Black Squirrel Creek Drainage Basin to the west. Onsite elevations range from 7550' – 7640' with slopes ranging approximately 1 – 30%. Per an NRCS soil survey, the site is made up of Type B Elbeth sandy loam, Petyon sandy loam and Tomah-Crowfoot loamy sands. Per a site survey, existing utilities include water, septic, gas and electric.

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

d. Floodplain Statement

Based on FEMA Firm maps 08041C0305G and 08041C0315G dated December 7, 2018, the site is Zone X. Zone X are areas determined to be outside the 0.2% annual chance flood.

II. Drainage Basins

a. Major Basin Description

The site is located within the Black Squirrel Creek and East Cherry Creek Drainage Basins. There is no current DBPS East Cherry Creek. The Black Squirrel Creek DBPS was completed by URS Consultants in January 1989.

b. Existing Basin Description

Basin EX-A is 3.78 acres of undeveloped area. Basin EX-A stormwater (Q_5 = 1.4 cfs Q_{100} = 9.6 cfs) flows overland across the site to the western property line at DP1 (Q_5 = 1.4 cfs Q_{100} = 9.6 cfs). DP1 continues overland to the west through High Forest Ranch Filing 2.

Basin EX-B is 0.83 acres of undeveloped area. Basin EX-B stormwater (Q_5 = 0.3 cfs Q_{100} = 1.9 cfs) flows overland south towards Siesta Grove at DP2 (Q_5 = 0.3 cfs Q_{100} = 1.9 cfs). There is no culvert present at DP2. Flows overtop Siesta Grove and continue south.

Basin EX-C is 0.74 acres of undeveloped area, existing gravel and paved driveways and residential buildings. Basin EX-C stormwater (Q_5 = 0.7 cfs Q_{100} = 2.2 cfs) flows overland south towards Siesta Grove at DP3 (Q_5 = 0.7 cfs Q_{100} = 2.2 cfs). There is an existing 6" PVC culvert at DP3 that conveys stormwater under Siesta Grove to the south.

Basin EX-D is 0.63 acres of undeveloped area, existing gravel driveways and Siesta Grove. Basin EX-D stormwater (Q_5 = 0.3 cfs Q_{100} = 1.5 cfs) flows overland south towards Siesta Grove at DP4 (Q_5 = 0.3 cfs Q_{100} = 1.5 cfs). There is no culvert present at DP4. Flows overtop Siesta Grove and continue south.

Basin EX-E is 1.88 acres of undeveloped area, an existing residential building and Siesta Grove. Basin EX-E stormwater (Q_5 = 0.9 cfs Q_{100} = 3.5 cfs) flows overland to a roadside ditch along the north side of Siesta Grove. The drainage ditch conveys flows east along Siesta Grove to DP5 (Q_5 = 0.9 cfs Q_{100} = 3.5 cfs). DP5 continues to DP7 (Q_5 = 60.3 cfs Q_{100} = 156.1 cfs).

Basin EX-F is 11.41 acres of undeveloped area, existing gravel driveways and existing residential buildings. Basin EX-F stormwater (Q_5 = 3.5 cfs Q_{100} = 21.5 cfs) flows overland to DP6 (Q_5 = 3.5 cfs Q_{100} = 21.5 cfs). DP6 continues east in an unnamed drainageway to DP7 (Q_5 = 58.4 cfs Q_{100} = 146.5 cfs).

Basin EX-G is 12.69 acres of undeveloped area and Farrar Road. Basin EX-G stormwater (Q_5 = 3.3 cfs Q_{100} = 21.7 cfs) flows overland to an unnamed drainageway and onto DP7 (Q_5 = 58.4 cfs Q_{100} = 146.5 cfs) where it combines with DP5 (Q_5 = 0.9 cfs Q_{100} = 3.5 cfs) and offsite DP52 (Q_5 = 51 cfs Q_{100} = 118 cfs). At DP7, an existing 18" CMP culvert conveys flow east under Farrar Road to a downstream drainageway.

Basin EX-H is 3.39 acres of undeveloped area and Farrar Road. Basin EX-H stormwater (Q_5 = 1.2 cfs Q_{100} = 6.7 cfs) flows overland to an unnamed drainageway and onto DP7 (Q_5 = 58.4 cfs Q_{100} = 146.5 cfs). At DP7, an existing 18" CMP culvert conveys flow east under Farrar Road to a downstream drainageway.

Basin EX-I is 0.46 acres of undeveloped area and Farrar Road. Basin EX-I stormwater (Q_5 = 0.3 cfs Q_{100} = 1.2 cfs) flows overland to a roadside ditch along the north side of Farrar Road. The roadside ditch conveys stormwater to DP8 (Q_5 = 4.0 cfs Q_{100} = 10.7 cfs) and combines with offsite DP53 (Q_5 = 3 cfs Q_{100} = 10 cfs). At DP8, an existing 18" CMP culvert conveys flow east under Farrar Road.

c. Proposed Basin Description

There is no proposed development with Basins EX-A – EX-F and EX-I. Refer to Existing Basin Description section for basin details.

Basin G is 12.69 acres of proposed 2.5 acre lots and Farrar Road. Basin G stormwater (Q_5 = 3.3 cfs Q_{100} = 21.7 cfs) will follow historic drainage patterns to an unnamed drainageway and onto DP7 (Q_5 = 60.3 cfs Q_{100} = 156.1

cfs) where it combines with DP5 (Q_5 = 0.9 cfs Q_{100} = 3.5 cfs) and offsite DP52 (Q_5 = 51 cfs Q_{100} = 118 cfs). At DP7, an existing 18" CMP culvert conveys flow east under Farrar Road to a downstream drainageway. In both the existing condition and proposed condition, the existing 18" CMP culvert is undersized to meet El Paso County criteria. However, the increase in flow at DP7 does not have a significant impact on the existing performance of the culvert as the existing flows do not meet criteria. The Hy-8 analysis of the culvert demonstrates that a legible amount of flow enters the culvert (0.14 cfs), and the remainder would overtop Farrar Road. However, based upon field observations of the culvert location, it does not appear that severe overtopping events occur regularly. Photographs of the upstream and downstream drainageways are presented in Appendix E. A hydraulic analysis of the 18" CMP culvert is presented in Appendix C.

Basin EX-H is 3.39 acres of undeveloped area and Farrar Road. Basin EX-H stormwater (Q_5 = 2.5 cfs Q_{100} = 13.8 cfs) flows overland to an unnamed drainageway and onto DP7 (Q_5 = 60.3 cfs Q_{100} = 156.1 cfs). At DP7, an existing 18" CMP culvert conveys flow east under Farrar Road to a downstream drainageway.

The site's existing composite impervious is 4.3%. In the proposed condition, the impervious increases to 5.6%. See below for a comparison of the site's increase in stormwater discharge.

EXISTING V. PROPOSED FLOW COMPARISON				
LOCATION	**Ex $Q_{5\text{-YR}}$**	**Ex $Q_{100\text{-YR}}$**	**Pr $Q_{5\text{-YR}}$**	**Pr $Q_{100\text{-YR}}$**
Ex DP7/Pr DP7	58.4	146.5	60.3	156.1

At DP7, the proposed condition demonstrates a 1.9 cfs and 9.6 cfs increase in stormwater for the 5-year and 100-year scenarios, respectively. The site is heavily vegetated and DP7 is in a large depression adjacent to Farrar Road (approximately 8' depth). The depression functions as a detention basin as the invert of the existing 218" CMP outfall is approximately 5' above the depression bottom. Therefore, stormwater below the 5' depth will infiltrate or evaporate rather than discharging downstream. The existing vegetation, depression storage and Type B soils will allow for infiltration of stormwater and reduce downstream impacts of the development.

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.

d. Hydraulic Criteria

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

III. Drainage Facility Design

a. General Concept

A portion of the site will be subdivided into (3) 2.5 acre lots while the remaining area will remain a tract. Stormwater will follow historic, overland drainage patterns in the proposed condition. The site is split between the Black Squirrel Creek and East Cherry Creek Drainage Basins and the major basin divide will be maintained in the proposed condition.

b. Water Quality & Detention

Since the site will be subdivided as 2.5 acre lots, the site qualifies for a water quality exclusion per EPC ECM Appendix I Section I.6.1.B. A PCM Applicability form has been submitted in conjunction with this FDR.

c. Inspections & Maintenance

An Inspection and Maintenance Manual is not applicable as no permanent facilities are proposed.

d. Grading & Erosion Control Plan

A Grading & Erosion Control Plan is not applicable as no site disturbances are proposed.

e. Four Step Method

Step 1 – Employ Runoff Reduction Practices: Existing roof drains discharge to landscaped areas. Implementation of landscaping and open space throughout the site slows 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 below.

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 Black Squirrel Creek and East Cherry Creek Drainage Basins. The drainage and bridge fees for Black Squirrel Creek are $12,387/impervious acre and $780/impervious acre, respectively. However, no development or additional impervious area is proposed within the Black Squirrel Creek portion of the site. East Cherry Creek Drainage Basin does not have an established drainage or bridge fee.

g. Engineer's Opinion of Probable Cost

An Engineers Opinion of Probable Cost is not applicable as no site improvements are proposed.

IV. Summary

Siesta Grove 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.

