

Stormwater Detention and Infiltration Design Data Sheet

Workbook Protected

Worksheet Protected

Stormwater Facility Name: Pond W-5

Facility Location & Jurisdiction: Sterling Ranch Suvdivision, Marksheffel Road, El Paso County / El Paso County

User Input: Watershed Characteristics

Watershed Slope = 0.025 ft/ft
 Watershed Length = 3888 ft
 Watershed Area = 173.97 acres
 Watershed Imperviousness = 57.6% percent
 Percentage Hydrologic Soil Group A = 85.0% percent
 Percentage Hydrologic Soil Group B = 15.0% percent
 Percentage Hydrologic Soil Groups C/D = 0.0% percent

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

User Input

WQCV Treatment Method = Extended Detention

User Defined Stage [ft]	User Defined Area [ft^2]	User Defined Stage [ft]	User Defined Discharge [cfs]
0.00	20	0.00	0.00
0.30	805	0.30	0.23
0.60	2,578	0.60	0.33
0.90	6,201	0.90	0.40
1.20	10,075	1.20	0.46
1.50	13,823	1.50	0.51
1.80	21,893	1.80	0.56
2.10	29,964	2.10	0.61
2.40	38,034	2.40	0.86
2.70	46,613	2.70	1.00
3.00	55,912	3.00	1.11
3.30	65,211	3.30	1.21
3.60	75,354	3.60	1.30
3.90	87,466	3.90	1.38
4.20	99,579	4.20	1.82
4.50	111,691	4.50	2.12
4.80	119,058	4.80	2.34
5.10	126,261	5.10	2.54
5.40	133,465	5.40	2.72
5.70	140,337	5.70	2.88
6.00	147,019	6.00	3.03
6.30	153,700	6.30	3.17
6.60	159,871	6.60	3.31
6.90	164,851	6.90	3.44
7.20	169,830	7.20	3.56
7.50	174,810	7.50	12.97
7.80	179,015	7.80	42.25
8.10	183,193	8.10	82.63
8.40	187,371	8.40	131.61
8.70	191,050	8.70	201.15
9.00	194,270	9.00	246.08
9.30	197,490	9.30	310.74
9.60	200,724	9.60	393.53
9.90	203,986	9.90	494.08

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 =	3.311	8.045	10.858	13.768	21.831	25.847	acre-ft
OPTIONAL Override Runoff Volume =							acre-ft
Inflow Hydrograph Volume =	3.310	8.037	10.852	13.759	21.823	25.841	acre-ft
Time to Drain 97% of Inflow Volume =	38.7	58.9	68.0	76.0	73.5	71.8	hours
Time to Drain 99% of Inflow Volume =	40.5	62.9	73.1	82.2	82.0	81.2	hours
Maximum Ponding Depth =	4.04	5.70	6.50	7.25	8.21	8.54	ft
Maximum Poned Area =	2.13	3.22	3.62	3.92	4.24	4.34	acres
Maximum Volume Stored =	3.099	7.636	10.381	13.217	17.113	18.526	acre-ft

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