Hydrograph Return Period Recap

Hydraflow Hydrographs by Intelisolve v9.22

Hyd. No.	Hydrograph type (origin)	Hyd(s)				Hydrograph					
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	description
1	SCS Runoff			0.265		0.637	0.998	1.427	1.774	2.166	PREDEVELOPED
2	SCS Runoff			2.368		3.191	3.835	4.519	5.030	5.581	DEVELOPED
3	Reservoir	2		0.264		0.615	1.052	1.394	1.598	1.795	DETENTION BASIN
							9				
									-		
	14										

Proj. file: DETENTION POND MAY 23 REVISED MARCH 24 2020.gpw

Monday, Mar 30, 2020

Hydraflow Hydrographs by Intelisolve v9.22

Monday, Mar 30, 2020

Hyd. No. 1

PREDEVELOPED

Hydrograph type = SCS Runoff Storm frequency = 2 yrsTime interval = 2 min Drainage area = 1.000 acBasin Slope = 0.0 %Tc method = USER Total precip. = 3.25 inStorm duration = 24 hrs

Peak discharge = 0.265 cfs
Time to peak = 742 min
Hyd. volume = 1,686 cuft
Curve number = 61
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.00 min
Distribution = Type III

= 484

Shape factor

PREDEVELOPED Q (cfs) Q (cfs) Hyd. No. 1 -- 2 Year 0.50 0.50 0.45 0.45 0.40 0.40 0.35 0.35 0.30 0.30 0.25 0.25 0.20 0.20 0.15 0.15 0.10 0.10 0.05 0.05 0.00 0.00 120 0 240 360 480 600 720 840 960 1080 1200 1320 1440 1560 Time (min) Hyd No. 1

Hydraflow Hydrographs by Intelisolve v9.22

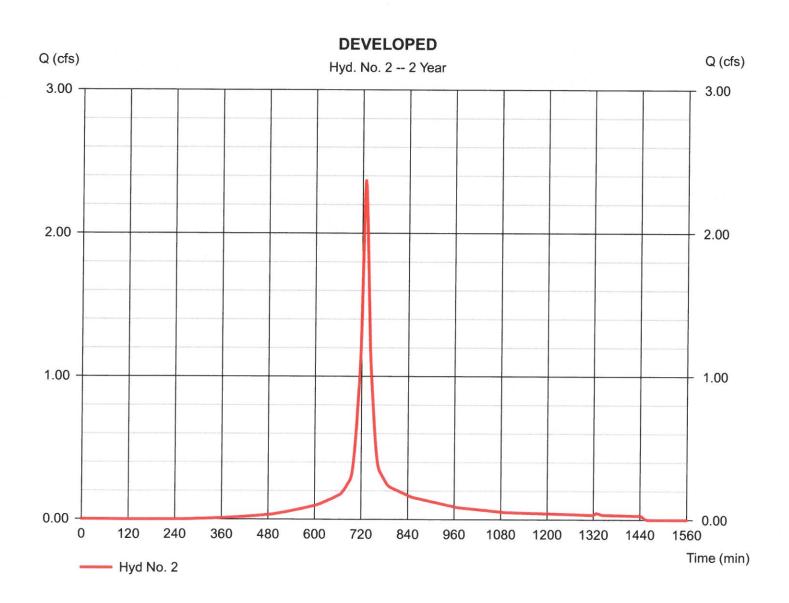
Monday, Mar 30, 2020

Hyd. No. 2

DEVELOPED

Hydrograph type = SCS Runoff Peak discharge = 2.368 cfsStorm frequency = 2 yrs Time to peak = 728 min Time interval = 2 minHyd. volume = 9,336 cuftDrainage area = 1.000 acCurve number = 93* Basin Slope = 0.0 %Hydraulic length = 0 ftTime of conc. (Tc) = 10.00 minTc method = USER Total precip. = 3.25 inDistribution = Type III Storm duration = 24 hrs Shape factor = 484

^{*} Composite (Area/CN) = [(0.180 x 69) + (0.820 x 98)] / 1.000



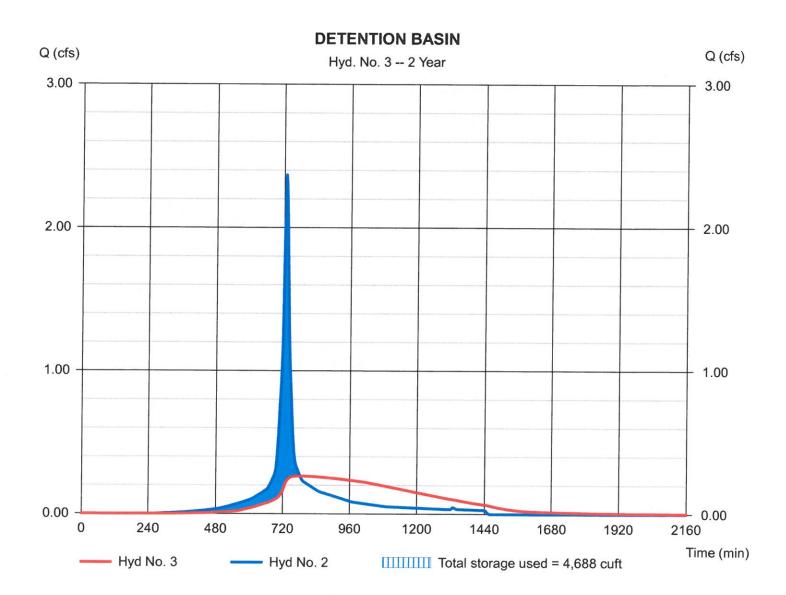
Hydraflow Hydrographs by Intelisolve v9.22