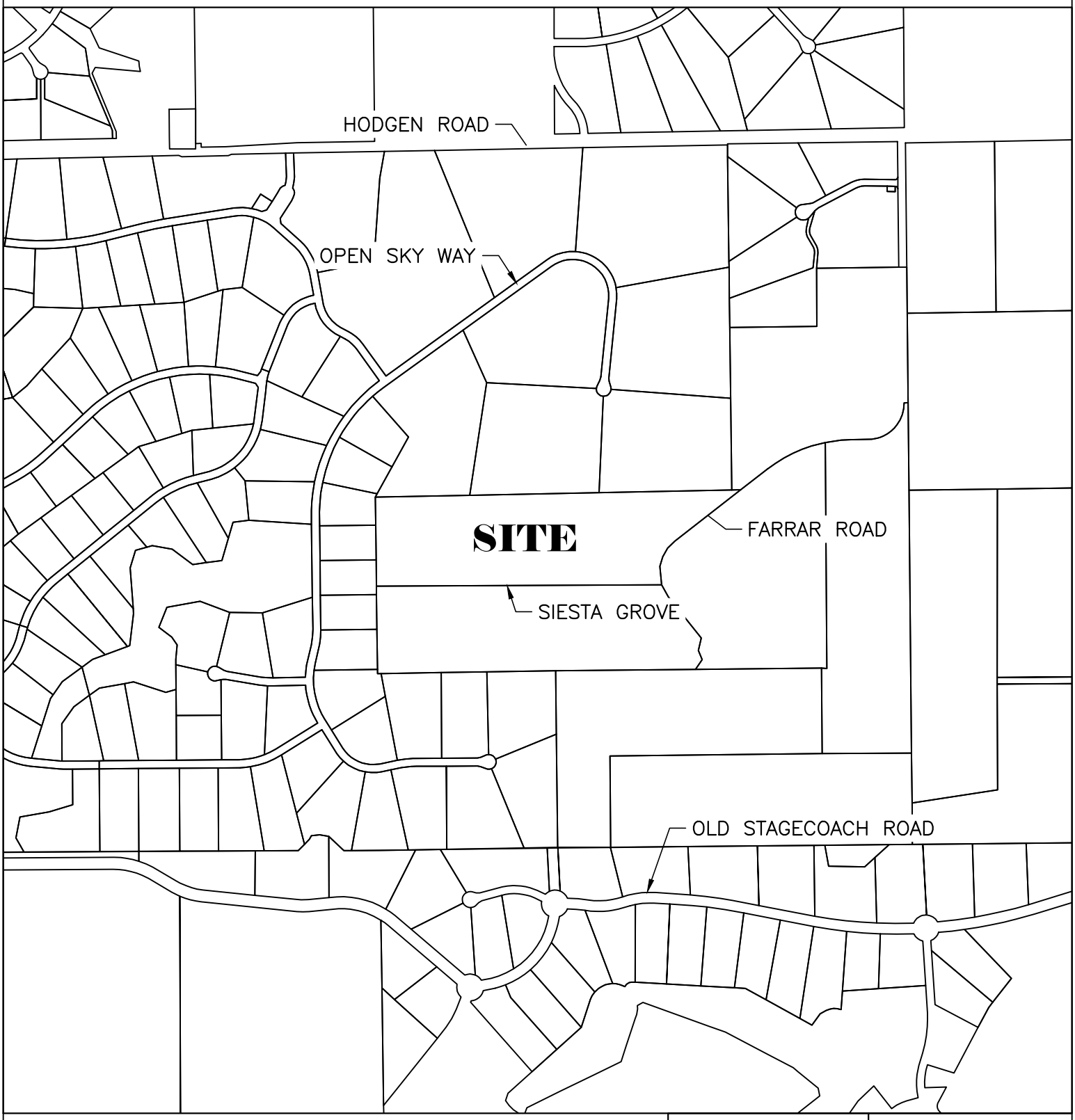
V. References

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

SIESTA GROVE SUBDIVISION

VICINITY MAP



N

1000 500 0 1000 2000

ORIGINAL SCALE: 1" = 1000'

VICINITY MAP	
SIESTA GROVE SUB.	
JOB NO. 26007	
LOCATION: EPC	SHEET
09/21/2026	

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

National Flood Hazard Layer FIRMette

FEMA

104°44'26"W 39°3'58"N



104°43'49"W 39°3'30"N

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

1:6,000

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

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

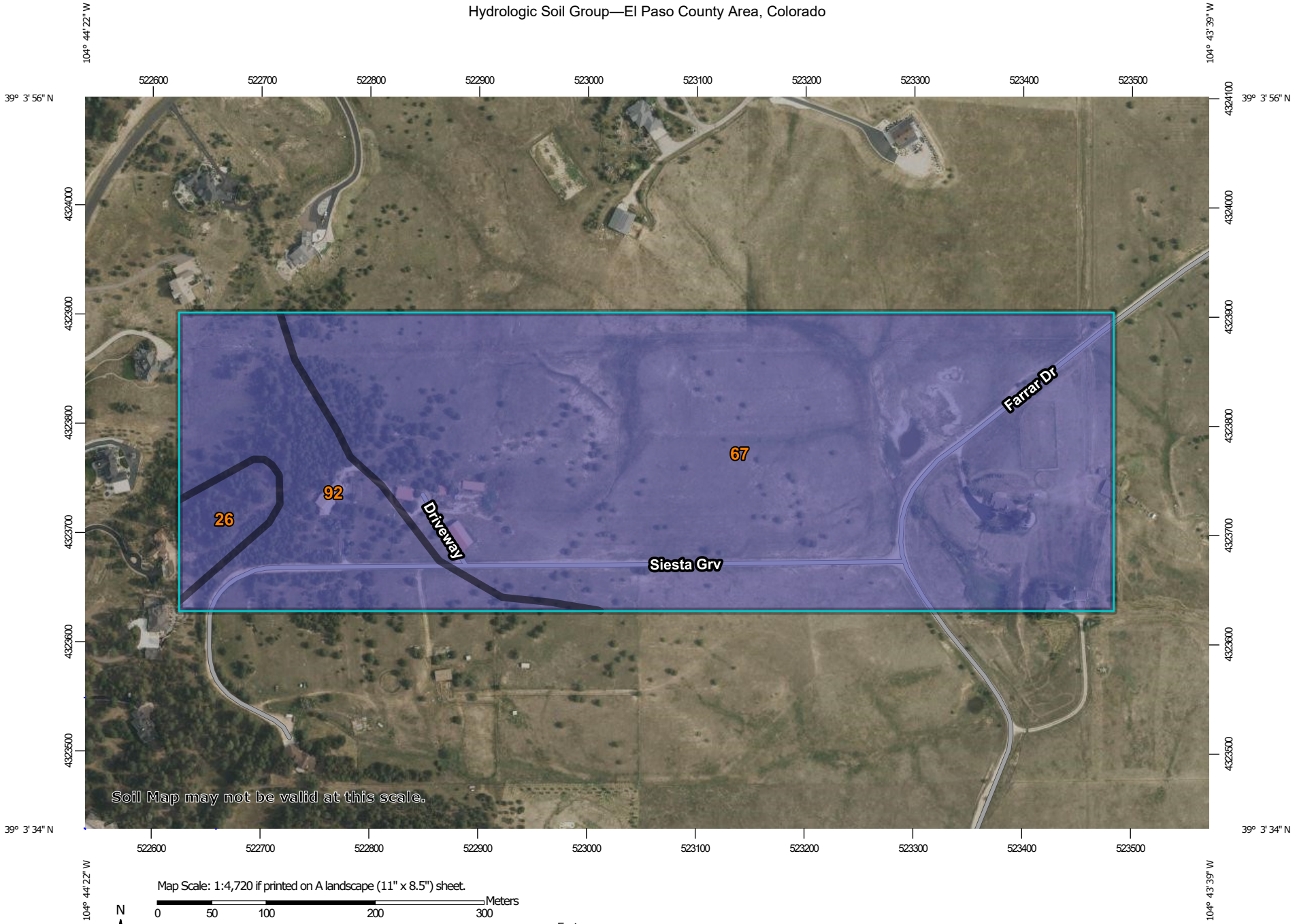
N

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 9/21/2026 at 4:08 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.



Map Scale: 1:4,720 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

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: Jul 23, 2024—Aug 4, 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
26	Elbeth sandy loam, 8 to 15 percent slopes	B	1.7	2.9%
67	Peyton sandy loam, 5 to 9 percent slopes	B	46.2	79.3%
92	Tomah-Crowfoot loamy sands, 3 to 8 percent slopes	B	10.4	17.8%
Totals for Area of Interest			**58.3**	**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.

APPENDIX B – HYDROLOGIC ANALYSIS

Subdivision:	Siesta Grove Sub.
Location:	El Paso County
Project Name:	Siesta Grove Sub.
Project Number:	26007
Calculated By:	NQJ
Checked By:	REB
Date:	9/21/2026

EXISTING CONDITIONS - BASIN SUMMARY TABLE

Basin	Area (ac)	Impervious	C_5	C_{100}	t_c (min)	$Q_{5\text{-YR}}$ (cfs)	$Q_{100\text{-YR}}$ (cfs)
EX-A	3.78	2%	0.09	0.36	9.5	1.4	9.6
EX-B	0.83	2%	0.09	0.36	13.2	0.3	1.9
EX-C	0.74	24%	0.26	0.48	13.4	0.7	2.2
EX-D	0.63	7%	0.12	0.38	13.7	0.3	1.5
EX-E	1.91	15%	0.18	0.42	28.1	0.9	3.5
EX-F	11.41	3%	0.10	0.37	20.4	3.5	21.5
EX-G	12.69	2%	0.09	0.36	23.8	3.3	21.7
EX-H	3.39	6%	0.12	0.38	19.4	1.2	6.7
EX-I	0.46	16%	0.18	0.42	13.8	0.3	1.2

EXISTING CONDTIONS - DESIGN POINT SUMMARY TABLE

DP#	$Q_{5\text{-YR}}$	$Q_{100\text{-YR}}$
1	1.4	9.6
2	0.3	1.9
3	0.7	2.2
4	0.3	1.5
5	0.9	3.5
6	3.5	21.5
7	58.4	146.5
8	4.0	10.7
52	51.0	118.0
53	4.0	10.0

