



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: Waterbury Filing No. 1

Owner name: ACM ALF VIII JV SUB II LLC

Location Address: Stapleton Drive and Bandenero Drive intersection Falcon, CO

Latitude and Longitude: Lat: 38.970595, Long: -104.568777

Assessor's Parcel #: 4200000417 Section: 28 Township: 12 Range: 64

Expected Completion date: Winter 2025

Project acreage: 61.87 Design Ponding Acres: 3.19 Design Storm: 100-Y

Design Engineer Email Address: quentin.armijo@tnesinc.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): EDB POND 1, EDB POND 2 & EDB POND 3

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. NA

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 [] EPC Project File No. SF237

Stormwater Detention and Infiltration Design Data Sheet

Workbook Protected

Worksheet Protected

Stormwater Facility Name: Waterbury Filing No. 1 EDB Pond 1 D8 8

Facility Location & Jurisdiction: Stapleton Dr. & Bandenero Dr Intersection

User Input: Watershed Characteristics

Watershed Slope = ft/ft
 Watershed Length = ft
 Watershed Area = acres
 Watershed Imperviousness = percent
 Percentage Hydrologic Soil Group A = percent
 Percentage Hydrologic Soil Group B = percent
 Percentage Hydrologic Soil Groups C/D = percent

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

User Input

WQCV Treatment Method =

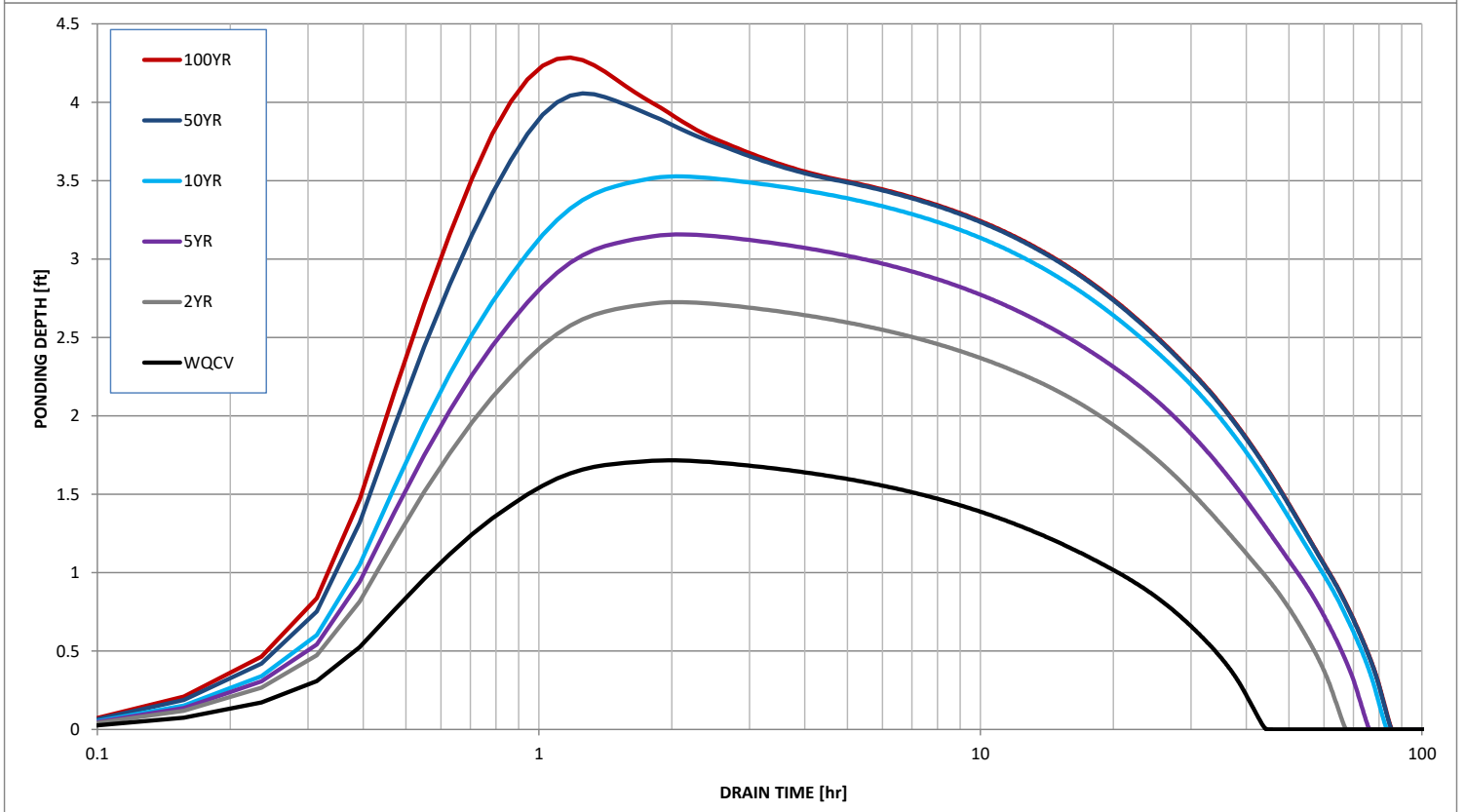
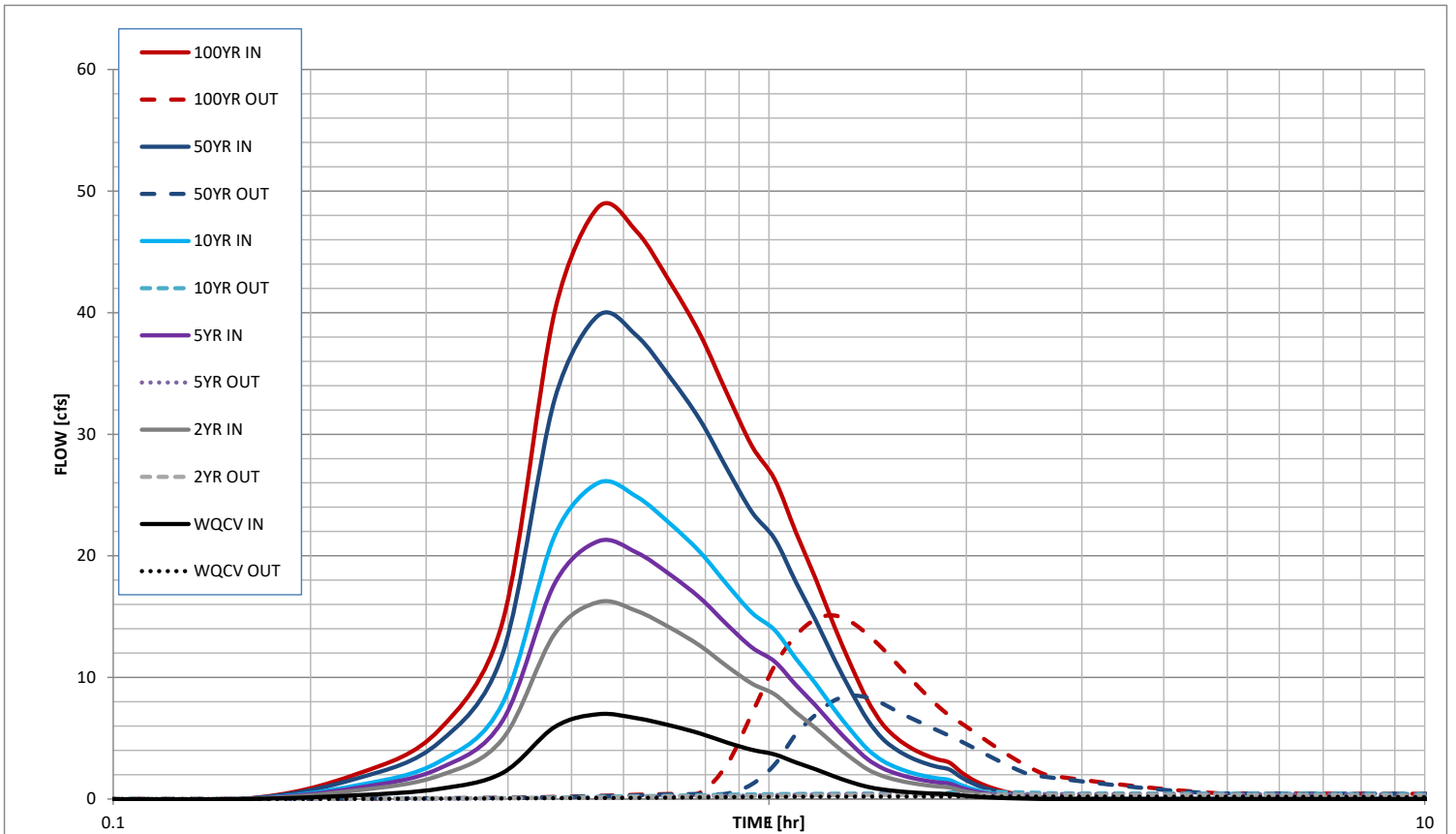
User Defined Stage [ft]	User Defined Area [ft^2]	User Defined Stage [ft]	User Defined Discharge [cfs]
0.00	100	0.00	0.00
0.25	3,201	0.25	0.05
0.50	6,302	0.50	0.07
0.75	8,582	0.75	0.09
1.00	10,862	1.00	0.10
1.25	13,142	1.25	0.14
1.50	15,422	1.50	0.18
1.75	17,702	1.75	0.21
2.00	19,982	2.00	0.24
2.25	22,262	2.25	0.26
2.50	24,542	2.50	0.31
2.75	26,599	2.75	0.36
3.00	28,656	3.00	0.40
3.25	30,713	3.25	0.43
3.50	32,770	3.50	0.46
3.75	34,826	3.75	1.98
4.00	36,883	4.00	7.03
4.25	38,940	4.25	14.04
4.50	40,997	4.50	22.56
4.75	43,397	4.75	41.35
5.00	45,797	5.00	64.52
5.25	48,198	5.25	95.04
5.50	50,598	5.50	132.39
5.75	52,998	5.75	176.20
6.00	55,398	6.00	226.29
6.25	57,798	6.25	282.56
6.50	60,198	6.50	344.98

