



DRAINAGE REPORT
for
6140 SOUTHMOOR DR.
EL PASO COUNTY, COLORADO

2N Civil Project No. 26004

Date: June 29, 2026

PREPARED FOR:

HOPI ENTERPRISES, LLC.

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Contact: Mag Missiha

PREPARED BY:

2N CIVIL, LLC
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Engineer's Certification

“This drainage report and plan for the drainage of 6140 Southmoor Dr. was prepared by me (or under my direct supervision) in accordance with the provisions of El Paso County Construction Standards & Specifications for the owners thereof. I understand that El Paso County does not and will not assume liability for drainage facilities designed by others.”

SIGNATURE: _____
Ryan Eichele, P.E.
Registered Professional Engineer 6/24/26
State of Colorado No. 45336
(Affix Seal)

Owner's Certification

“Hopi Enterprises, LLC. hereby certifies that the drainage facilities for 6140 Southmoor Dr. shall be constructed according to the design presented in this report. I understand that El Paso County does not and will not assume liability for the drainage facilities designed and/or certified by my engineer and that El Paso County reviews drainage plans, but cannot, on behalf of 6140 Southmoor Dr., insure that final drainage design review will absolve Hopi Enterprises, LLC. guarantee and/or their successors and/or assigns of future liability for improper design. I further understand that approval of the final plat does not imply approval of my engineer's drainage design.”

SIGNATURE: _____
Hopi Enterprises.
Owner

Table of Contents

A.	INTRODUCTION.....	4
	Location	4
	Description of Property	4
	Site Improvements.....	5
B.	DRAINAGE BASINS	5
	Overall Basin Description.....	5
C.	DESIGN CRITERIA.....	7
	Hydrologic Criteria	7
D.	EROSION CONTROL.....	7
E.	PERMITTING.....	8
F.	CONCLUSION.....	8
G.	REFERENCES.....	8

APPENDIX A – Vicinity Map, Soils Map, FIRM

APPENDIX B – Hydrology Calculations / Results

APPENDIX C – Hydraulics

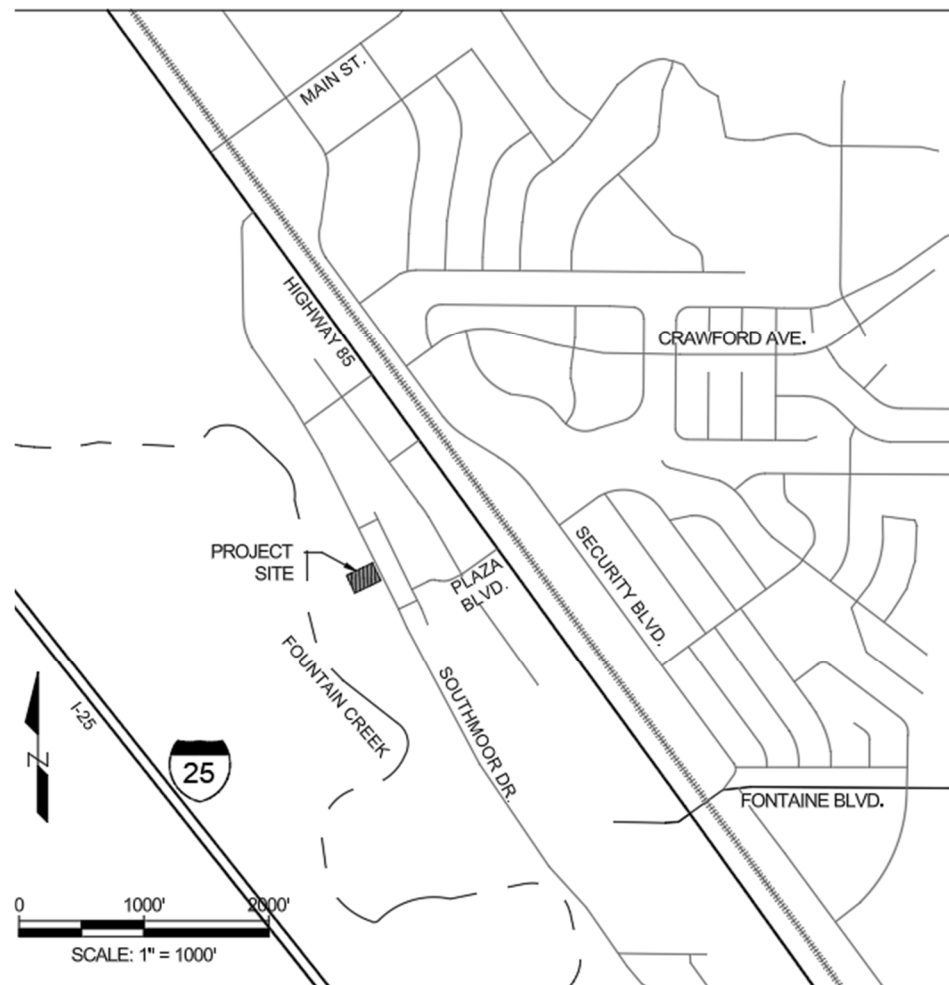
APPENDIX D – Drainage Basin Maps

A. INTRODUCTION

This Drainage Report presents the final drainage plan and design characteristics for the proposed development known as 6140 Southmoor Dr. located in the Town of Fountain, Colorado. This report was prepared in accordance with the El Paso County Storm Drainage Criteria Manual and the Mile High Flood District.

