

**FINAL DRAINAGE REPORT
LOT 2, BENT GRASS EAST COMMERCIAL FILING NO. 4
CARUBIA PROPERTIES**

PREPARED FOR:

**CARUBIA PROPERTIES
8035 MERIDIAN PARK DRIVE
FALCON, CO 80831
719-640-1962
CONTACT: LUCAS CARUBIA**

PREPARED BY:

**PERCEPTION DESIGN GROUP, INC.
6901 SOUTH PIERCE STREET, SUITE 220
LITTLETON, CO 80128
CONTACT: JERRY W. DAVIDSON, P.E.
(303) 232-8088**

JOB #2024-019

JANUARY 31, 2025

Engineers 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 city/county for drainage reports and said report is in conformity with the 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.

Jerry W. Davidson, P.E.
CO Reg No. 30226
For and On Behalf Of
Perception Design Group, Inc.

Developer's Statement:

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

Business Name: _____

By: _____

Title: _____

Address: _____

El Paso County Only:

Filed in accordance with Section 51.1 of the El Paso Land Development Code as amended.

Director of Public Works: _____ Date: _____

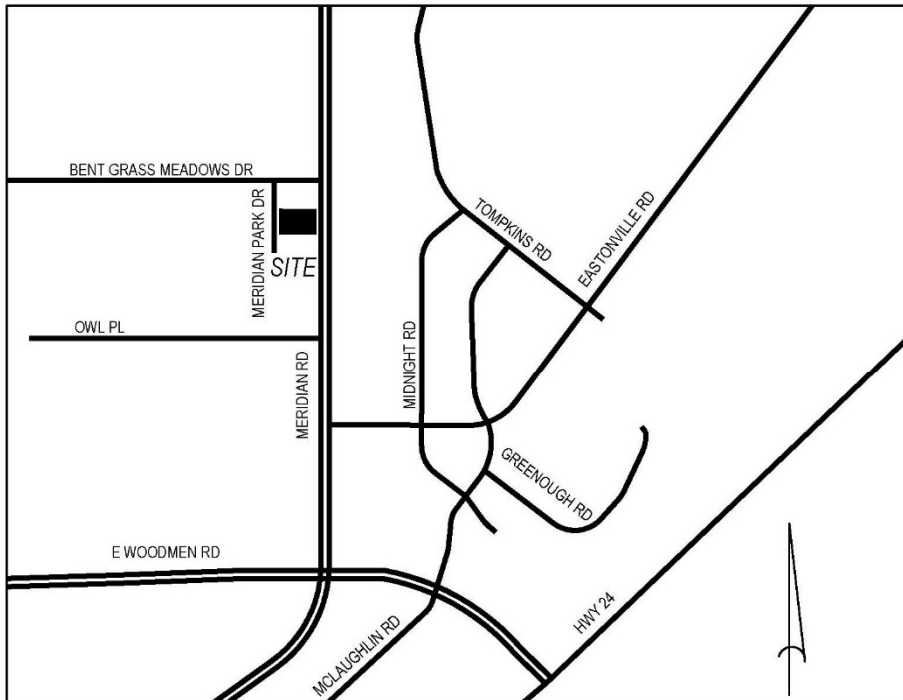
Conditions:

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Section A: GENERAL LOCATION

The Carubia Properties project is located on the east side of Meridian Park Drive approximately 300 feet south of Bent Grass Meadows Drive in Falcon, Colorado. The site address is 8035 Meridian Park Drive, Falcon, CO 80831. It is in unincorporated El Paso County. Meridian Park Drive is located to the west of the property and Meridian Road is to the east.



VICINITY MAP

1" = 1000' ±

By rectangular survey coordinates the project is located in the Northeast Quarter of Section 1, Township 13 South, Range 65 West of the 6th P.M. County Of El Paso, State of Colorado.

There are no major drainageways within the property. There are no existing stormwater facilities within the property.

Surrounding developments include Lot 1 Bent Grass East Commercial Filing No.1 to the north. This site is developed as a 7-Eleven fuel station and convenience store. To the west is Bent Grass East Commercial Filing No 2B and Filing No. 3 which are vacant ground and a veterinary clinic. To the south is vacant ground in Bent Grass East Commercial Filing No 4. To the east is Woodmen Hills Fil No 8, a residential subdivision.

Section B: DESCRIPTION OF PROPERTY

The subject property contains 0.87 acres of land and is zoned CR. Ground cover consists of bare dirt and native grass. Site topography slopes from north to south at average 3%. The easterly side of the site discharges to the roadside ditch of Meridian Road while the westerly side of the site discharges onto the adjacent property south.

Site soils as illustrated on the NRCS Web Soil Survey indicate Columbine gravelly sandy loam soils are present at the site. This soil is a well-drained soil with hydrologic soil group A designation.

There are no major drainageways or irrigation facilities on the property.

The property is generally free of encumbrances with utility easements around the perimeter of the property. These easements are generally free of utilities with the exception of dry utilities along the west side of the property.

Proposed development includes the construction of a commercial medical office building with associated parking and utilities.

Section C: MAJOR BASIN DESCRIPTIONS

There are no major drainageways thru or adjacent to the property. By graphic plotting only the subject property is situated in flood zone "X" according to Flood Insurance Rate Map (FIRM) community panel no. 08041C0553G with an effective date of December 17, 2018. Zone X Flood Areas are "Areas determined to be outside the 100-year floodplain". The Site falls in the Middle Tributary Basin within the Falcon Drainage Basin. Receiving waters are an un-named tributary to Black Squirrel Creek south of the property. Major basin characteristics include a mixture of residential, commercial and open range land. There are no obstructions on the property that would affect the major basin drainage flow patterns.

Section D: SUB-BASIN DESCRIPTIONS

In the existing / historic condition, site topography slopes from north to south at average 3%. The easterly side of the site discharges to the roadside ditch of Meridian Road while the westerly side of the site discharges onto the adjacent property south. Off site flow patterns have no impact on the property. Up-gradient flows are intercepted along the north property line and conveyed around the property via storm sewer.

Section E: DRAINAGE DESIGN CRITERIA

1. Hydrologic Criteria

Minor and major storm frequencies used in the design are 5 year for the minor, and 100 year for the major. Rainfall data was obtained from the Bent Grass East Commercial Phase 1 Preliminary Drainage Report to provide continuity. Results are summarized below.

Storm Frequency (Year)	Rainfall Intensity (in/hr)
5	5.10
100	9.07

The rational method was used, as described in MHFD manual, to calculate developed direct runoff for the 5-year and 100-year storm frequencies. As the site is relatively small, a time of concentration value of 5 minutes is used for a conservative solution. Composite C values are calculated per MHFD criteria.

The rational method equation ($Q=CIA$) is used to determine the maximum rate of runoff for each basin. In which:

Q= the maximum rate of runoff (cubic feet per second)

C= the runoff coefficient

I= the average intensity of rainfall for a duration equal to the time of concentration (inches/hour)

A= basin area (acres)

Water quality volumes are calculated using MHFD equations 3-1 and 3-2. Water quality discharge is calculated based upon 12 hour minimum drain time.

2. Hydraulic Criteria

Minor and major storm frequencies used in the design are 5 year for the minor, and 100 year for the major. The storm sewer pipes and inlets will be sized for the 100 year storm.

3. Previous Reports and Studies

The site was previously studied in a report entitled "Preliminary Drainage Report for Bent Grass East Commercial – Phase 1 (Preliminary Plan) and Final Drainage Report for Bent Grass East Commercial Filing No. 1 – Lot 1 (Final Plat)," prepared by Classic Consulting Engineers & Surveyors, approved March 15, 2013.

The site was further studied in a report entitled "Dunkin Bent Grass Lot 1A of Bent Grass East Commercial Filing No. 2A 8035 Meridian Park Drive, Peyton, CO 80831 Final Drainage Report" prepared by M&S Civil Consultants, Inc, approved September 06, 2023.

The Dunkin project has not been built to date thus the Bent Grass East report is used as a reference in this study.

In the Bent Grass East report, the Carubia site is shown in Basins D and D1. Subsequent re-plat has changed the property such that a portion of basins D and D1 are no longer contained within the site. New basins Dn (D new) and D1n (D1 new) are established to assist in runoff analysis. These new basins are compared by area to the original establishing a percentage of the original size. This percentage is then applied to the allowable runoff to determine compliance with the original report. Results are presented in the table below:

Basin	Area (Acres)	Percentage of Original Basin	Q5 (cfs)	Q100 (cfs)
D	0.41	100%	2	3
D1	0.63	100%	3	5
Dn	0.34	82.9%	1.7	2.5
D1n	0.43	68.2%	2.0	3.4

The Bent Grass East report further provides for detention and water quality for basin D1, while neither detention nor water quality are provided for basin D. The report calls for water quality only for basin D to be provided on-site.

Section F: FOUR STEP PROCESS

Runoff reduction is achieved for a portion of the site. The roof area of basin E is surface discharged into a landscape area. This area is a sand filter basin providing water quality treatment. As no drainageways exist on the site, no stabilization is proposed. Stormwater Quality Capture Volume is provided for basins A, B, and C in the existing detention and water quality facility offsite to the southwest of the property. Industrial and commercial pollutants will be limited for the site. No industrial activities are proposed, and commercial activities are limited to a parking lot.

Section G: DRAINAGE FACILITY DESIGN

1. General Concept

The general drainage concept is to grade the site such that the original basin division line of basins D and D1 dividing runoff between flows east and west are more or less maintained. Basins A, B, and C are directed to the west to the adjacent street and conveyed southwesterly to the existing detention and water quality facility for the site. Basins E, F, and G are directed to the east to Meridian Road. Water quality will be provided for a portion of these basins.