COMPOSITE % IMPERVIOUS CALCULATIONS - EXISTING CONDITIONS

Subdivision: Siesta Grove Sub.
Location: El Paso County

Project Name: Siesta Grove Sub.
Project No.: 26007.00
Calculated By: NQJ
Checked By: REB
Date: 9/21/26

		Gravel				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}	
EX-A	3.78	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	3.78	2.0%	0.09	0.36	2.0%
EX-B	0.83	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	0.83	2.0%	0.09	0.36	2.0%
EX-C	0.74	0.59	0.70	0.02	80.0%	0.90	0.96	0.09	100.0%	0.73	0.81	0.07	90.0%	0.09	0.36	0.56	2.0%	0.26	0.48	24.4%
EX-D	0.63	0.59	0.70	0.04	80.0%	0.90	0.96	0.00	100.0%	0.73	0.81	0.00	90.0%	0.09	0.36	0.59	2.0%	0.12	0.38	7.0%
EX-E	1.91	0.59	0.70	0.22	80.0%	0.90	0.96	0.02	100.0%	0.73	0.81	0.07	90.0%	0.09	0.36	1.60	2.0%	0.18	0.42	15.2%
EX-F	11.41	0.59	0.70	0.07	80.0%	0.90	0.96	0.01	100.0%	0.73	0.81	0.10	90.0%	0.09	0.36	11.23	2.0%	0.10	0.37	3.3%
EX-G	12.69	0.59	0.70	0.04	80.0%	0.90	0.96	0.00	100.0%	0.73	0.81	0.00	90.0%	0.09	0.36	12.65	2.0%	0.09	0.36	2.2%
EX-H	3.39	0.59	0.70	0.17	80.0%	0.90	0.96	0.00	100.0%	0.73	0.81	0.00	90.0%	0.09	0.36	3.22	2.0%	0.12	0.38	5.9%
EX-I	0.46	0.59	0.70	0.08	80.0%	0.90	0.96	0.00	100.0%	0.73	0.81	0.00	90.0%	0.09	0.36	0.38	2.0%	0.18	0.42	15.6%
Total	**35.84**																			**4.3%**

STANDARD FORM SF-2 - EXISTING CONDITIONS
TIME OF CONCENTRATION

Subdivision: Siesta Grove Sub.
Location: El Paso County

Project Name: Siesta Grove Sub.
Project No.: 26007.00
Calculated By: NQJ
Checked By: REB
Date: 9/21/26

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)
EX-A	3.78	B	0.09	0.36	2.0%	150	18.0%	8.6	170	10.0%	10.0	3.2	0.9	9.5	320.0	26.6	9.5
EX-B	0.83	B	0.09	0.36	2.0%	100	5.0%	10.7	260	3.0%	10.0	1.7	2.5	13.2	360.0	28.4	13.2
EX-C	0.74	B	0.26	0.48	24.4%	88	2.0%	11.3	253	4.0%	10.0	2.0	2.1	13.4	341.0	23.6	13.4
EX-D	0.63	B	0.12	0.38	7.0%	118	3.4%	12.8	140	6.2%	10.0	2.5	0.9	13.7	258.0	25.8	13.7
EX-E	1.91	B	0.18	0.42	15.2%	260	4.3%	16.6	1490	4.6%	10.0	2.1	11.6	28.1	1750.0	33.8	28.1
EX-F	11.41	B	0.10	0.37	3.3%	300	6.7%	16.7	532	5.7%	10.0	2.4	3.7	20.4	832.0	29.4	20.4
EX-G	12.69	B	0.09	0.36	2.2%	300	5.0%	18.5	1146	5.8%	15.0	3.6	5.3	23.8	1446.0	34.1	23.8
EX-H	3.39	B	0.12	0.38	5.9%	300	6.0%	17.1	340	2.6%	15.0	2.4	2.3	19.4	640.0	28.6	19.4
EX-I	0.46	B	0.18	0.42	15.6%	185	4.9%	13.4	50	4.0%	10.0	2.0	0.4	13.8	235.0	23.7	13.8

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

Where:

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: Siesta Grove Sub.
Location: El Paso County
Design Storm: 5-Year

Project Name: Siesta Grove Sub.
Project No.: 26007.00
Calculated By: NQJ
Checked By: REB
Date: 9/21/26

DESCRIPTION	Design Point	DIRECT RUNOFF							TOTAL RUNOFF				OVERLAND			PIPE				TRAVEL TIME			REMARKS
		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)	
	1	EX-A	3.78	0.09	9.5	0.34	4.21	1.4															BASIN EX-A @ DP1, CONTINUES WEST OFFSITE
	2	EX-B	0.83	0.09	13.2	0.07	3.71	0.3															BASIN EX-B @ DP2, CONTINUES SOUTH OFFSITE
	3	EX-C	0.74	0.26	13.4	0.19	3.69	0.7															BASIN EX-C @ DP3, CONTINUES SOUTH OFFSITE
	4	EX-D	0.63	0.12	13.7	0.08	3.65	0.3															BASIN EX-D @ DP4, CONTINUES SOUTH OFFSITE
	5	EX-E	1.91	0.18	28.1	0.34	2.58	0.9															BASIN EX-E @ DP5, CONTINUES TO DP7
	6	EX-F	11.41	0.10	20.4	1.13	3.06	3.5					3.5	1.13	3.1					1305	1.8	12.4	BASIN EX-F @ DP6, CONTINUES TO DP7
		EX-G	12.69	0.09	23.8	1.16	2.83	3.3															BASIN EX-G @ DP7
		EX-H	3.39	0.12	19.4	0.39	3.14	1.2															BASIN EX-H @ DP7
	52	-	-	-	31.8	21.30	2.40	51					51.1	21.30	2.5					485	1.6	5.1	HIGH FOREST RANCH F2 DESIGN POINT 52 @ NORTH PROPERTY LINE, CONTINUES TO DP7
	7								36.9	24.33	2.40	58.4											COMBINED DP5, DP6, DP52, BASIN EX-G & BASIN EX-H @ DP7
	53	-	-	-	23.6	1.57	2.80	4															HIGH FOREST RANCH F2 DESIGN POINT 53 @ NORTH PROPERTY LINE, CONTINUES TO DP8
		EX-I	0.46	0.18	13.8	0.08	3.64	0.3															BASIN EX-I @ DP8
	8								23.6	1.65	2.40	4.0											COMBINED DP53 & BASIN EX-I @ DP8

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: Siesta Grove Sub.
Location: El Paso County
Design Storm: 100-Year

Project Name: Siesta Grove Sub.
Project No.: 26007.00
Calculated By: NQJ
Checked By: REB
Date: 9/21/26

		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)	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	EX-A	3.78	0.36	9.5	1.36	7.06	9.6															BASIN EX-A @ DP1, CONTINUES WEST OFFSITE
	2	EX-B	0.83	0.36	13.2	0.30	6.23	1.9															BASIN EX-B @ DP2, CONTINUES SOUTH OFFSITE
	3	EX-C	0.74	0.48	13.4	0.36	6.20	2.2															BASIN EX-C @ DP3, CONTINUES SOUTH OFFSITE
	4	EX-D	0.63	0.38	13.7	0.24	6.13	1.5															BASIN EX-D @ DP4, CONTINUES SOUTH OFFSITE
	5	EX-E	1.91	0.42	28.1	0.81	4.33	3.5															BASIN EX-E @ DP5, CONTINUES TO DP7
	6	EX-F	11.41	0.37	20.4	4.18	5.13	21.5					21.5	4.18	3.1					1305	1.8	12.4	BASIN EX-F @ DP6, CONTINUES TO DP7
		EX-G	12.69	0.36	23.8	4.58	4.74	21.7															BASIN EX-G @ DP7
		EX-H	3.39	0.38	19.4	1.28	5.26	6.7															BASIN EX-H @ DP7
	52	-	-	-	31.8	29.39	4.00	118					117.6	29.39	2.5					485	1.6	5.1	HIGH FOREST RANCH F2 DESIGN POINT 52 @ NORTH PROPERTY LINE, CONTINUES TO DP7
	7								36.9	40.24	3.64	146.5											COMBINED DP5, DP6, DP52, BASIN EX-G & BASIN EX-H @ DP7
	53	-	-	-	23.6	2.05	4.70	10															HIGH FOREST RANCH F2 DESIGN POINT 53 @ NORTH PROPERTY LINE, CONTINUES TO DP8
		EX-I	0.46	0.42	13.8	0.19	6.11	1.2															BASIN EX-I @ DP8
	8								23.6	2.24	4.77	10.7											COMBINED DP53 & BASIN EX-I @ DP8

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

Project: Siesta Grove
Project No: 26007
Date: 9/22/2026

2.5 Acre Lot - Composite % Impervious Calculation				
Lot Area (ft^2)	Roof Area (ft^2)	Paved Driveway (ft^2)	Undeveloped (ft^2)	Comp. Impervious
108,900	4,000	1,500	103,400	6.6%

Per BFFPD, driveways to be 15' wide, assumed 100 length

Subdivision:	Siesta Grove Sub.
Location:	El Paso County
Project Name:	Siesta Grove Sub.
Project Number:	26007
Calculated By:	NQJ
Checked By:	REB
Date:	9/21/2026

PROPOSED CONDITIONS - BASIN SUMMARY TABLE

Basin	Area (ac)	Impervious	C_5	C_{100}	t_c (min)	$Q_{5\text{-YR}}$ (cfs)	$Q_{100\text{-YR}}$ (cfs)
A	3.78	2%	0.09	0.36	9.5	1.4	9.6
B	0.83	2%	0.09	0.36	13.2	0.3	1.9
C	0.74	24%	0.26	0.48	13.4	0.7	2.2
D	0.63	7%	0.12	0.38	13.7	0.3	1.5
E	1.91	15%	0.18	0.42	28.1	0.9	3.5
F	11.41	3%	0.10	0.37	20.4	3.5	21.5
G	12.69	4%	0.13	0.47	23.2	4.6	28.8
H	3.39	12%	0.23	0.74	17.5	2.5	13.8
I	0.46	16%	0.18	0.42	13.8	0.3	1.2