Location

6140 Southmoor Dr. is Lot 5, Block 1, part of Brown Subdivision. The development is located in a part of the Southeast quarter of Section 14, Township 15 South, Range 66 West of the 6th Principal Meridian, El Paso County, State of Colorado. The project is to the west of Southmoor Dr. See Vicinity Map below.



Description of Property

The property is an empty lot that consists of 1.96 acres. The existing ground cover on this site is composed of native grasses and trees within the floodplain. The existing terrain

generally slopes north to south at about a 2 percent grade. Fountain Creek crosses the property on the west portion of the property. The soil types present onsite are presented on the table below as designated by the National Resource Conservation Service.

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
28	Ellicott loamy coarse sand, 0 to 5 percent slopes	A	1.0	43.5%
59	Nunn clay loam, 0 to 3 percent slopes	C	0.4	16.2%
82	Schamber-Razor complex, 8 to 50 percent slopes	A	0.8	35.4%
111	Water		0.1	5.0%
Totals for Area of Interest			2.4	100.0%

Group A soils have a high infiltration rate or low runoff potential when thoroughly wet and a high rate of water transmission. Group C soils have a slow infiltration rate when thoroughly wet and a slow rate of water transmission. Please see Appendix A for additional soils information from NRCS.

Site Improvements

The project will involve the construction of a warehouse building containing office and storage space. The site will also include a driveway and parking area around the building. A water quality pond will most likely be required west of the proposed building.

B. DRAINAGE BASINS

Overall Basin Description

Fountain Creek crosses the proposed development on the west side and is a mapped flood area according to FEMA FIRM for El Paso County, Colorado Panel 0951, Map Number 08041C0951G with an effective date of December 7, 2018. See Map below.

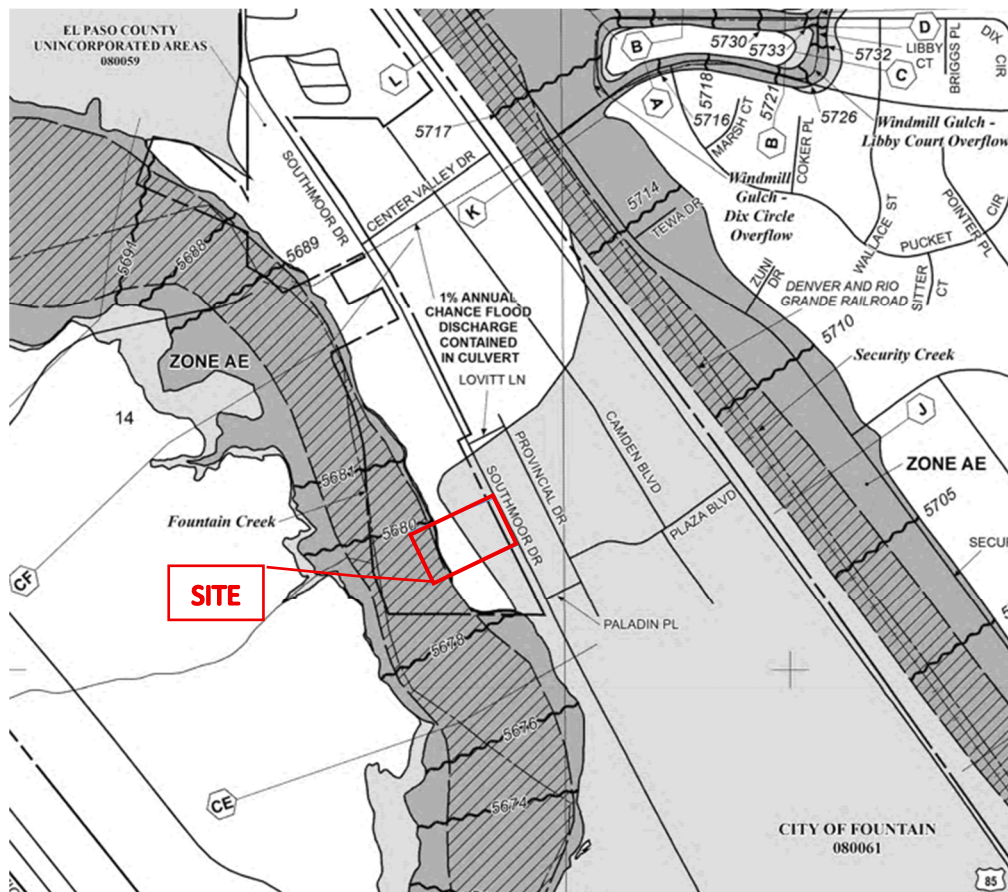


Figure 1- Portion of Map No. 08041C0951G

All drainage from the site will enter Fountain Creek which continues downstream. The floodplain on Fountain Creek will be preserved as open space as part of the development. No disturbance will occur in the area of the floodplain.