2. Specific Details

Site development is to be accomplished in a single phase. The site is divided into sub-basins to quantify flows at various locations in the site. Sub-basins are described as follows:

Basin Dn: This basin represents the adjusted historic basin D. Basin D is illustrated on the drainage map prepared for the Bent Grass East report and included in the appendix. Basin Dn is 82.9% of the original basin D area. Allowable runoff from Dn is adjusted from the allowable reported in the Bent Grass East report based upon the size percentage of the new Dn basin. Basin Dn defines allowable flows to the roadside ditch of Meridian Road. Basin parameters are summarized as follows:

Design Point	A
Area	0.34 ac
Percentage of original basin D	82.9 %
Q5 Allowable	1.7 cfs
Q100 Allowable	2.5 cfs

Basin D1n: This basin represents the adjusted historic basin D1. Basin D1 is illustrated on the drainage map prepared for the Bent Grass East report and included in the appendix. Basin D1n is 68.2% of the original basin D1 area. Allowable runoff from D1n is adjusted from the allowable reported in the Bent Grass East report based upon the size percentage of the new D1n basin. Basin D1n defines allowable flows to Meridian Drive and thence to the existing detention and water quality facility. Basin parameters are summarized as follows:

Design Point	B
Area	0.43 ac
Percentage of original basin D	68.2 %
Q5 Allowable	2.0 cfs
Q100 Allowable	3.4 cfs

Basin A: This basin represents paved parking area and landscape areas west of the proposed building. 100-year runoff is collected at a curb chase at the southwest corner of the basin and conveyed into Meridian Park Drive. Runoff is then conveyed to the detention and water quality facility via surface flow and underground storm sewer. Basin parameters are summarized as follows:

Area	0.21 ac
------	---------

Imperviousness	91 %
C5	0.77
C100	0.82
Q5	0.82 cfs
Q100	1.56 cfs

Basin B: This basin represents paved driveway area northwest of the proposed building and landscape area along the east edge of Meridian Park Drive. 100-year runoff is discharged directly into Meridian Park Drive. Runoff is then conveyed to the detention and water quality facility via surface flow and underground storm sewer. Basin parameters are summarized as follows:

Area	0.08 ac
Imperviousness	67 %
C5	0.52
C100	0.63
Q5	0.21 cfs
Q100	0.46 cfs

Basin C: This basin represents paved parking, landscape, and driveway area southwest of the proposed building. 100-year runoff is directed out the proposed access offsite south of the property and discharged directly into Meridian Park Drive. Runoff is then conveyed to the detention and water quality facility via surface flow and underground storm sewer. Basin parameters are summarized as follows:

Area	0.16 ac
Imperviousness	67 %
C5	0.52
C100	0.63
Q5	0.42 cfs
Q100	0.91 cfs

Basin E: This basin represents the roof of the proposed building and landscape areas south of the building. 100-year runoff is directed south into a proposed water quality sand filter basin. After treatment, stormwater is discharged via storm sewer into the roadside ditch adjacent to Meridian Road. Water quality is provided on site for this basin. Detention is not provided per the Bent Grass East report. Basin parameters are summarized as follows:

Area	0.16 ac
Imperviousness	81 %
C5	0.66
C100	0.74
Q5	0.54 cfs
Q100	0.96 cfs

Basin F: This basin represents paved areas north of the proposed building. 100-year runoff is directed northeast to an existing curb cut. Runoff thence travels overland east to an existing culvert with discharge into the roadside ditch adjacent to Meridian Road. Water quality is not provided for this basin. Detention is not provided per the Bent Grass East report. Basin parameters are summarized as follows:

Area	0.06 ac
------	---------

Imperviousness	95 %
C5	0.81
C100	0.85
Q5	0.25 cfs
Q100	0.44 cfs

Basin G: This basin represents landscape areas east of the proposed building. 100-year runoff is directed east to the roadside ditch adjacent to Meridian Road. Formal water quality is not provided for this basin. However, since the basin is totally landscape area, de-facto water quality is achieved via the overland flow across a landscape area. Detention is not provided per the Bent Grass East report. Basin parameters are summarized as follows:

Area	0.10 ac
Imperviousness	5 %
C5	0.02
C100	0.15
Q5	0.01 cfs
Q100	0.14 cfs

As presented in section 3B above, proposed runoff rates are reduced from that anticipated in the original Bent Grass East report. Therefore downstream facilities are assumed to be adequate to service the Carubia project. Summarized flow rates are presented below:

Design Point 1 is a summation of flows entering Meridian Park Drive via overland flow. Basins A, B, and C are tributary to design point 1.

Q5	1.46 cfs
Q100	2.93 cfs
Allowable Q5	2.0 cfs
Allowable Q100	3.4 cfs

Design Point 2 is a summation of flows entering the roadside ditch of Meridian Road. Basins E, F, and G are tributary to design point 2.

Q5	0.80 cfs
Q100	1.53 cfs
Allowable Q5	1.7 cfs
Allowable Q100	2.5 cfs

A portion of the site is to be serviced by a new private sand filter basin located along the south side of the property. MHFD equations 3-1 and 3-2 are used to size the basin. Maintenance of the sand filter will be by the property owner.

Sand Filter Results are summarized below:

Tributary Area	7,159 sf
Imperviousness	81%
Required Volume	160 cf
Required Flat Area	72 sf
Provided Volume	160 cf
Provided Flat Area	121 sf
Depth	1.07 ft

Section H: OTHER GOVERNMENT AGENCY REQUIREMENTS

Government approvals are limited to EL Paso County.

Section I: LIST OF REFERENCES

1. Urban Storm Drainage Criteria Manual, Vol. 1 and Vol. 2, Urban Drainage and Flood Control District, 2024.
2. Urban Storm Drainage Criteria Manual, Vol. 3, Urban Drainage and Flood Control District, November 2024.
3. Federal Emergency Management Agency, Flood Insurance Rate Map (FIRM) 08041C0553G Effective Date December 7, 2018
4. USDA Web Soil Survey
5. El Paso County Drainage Criteria Manual
6. Preliminary Drainage Report for Bent Grass East Commercial – Phase 1 (Preliminary Plan) and Final Drainage Report for Bent Grass East Commercial Filing No. 1 – Lot 1 (Final Plat),” prepared by Classic Consulting Engineers & Surveyors, approved March 15, 2013.