Monday, Mar 30, 2020

Hyd. No. 3

DETENTION BASIN

Hydrograph type = Reservoir Peak discharge = 0.264 cfsStorm frequency = 2 yrs Time to peak = 782 min Time interval = 2 minHyd. volume = 9,320 cuftInflow hyd. No. Max. Elevation = 2 - DEVELOPED = 653.38 ftReservoir name = ROOF DENTENTION POND JAN 31 20 Max. Storage = 4,688 cuft



Hydraflow Hydrographs by Intelisolve v9.22

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Pond No. 1 - ROOF DENTENTION POND JAN 31 2020

Pond Data

Contours - User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 652.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	652.00	2,500	0	0
1.00	653.00	3,700	3,100	3,100
2.00	654.00	4,750	4,225	7,325
3.00	655.00	5,600	5,175	12,500
3.50	655.50	6,800	3,100	15,600

Culvert / Orifice Structures

Weir Structures

	[A]	[B]	[C]	[PrfRsr]		[A]	[B]	[C]	[D]
Rise (in)	= 15.00	3.00	8.00	Inactive	Crest Len (ft)	= 3.93	6.00	Inactive	Inactive
Span (in)	= 15.00	3.00	8.00	0.00	Crest El. (ft)	= 654.50	654.50	0.00	0.00
No. Barrels	= 1	1	1	0	Weir Coeff.	= 3.33	2.60	3.33	3.33
Invert El. (ft)	= 650.75	652.00	653.40	0.00	Weir Type	= Riser	Broad		
Length (ft)	= 20.00	1.00	1.00	0.00	Multi-Stage	= Yes	Yes	No	No
Slope (%)	= 2.10	0.00	0.00	n/a					
N-Value	= .010	.010	.010	n/a					
Orifice Coeff.	= 0.60	0.60	0.60	0.60	Exfil.(in/hr)	= 0.000 (by	Contour)		
Multi-Stage	= n/a	Yes	Yes	No	TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	CIv A cfs	CIv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	652.00	0.00	0.00	0.00		0.00	0.00					0.000
1.00	3,100	653.00	4.67 ic	0.22 ic	0.00		0.00	0.00		***			0.221
2.00	7,325	654.00	4.67 ic	0.32 ic	0.88 ic		0.00	0.00					1.199
3.00	12,500	655.00	10.68 ic	0.14 ic	1.01 ic		4.35 s	5.18 s					10.68
3.50	15,600	655.50	11.91 ic	0.06 ic	0.42 ic		5.21 s	6.21 s					11.90

Hydraflow Hydrographs by Intelisolve v9.22

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= Type III

= 484

Hyd. No. 1

PREDEVELOPED

Storm duration

Hydrograph type = SCS Runoff
Storm frequency = 5 yrs
Time interval = 2 min
Drainage area = 1.000 ac
Basin Slope = 0.0 %
Tc method = USER
Total precip. = 4.20 in

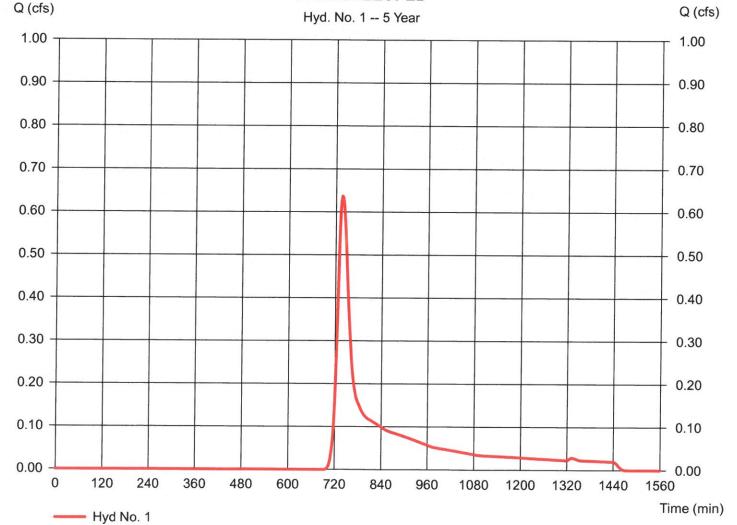
= 24 hrs

Peak discharge = 0.637 cfs
Time to peak = 736 min
Hyd. volume = 3,326 cuft
Curve number = 61
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.00 min