EXISTING BASIN

Basin EX-1

Basin EX-1 is 0.99 acres and is located on the northeast side of the property adjacent to Southmoor Dr. The basin consists of native grasses. The existing impervious value used for this basin is 5%. According to results from the Rational Method calculations, the runoff generated from this basin at Design Point 1 is 0.04 cfs during the 2-year minor storm, and 0.70 cfs during the 100-year major storm, respectively.

Basin EX-1 outfalls directly to Fountain Creek.

The Existing Drainage Basin Map can be found in Appendix C.

PROPOSED BASINS

Basin PR-1

The proposed development will create a driveway and parking lot to serve the proposed building. The driveway will maintain existing ground elevations to accommodate any drainage improvements. With the lot not being initially disturbed or over-lot graded, overall drainage patterns are not being changed. Stormwater runoff from the proposed development is directed away from the building to a swale that carries water out and around the proposed driveway where flow discharges to existing grade to follow historic drainage patterns.

Basin PR-1 is 0.99 acres and encompasses a part of the site, containing the proposed warehouse, gravel parking lot, and native grasses. The basin has a calculated impervious area of 26.4%. According to the Rational Methods calculations, the runoff generated for this basin is 0.45 cfs during a 2-year minor storm, and 1.62 cfs during the 100-year major storm. The proposed water quality basin for this site will intercept flow from the developed areas of the site and treat runoff before its released downstream.

The proposed impervious value used for this basin is 26.4% per MHFD. A summary of the basin characteristics is shown in the following table.

Basin Area (ac)	Existing Impervious	Ex. 2 Year Peak Flow	Ex. 100 Year Peak Flow	Proposed Impervious	Proposed 2 Year Peak Flow	Proposed 100 Year Peak Flow
0.99	5%	0.04	0.70	26.4%	0.45	1.62

C. DESIGN CRITERIA

Hydrologic Criteria

The drainage analysis was performed using the Rational Method for basins under 90 acres. This method is consistent with the El Paso County and the Mile High Flood District criteria. El Paso County's rainfall frequency was used in conjunction with the NOAA Atlas 14 was to obtain the Point Precipitation Frequency Estimates for 1-,2-,3-, and 6-hour durations to determine the rainfall in this area.

Using UD-Rational Spreadsheet as necessary, the peak runoff was calculated for the 2-year (minor) and 100-year (major) storm events for existing and developed conditions. Calculation Results can be found in the basin descriptions above and in Appendix B.

D. EROSION CONTROL

Erosion control measures required during construction will be shown in the Final Plat and Construction Documents for this project. These measures, including (but not limited to) vehicle tracking control, silt fence, stabilized staging area, concrete washouts, inlet protection, sediment control logs, diversion ditches, check dams, riprap, rock berms,

sediment basins, seeding and mulching, and erosion control blanket, will act to stabilize disturbed areas and mitigate sediment transport during construction.

The individual property owner is encouraged to implement steps to help prevent erosion and water pollution. Limiting the use of impervious surfaces for walks/patios allows stormwater to soak into the ground instead of running downstream and causing erosion. Permeable pavers can be used to allow water to pass through them, rather than run off the surface. Redirecting downspouts away from hard surfaces and onto grass or shallow depressed planting beds can help reduce the amount of runoff. Planting native vegetation and minimizing the use of fertilizers and pesticides will help reduce the impact of stormwater on the environment.

E. PERMITTING

Construction sites that disturb one acre or greater or are part of a larger common plan of development are required to obtain a Construction Stormwater Discharge Permit issued by the Colorado Department of Public Health and Environment (CDPHE). Additional permit requirements such as a Grading Permit will be required by El Paso County Road and Bridge Department. Since no work is planned in the floodplain no Floodplain Development Permit will be required for this project.

F. CONCLUSION

This Final Drainage Report is prepared in conformance with El Paso County Storm Drainage Criteria Manual, with supplemental data from the MHFD USDCM Volumes 1, 2, and 3. This report provides stormwater calculations regarding the historic drainage of the site and anticipated proposed storm peak flows based on published impervious values. El Paso County building department will determine if any stormwater mitigation based on the individual lot impervious values is required. Stormwater conveyance and peak flow attenuation for the proposed area to be developed will be in conformance with the applicable El Paso County criteria.

G. REFERENCES

El Paso County. (2014). Drainage Criteria Manual, Volume 1 Update. Department of Public Works, El Paso County, Colorado.