Section J: APPENDICES

1. Soil, Floodplain

2. Hydrologic Computations

3. Sand Filter Computations

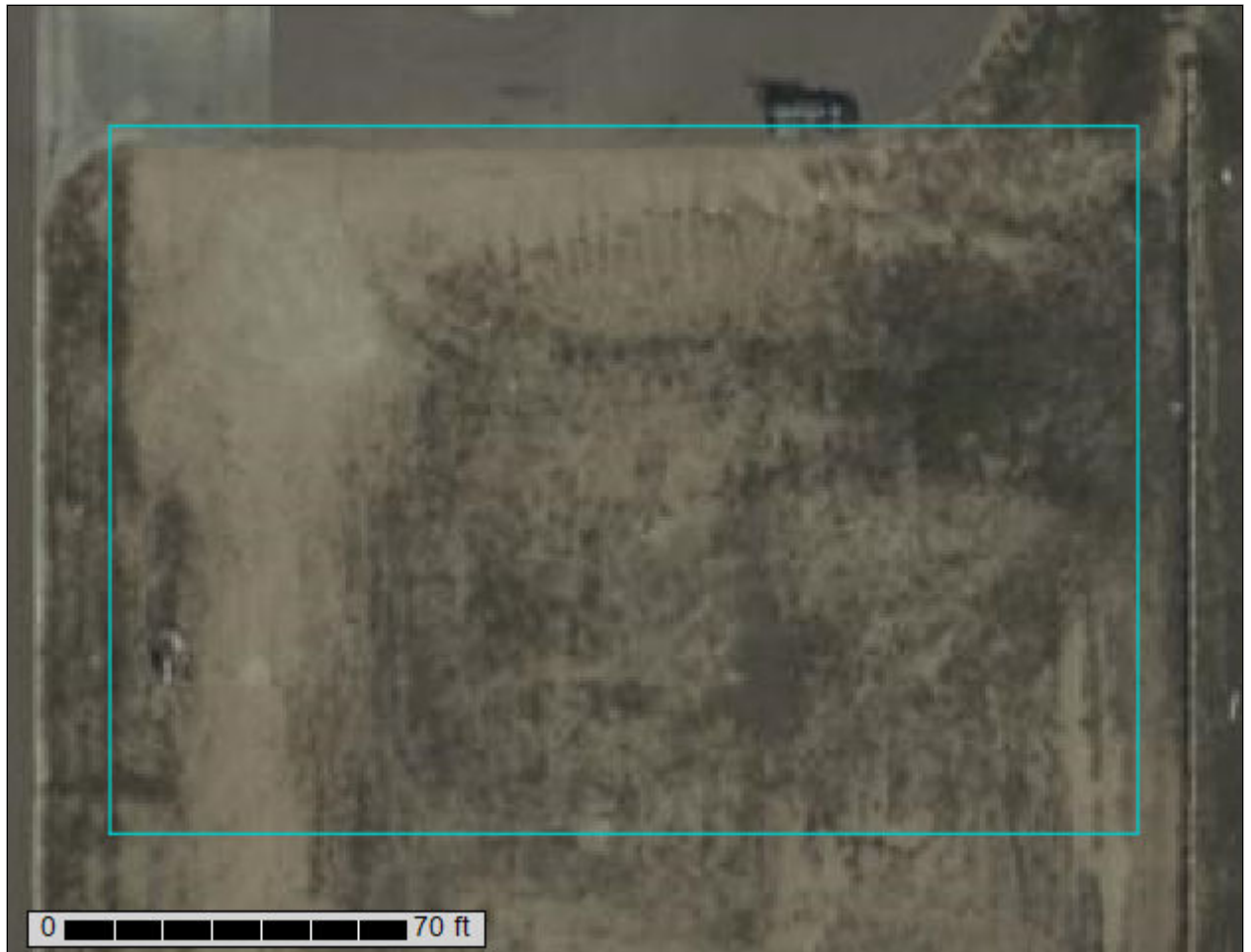
4. Excerpts from Prior Report

5. Drainage Plans

1. Soil, Precipitation, Floodplain

NRCS Custom Soil Resource Report – Geotech Report Excerpts
FEMA Firmette

Custom Soil Resource Report for El Paso County Area, Colorado



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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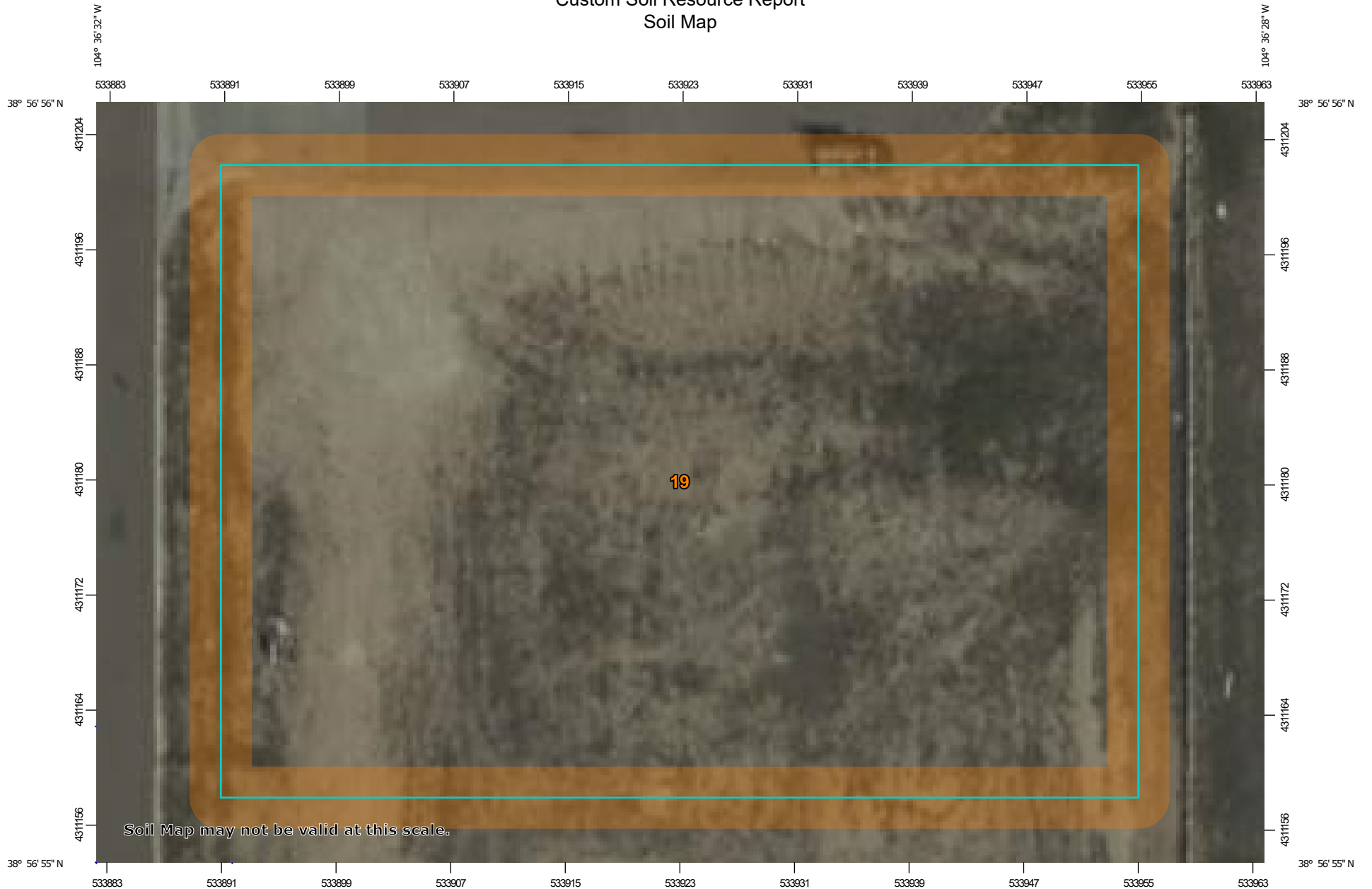
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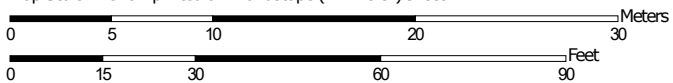
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Map Scale: 1:373 if printed on A landscape (11" x 8.5") sheet.



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 Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit


 Clay Spot


 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water


 Perennial Water

 Rock Outcrop


 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole

 Slide or Slip


 Sodic Spot


 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

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 22, Sep 3, 2024

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

Date(s) aerial images were photographed: Sep 11, 2018—Oct 20, 2018

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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
19	Columbine gravelly sandy loam, 0 to 3 percent slopes	0.7	100.0%
Totals for Area of Interest		0.7	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Custom Soil Resource Report

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

El Paso County Area, Colorado

19—Columbine gravelly sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 367p
Elevation: 6,500 to 7,300 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 125 to 145 days
Farmland classification: Not prime farmland

Map Unit Composition

Columbine and similar soils: 97 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Columbine

Setting

Landform: Fans, fan terraces, flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 14 inches: gravelly sandy loam
C - 14 to 60 inches: very gravelly loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: R049XY214CO - Gravelly Foothill
Hydric soil rating: No

Minor Components

Fluvaquentic haplaquolls

Percent of map unit: 1 percent
Landform: Swales
Hydric soil rating: Yes

Custom Soil Resource Report

Other soils

Percent of map unit: 1 percent

Hydric soil rating: No

Pleasant

Percent of map unit: 1 percent

Landform: Depressions

Hydric soil rating: Yes

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
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Custom Soil Resource Report

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

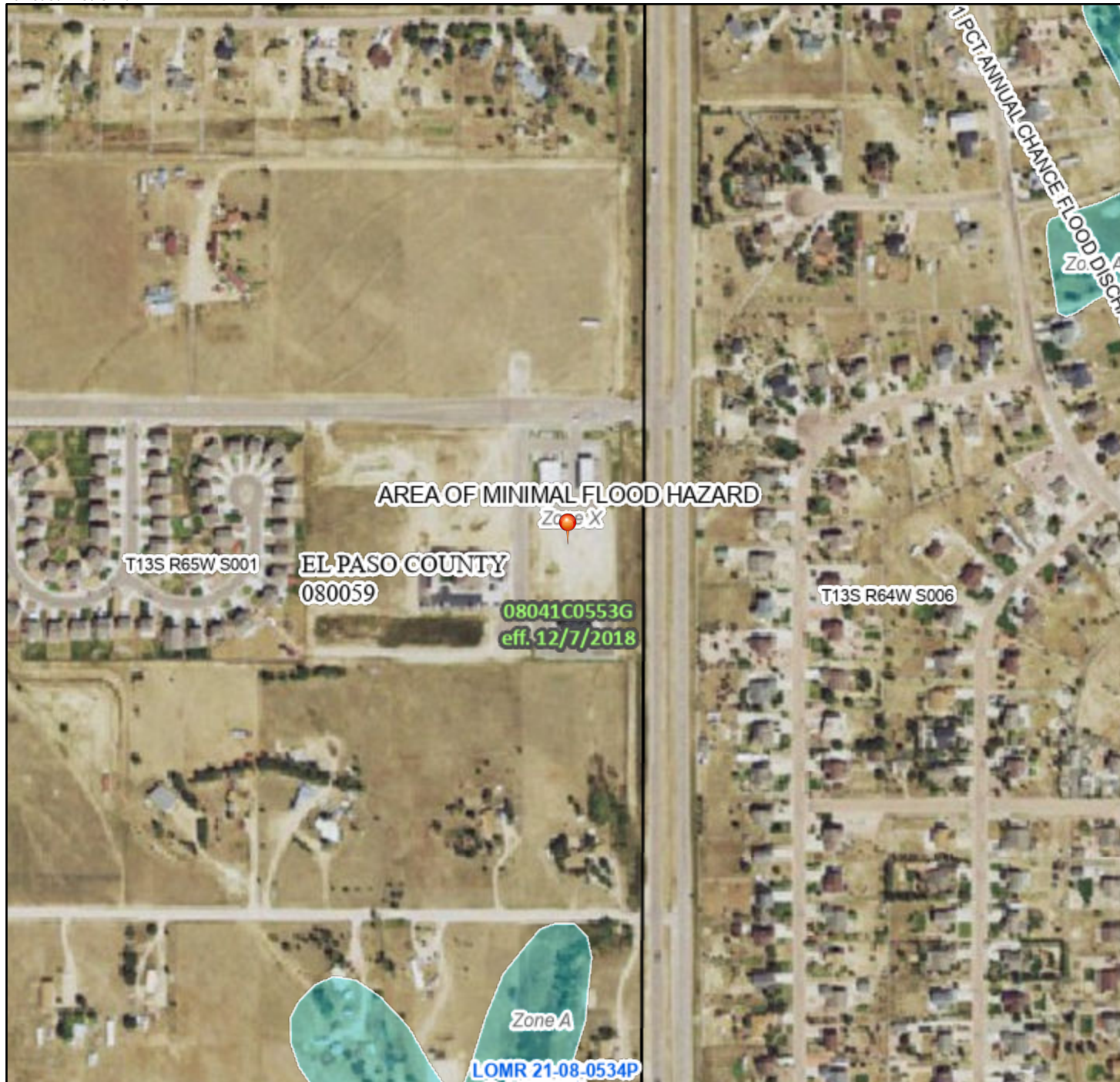
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National Flood Hazard Layer FIRMette



104°36'50"W 38°57'10"N



Legend

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

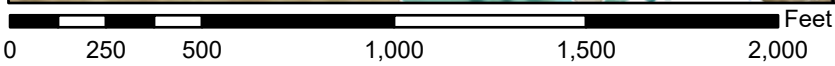
SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of 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
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **12/13/2024 at 8:38 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.



