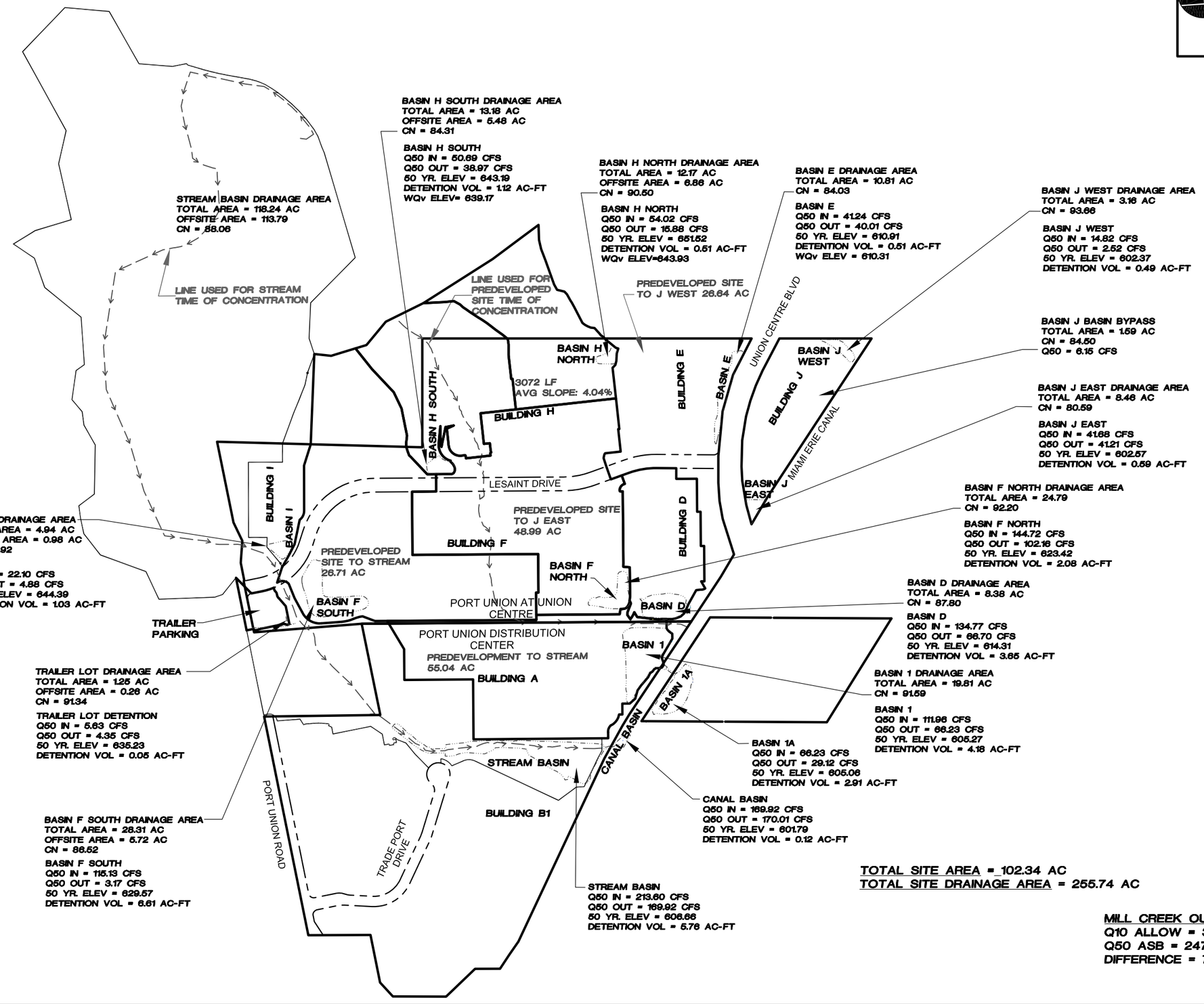

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SCALE: 1" = 600'

Item	Revision Description	Date	Drwn	Chkr
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PORT UNION AT UNION CENTRE - BUILDING E

UNION CENTRE BLVD
HAMILTON, OH 45011
WEST CHESTER TOWNSHIP, BUTLER COUNTY, OHIO
SECTION 10, TOWN 2, RANGE 2

DETENTION DRAINAGE AREAS

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Drawing: 15-0084 DR OVERALL
Drawn by: RWB
Checked By: MJL
Issue Date: 03-17-16
Sheet: DR-S

Plot time: Apr 28, 2016 – 4:11pm – Login Name: morkischniet
Drawing name: J:\2015\15-0084\CV\Design Calcs\15-0084 DR OVERALL.dwg – Layout Tab: DR-A DRAIN AREA

bayer becker

Storm Water Detention/Retention Design

Date: 3/18/2016 Revised: Design Method:
Design By: RWB Revised: SCS & TR-55 Method Using
Checked By: MJL Revised: Hydroflow Hydrographs

Project: Port Union at Union Centre Building E File No.: 15-0084
County: Butler City/Township: West Chester Township

Design Criteria And Comments:
Reduce 50 year post-developed storm (critical storm) runoff to that of a 10 year pre-developed storm runoff. Check 100 year runoff for post-developed conditions.

