Stormwater Detention and Infiltration Design Data Sheet

SDI-Design Data v2.00, Released January 2020

Stormwater Facility Name: Sterling Ranch East Filing No. 2 FOURSQURE AT STERLING RANCH EAST - Pond 16

Facility Location & Jurisdiction: Sterling Ranch Metropolitan District - Private Facility-Interim

User Input: Watershed Characteristics							
Extended Detention Basin (EDB)	EDB						
Watershed Area =	44.02	acres					
Watershed Length =	1,800	ft					
Watershed Length to Centroid =	900	ft					
Watershed Slope =	0.040	ft/ft					
Watershed Imperviousness =	44.4%	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					
Target WQCV Drain Time =	40.0	hours					
Location for 1-hr Rainfall Depths (use dropdown):							
User Input	•						

After providing required inputs above including 1-hour rainfall depths, click 'Run CUHP' to generate runoff hydrographs using the embedded Colorado Urban Hydrograph Procedure.

Once CUHP has been run and the Stage-Area-Discharge information has been provided, click 'Process Data' to interpolate the Stage-Area-Volume-Discharge data and generate summary results in the table below. Once this is complete, click 'Print to PDF'.

User Defined	User Defined	User Defined	User Defined
Stage [ft]	Area [ft^2]	Stage [ft]	Discharge [cfs]
0.00		0.00	0.00
0.00	1,027		
	1,027	0.50	0.08
2.50	18,288	2.50	0.19
4.50	54,450	4.50	0.67
6.50	89,516	6.50	1.56
8.50	106,783	8.50	2.61
10.50	185,108	10.50	30.75
12.50	263,928	12.50	124.11
14.50	343,298	14.50	1656.79

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

Design Storm Return Period =	WQCV	2 Year	5 Year	10 Year	50 Year	100 Year	
One-Hour Rainfall Depth =	N/A	1.19	1.50	1.75	2.25	2.52	in
CUHP Runoff Volume =	0.702	1.642	2.196	2.638	4.148	5.111	acre-ft
Inflow Hydrograph Volume =	N/A	1.642	2.196	2.638	4.148	5.111	acre-ft
Time to Drain 97% of Inflow Volume =	47.7	71.1	80.0	85.6	98.7	104.6	hours
Time to Drain 99% of Inflow Volume =	49.9	75.2	85.1	91.5	107.1	114.5	hours
Maximum Ponding Depth =	2.99	4.01	4.48	4.81	5.74	6.24	ft
Maximum Ponded Area =	0.62	1.04	1.24	1.37	1.74	1.95	acres
Maximum Volume Stored =	0.707	1.552	2.089	2.508	3.952	4.887	acre-ft

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