1:6,000 104°36'12"W 38°56'42"N

Basemap Imagery Source: USGS National Map 2023

2. Hydrologic Computations

Land Use Assumptions, C Values

Determination of Runoff Coefficients, Time of Concentration, Runoff Calculations

Peak Flow Rate Calculations

4.5 RAINFALL INTENSITY

The calculated rainfall intensity, I , is the average rainfall rate in inches per hour over a duration equal to t_c . Obtain 1-hour point precipitation depths from National Oceanic and Atmospheric Administration (NOAA) Atlas 14 for the average return periods of interest and apply Equation 5-1 in the *Rainfall* chapter using t_c as the storm duration, t_d . Use the centroid of the catchment to determine the 1-hour point precipitation depths. The MHFD-Rational and MHFD-Inlet Excel workbooks automatically calculate rainfall intensity based on 1-hour point precipitation depths for a specified location.

4.6 RUNOFF COEFFICIENTS

Any watershed can be conceptualized as a combination of pervious and impervious surfaces. Pervious surfaces allow water to infiltrate into the ground, while impervious surfaces do not allow for infiltration. In urban hydrology, the relationships between pervious and impervious surfaces is important. Urbanization increases impervious area, causing rainfall-runoff relationships to change significantly. In the absence of stormwater management controls that infiltrate or detain runoff, urbanization increases peak runoff rates, volumes, and frequency of runoff and decreases the time to peak.

When analyzing a catchment for planning or design purposes, estimates of the existing and probable future imperviousness of the drainage area are needed. In some cases, the pre-development (i.e., historic) condition also must be analyzed. Table 6-2 provides recommended imperviousness values based on land use types and is appropriate for master planning analysis and conceptual design. Note that the land use classifications in Table 6-2 incorporate roads that are included within the land use. Table 6-3 provides recommended imperviousness values for different surface types and is appropriate for use during later stages of design when the layout of different types of impervious and pervious areas on the site is known and the area of each surface type can be quantified.

The runoff coefficient, C , represents the integrated effects of infiltration, evaporation, depression storage, and interception, all of which affect the rate and volume of runoff. Determining representative runoff coefficients requires judgment based on the experience and expertise of the engineer.

Volume-based runoff coefficients were derived to improve consistency between CUHP and the Rational Method for peak flow predictions (Guo 2013; Guo and Urbonas 2013). The coefficients developed by Dr. Guo were recalibrated using CUHP Version 2.0.0 (Rapp et al. 2017). Using imperviousness, expressed as a decimal, and the Natural Resources Conservation Service (NRCS) Hydrologic Soil Group (HSG), the equations in Table 6-5 can be used to calculate runoff coefficients for design storm return periods for the Rational Method.

TABLE 6-5. RUNOFF COEFFICIENT EQUATIONS BASED ON NRCS HSG AND STORM RETURN PERIOD

NRCS HSG	STORM RETURN PERIOD						
	WQE & 2-Year	5-Year	10-Year	25-Year	50-Year	100-Year	500-Year
A	$C_A = 0.840I^{1.302}$	$C_A = 0.861I^{1.276}$	$C_A = 0.873I^{1.232}$	$C_A = 0.884I^{1.124}$	$C_A = 0.854I + 0.025$	$C_A = 0.779I + 0.110$	$C_A = 0.645I + 0.254$
B	$C_B = 0.835I^{1.169}$	$C_B = 0.857I^{1.088}$	$C_B = 0.807I + 0.057$	$C_B = 0.628I + 0.249$	$C_B = 0.558I + 0.328$	$C_B = 0.465I + 0.426$	$C_B = 0.366I + 0.536$
C/D	$C_{C/D} = 0.834I^{1.122}$	$C_{C/D} = 0.815I + 0.035$	$C_{C/D} = 0.735I + 0.132$	$C_{C/D} = 0.560I + 0.319$	$C_{C/D} = 0.494I + 0.393$	$C_{C/D} = 0.409I + 0.484$	$C_{C/D} = 0.315I + 0.588$

Perception Design Group, Inc.
 6901 South Pierce Street, Suite 220
 Littleton, Colorado 80128
 (303) 232-8088 Fax (303) 232-5255

Designed by: JWD
 Date: 29-Dec-24
 Job Number: 2024-019

Project: Carubia Dental

COMPOSITE RUNOFF COEFFICIENTS - TYPE A SOIL

Catchment	<u>ROOF</u>	<u>PAVEMENT</u>	<u>LANDSCAPING</u>	<u>GRAVEL PATHS</u>	<u>OPEN WATER</u>	<u>NATIVE GRASS</u>	Catchment Area (Ac.)	Composite Imperviousness %	Composite C
	Area (Ac.) Imperviousness = 95%	Area (Ac.) Imperviousness = 95%	Area (Ac.) Imperviousness = 20%	Area (Ac.) Imperviousness = 60%	Area (Ac.) Imperviousness = 100%	Area (Ac.) Imperviousness = 5%			
A (5-Year)	0.00	0.20	0.01	0.00	0.00	0.00	0.21	91%	0.77
A (100-Year)	0.00	0.20	0.01	0.00	0.00	0.00	0.21	91%	0.82
B (5-Year)	0.00	0.05	0.03	0.00	0.00	0.00	0.08	67%	0.52
B (100-Year)	0.00	0.05	0.03	0.00	0.00	0.00	0.08	67%	0.63
C (5-Year)	0.00	0.10	0.06	0.00	0.00	0.00	0.16	67%	0.52
C (100-Year)	0.00	0.10	0.06	0.00	0.00	0.00	0.16	67%	0.63
To Ex Pond (5-Year)	0.00	0.35	0.10	0.00	0.00	0.00	0.45	78%	0.63
To Ex Pond (100-Year)	0.00	0.35	0.10	0.00	0.00	0.00	0.45	78%	0.72
E (5-Year)	0.13	0.00	0.03	0.00	0.00	0.00	0.16	81%	0.66
E (100-Year)	0.13	0.00	0.03	0.00	0.00	0.00	0.16	81%	0.74
F (5-Year)	0.00	0.06	0.00	0.00	0.00	0.00	0.06	95%	0.81
F (100-Year)	0.00	0.06	0.00	0.00	0.00	0.00	0.06	95%	0.85
G (5-Year)	0.00	0.00	0.00	0.00	0.00	0.10	0.10	5%	0.02
G (100-Year)	0.00	0.00	0.00	0.00	0.00	0.10	0.10	5%	0.15
To Meridian Rd (5-Year)	0.13	0.06	0.03	0.00	0.00	0.10	0.32	60%	0.45
To Ex Pond (100-Year)	0.13	0.06	0.03	0.00	0.00	0.10	0.32	60%	0.58

3. Sand Filter Computations

Volume and Flat Area Spreadsheet

Filter Volume Spreadsheet

3.0 Calculation of the WQCV

The WQCV is calculated as a function of imperviousness and BMP type using Equation 3-1 and Table 3-2, and as shown in Figure 3-1:

$$WQCV = a(0.91I^3 - 1.19I^2 + 0.78I) \quad \text{Equation 3-1}$$

Where:

WQCV = Water Quality Capture Volume (watershed-inches)

a = Coefficient corresponding to BMP type and based on WQCV design drain time (Table 3-2)

I = Imperviousness (percent expressed as a decimal) Note: At a planning level, the watershed imperviousness can be estimated based on the zoned density. When finalizing design, calculate imperviousness based on the site plan.

Table 3-2. Drain Time Coefficients for WQCV Calculations

Drain Time (hours)	Coefficient, a
12 hours (filtration BMPs and retention ponds)	0.8
24 hours (constructed wetland ponds)	0.9
40 hours (extended detention)	1.0
No attenuation (e.g., grass buffer or swale)	1.0

Figure 3-2, which illustrates the relationship between imperviousness and WQCV for various drain times, is appropriate for use in Colorado's high plains near the foothills. For areas beyond this region, use WQ-COSM (UWRI 2013) and local rainfall data to determine precipitation depth for WQCV event.