Site Area: 102.34 Acres
Site Drainage Area: 101.73 Acres

Soils: See A-4

Soils Type: 0.0 % A 93.5 % B 6.5 % C % D

Cover: Existing: 60% Agriculture, 30% pasture, 10% wooded
Proposed: 80% impervious, 20% grass

Predev: Area = 255.74 acres
CN = 74.06 (See A-4)
Time of Concentration: 2,147' @ 5.42% avg slope
t_c = 35.62 minutes (See Right)

L (ft) = 2147.00
L' (ft) = 2141.00
Elev 1 = 723.00
Elev 2 = 607.00
s (%) = 5.42
c = 0.35
t_c (min) = 35.62
$=1.8(1.1-c)L^{1/2}/s^{1/3}$

Offsite: Area = 154.58 acres
CN = 74.06 (See A-4)
Time of Concentration: 2,147' @ 5.42% avg slope
t_c = 35.62 minutes (See Right)

Bypass: Area = 1.59 acres
CN = 84.50 (See A)
Time of Concentration: 10 minute minimum
t_c = 10.00 minutes

Comments: Detention to be spread over the site in various basins. For these calculations, Basins F South, Stream Basin, Canal Basin, Basin F North, Basin D, Basin 1, Basin 1A and J West are As-Built. The site drainage area was split into three analysis points, J West Outflow, J East Outflow, and the Stream Outflow. The stream basin is included to show the impacts to the release rate for the stream outflow.

Analysis Point: Stream Basin

Soils: See A-4

Soils Type: 0.0 % A 93.5 % B 6.5 % C 0.0 % D

Cover: Existing: 60% Agriculture, 30% pasture, 10% wooded
Proposed: 80% impervious, 20% grass

Predev: Area = 165.7 acres
CN = 74.06 (See A-4)
Time of Concentration: 2,147' @ 5.42% avg slope
t_c = 35.62 minutes (See Right)
$Q_{10}^{PRESITE}$ = 207.11 cfs (See B)

Post Developed to Basin: Area = 172.55 acres
CN = 74.06 (See A-4)
Time of Concentration: 2,147' @ 5.42% avg slope
t_c = 35.62 minutes (See Right)

L (ft) = 2147.00
L' (ft) = 2141.00
Elev 1 = 723.00
Elev 2 = 607.00
s (%) = 5.42
c = 0.35
t_c (min) = 35.62
$=1.8(1.1-c)L^{1/2}/s^{1/3}$

Allowable: Q_{ALLOW} = 207.11 cfs

Comments: The areas contributing to the stream outflow are the Stream Basin, Canal Basin, Basin 1A, Basin F South, Basin I, Trailer Lot Basin. The stream basin includes several offsite areas analysis was performed with the offsite areas being reduced from a 50 yr event to a 10 yr event to help prevent flooding further downstream.

Analysis Point: J East Outfall

Soils: See A-4

Soils Type: 0.0 % A 93.5 % B 6.5 % C 0.0 % D

Cover: Existing: 60% Agriculture, 30% pasture, 10% wooded
Proposed: 80% impervious, 20% grass

J East Allowable

Predev:
Area = 48.38 acres
CN = 74.06 (See A-4)
Time of Concentration: 2,147' @ 5.42% avg slope
t_c = 35.62 minutes (See Right)
$Q_{10}^{PRESITE}$ = 60.47 cfs (See C1)

Offsite:
Area = 7.84 acres
CN = 74.06 (See A-4)
Time of Concentration: 2,147' @ 5.42% avg slope
t_c = 35.62 minutes (See Right)
$Q_{50}^{OFFSITE}$ = 14.71 cfs (See C2)

Bypass:
Area = 0 acres
CN = 0.00
Time of Concentration: 0
t_c = 0.00 minutes
Q_{50}^{BYPASS} = 0.00 cfs

Allowable: Q_{ALLOW} = 75.18 cfs

L (ft) =	2147.00
L' (ft) =	2141.00
Elev 1 =	723.00
Elev 2 =	607.00
s (%) =	5.42
c =	0.35
t_c (min) =	35.62
	$=1.8(1.1-c)L^{1/2}/s^{1/3}$

Comments: The areas contributing to J East Outfall are Basin H South, Basin F North, Basin D, and Basin J East

Analysis Point: J West Outfall

Soils: See A-4

Soils Type: 0.0 % A 93.5 % B 6.5 % C 0.0 % D

Cover: Existing: 60% Agriculture, 30% pasture, 10% wooded
Proposed: 80% impervious, 20% grass

J West Allowable

Predev: Area = 26.64 acres
CN = 74.06 (See A-4)
Time of Concentration: 2,147' @ 5.42% avg slope
t_c = 35.62 minutes (See Right)
$Q_{10}^{PRESITE}$ = 33.30 cfs (See D1)

L (ft) = 2147.00
L' (ft) = 2141.00
Elev 1 = 723.00
Elev 2 = 607.00
s (%) = 5.42
c = 0.35
t_c (min) = 35.62
$=1.8(1.1-c)L^{1/2}/s^{1/3}$

Offsite: Area = 7.21 acres
CN = 74.06 (See A-4)
Time of Concentration: 2,147' @ 5.42% avg slope
t_c = 35.62 minutes (See Right)
$Q_{50}^{OFFSITE}$ = 13.53 cfs (See D2)

Bypass: Area = 1.59 acres
CN = 84.50
Time of Concentration: 10 minute minimum
t_c = 10.00 minutes
Q_{50}^{BYPASS} = 6.15 cfs (See D3)

