

# Stormwater Detention and Infiltration Design Data Sheet

Workbook Protected

Worksheet Protected

Stormwater Facility Name: Trails at Aspen Ridge - East Pond

Facility Location & Jurisdiction: Trails at Aspen Ridge, El Paso County, Colorado

## User Input: Watershed Characteristics

Watershed Slope =	0.030	ft/ft
Watershed Length =	3742	ft
Watershed Area =	157.90	acres
Watershed Imperviousness =	45.4%	percent
Percentage Hydrologic Soil Group A =	0.0%	percent
Percentage Hydrologic Soil Group B =	87.0%	percent
Percentage Hydrologic Soil Groups C/D =	13.0%	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	443	0.00	0.00
1.00	2,623	0.33	0.25
2.00	15,364	0.50	0.30
3.00	43,184	0.67	0.35
4.00	88,889	0.75	0.37
5.00	143,319	1.00	0.43
6.00	157,923	1.25	0.48
7.00	163,366	1.33	0.50
8.00	168,797	1.50	0.53
9.00	174,244	1.73	0.57
10.00	179,826	2.00	0.78
		2.33	0.92
		2.67	1.03
		3.00	1.13
		3.33	1.22
		3.66	1.30
		3.80	1.33
		3.90	1.44
		4.00	1.51
		4.33	1.68
		4.67	1.82
		5.00	1.94
		5.33	2.05
		5.63	2.14
		6.00	3.13
		6.33	5.01
		6.67	26.23
		7.00	62.58
		8.15	129.72
		8.25	143.52
		8.50	218.05
		8.75	327.76
		9.00	464.57
		10.00	1227.28

After completing and printing this worksheet to a pdf, go to:

