RICE RANCH

EL PASO COUNTY, CO
FINAL DRAINAGE REPORT

Submittal Date: August 20, 2018
Revision Date: November 26, 2018

OWNER/APPLICANT

RICE RANCH LLC
PO Box 26571
Colorado Springs, Colorado 80936
719-640-0232

CONSULTANT

CD Civil Design LLC
2013 Stoneleigh Trail2013 Stoneleigh Trail
Monument, CO 80132
Phone: 719-271-1175
Email: cdxtwo@gmail.com

CD Civil Project No. 18002
PPR-18-024

Table Of Contents

Certifications

Engineer's Statement:

The attached drainage plan and report were prepared under my direction and supervision and are correct to the best of my knowledge and belief. Said drainage report has been prepared according to the established criteria 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.

Christian L Day
Name

Seal

Owner's Statement:

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

Rice Ranch L.L.C.
Business Name

By: Jandra D Cooley Jandra D. Cooley

Title: Manager

Address: P.O. box 26571 Colorado Springs, Co 80936

Property Address: 8150 Rice Lane

El Paso County:

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

Name: Date

Jennifer Irvine, P.E.

County Engineer/ECM Administrator

Conditions:

Floodplain Statement

To the best of my knowledge and belief, a portion of the Rice Ranch is located within a designated 100 year floodplain as shown on FIRM map numbers 08041C0953F & 08041C0954F (effective date March 17, 1997). A copy of the FIRM maps are included as an attachment to this report. It is noted that the floodplain limits shown on the Drainage Plan and Grading and Erosion Control Plan are not accurate and are currently undergoing revision by FEMA at this time.

_____

Christian L. Day, PE Colorado 35037

Introduction

The purpose of the following Final Drainage Report (FDR) is to present and analyze final drainage improvements for Rice Ranch. The format of this report follows the requirements in the Drainage Criteria Manual, Volume I, page 4-10, section 4.4, "Final Drainage Report (FDR)", with the exception of this Introductory section. Per the DCM the FDR shall contain all components of the PDR (Preliminary Drainage Report) plus the required components of the FDR.

Rice Ranch has been slowly developed over the years, adding agricultural storage land uses to the property. As such, El Paso County (EPC) is requesting that the drainage characteristics of the property be studied as part of a recent rezoning process and hence a FDR produced.

Although the site is already in its fully developed condition, for hydrologic purposes, the existing condition will be considered as the vacant land containing only the two northeastern-most structures. The proposed condition will then consist of all current structures and land uses for the site.

General Location And Description

Location

Rice Ranch is located in unincorporated El Paso County Colorado, near the City of Fountain. The area of study is bounded by Rice Lane/Willow Springs Road to the north, the Fountain Creek Regional Trail to the west and south and the east side contains unplatted/undeveloped land. The proposed site is zoned Heavy Industrial (I-3) in unincorporated El Paso County. The surrounding areas are zoned Small Office/Warehouse (SO) in the City of Fountain.

The site is located Southeast Quarter of The Northeast Quarter of Section 25 In Township 15 South, Range 66 West of The 6th P.M.

There are no major drainageways or drainage facilities on the site. There is an existing lake along the south and west edges of the property. Fountain Creek flows generally south on the west side of the Fountain Creek Regional Trail and does not cross the Rice Ranch property.

The surrounding developments include a radio station and Scott's landscape material to the north, the Fountain Creek Regional Trail to the west and south, and an undeveloped parcel to the east.

Description of Property

Rice Ranch encompasses 42.2 acres in both the existing and proposed conditions, including the lake.

Although the site is already in its fully developed condition, for hydrologic purposes, the existing condition will be considered as the vacant land containing only the two northeastern-most structures. The proposed condition will then consist of all current structures and land uses for the site. The existing ground cover contains meadow grasses, wooded areas, a lake to the south and west, and residential to the northeast. The proposed ground cover contains meadow grasses, wooded areas, industrial/agricultural product storage areas and structures, a lake to the south and west, and residential to the northeast.

The topography of the surrounding area through the pasture and wooded areas feature relatively flat slopes generally of 2%. The area generally sheet flows to the south and west across the vacant site, into the lake which abuts the south and west portions of the property. The lake serves as a retention pond, and does not have a apparent outlet. There are a series of smaller lakes through Fountain Creek Regional Park below it which discharge into each other. At the culmination of the series of lakes, water it discharged back into Fountain Creek.

Soil Conservation Service soil survey records indicate the project area is covered by soils classified in the Ellicott and Schamber-Razor Series, which are both categorized in the Hydrological Group "A". See the attached soil report in the appendix for further details on each.

There are no major drainageways to describe on the property.

Rice Ranch does not have any irrigation facilities in either the existing or proposed conditions.

Drainage Basins And Sub-Basins

Major Basin Descriptions

The Rice Ranch is located in the East Big Johnson Drainage Basin (FOFO2400). This basin has not been studied.

The Flood Insurance Rate Maps (FIRM No. 08041C0953F & No. 08041C0954F dated 3/17/99) indicate that there is a floodplain on the site. The development site is located with an area Federal Emergency Management Agency (FEMA) has designated as "Zone AE" and "Zone X". Zone AE designates areas where base flood elevations have been determined, and Zone X identifies areas of a 500-year flood, area of 100-year flooding with an average depth less than 1 foot or a drainage area less than 1 square mile, or an area protected by levees from a 100-year flood. FEMA does not require any modifications to the floodplain maps when construction is located in this zone area. Floodplain limits per FEMA are incorrect and it is understood that currently FEMA is revising these, and upon revision they will be off of the property. It is noted that the floodplain limits shown on the Drainage Plan and Grading and Erosion Control Plan are not accurate and are currently undergoing revision by FEMA at this time.

The East Big Johnson Drainage Basin (FOFO2400) has not been studied. However from aerial imagery, the land use includes residential and agricultural/light industrial usage.

There are no known irrigation facilities which will influence local drainage.

Sub-basin Description

On the Rice Ranch site, the drainage historically sheet flows generally from the northeast to the southwest, and collects in the lake along the south and west edges of the property. There are no concentrated flows on the site. According to El Paso County and the USACE, the lake is considered a water of the state.

There is very little off-site drainage from the north that enters Rice Ranch property, and hence a negligible impact to the development.

Drainage Design Criteria

Development Criteria Reference and Constraints

Peak existing flows are derived from the Rational Method as described on page 5-5 of the Drainage Criteria Manual, Volume I.

There are no previous drainage studies for Rice Ranch.

Sheet flow will runoff from the northeast to the south and west, though there will be a proposed grass lined swale intercepting it and directing it into one of two sand filters. There are no proposed streets, utilities or structures that will be impacted by the sheet flow.

Hydrologic Criteria

IDF curves presented in the Drainage Criteria Manual Volume I are based on rainfall depths at an elevation of 6,840 feet in the Colorado Springs area. These depths are found in the publication from National Oceanic and Atmospheric Administration, Precipitation-Frequency Atlas of the Western United States, Volume III-Colorado (NOAA Atlas 2), published in 1973. Precipitation depth maps shown in the NOAA Atlas were used to determine representative 6-hour and 24-hour point rainfall values.

Peak existing flows are derived from the Rational Method as described on page 5-5 of the Drainage Criteria Manual, Volume I and shown in the Appendices of this report.

Both the 5-year and 100-year recurrence intervals were analyzed in the calculations shown in the Appendices of this report.

There is no detention proposed as part of this project, hence no discharge and storage methodology employed.

Drainage Facility Design

General Concept

Any increase in off-site runoff volumes between historic and developed conditions will be ultimately by mitigated by the lake. The lake serves as a retention pond, and does not have an apparent outlet.

The proposed drainage patterns on site will remain somewhat consistent with those of the historic condition. Sheet flow will runoff from the northeast to the south and west, though there will be a proposed grass lined swale intercepting it. The swale's function will be to reduce runoff, according to the Step 1 of "minimizing directly connected impervious areas" (MDCIA). The principal behind MDCIA is twofold -- to reduce impervious areas and to route runoff from impervious surfaces over grassy areas to slow down runoff and promote infiltration. The use of grass swales instead of storm sewers, like grass buffers, slows down runoff and promotes infiltration, also reducing effective imperviousness. It also may reduce the size and cost of downstream storm sewers and detention.

Step 2 of the MDCIA will stabilize drainage ways. Within drainage ways, natural and manmade, erosion can be a major source of sediment and associated constituents, such as phosphorus. Natural drainage ways are often subject to bed and bank erosion when urbanizing areas increase the frequency, rate, and volume of runoff. Therefore, drainage ways are required to be stabilized.

As mentioned the swales will be stabilized by dense grass turf. See the details on the Grading and Erosion Control Plans.

From the swale, flow will be directed into one of two sand filters. The sand filters will fulfill Step 3 of the MDCIA, which is to provide water quality capture volume (WQCV). See the details on the Grading and Erosion Control Plans for the sand filters. Also included in this FDR's Appendices are the calculations for the WQCV and sand filters.

Step 4 of the MDCIA considers the need for industrial and commercial BMPs. If a new development or significant redevelopment activity is planned for an industrial or commercial site, the need for specialized BMPs must be considered. Two approaches are covering of storage/handling areas, and spill containment and control. See "Storm Water Pollution Prevention Plan", original issue date: April 2013, revision date(s): May 2015, May 2018, prepared by the Scotts Company, Hyponex Corporation # 1023, 3 Assembly Court, Fountain, CO 80817, for the Industrial Permit and Pollution plan in place for this site. Page 3 and 4 of this document verifies inclusion of the Rice Ranch property.

In the Appendices, the supporting content includes: location map, existing and proposed hydrologic calculations, IDF graph, C value chart, floodplain panels, soils report, existing and proposed drainage plans, and the Scott's Storm Water Pollution Plan.

Specific Details

Peak existing flows are derived from the Rational Method as described on page 5-5 of the Drainage Criteria Manual, Volume I. Using this method, the existing runoff rates for the 5 and 100 year storms are 10.42 cfs and 68.86 cfs respectfully. This is summarized on the page entitled "Hydrologic Summary, Rice Ranch Existing Conditions", found in the appendices of this report.

The proposed runoff rates for the 5 and 100 year storms are 46.70 cfs and 109.36 cfs respectfully. This is summarized on the page entitled "Hydrologic Summary, Rice Ranch Proposed Conditions", found in the appendices of this report.

The proposed drainage patterns on site will remain somewhat consistent with those of the historic condition. Sheet flow will runoff from the northeast to the south and west, though there will be a proposed grass lined swale intercepting it. From the swale, flow will be directed into one of two sand filters which provide WQCV for the entire site. Both sand filters will infiltrate and filter the WQCV. The excess runoff will leave the filter through a weir and level-spread via riprap which lines the outlet. The flow will then resume its historical pattern of sheet-flowing through the extensive vegetative buffer and into the existing lake on the west side of the property.

According to the USACE, the pond is a water of the state. As such, the proposed upstream BMP's treat all of the developed runoff prior to entering the lake.

The site will be accessible by truck or similar maintenance vehicle. Both the grass swales and sand filters are designed with slopes no steeper than 4:1, allowing trucks and tractors to traverse the features and gain access for maintenance purposes.

There is a proposed easement for the grass lined swales and sand filters. The purpose of this easement is to preserve the BMP's and allow for periodic, routine maintenance. No other storage, development or changes will be allowed within this easement.

As mentioned, there will be no detention facility proposed as part of this project. Hence there are not storage and outlet designs presented in this report.

A cost estimate of the proposed facilities is included with this report, and includes the costs to construct the swale and sand filters.

There are no basin or bridge fees listed on the El Paso County Drainage Basin Fees, Resolution No. 17-348 for 2018 for East Big Johnson drainage basin.

References

"Drainage Basins", map published by El Paso County, 2005.

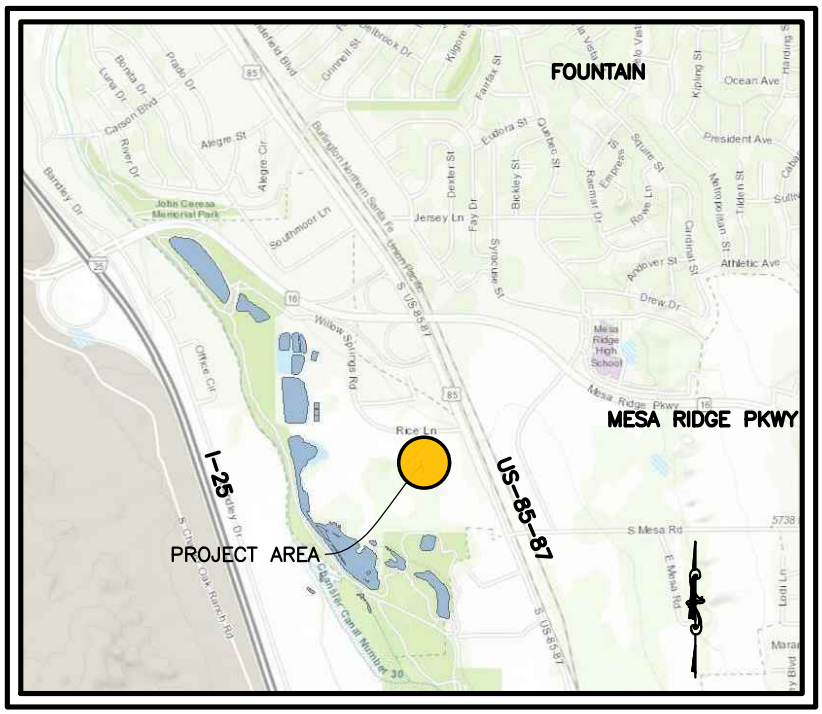
"Drainage Criteria Manual, Volume I", by El Paso County, October 14, 1994.

"Custom Soil Resource Report for El Paso County Area, Colorado", NRCS, April 24, 2018.

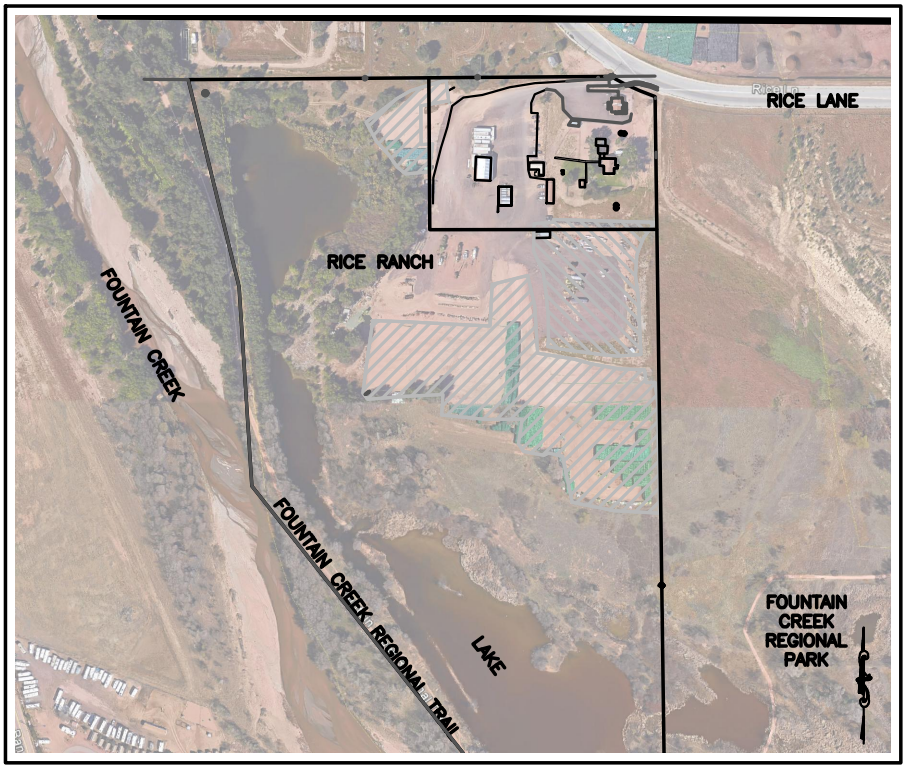
"Flood Insurance Rate Map", Panels 953 and 954, FEMA, March 17, 1997.

"Storm Water Pollution Prevention Plan", original issue date: April 2013, revision date(s): May 2015, May 2018, prepared by the Scotts Company, Hyponex Corporation # 1023, 3 Assembly Court, Fountain, CO 80817

Appendices

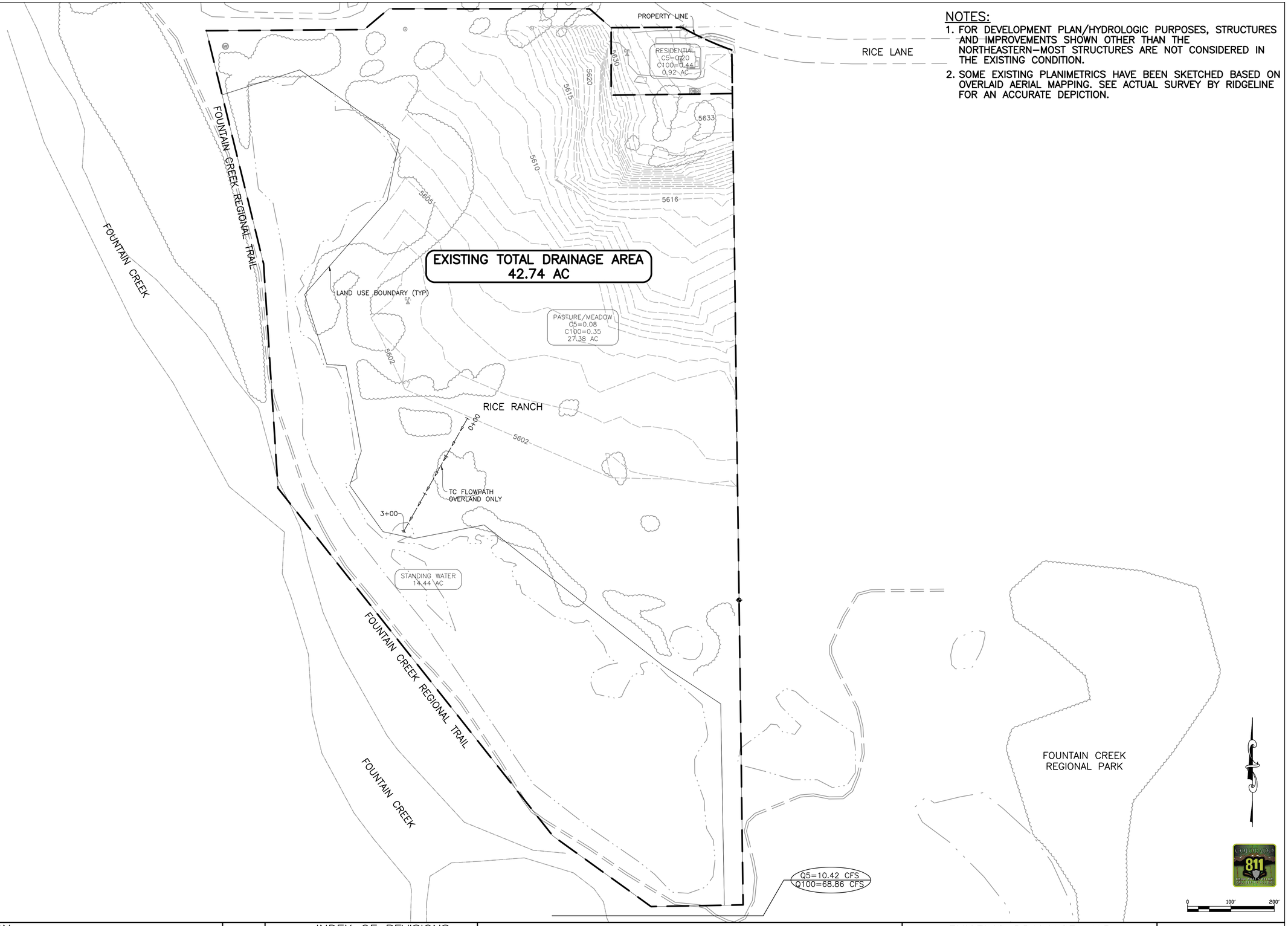


VICINITY MAP NTS



LOCATION MAP

VICINITY AND LOCATION MAPS



NOTES:

1. FOR DEVELOPMENT PLAN/HYDROLOGIC PURPOSES, STRUCTURES AND IMPROVEMENTS SHOWN OTHER THAN THE NORTHEASTERN-MOST STRUCTURES ARE NOT CONSIDERED IN THE EXISTING CONDITION.
2. SOME EXISTING PLANIMETRICS HAVE BEEN SKETCHED BASED ON OVERLAID AERIAL MAPPING. SEE ACTUAL SURVEY BY RIDGELINE FOR AN ACCURATE DEPICTION.