Federal Emergency Management Agency. *Flood Insurance Rate Map*. Panel 08041C0951G. El Paso County. December 7, 2018.

Urban Storm Drainage Criteria Manual. Mile High Flood District (MHFD); September 1969. Revised August 2018.

Web Soil Survey. United States Department of Agriculture, Natural Resources Conservation Service, September 2021.

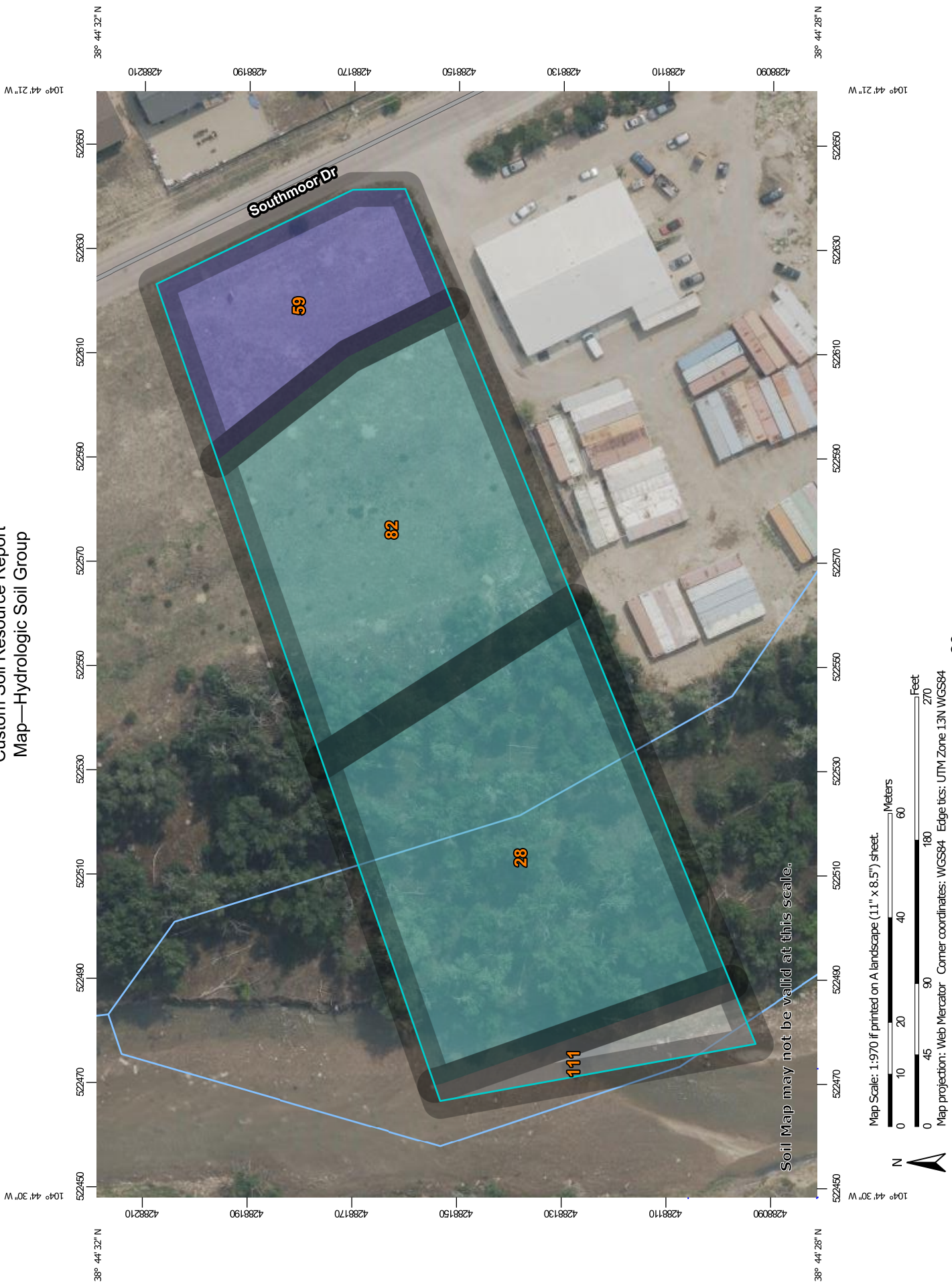
APPENDIX A

Vicinity Map

Soils Map

FIRM

Custom Soil Resource Report
Map—Hydrologic Soil Group



Custom Soil Resource Report

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.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
28	Ellicott loamy coarse sand, 0 to 5 percent slopes	A	1.0	43.5%
59	Nunn clay loam, 0 to 3 percent slopes	C	0.4	16.2%
82	Schamber-Razor complex, 8 to 50 percent slopes	A	0.8	35.4%
111	Water		0.1	5.0%
Totals for Area of Interest			2.4	100.0%

Rating Options—Hydrologic Soil Group*Aggregation Method: Dominant Condition**Component Percent Cutoff: None Specified**Tie-break Rule: Higher*

NOTES TO USERS

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

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

Coastal Base Flood Elevations shown on this map apply only to coastal areas of the North American Vertical Datum of 1988 (NAVD83). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Elevation Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevation shown in the Summary of Elevation Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on the FIRM.