<https://maperture.digitaldataservices.com/gvh/?viewer=cswdif>

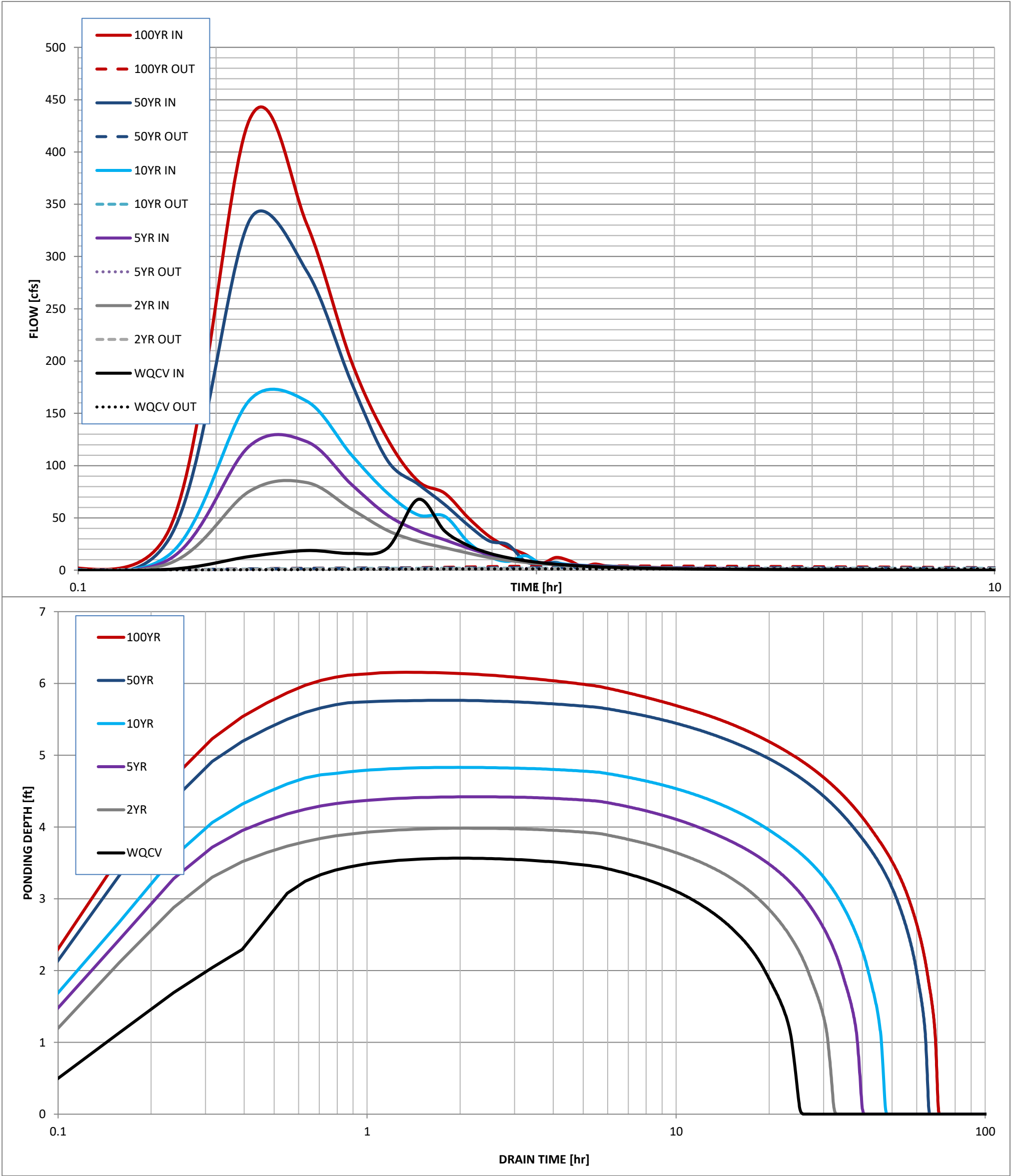
create a new stormwater facility, and

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 =	0.53	1.19	1.50	1.75	2.25	2.52	in
One-Hour Rainfall Depth =	2.553	6.103	8.512	11.664	20.230	24.794	acre-ft
Calculated Runoff Volume =							acre-ft
OPTIONAL Override Runoff Volume =	2.010	2.905	4.003	5.182	8.419	9.939	acre-ft
Inflow Hydrograph Volume =	23.1	29.7	36.6	43.4	59.8	63.9	hours
Time to Drain 97% of Inflow Volume =	24.2	31.2	38.5	45.7	63.1	67.6	hours
Time to Drain 99% of Inflow Volume =	3.57	3.98	4.42	4.83	5.76	6.16	ft
Maximum Ponding Depth =	1.57	2.01	2.56	3.08	3.54	3.64	acres
Maximum Ponded Area =	1.624	2.374	3.388	4.543	7.681	9.095	acre-ft
Maximum Volume Stored =							

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Stormwater Facility Name: Trails at Aspen Ridge - West Pond

Facility Location & Jurisdiction: Trails at Aspen Ridge, El Paso County, Colorado

## User Input: Watershed Characteristics

Watershed Slope =	0.020	ft/ft
Watershed Length =	2691	ft
Watershed Area =	34.69	acres
Watershed Imperviousness =	55.1%	percent
Percentage Hydrologic Soil Group A =	8.6%	percent
Percentage Hydrologic Soil Group B =	81.2%	percent
Percentage Hydrologic Soil Groups C/D =	10.2%	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	246	0.00	0.00
0.38	677	0.41	0.05
1.38	10,080	0.82	0.07
2.38	31,059	1.43	0.16
3.38	43,216	1.63	0.17
4.38	49,683	2.44	0.30
5.38	56,580	2.54	0.33
6.38	64,298	2.64	0.37
7.38	72,897	2.74	0.42
8.38	86,794	2.85	0.45
		3.27	0.55
		3.69	0.63
		4.10	0.70
		4.52	0.76
		4.62	0.77
		4.72	0.79
		4.82	0.80
		4.92	0.81
		5.02	0.83
		5.12	0.84
		5.22	0.85
		5.32	0.86
		5.42	2.47
		5.52	7.84
		5.62	15.38
		5.72	24.61
		5.82	27.56
		5.92	27.82
		6.02	28.08
		6.12	28.34
		6.22	28.59
		6.32	28.84
		7.38	104.06
		8.38	297.49

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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 =	0.638	1.670	2.275	2.984	4.751	5.719	acre-ft
Calculated Runoff Volume =							acre-ft
OPTIONAL Override Runoff Volume =							acre-ft
Inflow Hydrograph Volume =	0.637	1.670	2.275	2.984	4.751	5.712	hours
Time to Drain 97% of Inflow Volume =	40.8	62.6	71.5	80.8	89.5	87.4	hours
Time to Drain 99% of Inflow Volume =	43.3	68.0	77.9	88.1	98.7	97.5	ft
Maximum Ponding Depth =	2.36	3.49	4.05	4.65	5.58	5.74	acres
Maximum Ponded Area =	0.70	1.01	1.09	1.18	1.33	1.36	acre-ft
Maximum Volume Stored =	0.582	1.558	2.135	2.825	3.993	4.205	

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