COMPUTER FILE INFORMATION		INDEX OF REVISIONS		
CREATION DATE: 2016/01	INITIALS: CDCD			
LAST MODIFICATION DATE:	INITIALS: 8/15/2018 2:46 PM			
FULL PATH AND DRAWING NAME	SHT FILES\			
ACAD VER. 2013 SCALE:	UNITS: SCALE IS 100'			

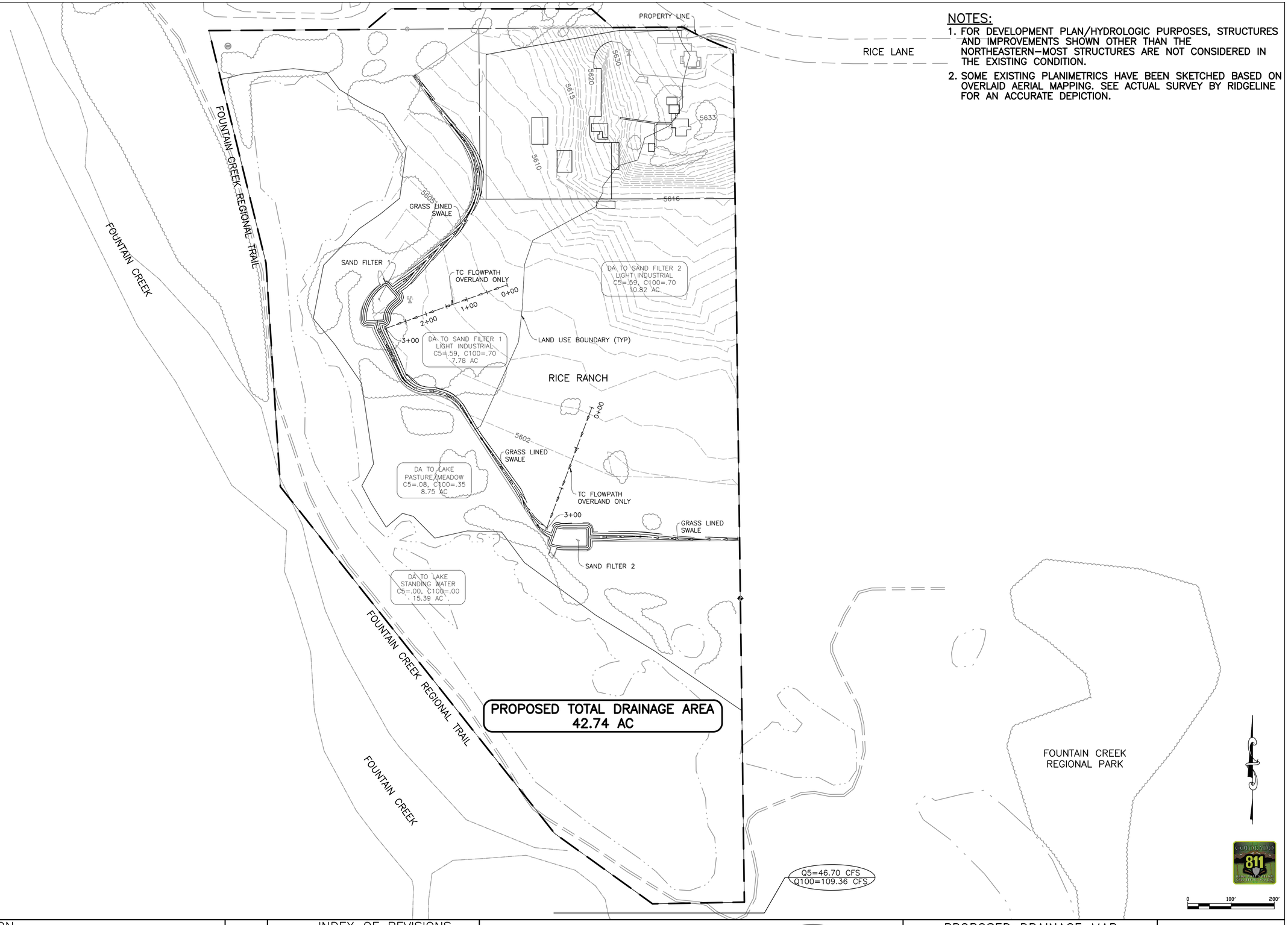
SITE DEVELOPMENT REVIEW SET
8/15/2018 2:46 PM

CD Civil Design LLC
2013 Stonelegh Trail2013 Stonelegh Trail
Monument, CO 80132
Phone: 719-271-1175
Email: cdcivildesign@gmail.com

EXISTING DRAINAGE MAP

RICE RANCH
COLORADO SPRINGS, COLORADO

DESIGNER:	STRUCTURE NUMBERS	PROJECT NO./CODE
DETAILER:		Sheet Subset Number
SHEET SUBSET:		Sheet Number **DP-1**



COMPUTER FILE INFORMATION		INDEX OF REVISIONS		
CREATION DATE: 2016/01	INITIALS: CDCD			
LAST MODIFICATION DATE:	INITIALS: 8/15/2018 2:51 PM			
FULL PATH AND DRAWING NAME	SHT FILES\			
ACAD VER. 2013 SCALE:	UNITS: SCALE IS 100'			

SITE DEVELOPMENT REVIEW SET
8/15/2018 2:51 PM

CD Civil Design LLC
2013 Stoneleigh Trail2013 Stoneleigh Trail
Monument, CO 80132
Phone: 719-271-1175
Email: cdcivildesign@gmail.com

PROPOSED DRAINAGE MAP

RICE RANCH
COLORADO SPRINGS, COLORADO

DESIGNER:	STRUCTURE NUMBERS:	PROJECT NO./CODE
DETAILER:		Sheet Subset Number
SHEET SUBSET:		Sheet Number

Table 6-6. Runoff Coefficients for Rational Method
(Source: UDFCD 2001)

Land Use or Surface Characteristics	Percent Impervious	Runoff Coefficients											
		2-year		5-year		10-year		25-year		50-year		100-year	
		HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D
Business													
Commercial Areas	95	0.79	0.80	0.81	0.82	0.83	0.84	0.85	0.87	0.87	0.88	0.88	0.89
Neighborhood Areas	70	0.45	0.49	0.49	0.53	0.53	0.57	0.58	0.62	0.60	0.65	0.62	0.68
Residential													
1/8 Acre or less	65	0.41	0.45	0.45	0.49	0.49	0.54	0.54	0.59	0.57	0.62	0.59	0.65
1/4 Acre	40	0.23	0.28	0.30	0.35	0.36	0.42	0.42	0.50	0.46	0.54	0.50	0.58
1/3 Acre	30	0.18	0.22	0.25	0.30	0.32	0.38	0.39	0.47	0.43	0.52	0.47	0.57
1/2 Acre	25	0.15	0.20	0.22	0.28	0.30	0.36	0.37	0.46	0.41	0.51	0.46	0.56
1 Acre	20	0.12	0.17	0.20	0.26	0.27	0.34	0.35	0.44	0.40	0.50	0.44	0.55
Industrial													
Light Areas	80	0.57	0.60	0.59	0.63	0.63	0.66	0.66	0.70	0.68	0.72	0.70	0.74
Heavy Areas	90	0.71	0.73	0.73	0.75	0.75	0.77	0.78	0.80	0.80	0.82	0.81	0.83
Parks and Cemeteries	7	0.05	0.09	0.12	0.19	0.20	0.29	0.30	0.40	0.34	0.46	0.39	0.52
Playgrounds	13	0.07	0.13	0.16	0.23	0.24	0.31	0.32	0.42	0.37	0.48	0.41	0.54
Railroad Yard Areas	40	0.23	0.28	0.30	0.35	0.36	0.42	0.42	0.50	0.46	0.54	0.50	0.58
Undeveloped Areas													
Historic Flow Analysis--Greenbelts, Agriculture	2	0.03	0.05	0.09	0.16	0.17	0.26	0.26	0.38	0.31	0.45	0.36	0.51
Pasture/Meadow	0	0.02	0.04	0.08	0.15	0.15	0.25	0.25	0.37	0.30	0.44	0.35	0.50
Forest	0	0.02	0.04	0.08	0.15	0.15	0.25	0.25	0.37	0.30	0.44	0.35	0.50
Exposed Rock	100	0.89	0.89	0.90	0.90	0.92	0.92	0.94	0.94	0.95	0.95	0.96	0.96
Offsite Flow Analysis (when landuse is undefined)	45	0.26	0.31	0.32	0.37	0.38	0.44	0.44	0.51	0.48	0.55	0.51	0.59
Streets													
Paved	100	0.89	0.89	0.90	0.90	0.92	0.92	0.94	0.94	0.95	0.95	0.96	0.96
Gravel	80	0.57	0.60	0.59	0.63	0.63	0.66	0.66	0.70	0.68	0.72	0.70	0.74
Drive and Walks	100	0.89	0.89	0.90	0.90	0.92	0.92	0.94	0.94	0.95	0.95	0.96	0.96
Roofs	90	0.71	0.73	0.73	0.75	0.75	0.77	0.78	0.80	0.80	0.82	0.81	0.83
Lawns	0	0.02	0.04	0.08	0.15	0.15	0.25	0.25	0.37	0.30	0.44	0.35	0.50

3.2 Time of Concentration

One of the basic assumptions underlying the Rational Method is that runoff is a function of the average rainfall rate during the time required for water to flow from the hydraulically most remote part of the drainage area under consideration to the design point. However, in practice, the time of concentration can be an empirical value that results in reasonable and acceptable peak flow calculations.

For urban areas, the time of concentration (t_c) consists of an initial time or overland flow time (t_i) plus the travel time (t_t) in the storm sewer, paved gutter, roadside drainage ditch, or drainage channel. For non-urban areas, the time of concentration consists of an overland flow time (t_i) plus the time of travel in a concentrated form, such as a swale or drainageway. The travel portion (t_t) of the time of concentration can be estimated from the hydraulic properties of the storm sewer, gutter, swale, ditch, or drainageway. Initial time, on the other hand, will vary with surface slope, depression storage, surface cover, antecedent rainfall, and infiltration capacity of the soil, as well as distance of surface flow. The time of concentration is represented by Equation 6-7 for both urban and non-urban areas.

Hydrologic Summary

Rice Ranch Existing Conditions

Basin	Area	Tc	C5	C100	I5	I100	Q5	Q100
Existing	42.74	10.00	0.06	0.24	4.00	6.80	10.42	68.86
Total	0.00							

WEIGHTED RATIONAL COEFFICIENT

Rice Ranch Existing Conditions

			5 Year		100 Year	
	Land Use	Area (AC)	C	CxA	C	CxA
P-2	Residential	0.92	0.45	0.41	0.59	0.54
	Pasture/Meadow	27.38	0.08	2.19	0.35	9.58
	Standing Water	14.44	0.00	0.00	0.00	0.00
				0.00		0.00
				0.00		0.00
				0.00		0.00
				0.00		0.00
				0.00		0.00
	TOTALS	42.74		2.60		10.13
	Cw			0.06		0.24
TOTAL		42.74				

NOTE: HYDROLOGIC SOIL TYPE A.

Time of Concentration

Rice Ranch Existing Conditions

	OVERLAND FLOW						TRAVEL TIME								
DESIGN POINT	C5	$D_{OVERLAND}$	ELEV $_{UPPER}$ OVERLAND PATH	ELEV $_{LOWER}$ OVERLAND PATH	$S_{OVERLAND}$	$Ti_{OVERLAND}$	$L_{TOTAL\ FLOW\ PATH}$	$L_{CHANNEL\ FLOW\ PATH}$	ELEV $_{UPPER}$ CHANNEL PATH	ELEV $_{LOWER}$ CHANNEL PATH	H	S0	Cv	V	Tt	TC
		FT	FT	FT	%	MIN	FT	FT	FT	FT	FT	%		FPS	MIN	MIN
Existing Basin A3	0.06	300.00	5602.00	5600.00	1	8.13	301.00	1.00	5600.00	5599.00	1.00	100.00%	5.0	5.00	0.00	10.00

Hydrologic Summary

Rice Ranch Proposed Conditions

Basin	Area	Tc	C2	C5	C100	I2	I5	I100	Q2	Q5	Q100
Sand Filter 1	7.78	10.00	0.57	0.59	0.70	3.20	4.00	6.80	14.19	18.36	37.03
Sand Filter 2	10.82	10.00	0.57	0.59	0.70	3.20	4.00	6.80	19.74	25.54	51.50
Lake	24.14	10.00	0.02	0.03	0.13	3.20	4.00	6.80	1.40	2.80	20.83
Total	42.74								35.33	46.70	109.36

WEIGHTED RATIONAL COEFFICIENT

Rice Ranch Proposed Conditions

			2 Year		5 Year		100 Year	
Sand Filter 1	Land Use	Area (AC)	C	CxA	C	CxA	C	CxA
	Light Industrial	7.78	0.57	4.43	0.59	4.59	0.70	5.45
	TOTALS	7.78		4.43		4.59		5.45
	Cw			0.57		0.59		0.70

			2 Year		5 Year		100 Year	
Sand Filter 2	Land Use	Area (AC)	C	CxA	C	CxA	C	CxA
	Light Industrial	10.82	0.57	6.17	0.59	6.38	0.70	7.57
	TOTALS	10.82		6.17		6.38		7.57
	Cw			0.57		0.59		0.70

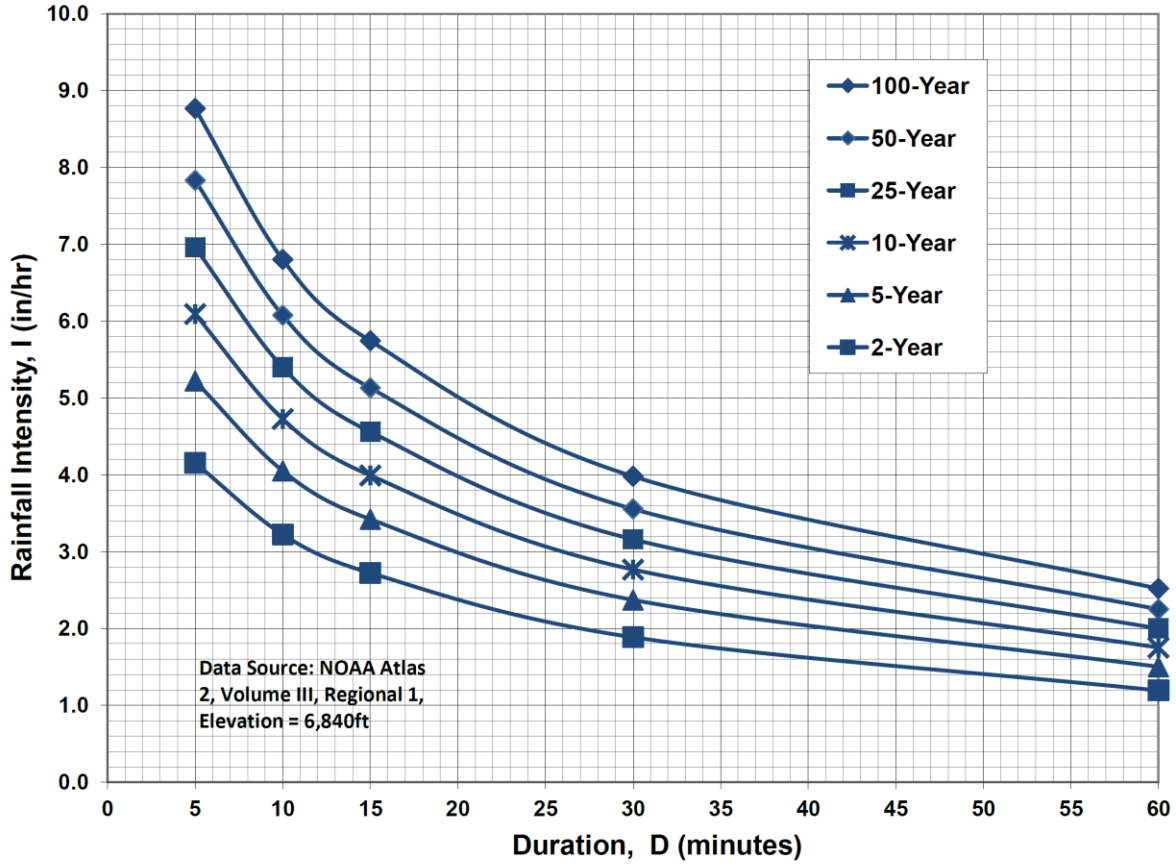
			2 Year		5 Year		100 Year	
Lake	Land Use	Area (AC)	C	CxA	C	CxA	C	CxA
	Pasture/Meadow	8.75	0.05	0.44	0.08	0.70	0.35	3.06
	Standing Water	15.39	0.00	0.00	0.00	0.00	0.00	0.00
				0.00		0.00		0.00
	TOTALS	24.14		0.44		0.70		3.06
	Cw			0.02		0.03		0.13

Time of Concentration

Rice Ranch Proposed Conditions

	OVERLAND FLOW						TRAVEL TIME									
DESIGN POINT	C5	$D_{OVERLAND}$	ELEV $_{UPPER}$ OVERLAND PATH	ELEV $_{LOWER}$ OVERLAND PATH	$S_{OVERLAND}$	$Ti_{OVERLAND}$	$L_{TOTAL\ FLOW\ PATH}$	$L_{CHANNEL\ FLOW\ PATH}$	ELEV $_{UPPER}$ CHANNEL PATH	ELEV $_{LOWER}$ CHANNEL PATH	H	S0	Cv	V	Tt	TC
		FT	FT	FT	%	MIN	FT	FT	FT	FT	FT	%		FPS	MIN	MIN
Sand Filter 1	0.59	300.00	5605.50	5602.00	1	3.32	331.00	1.00	5602.00	5601.00	1.00	100.00%	5.0	5.00	0.00	10.00
Sand Filter 2	0.59	300.00	5603.40	5599.50	1	3.20	331.00	1.00	5599.50	5598.00	1.50	150.00%	5.0	6.12	0.00	10.00

Figure 6-5. Colorado Springs Rainfall Intensity Duration Frequency



IDF Equations

$I_{100} = -2.52 \ln(D) + 12.735$

$I_{50} = -2.25 \ln(D) + 11.375$

$I_{25} = -2.00 \ln(D) + 10.111$

$I_{10} = -1.75 \ln(D) + 8.847$

$I_{5} = -1.50 \ln(D) + 7.583$

$I_{2} = -1.19 \ln(D) + 6.035$

Note: Values calculated by equations may not precisely duplicate values read from figure.