Boundaries of the **Flowways** were computed at cross sections and interpolated between cross sections. The flowways were based on hydraulic considerations with regard to measurements of the National Flood Insurance Program. Flowway width and other pertinent flowway data are provided in the Flood Insurance Study report for this jurisdiction.

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

The projection used in the preparation of this map was Universal Transverse Mercator (UTM) zone 13. The horizontal datum was NAD83 (GDA95) whereas differences in datum, spheroid, projection or UTM zones used in the production of FISs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIS.

Flood elevations on this map are referenced to the **North American Vertical Datum of 1988 (NAVD83)**. These flood elevations may be compared to structure and elevation elevations referenced to the same vertical datum. For information regarding conversion between datum, refer to the National Geospatial Survey website at <http://www.ngs.noaa.gov> or contact the National Geospatial Survey at the following address:

NGS Information Services
NGA, VINTG212
National Geospatial Survey
650C Street, SW
Silver Spring, MD 20910-2202

To obtain current elevation, description, and/or location information for bench marks shown on the map, please contact the Information Service Branch of the National Geospatial Survey at the following address:

NGS Information Services
NGA, VINTG212
National Geospatial Survey
650C Street, SW
Silver Spring, MD 20910-2202

Base Map Information shown on this FIRM was provided in digital format by El Paso County, Colorado Planning Utilities, City of Fortran, Bureau of Land Management, National Oceanic and Atmospheric Administration, United States Geological Survey, and American Consulting Engineers, Inc. These data are current as of 2006.

This map reflects more detailed and up-to-date stream channel configurations and floodplain elevations than those shown on the previous FIRM for this jurisdiction. The flowways and floodways that were transferred from the previous FIRM may have been updated to reflect more detailed stream channel configurations. As a result, the Flood Profiles and Flowway Data tables in the Flood Insurance Study report which contain authoritative hydraulic data may reflect stream channel elevations that differ from what is shown on this map. The profile elevations depicted on this map represent the hydraulic modeling baseline that match the flood profiles and Flowway Data Tables if available in the FIS report. As a result, the profile elevations may deviate significantly from the new base map channel representation and may appear outside of the map area.

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

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

Coastal FEMA Map Service Center (HMS) via the FEMA Map Information eXchange (FIRM) 1-877-336-2677 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of the map. The HMS may also be reached by fax at 1-800-338-6050 and its website at <http://www.msc.fema.gov>.

If you have **questions about this map** or **questions concerning the National Flood Insurance Program** in general, please call 1-877-FEMA-MAP (1-877-336-2677) or visit the FIS website at <http://www.fema.gov/national-fis>.

El Paso County Vertical Datum Offset Table

Flooding Source	Vertical Datum Offset (ft)
SECTOR 13 OF THE EL PASO COUNTY FLOOD INSURANCE STUDY FOR FIRM 951 OF 1300 (FIRM 951 OF 1300) (FIRM 951 OF 1300)	0.00

Panel Location Map

This Digital Flood Insurance Rate Map (DFIRM) was produced through a Cooperative Technical Partner (CTP) agreement between the State of Colorado Water Conservation Board (CNCB) and the Federal Emergency Management Agency (FEMA).

LEGEND

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

The 1% annual chance flood (100-year flood) is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zone A, AE, AH, AO, AR, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GG, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UV, UW, UX, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ.

ZONE A No Base Flood Elevation determined. Base Flood Elevation is unknown.

ZONE AE Base Flood Elevation determined. Base Flood Elevation is shown in feet.

ZONE AH Flood depths of 1 to 3 feet (Locally areas of ponding). Base Flood Elevation is shown in feet.

ZONE AO Flood depths of 1 to 3 feet (Locally areas of ponding). Base Flood Elevation is shown in feet.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control structure (now non-existent). Zone AR indicates that the former flood control system is being removed to provide protection from the 1% annual chance flood.

ZONE AV Area to be protected from 1% annual chance flood by a flood flood protection structure (now non-existent). Zone AV indicates that the former flood control system is being removed to provide protection from the 1% annual chance flood.