PROPOSED CONDTIONS - DESIGN POINT SUMMARY TABLE

DP#	$Q_{5\text{-YR}}$	$Q_{100\text{-YR}}$
1	1.4	9.6
2	0.3	1.9
3	0.7	2.2
4	0.3	1.5
5	0.9	3.5
6	3.5	21.5
7	60.3	156.1
8	4.0	10.7
52	51.0	118.0
53	4.0	10.0

COMPOSITE % IMPERVIOUS CALCULATIONS - PROPOSED CONDITIONS

Subdivision: Siesta Grove Sub.
Location: El Paso County

Project Name: Siesta Grove Sub.
Project No.: 26007.00
Calculated By: NQJ
Checked By: REB
Date: 9/21/26

		2.5 Ac Lots				Gravel				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}	Area (ac)	% Imp.	C_5	C_{100}	
A	3.78	0.12	0.39	0.00	6.6%	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	3.78	2.0%	0.09	0.36	2.0%
B	0.83	0.12	0.39	0.00	6.6%	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	0.83	2.0%	0.09	0.36	2.0%
C	0.74	0.12	0.39	0.00	6.6%	0.59	0.70	0.02	80.0%	0.90	0.96	0.09	100.0%	0.73	0.81	0.07	90.0%	0.09	0.36	0.56	2.0%	0.26	0.48	24.4%
D	0.63	0.12	0.39	0.00	6.6%	0.59	0.70	0.04	80.0%	0.90	0.96	0.00	100.0%	0.73	0.81	0.00	90.0%	0.09	0.36	0.59	2.0%	0.12	0.38	7.0%
E	1.91	0.12	0.39	0.00	6.6%	0.59	0.70	0.22	80.0%	0.90	0.96	0.02	100.0%	0.73	0.81	0.07	90.0%	0.09	0.36	1.60	2.0%	0.18	0.42	15.2%
F	11.41	0.12	0.39	0.00	6.6%	0.59	0.70	0.07	80.0%	0.90	0.96	0.01	100.0%	0.73	0.81	0.10	90.0%	0.09	0.36	11.23	2.0%	0.10	0.37	3.3%
G	12.69	0.12	0.39	3.60	6.6%	0.59	0.70	0.04	80.0%	0.90	0.96	0.00	100.0%	0.73	0.81	0.00	90.0%	0.09	0.36	12.65	2.0%	0.13	0.47	4.1%
H	3.39	0.12	0.39	3.14	6.6%	0.59	0.70	0.17	80.0%	0.90	0.96	0.00	100.0%	0.73	0.81	0.00	90.0%	0.09	0.36	3.22	2.0%	0.23	0.74	12.0%
I	0.46	0.12	0.39	0.00	6.6%	0.59	0.70	0.08	80.0%	0.90	0.96	0.00	100.0%	0.73	0.81	0.00	90.0%	0.09	0.36	0.38	2.0%	0.18	0.42	15.6%
Total	**35.84**																							**5.6%**

STANDARD FORM SF-2 - PROPOSED CONDITIONS
TIME OF CONCENTRATION

Subdivision: Siesta Grove Sub.
Location: El Paso County

Project Name: Siesta Grove Sub.
Project No.: 26007.00
Calculated By: NQJ
Checked By: REB
Date: 9/21/26

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)
A	3.78	B	0.09	0.36	2.0%	150	18.0%	8.6	170	10.0%	10.0	3.2	0.9	9.5	320.0	26.6	9.5
B	0.83	B	0.09	0.36	2.0%	100	5.0%	10.7	260	3.0%	10.0	1.7	2.5	13.2	360.0	28.4	13.2
C	0.74	B	0.26	0.48	24.4%	88	2.0%	11.3	253	4.0%	10.0	2.0	2.1	13.4	341.0	23.6	13.4
D	0.63	B	0.12	0.38	7.0%	118	3.4%	12.8	140	6.2%	10.0	2.5	0.9	13.7	258.0	25.8	13.7
E	1.91	B	0.18	0.42	15.2%	260	4.3%	16.6	1490	4.6%	10.0	2.1	11.6	28.1	1750.0	33.8	28.1
F	11.41	B	0.10	0.37	3.3%	300	6.7%	16.7	532	5.7%	10.0	2.4	3.7	20.4	832.0	29.4	20.4
G	12.69	B	0.13	0.47	4.1%	300	5.0%	17.9	1146	5.8%	15.0	3.6	5.3	23.2	1446.0	33.6	23.2
H	3.39	B	0.23	0.74	12.0%	300	6.0%	15.1	340	2.6%	15.0	2.4	2.3	17.5	640.0	27.2	17.5
I	0.46	B	0.18	0.42	15.6%	185	4.9%	13.4	50	4.0%	10.0	2.0	0.4	13.8	235.0	23.7	13.8

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 $$t_t = \frac{L_t}{60(14i + 9)\sqrt{S_t}}$$

Where:

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 - PROPOSED CONDITIONS

STORM DRAINAGE SYSTEM DESIGN

(RATIONAL METHOD PROCEDURE)

Subdivision: Siesta Grove Sub.
Location: El Paso County
Design Storm: 5-Year

Project Name: Siesta Grove Sub.
Project No.: 26007.00
Calculated By: NQJ
Checked By: REB
Date: 9/21/26

		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	A	3.78	0.09	9.5	0.34	4.21	1.4															BASIN A @ DP1, CONTINUES WEST OFFSITE
	2	B	0.83	0.09	13.2	0.07	3.71	0.3															BASIN B @ DP2, CONTINUES SOUTH OFFSITE
	3	C	0.74	0.26	13.4	0.19	3.69	0.7															BASIN C @ DP3, CONTINUES SOUTH OFFSITE
	4	D	0.63	0.12	13.7	0.08	3.65	0.3															BASIN D @ DP4, CONTINUES SOUTH OFFSITE
	5	E	1.91	0.18	28.1	0.34	2.58	0.9															BASIN E @ DP5, CONTINUES TO DP7
	6	F	11.41	0.10	20.4	1.13	3.06	3.5					3.5	1.13	3.1					1305	1.8	12.4	BASIN F @ DP6, CONTINUES TO DP7
		G	12.69	0.13	23.2	1.59	2.87	4.6															BASIN G @ DP7
		H	3.39	0.23	17.5	0.77	3.29	2.5															BASIN H @ DP7
	52	-	-	-	31.8	21.30	2.40	51					51.1	21.30	2.5					485	1.6	5.1	HIGH FOREST RANCH F2 DESIGN POINT 52 @ NORTH PROPERTY LINE, CONTINUES TO DP7
	7								36.9	25.14	2.40	60.3											COMBINED DP5, DP6, DP52, BASIN G & BASIN H @ DP7
	53	-	-	-	23.6	1.57	2.80	4															HIGH FOREST RANCH F2 DESIGN POINT 53 @ NORTH PROPERTY LINE, CONTINUES TO DP8
		I	0.46	0.18	13.8	0.08	3.64	0.3															BASIN I @ DP8
	8								23.6	1.65	2.40	4.0											COMBINED DP53 & BASIN I @ DP8

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

STANDARD FORM SF-3 - PROPOSED CONDITIONS

STORM DRAINAGE SYSTEM DESIGN

(RATIONAL METHOD PROCEDURE)

Subdivision: Siesta Grove Sub.
Location: El Paso County
Design Storm: 100-Year

Project Name: Siesta Grove Sub.
Project No.: 26007.00
Calculated By: NQJ
Checked By: REB
Date: 9/21/26

		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	A	3.78	0.36	9.5	1.36	7.06	9.6															BASIN A @ DP1, CONTINUES WEST OFFSITE
	2	B	0.83	0.36	13.2	0.30	6.23	1.9															BASIN B @ DP2, CONTINUES SOUTH OFFSITE
	3	C	0.74	0.48	13.4	0.36	6.20	2.2															BASIN C @ DP3, CONTINUES SOUTH OFFSITE
	4	D	0.63	0.38	13.7	0.24	6.13	1.5															BASIN D @ DP4, CONTINUES SOUTH OFFSITE
	5	E	1.91	0.42	28.1	0.81	4.33	3.5															BASIN E @ DP5, CONTINUES TO DP7
	6	F	11.41	0.37	20.4	4.18	5.13	21.5					21.5	4.18	3.1					1305	1.8	12.4	BASIN F @ DP6, CONTINUES TO DP7
		G	12.69	0.47	23.2	5.99	4.81	28.8															BASIN G @ DP7
		H	3.39	0.74	17.5	2.50	5.53	13.8															BASIN H @ DP7
	52	-	-	-	31.8	29.39	4.00	118					117.6	29.39	2.5					485	1.6	5.1	HIGH FOREST RANCH F2 DESIGN POINT 52 @ NORTH PROPERTY LINE, CONTINUES TO DP7
	7								36.9	42.87	3.64	156.1											COMBINED DP5, DP6, DP52, BASIN G & BASIN H @ DP7
	53	-	-	-	23.6	2.05	4.70	10															HIGH FOREST RANCH F2 DESIGN POINT 53 @ NORTH PROPERTY LINE, CONTINUES TO DP8
		I	0.46	0.42	13.8	0.19	6.11	1.2															BASIN I @ DP8
	8								23.6	2.24	4.77	10.7											COMBINED DP53 & BASIN I @ DP8

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

APPENDIX C – HYDRAULIC ANALYSIS

Crossing Data - DP7

Crossing Properties

Name: DP7

Parameter	Value	Units
DISCHARGE DATA		
Discharge Method	User-Defined	
Discharge List	Define...	
TAILWATER DATA		
Channel Type	Rectangular Channel	
Bottom Width	36.000	ft
Channel Slope	0.0380	ft/ft
Manning's n (channel)	0.030	
Channel Invert Elevation	7550.000	ft
Rating Curve	View...	
ROADWAY DATA		
Roadway Profile Shape	Constant Roadway Elevation	
First Roadway Station	0.000	ft
Crest Length	100.000	ft
Crest Elevation	7562.000	ft
Roadway Surface	Paved	
Top Width	30.000	ft