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for El Paso County Area, Colorado

April 20, 2018

Custom Soil Resource Report
Soil Map

Map Scale: 1:4,400 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

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

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil 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 15, Oct 10, 2017

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

Date(s) aerial images were photographed: Apr 15, 2011—Jun 17, 2014

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
28	Ellicott loamy coarse sand, 0 to 5 percent slopes	57.5	54.9%
29	Fluvaquentic Haplaquolls, nearly level	10.9	10.4%
59	Nunn clay loam, 0 to 3 percent slopes	1.3	1.2%
82	Schamber-Razor complex, 8 to 50 percent slopes	19.2	18.3%
101	Ustic Torrifluvents, loamy	9.0	8.6%
111	Water	3.8	3.6%
MzA	Manzanola silty clay loam, saline, 0 to 2 percent slopes	3.2	3.1%
Totals for Area of Interest		**104.8**	**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.

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

28—Ellicott loamy coarse sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 3680
Elevation: 5,500 to 6,500 feet
Mean annual precipitation: 13 to 15 inches
Mean annual air temperature: 47 to 50 degrees F
Frost-free period: 125 to 145 days
Farmland classification: Not prime farmland

Map Unit Composition

Ellicott and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ellicott

Setting

Landform: Flood plains, stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy alluvium

Typical profile

A - 0 to 4 inches: loamy coarse sand
C - 4 to 60 inches: stratified coarse sand to sandy loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively 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: Frequent
Frequency of ponding: None
Available water storage in profile: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A
Ecological site: Sandy Bottomland LRU's A & B (R069XY031CO)
Other vegetative classification: SANDY BOTTOMLAND (069AY031CO)
Hydric soil rating: No

Minor Components

Fluvaquentic haplaquoll

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

Other soils

Percent of map unit:
Hydric soil rating: No

Pleasant

Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

29—Fluvaquentic Haplaquolls, nearly level

Map Unit Setting

National map unit symbol: 3681
Elevation: 5,000 to 7,800 feet
Mean annual precipitation: 13 to 15 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 110 to 165 days
Farmland classification: Not prime farmland

Map Unit Composition

Fluvaquentic haplaquolls and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fluvaquentic Haplaquolls

Setting

Landform: Flood plains, marshes, swales
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 6.00 in/hr)
Depth to water table: About 0 to 24 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: D
Ecological site: Sandy Meadow (R067BY029CO)
Hydric soil rating: Yes

Minor Components

Haplaquolls

Percent of map unit:
Landform: Domes
Hydric soil rating: Yes

Other soils

Percent of map unit:
Hydric soil rating: No

59—Nunn clay loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 3693
Elevation: 5,400 to 6,500 feet
Mean annual precipitation: 13 to 15 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 135 to 155 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Nunn and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nunn

Setting

Landform: Terraces, fans
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

A - 0 to 12 inches: clay loam
Bt - 12 to 26 inches: clay loam
BC - 26 to 30 inches: clay loam
Bk - 30 to 58 inches: sandy clay loam
C - 58 to 72 inches: clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Calcium carbonate, maximum in profile: 15 percent
Gypsum, maximum in profile: 2 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 9.8 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 3c
Hydrologic Soil Group: C
Ecological site: Clayey Plains LRU's A & B (R069XY042CO)
Other vegetative classification: CLAYEY PLAINS (069AY042CO)
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit:
Hydric soil rating: No

Pleasant

Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

82—Schamber-Razor complex, 8 to 50 percent slopes

Map Unit Setting

National map unit symbol: 369y
Elevation: 5,500 to 6,500 feet
Mean annual precipitation: 12 to 14 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 135 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition

Schamber and similar soils: 40 percent
Razor and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Schamber

Setting

Landform: Breaks
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite and/or colluvium derived from granite and/or eolian deposits derived from granite

Typical profile

A - 0 to 5 inches: gravelly loam

AC - 5 to 15 inches: very gravelly loam
C - 15 to 60 inches: very gravelly sand

Properties and qualities

Slope: 8 to 50 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: Gravel Breaks LRU's A & B (R069XY064CO)
Hydric soil rating: No

Description of Razor

Setting

Landform: Breaks
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey slope alluvium over residuum weathered from shale

Typical profile

A - 0 to 3 inches: clay loam
Bw - 3 to 9 inches: clay loam
Bk - 9 to 31 inches: clay
Cr - 31 to 35 inches: weathered bedrock

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Gypsum, maximum in profile: 5 percent
Salinity, maximum in profile: Moderately saline to strongly saline (8.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 15.0
Available water storage in profile: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: Alkaline Plains LRU's A & B (R069XY047CO)
Other vegetative classification: ALKALINE PLAINS (069AY047CO)
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit:
Hydric soil rating: No

Pleasant

Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

101—Ustic Torrifluvents, loamy

Map Unit Setting

National map unit symbol: 3673
Elevation: 5,500 to 7,000 feet
Mean annual precipitation: 13 to 16 inches
Mean annual air temperature: 47 to 52 degrees F
Frost-free period: 125 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Ustic torrifluvents and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ustic Torrifluvents

Setting

Landform: Flood plains, stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy, clayey, stratified loamy

Typical profile

A - 0 to 6 inches: variable
C - 6 to 60 inches: stratified loamy sand to clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 10 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 8.6 inches)

Interpretive groups
Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: Saline Overflow LRU's A & B (R069XY037CO)
Other vegetative classification: OVERFLOW (069BY036CO)
Hydric soil rating: No

Minor Components

Other soils
Percent of map unit:
Hydric soil rating: No

Pleasant
Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

111—Water

Map Unit Composition
Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

MzA—Manzanola silty clay loam, saline, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: 2rgrg
Elevation: 3,900 to 6,000 feet
Mean annual precipitation: 12 to 14 inches
Mean annual air temperature: 48 to 54 degrees F
Frost-free period: 130 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition
Manzanola and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Manzanola

Setting

Landform: Fan remnants, interfluves, terraces, drainageways
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from shale

Typical profile

A - 0 to 4 inches: silty clay loam
Bt1 - 4 to 11 inches: silty clay loam
Bt2 - 11 to 26 inches: silty clay loam
Bk1 - 26 to 38 inches: silty clay loam
Bk2 - 38 to 79 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 14 percent
Gypsum, maximum in profile: 3 percent
Salinity, maximum in profile: Moderately saline (8.0 to 15.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 13.0
Available water storage in profile: Very high (about 12.1 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: C
Ecological site: Saline Overflow LRU's A & B (R069XY037CO)
Other vegetative classification: Saline Overflow (069XY037CO_1)
Hydric soil rating: No

Minor Components

Aguilar

Percent of map unit: 5 percent
Landform: Fan remnants
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Salt Flat LRU's A & B (R069XY033CO)
Other vegetative classification: Salt Flat #33 (069AY033CO_2)
Hydric soil rating: No

Haversid

Percent of map unit: 5 percent
Landform: Terraces, drainageways

Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Saline Overflow LRU's A & B (R069XY037CO)
Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

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

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

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

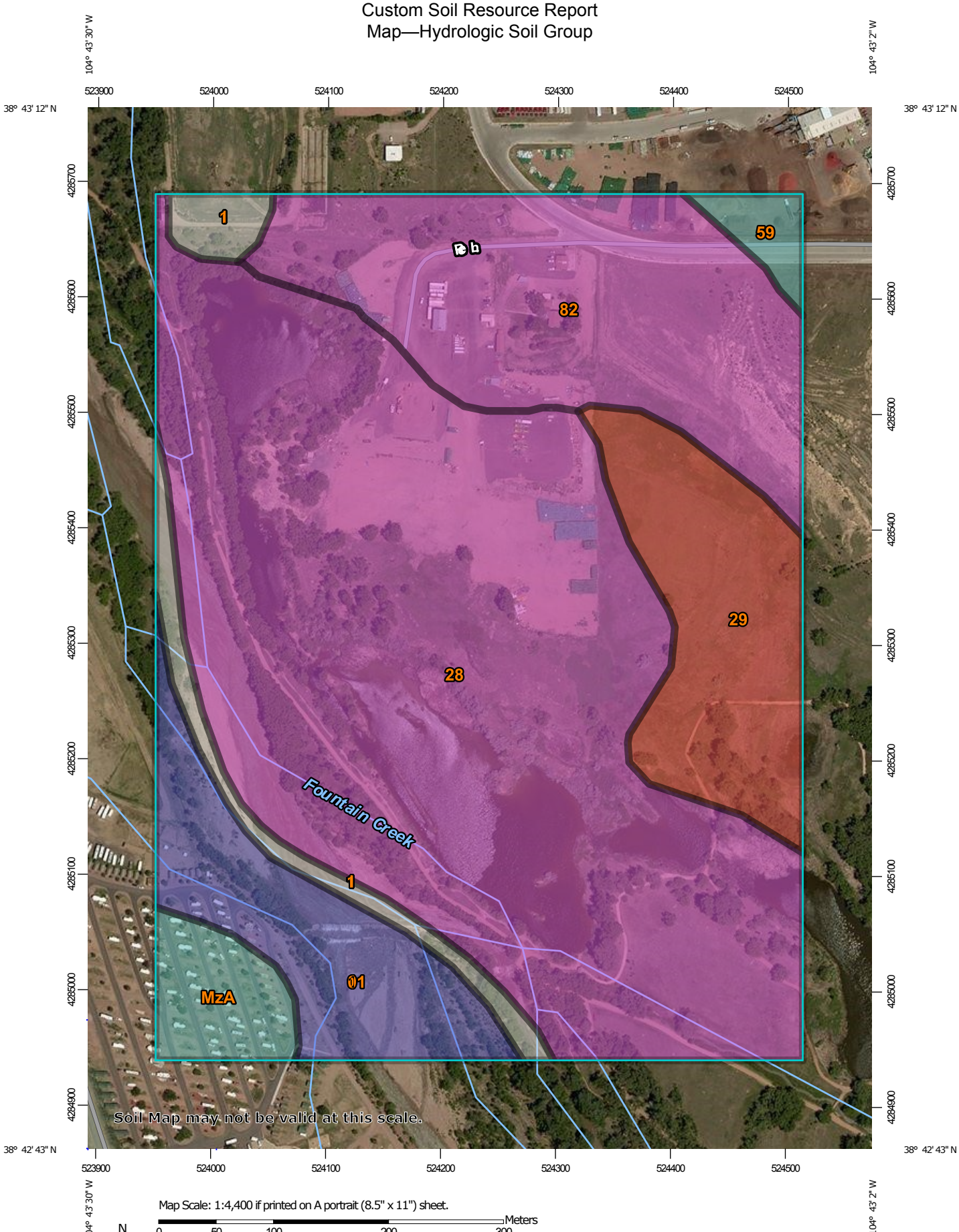
Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

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

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

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

Custom Soil Resource Report
Map—Hydrologic Soil Group



Map Scale: 1:4,400 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

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

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	57.5	54.9%
29	Fluvaquentic Haplaquolls, nearly level	D	10.9	10.4%
59	Nunn clay loam, 0 to 3 percent slopes	C	1.3	1.2%
82	Schamber-Razor complex, 8 to 50 percent slopes	A	19.2	18.3%
101	Ustic Torrifluvents, loamy	B	9.0	8.6%
111	Water		3.8	3.6%
MzA	Manzanola silty clay loam, saline, 0 to 2 percent slopes	C	3.2	3.1%
Totals for Area of Interest			**104.8**	**100.0%**

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Hydrologic Soil Group

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

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

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

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

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

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

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

ELEVATION REFERENCE MARKS

REFERENCE MARK	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
RM26	5621.69	Benchmark disk stamped T347 1953 set in top of southwest end of the southwest concrete abutment of bridge. Located in Section 31.T.15S.R.65 W., 5.2 feet southwest of the D&RGW Railroad rail

LEGEND

SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

- **ZONE A** No base flood elevations determined.
- **ZONE AE** Base flood elevations determined.
- **ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.
- **ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE A99** To be protected from 100-year flood by Federal flood protection system under construction; no base elevations determined.
- **ZONE V** Coastal flood with velocity hazard (wave action); no base flood elevations determined.
- **ZONE VE** Coastal flood with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

- **ZONE X** Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

OTHER AREAS

- **ZONE X** Areas determined to be outside 500-year floodplain.
- **ZONE D** Areas in which flood hazards are undetermined.

UNDEVELOPED COASTAL BARRIERS

Identified 1983 | Identified 1990 | Otherwise Protected Areas

Coastal barrier areas are normally located within or adjacent to Special Flood Hazard Areas.

- Flood Boundary
- Floodway Boundary
- Zone D Boundary
- Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.
- 513 — Base Flood Elevation Line; Elevation in Feet. See Map Index for Elevation Datum.
- D — D — Cross Section Line
- (EL 987) — Base Flood Elevation in Feet Where Uniform Within Zone. See Map Index for Elevation Datum.
- RM7 — Elevation Reference Mark
- M2 — River Mile
- 97°07'30", 32°22'30" — Horizontal Coordinates Based on North American Datum of 1927 (NAD 27) Projection.

NOTES

This map is for use in administering the National Flood Insurance Program; it does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size, or all planimetric features outside Special Flood Hazard Areas.

Coastal base flood elevations apply only landward of 0.0 NGVD, and include the effects of wave action; these elevations may also differ significantly from those developed by the National Weather Service for hurricane evacuation planning.

Areas of Special Flood Hazard (100-year flood) include Zones A, AE, AH, AO, A99, V, and VE.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the Federal Emergency Management Agency.

Floodway widths in some areas may be too narrow to show to scale. Floodway widths are provided in the Flood Insurance Study Report.

This map may incorporate approximate boundaries of Coastal Barrier Resource System Units and /or Otherwise Protected Areas established under the Coastal Barrier Improvement Act of 1990 (PL 101-591).

Corporate limits shown are current as of the date of this map. The user should contact appropriate community officials to determine if corporate limits have changed subsequent to the issuance of this map.

For community map revision history prior to countywide mapping, see Section 6.0 of the Flood Insurance Study Report.

For adjoining map panels and base map source see separately printed Map Index.

MAP REPOSITORY
Refer to Repository Listing on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP:
MARCH 17, 1997

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL:

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE DATE shown on this map to determine when actuarial rates apply to structures in zones where elevations or depths have been established.

To determine if flood insurance is available, contact an insurance agent or call the National Flood Insurance Program at (800) 638-6620.