ZONE AW Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE AX Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE AY Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE AZ Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BA Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BB Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BC Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BD Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BE Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BF Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BG Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BH Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BI Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BJ Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BK Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BL Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BM Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BN Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BO Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BP Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BQ Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BR Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BS Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BT Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BU Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BV Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BW Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BX Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BY Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE BZ Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CA Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CB Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CC Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CD Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CE Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CF Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CG Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CH Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CI Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CJ Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CK Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CL Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CM Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CN Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CO Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CP Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CQ Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CR Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CS Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CT Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CU Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CV Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CW Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CX Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CY Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE CZ Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE DA Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE DB Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE DC Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE DD Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE DE Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE DF Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE DG Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE DH Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE DI Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE DJ Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE DK Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE DL Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE DM Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

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ZONE DO Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE DP Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

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ZONE DR Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE DS Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

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ZONE DW Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE DX Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE DY Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE DZ Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE EA Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

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ZONE EE Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

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ZONE EH Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE EI Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

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ZONE EK Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE EL Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

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ZONE EW Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE EX Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE EY Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE EZ Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE FA Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

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ZONE FG Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

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ZONE FI Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE FJ Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE FK Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE FL Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE FM Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

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ZONE FR Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE FS Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE FT Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

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ZONE GV Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE GW Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE GX Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

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ZONE GZ Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE HA Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

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ZONE HH Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE HI Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE HJ Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

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ZONE HW Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE HX Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

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ZONE IA Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE IB Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

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ZONE IG Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE IH Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE II Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE IJ Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE IK Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE IL Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE IM Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE IN Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

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ZONE IQ Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE IR Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE IS Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE IT Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE IU Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE IV Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE IW Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE IX Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE IY Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE IZ Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE JA Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE JB Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE JC Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE JD Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE JE Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE JF Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE JG Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE JH Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE JI Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE JJ Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE JK Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE JL Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE JM Coastal Flood zone with velocity based (wave action) base flood Elevation determined.

ZONE JN Coastal

APPENDIX B

Hydrology Calculations / Results

Calculation of Peak Runoff using Rational Method

Selected $t_c = \max\{t_{\text{minimum}}, \min(\text{Computed } t_c, \text{Regional } t_c)\}$

[illegible]

Calculation of Peak Runoff using Rational Method

Designer:

Company:

Date:

Project:

Location:

Select MHFD location for NOAA Atlas 14 Rainfall Depths from the pulldown list OR enter your own depths obtained from the NOAA website (click this link)

1-hour rainfall depth, P1 (in) =

WQE	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr
0.60	1.19	1.50	1.75	2.00	2.25	2.52	
a	b	c	$I(in/hr) = \frac{a * P_1}{(b + t_c)^c}$				
28.50	10.00	0.786	Q(cfs) = CIA				

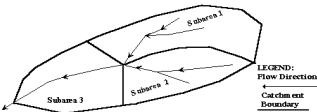
Subcatchment Name	Time of Concentration				Rainfall Intensity, I (in/hr)								Peak Flow, Q (cfs)							
	Computed t _c (min)	Regional t _c (min)	Selected t _c (min)	(Optional) Override t _c (min)	WQE	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr	WQE	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr
EX-1	21.46	26.08	21.46		1.14	2.26	2.84	3.32	3.79	4.26	4.78		0.02	0.04	0.05	0.07	0.11	0.29	0.70	
PR-1	18.23	22.23	18.23		1.24	2.46	3.09	3.61	4.13	4.64	5.20		0.23	0.45	0.59	0.71	0.88	1.15	1.62	

Determination of Runoff Coefficients for Rational Method

MHFD-Rational, Version 3.00 (August 2025)

Designer: _____
Company: 2N Civil, LLC
Date: 6/29/2026
Project: 6140 Southmoor Drive
Location: El Paso County, Colorado

Cells of this color are for required user-input
Cells of this color are for optional override values



Provide subcatchment names on the Rational Calcs worksheet to open up the table below.

Subcatchment Name	# of Subareas	Area (ac)	NRCS Hydrologic Soil Group	Percent Imperviousness				Runoff Coefficient, C								(Optional) Override Runoff Coefficient, C								Comments
				Imperviousness Source	Imperviousness Category	Calculated Imperviousness	(Optional) Override Imperviousness	WQE & 2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr	WQE & 2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr			
EX-1	1	0.99	A			5.0%	5.0%	0.02	0.02	0.02	0.03	0.07	0.15	0.29	0.02	0.02	0.02	0.03	0.07	0.15	0.29			
		0.99	A	Surface Type	Historic Flow Analysis	5%		0.02	0.02	0.02	0.03	0.07	0.15	0.29										
PR-1	3	0.99	A			26.4%	26.4%	0.18	0.19	0.20	0.21	0.25	0.32	0.42	0.18	0.19	0.20	0.21	0.25	0.32	0.42			
		0.65	A	Surface Type	Historic Flow Analysis	5%		0.02	0.02	0.02	0.03	0.07	0.15	0.29										
		0.27	A	Surface Type	Gravel - Low Traffic Areas	60%		0.43	0.45	0.47	0.50	0.54	0.58	0.64										
		0.07	A	Surface Type	Roofs	95%		0.79	0.81	0.82	0.83	0.84	0.85	0.87										

