

# Stormwater Detention and Infiltration Design Data Sheet

Workbook Protected

Worksheet Protected

Stormwater Facility Name: Freedom Springs Full Spectrum Detention Sand Filter Basin

Facility Location & Jurisdiction: 734 Westerrn Drive, El Paso County, Colorado

**User Input: Watershed Characteristics**

Watershed Slope =	0.036	ft/ft
Watershed Length =	430	ft
Watershed Area =	2.25	acres
Watershed Imperviousness =	61.8%	percent
Percentage Hydrologic Soil Group A =	100.0%	percent
Percentage Hydrologic Soil Group B =	0.0%	percent
Percentage Hydrologic Soil Groups C/D =	0.0%	percent

Location for 1-hr Rainfall Depths (use dropdown):

User Input

WQCV Treatment Method = Sand Filter

User Defined Stage [ft]	User Defined Area [ft^2]	User Defined Stage [ft]	User Defined Discharge [cfs]
0.00	3,208	0.00	0.00
0.25	3,500	0.25	0.04
0.50	3,818	0.50	0.06
0.75	4,148	0.75	0.09
1.00	4,505	1.00	0.15
1.25	4,844	1.25	0.19
1.50	5,214	1.50	0.26
1.75	5,596	1.75	0.31
2.00	6,011	2.00	1.10
2.25	6,396	2.25	1.13
2.50	6,817	2.50	1.16
2.75	7,250	2.75	3.75
3.00	7,715	3.00	9.29
3.25	8,151	3.25	17.63
3.50	8,622	3.50	28.89
3.75	9,105	3.75	43.25
4.00	9,631	4.00	60.87

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	1.19	1.50	1.75	2.25	2.52	in
Calculated Runoff Volume =	0.036	0.117	0.153	0.186	0.273	0.327	acre-ft
OPTIONAL Override Runoff Volume =							acre-ft
Inflow Hydrograph Volume =	0.035	0.117	0.152	0.186	0.272	0.326	acre-ft
Time to Drain 97% of Inflow Volume =	21.3	24.1	<b>24.4</b>	24.6	23.5	22.8	hours
Time to Drain 99% of Inflow Volume =	27.6	30.3	30.6	30.9	29.8	<b>29.1</b>	hours
Maximum Ponding Depth =	0.38	1.12	1.38	1.62	2.02	2.27	ft
Maximum Ponded Area =	0.08	0.11	0.12	0.12	0.14	<b>0.15</b>	acres
Maximum Volume Stored =	0.030	0.100	0.130	0.158	0.210	0.246	acre-ft

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