



## El Paso County MS4 Post Construction Detention / Water Quality Facility Documentation Form

This document **must be completed and submitted** with required attachments to the County for projects requiring a detention and/or a water quality facility. A separate completed form must be submitted for each facility.

Project name: Hillside at Lorson Ranch – Pond E1 (updated from previously submitted pond)

Owner name: Lorson Ranch Metropolitan District

Location Address: 212 N. Wahsatch Avenue, Suite 301

Latitude and Longitude:

Latitude: 38°43'56.38"N, Longitude: 104°37'31.32"W

Assessor's Parcel #: 5500000282      Section: 24      Township: 15 South      Range: 65 West

Expected Completion date: December, 2022

Project acreage: 128.328 acres      Design Ponding Acres: 1.92acres      Design Storm: 100-year

Design Engineer Email Address: rich@ceg1.com

To ensure compliance with C.R.S. 37-92-602(8), the completed Stormwater Detention and Infiltration Design Data Sheet **must be attached**. The form can be found here: <https://maperture.digitaldataservices.com/gvh/?viewer=cswdif#> (click on Download SDI Design Data Sheet)

List all permanent water quality control measure(s) (EDBs, rain gardens, etc):

Pond E1 is an Extended Detention Basin with only existing undeveloped overland flows entering the pond. An outlet structure for Water quality capture volume will be added when upstream development occurs. The detention pond has been sized in accordance with future full spectrum designs requirements for fully developed tributary areas. Interim flows have been modeled for this pond. The interim outlet structure is a 24" RCP storm sewer.

For all projects for which the constrained redevelopment sites standard is applied, provide an explanation of why it is not practicable to meet the full design standards. Answer: full design standards will be achieved when tributary area is developed and a full spectrum outlet structure is constructed.

**Attach Operations and Maintenance (O&M) Plan** describing the operation and maintenance procedures that ensure the long-term observation, maintenance, and operation of control measure(s), including routine inspection frequencies and maintenance activities. If multiple, different water quality control measures are used at the same location, a separate O & M Plan must be provided for each facility.

**Attach Private Detention Basin / Stormwater Quality Best Management Practice Maintenance Agreement and Easement** addressing maintenance of BMPs that shall be binding on all subsequent owners of the permanent BMPs.

### Attachments:

Stormwater Detention and Infiltration Design Data Sheet  
O & M Plan  
Maintenance and Access Agreement

**Review Engineer :** GR  
**EPC Project File No. :** PUD/SP 22-001

# Stormwater Detention and Infiltration Design Data Sheet

Workbook Protected

Worksheet Protected

Stormwater Facility Name: **Pond E1**

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Facility Location & Jurisdiction: **Hillside at Lorson Ranch**

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**User Input: Watershed Characteristics**

Watershed Slope =	0.025	ft/ft
Watershed Length =	3000	ft
Watershed Area =	69.20	acres
Watershed Imperviousness =	52.0%	percent
Percentage Hydrologic Soil Group A =		percent
Percentage Hydrologic Soil Group B =	100.0%	percent
Percentage Hydrologic Soil Groups C/D =	0.0%	percent
Location for 1-hr Rainfall Depths (use dropdown):		
	Denver - Capitol Building ▼	
WQCV Treatment Method =		
	Extended Detention ▼	

User Defined Stage [ft]	User Defined Area [ft^2]	User Defined Stage [ft]	User Defined Discharge [cfs]
0.00	48	0.00	0.00
0.33	48	0.33	0.07
0.90	679	0.90	0.11
1.90	9,926	1.90	0.25
2.90	30,276	2.90	0.42
3.90	48,238	3.90	1.00
4.90	63,363	4.90	3.80
5.90	72,715	5.90	10.91
6.90	78,459	6.90	33.13
7.90	82,532	7.90	35.78
8.90	87,374	8.90	135.94

After completing and printing this worksheet to a pdf, go to:  
<https://maperture.digitaldataservices.com/gvh/?viewer=cswdif>  
 create a new stormwater facility, and  
 attach the pdf of this worksheet to that record.

**Routed Hydrograph Results**

	WQCV	2 Year	5 Year	10 Year	50 Year	100 Year	
Design Storm Return Period =							
One-Hour Rainfall Depth =	0.53	0.83	1.09	1.33	1.99	2.31	in
Calculated Runoff Volume =	1.221	2.165	3.090	4.337	8.273	10.378	acre-ft
OPTIONAL Override Runoff Volume =							
Inflow Hydrograph Volume =	1.221	2.165	3.090	4.336	8.268	10.377	acre-ft
Time to Drain 97% of Inflow Volume =	34.4	41.3	43.0	43.1	39.8	37.9	hours
Time to Drain 99% of Inflow Volume =	36.3	44.3	46.7	47.8	47.2	46.5	hours
Maximum Ponding Depth =	3.53	4.28	4.84	5.45	6.83	7.57	ft
Maximum Poned Area =	0.95	1.24	1.43	1.57	1.79	1.86	acres
Maximum Volume Stored =	1.106	1.926	2.675	3.601	5.930	7.291	acre-ft

# Stormwater Detention and Infiltration Design Data Sheet