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 =	0.394	0.923	1.212	1.490	2.292	2.813	acre-ft
OPTIONAL Override Runoff Volume =							
Inflow Hydrograph Volume =	0.394	0.923	1.212	1.490	2.292	2.813	acre-ft
Time to Drain 97% of Inflow Volume =	38.9	58.6	65.8	71.7	70.0	68.1	hours
Time to Drain 99% of Inflow Volume =	41.1	62.6	70.6	77.2	77.6	76.7	hours
Maximum Ponding Depth =	1.72	2.72	3.16	3.53	4.06	4.28	ft
Maximum Ponded Area =	0.40	0.61	0.69	0.76	0.86	0.90	acres
Maximum Volume Stored =	0.365	0.873	1.153	1.417	1.846	2.046	acre-ft

Stormwater Detention and Infiltration Design Data Sheet



Stormwater Detention and Infiltration Design Data Sheet

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Worksheet Protected

Stormwater Facility Name: Waterbury Filing No. 1 EDB Pond 2 DP 18

Facility Location & Jurisdiction: Stapleton Dr. & Bandenero Dr Intersection

User Input: Watershed Characteristics

Watershed Slope = 0.019 ft/ft
 Watershed Length = 1050 ft
 Watershed Area = 21.05 acres
 Watershed Imperviousness = 25.8% 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 = Extended Detention ▼