Distribution

Shape factor

PREDEVELOPED



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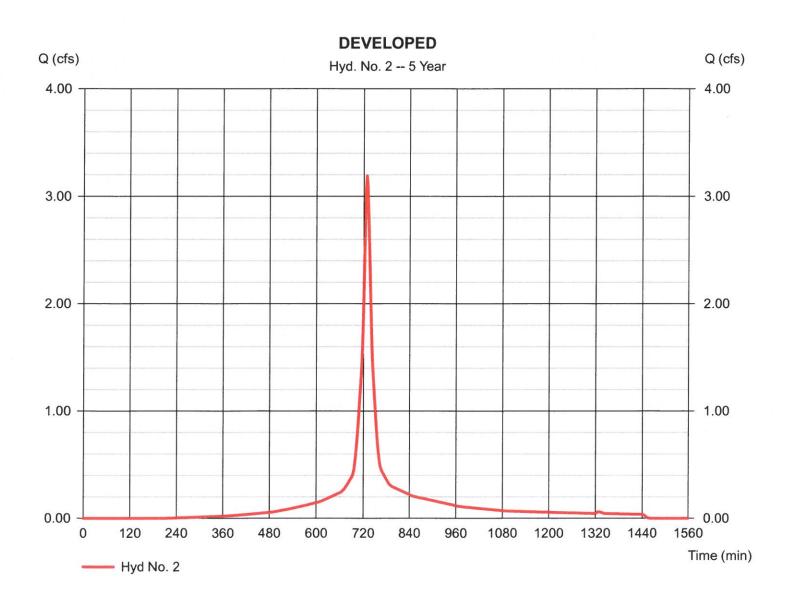
Monday, Mar 30, 2020

Hyd. No. 2

DEVELOPED

= SCS Runoff Hydrograph type Peak discharge = 3.191 cfsStorm frequency = 5 yrsTime to peak = 728 min Time interval = 2 min Hyd. volume = 12,783 cuft Curve number Drainage area = 1.000 ac= 93* Hydraulic length Basin Slope = 0.0 %= 0 ftTime of conc. (Tc) = 10.00 minTc method = USER Total precip. = 4.20 inDistribution = Type III Storm duration = 24 hrs Shape factor = 484

^{*} Composite (Area/CN) = [(0.180 x 69) + (0.820 x 98)] / 1.000



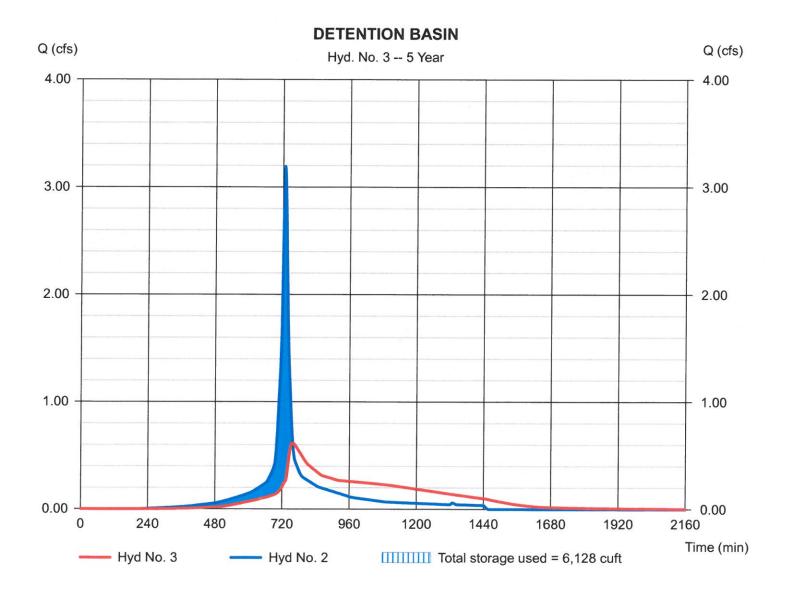
Hydraflow Hydrographs by Intelisolve v9.22

Monday, Mar 30, 2020

Hyd. No. 3

DETENTION BASIN

Hydrograph type Peak discharge = Reservoir = 0.615 cfsStorm frequency Time to peak = 5 yrs $= 758 \, \text{min}$ Time interval = 2 min Hyd. volume = 12,768 cuft Inflow hyd. No. = 2 - DEVELOPED Max. Elevation = 653.72 ft= ROOF DENTENTION POND JAN 31 2020 Dax. Storage Reservoir name = 6,128 cuft