APPROXIMATE SCALE IN FEET
500 0 500

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

EL PASO COUNTY, COLORADO AND INCORPORATED AREAS

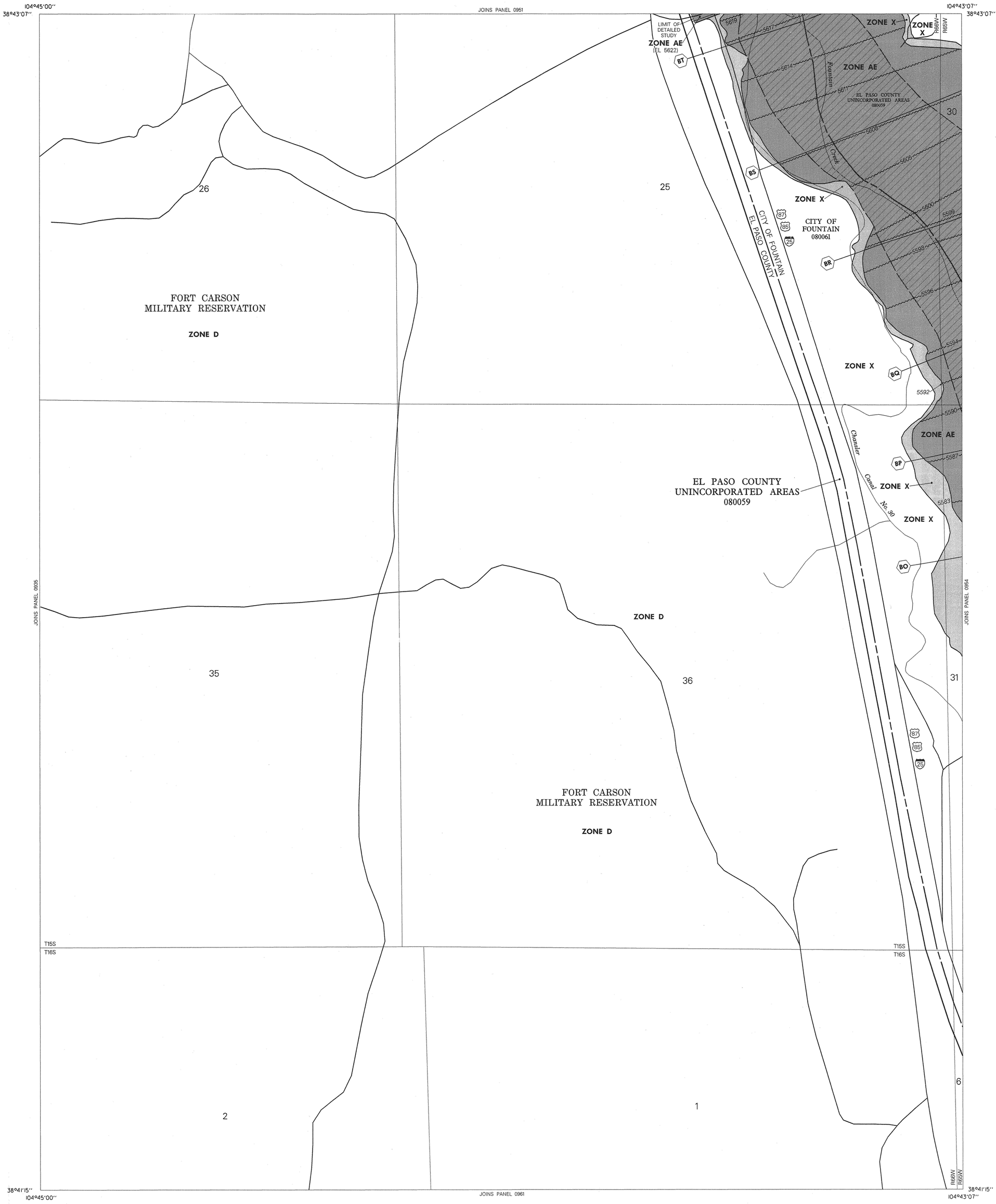
PANEL 954 OF 1300
(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS: COMMUNITY	NUMBER	PANEL	SUFFIX
EL PASO COUNTY, UNINCORPORATED AREAS	080059	0954	F
FOUNTAIN, CITY OF	080061	0954	F

MAP NUMBER 08041C0954 F

EFFECTIVE DATE: MARCH 17, 1997

Federal Emergency Management Agency



LEGEND

SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

- **ZONE A** No base flood elevations determined.
- **ZONE AE** Base flood elevations determined.
- **ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.
- **ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE A99** To be protected from 100-year flood by Federal flood protection system under construction; no base elevations determined.
- **ZONE V** Coastal flood with velocity hazard (wave action); no base flood elevations determined.
- **ZONE VE** Coastal flood with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

- **ZONE X** Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

OTHER AREAS

- **ZONE X** Areas determined to be outside 500-year floodplain.
- **ZONE D** Areas in which flood hazards are undetermined.

UNDEVELOPED COASTAL BARRIERS

Identified 1983 | Identified 1990 | Otherwise Protected Areas

Coastal barrier areas are normally located within or adjacent to Special Flood Hazard Areas.

- Flood Boundary
- Floodway Boundary
- Zone D Boundary
- Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.
- 513 — Base Flood Elevation Line; Elevation in Feet. See Map Index for Elevation Datum.
- D — D — Cross Section Line
- (EL 987) — Base Flood Elevation in Feet Where Uniform Within Zone. See Map Index for Elevation Datum.
- RM7 — Elevation Reference Mark
- M2 — River Mile
- 97°07'30", 32°22'30" — Horizontal Coordinates Based on North American Datum of 1927 (NAD 27) Projection.

NOTES

This map is for use in administering the National Flood Insurance Program; it does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size, or all planimetric features outside Special Flood Hazard Areas.

Coastal base flood elevations apply only landward of 0.0 NGVD, and include the effects of wave action; these elevations may also differ significantly from those developed by the National Weather Service for hurricane evacuation planning.

Areas of Special Flood Hazard (100-year flood) include Zones A, AE, AH, AO, A99, V, and VE.

Certain areas not in Special Flood Hazard Areas may he protected by flood control structures.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the Federal Emergency Management Agency.

Floodway widths in some areas may be too narrow to show to scale. Floodway widths are provided in the Flood Insurance Study Report.

This map may incorporate approximate boundaries of Coastal Barrier Resource System Units and /or Otherwise Protected Areas established under the Coastal Barrier Improvement Act of 1990 (PL 101-591).

Corporate limits shown are current as of the date of this map. The user should contact appropriate community officials to determine if corporate limits have changed subsequent to the issuance of this map.

For community map revision history prior to countywide mapping, see Section 6.0 of the Flood Insurance Study Report.

For adjoining map panels and base map source see separately printed Map Index.

MAP REPOSITORY
Refer to Repository Listing on Map Index

EFFECTIVE DATE OF
COUNTYWIDE FLOOD INSURANCE RATE MAP:

MARCH 17, 1997

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL:

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE DATE shown on this map to determine when actuarial rates apply to structures in zones where elevations or depths have been established.

To determine if flood insurance is available, contact an insurance agent or call the National Flood Insurance Program at (800) 638-6620.

APPROXIMATE SCALE IN FEET
500 0 500

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

EL PASO COUNTY, COLORADO AND INCORPORATED AREAS

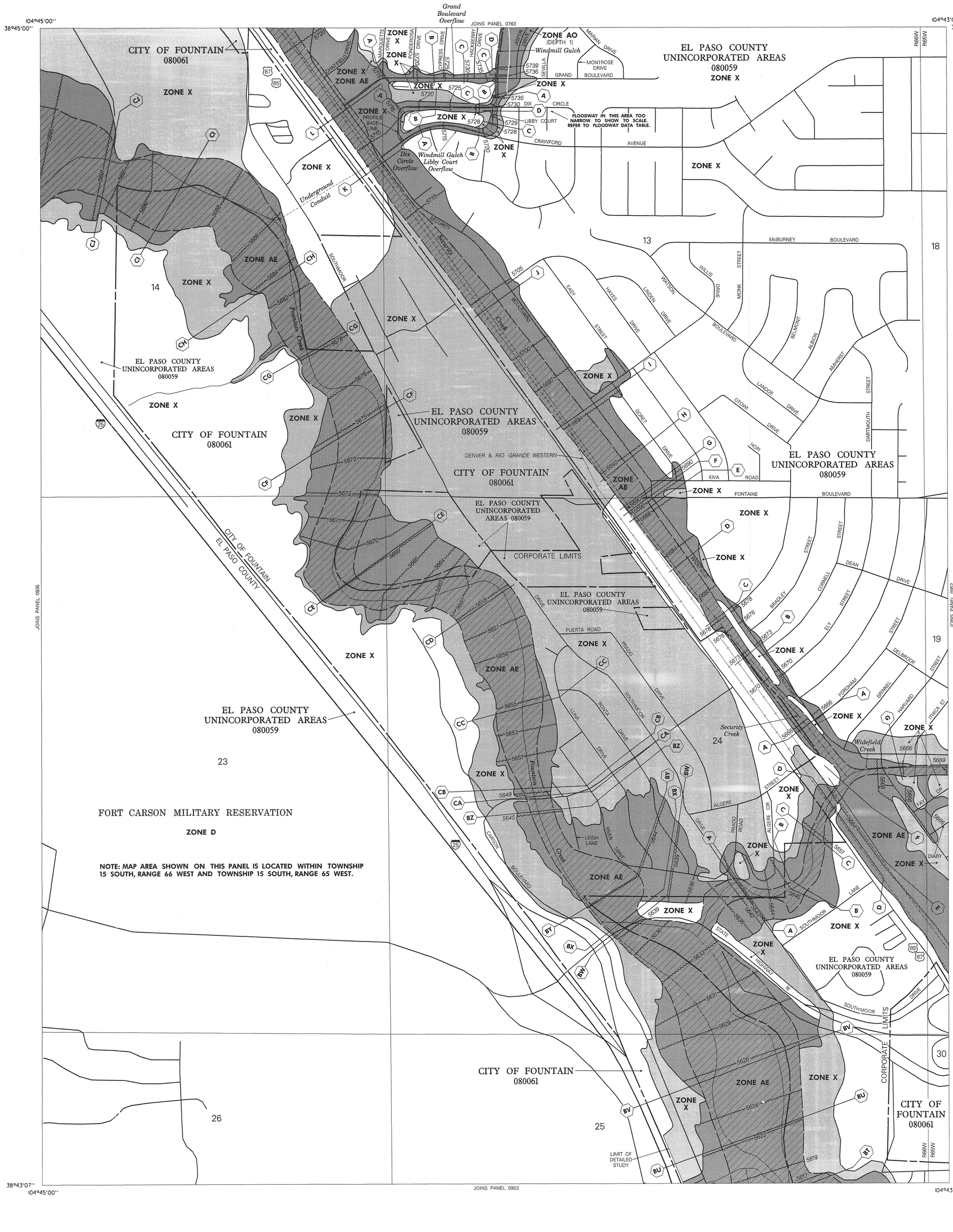
PANEL 953 OF 1300
(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS: COMMUNITY	NUMBER	PANEL	SUFFIX
EL PASO COUNTY, UNINCORPORATED AREAS	080059	0953	F
FOUNTAIN, CITY OF	080061	0953	F

MAP NUMBER
08041C0953 F

EFFECTIVE DATE:
MARCH 17, 1997

Federal Emergency Management Agency



LEGEND

SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

- **ZONE A** — No base flood elevations determined.
- **ZONE AE** — Base flood elevations determined.
- **ZONE AH** — Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.
- **ZONE AO** — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE A99** — To be protected from 100-year flood by Federal flood protection system under construction; no base elevations determined.
- **ZONE V** — Coastal flood with velocity hazard (wave action); no base flood elevations determined.
- **ZONE VE** — Coastal flood with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

- **ZONE X** — Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

OTHER AREAS

- **ZONE X** — Areas determined to be outside 500-year floodplain.
- **ZONE D** — Areas in which flood hazards are undetermined.

UNDEVELOPED COASTAL BARRIERS

Identified 1983 | Identified 1990 | Otherwise Protected Areas

Coastal barrier areas are normally located within or adjacent to Special Flood Hazard Areas.

- Flood Boundary
- Floodway Boundary
- Zone D Boundary
- Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.
- 513 — Base Flood Elevation Line; Elevation in Feet. See Map Index for Elevation Datum.
- D — D — Cross Section Line
- (EL 987) — Base Flood Elevation in Feet Where Uniform Within Zone. See Map Index for Elevation Datum.
- RM7 × — Elevation Reference Mark
- ● M2 — River Mile
- 97°07'30", 32°22'30" — Horizontal Coordinates Based on North American Datum of 1927 (NAD 27) Projection.

NOTES

This map is for use in administering the National Flood Insurance Program; it does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size, or all planimetric features outside Special Flood Hazard Areas.

Coastal base flood elevations apply only landward of 0.0 NGVD, and include the effects of wave action; these elevations may also differ significantly from those developed by the National Weather Service for hurricane evacuation planning.

Areas of Special Flood Hazard (100-year flood) include Zones A, AE, AH, AO, A99, V, and VE.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the Federal Emergency Management Agency.

Floodway widths in some areas may be too narrow to show to scale. Floodway widths are provided in the Flood Insurance Study Report.

This map may incorporate approximate boundaries of Coastal Barrier Resource System Units and /or Otherwise Protected Areas established under the Coastal Barrier Improvement Act of 1990 (PL 101-591).

Corporate limits shown are current as of the date of this map. The user should contact appropriate community officials to determine if corporate limits have changed subsequent to the issuance of this map.

For community map revision history prior to countywide mapping, see Section 6.0 of the Flood Insurance Study Report.

For adjoining map panels and base map source see separately printed Map Index.

MAP REPOSITORY
Refer to Repository Listing on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP:
MARCH 17, 1997

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL:

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE DATE shown on this map to determine when actuarial rates apply to structures in zones where elevations or depths have been established.

To determine if flood insurance is available, contact an insurance agent or call the National Flood Insurance Program at (800) 638-6620.

APPROXIMATE SCALE IN FEET
500 0 500

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

EL PASO COUNTY, COLORADO AND INCORPORATED AREAS

PANEL 951 OF 1300
(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS: COMMUNITY	NUMBER	PANEL	SUFFIX
EL PASO COUNTY, UNINCORPORATED AREAS	080059	0951	F
FOUNTAIN, CITY OF	080061	0951	F

MAP NUMBER 08041C0951 F

EFFECTIVE DATE: MARCH 17, 1997

Federal Emergency Management Agency

Design Procedure Form: Sand Filter (SF)

UD-BMP (Version 3.07, March 2018)

Designer:
Company:
Date: August 15, 2018
Project:
Location: SAND FILTER 1

1. Basin Storage Volume	
A) Effective Imperviousness of Tributary Area, I_a (100% if all paved and roofed areas upstream of sand filter)	I_a = 60.0 %
B) Tributary Area's Imperviousness Ratio (i = I_a/100)	i = 0.600
C) Water Quality Capture Volume (WQCV) Based on 12-hour Drain Time WQCV= 0.8 * (0.91* i^3 - 1.19 * i^2 + 0.78 * i)	WQCV = 0.19 watershed inches
D) Contributing Watershed Area (including sand filter area)	Area = 388,991 sq ft
E) Water Quality Capture Volume (WQCV) Design Volume V_{WQCV} = WQCV / 12 * Area	V_{WQCV} = cu ft
F) For Watersheds Outside of the Denver Region, Depth of Average Runoff Producing Storm	d_6 = in
G) For Watersheds Outside of the Denver Region, Water Quality Capture Volume (WQCV) Design Volume	$V_{WQCV\ OTHER}$ = cu ft
H) User Input of Water Quality Capture Volume (WQCV) Design Volume (Only if a different WQCV Design Volume is desired)	$V_{WQCV\ USER}$ = 775 cu ft
2. Basin Geometry	
A) WQCV Depth	D_{WQCV} = 1.0 ft
B) Sand Filter Side Slopes (Horizontal distance per unit vertical, 4:1 or flatter preferred). Use "0" if sand filter has vertical walls.	Z = 4.00 ft / ft
C) Minimum Filter Area (Flat Surface Area)	A_{Min} = 2917 sq ft
D) Actual Filter Area	A_{Actual} = 3200 sq ft
E) Volume Provided	V_T = 3200 cu ft
3. Filter Material	Choose One: (●) 18" CDOT Class B or C Filter Material ( ) Other (Explain):
4. Underdrain System	
A) Are underdrains provided?	Choose One: (●) YES ( ) NO
B) Underdrain system orifice diameter for 12 hour drain time	
i) Distance From Lowest Elevation of the Storage Volume to the Center of the Orifice	y = 1.0 ft
ii) Volume to Drain in 12 Hours	Vol_{12} = 775 cu ft
iii) Orifice Diameter, 3/8" Minimum	D_O = 3/4 in

Design Procedure Form: Sand Filter (SF)

Designer:
Company:
Date: August 15, 2018
Project:
Location: SAND FILTER 1

5. Impermeable Geomembrane Liner and Geotextile Separator Fabric A) Is an impermeable liner provided due to proximity of structures or groundwater contamination?	Choose One ○ YES ◉ NO
6. Inlet / Outlet Works A) Describe the type of energy dissipation at inlet points and means of conveying flows in excess of the WQCV through the outlet	

Notes:

Design Procedure Form: Sand Filter (SF)

UD-BMP (Version 3.07, March 2018)

Designer:
Company:
Date: August 15, 2018
Project:
Location: Sand Filter 1

1. Basin Storage Volume

A) Effective Imperviousness of Tributary Area, I_a
(100% if all paved and roofed areas upstream of sand filter)
I_a = 73.0 %

B) Tributary Area's Imperviousness Ratio (i = I_a/100)
i = 0.730

C) Water Quality Capture Volume (WQCV) Based on 12-hour Drain Time
WQCV= 0.8 * (0.91* i^3 - 1.19 * i^2 + 0.78 * i)
WQCV = 0.23 watershed inches

D) Contributing Watershed Area (including sand filter area)
Area = 334,976 sq ft

E) Water Quality Capture Volume (WQCV) Design Volume
V_{WQCV} = WQCV / 12 * Area
V_{WQCV} = cu ft

F) For Watersheds Outside of the Denver Region, Depth of Average Runoff Producing Storm
d_6 = in

G) For Watersheds Outside of the Denver Region, Water Quality Capture Volume (WQCV) Design Volume
$V_{WQCV\ OTHER}$ = cu ft

H) User Input of Water Quality Capture Volume (WQCV) Design Volume
(Only if a different WQCV Design Volume is desired)
$V_{WQCV\ USER}$ = 620 cu ft

2. Basin Geometry

A) WQCV Depth
D_{WQCV} = 1.0 ft

B) Sand Filter Side Slopes (Horizontal distance per unit vertical, 4:1 or flatter preferred). Use "0" if sand filter has vertical walls.
Z = 4.00 ft / ft

C) Minimum Filter Area (Flat Surface Area)
A_{Min} = 3057 sq ft

D) Actual Filter Area
A_{Actual} = 3200 sq ft

E) Volume Provided
V_T = 3200 cu ft

3. Filter Material

Choose One
- (●) 18" CDOT Class B or C Filter Material
- ( ) Other (Explain):

4. Underdrain System

A) Are underdrains provided?

Choose One
- (●) YES
- ( ) NO

B) Underdrain system orifice diameter for 12 hour drain time

i) Distance From Lowest Elevation of the Storage Volume to the Center of the Orifice
y = 1.0 ft

ii) Volume to Drain in 12 Hours
Vol_{12} = 620 cu ft

iii) Orifice Diameter, 3/8" Minimum
D_O = 11/16 in

Design Procedure Form: Sand Filter (SF)

Designer:
Company:
Date: August 15, 2018
Project:
Location: Sand Filter 1

5. Impermeable Geomembrane Liner and Geotextile Separator Fabric A) Is an impermeable liner provided due to proximity of structures or groundwater contamination?	Choose One: ○ YES ◉ NO
6. Inlet / Outlet Works A) Describe the type of energy dissipation at inlet points and means of conveying flows in excess of the WQCV through the outlet	

Notes:

Rice Ranch					
El Paso County, Colorado					
Opinion Of Probable Cost					
8/20/2018					
Reference	**Description**	**Unit**	**Unit Cost**		
	Major Items			Quantity	Cost
	Unclassified Excavation	CY	$20.00	2,500	$50,000.00
	Sand	CY	$40.00	600	$24,000.00
	Riprap 6"	CY	$100.00	100	$10,000.00
	Topsoiling, Seeding & Mulching	CY	$20.00	500	$10,000.00
	Sub Total				$94,000.00
	Contingency/Minor Items	%	10	$94,000.00	$9,400.00
	Grand Total				$103,400.00

Assumptions & Notes	
1	Quantities based on plans prepared by CD Civil Design LLC, and by general assumptions.
2	The cost estimate submitted herein is based on time-honored practices within the construction industry. As such the engineer does not control the cost of labor, materials, equipment, or a contractor's methods of determining prices and competitive bidding practices or market conditions. The estimate represents our best judgment as design professionals using current information available at the time of preparation. The engineer cannot guarantee that proposals, bids and/or construction costs
3	This estimate is subject to change. It generally attempts to quantify drainage construction costs. Other project related costs are not included.
4	Estimate does not include construction management and materials testing which could be a major project expense.
5	Unit costs are based on CDOT cost data from, and general assumptions.