Allowable: Q_{ALLOW} = 40.68 cfs

Comments: The areas contributing to J West Outfall are Basin H North, Basin E, Basin J West, and Building J Bypass

Mill Creek Allowable

Analysis Point: Mill Creek Outfall

Allowable: Q_{ALLOW} = 319.69 cfs (See D4)

Comments: Mill Creek Allowable is a routed combination of the stream outfall, J east outfall and J west outfall

Offsite Area: 0.26 Acres
Site Area: 0.99 Acres
Total Drainage Area: 1.25 Acres

Basin Description: Trailer Lot (Future)

Soils: See A-5

Soils Type: ____ % A 100.0 % B ____ % C ____ % D

Cover: Proposed Site Conditions
Impervious Area = 0.97 Acres, Grass Area = 0.02 Acres

Critical Storm Flow:

CN = 91.34 (See A-5)
Time of Concentration: 10 min from Trailer Lot Stm Calcs
t_c = 10.00 minutes (See Storm Calcs)
Q_{50} = 5.63 cfs (See E1)

Route Through Basin = 4.35 cfs Outflow (See E2)
Detention/Retention Elevation: 635.23

Critical Storm Water Quality Route Through Basin = 4.35 cfs Outflow (See E3)
Water Quality Detention/Retention Elev: 635.23

100 Year Flow:

CN = 91.34 (See A-5)
Time of Concentration: 10 min from Trailer Lot Stm Calcs
t_c = 10.00 minutes (See Storm Calcs)
Q_{100} = 6.22 cfs (See E4)

Route Through Basin = 4.78 cfs Outflow (See E5)
Detention/Retention Elevation: 635.61

100 Year Water Quality Route Through Basin = 4.78 cfs Outflow (See E6)
Water Quality Detention/Retention Elev: 635.61

Basin Design:

Detention Volume: 0.05 Acre-ft at Elevation: 635.61 (See E7)

Outflow Structure: 41'-12" STM @ 0.50% with 11" orifice
Inlet Inv. = 630.96 Outlet Inv = 630.76

Riser Structure		
Orifice	Number - Size (in)	Inv Elev
T/Grate		
3		
2		
1	11" ∅	630.96

Spillway: $Q_{100} = C\ L\ H^{3/2}$ C = 3.0 L = 11.00 H = 0.33
Spillway Invert = 639.83 100-Yr Weir Flow = 640.16
Top of Dike Elevation = 640.75 Freeboard = 0.59
Spillway Side Slope (_ : 1) = 133.33

Comments: Water Quality to be provided by catch basin insert in paving.
East Jordan Iron Works Grate 5110, Type M2 to be used on catch basin.

Offsite Area: 0.98 Acres
Site Area: 3.95 Acres
Total Drainage Area: 4.94 Acres

Basin Description: Basin I (Future)

Water Quality:
Draw Down Time: 24 hrs
Runoff Coefficient: 0.89
Required Volume: 11,495 ft^3
Water Quality Elevation: 640.47
Release Rate: 0.13 cfs
Orifice Size: 1.5 in

Cover: Proposed Site Conditions
Impervious Area = 3.24 Acres, Grass Area = 0.72 Acres

Soils Type: ____ % A 89.3 % B 10.7 % C ____ % D (See A-6)

Critical Storm Flow:
CN = 90.92 (See A-6)
Time of Concentration: Estimate 10 min + 450' @ 3 ft/s
t_c = 12.50 minutes (See Storm Calcs)
Q_{50} = 22.10 cfs (See F1)

Route Through Basin = 4.88 cfs Outflow (See F2)
Detention/Retention Elevation: 644.39

Water Quality Route Through Basin = 4.55 cfs Outflow (See F3)
Water Quality Detention/Retention Elev: 643.74

100 Year Flow:
CN = 90.92 (See A-6)
Time of Concentration: Estimate 10 min + 450' @ 3 ft/s
t_c = 12.50 minutes (See Storm Calcs)
Q_{100} = 24.40 cfs (See F4)

Route Through Basin = 7.05 cfs Outflow (See F5)
Detention/Retention Elevation: 644.68

Water Quality Route Through Basin = 4.91 cfs Outflow (See F6)
Water Quality Detention/Retention Elev: 644.21

Basin Design:
Detention Volume: 1.03 Acre-ft at Elevation: 644.68 (See F7)

Outflow Structure: 80'-18" STM @1.00%
Inlet Inv. = 635.50 Outlet Inv = 634.70

Riser Structure		
Orifice	Number - Size (in)	Inv Elev
T/Grate	1- 8'	644.50
3		
2	1 - 10" ∅	640.50
1	1 - 1.5" ∅	635.50

Spillway: $Q_{100} = C\ L\ H^{3/2}$ C = 2.6 L = 30.00 H = 0.46
Spillway Invert = 645.00 100-Yr Weir Flow = 645.46
Top of Dike Elevation = 646.00 Freeboard = 0.54
Spillway Side Slope (_ : 1) = 3.00

Comments: This Basin is to be built with Building I, it is intended to be a dry basin with a 24 hr draw down time since a 48 hr draw down time will reduce the orifice to 1" in diameter. (See F10 for water quality calculations)

Offsite Area: 5.72 Acres
Site Area: 22.59 Acres
Total Drainage Area: 28.31 Acres

Basin Description: F South Basin Asbuilt

Soils: See A-7

Soils Type: ____ % A 97.4 % B 2.6 % C ____ % D

Cover: Proposed Site Conditions
Impervious Area = 15.28 Ac., Grass Area = 7.31 Ac.