Culvert Properties

Culvert 1

Add Culvert | Duplicate Culvert | Alternative Designs | Delete Culvert

Parameter	Value	Units
CULVERT DATA		
Name	Culvert 1	
Shape	Circular	
Material	Corrugated Steel	
Diameter	1.500	ft
Embedment Depth	0.000	in
Manning's n	0.024	
Culvert Type	Straight	
Inlet Configuration	Thin Edge Projecting (Ke=0.9)	
Inlet Depression?	Yes	
Depression	5.000	ft
Depression Slope (2-3)	3.000	(_:1)
Crest Width	30.000	ft
SITE DATA		
Site Data Input Option	Culvert Invert Data	
Inlet Station	1.000	ft
Inlet Elevation	7559.600	ft
Outlet Station	47.200	ft
Outlet Elevation	7557.630	ft

Culvert Summary Table - Culvert 1

Discharge Names	Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth(ft)	Outlet Control Depth(ft)	HW / D	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
145.6	145.60	0.14	7562.61	**8.01**	1.50	2.01	7-A2t	NA	0.14	0.14	0.60	1.72	6.73
150	150.00	0.14	7562.63	**8.03**	1.50	2.02	7-A2t	NA	0.14	0.14	0.61	1.72	6.81
156.1	156.10	0.14	7562.64	**8.04**	1.50	2.03	7-A2t	NA	0.14	0.14	0.63	1.72	6.91

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Tuesday, Sep 22 2026

Cross Section #1 Q100 = DP7 = 156.10 cfs

User-defined

Invert Elev (ft)	= 7561.00
Slope (%)	= 2.00
N-Value	= 0.035

Calculations

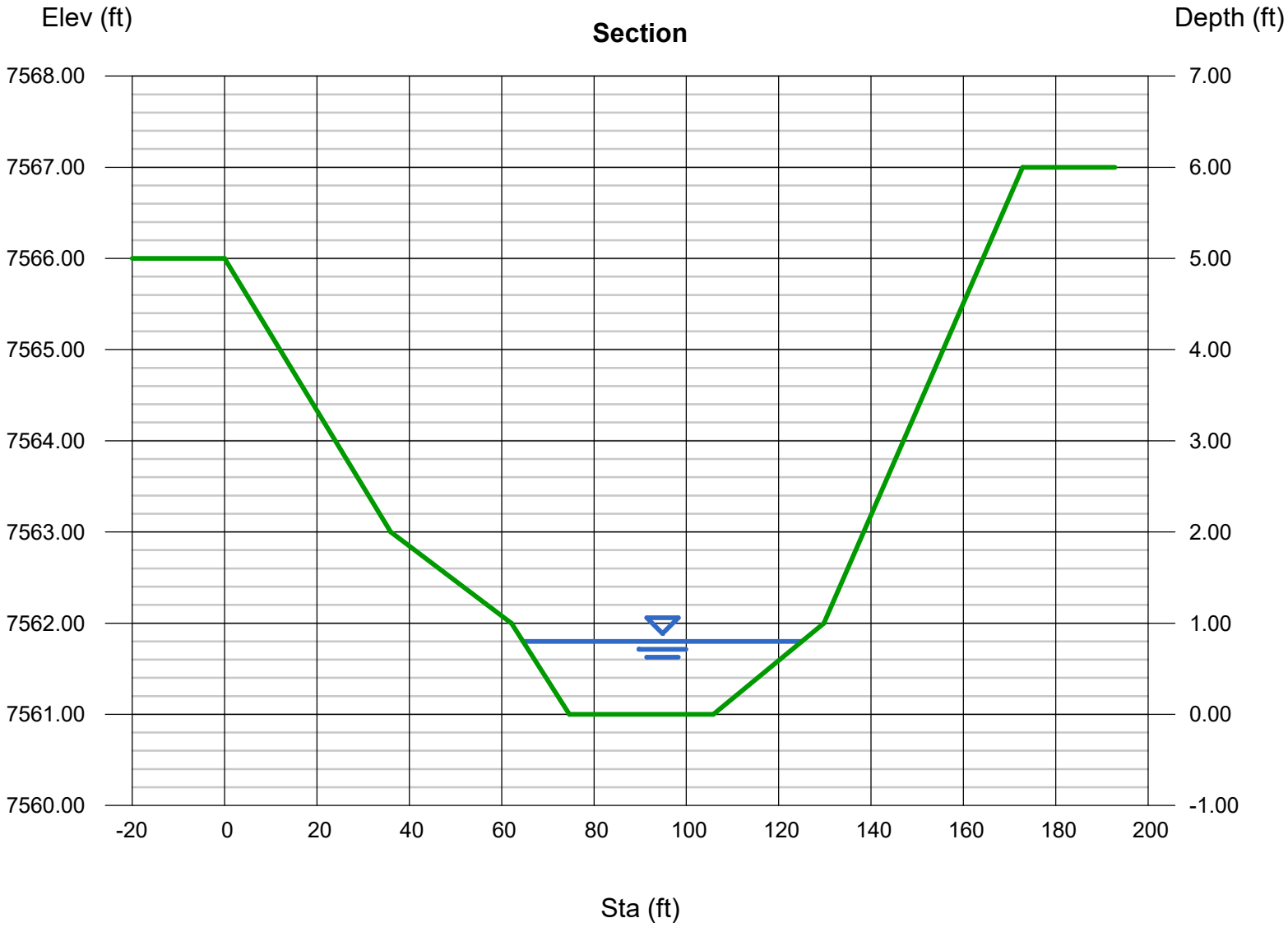
Compute by:	Known Q
Known Q (cfs)	= 156.10

Highlighted

Depth (ft)	= 0.80
Q (cfs)	= 156.10
Area (sqft)	= 36.62
Velocity (ft/s)	= 4.26
Wetted Perim (ft)	= 60.39
Crit Depth, Yc (ft)	= 0.79
Top Width (ft)	= 60.34
EGL (ft)	= 1.08
Froude #	= 0.84

(Sta, El, n)-(Sta, El, n)...

(0.00, 7566.00)-(35.97, 7563.00, 0.035)-(62.15, 7562.00, 0.035)-(74.65, 7561.00, 0.035)-(105.87, 7561.00, 0.035)-(129.78, 7562.00, 0.035)-(172.84, 7567.00, 0.035



Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Tuesday, Sep 22 2026

Cross Section #2 Q100 = DP7 = 156.10 cfs

User-defined

Invert Elev (ft)	= 7554.79
Slope (%)	= 2.00
N-Value	= 0.035

Calculations

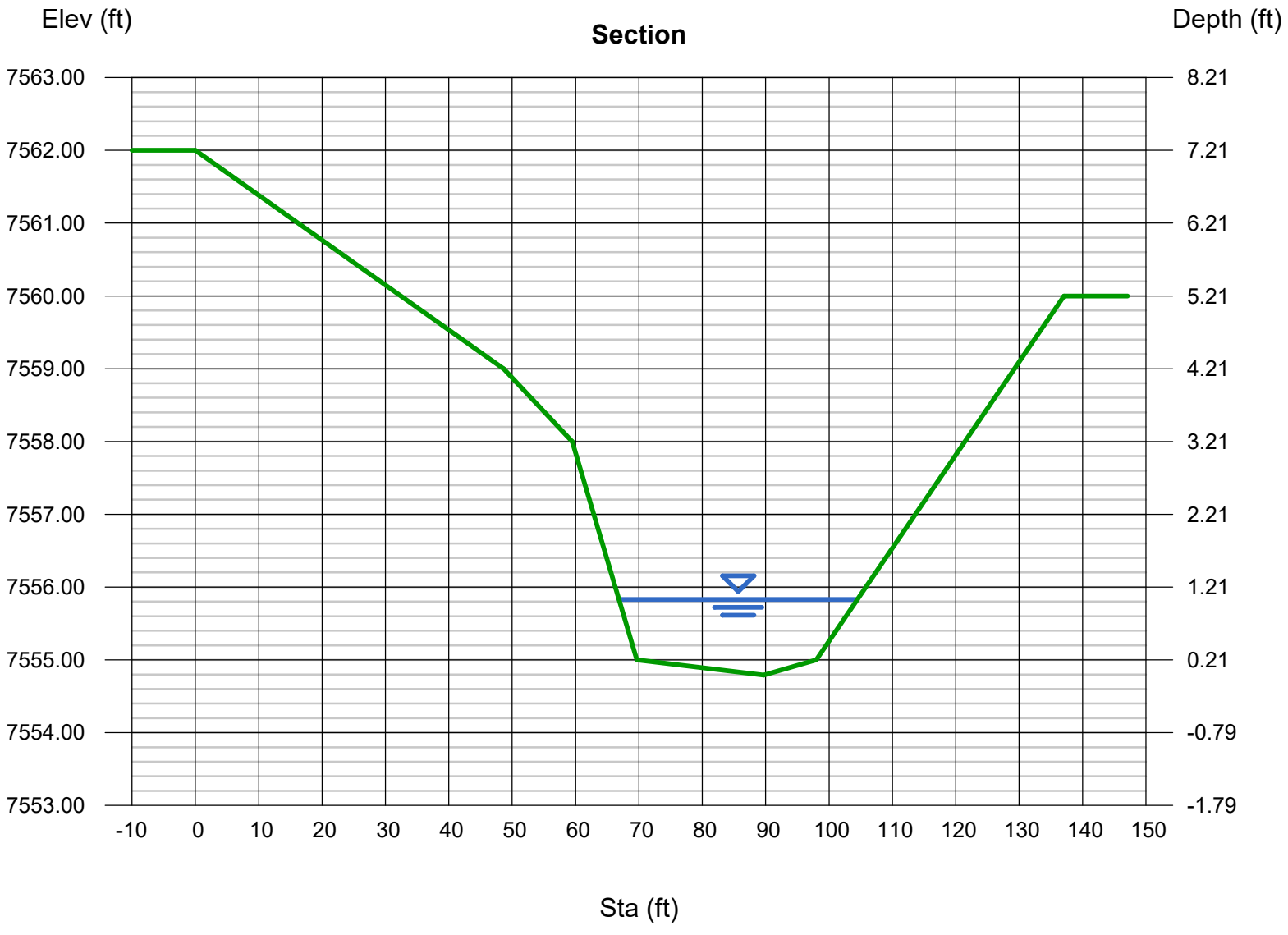
Compute by:	Known Q
Known Q (cfs)	= 156.10

Highlighted

Depth (ft)	= 1.04
Q (cfs)	= 156.10
Area (sqft)	= 30.33
Velocity (ft/s)	= 5.15
Wetted Perim (ft)	= 37.79
Crit Depth, Yc (ft)	= 1.05
Top Width (ft)	= 37.61
EGL (ft)	= 1.45
Froude #	= 0.89

(Sta, El, n)-(Sta, El, n)...