After calculating WQCV in watershed-inches, convert this to a volume using Equation 3-2. Note that the area in this equation is the entirety of the area tributary to the control measure. This is regardless of the volume treated upstream.

$$V = \frac{WQCV}{12} A \quad \text{Equation 3-2}$$

Where:

V = required storage volume (acre-feet)

A = watershed tributary area upstream (acres)

WQCV = Water Quality Capture Volume (watershed-inches)

Perception Design Group, Inc.
6901 South Pierce Street, Suite 220
Littleton, Colorado 80128
(303) 232-8088 Fax (303) 232-5255

Designed by: JWD
Date: 29-Dec-24
Job Number: 2024-019

Project: Carubia Dental

SAND FILTER SIZING CALCULATIONS

IMPERVIOUSNESS OF AREA TRIBUTARY TO SAND FILTER = 81%
SITE AREA TRIBUTARY TO SAND FILTER = 7159 SF

$$WQCV = a(0.9I^3 - 1.19I^2 + 0.78I)$$

WHERE WQCV = Watershed Inches

WHERE I = Imperviousness in decimal

WHERE a = 0.8 for 12hr drain time sand filter

WQCV = 0.27 watershed inches

WQCV = 160 cubic feet

REQUIRED FLAT AREA = 0.0125AI SF

FLAT AREA = 72 square feet

Perception Design Group, Inc.
 6901 South Pierce Street, Suite 220
 Littleton, Colorado 80128
 (303) 232-8088 Fax (303) 232-5255

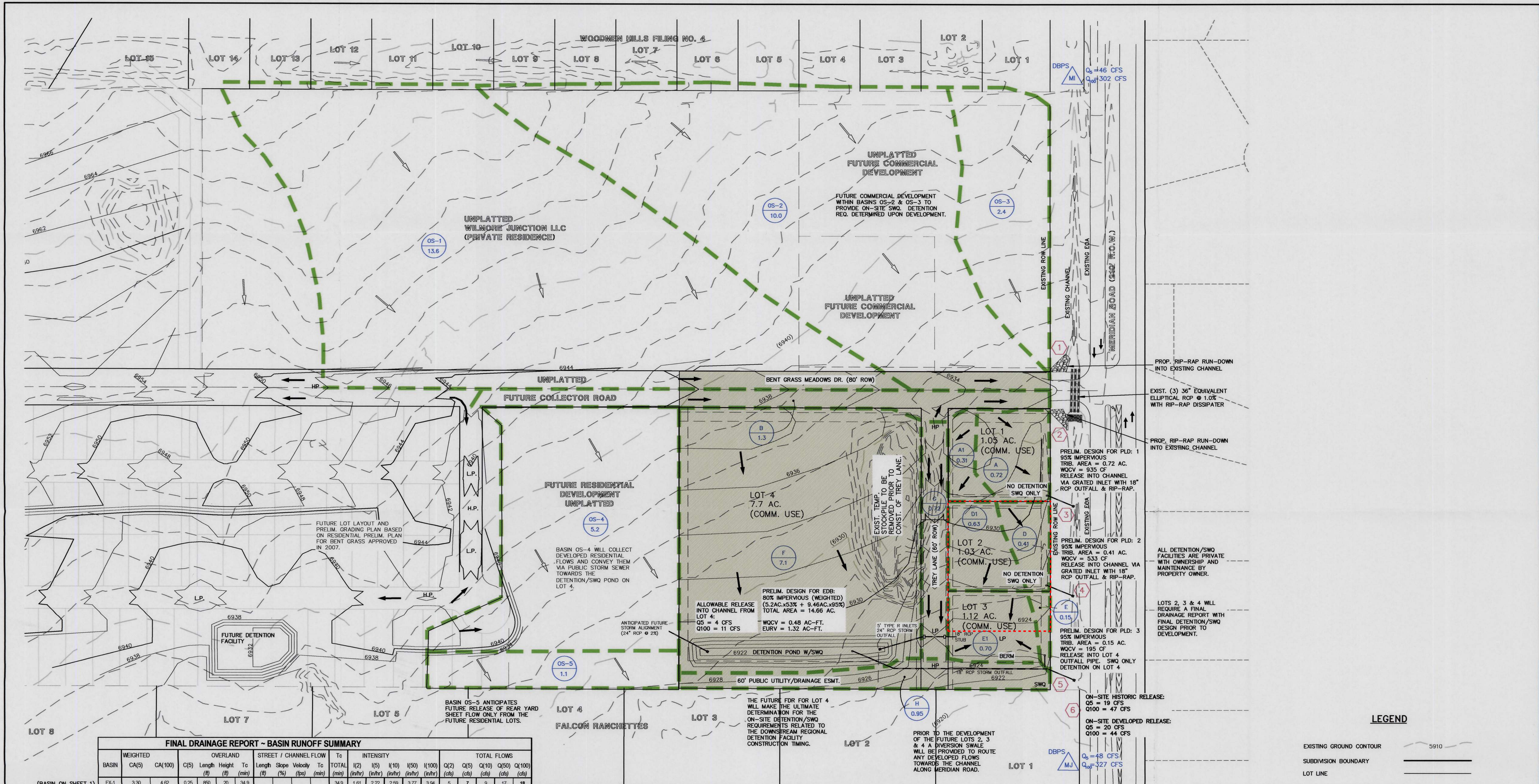
Designed by: JWD
 Date: 29-Dec-24
 Job Number: 2024-019

Project: Carubia Dental

SAND FILTER BASIN VOLUME

Elev (Ft)	Area 1 (SF)	Area2 (SF)	D (Ft)	Vol (CF)	Cum Vol (CF)	Water Surface	
31	121	121				31.00	
31-32	121	455	0.42	113	113	32.00	
32-33	455	846	1.00	640	754	33.00	
Required Sand Filter Volume						160	cf
Sand Filter WSEL Elevation						32.07	

4. *Excerpts from Prior Report*



FINAL DRAINAGE REPORT - BASIN RUNOFF SUMMARY

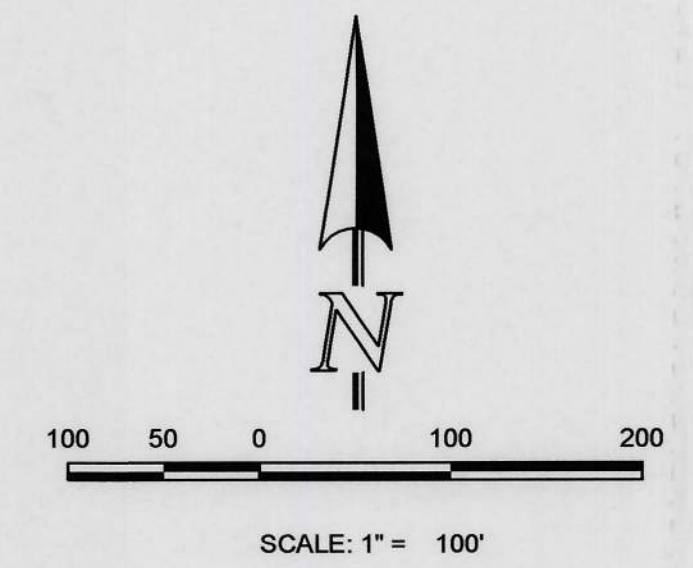
BASIN	WEIGHTED CA(S)		OVERLAND				STREET / CHANNEL FLOW				TOTAL FLOWS										
	CA(5)	CA(100)	C(5)	Length (ft)	Height (ft)	Tc (min)	Length (ft)	Slope (%)	Velocity (fps)	Tc (min)	TOTAL (cfs)	I(2)	I(5)	I(10)	I(50)	I(100)	Q(2)	Q(5)	Q(10)	Q(50)	Q(100)
(BASIN ON SHEET 1) EX-1	3.30	4.62	0.25	850	20	34.9					34.9	1.61	2.22	2.59	3.77	3.94	5	7	9	17	18
(BASIN ON SHEET 1) EX-2	6.33	8.66	0.25	1000	23	38.2					38.2	1.53	2.10	2.45	3.57	3.74	10	13	16	32	33
(BASIN ON SHEET 1) EX-3	0.60	0.84	0.25	500	12	26.6					26.6	1.88	2.59	3.02	4.40	4.60	1	2	2	4	4
OS-1	4.38	5.66	0.25	1000	22	38.7					38.7	1.51	2.08	2.43	3.54	3.71	7	9	11	20	21
OS-2	2.70	3.68	0.25	700	16	32.0					32.0	1.70	2.33	2.72	3.97	4.15	5	6	7	15	15
OS-3	0.60	0.84	0.25	500	12	26.6					26.6	1.88	2.59	3.02	4.40	4.60	1	2	2	4	4
OS-4	2.86	3.38	0.25	100	2	12.6	600	2.0%	4.9	2.0	14.7	2.54	3.50	4.08	5.95	6.22	7	10	12	20	21
OS-5	0.44	0.55	0.25	75	4	7.9					7.9	3.24	4.46	5.20	7.58	7.93	1	2	2	4	4
A	0.58	0.59	0.25								5.0	3.71	5.10	5.96	8.68	9.07	2	3	3	5	5
A1	0.25	0.25	0.25								5.0	3.71	5.10	5.96	8.68	9.07	0.9	1.3	1.5	2.2	2.3
B	1.04	1.06	0.25	10	0.3	3.5	1200	1.5%	4.3	4.7	8.2	3.21	4.41	5.15	7.50	7.85	3	5	5	8	8
C	0.27	0.27	0.25								5.0	3.71	5.10	5.96	8.68	9.07	1.0	1.4	1.6	2.3	2.5
D	0.34	0.34	0.25								5.0	3.71	5.10	5.96	8.68	9.07	1	2	2	3	3
D1	0.53	0.54	0.25								5.0	3.71	5.10	5.96	8.68	9.07	2	3	3	5	5
E	0.08	0.09	0.25								5.0	3.71	5.10	5.96	8.68	9.07	0.3	0.4	0.5	0.7	0.8
E1	0.60	0.60	0.25								5.0	3.71	5.10	5.96	8.68	9.07	2	3	4	5	5
F	6.39	6.39	0.25	20	0.4	5.7	800	2.0%	4.9	2.7	8.3	3.18	4.38	5.11	7.45	7.79	20	28	33	48	50
G	0.65	0.65	0.25								5.0	3.71	5.10	5.96	8.68	9.07	2	3	4	6	6
H	0.30	0.39	0.25	60	5	6.1					6.1	3.51	4.83	5.64	8.22	8.59	1.1	1.5	1.7	3.2	3.3