Hydraflow Hydrographs by Intelisolve v9.22

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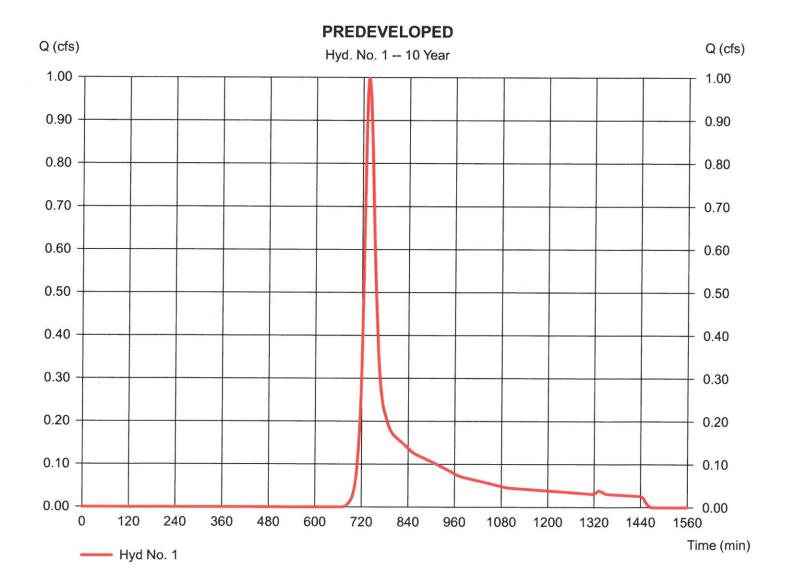
Hyd. No. 1

PREDEVELOPED

Hydrograph type = SCS Runoff Storm frequency = 10 yrsTime interval = 2 min Drainage area = 1.000 acBasin Slope = 0.0 %Tc method = USER Total precip. = 4.95 inStorm duration = 24 hrs

Peak discharge = 0.998 cfs
Time to peak = 736 min
Hyd. volume = 4,861 cuft
Curve number = 61

Hydraulic length = 0 ft
Time of conc. (Tc) = 17.00 min
Distribution = Type III
Shape factor = 484



Hydraflow Hydrographs by Intelisolve v9.22

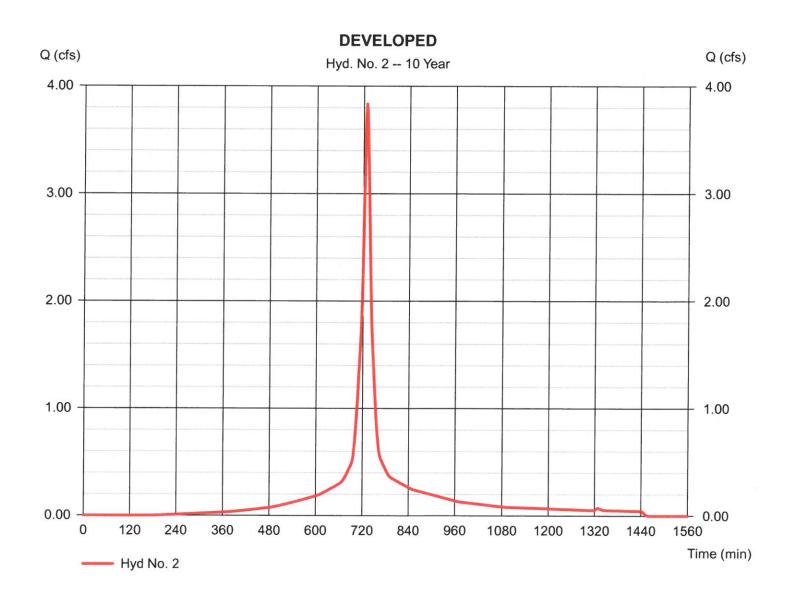
Monday, Mar 30, 2020

Hyd. No. 2

DEVELOPED

Hydrograph type = SCS Runoff Peak discharge = 3.835 cfsStorm frequency = 10 yrs Time to peak = 728 min Time interval = 2 min Hyd. volume = 15,531 cuftDrainage area = 1.000 acCurve number = 93* Basin Slope = 0.0 %Hydraulic length = 0 ftTc method Time of conc. (Tc) = 10.00 min = USER Total precip. = 4.95 inDistribution = Type III Storm duration = 24 hrs Shape factor = 484