THE Scotts Miracle-Gro COMPANY

THE SCOTTS COMPANY
HYPONEX CORPORATION # 1023
3 ASSEMBLY COURT
FOUNTAIN, CO 80817
Phone: (719) 390-5431
Fax: (719) 390-6751

STORM WATER POLLUTION PREVENTION PLAN

Original Issue Date: April 2013
Revision Date(s): May 2015, May 2018

Emergency Coordinator: Brian Maisch **Title:** Plant Manager
Phone: (719) 390-5431 Office, (719) 248-2774 Cell

Alternate Emergency Coordinator: Keith Lee **Title:** Production Supervisor
Phone: (719) 390-5431 Office, (719) 200-4486 Cell

Facility Location: 3 Assembly Court, Fountain, CO 80817
Type of Manufacturer: Mulch, Topsoil, Garden and Potting Soil Producer
Operating Schedule: 0600 – 1430 July – Sept.; 0600 – 2300 Oct. - June
Number of Employees: 30
General Storm Water CDPS Permit Number: COR900000
Name of Receiving Water: FOUNTAIN CREEK

TABLE OF CONTENTS

FIGURES

TABLES

LIST OF APPENDICES

GENERAL FACILITY INFORMATION

FACILITY	
Name:	The Scotts Company, Hyponex Corporation, #1023
Address:	3 Assembly Court
	Fountain, CO 80817
FACILITY CONTACT	
Name:	Brian Maisch
Title:	Plant Manager
Telephone:	(719) 248-2774
Mailing Address:	3 Assembly Court
	Fountain, CO 80817
Owner/Operator:	The Scotts Company
Standard Industrial Classification (SIC) Code:	2875
North American Industrial Classification System (NAICS) Code:	325314
PERMIT INFORMATION	
Permit Number:	CDPHE COLORADO DISCHARGE PERMIT SYSTEM (CDPS) COR900000
Effective Date of Coverage:	JULY 1, 2012
Date of Expiration	JUNE 30, 2017 - - 7/1/2017 Administratively Continued
# of Storm Water Outfalls:	ONE – OUTFALL 001
Receiving Waters:	FOUNTAIN CREEK
EMERGENCY CONTACTS	
Name:	Brian Maisch
Telephone:	(719) 390-5431 Office, (719) 248-2774 Cell
Name:	Keith Lee
Telephone:	(614) 638-7060 Office, (719) 200-4486 Cell

1.0 INTRODUCTION

1.1 REGULATORY BACKGROUND

This Storm Water Pollution Prevention Plan (SWP3) was developed for **Scotts Miracle-Gro Hyponex Facility #1023 located at 3 Assembly Court, Fountain, El Paso County, Colorado.** The industrial activities conducted at the Facility are defined by the following primary SIC Code 2875 and the NAICS Code 325314, for Fertilizer (Mixing Only) Manufacturing. Federal storm water regulations (40 CFR 122.26(a)(1)(ii) and 40 CFR 122.26(b)(14)) and corresponding state storm water regulations require a permit for the discharge of storm water associated with industrial activities that have a primary SIC Code with the first two digits of 28 (chemicals and allied products, except drugs).

This SWP3 was developed in accordance with the requirements of the U.S. EPA's NPDES Multi-Sector General Permits for Storm Water Discharges Associated with Industrial Activities as published in the Federal Register on October 30, 2000, as well as the requirements of the Colorado Discharge Permit System through the Water Quality Control Division of the Colorado Department of Public Health and Environment (CDPHE) rules for Storm Water Discharges..

The State of Colorado, through the CDPHE, has primacy for NPDES storm water discharges. Therefore, Scotts Miracle-Gro Hyponex Facility's storm water discharge is covered under CDPHE's CDPS General Permit COR900000 for the discharge of storm water from industrial activities (Permit #COR900688 issued on 31 May 2012 and expires on 30 June 2017. In instances where the CDPHE's permit differs from the federal permit, this SWP3 has been modified to meet CDPHE's requirements.

Since the Hyponex Facility has a SIC code of 2875, it is subject to conditions and requirements in *Sector C: Chemical and Allied Products Manufacturing Facilities* of the MSGP.

A copy of this SWP3 must be kept onsite at all times.

The facility's storm water drainage has four distinct areas. The first area of storm water runoff encompasses the site's processing area, bulk material storage area, and a portion of the final pre-pack material storage area. This area includes Lots 4 and 5 on the south side of Assembly Court and drains to the outfall at Rice Lane. This outfall (Outfall 001) is connected to a culvert tributary which ultimately drains to Fountain Creek.

The second area consisting of Lots 3 and 6 is located on the north side of Assembly Court where processed and pre-packed material is stored. All product stored in this area is packaged, on pallets, and shrink-wrapped for deliveries from the facility. The drainage from this area flows south into Assembly Court and into the storm drainage inlets in the street, which ultimately drain to Fountain Creek. Outfalls 002 – 007 are the street inlets, and are considered to have representative discharges. The facility has determined that Outfalls 002 through 007 are substantially similar and that they not subject to semi-annual benchmark sampling requirements since the are no industrial activities that occur in the drainage area to each outfall; there are no significant materials stored or handled within these outfall drainage areas; and the management practices and pollution control structures exist within the drainage area of each outfall.

The third area of storm water runoff at the facility is at the leased property located on the west side of Rice Lane where finished product material is stored. All product stored in

this area is packaged, on pallets, and shrink-wrapped for deliveries from the facility. The storm water from this area drains west as sheet flow toward Fountain Creek.

The fourth area of storm water runoff is the leased portions of the Rice & Rice Inc. property southwest of Rice Lane where processed and pre-pack material is stored. All product stored in this area is packaged, on pallets, and shrink-wrapped for deliveries from the facility. This storm water runs off the property west as sheet flow toward Fountain Creek.

1.2 PURPOSE OF THE SWP3

The purpose of the SWP3 is to evaluate potential pollution sources at the facility, select and implement appropriate best management practices (BMPs) or pollution control measures to reduce the discharge of pollutants in storm water runoff, and provides for periodic review of this SWP3.

The goal of the storm water program is to improve the quality of surface waters by reducing the amount of pollutants potentially contained in the storm water runoff being discharged. Industrial facilities subject to an NPDES permit must prepare and implement an SWP3 for their facility.

The objective of this SWP3 at The Scotts Company is three-fold:

(1) To identify potential sources of pollution.

(2) To describe best management practices (BMPs) to be used.

(3) To provide other elements such as, but not limited to, a facility inspection program, site compliance evaluation program, and record keeping and reporting program that will help the facility comply with the terms and conditions of their storm water discharge permit.

The SWP3 describes activities, materials, and physical features of the facility that may contribute pollutants to storm water runoff and the procedures and methods that are used to minimize these impacts.

2.0 SITE DESCRIPTION

2.1 LOCATION OF FACILITY

The facility is located at 3 Assembly Court, Fountain, Colorado 80817 in an area developed for commercial, industrial, and residential use. The location of the facility and the topographic, hydrologic, and cultural features of the surrounding area are shown on Figure 1, Site Location Map. The center of the facility is located at approximately 38°43’30" North and 104°42’59" West.

2.2 GENERAL DESCRIPTION OF BUSINESS

This Storm water Management Plan (SWP3) covers the operations at The Scotts Company Fountain, Colorado Plant, 3 Assembly Court, Fountain, Colorado. It has been developed as required under Part I.B of the Colorado Discharge Permit System (CDPS) Regulations general permit for storm water discharges (General Permit) and in accordance with good engineering practices. This document was prepared as a working document to be utilized by Scotts personnel to aid in complying with the conditions of the General Permit. The plan will be kept on the facility site where the storm water

discharge is generated. It is to be available upon request to Scotts' Corporate Environmental. A storm water pollution prevention team has been designated in the SWP3 to ensure that the plan is implemented.

The Scotts facility located in Fountain, Colorado processes soil products for distribution to retail distributors. Various raw materials are received onto the site and stockpiled in windrows or piles. The materials are then blended into different soil products using a front-end loader. The material then passes through a screen where the rocks and oversized debris are removed. The material then proceeds inside the plant where it is bagged and palletized. Once all packaging is complete, the packaged product is placed on pallets and shrink-wrapped for storage on-site.

The facility is comprised of two buildings (a Production Building/Office, and a Metal Commercial Warehouse Building) situated on a parcel approximately 5 acres in size. The metal commercial building is utilized for receiving and storing raw materials and packaging. A maintenance shop is attached to the south side of the production building. The surface surrounding the buildings consists mainly of asphalt, concrete pavement and gravel. The rest of the property is either covered with mulch or is uncovered. A concrete driveway provides access to the Office from Assembly Court. Gravel and paved driveways provide access to the other building on the property and to parts of the material and finished product storage areas. The facility leases additional property for product storage and staging (Lots 3, 4, 6, and Rice and Rice and Water Resources) totaling another 11 acres.

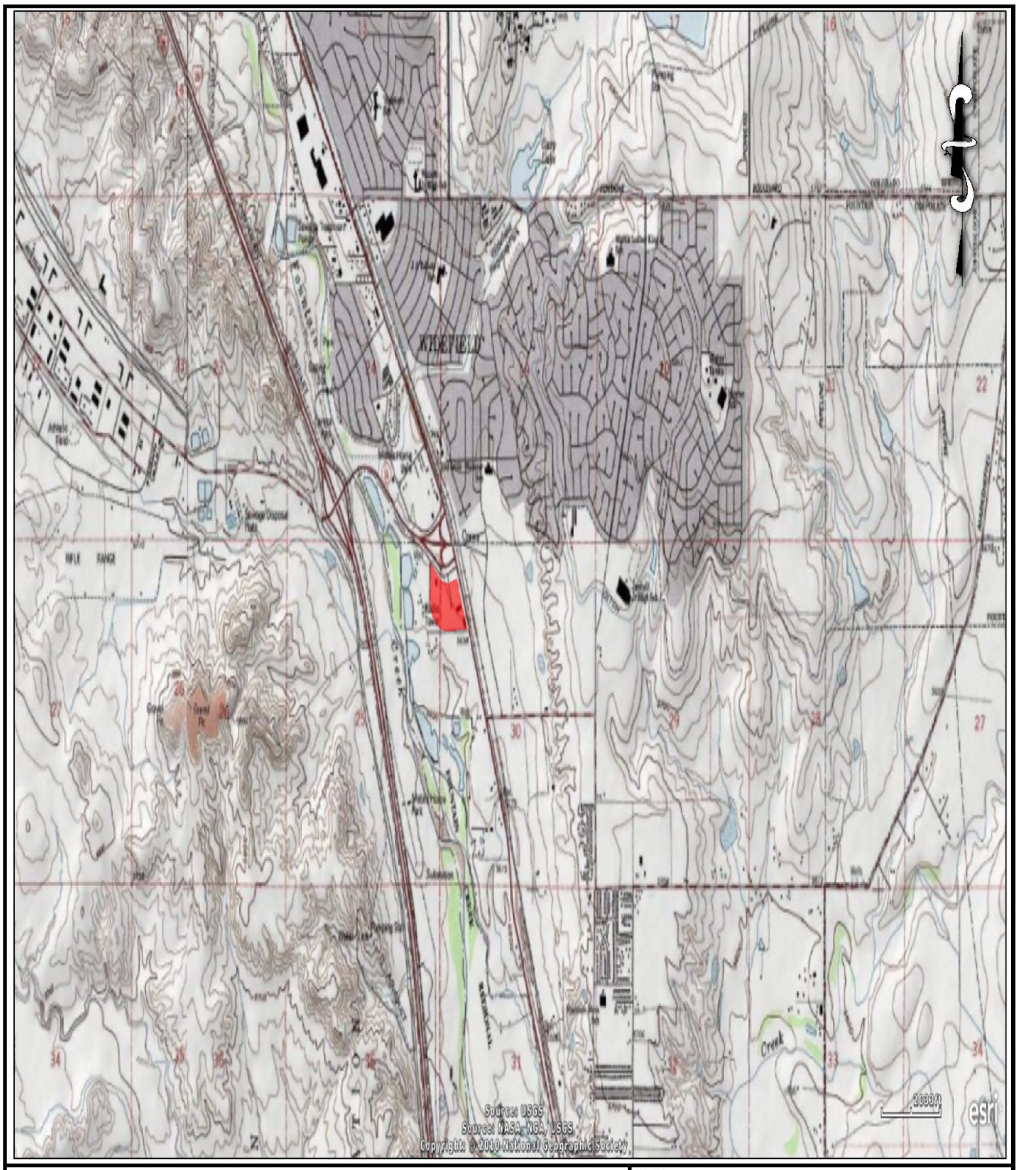
This Storm water Management Plan (SWP3) covers the operations at The Scotts Company Fountain, Colorado Plant, 3 Assembly Court, Fountain, Colorado. It has been developed as required under Part I.B of the Colorado Discharge Permit System (CDPS) Regulations general permit for storm water discharges (General Permit) and in accordance with good engineering practices. This document was prepared as a working document to be utilized by Scotts personnel to aid in complying with the conditions of the General Permit. The plan will be kept on the facility site where the storm water discharge is generated. It is to be available upon request to Scotts' Corporate Environmental. A storm water pollution prevention team has been designated in the SWP3 to ensure that the plan is implemented.

The Scotts facility located in Fountain, Colorado processes soil products for distribution to retail distributors.. Various raw materials are received onto the site and stockpiled in windrows or piles. The materials are then blended into different soil products using a front-end loader. The material then passes through a screen where the rocks and oversized debris are removed. The material then proceeds inside the plant where it is bagged and palletized. Once all packaging is complete, the packaged product is placed on pallets and shrink-wrapped for storage on-site.

The facility is comprised of two buildings (a Production Building/Office, and a Metal Commercial Warehouse Building) situated on a parcel approximately 5 acres in size. The metal commercial building is utilized for receiving and storing raw materials and packaging. A maintenance shop is attached to the south side of the production building. The surface surrounding the buildings consists mainly of asphalt, concrete pavement and gravel. The rest of the property is either covered with mulch or is uncovered. A concrete driveway provides access to the Office from Assembly Court. Gravel and paved driveways provide access to the other building on the property and to parts of the material and finished product storage areas. The facility leases additional property for

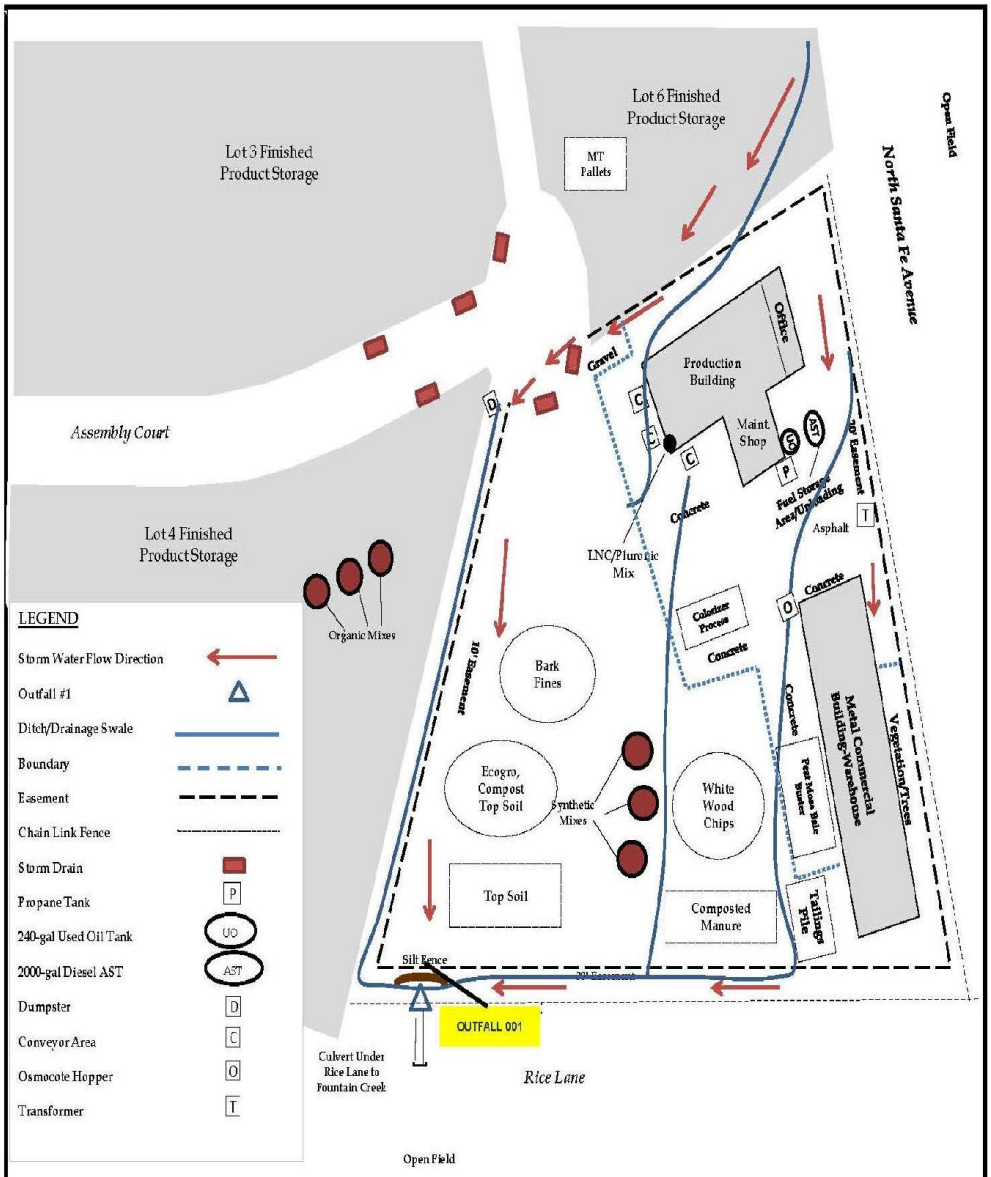
product storage and staging (Lots 3, 4, 6, and Rice and Rice and Water Resources) totaling another 11 acres.