FINAL DRAINAGE REPORT - SURFACE ROUTING SUMMARY

Design Point(s)	Contributing Basins	Equivalent CA(5)	Equivalent CA(100)	Maximum Tc	Intensity		Flow		Facility Size
					I(5)	I(100)	Q(5)	Q(100)	
A	EX-1, EX-2	9.63	13.48	42.2	1.98	3.52	19	47	Total Site (Historic Release)
B	EX-3	0.60	0.84	26.6	2.59	4.60	2	4	Historic Release
1	OS-1 & OS-2	7.07	9.34	39.7	2.05	3.65	15	34	Rip-Rap Pad
2	B	1.04	1.06	8.2	4.41	7.85	5	8	Rip-Rap Pad
3	A	0.58	0.59	5.0	5.10	9.07	3	5	Rip-Rap Pad
3A	A1, C	0.52	0.52	6.9	4.66	8.29	2	4	Rip-Rap Pad
3B	DP1, DP2, DP3, DP3A	9.21	11.51	39.9	2.05	3.64	19	42	Total Developed Site Release (Interim)
4	D	0.34	0.34	5.0	5.10	9.07	2	3	Rip-Rap Pad
5	E & Release of Lot 4 Pond	See Pond Pack Data	See Pond Pack Data	See Pond Pack Data	See Pond Pack Data	See Pond Pack Data	3	6	Rip-Rap Pad
6	All Basins	See Pond Pack Data	See Pond Pack Data	See Pond Pack Data	See Pond Pack Data	See Pond Pack Data	20	44	Total Developed Site Release (Ultimate)

LEGEND

- EXISTING GROUND CONTOUR 5910
- SUBDIVISION BOUNDARY
- LOT LINE
- PROPOSED BASIN BOUNDARY
- DIRECTION OF DRAINAGE
- EXISTING STORM SEWER
- LOW POINT/HIGH POINT LP/HP
- BASIN IDENTIFIER AREA IN ACRES
- DESIGN POINT
- PRELIMINARY PLAN AREA



CLASSIC
CONSULTING ENGINEERS & SURVEYORS

BENT GRASS EAST COMMERCIAL PHASE 1
PRELIMINARY / FINAL DRAINAGE REPORT
DEVELOPED DRAINAGE MAP (PRELIMINARY PLAN)

DESIGNED BY: MAW SCALE: DATE: 1-31-13
 DRAWN BY: MAW (H) 1" = 100' SHEET 2 OF 3
 CHECKED BY: (V) 1" = N/A JOB NO. 2177.50

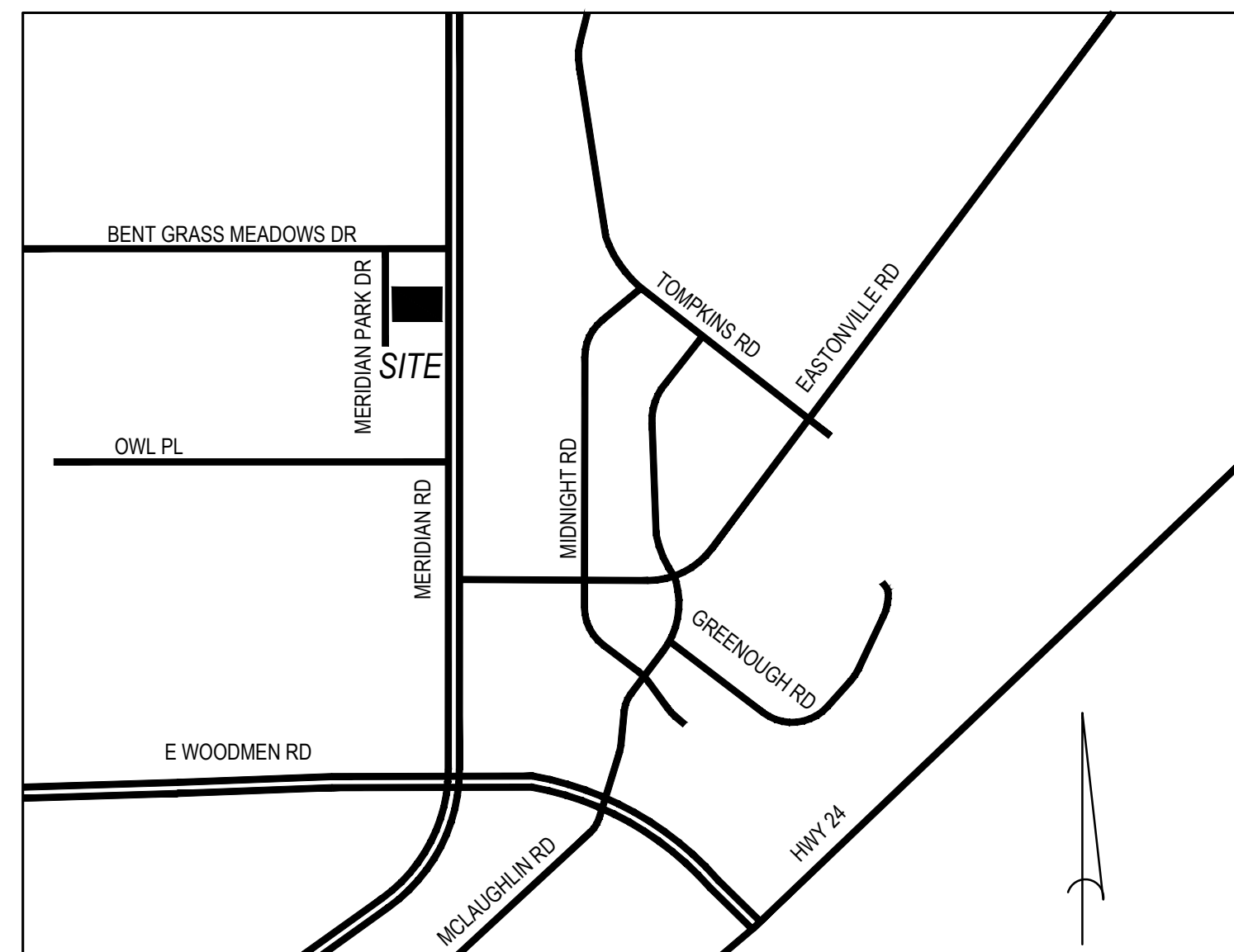
6385 Corporate Drive, Suite 101 (719)785-0790
 Colorado Springs, Colorado 80919 (719)785-0799 (Fax)

5. *Drainage Plans*

CARUBIA PROPERTIES - EXISTING DRAINAGE PLAN

LOT 2, BENT GRASS EAST COMMERCIAL FILING NO. 4

A PORTION OF THE NORTHEAST QUARTER OF SECTION 1, TOWNSHIP 13 SOUTH, RANGE 65 WEST OF THE 6TH P.M.
COUNTY OF EL PASO, STATE OF COLORADO



VICINITY MAP
1" = 1000' ±

RUNOFF SUMMARY

DATA FROM ORIGINAL BASINS D AND D1 AS PRESENTED IN BENT GRASS EAST COMMERCIAL PHASE 1 REPORT

BASIN	AREA	Q5 (CFS)	Q100 (CFS)
D	0.41	2	3
D1	0.63	3	5

MODIFIED BASINS D AND D1 AS PRESENTED IN THIS REPORT

BASIN	AREA	IMP (%)	Q5 (CFS)	Q100 (CFS)
Dn	0.34	91	0.82	1.56
D1n	0.43	67	0.21	0.46

PRORATED BASINS Dn AND D1n BASED UPON NEW REDUCED AREAS

BASIN	% OF D AND D1	ALLOWABLE Q5 (CFS)	ALLOWABLE Q100 (CFS)
Dn	82.9%	1.7	2.5
D1n	68.3%	2.0	3.4

LEGAL DESCRIPTION

PARCEL A:
LOT 2, BENT GRASS EAST COMMERCIAL FILING NO. 4, COUNTY OF EL PASO, STATE OF COLORADO.
THE ABOVE LOT CONTAINS 33,776 SQUARE FEET, MORE OR LESS.

PARCEL B:
THOSE NON-EXCLUSIVE EASEMENT RIGHTS FOR VEHICULAR AND PEDESTRIAN INGRESS AND EGRESS AS CREATED BY RECIPROCAL ACCESS EASEMENT AND TEMPORARY CONSTRUCTION AND MAINTENANCE EASEMENT AGREEMENT RECORDED JUNE 04, 2013 UNDER RECEPTION NO. 213072561 AND FIRST AMENDMENT TO RECIPROCAL ACCESS EASEMENT AND TEMPORARY CONSTRUCTION AND MAINTENANCE EASEMENT AGREEMENT RECORDED JULY 07, 2013 UNDER RECEPTION NO. 213098588.

PARCEL C:
THOSE NON-EXCLUSIVE EASEMENT RIGHTS FOR PEDESTRIAN AND VEHICULAR INGRESS AND EGRESS AS CREATED BY DECLARATION OF CROSS-ACCESS EASEMENT RECORDED NOVEMBER 3, 2023 UNDER RECEPTION NO. 223092254 AND JUNE 11, 2024 UNDER RECEPTION NO. 224044076.

BENCHMARK

1.5" ALUMINUM CAP PLS 30118 BEING THE SOUTHWEST CORNER OF LOT 1, BENT GRASS EAST COMMERCIAL FILING NO. 4, RECORDED AT RECEPTION NO. 224715331, IN THE RECORDS OF EL PASO COUNTY COLORADO.