APPENDIX C

Hydraulics – Culvert Calculations

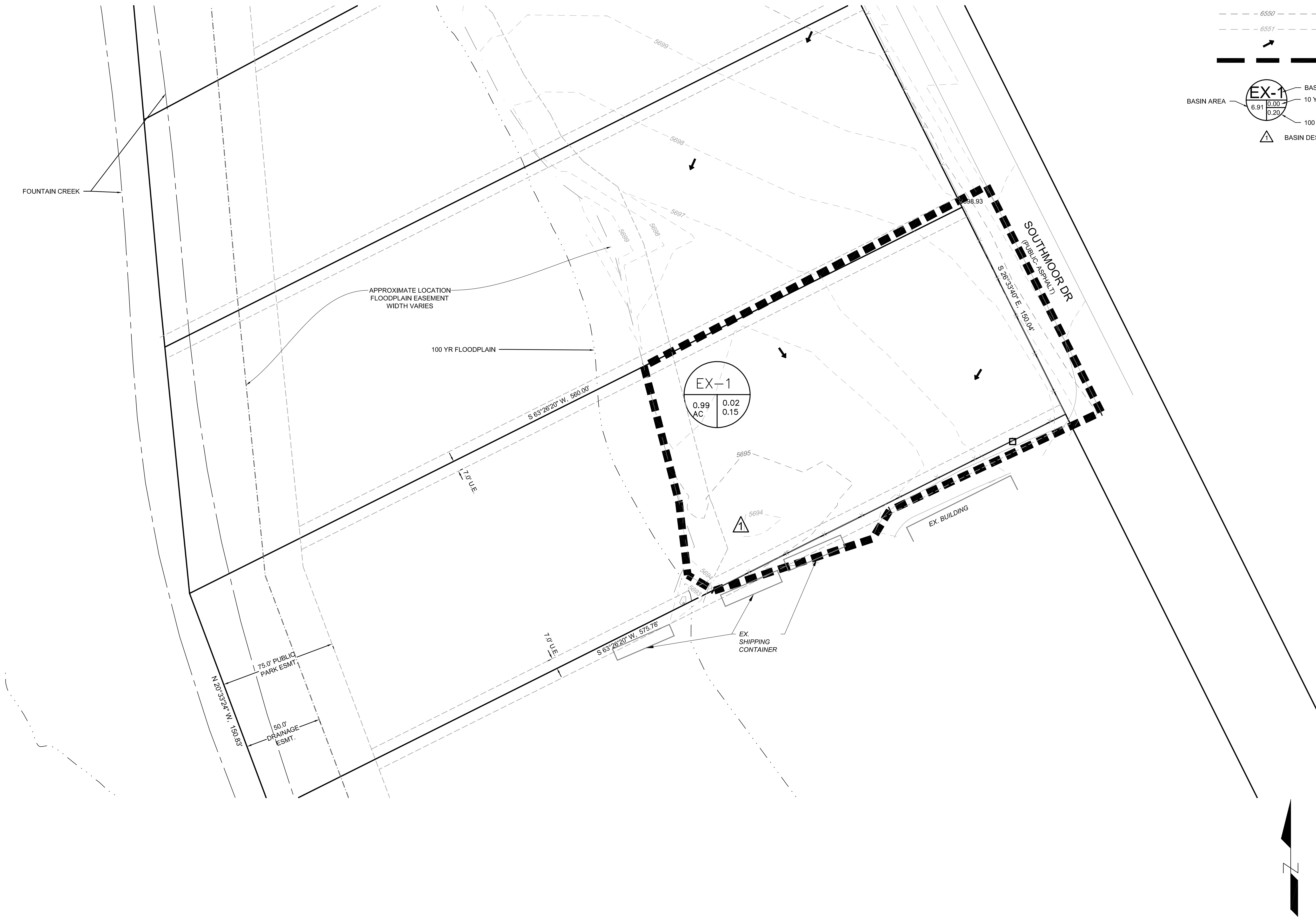
APPENDIX D

Drainage Basin Maps

6140 SOUTHMOOR DRIVE

EXISTING BASIN MAP

LOT 5, BLOCK 1, BROWN SUBDIVISION, EL PASO COUNTY, STATE OF COLORADO,
A PART OF NORTHEASTERLY LINES, SECTION 14, TOWNSHIP 15 SOUTH, RANGE 66 WEST OF THE 6TH P.M.