Figure 2 presents the facility layout map. The property is approximately 16 acres (5 acres of owned property and 11 acres of leased property). This SWP3 addresses best management practices, controls, and inspection and monitoring requirements applicable to the drainage areas where industrial activities are occurring. Raw material storage areas are located in Lots 3, 4, 5, and 6, the metal commercial building, the west side of Rice Lane, and the southwest side of Rice Lane in the leased portions of the Rice & Rice Inc. property. Access to the site can be gained via Rice Lane and Willow Spring Road on the east side of the facility.



The Scotts Company/Hyponex Corporation		TITLE: Topographic Area Map	
FACILITY: Plant #1023, 3 Assembly Court, Fountain, CO			
DATE: May 2015		Scotts	Figure 1
COORDINATES: 38°43'30" N 104°42'59" W	DRAWN BY: B. Allen CHECKED BY: B. Allen		

The Scotts Company/Hyponex Corporation		Facility Map	
Plant #1023, 3 Assembly Court, Fountain Colorado			
DATE:	DRAWN BY:	Scotts	FIGURE:
March 2015	B. Allen		2



The Scotts Company/Hyponex Corporation		Facility Map	FIGURE
Plant #1023, 3 Assembly Court, Fountain Colorado			
Date	Drawn By:		3
May 2018	B. Allen		

2.3 PHYSICAL DESCRIPTION OF THE SITE

The facility is located on 16 acres in a rural area of Fountain, Colorado in El Paso County, at 3 Assembly Court. The site is bordered to the east by Willow Spring Road, venue, Mesa Ridge Parkway to the north, and an unoccupied property to the west and south.

2.4 STORM WATER FLOW

The Hyponex facility has identified that no outfalls will need to be sampled annually. However, Outfall 001 benchmark monitoring is required quarterly. This point discharges to Fountain Creek. Storm water flow is generally to the South. Table 1 below presents details of the outfalls.

Table 1 - Outfall Description

Outfall Number	Description of Outfall	Location of Outfall	Description of Industrial Activity to which Storm Water is Exposed	Sampled? Yes/No
001	Storm water Drain	Southwest corner of site	Oscmocote Hopper	Yes
			Diesel AST	
			Used Oil AST	
			Raw material storage area	
			Trash compactor	
			Transformer 1	
			Peat Moss Bale Buster	
			Roll-off dumpster and 2 small dumpsters	
			Colorizer process including empty colorant totes	
			Wood pallet storage	
002-007	Intermittent Stream	Along Willow Spring Road and Fountain Court.	Pre-pack area and flat bed loading area	No

NOTE: The facility has determined that Outfalls 002-007 are not subject to quarterly benchmark sampling requirements since the are no industrial activities that occur in the drainage area to this outfall; there are no significant materials stored or handled within this outfall drainage area; and the management practices and pollution control structures exist within the drainage areas of these outfalls.

2.4.1 SOIL SURVEY

The soil in the area is classified as clay loam with approximately greater than 80 inches to the ground water table.

2.4.2 PERVIOUS VS. IMPERVIOUS AREA

Buildings and impervious surfaces occupy approximately 75% of the site and include parking areas, access driveways, and loading/unloading areas. Pervious grassy soil surfaces cover the remaining 25% of the site. The facility is relatively flat at an approximate elevation of ranging from 5,600 to 5,650 feet above mean sea level (MSL) across the property.

3.0 STORM WATER POLLUTION PREVENTION TEAM

The storm water pollution prevention team is responsible for developing, implementing, maintaining, and revising this SWP3. The members of the team are familiar with the management and operations of The Scotts Company.

The member(s) of the team and their primary responsibilities (i.e. implementing and maintaining the plan, record keeping, submitting reports, conducting inspections, employee training, conducting the annual compliance evaluation, testing for non-storm water discharges) are listed in Table 2 below.

Table 2 - Storm Water Pollution Prevention Team

LEADER		
Name/ Title	**Phone**	**Responsibilities**
Brian Maisch, Plant Manager	(719) 390-5431 Office (719)964-9635 Cell	**Emergency Coordinator** Coordinates spill response activities. Final coordination of SWP3. Signatory authority. Program reviewer. Performs the annual site compliance evaluation. Primary USEPA and CDPHE contact.
MEMBERS		
Name/Title	**Phone**	**Responsibilities**
Keith Lee, Production Supervisor	(719) 390-5431 Office (719) 200-4486 Cell	**Alternate Emergency Coordinator** Assists Emergency Coordinator with any or all responsibilities as described on an as needed basis. Implements preventive maintenance and spill response programs. Assists in inspections. Notes and communicates any process changes.
Dave Hume, EHS Coordinator	(719) 248-2839 Cell	**Facility EHS Support** Coordinates SWP3 development and implementation. Notes process changes. Coordinates employee-training programs. Keeps records and submits reports. Performs inspections.
Bryan Allen, Regional EHS Manager	(903) 651-6064 Cell	**EHS Regional Support** Assist with updates of SWPPP. Provide information for and assist with training. Oversee implementation of SWPPP.

4.0 DESCRIPTION OF INDUSTRIAL ACTIVITIES

Outdoor industrial activities at the Facility include:

- Unloading of trucks with incoming products or raw materials;
- Material handling and storage activities;
- Loading of trucks with packaged finished products;
- Colorizer process and storage of empty colorant totes;
- Baghouses;
- Closed Trash compactor (baler);
- Finished product storage activities; and
- Storage of general plant trash in one roll off box and 2 small dumpsters;

Table 3 - Exposure Summary

Material	Quantity/Exposed Process	Exposure Potential	Pollution Potential
Peat Moss (Sphagnum)	10,000 yards	Yes	Low
Composted Bark Fines	35,000 yards	Yes	Low
Wood Fiber	10,000 yards	Yes	Low
Yard Compost	25,000 yards	Yes	Low
Compost Manure	10,000 yards	Yes	Low
Coir Bricks (coconut pith)	1,500 yards	Yes	Low
Composted Rice Hulls	10,000 yards	Yes	Low
Top Soil	10,000 yards	Yes	Low
Bark Humus	30,000 yards	Yes	Low
White Bark Wood Chips	2,500 yards	Yes	Low
Diesel AST	10,000 gallons	Yes	Low
Osmocote	500 yards	Yes	Low
General Trash	Exterior dumpster	Yes	Low
Colorant	Empty totes	Yes	Low
Particulate Matter	Exterior baghouses	Yes	Low

Each of these industrial activities and their potential to contribute pollutants to storm water are further described in Section 5.0 of this plan.

4.1 SITE MAP

Figure 1 is a topographic map showing the site location.

As mentioned previously, Figure 2 presents the site layout map and industrial activity locations. In addition, Figure 3 is a detailed map of Lot 5 production and raw material storage areas. Figures 2 and 3 also depicts the following storm water related features of the facility:

- The size of the property in acres.
- The location and extent of significant structures and impervious surfaces.
- An outline of the facility property indicating directional flows, via arrows of surface drainage patterns.
- All onsite storm water drainage and discharge conveyances.
- Known adjacent property drainage and discharge conveyances.

- All onsite and known adjacent property water bodies, including wetlands and springs.
- An outline of the drainage area for each storm water outfall.
- An outline of impervious surfaces, which includes pavement and buildings, and an estimate of the impervious and pervious surface square footage for each drainage area placed in a map legend.
- Onsite injection wells, as applicable. (Note: This facility does not have any onsite injection wells.)
- Onsite wells used as potable water sources, as applicable.
- All existing structural control measures to reduce pollutants in storm water run-off.
- All existing and historical underground storage tank (UST) or AST locations, as applicable.
- All permanently designated plowed or dumped snow storage locations (If applicable)
- All loading and unloading areas for solid and liquid bulk materials.
- All existing and historical outdoor storage areas of raw materials, intermediary products, final products, and waste materials.
- All existing or historical outdoor storage areas for fuels, processing equipment, and other containerized materials.
- Outdoor processing areas
- Dust or particulate generating process areas (Note: These are all located indoors.)
- Outdoor waste storage or disposal areas.
- Pesticide or herbicide application areas (noted on the map as grass).
- Vehicular access roads.

Figure 3 is an aerial site map.

5.0 IDENTIFICATION OF POTENTIAL POLLUTANT SOURCES

Prior to development of this SWP3, a thorough evaluation was conducted of each area where industrial materials or activities are exposed to storm water. The evaluation of these areas took into account the quantity and nature of the pollutants potentially associated with industrial materials or activities and their potential to impact the water quality of receiving waters.

The industrial materials or activities that were evaluated, along with the specific pollutants that may potentially be associated with each area, are discussed in the sections below.

When industrial materials or activities warrant, BMPs have been implemented. A summary of all BMPs is included in Appendix B.

5.1 LOADING AND UNLOADING OPERATIONS

The facility loading and unloading areas are highlighted on the Site Layout Map (Figure 2). Significant materials are unloaded in closed containers and transported by forklift to their particular area of storage. Bulk raw materials will arrive in trucks and be stored outdoors in piles or windrows within a 3-acre raw material storage area near the center of the property. All bagged and drummed raw materials will initially be received into the warehouse with in-process quantities stored near their point of use.

The finished product that is packaged and pelletized is stored outside and inside the warehouse building. Truck loading will be performed by diesel powered forklifts. The site will maintain a 2,000 gallon diesel above ground storage with appropriate secondary containment for use on-site in mobile equipment. The facility also maintains a 240 gallon used oil above ground storage tanks as well as two 125 gallon new oil and hydraulic oil tanks. All AST's have appropriate secondary containment for use in company equipment.

A trash compactor is located near the middle of the facility building is used to collect general trash. Trash kept in the compactor does not come into contact with storm water. Therefore, the likelihood of trash from the trash compactor contributing significant amounts of pollutants to storm water discharges is minimal.

5.2 OUTDOOR STORAGE ACTIVITIES

Closed top trash dumpsters: General plant trash is collected and placed in closed-top dumpsters located on the West side of the facility. Each dumpster is located on an impervious concrete pad. Storm water pollution is considered minimal.

Roll-off dumpsters (open top): General plant trash is collected and placed in open-top dumpsters located on either side of the facility. Each dumpster is located on an impervious concrete pad. Storm water pollution is considered minimal.

Combustible liquids loading area: The diesel storage tank and used oil tank are equipped with a double walled secondary containment structure. The diesel fuel is used to fill plant equipment such as forklifts and vehicles. Employees remain with equipment during filling operations. In case there is a minor spill or overfilling occurs, a spill kit should be kept in this area. The used oil tank is used to contain used oil that will be sent to a recycling facility. Contaminated materials should be disposed of appropriately. Storm water pollution is considered minimal.

Building roofs: There is one major structure within the confines of the Plant, as well as an warehouse building. Each of these is equipped with a roof. There are no process vents associated with building roofs, so the storm water would not be exposed to any materials.

Material storage area: Materials arrive in trucks and are stored outdoors in piles or windrows within a 3-acre raw material storage area near the center of the property. All bagged and drummed raw materials will be received into the warehouse with in-process quantities stored near their point of use.

Empty colorant tote storage: Used colorant totes are stored for recycling in an area located near the colorizer process area. The colorant totes are empty and remain intact. Storm water pollution is considered minimal.

Potential pollutants: general plant trash, diesel fuel, raw materials from stockpile.

5.3 OUTDOOR MANUFACTURING OR PROCESSING ACTIVITIES

The facility operates the following processes that are exposed to storm water:

- One 2,000 gallon diesel AST is located on the East side of the facility near the maintenance shop that is stored on impervious concrete and is a double walled tank containment structure designed to capture the contents of the tank; therefore storm water pollution is considered to be minimal.
- One 240 gallon used oil AST is located on the East side of the facility near the maintenance shop that is stored on impervious concrete and is a double walled tank containment structure designed to capture the contents of the tank; therefore storm water pollution is considered to be minimal.
- The Osmocote additive hopper is located on the East side of the facility near the warehouse and is stored on impervious concrete. Any spilled material is immediately swept up; therefore storm water pollution is considered to be minimal.
- One baghouse is used to control PM emissions. The baghouse should receive routine maintenance and be inspected regularly to ensure optimal performance. Storm water exposure is considered to be minimal.
- The colorizer process is located in the raw material storage yard and is used to dye raw materials. The facility stores the full colorant totes inside the building, however empty totes are stored near the colorizer process to the North. Colorants used during this process are water-based and biodegradable. Storm water pollution is considered to be minimal.

Potential Pollutants: diesel fuel, oil, hydraulic oil, particulate material from bag house drums and colorant from totes.

5.4 SIGNIFICANT DUST OR PARTICULATE GENERATING PRACTICES

The facility may experience significant dust or particulate from material transfer processes and truck activity during extremely dry conditions.

Potential Pollutants: Particulate matter from roads and material transfers.

5.5 ONSITE WASTE DISPOSAL PRACTICES

General plant trash is stored in either a closed top trash dumpsters or in a roll-off dumpster, all of which are located on a concrete pad. The trash dumpsters are serviced on a weekly basis or as needed during busier periods.

Potential pollutants: debris (facility trash).

5.6 HISTORICAL SPILL AND LEAK RECORDS

A listing of significant spills and significant leaks of toxic or hazardous pollutants that occurred at the facility is provided in Appendix D. Significant spills include, but are not limited to, releases of oil or hazardous substances in excess of reportable quantities.

Appendix D provides a description of the material released, the date of the release, volume of materials released, the exact location of each release, and the actions taken

to clean up the materials and/or prevent exposure of the materials to storm water runoff or contamination of surface waters.

6.0 STORM WATER CONTROLS

6.1 NON STRUCTURAL BMPS

6.1.1 PREVENTIVE MAINTENANCE

The following table lists the equipment that is included in the Facility's preventive maintenance program, along with the applicable requirements:

Table 4 - Preventative Maintenance

Equipment Covered in Preventive Maintenance Program	Schedule of Inspections/ Testing	Items covered in Inspections	Method of Documentation	Responsible Person
Spill Kits and Absorbents	Monthly	All facility maintenance is handled through the requirements of the SPCC Plan.	Completed checklists kept on file.	Plant Manager Designee
Aboveground Storage Tanks	Monthly, every 5 years	All facility maintenance is handled through the requirements of the SPCC Plan.	Completed checklists kept on file.	Plant Manager Designee
Outfall	at least Quarterly	All facility maintenance is handled through the requirements of the SPCC Plan.	Completed checklists kept on file.	Plant Manager Designee

If indicated by routine inspections, appropriate repair, adjustment or replacement of equipment will be completed as soon as practicable.

6.1.2 GOOD HOUSEKEEPING

Good housekeeping is essential in the effort to keep pollutants out of storm water. It is also essential in the early detection of spills, leaks or indications of potential storm water contamination. Good housekeeping elements are covered in storm water inspections and throughout the Facility's storm water management process. In addition, the Facility conducts quarterly housekeeping inspections. The inspections are recorded on the Routine Facility Inspections Form is included Appendix G.

6.1.3 SPILL PREVENTION AND RESPONSE PROCEDURES

Spill Prevention:

Spill kits equipped with absorbent should be kept next to the ASTs and other absorbent material can be found throughout the facility. Any collected liquids or soiled absorbent materials will be properly disposed of after use. Storage and operations areas will be swept and cleaned as applicable based on quarterly housekeeping inspections and not hosed down. Swept material will be properly disposed.

Spill Response:

The Plant Manager or his/her designee is responsible for coordination and direction of spill response activities at Scotts Miracle-Gro Hyponex facility, and is also responsible for personnel training and spill prevention. The names and phone numbers of the Primary Emergency Spill Coordinator, alternate, and emergency spill contractor are:

Primary Emergency Spill Coordinator:
Brian Maisch – Plant Manager
(719) 390-5431 (Office Phone)
(719) 248-2774 (Cell)

Alternate Emergency Spill Coordinator:
Keith Lee – Production Supervisor
(719) 390-5431 (Office Phone)
(719) 200-4486 (Cell)

In the event of the planned absence of either of the above-mentioned individuals, alternate(s) will be assigned who have the authority to commit personnel and/or resources to carry out the duties of Emergency Coordinator.

The general telephone number for the Scotts Miracle-Gro Hyponex Facility, answered Monday through Friday, 8:00 a.m. to 5:00 p.m., is (719) 390-5431.

A **Minor Release** is considered to be the following:

- The quantity of oil release is less than 25 gallons;
- Released material is easily stopped and controlled;
- Release is localized near the source;
- Released material is not likely to reach the facility drainage system;
- There is little risk to human health or safety; or the potential for a fire or explosion.

In the event of a minor release the following guidelines apply:

- Immediately notify the Plant Manager
- Contain the release using the spill kit and absorbent material
- Place the release debris in properly labeled containers.

A **Major Release** is considered to be the following:

- The quantity of oil released is greater than 25 gallons and cannot be safety controlled or cleaned up by facility personnel;
- Released material is large enough to spread beyond the immediate release area and potential reach the facility drainage system;
- Release requires special equipment or training to clean up;
- Released material poses a hazard to human health or safety; or there is a danger of fire or explosion

In the event of a major release the following guidelines apply:

- All workers will immediately evacuate the release site via the designated exit routes and move to the designated staging areas at a safe distance from the release.
- The senior on-site person notifies the Plant Manager of the release and has authority to initiate notification and response procedures.
- The Plant Manager (or senior on-site person) coordinates cleanup and obtains assistance from the cleanup contractor or other response organizations as necessary.

If the spill is larger than 55 gallons or if the spill requires clean-up beyond the capabilities of employees, an outside cleanup contractor will be contacted to assist with clean-up activities and the appropriate local agencies will be notified.

6.1.4 EMPLOYEE TRAINING

The Scotts Miracle-Gro Hyponex Facility SWP3 training program is maintained by the Plant Manager. A copy of the written program is maintained onsite in the Plant Manager's Office. This program includes training for all employees who have the potential to engage in industrial activities that impact storm water quality. Storm water training will include a review of the regulatory background, description of the plan, potential pollutant sources, inspection requirements, best management and good housekeeping practices, and spill prevention and response. Training of individual employees will be documented on the Training-To-Gro Corporate Program.