Critical Storm Flow:

CN = 86.52 (See A-7)
Time of Concentration: 12.97 minutes from storm calcs
t_c = 12.97 minutes (See Storm Calcs)
Q_{50} = 115.13 cfs (See G1)

Route Through Basin = 3.17 cfs Outflow (See G2)
Detention/Retention Elevation: 629.57

100 Year Flow:

CN = 86.52 (See A-7)
Time of Concentration: 12.97 minutes from storm calcs
t_c = 12.97 minutes (See Storm Calcs)
Q_{100} = 128.47 cfs (See G3)

Route Through Basin = 3.45 cfs Outflow (See G4)
Detention/Retention Elevation: 630.19

Basin Design:

Detention Volume: 6.61 Acre-ft at Elevation: 630.19 (See G5)

Outflow Structure: 88'-12" STM @ 0.43% with 9" orifice
Inlet Inv. = 622.21 Outlet Inv = 621.83

Riser Structure		
Orifice	Number - Size (in)	Inv Elev
T/Grate		
3		
2		
1	1 - 9" ∅	622.21

Spillway: $Q_{100} = C\ L\ H^{3/2}$ C = 2.6 L = 40.00 H = 1.15
Spillway Invert = 631.00 100-Yr Weir Flow = 632.15
Top of Dike Elevation = 633.00 Freeboard = 0.85
Spillway Side Slope (_ : 1) = 133.33

Comments: Calculations done with tailwater at 626.29.

Offsite Area: 113.79 Acres
Site Area: 4.45 Acres
Total Drainage Area: 118.24 Acres

Basin Description: Stream Basin Asbuilt

Soils: See A-8

Soils Type: ____ % A 75.5 % B 24.5 % C ____ % D

Cover: Proposed Site Conditions
Impervious Area = 0.86 Ac., Grass Area = 3.59 Ac.

Critical Storm Flow:

CN = 88.06 (See A-8)
Time of Concentration: 7,386' @ 1.67% average slope
t_c = 78.31 minutes (See Right)
Q_{50} = 205.25 cfs (See H1)

Add hydrographs: Trailer Lot, Basin I, Basin F South, Stream Runoff
Total Q_{50}= 213.60 cfs (See H2)

Route Through Basin = 169.92 cfs Outflow
Detention/Retention Elevation: 606.66

L (ft) =	7386.00
L' (ft) =	7386.00
Elev 1 =	724.00
Elev 2 =	601.00
s (%) =	1.67
c =	0.50
t_c (min) =	78.31

$=1.8(1.1-c)L^{1/2}/s^{1/3}$

100 Year Flow:

CN = 88.06 (See A-8)
Time of Concentration: 7,386' @ 1.67% average slope
t_c = 78.31 minutes (See Right)
Q_{100} = 228.49 cfs (See H4)

Add hydrographs: Trailer Lot, Basin I, Basin F South, Stream Runoff
Total Q_{100}= 237.43 cfs (See H5)

Route Through Basin = 187.06 cfs Outflow
Detention/Retention Elevation: 607.07

Basin Design:

Detention Volume: 5.76 Acre-ft at Elevation: 607.07 (See H6)

Outflow Structure: 4.59 ft weir with 2:1 side slopes
Inlet Inv. = 600.65 Outlet Inv = ____

Riser Structure		
Orifice	Number - Size (in)	Inv Elev
T/Grate		
3		
2		
1		

Spillway: $Q_{100} = C\ L\ H^{3/2}$ C = ____ L = ____ H = ____
Spillway Invert = ____ 100-Yr Weir Flow = ____
Top of Dike Elevation = ____ Freeboard = ____
Spillway Side Slope (_ : 1) = ____

Comments: Basin not counted in detention for Port Union at Union Centre. Calculated for impact only.

Offsite Area: 0.00 Acres
Site Area: 0.00 Acres
Total Drainage Area: 0.00 Acres

Basin Description: Canal Basin

Soils:

Soils Type: % A % B % C % D

Cover:

Critical Storm Flow:

CN = 0.00
Time of Concentration:
t_c = 0.00 minutes
Q_{50} = 0.00 cfs

Add hydrographs: Direct flow from Stream Basin with little additional area
Total Q_{50}= 169.92 cfs

Route Through Basin = 170.01 cfs Outflow (See I1)
Detention/Retention Elevation: 601.79

100 Year Flow:

CN = 0.00
Time of Concentration: 0
t_c = 0.00 minutes
Q_{100} = 0.00 cfs

Add hydrographs: Direct flow from Stream Basin with little additional area
Total Q_{100}= 187.06 cfs

Route Through Basin = 187.02 cfs Outflow (See I2)
Detention/Retention Elevation: 601.92

Basin Design:

Detention Volume: 0.12 Acre-ft at Elevation: 601.92 (See I3)

Outflow Structure: 17 ft weir
Inlet Inv. = 599.70 Outlet Inv =

Riser Structure		
Orifice	Number - Size (in)	Inv Elev
T/Grate		
3		
2		
1		

Spillway: $Q_{100} = C\ L\ H^{3/2}$ C = 3.3 L = 17.00 H = 2.23
Spillway Invert = 599.70 100-Yr Weir Flow = 601.93
Top of Dike Elevation = 602.50 Freeboard = 0.57
Spillway Side Slope (_ : 1) = 100.00

Comments: Basin not counted in detention for Port Union at Union Centre. Calculated for impact only. Outflow from Canal and Basin 1A must be less than allowable outflow.