(0.00, 7562.00)-(48.64, 7559.00, 0.035)-(59.49, 7558.00, 0.035)-(69.67, 7555.00, 0.035)-(89.71, 7554.79, 0.035)-(97.97, 7555.00, 0.035)-(137.09, 7560.00, 0.035)



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: _____

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:	Siesta Grove 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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EL PASO COUNTY
PCM APPLICABILITY FORM

EPC Project Number: _____

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.*	7.5	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: _____

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.
There will be no disturbance associated with the Siesta Grove Subdivision Final plat. The existing parcel is ~35.54 acres. 7.5 acres will be subdivided into (3) 2.5 acre lots. The remainder of the site will be platted as a tract.

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publicworks.elpasoco.com/stormwater/

EL PASO COUNTY
PCM APPLICABILITY FORM

EPC Project Number: _____

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 JORGENSEN PE0059273 06/02/26 PROFESSIONAL ENGINEER

_____ _____ 09/16/2026

Signature and Stamp of Engineer of Record — 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

Existing 18” CMP (DP8) – Upstream



Existing 18” CMP (DP8) – Downstream



Typical Farrar Road/Siesta Grove Roadside Ditch Section



Existing 18” CMP (DP7) – Upstream



Existing 18” CMP (DP7) – Downstream



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

Lincoln County

Fremont County

Pueblo County

APPROXIMATE SITE

Pike National Forest

USAF Academy

Fort Carson

Schriever AFB

COLORADO SPRINGS

MANITOU SPRINGS

CASTLE ROCK

MONUMENT

FOUNTAIN

Cascade

Crystola

Chipita Park

Peyton

Falcon

Calhan

Ellicott

Yoder

Rush

Truckton

Ramah

Upper Monument Creek FOMO5800

Monument Rock FOMO5000

Dirty Woman Creek FOMO5200

West Cherry Creek CYCY0400

East Cherry Creek CYCY0200

Jackson Creek FOMO4400

Black Forest FOMO4200

Beaver Creek FOMO4600

Monument Branch FOMO3800

Black Squirrel Creek FOMO3600

Air Force Academy FOMO3200

Kettle Creek FOMO3000

Pine Creek FOMO2800

South Pine Creek FOMO2600

Dry Creek FOMO2400

Cottonwood Creek FOMO2200

Douglas Creek FOMO1000

Templeton Gap FOMO1200

Upper Fountain FOFO760

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

Sand Creek FOFO4000

Spring Creek FOFO3800

Jimmy Camp Creek FOFO2000

Fountain Creek FOFO1000

Little Fountain Creek FOFO1800

Fort Carson FOFO2200

Sand Canyon FOFO1600

Turkey Creek TUTU0200

Red Creek BEBE0200

Sand Creek FOFO0600

Young Hollow FOFO0200

Southwest Area FOFO4600

Fishers Canyon FOFO3600

Windmill Gulch FOFO3000

Big Johnson FOFO2600

Peterson Field FOFO3400

Calhan Reservoir FOFO1400

Lower Williams Creek FOFO1000

Williams Ranch FOFO0400

Midway Ranch FOFO0800

Bijou Creek BIBI0200

East Kiowa Creek KIKI0400

West Kiowa Creek KIKI0200

Upper Black Squirrel Creek CHBS2000

Bennett Ranch CHWS1200

Geick Ranch CHMS0400

Falcon CHWS1400

Solbers Ranch CHWS0800

Curtis Ranch CHWS1000

Livestock Company CHWS0400

West Squirrel CHWS0600

Upper Big Sandy Creek BGBG1400

Upper Bracket Creek CHBR0600

La Vega Ranch CHBR0400

Hook And Line Ranch CHBS1800