^{*} Composite (Area/CN) = [(0.180 x 69) + (0.820 x 98)] / 1.000



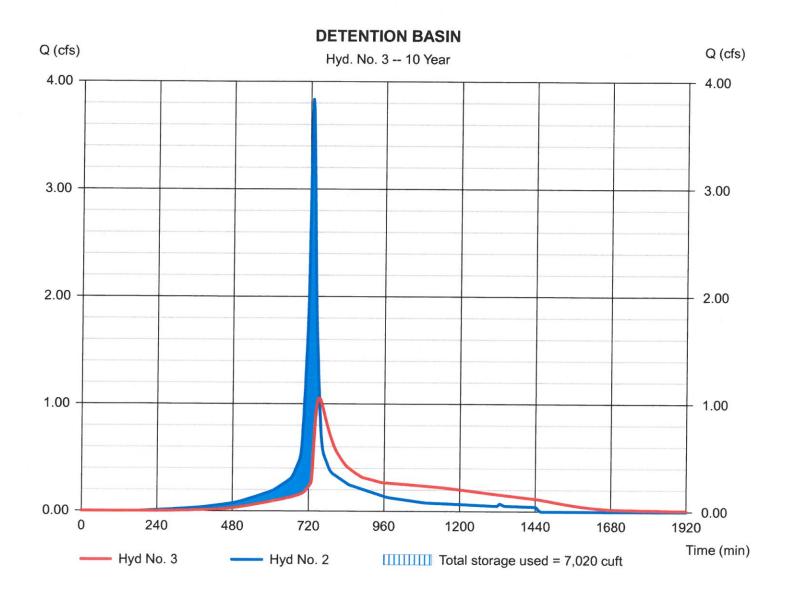
Hydraflow Hydrographs by Intelisolve v9.22

Monday, Mar 30, 2020

Hyd. No. 3

DETENTION BASIN

Hydrograph type = Reservoir Peak discharge = 1.052 cfsStorm frequency = 10 yrsTime to peak = 752 min Time interval = 2 minHyd. volume = 15,515 cuft Max. Elevation Inflow hyd. No. = 2 - DEVELOPED $= 653.93 \, \mathrm{ft}$ = ROOF DENTENTION POND JAN 31 20 200ax. Storage Reservoir name = 7,020 cuft



Hydraflow Hydrographs by Intelisolve v9.22

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Hyd. No. 1

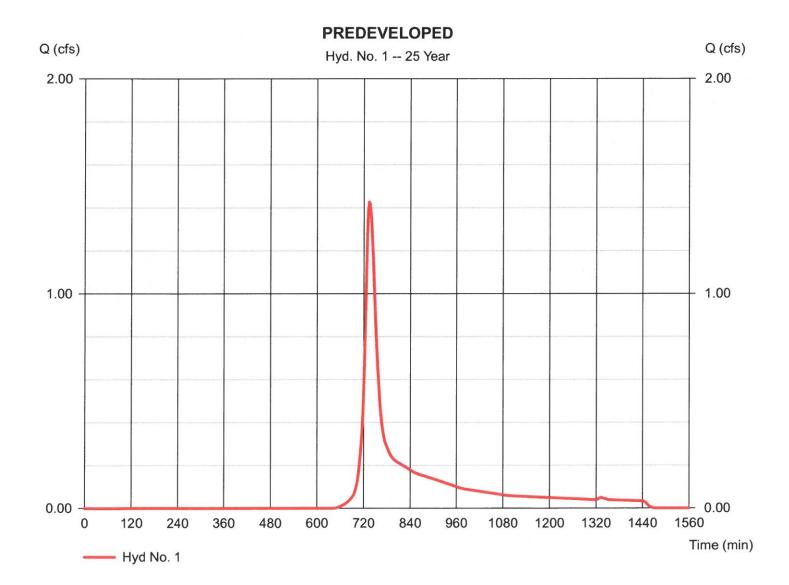
PREDEVELOPED

Hydrograph type = SCS Runoff Storm frequency = 25 yrs Time interval = 2 min Drainage area = 1.000 acBasin Slope = 0.0 % Tc method = USER Total precip. = 5.75 inStorm duration = 24 hrs

Peak discharge = 1.427 cfs
Time to peak = 734 min
Hyd. volume = 6,680 cuft
Curve number = 61
Hydraulic length = 0 ft
Time of conc. (Tc) = 17.00 min
Distribution = Type III