Offsite Area: 5.48 Acres
Site Area: 7.69 Acres
Total Drainage Area: 13.18 Acres

Basin Description: H South Basin

Water Quality:
Draw Down Time: 48 hrs
Runoff Coefficient: 0.69
Required Volume: 17,167 ft^3
Water Quality Elevation: 640.56
Release Rate: 0.10 cfs
Orifice Size: 1.25 in

Cover: Proposed Site Conditions
Impervious Area = 4.13 Ac., Grass Area = 3.57 Ac.

Soils Type: % A 89.9 % B 10.1 % C % D (See A-9)

Critical Storm Flow:
CN = 84.31 (See A-9)
Time of Concentration: 12.52 min from storm calcs
t_c = 12.52 minutes (See Storm Calcs)
Q_{50} = 50.69 cfs (See J1)

Route Through Basin = ~~36.09~~ 38.33 cfs Outflow (See J2)
Detention/Retention Elevation: ~~643.22~~ 643.14

Water Quality Route Through Basin = ~~36.06~~ 38.97 cfs Outflow (See J3)
Water Quality Detention/Retention Elev: ~~643.20~~ 643.19

100 Year Flow:
CN = 84.31 (See A-9)
Time of Concentration: 12.52 min from storm calcs
t_c = 12.52 minutes (See Storm Calcs)
Q_{100} = 56.89 cfs (See J4)

Route Through Basin = ~~37.33~~ 39.92 cfs Outflow (See J5)
Detention/Retention Elevation: ~~643.69~~ 643.51

Water Quality Route Through Basin = ~~37.32~~ 40.06 cfs Outflow (See J6)
Water Quality Detention/Retention Elev: ~~643.68~~ 643.58

Basin Design:
Detention Volume: 1.12 Acre-ft at Elevation: 643.69 (See J7)

Outflow Structure: ~~82'~~ 150 ~~24" STM @ 1.00%~~ 2.66
Inlet Inv. = ~~634.84~~ 633.52 Outlet Inv = ~~634.02~~ 628.53

Riser Structure		
Orifice	Number - Size (in)	644.02 Inv Elev
T/Grate	1 - 8'	~~643.75~~
3		
2	3 - 6" x 48"	641.00
1	1 - 1-1/4" ∅	~~634.84~~

Spillway: $Q_{100} = C\ L\ H^{3/2}$ C = 2.6 L = 30.00 H = 0.81 633.52
Spillway Invert = ~~644.00~~ 644.30 100-Yr Weir Flow = 644.81
Top of Dike Elevation = 645.50 Freeboard = 0.69
Spillway Side Slope (_ : 1) = 3.00

Comments: See J10 for water quality calculations

Offsite Area: 0.00 Acres Basin Description: F North Basin Asbuilt
Site Area: 24.79 Acres
Total Drainage Area: 24.79 Acres

Soils: See A-10

Soils Type: ____ % A 97.1 % B 2.9 % C ____ % D

Cover: Proposed Site Conditions
Impervious Area = 20.86 Ac., Grass Area = 3.93 Ac.

Critical Storm Flow:

CN = 92.20 (See A-10)
Time of Concentration: 13.79 minutes from storm calcs
t_c = 13.79 minutes (See Storm Calcs.)
Q_{50} = 113.51 cfs (See K1)

Add hydrographs: Basin H South, F North Runoff
Total Q_{50}= ~~144.94~~ cfs 144.72 (See K2)

Route Through Basin = 102.16 ~~104.84~~ cfs Outflow
Detention/Retention Elevation: ~~623.52~~ 623.44

100 Year Flow:

CN = 92.20 (See A-10)
Time of Concentration: 13.79 minutes from storm calcs
t_c = 13.79 minutes (See Storm Calcs.)
Q_{100} = 125.02 cfs (See K3)

Add hydrographs: Basin H South, F North Runoff
Total Q_{100}= ~~159.95~~ cfs 159.36 (See K4)

Route Through Basin = 127.88 ~~125.42~~ cfs Outflow
Detention/Retention Elevation: ~~623.85~~ 623.87

Basin Design:

Detention Volume: 2.08 Acre-ft at Elevation: 623.85 (See K5)

Outflow Structure: 123'-48" STM @ 1.20%, 123' - 60" STM @ w/ Risers
Inlet Inv. = 609.82 Outlet Inv = 608.34

Riser Structure		
Orifice	Number - Size (in)	Inv Elev
T/Grate	1 - 8'	623.66
3	4 - 10" x 72"	622.94
2	1 - 24" x 24"	618.08
1	1 - 21" Ø	609.82

Spillway: $Q_{100} = C\ L\ H^{3/2}$ C = 2.6 L = 95.00 H = 0.75
Spillway Invert = 624.29 100-Yr Weir Flow = 625.04
Top of Dike Elevation = 625.59 Freeboard = 0.55
Spillway Side Slope (_ : 1) = 3.00

Comments: Basin outlets into Basin D. Orifice to be changed from 37" to 21" dia.