Baggett CHBR0200

Haegler Ranch CHMS0200

Telephone Exchange CHWS0200

Ellicott Consolidated CHBS1200

Ellicott CHBS1600

Lower Big Springs Creek CHBS1400

Upper East Chico CHEC0400

Middle East Chico CHEC0200

Upper Williams Creek FOWI0600

Upper Williams Tributary FOWI0400

Lower Williams Tributary FOWI0200

Upper Chico Creek CHCH1600

West Chico Tributary CHCH1200

Chico Creek CHCH1400

Lower East Chico CHCH0800

West Chico Creek CHCH0600

Hammer Ranch CHCH0600

Finch Ranch CHCH0400

Windmill CHCH0200

Upper Dry Squirrel CHDS0200

Drennan CHDS0400

Lower Dry Squirrel CHBS0400

Lower Black Squirrel CHBS0600

Crows Roost CHBS1000

Squirrel Creek CHBS0200

West Haynes HAHA0200

East Haynes HAHA0400

Haynes Creek HAHA0600

Antelope Creek BGBG0800

Lenard BGBG1200

Calhan BGBG1000

Ramah BGBG0600

Simla BGBG0400

Mustang Creek BGBG0200

North Fork HOHO0400

Horse Creek HOHO0600

Little Horse Creek HOHO0200

Steels Fork HOPO1000

West Big Springs Creek CHBG0200

Upper Big Springs Creek CHBG0400

Rush HOPO0800

Upper Pond Creek HOPO0600

Lower Pond Creek HOPO0400

St.lukes HOPO0200

East Kramer KRKR0600

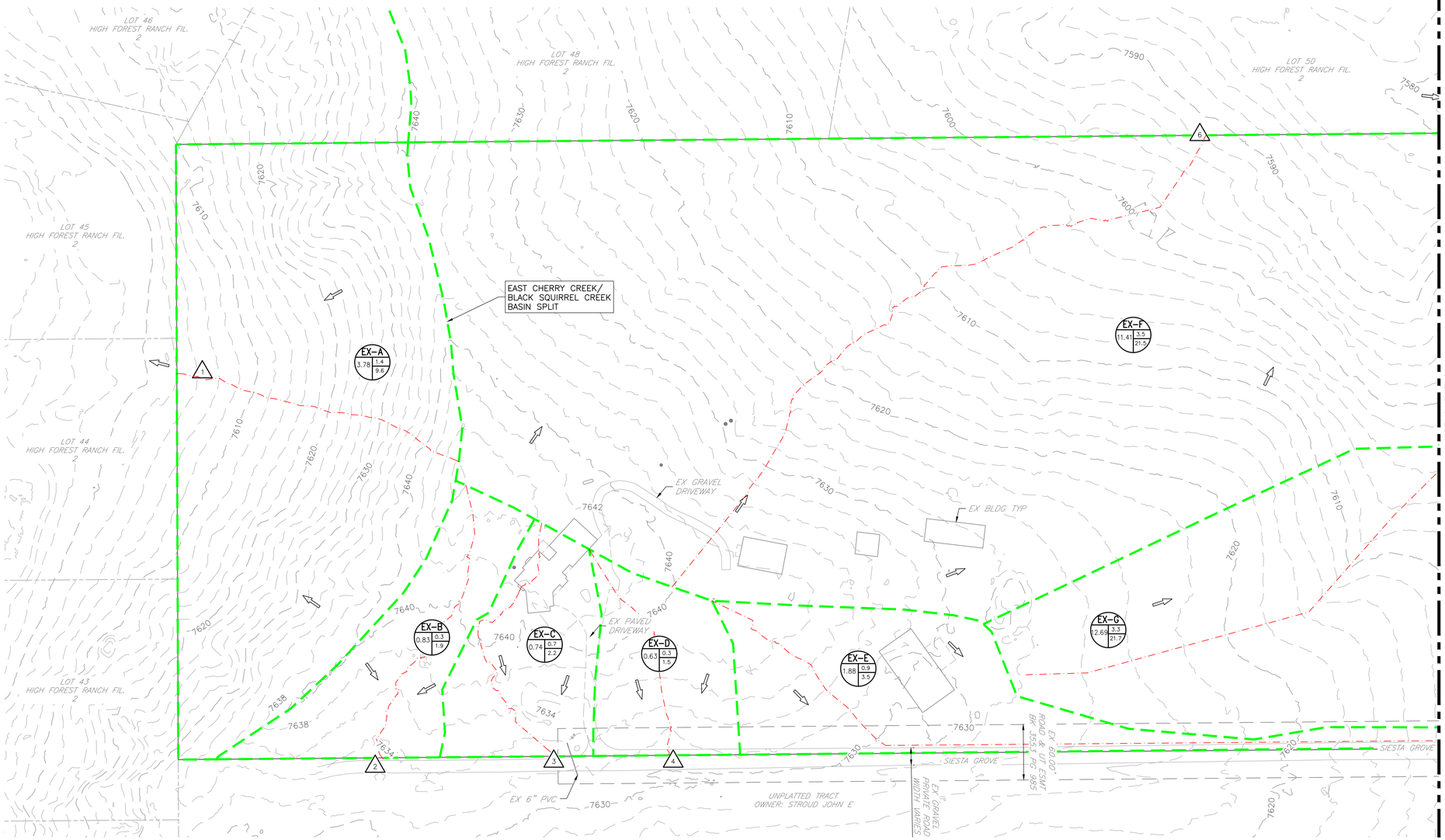
Kramer Creek KRKR0400

West Kramer KRKR0200

APPENDIX F – DRAINAGE MAPS

SIESTA GROVE SUBDIVISION

EXISTING 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		
FLOW DIRECTION		

BASIN ID — ID / AC / Q5 / Q100

DESIGN POINT DESIGNATION — 1

DRAINAGE BASIN

TC PATH

EXISTING CONDITIONS - BASIN SUMMARY TABLE

Basin	Area (ac)	Impervious	C_5	C_{100}	t_c (min)	$Q_{5\text{-YR}}$ (cfs)	$Q_{100\text{-YR}}$ (cfs)
EX-A	3.78	2%	0.09	0.36	9.5	1.4	9.6
EX-B	0.83	2%	0.09	0.36	13.2	0.3	1.9
EX-C	0.74	24%	0.26	0.48	13.4	0.7	2.2
EX-D	0.63	7%	0.12	0.38	13.7	0.3	1.5
EX-E	1.91	15%	0.18	0.42	28.1	0.9	3.5
EX-F	11.41	3%	0.10	0.37	20.4	3.5	21.5
EX-G	12.69	2%	0.09	0.36	23.8	3.3	21.7
EX-H	3.39	6%	0.12	0.38	19.4	1.2	6.7
EX-I	0.46	16%	0.18	0.42	13.8	0.3	1.2

EXISTING CONDTIONS - DESIGN POINT SUMMARY TABLE

DP#	$Q_{5\text{-YR}}$	$Q_{100\text{-YR}}$
1	1.4	9.6
2	0.3	1.9
3	0.7	2.2
4	0.3	1.5
5	0.9	3.5
6	3.5	21.5
7	58.4	146.5
8	4.0	10.7
52	51.0	118.0
53	4.0	10.0

N

60 30 0 60 120

ORIGINAL SCALE: 1" = 60'

EXISTING DRAINAGE MAP

SIESTA GROVE SUBDIVISION

JOB NO. 26007 | SHEET 1

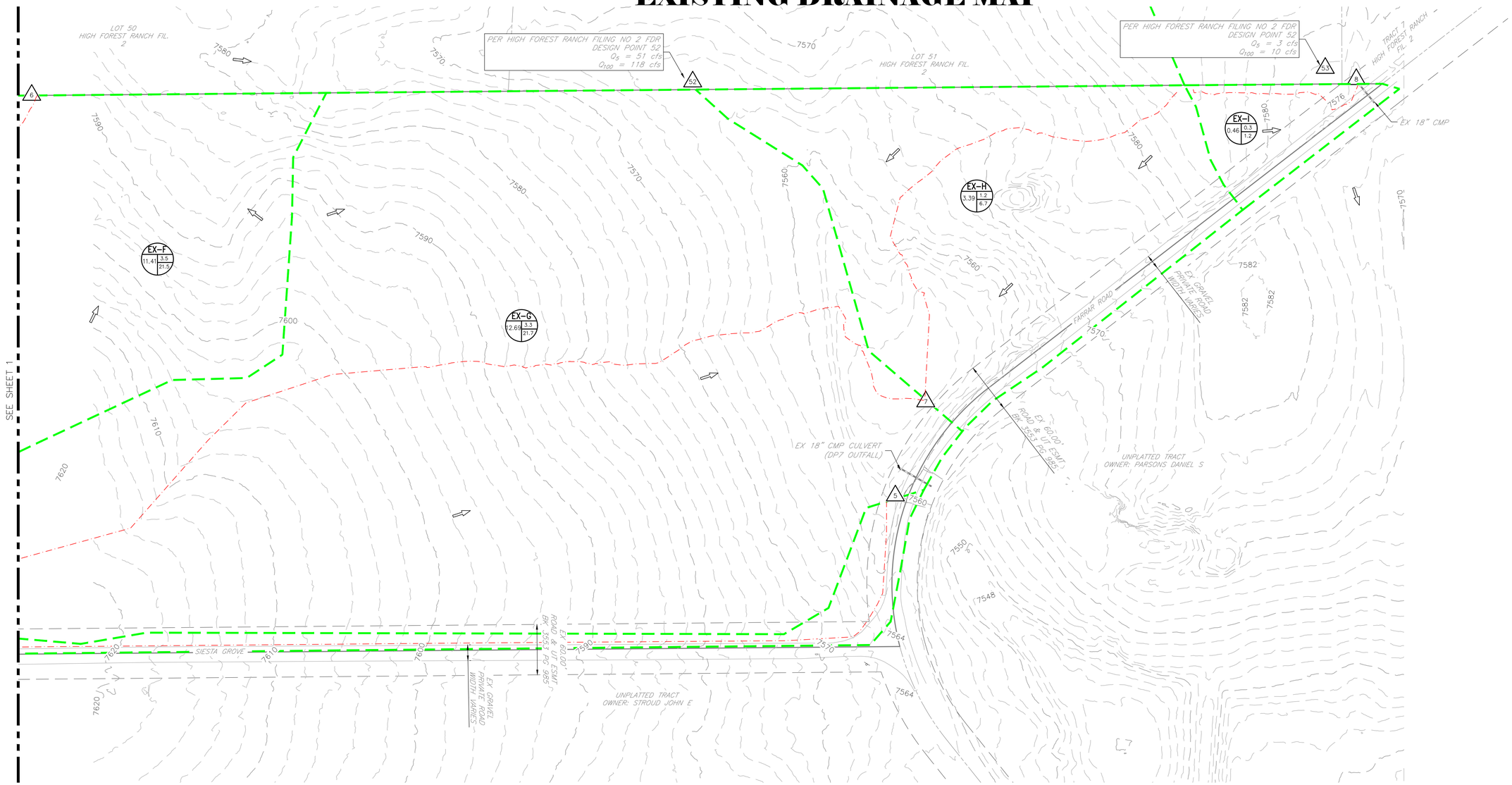
LOCATION: EPC

09/21/2026

ALL TERRAIN ENGINEERING

SIESTA GROVE SUBDIVISION

EXISTING 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		
FLOW DIRECTION		
BASIN ID	ID / AC / Q5 / Q100	
DESIGN POINT DESIGNATION	1	
DRAINAGE BASIN		
TC PATH		

EXISTING CONDITIONS - BASIN SUMMARY TABLE

Basin	Area (ac)	Impervious	C_5	C_{100}	t_c (min)	$Q_{5\text{-YR}}$ (cfs)	$Q_{100\text{-YR}}$ (cfs)
EX-A	3.78	2%	0.09	0.36	9.5	1.4	9.6
EX-B	0.83	2%	0.09	0.36	13.2	0.3	1.9
EX-C	0.74	24%	0.26	0.48	13.4	0.7	2.2
EX-D	0.63	7%	0.12	0.38	13.7	0.3	1.5
EX-E	1.91	15%	0.18	0.42	28.1	0.9	3.5
EX-F	11.41	3%	0.10	0.37	20.4	3.5	21.5
EX-G	12.69	2%	0.09	0.36	23.8	3.3	21.7
EX-H	3.39	6%	0.12	0.38	19.4	1.2	6.7
EX-I	0.46	16%	0.18	0.42	13.8	0.3	1.2

EXISTING CONDTIONS - DESIGN POINT SUMMARY TABLE

DP#	$Q_{5\text{-YR}}$	$Q_{100\text{-YR}}$
1	1.4	9.6
2	0.3	1.9
3	0.7	2.2
4	0.3	1.5
5	0.9	3.5
6	3.5	21.5
7	58.4	146.5
8	4.0	10.7
52	51.0	118.0
53	4.0	10.0

N

60 30 0 60 120

ORIGINAL SCALE: 1" = 60'