= 484

Shape factor



Hydraflow Hydrographs by Intelisolve v9.22

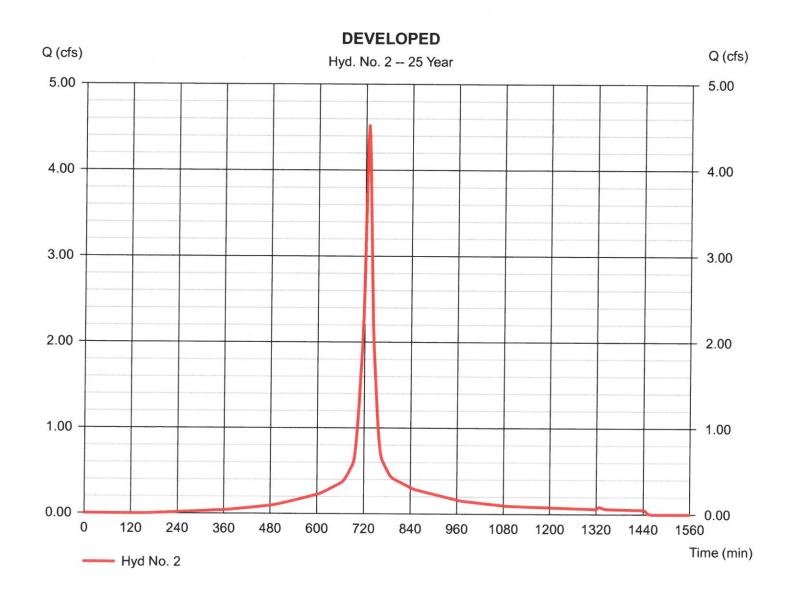
Monday, Mar 30, 2020

Hyd. No. 2

DEVELOPED

Hydrograph type = SCS Runoff Peak discharge = 4.519 cfsStorm frequency = 25 yrs Time to peak = 728 min Time interval = 2 min Hyd. volume = 18,477 cuft Drainage area = 1.000 acCurve number = 93* Basin Slope Hydraulic length = 0.0 %= 0 ftTc method Time of conc. (Tc) = 10.00 min= USER Total precip. = 5.75 inDistribution = Type III Storm duration = 24 hrs Shape factor = 484

^{*} Composite (Area/CN) = [(0.180 x 69) + (0.820 x 98)] / 1.000



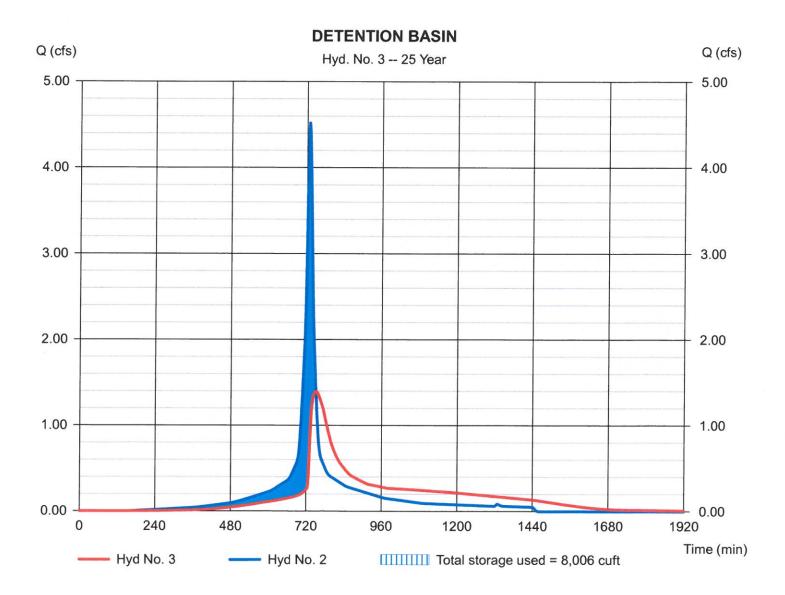
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Hyd. No. 3

DETENTION BASIN

Peak discharge Hydrograph type = Reservoir = 1.394 cfsStorm frequency Time to peak = 25 yrs $= 750 \min$ Time interval = 2 minHyd. volume = 18,462 cuft $= 654.13 \, ft$ Inflow hyd. No. = 2 - DEVELOPED Max. Elevation Reservoir name = ROOF DENTENTION POND JAN 31 2012/0ax. Storage = 8,006 cuft



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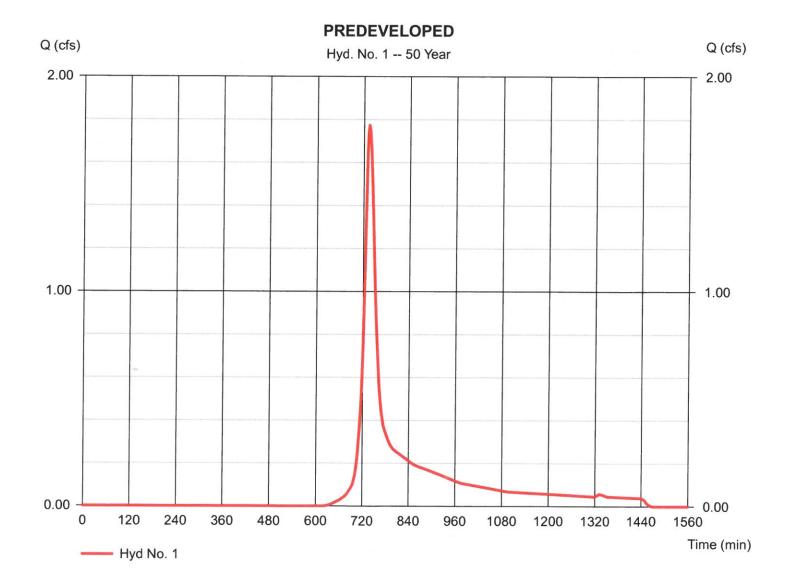
Hyd. No. 1

PREDEVELOPED

Hydrograph type = SCS Runoff Storm frequency = 50 yrsTime interval $= 2 \min$ Drainage area = 1.000 acBasin Slope = 0.0 % Tc method = USER Total precip. = 6.35 inStorm duration = 24 hrs