Offsite Area: 0.00 Acres Basin Description: D Basin Asbuilt
Site Area: 8.38 Acres
Total Drainage Area: 8.38 Acres

Soils: See A-11

Soils Type: ____ % A 100.0 % B ____ % C ____ % D

Cover: Proposed Site Conditions
Impervious Area = 6.07 Ac., Grass Area = 2.31 Ac.

Critical Storm Flow:

CN = 87.80 (See A-11)
Time of Concentration: 12.38 minutes from storm calcs
t_c = 12.38 minutes (See Storm Calcs)
Q_{50} = 35.13 cfs (See L1)

Add hydrographs: Basin F North, D runoff
Total Q_{50}= ~~139.97~~ cfs 134.77 (See L2)

Route Through Basin = 66.70 ~~68.56~~ cfs Outflow (See L2)
Detention/Retention Elevation: ~~614.33~~ 614.31

100 Year Flow:

CN = 87.80 (See A-11)
Time of Concentration: 12.38 minutes from storm calcs
t_c = 12.38 minutes (See Storm Calcs)
Q_{100} = 39.08 cfs (See L3)

Add hydrographs: Basin F North, D runoff
Total Q_{100}= ~~160.02~~ cfs 151.10 (See L4)

Route Through Basin = 87.01 ~~87.93~~ cfs Outflow (See L4)
Detention/Retention Elevation: ~~614.60~~ 614.58

Basin Design:

Detention Volume: 3.65 Acre-ft at Elevation: 614.60 (See L5)

Outflow Structure: 191' - 42" STM @ 0.55%
Inlet Inv. = 603.05 Outlet Inv = 602.00

Riser Structure		
Orifice	Number - Size (in)	Inv Elev
T/Grate		
3		
2	20' Weir	613.54
1	1 - 20" ∅	603.05

Spillway: $Q_{100} = C\ L\ H^{3/2}$ C = 2.6 L = 34.00 H = 1.49
Spillway Invert = 614.79 100-Yr Weir Flow = 616.28
Top of Dike Elevation = 618.00 Freeboard = 1.72
Spillway Side Slope (_ : 1) = 3.00

Comments: Change orifice plate from 33" to 20" dia.

Offsite Area: 0.00 Acres Basin Description: Basin 1 Asbuilt
Site Area: 19.81 Acres
Total Drainage Area: 19.81 Acres

Soils: See A-12

Soils Type: ____ % A 74.9 % B 25.1 % C ____ % D

Cover: Proposed Site Conditions
Impervious Area = 16.05 Ac., Grass Area = 3.76 Ac.

Critical Storm Flow:

CN = 91.59 (See A-12)
Time of Concentration: 13.89 minutes from storm calcs
t_c = 13.89 minutes (See Storm Calcs)
Q_{50} = 89.76 cfs (See M1)

Add hydrographs: Basin D weir, Basin 1 runoff
Total Q_{50}= ~~112.19~~ 111.96 cfs (See M2)
Route Through Basin = ~~66.41~~ 66.23 cfs Outflow
Detention/Retention Elevation: ~~605.07~~ 605.03

100 Year Flow:

CN = 91.59 (See A-12)
Time of Concentration: 13.89 minutes from storm calcs
t_c = 13.89 minutes (See Storm Calcs)
Q_{100} = 98.98 cfs (See M3)

Add hydrographs: Basin D weir, Basin 1 runoff
Total Q_{100}= ~~122.61~~ 122.32 cfs (See M4)
Route Through Basin = ~~72.17~~ 72.14 cfs Outflow
Detention/Retention Elevation: ~~605.27~~ 605.27

Basin Design:

Detention Volume: 4.18 Acre-ft at Elevation: 605.27 (See M5)

Outflow Structure: (2) 64' - 54" Conc. @ 0.71% & 0.78%
Inlet Inv. = 602.15 Outlet Inv = 601.70

Riser Structure		
Orifice	Number - Size (in)	Inv Elev
T/Grate		
3		
2		
1	20' Weir	602.39

Spillway: $Q_{100} = C\ L\ H^{3/2}$ C = 2.6 L = 100.00 H = 0.61
Spillway Invert = 605.91 100-Yr Weir Flow = 606.52
Top of Dike Elevation = 607.79 Freeboard = 1.27
Spillway Side Slope (_ : 1) = 3.00

Comments: Basin not counted in detention for Port Union at Union Centre. Calculations done for impact only.

Offsite Area: 0.00 Acres Basin Description: Basin 1A Asbuilt
Site Area: 0.00 Acres
Total Drainage Area: 0.00 Acres

Soils:

Soils Type: % A % B % C % D

Cover:

Critical Storm Flow:

CN = 0.00
Time of Concentration:
t_c = 0.00 minutes
Q_{50} = 0.00 cfs

Add hydrographs: Basin 1 Outflow
Total Q_{50}= ~~66.41~~ cfs
66.23
Route Through Basin = 29.12 cfs Outflow (See N1)
Detention/Retention Elevation: 605.06

Allowable Release Rate:
50 year Release= 199.13 < 207.11 Allowable Release Rate
(Canal Basin + Basin 1A) (Stream Basin Allowable Outflow)