EXISTING DRAINAGE MAP

SIESTA GROVE SUBDIVISION

JOB NO. 26007 | SHEET 2

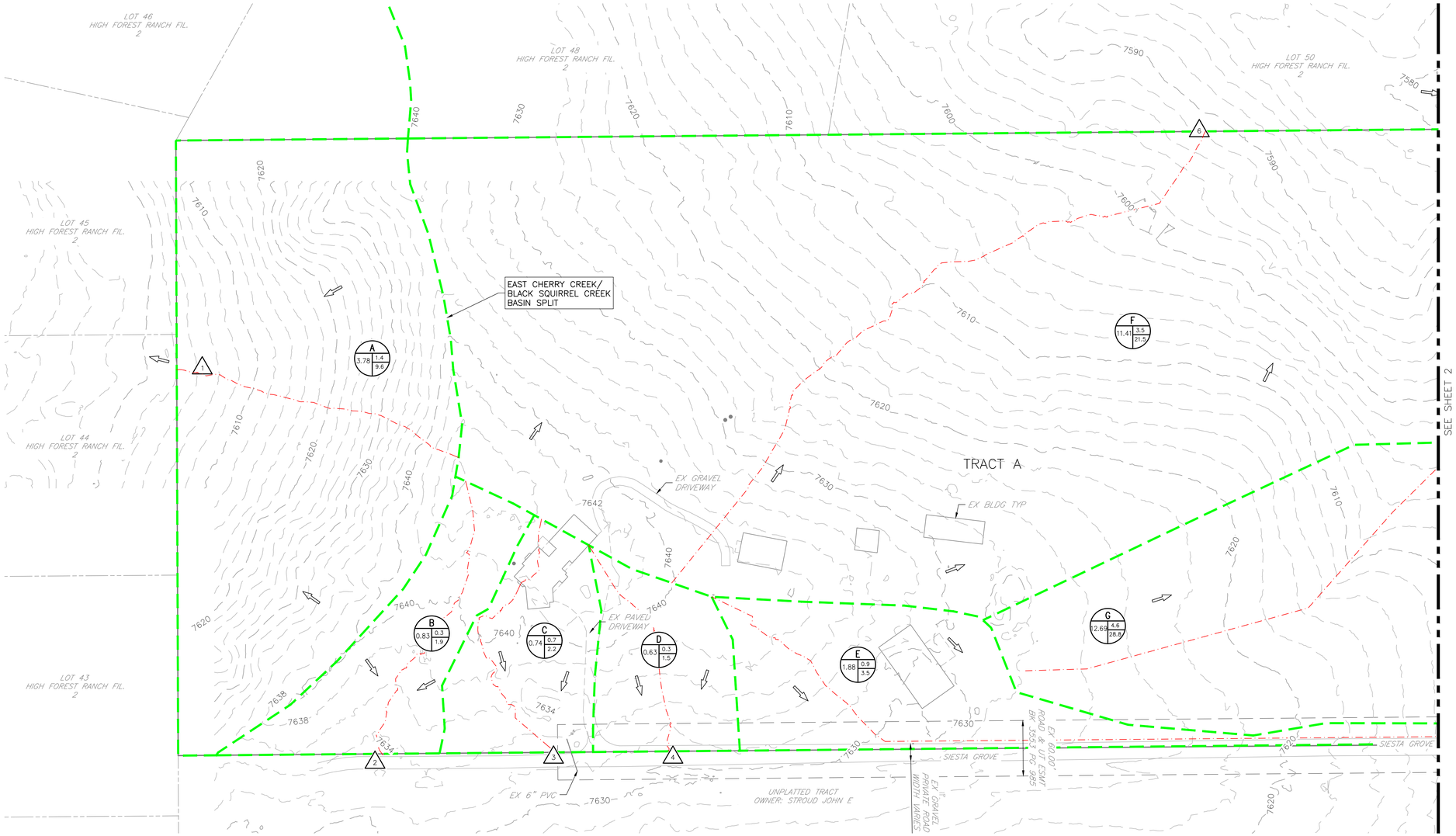
LOCATION: EPC

09/21/2026

ALL TERRAIN ENGINEERING

SIESTA GROVE SUBDIVISION

PROPOSED 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		
FLOW DIRECTION		

BASIN ID: ID / AC / Q5 / Q100

DESIGN POINT DESIGNATION: 1

DRAINAGE BASIN

TC PATH

PROPOSED CONDITIONS - BASIN SUMMARY TABLE

Basin	Area (ac)	Impervious	C_5	C_{100}	t_c (min)	$Q_{5\text{-YR}}$ (cfs)	$Q_{100\text{-YR}}$ (cfs)
A	3.78	2%	0.09	0.36	9.5	1.4	9.6
B	0.83	2%	0.09	0.36	13.2	0.3	1.9
C	0.74	24%	0.26	0.48	13.4	0.7	2.2
D	0.63	7%	0.12	0.38	13.7	0.3	1.5
E	1.91	15%	0.18	0.42	28.1	0.9	3.5
F	11.41	3%	0.10	0.37	20.4	3.5	21.5
G	12.69	4%	0.13	0.47	23.2	4.6	28.8
H	3.39	12%	0.23	0.74	17.5	2.5	13.8
I	0.46	16%	0.18	0.42	13.8	0.3	1.2

PROPOSED CONDTIONS - DESIGN POINT SUMMARY TABLE

DP#	$Q_{5\text{-YR}}$	$Q_{100\text{-YR}}$
1	1.4	9.6
2	0.3	1.9
3	0.7	2.2
4	0.3	1.5
5	0.9	3.5
6	3.5	21.5
7	60.3	156.1
8	4.0	10.7
52	51.0	118.0
53	4.0	10.0

N

60 30 0 60 120

ORIGINAL SCALE: 1" = 60'

PROPOSED DRAINAGE MAP

SIESTA GROVE SUBDIVISION

JOB NO. 26007 | SHEET 1

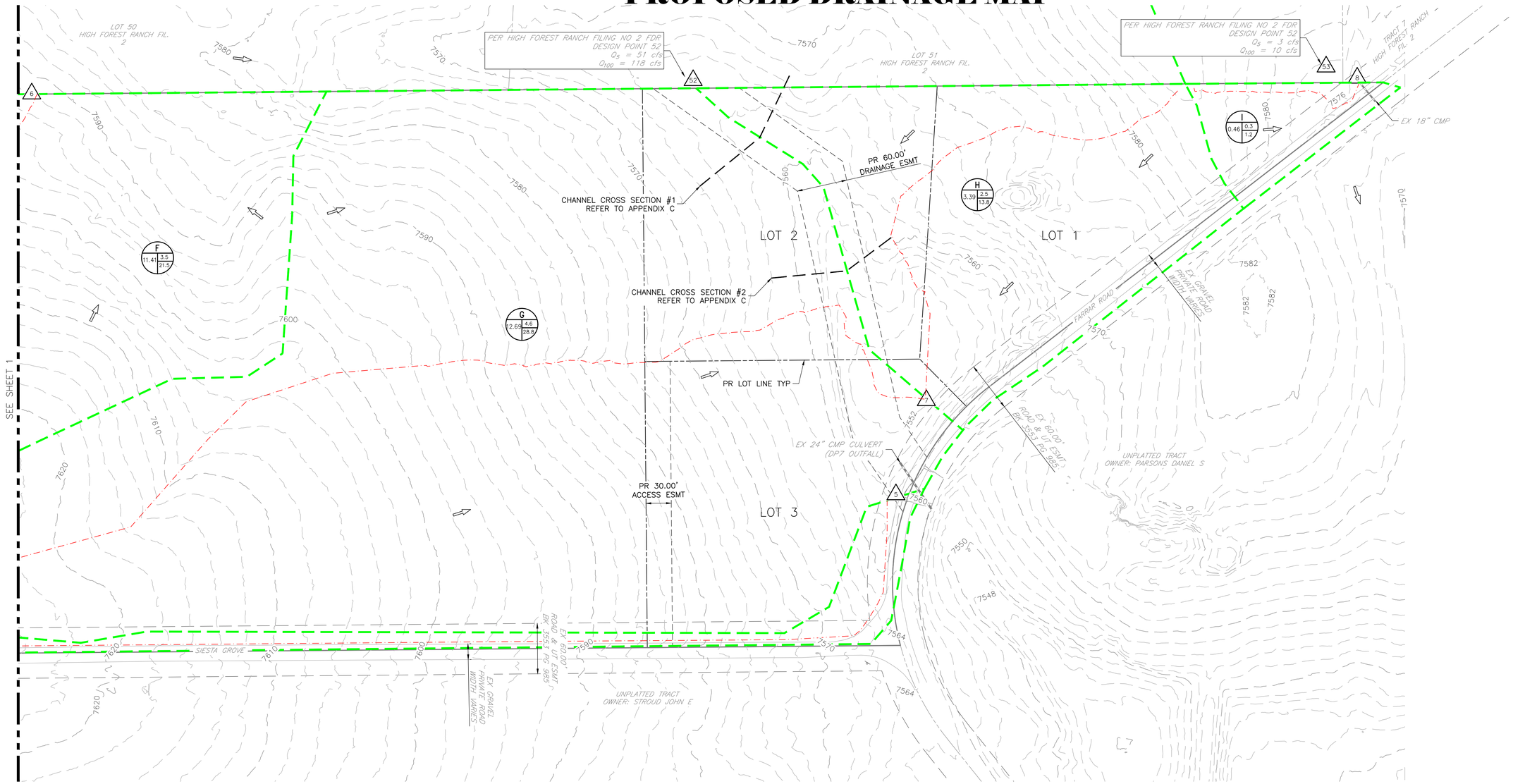
LOCATION: EPC

09/21/2026

ALL TERRAIN ENGINEERING

SIESTA GROVE SUBDIVISION

PROPOSED 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		
FLOW DIRECTION		
BASIN ID	ID / AC / Q5 / Q100	
DESIGN POINT DESIGNATION	1	
DRAINAGE BASIN		
TC PATH		

PROPOSED CONDITIONS - BASIN SUMMARY TABLE

Basin	Area (ac)	Impervious	C_5	C_{100}	t_c (min)	$Q_{5\text{-YR}}$ (cfs)	$Q_{100\text{-YR}}$ (cfs)
A	3.78	2%	0.09	0.36	9.5	1.4	9.6
B	0.83	2%	0.09	0.36	13.2	0.3	1.9
C	0.74	24%	0.26	0.48	13.4	0.7	2.2
D	0.63	7%	0.12	0.38	13.7	0.3	1.5
E	1.91	15%	0.18	0.42	28.1	0.9	3.5
F	11.41	3%	0.10	0.37	20.4	3.5	21.5
G	12.69	4%	0.13	0.47	23.2	4.6	28.8
H	3.39	12%	0.23	0.74	17.5	2.5	13.8
I	0.46	16%	0.18	0.42	13.8	0.3	1.2

PROPOSED CONDTIONS - DESIGN POINT SUMMARY TABLE

DP#	$Q_{5\text{-YR}}$	$Q_{100\text{-YR}}$
1	1.4	9.6
2	0.3	1.9
3	0.7	2.2
4	0.3	1.5
5	0.9	3.5
6	3.5	21.5
7	60.3	156.1
8	4.0	10.7
52	51.0	118.0
53	4.0	10.0

N

60 30 0 60 120

ORIGINAL SCALE: 1" = 60'

PROPOSED DRAINAGE MAP

SIESTA GROVE SUBDIVISION

JOB NO. 26007 | SHEET 2

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