Peak discharge = 1.774 cfs
Time to peak = 734 min
Hyd. volume = 8,143 cuft
Curve number = 61
Hydraulic length = 0 ft

Time of conc. (Tc) = 17.00 min
Distribution = Type III
Shape factor = 484



Hydraflow Hydrographs by Intelisolve v9.22

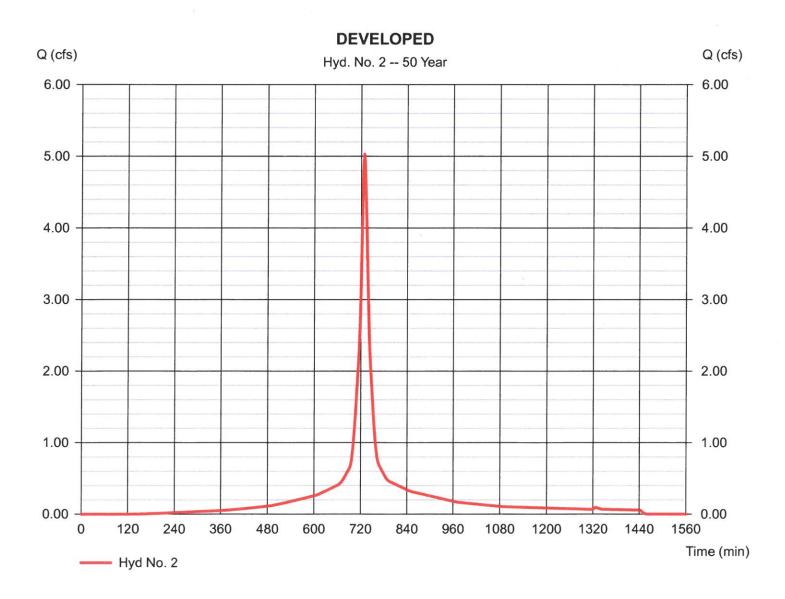
Monday, Mar 30, 2020

Hyd. No. 2

DEVELOPED

Hydrograph type = SCS Runoff Peak discharge = 5.030 cfsStorm frequency = 50 yrsTime to peak $= 728 \, \text{min}$ Time interval = 2 min Hyd. volume = 20,695 cuft Curve number Drainage area = 1.000 ac= 93* Basin Slope Hydraulic length = 0.0 %= 0 ftTime of conc. (Tc) = 10.00 minTc method = USER Total precip. = 6.35 inDistribution = Type III Storm duration = 24 hrs Shape factor = 484

^{*} Composite (Area/CN) = [(0.180 x 69) + (0.820 x 98)] / 1.000



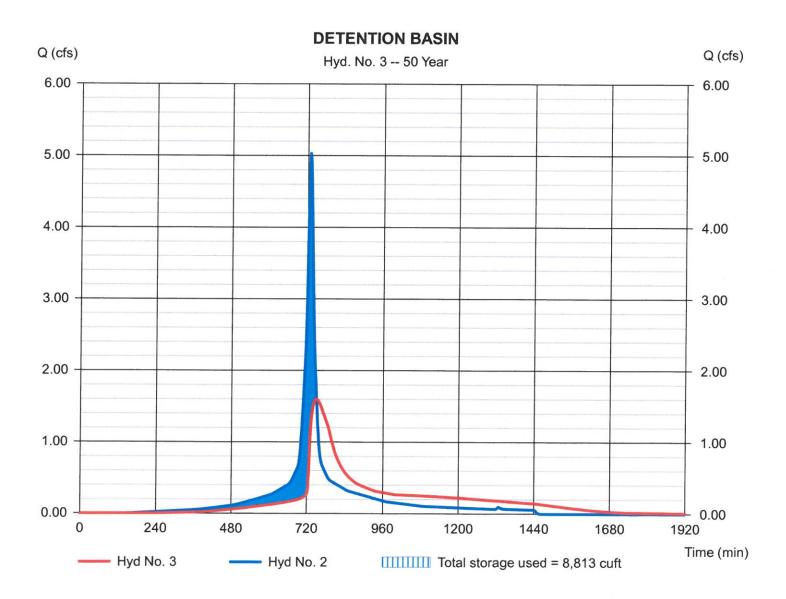
Hydraflow Hydrographs by Intelisolve v9.22

Monday, Mar 30, 2020

Hyd. No. 3

DETENTION BASIN

Hydrograph type = Reservoir Peak discharge = 1.598 cfsStorm frequency = 50 yrs Time to peak $= 750 \, \text{min}$ Time interval = 2 min Hyd. volume = 20,679 cuft Max. Elevation Inflow hyd. No. = 2 - DEVELOPED $= 654.29 \, \mathrm{ft}$ Reservoir name = ROOF DENTENTION POND JAN 31 20 Max. Storage = 8,813 cuft