100 Year Flow:

CN = 0.00
Time of Concentration: 0
t_c = 0.00 minutes
Q_{100} = 0.00 cfs

Add hydrographs: Basin 1 Outflow
Total Q_{100}= ~~72.17~~ cfs
72.14
Route Through Basin = 30.08 cfs Outflow (See N2)
Detention/Retention Elevation: 605.32

Basin Design:

Detention Volume: 2.91 Acre-ft at Elevation: 605.32 (See N3)

Outflow Structure: 110' - 24" STM @ 0.44%
Inlet Inv. = 599.72 Outlet Inv = 599.24

Riser Structure		
Orifice	Number - Size (in)	Inv Elev
T/Grate		
3		
2		
1		

Spillway: $Q_{100} = C\ L\ H^{3/2}$ C = 2.6 L = 20.00 H = 1.24
Spillway Invert = 606.34 100-Yr Weir Flow = 607.58
Top of Dike Elevation = 607.22 Freeboard = -0.36
Spillway Side Slope (_ : 1) = 3.00

Comments: Basin not counted in detention for Port Union at Union Centre. Calculations done for impact only.

Offsite Area: 0.00 Acres Basin Description: J East Basin
Site Area: 8.46 Acres
Total Drainage Area: 8.46 Acres

Soils: See A-13

Soils Type: ____ % A 100.0 % B ____ % C ____ % D

Cover: Proposed Site Conditions
Impervious Area = 4.48 Ac., Grass Area = 3.66 Ac.

Critical Storm Flow:

CN = 80.59 (See A-13)
Time of Concentration: 12.67 minutes from storm calcs
t_c = 12.67 minutes (See Storm Calcs)
Q_{50} = 29.29 cfs (See O1)

Add hydrographs: Basin D, J East Runoff
Total Q_{50}= ~~43.93~~ 41.68 cfs (See O2)
Route Through Basin = ~~42.15~~ 41.21 cfs Outflow (See O3)
Detention/Retention Elevation: ~~602.58~~ 602.57

Allowable Release Rate:
50 year Release= ~~42.15~~ 41.21 < 75.18 Allowable Release Rate (Detains an extra ~~33.03~~ 33.97 cfs)
(Basin J East) (J East Allowable Outflow)

100 Year Flow:

CN = 80.59 (See A-13)
Time of Concentration: 12.67 minutes from storm calcs
t_c = 12.67 minutes (See Storm Calcs)
Q_{100} = 33.21 cfs (See O4)

Add hydrographs: Basin D, J East Runoff
Total Q_{100}= ~~63.46~~ 62.25 cfs (See O5)
Route Through Basin = ~~62.15~~ 61.19 cfs Outflow (See O6)
Detention/Retention Elevation: ~~602.71~~ 602.71

Basin Design:

Detention Volume: 0.59 Acre-ft at Elevation: 602.71 (See O7)

Outflow Structure: 32'-15" STM @ 4.98%
Inlet Inv. = 600.07 Outlet Inv = 598.48

Riser Structure		
Orifice	Number - Size (in)	Inv Elev
T/Grate		
3		
2		
1	3' Weir	602.50

Spillway: $Q_{100} = C\ L\ H^{3/2}$ C = 2.6 L = 53.00 H = 0.60
Spillway Invert = 602.18 100-Yr Weir Flow = 602.78
Top of Dike Elevation = 603.50 Freeboard = 0.72
Spillway Side Slope (_ : 1) = 3.00

Comments:

Offsite Area: 6.86 Acres
Site Area: 5.32 Acres
Total Drainage Area: 12.17 Acres

Basin Description: H North Basin

Water Quality:
Draw Down Time: 48 hrs
Required Volume: 13,166 ft^3
Release Rate: 0.08 cfs

Runoff Coefficient: 0.89
Water Quality Elevation: ~~650.33~~ 644.00
Orifice Size: 1.125 in

Cover: Proposed Site Conditions
Impervious Area = 4.05 Ac., Grass Area = 1.27 Ac.

Soils Type: ____ % A 35.0 % B 65.0 % C ____ % D (See A-14)

Critical Storm Flow:
CN = 90.50 (See A-14)
Time of Concentration: 11.27 min from storm calcs
t_c = 11.27 minutes (See Storm Calcs)
Q_{50} = 54.02 cfs (See P1)

Route Through Basin = ~~51.32~~ 15.83 cfs Outflow (See P2)
Detention/Retention Elevation: ~~651.81~~ 651.52

Water Quality Route Through Basin = ~~51.32~~ 15.88 cfs Outflow (See P3)
Water Quality Detention/Retention Elev: ~~651.81~~ 651.47

100 Year Flow:
CN = 90.50 (See A-14)
Time of Concentration: 11.27 min from storm calcs
t_c = 11.27 minutes (See Storm Calcs)
Q_{100} = 59.71 cfs (See P4)

Route Through Basin = ~~56.59~~ 20.35 cfs Outflow (See P5)
Detention/Retention Elevation: ~~651.88~~ 652.12

Water Quality Route Through Basin = ~~56.59~~ 19.92 cfs Outflow (See P6)
Water Quality Detention/Retention Elev: ~~651.88~~ 652.09

Basin Design:
Detention Volume: 0.51 Acre-ft at Elevation: 651.88 (See P7)

Outflow Structure: ~~76" - 36"~~ 98'-24" STM @ ~~1.00%~~ 1.90% with Riser
Inlet Inv. = ~~645.20~~ 639.08 Outlet Inv = ~~644.44~~ 637.22