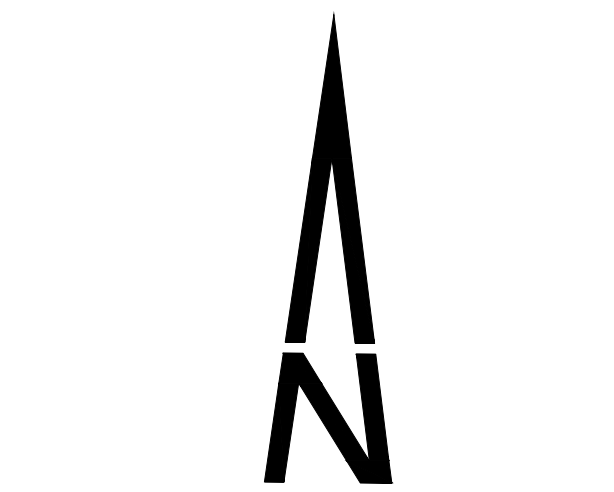
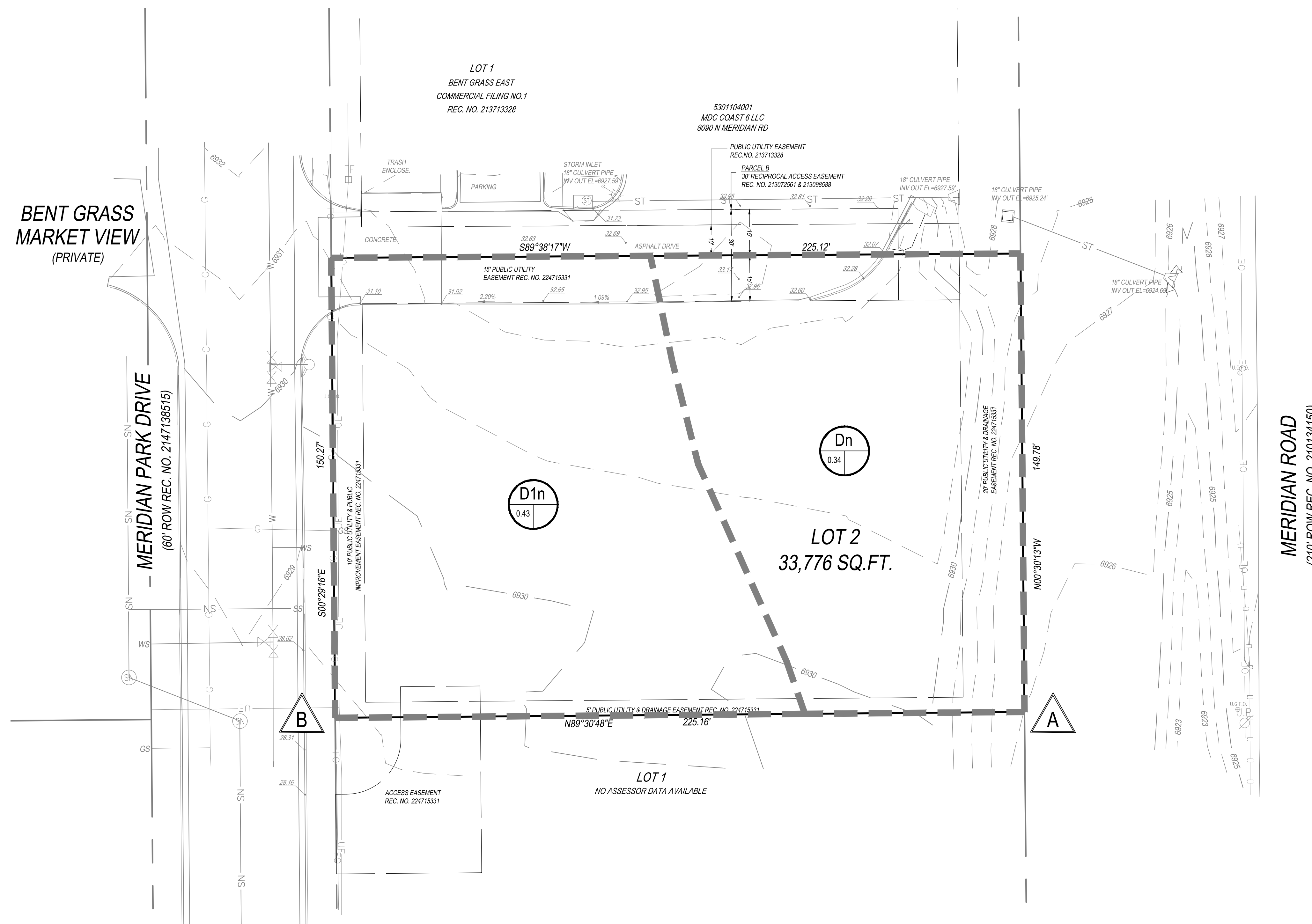
ELEV = 6927.80' NVGD29

BASIS OF BEARINGS:

BEARINGS ARE BASED ON THE SOUTH LINE OF LOT 1, BENT GRASS EAST COMMERCIAL FILING NO. 4, RECORDED AT RECEPTION NO. 224715331, IN THE RECORDS OF EL PASO COUNTY COLORADO. SAID LINE BEARS N89°30'48"E FROM MONUMENTS SHOWN.

LEGEND

- PROPERTY LINE
- PROPOSED LANDSCAPED AREA
- PROPOSED SIDEWALK
- PROPOSED HANDICAP RAMP
- PROPOSED HEAVY-DUTY CONCRETE PAVEMENT
- EXISTING CURB AND GUTTER
- PROPOSED CURB AND GUTTER
- EXISTING SANITARY SEWER
- EXISTING GAS
- EXISTING WATER
- EXISTING ELECTRIC
- EXISTING FIBER OPTIC
- EXISTING STORM SEWER
- EXISTING CONTOUR
- PROPOSED CONTOUR
- BASIN DESIGNATION
0.20 5 YR RUNOFF COEFFICIENT
0.83 100 YR RUNOFF COEFFICIENT
BASIN AREA
- BASIN BOUNDARY LINE
- DESIGN POINT



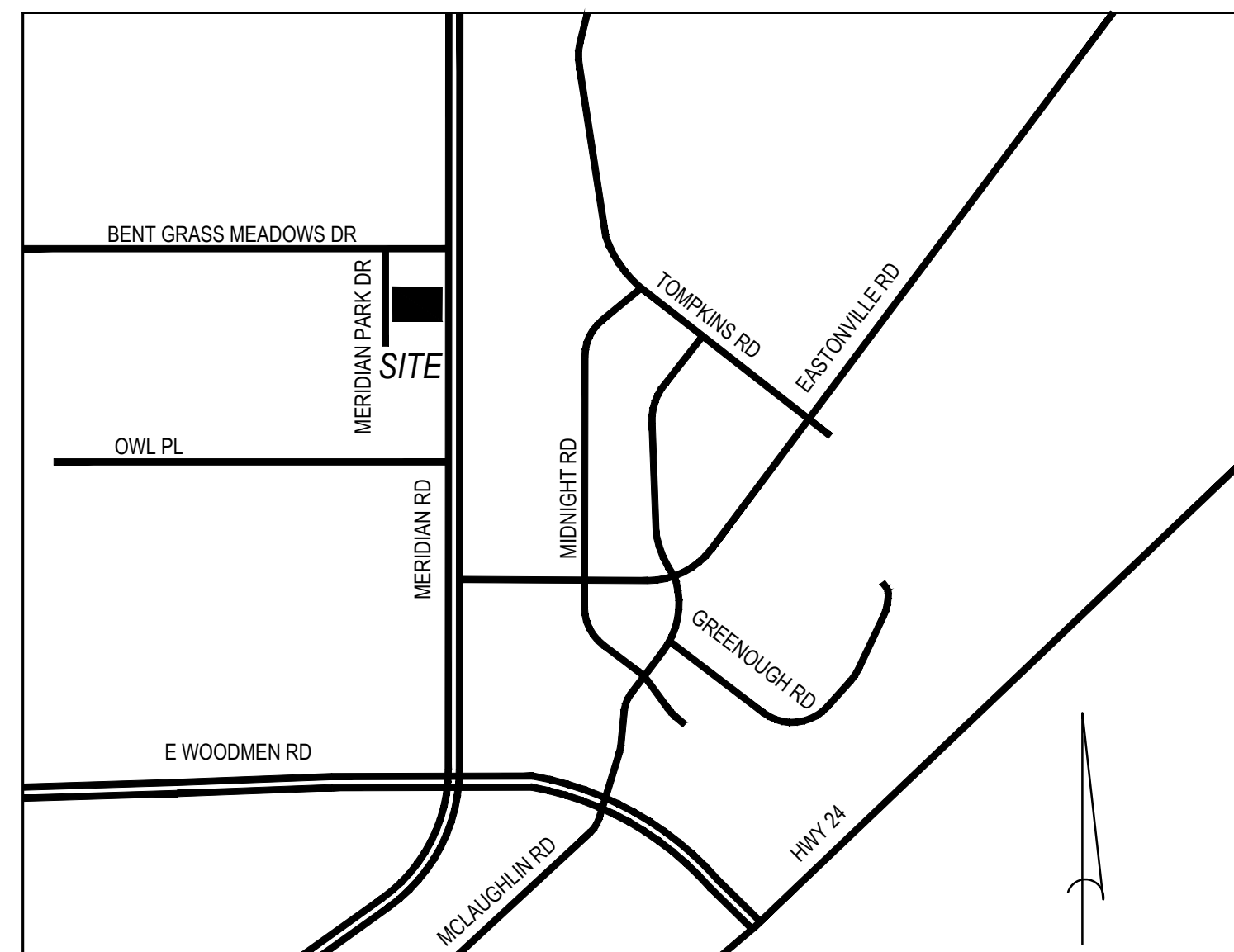
DATE: JANUARY 31, 2025
SCALE: AS INDICATED
DRAWN BY: JWD
CHECKED BY: JWD
PROJECT NUMBER
2024-019