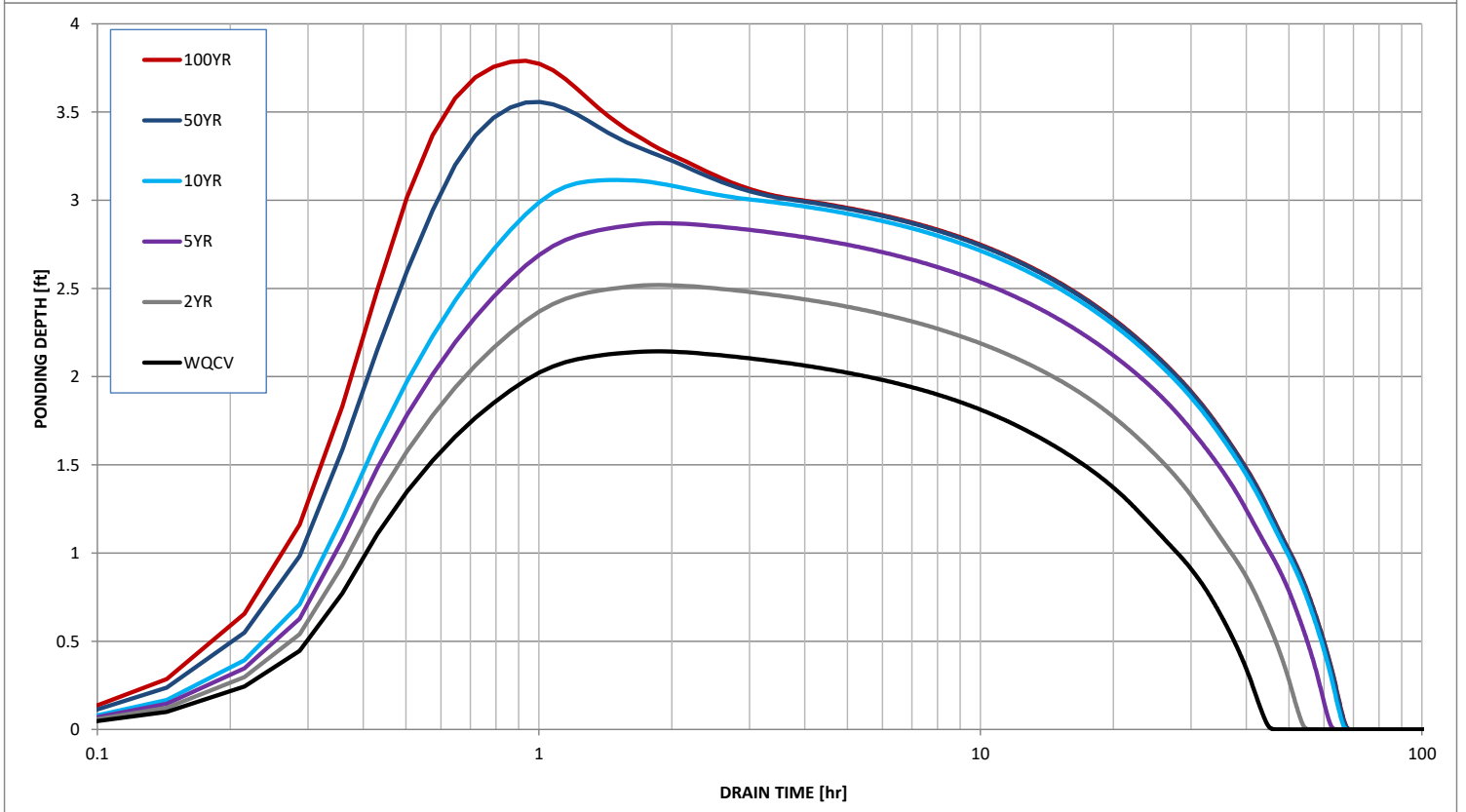
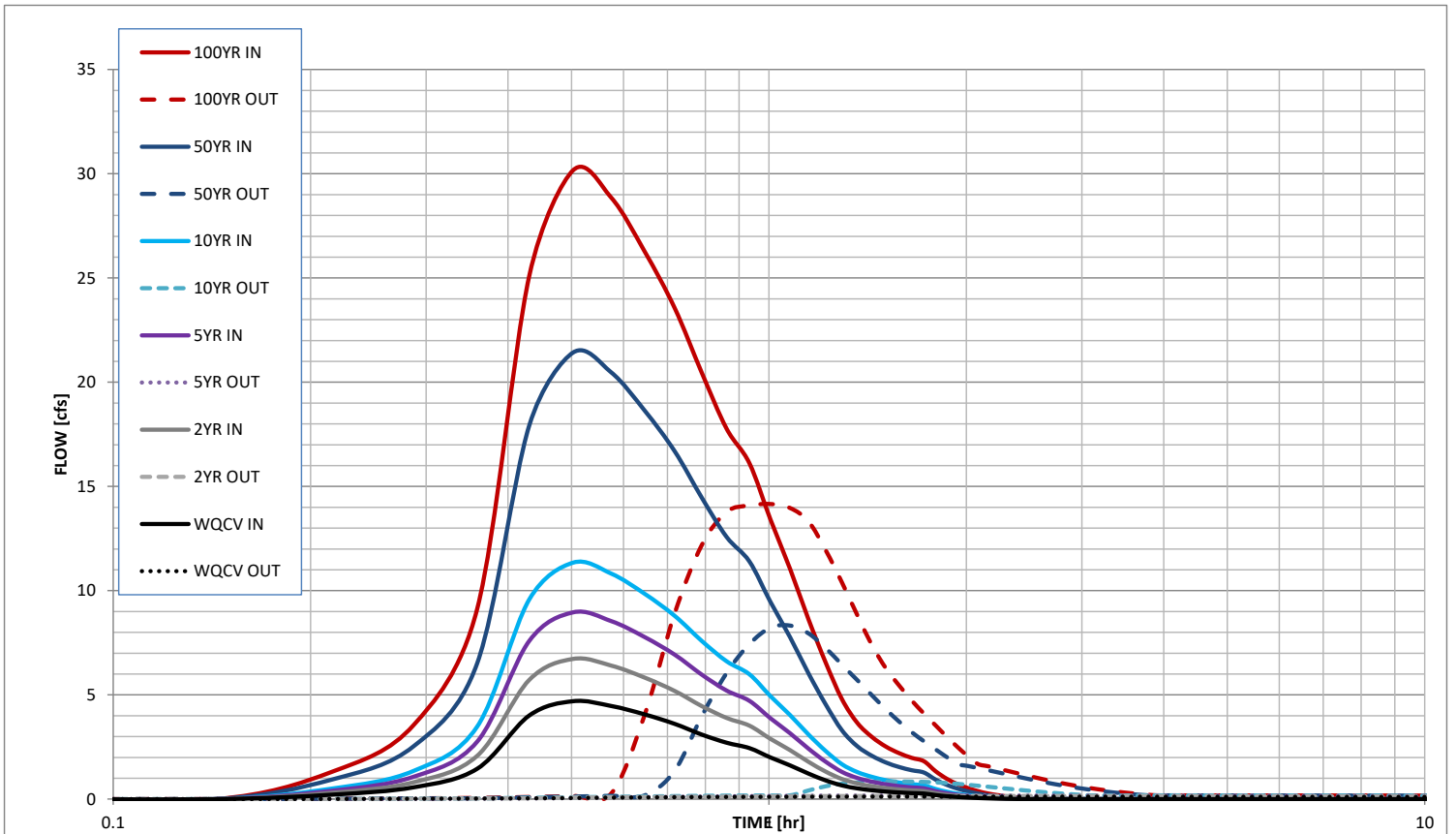
User Defined Stage [ft]	User Defined Area [ft^2]	User Defined Stage [ft]	User Defined Discharge [cfs]
0.00	100	0.00	0.00
0.25	942	0.25	0.02
0.50	1,784	0.50	0.03
0.75	2,626	0.75	0.04
1.00	3,468	1.00	0.04
1.25	5,034	1.25	0.07
1.50	6,600	1.50	0.08
1.75	8,166	1.75	0.10
2.00	9,732	2.00	0.11
2.25	11,297	2.25	0.13
2.50	12,863	2.50	0.15
2.75	14,429	2.75	0.17
3.00	15,995	3.00	0.18
3.25	19,602	3.25	1.69
3.50	23,209	3.50	6.73
3.75	26,815	3.75	13.72
4.00	30,422	4.00	16.48
4.25	34,029	4.25	17.02
4.50	37,636	4.50	17.54
4.75	41,243	4.75	18.05
5.00	44,850	5.00	18.54
5.25	48,650	5.25	26.83
5.50	52,450	5.50	42.41
5.75	56,251	5.75	63.60
6.00	60,051	6.00	90.00
6.25	63,851	6.25	121.47
6.50	67,652	6.50	157.95
6.75	71,452	6.75	199.49
7.00	75,252	7.00	246.12