All employees with storm water responsibilities are trained annually. New employees with storm water responsibilities will be trained as part of their initial orientation and prior to carrying out any storm water responsibilities. Employees who change positions or responsibilities under the SWP3 will receive training as part of the orientation for their new position.

6.2 STRUCTURAL BMPS

6.2.1 EROSION AND SEDIMENT CONTROL BMPS

Approximately 25% of the Site property is covered with grass. Only a minimal amount of pesticides and herbicides are applied to maintain the condition of the landscape and to prevent erosion as recommended by the manufacturer. There are no other significant erosion or sediment issues identified at the facility.

6.2.2 PERMANENT STORM WATER CONTROLS

BMPs to control runoff at the site and other permanent storm water flow controls at the site are discussed in the BMP Summary for Scotts Miracle-Gro Hyponex Facility in Appendix B.

6.3 OTHER BMPS

In instances where industrial materials or activities require BMPs in addition to those listed in the above sections, such additional BMPs have been implemented and are listed in the BMP Summary for Scotts Miracle-Gro Hyponex Facility in Appendix B.

7.0 IDENTIFICATION OF DISCHARGES OTHER THAN STORM WATER

Other than allowable non-storm water discharges (see Section 7.2 below), there are no non-storm water discharges at the facility. If in the future the facility has non-storm water discharges they will ensure that the non-storm water discharges do not commingle with storm water discharges, unless the discharges are exempt as described in Section 7.2 below.

7.1 PROCESS WASTEWATER

Currently, the facility does not generate any process wastewater.

Domestic wastewater (e.g., toilets, sinks, showers) is discharged to the City of Fountain sanitary sewer system.

7.2 ALLOWABLE NON-STORM WATER DISCHARGES

The following non-storm water discharges, termed exempt non-storm waters, can be commingled with storm water:

- Discharges from emergency fire fighting activities and uncontaminated fire hydrant flushings (excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life);
- Potable water sources (excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life);
- Lawn watering and similar irrigation drainage, provided that all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;
- Water from the routine external washing of buildings, conducted without the use of detergents or other chemicals;
- Water from the routine washing of pavement conducted without the use of detergents or other chemicals and where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed);
- Uncontaminated air conditioner condensate, compressor condensate, and steam condensate, and condensate from the outside storage of refrigerated gases or liquids;
- Water from foundation or footing drains where flows are not contaminated with pollutants (e.g., process materials, solvents, and other pollutants);

- Uncontaminated water used for dust suppression;
- Springs and other uncontaminated ground water;
- Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but excluding intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains); and
- Other discharges described in Part V of this permit that are subject to effluent guidelines and effluent limitations.

7.3 CERTIFICATION OF NON-STORM WATER DISCHARGES

Certification that all storm water outfalls have been tested or evaluated for the presence of non-storm water discharges is required for the initial implementation of the SWP3 and subsequent quarterly visual site evaluations. A copy of the Visual Storm Water monitoring form is included in Appendix C. There were no non-storm water discharges connections observed or described by Facility personnel.

At Scotts, evaluations for non-storm water discharges were made using dry weather observations, according to the following protocol:

During dry weather, storm drain outlets were observed during normal operating hours when an illicit discharge, if one existed, would be expected to be visible. If flows were visible, illicit connections were assumed to be present. All observed flows, stains, sludges, oil films, or abnormal conditions were noted. If such flows were found, additional tests were required to determine the source(s). In the case where there are no storm water inlets and all discharge is conveyed above ground, observations were made to verify that there were no exposed outlets from floor drains, sumps, etc.

Evaluations were started at the outlet of the drainage system if it was accessible. If not, observations were started at the farthest point downstream that the system was visible. If a discharge was observed, possible sources were determined by viewing upstream inlets and grates. Copies of the drainage system schematics were reviewed when available.

8.0 INSPECTIONS AND MONITORING

The facility will conduct and document visual inspections of the facility at least quarterly (i.e., once each calendar quarter). Inspections will be conducted at least 20 days apart.

The facility will conduct a minimum of one (1) inspection per calendar year during a runoff event, which for a rain event means during, or within 24 hours after the end of, a measureable storm event; and for a snowmelt event, means at a time when a measurable discharge occurs from the facility.

The facility will ensure that inspections are conducted by qualified personnel.

Each inspection will need to include:

- Observations made at storm water sampling locations and areas where storm water associated with industrial activity is discharged off-site; or discharged to waters of the state, or to a storm sewer system that drains to waters of the state.

- Observations for the presence of floating materials, visible oil sheen, discoloration, turbidity, odor, etc. in the storm water discharge(s).
- Observations of the condition of and around storm water outfalls, including flow dissipation measures to prevent scouring.
- Observations for the presence of illicit discharges or other non-permitted discharges such as domestic wastewater, noncontact cooling water, or process wastewater (including leachate).
- A verification that the descriptions of potential pollutant sources required under this permit are accurate.
- A verification that the site map in the SWP3 reflects current conditions.
- An assessment of all control measures used to comply with the effluent limits contained in this permit, noting all of the following:
    - Effectiveness of control measures inspected.
    - Locations of control measures that need maintenance or repair.
    - Reason maintenance or repair is needed and a schedule for maintenance or repair.
    - Locations where additional or different control measures are needed and the rationale for the additional or different control measures.

The facility will document the findings for each inspection in an inspection report or checklist, and keep the record onsite with the facility SWP3. The facility will ensure each inspection report documents the observations, verifications and assessments required and additionally includes:

- The inspection date and time;
- Locations inspected;
- Weather information and a description of any discharges occurring at the time of the inspection;
- A statement that, in the judgment of the person conducting the site inspection, and the signatory, that the site is either in compliance or out of compliance with the terms and conditions of this permit,;
- A summary report and a schedule of implementation of the corrective actions that Scotts has taken or plans to take if the site inspection indicates that the site is out of compliance;
- Name, title, and signature of the person conducting site inspection; and the following statement: “I certify that this report is true, accurate, and complete, to the best of my knowledge and belief.”;
- Certification and signature of the signee, or a duly authorized representative of the facility thereof.

In the event that a non-compliance issue is found during inspection, a corrective action must be made and kept on file with the SWP3.

8.1 WHO WILL CONDUCT INSPECTIONS AND MONITORING?

The Plant Manager or designee will be responsible for monitoring storm water runoff and for conducting inspections or for ensuring that an alternate qualified individual conducts the required inspections and/or monitoring. Only those employees who have completed the Facility's storm water training may conduct inspections or monitoring activities.

8.2 WHAT WILL BE INSPECTED AND WHEN?

Areas/items to be included in the required inspections/monitoring include:

Table 5 - Inspections

Type of Inspection/Monitoring	Areas/Items to be Inspected	Frequency	Inspection Form
Quarterly Visual Monitoring	• All areas of facility where industrial materials or activities are exposed to storm water. • Areas where spills or leaks have occurred in the last 3 years. • Review of visual monitoring results. • Discharge locations or access points nearby downstream locations. • Evaluate effectiveness of all storm water BMPs. • Site Map Accuracy • Descriptions of Potential Pollutant sources are accurate • General outfall condition • Visual signs of discoloration, clarity, floating solids, settled solids, suspended solids, foam present, oily sheen or odor	Quarterly	*Visual Storm Water Monitoring Form* APPENDIX C
Benchmark Monitoring	• Benchmarking monitoring data & exceedances.	Quarterly	*Benchmarking Monitoring Data Form* APPENDIX H

8.3 GENERAL MONITORING REQUIREMENTS

Scotts must collect and analyze storm water samples and document monitoring activities and sample information. The results of such monitoring shall be reported on the Discharge Monitoring Report to include reporting "No Discharge" on the DMR if no discharge occurs within the reporting period, and other reporting conventions consistent with reporting requirements.

The facility must conduct all required monitoring on a storm event that results in an actual discharge from the facility ("measurable storm event"), and that follows the preceding measurable storm event by at least 72 hours (3 days).

The facility must conduct snowmelt monitoring at a time when a measurable discharge occurs from the facility.

The following storm event information will need to be documented as follows:

Date, time of the start of the discharge, time of sampling, duration (in hours) of the rainfall event, and magnitude (in inches) of the storm event sampled.

Duration between the storm event sampled and the end of the most recent storm event that produced a discharge.

For snowmelt monitoring, the date of the sampling event must be documented.

Grab samples (minimum of 1 sample per measurable storm discharge) must be collected within the first 30 minutes of a measurable storm event or as soon as practicable after the first 30 minutes. Documentation must be kept with the SWP3 explaining why it was not possible to take samples within the first 30 minutes of the storm discharge event. All discharge samples must be taken during the same storm event, if possible.

When adverse weather conditions prevent sample collection according to the relevant monitoring schedule, the facility must take a substitute sample during the next qualifying storm event. Adverse conditions are those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, or electrical storms.

Adverse weather does not exempt the facility from having to file timely DMRs. The facility must report any failure to monitor and indicate the basis for not sampling during the usual reporting period.

Monitoring requirements begin in the first full quarter following July 1, 2012 or the date of discharge authorization, whichever date comes later. Quarterly monitoring must be conducted at least once in each of the following 3-month intervals:

January 1- March 31;

April 1 – June 30;

July 1 – September 30; and

October 1 – December 31.

This schedule may be modified and documentation of the revised schedule contained in the facility SWP3.

Requests for modifications for permit certification monitoring conditions must be made to the Division including a justification for such modifications. Any increase in frequency of monitoring must be included in the DMR or other forms as required.

8.4 VISUAL STORM WATER MONITORING

Scotts Miracle-Gro Hyponex Facility will perform visual monitoring of storm water quality at the representative outfall on a quarterly basis, during every year the MSGP permit is active. The monitoring will be performed at least once a quarter during daylight hours unless there is insufficient rainfall to produce a runoff event. The monitoring should be conducted within the first 30 minutes (or as soon as practical, but not to exceed one hour) of discharge from a representative storm event. The visual monitoring must be performed to document any observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and any other obvious indicators of storm water pollution (Appendix C). Results of the visual monitoring must be reviewed by the Pollution Prevention Team to identify potential pollutant source(s). An action plan should be prepared to address any potential issues identified, and the SWP3 updated accordingly.

Once each quarter for the entire permit term, Scotts must collect a storm water sample from each outfall (or a substantially identical outfall) and conduct a visual assessment of each of these samples.

a. These samples should be collected in such a manner that the samples are representative of the storm water discharge.

b. The visual assessment must be made of a sample in a clean, clear glass, or plastic container, and examined in a well-lit area. Scotts must visually inspect the sample for the presence of the following water quality characteristics:

Color;

Odor;

Clarity;

Floating solids;

Settled solids;

Suspended solids;

Foam;

Oil sheen; and

Other obvious indicators of storm water pollution.

c. Quarterly Visual Assessment Documentation. Scotts must document the visual assessment results and maintain this documentation onsite with the facility SWP3 as required. Scotts is not required to submit visual assessment findings to the Division, unless specifically requested to do so. At a minimum, visual assessment documentation of the must include:

Comment [SH1]: I think all of these should just be Scotts not possessive, right? Search the entire document for these.

Sample location(s);

Sample collection date and time, and visual assessment date and time for each sample;

Personnel collecting the sample and performing visual assessment, and their signatures;

Nature of the discharge (i.e., runoff or snowmelt);

Results of observations of the storm water discharge;

Probable sources of any observed storm water contamination; and

If applicable, why it was not possible to take samples within the first 30 minutes.

d. Quarterly Visual Assessment Corrective Actions. If the visual assessment indicates the control measures for the facility are inadequate or are not being properly operated and maintained, Scotts must conduct corrective actions.

e. The facility will maintain visual monitoring procedures in the SWP3 as required.

8.5 ANALYTICAL STORM WATER MONITORING

Other than Benchmark monitoring, routine analytical storm water monitoring is not required at this site.

8.6 BENCHMARK MONITORING

Scotts is subject to benchmark monitoring due to Sector C1 applicability, for the parameters listed below:

Table 6 - Sector C Benchmark Parameters

Benchmark Parameter	Benchmark Value (mg/L)
Nitrate + Nitrite N	0.68
Lead, Total	0.246
Iron, Total	1.0
Zinc, Total	0.25
Phosphorous	1.25

The benchmark concentrations are not effluent limitations and therefore, a benchmark exceedance is not a permit violation. **If the discharge exceeds an applicable benchmark concentration, the Facility is required to conduct corrective actions. Failure to respond to benchmark value exceedances is a violation of the permit.**

Benchmark monitoring must be conducted at representative storm water point source outfalls quarterly for the first 4 full quarters of permit coverage.

If data from quarterly sampling **does not exceed** benchmarks, monitoring frequency may be reduced to once-per-year, rotating through the monitoring periods provided in Section 8.3, such that 8 samples are collected every five years. DMR reporting will be consistent with reporting requirements.

If data **does exceed** benchmark concentrations described below, corrective actions must be conducted.

a) The average of the initial 4 quarterly sample monitoring values for any parameter exceeds the benchmark.

b) If less than 4 benchmark samples have been taken, but the sum of the quarterly sample results to date is more than 4 times the benchmark level (i.e., an exceedance of the 4 quarter average is mathematically certain), this is considered a benchmark exceedance.

c) If any of the annual samples taken after the first 4 quarterly samples (i.e., samples 5 through 8), when averaged with the proceeding samples, causes an average monitoring value that exceeds the benchmark for any parameter, this is considered a benchmark exceedance.

Following control measure(s) modification, the facility must continue quarterly monitoring for 4 additional quarters. For this monitoring:

a) If the average of the monitoring values for any parameter does not exceed the benchmark, the permittee may monitor once-per-year as described above.

b) If the average of the monitoring values for any parameter still exceeds the benchmark (or if an exceedance of the benchmark by the 4 quarter average is mathematically certain prior to conducting the full 4 additional quarters of monitoring), the permittee must again conduct corrective actions unless the Division waives the requirement for additional monitoring and corrective action.

After the first 4 quarters of benchmark monitoring (or sooner if the exceedance is triggered by less than 4 quarters of data as described above), if the average concentration of a pollutant exceeds a benchmark value, and the Facility determines that exceedance of the benchmark is attributable solely to the presence of that pollutant in the natural background, the Facility is not required to perform corrective action or additional benchmark monitoring provided that:

a) The average concentration of the benchmark monitoring results is less than or equal to the concentration of that pollutant in the natural background;

b) Supporting rationale is given for benchmark exceedance results as well as any supporting data;

c) The facility notifies the Division that the benchmark exceedances are attributable solely to natural background pollutants. DMR reporting should be consistent with reporting guidelines.

The Division may notify the Facility of additional discharge monitoring requirements. The notice will include the reasons for monitoring, locations, and monitoring parameters, frequency and period of monitoring, sample types, and reporting requirements. Such monitoring may include salinity and in-stream sampling and whole effluent toxicity testing.

9.0 CORRECTIVE ACTIONS

9.1 CONDITIONS THAT MUST BE ELIMINATED

If any of the following conditions occur at the Facility (as identified by the Facility; the Division; or an EPA official, or local, or State entity), the Facility will review and revise

the selection, design, installation, and implementation of facility control measures to ensure that the condition is eliminated and will not be repeated in the future:

- An unauthorized release or discharge (e.g., spill, leak, or discharge of non-storm water not authorized as allowable discharge) occurs;
- A discharge violates a numeric effluent limit;
- Facility control measures are not stringent enough for the discharge to meet applicable water quality standards;
- Modifications to the facility control measures are necessary to meet the practice-based effluent limits; or
- The Facility finds in a facility inspection, that facility control measures are not properly selected, designed, installed, operated or maintained.

9.2 CONDITIONS THAT REQUIRE REVIEW AND MODIFICATION

If any of the following conditions occur, the Facility will review the selection, design, installation, and implementation of facility control measures to determine the appropriate modifications necessary to attain the effluent limits of the permit:

Construction or a change in design, operation, or maintenance at the facility significantly changes the nature of pollutants discharged in stromwater from the facility, or significantly increases the quantity of pollutants discharged; or

The average of quarterly sampling results exceeds an applicable benchmark (Section 8.6).

9.3 CORRECTIVE ACTION REPORTS AND DEADLINES

The facility will document discovery of any condition listed above, within 24 hours and 5 days as described below, submit the documentation in an annual report as required, and retain a copy onsite with the facility SWP3 as required.

24 hour documentation requirement:

- Within 24 hours of discovery of any condition listed above, the Facility will document the following information:
    - Identification of the condition of triggering the need for corrective action review;
    - Description of the problem identified; and
    - Date the problem was identified.

Five (5) day documentation requirements:

- Within five (5) days of discovery of any condition listed above, the facility will document the following information:
    - Summary of corrective action taken or to be taken (or reasons why they are not necessary);

- Notice of whether SWP3 modifications are required as a result of this discovery or corrective action;
- Date corrective action initiated; and
- Date corrective action completed or expected to be completed.

Any modifications to control measures as part of corrective actions will be performed consistent with the above requirements. If at any point identical outfalls are identified, interim or temporary control measures will be implemented.

10.0 REPORTING AND RECORDKEEPING

The following policies, programs, procedures, and practices are employed in the reporting and recording of potential storm water contamination.

The Division reserves the right to review this plan, and to require additional measures to prevent and control pollution as needed. This SWP3 is to be maintained in a central location on-site. The Plant Manager is responsible for preparing and updating records regarding spills/leaks, and maintaining them in a central location with the SWP3. These records will contain the date and time of the incident, material(s) involved, weather conditions, cause, resulting environmental problems, and discussion of how this incident could have been prevented.

In addition, the SWP3 must be amended if it proves to be ineffective in eliminating or minimizing contamination in Scotts' storm water discharges associated with industrial activity.

All preventive maintenance inspections, the annual comprehensive site compliance inspection, records of employee training sessions, spill reports and the annual report will be retained at the facility.

Copies of all records required by this general permit, and records of all data used to complete the application for this general permit shall be retained at the facility or shall be made readily available for review by authorized CDPHE Water Quality Control Division personnel upon request for a period of three years from the date of the record, report, application, or certification. This period may be extended at the request of the Division.

10.1 DISCHARGE MONITORING REPORT (DMR)

The Facility will report the data gathered in compliance with section 8.6 above on a quarterly basis. Reporting of all data gathered will comply with this section. The Facility will summarize monitoring results for each calendar quarter and report on Division approved discharge monitoring report (DMR) forms (EPA form 3320-1).