SHEET
1 OF 2
EXISTING
DRAINAGE PLAN

CARUBIA PROPERTIES - PROPOSED DRAINAGE PLAN

LOT 2, BENT GRASS EAST COMMERCIAL FILING NO. 4

A PORTION OF THE NORTHEAST QUARTER OF SECTION 1, TOWNSHIP 13 SOUTH, RANGE 65 WEST OF THE 6TH P.M.
COUNTY OF EL PASO, STATE OF COLORADO



VICINITY MAP
1" = 1000' ±

RUNOFF SUMMARY

BASIN	AREA	IMP (%)	Q5 (CFS)	Q100 (CFS)
A	0.21	91	0.82	1.56
B	0.08	67	0.21	0.46
C	0.16	67	0.42	0.91
E	0.16	81	0.54	0.96
F	0.06	95	0.25	0.44
G	0.10	5	0.01	0.14

ACCUMULATED RUNOFF SUMMARY

DESIGN POINT	BASINS	Q5 (CFS)	Q100 (CFS)	ALLOWABLE Q5 (CFS)	ALLOWABLE Q100 (CFS)
1	A,B,C	1.46	2.93	2.5	3.4
2	E,F,G	0.80	1.53	1.7	2.5

LEGAL DESCRIPTION

PARCEL A:
LOT 2, BENT GRASS EAST COMMERCIAL FILING NO. 4, COUNTY OF EL PASO, STATE OF COLORADO.
THE ABOVE LOT CONTAINS 33,776 SQUARE FEET, MORE OR LESS.

PARCEL B:
THOSE NON-EXCLUSIVE EASEMENT RIGHTS FOR VEHICULAR AND PEDESTRIAN INGRESS AND EGRESS AS CREATED BY RECIPROCAL ACCESS EASEMENT AND TEMPORARY CONSTRUCTION AND MAINTENANCE EASEMENT AGREEMENT RECORDED JUNE 04, 2013 UNDER RECEPTION NO. 213072561 AND FIRST AMENDMENT TO RECIPROCAL ACCESS EASEMENT AND TEMPORARY CONSTRUCTION AND MAINTENANCE EASEMENT AGREEMENT RECORDED JULY 07, 2013 UNDER RECEPTION NO. 213098588.

PARCEL C:
THOSE NON-EXCLUSIVE EASEMENT RIGHTS FOR PEDESTRIAN AND VEHICULAR INGRESS AND EGRESS AS CREATED BY DECLARATION OF CROSS-ACCESS EASEMENT RECORDED NOVEMBER 3, 2023 UNDER RECEPTION NO. 223092254 AND JUNE 11, 2024 UNDER RECEPTION NO. 224044076.

BENCHMARK

1.5" ALUMINUM CAP PLS 30118 BEING THE SOUTHWEST CORNER OF LOT 1, BENT GRASS EAST COMMERCIAL FILING NO. 4, RECORDED AT RECEPTION NO. 224715331, IN THE RECORDS OF EL PASO COUNTY COLORADO.

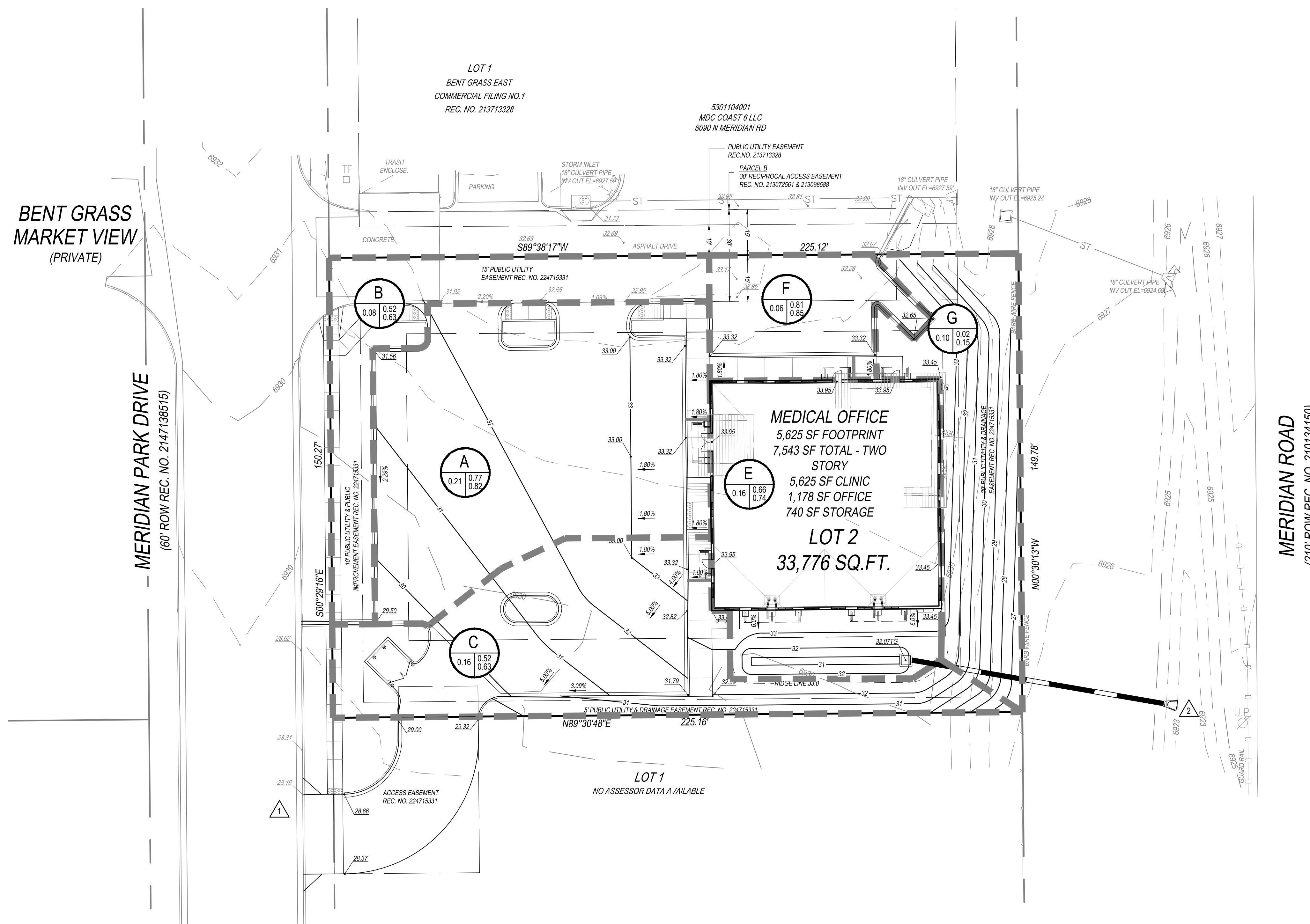
ELEV = 6927.80' NVGD29

BASIS OF BEARINGS:

BEARINGS ARE BASED ON THE SOUTH LINE OF LOT 1, BENT GRASS EAST COMMERCIAL FILING NO. 4, RECORDED AT RECEPTION NO. 224715331, IN THE RECORDS OF EL PASO COUNTY COLORADO. SAID LINE BEARS N89°30'48"E FROM MONUMENTS SHOWN.

LEGEND

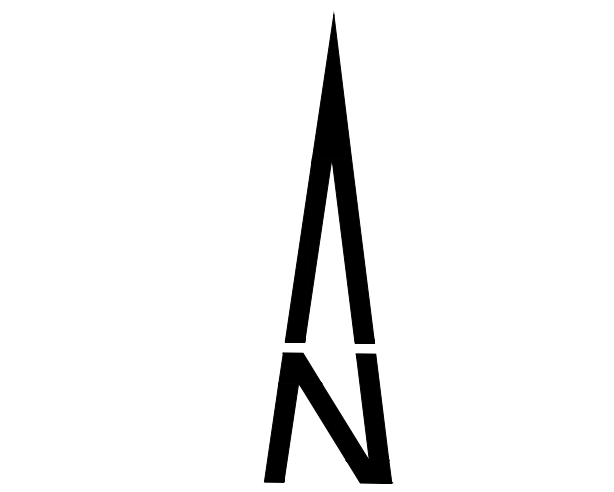
- PROPERTY LINE
- PROPOSED LANDSCAPED AREA
- PROPOSED SIDEWALK
- PROPOSED HANDICAP RAMP
- PROPOSED HEAVY-DUTY CONCRETE PAVEMENT
- EXISTING CURB AND GUTTER
- PROPOSED CURB AND GUTTER
- EXISTING SANITARY SEWER
- EXISTING GAS
- EXISTING WATER
- EXISTING ELECTRIC
- EXISTING FIBER OPTIC
- EXISTING STORM SEWER
- EXISTING CONTOUR
- PROPOSED CONTOUR
- BASIN DESIGNATION
0.20 0.75 0.83
5 YR RUNOFF COEFFICIENT
100 YR RUNOFF COEFFICIENT
BASIN AREA
- BASIN BOUNDARY LINE
- DESIGN POINT



MERIDIAN ROAD
(210' ROW REC. NO. 210134150)

BENT GRASS MARKET VIEW
(PRIVATE)

MERIDIAN PARK DRIVE
(60' ROW REC. NO. 2147138515)



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SHEET

2 OF 2

PROPOSED DRAINAGE PLAN