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Routed Hydrograph Results

	WQCV	2 Year	5 Year	10 Year	50 Year	100 Year	
Design Storm Return Period =	0.53	1.19	1.50	1.75	2.25	2.52	in
One-Hour Rainfall Depth =	0.241	0.347	0.464	0.588	1.119	1.582	acre-ft
Calculated Runoff Volume =							acre-ft
OPTIONAL Override Runoff Volume =							acre-ft
Inflow Hydrograph Volume =	0.241	0.346	0.463	0.588	1.119	1.582	hours
Time to Drain 97% of Inflow Volume =	39.1	46.8	53.8	56.7	52.5	48.6	hours
Time to Drain 99% of Inflow Volume =	41.7	50.1	57.9	61.4	59.7	58.2	hours
Maximum Ponding Depth =	2.14	2.52	2.87	3.11	3.56	3.79	ft
Maximum Ponded Area =	0.24	0.30	0.35	0.40	0.55	0.63	acres
Maximum Volume Stored =	0.224	0.326	0.439	0.530	0.740	0.878	acre-ft

Stormwater Detention and Infiltration Design Data Sheet



Stormwater Detention and Infiltration Design Data Sheet

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Worksheet Protected

Stormwater Facility Name: Waterbury Filing No. 1 EDB Pond 3 DP 29

Facility Location & Jurisdiction: Stapleton Dr. & Bandenero Dr Intersection

User Input: Watershed Characteristics

Watershed Slope =	0.026	ft/ft
Watershed Length =	1500	ft
Watershed Area =	71.20	acres
Watershed Imperviousness =	54.7%	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 = Extended Detention ▼

User Defined Stage [ft]	User Defined Area [ft^2]	User Defined Stage [ft]	User Defined Discharge [cfs]
0.00	100	0.00	0.00
0.25	3,412	0.25	0.12
0.50	6,282	0.50	0.17
0.75	9,372	0.75	0.20
1.00	13,347	1.00	0.23
1.25	16,659	1.25	0.26
1.50	19,971	1.50	0.29
1.75	23,283	1.75	0.38
2.00	26,595	2.00	0.48
2.25	33,544	2.25	0.55
2.50	40,493	2.50	0.61
2.75	47,442	2.75	0.66
3.00	54,392	3.00	0.71
3.25	61,341	3.25	0.76
3.50	68,290	3.50	0.91
3.75	75,240	3.75	1.02
4.00	82,189	4.00	1.11
4.25	87,136	4.25	1.19
4.50	92,083	4.50	1.27
4.75	97,030	4.75	1.33
5.00	101,977	5.00	1.39
5.25	106,924	5.25	6.64
5.50	111,871	5.50	19.02
5.75	116,819	5.75	35.53
6.00	121,766	6.00	55.32
6.25	124,516	6.25	107.90
6.50	127,266	6.50	169.47
6.75	130,017	6.75	249.76
7.00	132,767	7.00	345.86
7.25	135,518	7.25	456.16
7.50	138,268	7.50	579.67
7.75	141,019	7.75	715.66
8.00	143,769	8.00	863.65

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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 =	1.302	3.147	4.128	5.064	7.676	9.346	acre-ft
OPTIONAL Override Runoff Volume =							acre-ft
Inflow Hydrograph Volume =	1.302	3.147	4.128	5.061	7.670	9.343	acre-ft
Time to Drain 97% of Inflow Volume =	38.7	61.0	69.2	76.2	77.6	75.5	hours
Time to Drain 99% of Inflow Volume =	40.8	65.0	74.3	82.1	0.0	0.0	hours
Maximum Ponding Depth =	2.74	3.96	4.45	4.87	5.57	5.88	ft
Maximum Poned Area =	1.08	1.86	2.09	2.28	2.60	2.74	acres
Maximum Volume Stored =	1.226	3.020	3.978	4.902	6.599	7.436	acre-ft

Stormwater Detention and Infiltration Design Data Sheet