These reports will be submitted either by mail or using the Division's Net-DMR service. If mailed, one form will be mailed to the Division, as indicated below, so that the DMR is received no later than the 28th day of the following month (for example, the DMR for the first calendar quarter must be received by the Division by April 28th).

DMR reporting conventions are as follows:

If no discharge occurs during the reporting period, "No Discharge" will be reported on the DMR.

If the Facility's benchmark sampling frequency is reduced, the Facility will submit quarterly DMRs and indicate "Benchmark Met" in the result field on the DMR for each parameter that meets the sampling frequency reduction criteria.

If the Facility's monitoring is expected to decrease due to staff limitation or facility inactivity, quarterly DMRs will be submitted and indicated as "No Exposure" in the result field on the DMR for each parameter for the period the site meets the monitoring exception criteria.

If the Facility's benchmark or water quality standard sampling requirement does not apply consistently, the Facility will submit quarterly DMRs and indicate "Natural Background" in the result field on the DMR for each applicable parameter.

The signed copy of each discharge monitoring report (DMR) will be submitted to the Division at the following address:

Colorado Department of Public Health an Environment
Water Quality Control Division
WQCD-P-B2
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

The Discharge Monitoring Report forms will be filled out accurately and completely in accordance with requirements of this permit and the instructions on the forms. They will be signed by the authorized signee.

10.2 ANNUAL REPORT

Scotts will submit an annual report to the Division for the reporting period January 1 through December 31. Annual reports must be received by the Division by March 31 of the following year. The Annual Report will include:

- Name of permittee, address, phone number
- Permit certification number
- Facility name and physical address
- Contact person name, title, and phone number
- Summary of inspection dates
- Corrective action documentation as required in Section 9.0, and status of any outstanding corrective action(s).

The signed copy of each annual report will be submitted to the Division at the address below, and a copy maintained with the SWP3.

Attn: Annual Report
Colorado Department of Public Health and Environment
Water Quality Control Division
WQCD-P-B2
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

Please reference Appendix I for a template copy of the Annual Report that should be sent to the CDPHE.

10.3 SWP3 RECORDS, SAMPLING RECORDS, AND OTHER TERMS AND CONDITIONS

Scotts will retain copies of the facility SWP3, including any modifications made during the term of the general permit, documentation related to corrective actions taken, all reports and certifications required, monitoring data, and records of all data used to complete the application to be covered by the permit, for a period of at least 3 years from the date that coverage under this permit expires or is terminated.

Sampling records will be maintained for a minimum of three years, including maintenance records and any data used to complete the application for the general permit. Any unresolved litigation regarding discharges of pollutants will extend the retention time of these records. Sampling records will include the following:

- The date, type, exact location, and time of sampling or measurements;
- The individual(s) who performed the sampling or measurements;
- The date(s) the analyses were performed;
- The individual(s) who performed the analyses;
- The analytical techniques or methods used;
- The results of such analyses; and
- Any other observations which would result in an impact on the quality or quantity of the discharge as indicated in 40 CFR 122.44 (i)(I)(iii).

Scotts will comply with the lawful requirements of counties, drainage districts and other state or local agencies regarding any discharges of storm water to storm drain systems or other water courses under their jurisdiction.

A copy of the permit application, and/or Annual Report will be provided upon request to the local municipality if discharge to a municipal storm sewer occurs.

11.0 REVISION OF SWP3

This SWP3 will be amended or modified under the following guidelines:

Division initiated:

- Permittee does not meet one or more of the requirements of the permit. Permittee will have 30 days after notification to make the necessary changes to the SWP3 and implement them.
- The Division may require the permittee to submit the modified SWP3 to the Division.
- If the permittees storm water discharges do not, or may not, achieve the effluent limits required by the permit, the Division may require the permittee, within a specified time period, to develop and implement a supplemental control measure action plan, which describes additional SWP3 modifications to adequately address the identified water quality concerns.

Permittee initiated:

- Modification to the SWP3 must occur whenever necessary to address any of the triggering conditions for corrective actions to ensure that they do not reoccur.
- Modification to the SWP3 will need to occur whenever there is a change in design, construction, operation, or maintenance at the facility that significantly changes the

nature of pollutants discharged in stromwater from the facility, significantly increases the quantity of pollutants discharged, or that requires the permittee to implement new or modified control measures.

- SWP3 modifications may include a schedule for control measure design and implementation, provided that interim control measures needed to comply with the permit are documented in the SWP3 and implemented during the design period.
- The permittee must make all SWP3 modifications in accordance with the corrective action deadlines.

12.0 NOTIFICATION REQUIREMENTS

Notification to Parties

All notification requirements under this section will be directed as follows:

a. Oral Notifications, during normal business hours:

Water Quality Protection Section - Industrial Compliance Program
Water Quality Control Division
Telephone: (303) 692-3500

b. Written notification:

Water Quality Protection Section - Industrial Compliance Program
Water Quality Control Division
Colorado Department of Public Health and Environment
WQCD-WQP-B2
4300 Cherry Creek Drive South
Denver, CO 80246-1530

Change in Discharge

Scotts will notify the Division, in writing, of any planned physical alterations or additions to the facility. Notice is required only when:

a. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged, or;

b. The alteration or addition results in a significant change in the facility's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported pursuant to an approved land application plan.

Scotts will give advance notice to the Division of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

Whenever notification of any planned physical alterations or additions to the facility is required pursuant to this section, Scotts will furnish the Division such plans and specifications which the Division deems reasonably necessary to evaluate the effect on the discharge, the stream, or ground water. If the Division finds that such new or altered discharge might be inconsistent with the conditions of the permit, the Division will require a new or revised permit application and shall follow the procedures specified in the Colorado Discharge Permit System Regulations.

Noncompliance Notification

a. If, for any reason, Scotts does not comply with or will be unable to comply with any discharge limitations or standards specified in this permit, Scotts will, at a minimum, provide the Division with the following information:

- A description of the discharge and cause of noncompliance;
- The period of noncompliance, including exact dates and times and/or the anticipated time when the discharge will return to compliance; and

- Steps being taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.

Scotts will report the following circumstances **orally within twenty-four (24) hours** from the time of noncompliance awareness, and will mail to the Division a written report containing the information requested above, **within five (5) working days** after becoming aware of the following circumstances:

- Circumstances leading to any noncompliance which may endanger health or the environment regardless of the cause of the incident;
- Circumstances leading to any unanticipated bypass which exceeds any effluent limitations in the permit;
- Circumstances leading to any upset which causes an exceedance of any effluent limitation in the permit;
- Daily maximum violations for any of the pollutants limited by water quality-based effluent limitations and specified as requiring 24-hour notification. This includes any toxic pollutant or hazardous substance or any pollutant specifically identified as the method to control any toxic pollutant or hazardous substance.

c. Unless otherwise indicated in this permit, Scotts will report instances of non-compliance which are not required to be reported within 24-hours at the time Discharge Monitoring Reports are submitted. The reports will contain the information listed in sub-paragraph (a) of this section.

Other Notification Requirements

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule in this SWMP will be submitted no later than fourteen (14) calendar days following each scheduled date, unless otherwise provided by the Division.

Scotts will notify the Division, in writing, thirty (30) calendar days in advance of a proposed transfer of permit.

Scotts notification of all anticipated noncompliance does not stay any permit condition. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Division as soon as they know or have reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

- One hundred micrograms per liter (100 µg/l);
- Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2.4-dinitrophenol and 2-methyl-4.6-dinitrophenol; and one milligram per liter (1.0 mg/l) for antimony;
- Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with Section 61.4(2)(g).

- The level established by the Division in accordance with 40 C.F.R. § 122.44(f).

b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

- Five hundred micrograms per liter (500 µg/l);
- One milligram per liter (1 mg/l) for antimony; and
- Ten (10) times the maximum concentration value reported for that pollutant in the permit application.
- The level established by the Division in accordance with 40 C.F.R. § 122.44(f).

Information regarding Bypass Notification, Upsets, Discharge Points, Proper Operation and Maintenance, Minimization of Adverse Impact, Removed Substances, and Submission of Incorrect or Incomplete Information can be found in information summaries.

13.0 CONSISTENCY WITH OTHER PLANS (SPCC PLAN)

A SPCC Plan per 40 CFR Part 112 is required for this facility because it has an aggregate aboveground oil storage capacity exceeding 1,320 gallons. The content of the SPCC plan is consistent with the contents of the facilities SWP3.

14.0 CERTIFICATION

14.1 MANAGEMENT APPROVAL CERTIFICATION

Scotts Miracle-Gro Hyponex Facility is committed to the pollution prevention to navigable waters and the environment from its facility located at 3 Assembly Court in Fountain, Colorado. As a part of this commitment, Scotts will provide the necessary resources to fully implement this Storm Water Pollution Prevention Plan. Scotts will maintain the highest standards for storm water pollution prevention through regular review, updating, and implementation of this Plan

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed: _____

Brian Maisch
Plant Manager
Scotts Miracle-Gro Hyponex Facility – Fountain, CO

Appendix A

Storm Water Permit & Notice of Intent

Appendix B

Best Management Practices (BMP) Summary for Scotts Miracle-Gro Hyponex Facility

BMP Summary for Scotts Miracle-Gro Hyponex Facility
Loading and Unloading Combustible Liquids

Frequency	Activity	Pollutant Source	Industrial Pollutant	Best Management Practices (BMPs)	Responsible for Implementation	Deficiencies; if No, Explain
Ongoing/As Needed Basis	Loading/unloading / handling of combustible liquid	Spills and leaks during loading/unloading/handling operations	Diesel Fuel & Hydraulic Oil	Monitor and supervise all loading/unloading/handling operations.	Scotts Miracle-Gro Hyponex Personnel	
Ongoing/As Needed Basis				Clean up spills with dry absorbent materials or absorbent pads in lieu of water.	Scotts Miracle-Gro Hyponex Personnel	
Ongoing/As Needed Basis				Ensure that delivery truck drivers and Scotts Miracle-Gro Hyponex Personnel are present through all loading/unloading/handling operations to detect potential problems.	Scotts Miracle-Gro Hyponex Personnel	
At least once per day				The loading areas will be visually inspected for potential sources of storm water contamination such as soil, gravel, trash, spilled product, etc. If there is contamination, the area will be cleaned using dry methods. No discharge to the storm sewer system will be allowed when there are signs of contamination.	Scotts Miracle-Gro Hyponex Personnel	
At All Times				Spill response and cleanup is completed immediately by *TRAINED* staff only	Scotts Miracle-Gro Hyponex Personnel	
Quarterly				Spill response kits are located within the loading/unloading/handling area.	Scotts Miracle-Gro Hyponex Personnel	
Annually				All employees are trained on proper loading/unloading procedures. And what to do in the event of a spill during loading/unloading.	Scotts Miracle-Gro Hyponex Personnel	
Annually				Records will be maintained documenting the inspections, checks and calibrations of tanks, pumps and transfer lines.	Scotts Miracle-Gro Hyponex Personnel	

BMP Summary for Scotts Miracle-Gro Hyponex Facility
Outdoor Storage Areas including Trash Compactor and Dumpsters

Frequency	Activity	Pollutant Source	Industrial Pollutant	Best Management Practices (BMPs) and Frequencies	Responsible for Implementation	Deficiencies; if No, Explain
Ongoing/As Needed Basis	Storage and handling of trash	Dispersal of trash and solid waste by wind and spills and leaks of storm water and fluids.	Debris, oil and grease (compactor only), paper	Dry absorbent materials are used to clean hydraulic leaks or spills in lieu of water.	All trained employees	
At All Times				All dry/solid waste generated by Scotts Miracle-Gro Hyponex's is stored in proper containers; ensure containers are not overloaded.	All trained employees	
At All Times				Solid waste is disposed of offsite on a regular basis.	All trained employees	
Quarterly				Inspect the ground surrounding the trash compactor area to ensure that it is not leaking that the capacity is adequate to hold all the trash generated by the site.	All trained employees	
Annually				All employees are trained on proper dry/solid waste disposal, cleanup, and spill response procedures.	Plant Manager	
Weekly	Additional City of Fountain inspections	Raw Material /Trash	Raw Material /Trash	Weekly inspections of Right of Ways for Highway 85/87, Willow Spring Rd. and Assembly Ct.	Plant Manager	
Weekly		Raw Material /Trash	Raw Material /Trash	Weekly cleaning of stormwater inlets along Willow Spring Rd and Assembly Ct.	Plant Manager	
Bi-Monthly		Raw Material /Trash	Raw Material /Trash	Bi-monthly inspections and repair (if needed) of the stormwater inlet BMPs (filters) to ensure they are in good condition	Plant Manager	
Monthly		Raw Material /Trash	Raw Material /Trash	Monthly inspection of stormwater manholes along Willow Spring Rd. and Assembly Ct. with Cleaning as needed	Plant Manager	

Appendix C

Visual Storm Water Monitoring Form

Visual Storm Water Monitoring Form

*must be completed at least quarterly.

Please indicated **Yes or No** in each of the columns below. If the answer is yes include all relevant information in the box below for each observation.

Sample Location	Does the storm water show any signs of discoloration?	Does the storm water have an odor?	Does the storm water show poor clarity?	Are there any visible floating solids present?	Are there any visible settled solids present?	Are there any visible suspended solids present?	Is there any foam present?	Is there visible oil sheen?	Are there any other obvious indicators of storm water pollution?
Outfall 001 Date/Time									

Is current SPW3 Map correct? (Yes / No) please circle

Are the descriptions of the potential pollutant sources accurate as described in your SWP3? (Yes / No):please circle

Was the condition of the outfall in good shape? (Yes / No): please circle

Were there any outfall locations that could not be sampled? (Yes / No):please circle, If yes, please indicate reason no sample was collected. _____

What was the nature of this discharge event? (e.g., runoff, snowmelt): _____

Inspection Date and Time: _____ Weather Conditions:_____

Conduct an assessment and document all control measures used to comply with the effluent limits contained in this permit, noting all of the following:

1) Effectiveness of control measures inspected: _____

2) Locations of control measures that need maintenance or repair: _____

3) Reason maintenance or repair is needed and a schedule for maintenance or repair. _____

4) Locations where additional or different control measures are needed and the rationale for the additional or different control measures. _____

_____

I certify that this report is true, accurate, and complete, to the best of my knowledge and belief.

Printed Name of Inspector: _____ Title of Inspector: _____ Signature of Inspector: _____

In the judgment of _____(printed name of inspector) and _____ (printed name of authorized signatory delegate), the site is in compliance / out of compliance (circle one) with the terms and conditions of this permit, with respect to Part 1.G.2 (Inspection Scope). If you circled out of compliance in the previous statement, please list the schedule of the implementation of the corrective actions taken or plans to take to address deficiencies here:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

_____

Brian Maisch – Plant Manager

Appendix D

List of Significant Spills and Leaks

List of Significant Spills and Leaks

*must be completed at least annually.

DATE	SPILL	LEAK	LOCATION	TYPE OF MATERIAL	QUANTITY	SOURCE	REASON	AMT. OF MATERIAL RECOVERED	IS MATERIAL STILL EXPOSED TO STORM WATER	REMEDIATION ACTIVITIES
2009	No significant spills or leaks									
2010	No	Yes	Hard Pack Raw Material Area	Hydraulic Fluid	< 5 gallons	Truck Leak	n/a	n/a	No	Clean up and repair of truck onsite
2011	No significant spills or leaks									
2012	No significant spills or leaks									
2013	No Significant Spills or Leaks									
2013	No Significant Spills or Leaks									
2014	No Significant Spills or Leaks									
2015	No Significant Spills or Leaks									
2016	No Significant Spills or Leaks									
2017	No Significant Spills or Leaks									
2018										
2019										
2020										

Record all significant spills and leaks of toxic or hazardous pollutants that have occurred at the facility in the past five (5) years

NOTE: Significant spills include but are not limited to, releases of oil or hazardous substances of reportable quantities.

If spills or leaks of pollutants or hazardous substances occur at the facility, this Plan will be updated as required by regulations.

Appendix E
Employee Training Log

Scotts documents their training programs in the Training-to-Gro Program, no additional record keeping is required.

Appendix F
SWP3 Revision Log

Appendix F

STORM WATER POLLUTION PREVENTION PLANREVISIONS LOG

Description of Revision	Section/Pages Affected	Date of Revision
Revised Entire SWP3	All Pages, including figures, tables and appendices	April 2013
Gasoline Storage Tank wording removed – due to being removed from service on 07/2013	Pages 16, 18, 19, 20, 24, Figure 3, and Appendix B	02/26/2014
Changed Gasoline to Diesel wording	Page 22	02/26/2014
Revised Entire SWP3	All Pages, including figures, tables and appendices	03/11/2015
Revised SWP3 to add new Plant Manager – David Grostic and new EHS Coordinator – Dave Hume	All pages, including figures, tables and appendices	04/14/2016
Added additional BMPs to comply with the City of Fountain ordinances and requests	Appendix B	04/20/2017
Removed David Grostic and replaced with Brian Maisch. Also added new Peat Moss Bale Buster process to Table 1 and Figure 3	SWP3 Cover, Pages iv, 10, 16, 34, Appendix C, Appendix G, Table 1, and Figure 3	05/24/2018

Appendix G

Routine Facility Inspection Form

Routine Facility Inspection Form

**This form must be completed by a member of the facility storm water pollution prevention team. The inspections must be conducted at least once per quarter and at least one inspection per calendar year shall be conducted during a period when a storm water discharge is occurring.*

Observations	Fuel storage Area	Transformers	Trash Dumpsters	Finished Product Storage Area	Empty Colorant Tote Storage	Baghouses	Trash Compactor	Colorizer Process Area	Facility Parking Areas
Unauthorized discharges									
Erosion of roads and /or structures									
Corrosion, damaged, or leaking tanks/basins/pipes									
Leaking or improperly closed valves and valve fittings									
Spilled materials									
Obstructions of storm water conveyances									
Used containers are covered and/or triple-rinsed									
Exterior ground and building floor surfaces are maintained in a condition free of chemicals									

Additional Inspection Notes:

Indicate if any unidentified discharges of pollutants have been identified. _____
Are any control measured in need of maintenance or repairs? _____
Have any control measures failed or need replaced? _____
Identify any existing BMPs that are not being properly or completely implemented, if any.
_____
Description of weather conditions during inspection (e.g. dry, raining, snow): _____
Date of Inspection: _____
Time of Inspection: _____
Name of Inspector: _____

Signature: _____
Brian Maisch, Plant Manager
Scotts Miracle-Gro Hyponex Facility

Appendix H

Benchmark Monitoring Data Form