Hydraflow Hydrographs by Intelisolve v9.22

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= Type III

= 484

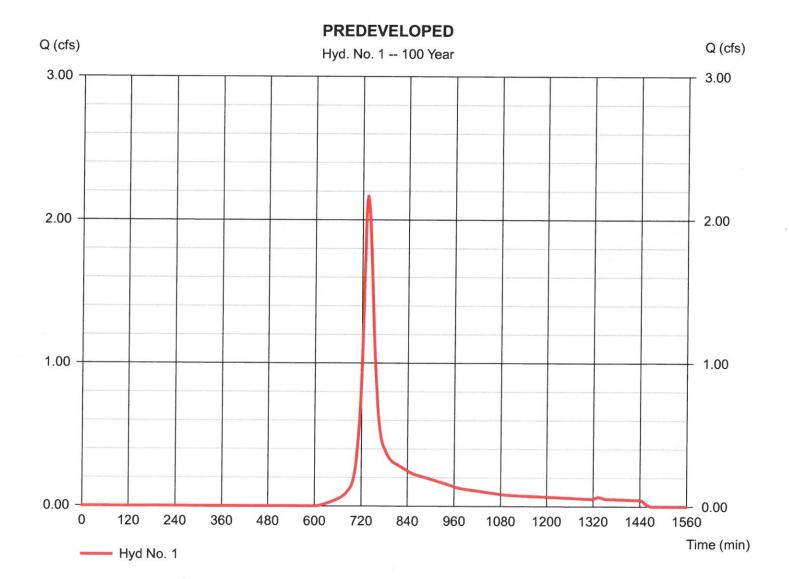
Hyd. No. 1

PREDEVELOPED

Hydrograph type = SCS Runoff Storm frequency = 100 yrsTime interval = 2 minDrainage area = 1.000 ac Basin Slope = 0.0 %Tc method = USER Total precip. = 7.00 inStorm duration = 24 hrs

Peak discharge = 2.166 cfsTime to peak $= 734 \min$ Hyd. volume = 9,808 cuftCurve number = 61 Hydraulic length = 0 ftTime of conc. (Tc) = 17.00 minDistribution

Shape factor



Hydraflow Hydrographs by Intelisolve v9.22

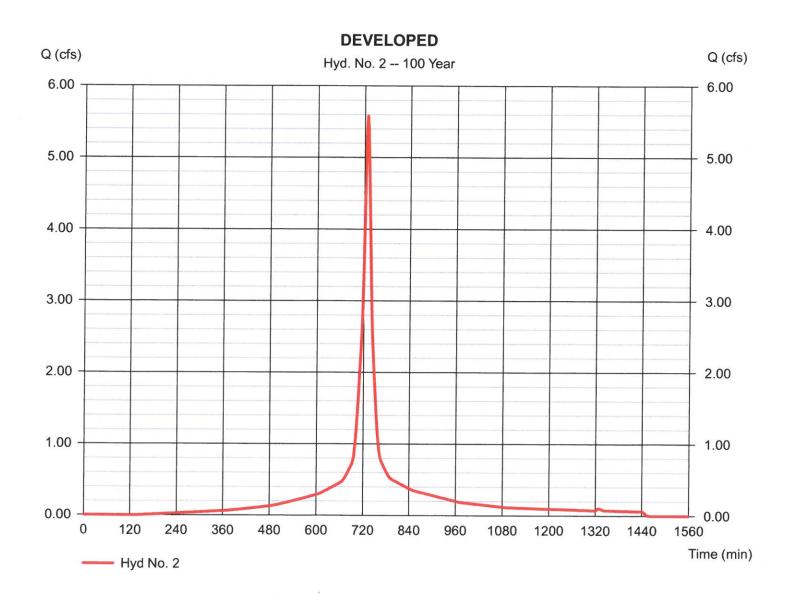
Monday, Mar 30, 2020

Hyd. No. 2

DEVELOPED

Hydrograph type = SCS Runoff Peak discharge = 5.581 cfsStorm frequency = 100 yrsTime to peak = 728 min Time interval = 2 minHyd. volume = 23,102 cuft Curve number Drainage area = 1.000 ac= 93* Basin Slope = 0.0 %Hydraulic length = 0 ftTc method Time of conc. (Tc) = 10.00 min= USER Total precip. = 7.00 inDistribution = Type III Storm duration = 24 hrs Shape factor = 484

^{*} Composite (Area/CN) = [(0.180 x 69) + (0.820 x 98)] / 1.000



Hydraflow Hydrographs by Intelisolve v9.22

Monday, Mar 30, 2020

Hyd. No. 3

DETENTION BASIN

Hydrograph type Peak discharge = 1.795 cfs= Reservoir Storm frequency Time to peak = 100 yrs= 750 min Time interval Hyd. volume = 23,086 cuft = 2 minMax. Elevation Inflow hyd. No. = 2 - DEVELOPED = 654.46 ftReservoir name = ROOF DENTENTION POND JAN 31 2020 Cax. Storage = 9,716 cuft