LEGEND

6550

6551

EX-1

6.91

0.02

0.20

BASIN NAME

10 YR RUNOFF COEFFICIENT

100 YR RUNOFF COEFFICIENT

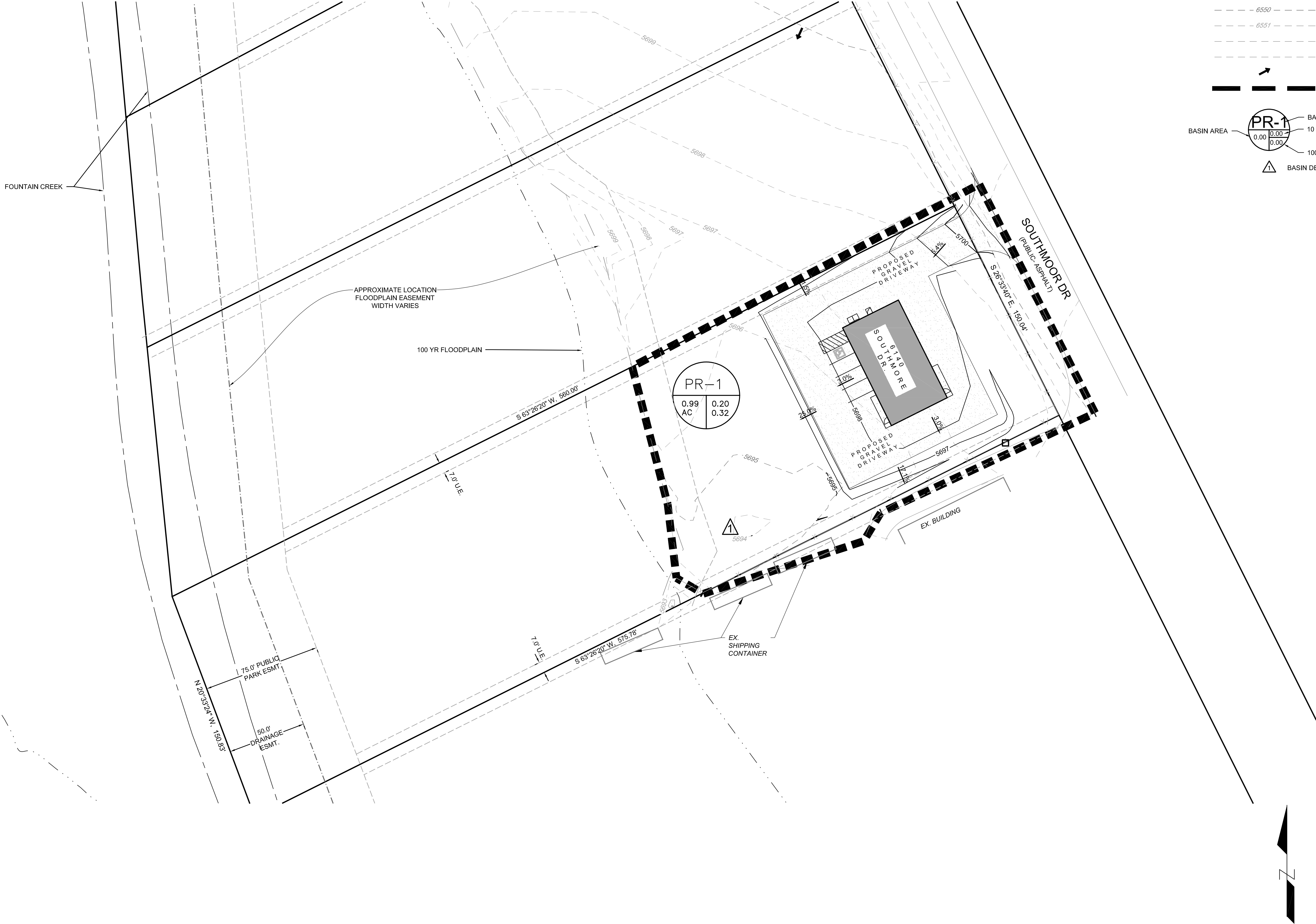
BASIN DESIGN POINT

J:\Projects\2026004\dwg\base\EX-basin.dwg 5/26/2026

6140 SOUTHMOOR DRIVE

PROPOSED BASIN MAP

LOT 5, BLOCK 1, BROWN SUBDIVISION, EL PASO COUNTY, STATE OF COLORADO,
A PART OF NORTHEASTERLY LINES, SECTION 14, TOWNSHIP 15 SOUTH, RANGE 66 WEST OF THE 6TH P.M.



LEGEND

- 6550 --- EXISTING MAJOR CONTOUR
- 6551 --- EXISTING MINOR CONTOUR
- 6552 --- PROPOSED MAJOR CONTOUR
- 6553 --- PROPOSED MINOR CONTOUR
- 6554 --- FLOW DIRECTION
- 6555 --- PROPOSED DRAINAGE BASIN LINES

BASIN AREA

PR-1	BASIN NAME
0.00	10 YR RUNOFF COEFFICIENT
0.00	100 YR RUNOFF COEFFICIENT

BASIN DESIGN POINT

△

303.925.0544
www.2ncivil.com

NOT FOR CONSTRUCTION

PREPARED FOR:
MAG MISSIHA
6140 SOUTHMOOR DRIVE
FOUNTAIN, COLORADO 80817

PROPOSED DRAINAGE MAP
6140 SOUTHMOOR DR
EL PASO COUNTY, COLORADO

DATE:
BY:
REVISIONS:

PROJECT NUMBER: 26004
ISSUED DATE: 6/15/2026
DESIGNED BY: CVP
REVIEWED BY: RCE

PR BASIN MAP

2