

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: The Hills at Lorson Ranch and The Ridge at Lorson Ranch– Pond C4

Owner name: Lorson Ranch Metropolitan District

Location Address: 212 N. Wahsatch Avenue, Suite 301

Latitude and Longitude:

Latitude: 38°44'34.40"N, Longitude: 104°36'54.20"W

Assessor's Parcel #: 5500000275 Section: 13 Township: 15 South Range: 65 West

Expected Completion date: August, 2020

Project acreage: 123.167 acres Design Ponding Acres: 1.59acres 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 C4 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. The interim outlet structure is a 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 **EPC Project File No. . PUD/SP 20-003 & PUD/SP 21-006**
O & M Plan
Maintenance and Access Agreement

ACCEPTED for FILE
Engineering Review
01/12/2022 8:53:46 AM
dsdnijkamp
EPC Planning & Community
Development Department

Stormwater Detention and Infiltration Design Data Sheet

Workbook Protected

Worksheet Protected

Stormwater Facility Name: Pond C4

Facility Location & Jurisdiction: The Hills at Lorson Ranch

User Input: Watershed Characteristics

| | | |
|---|--|---------|
| Watershed Slope = | <input type="text" value="0.050"/> | ft/ft |
| Watershed Length = | <input type="text" value="2300"/> | ft |
| Watershed Area = | <input type="text" value="81.00"/> | acres |
| Watershed Imperviousness = | <input type="text" value="55.0%"/> | percent |
| Percentage Hydrologic Soil Group A = | <input type="text"/> | percent |
| Percentage Hydrologic Soil Group B = | <input type="text" value="40.0%"/> | percent |
| Percentage Hydrologic Soil Groups C/D = | <input type="text" value="60.0%"/> | percent |
| Location for 1-hr Rainfall Depths (use dropdown): | <input type="text" value="Denver - Capitol Building"/> | |

WQCV Treatment Method =

| User Defined Stage [ft] | User Defined Area [ft^2] | User Defined Stage [ft] | User Defined Discharge [cfs] |
|----------------------------|-----------------------------|----------------------------|---------------------------------|
| 0.00 | 40 | 0.00 | 0.00 |
| 0.33 | 50 | 0.33 | 0.09 |
| 1.00 | 630 | 1.00 | 0.17 |
| 2.00 | 40,811 | 2.00 | 0.40 |
| 3.00 | 49,929 | 3.00 | 0.66 |
| 4.00 | 52,779 | 4.00 | 3.71 |
| 5.00 | 55,690 | 5.00 | 5.32 |
| 6.00 | 58,660 | 6.00 | 24.83 |
| 7.00 | 61,704 | 7.00 | 37.05 |
| 8.00 | 64,811 | 8.00 | 40.02 |
| 9.00 | 67,980 | 9.00 | 42.78 |
| 10.00 | 71,215 | 10.00 | 45.38 |
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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 = | 1.488 | 2.754 | 4.087 | 5.506 | 10.207 | 12.709 | acre-ft |
| OPTIONAL Override Runoff Volume = | | | | | | | |
| Inflow Hydrograph Volume = | 1.487 | 2.754 | 4.086 | 5.502 | 10.198 | 12.700 | acre-ft |
| Time to Drain 97% of Inflow Volume = | 40.1 | 47.4 | 49.0 | 48.6 | 44.6 | 42.7 | hours |
| Time to Drain 99% of Inflow Volume = | 41.8 | 50.2 | 52.8 | 53.5 | 52.4 | 52.0 | hours |
| Maximum Ponding Depth = | 2.90 | 3.83 | 4.76 | 5.51 | 7.67 | 8.94 | ft |
| Maximum Poned Area = | 1.12 | 1.20 | 1.26 | 1.31 | 1.46 | 1.56 | acres |
| Maximum Volume Stored = | 1.404 | 2.481 | 3.626 | 4.592 | 7.587 | 9.506 | acre-ft |

Stormwater Detention and Infiltration Design Data Sheet