Riser Structure		
Orifice	Number - Size (in)	Inv Elev
T/Grate	1 - 16'	~~650.75~~ 651.86
3		
2	1-8"X24"	645.10
1	1 - 1-1/8" ∅	~~645.20~~ 639.08

Spillway: $Q_{100} = C\ L\ H^{3/2}$ C = 2.6 L = 30.00 H = 0.84
Spillway Invert = ~~652.00~~ 652.58 100-Yr Weir Flow = 652.84
Top of Dike Elevation = 653.50 Freeboard = 0.66
Spillway Side Slope (_ : 1) = 3.00

Comments: See P9 for water quality calculations

Offsite Area: 0.00 Acres
Site Area: 10.81 Acres
Total Drainage Area: 10.81 Acres

Basin Description: E Basin

Soils: See A-15

Soils Type: ____ % A 99.8 % B 0.2 % C ____ % D

Cover: Proposed Site Conditions
Impervious Area = 6.73 Ac., Grass Area = 4.08 Ac.

Critical Storm Flow:

CN = 84.03 (See A-15)
Time of Concentration: 13.26 minutes from storm calcs
t_c = 13.26 minutes (See Storm Calcs)
Q_{50} = 41.24 cfs (See Q1)

Route Through Basin = 40.01 cfs Outflow (See Q2)
Detention/Retention Elevation: 610.91

100 Year Flow:

CN = 84.03 (See A-15)
Time of Concentration: 13.26 minutes from storm calcs
t_c = 13.26 minutes (See Storm Calcs)
Q_{100} = 53.20 cfs (See Q3)

Route Through Basin = 44.20 cfs Outflow (See Q4)
Detention/Retention Elevation: 610.97

Basin Design:

Detention Volume: 0.51 Acre-ft at Elevation: 610.97 (See Q5)

Outflow Structure: 39' - 36" STM @ 0.55%
Inlet Inv. = 606.26 Outlet Inv = 606.11

Riser Structure		
Orifice	Number - Size (in)	Inv Elev
T/Grate	24'	610.25
3		
2	2.125"	606.50
1	36"	606.42

Spillway: $Q_{100} = C\ L\ H^{3/2}$ C = 2.6 L = 40.00 H = 0.64
Spillway Invert = 611.00 100-Yr Weir Flow = 611.64
Top of Dike Elevation = 612.50 Freeboard = 0.86
Spillway Side Slope (_ : 1) = 3.00

Comments: This basin provides water quality for portions of LeSaint Drive and all of Building E

Offsite Area: 0.00 Acres
Site Area: 3.16 Acres
Total Drainage Area: 3.16 Acres

Basin Description: J West Basin Asbuilt

Soils: See A-16

Soils Type: ____ % A 100.0 % B ____ % C ____ % D

Cover: Proposed Site Conditions
Impervious Area = 2.79 Ac., Grass Area = 0.37 Ac.

Critical Storm Flow:

CN = 93.66 (See A-16)
Time of Concentration: 12.67 minutes from storm calcs
t_c = 12.67 minutes (See Storm Calcs)
Q_{50} = 14.82 cfs (See R1)

Route Through Basin = 2.52 cfs Outflow (See R2)
Detention/Retention Elevation: 602.37

100 Year Flow:

CN = 93.66 (See A-16)
Time of Concentration: 12.67 minutes from storm calcs
t_c = 12.67 minutes (See Storm Calcs)
Q_{100} = 16.28 cfs (See R3)

Route Through Basin = 4.14 cfs Outflow (See R4)
Detention/Retention Elevation: 602.50

Basin Design:

Detention Volume: 0.49 Acre-ft at Elevation: 602.50 (See R5)

Outflow Structure: 35' - 12" STM @ 1.00%
Inlet Inv. = 597.29 Outlet Inv = 596.94

Riser Structure		
Orifice	Number - Size (in)	Inv Elev
T/Grate		
3		
2		
1	1 - 7.5" ∅	597.29

Spillway: $Q_{100} = C\ L\ H^{3/2}$ C = 2.6 L = 50.00 H = 0.25
Spillway Invert = 602.45 100-Yr Weir Flow = 602.70
Top of Dike Elevation = 603.50 Freeboard = 0.80
Spillway Side Slope (_ : 1) = 3.00

Comments: Calculations run with tailwater set at 599.00

Offsite Area: 7.21 Acres
Site Area: 21.17 Acres
Total Drainage Area: 28.38 Acres

Basin Description: J West Outfall

Soils:

Soils Type: % A % B % C % D

Cover:

Critical Storm Flow:

CN = 0.00
Time of Concentration:
t_c = 0.00 minutes
Total Q_{50} = 46.32 cfs (See S3)

100 Year Flow:

CN = 0.00
Time of Concentration:
t_c = 0.00 minutes
Total Q_{100} = 62.06 cfs (See S6)

Comments: Route Basin H and Basin E thru a swale along UCB and back to J West Outfall and add in Basin J West Outflow

Mill Creek Release

Analysis Point: Mill Creek Outfall

Allowable: Q_{ALLOW} = 319.69 cfs

Q_{50} = 247.81 cfs 71.88 Add Reduction (See S7)

Q_{100} = 272.52 cfs (See S8)

Comments: Mill Creek Allowable is a routed combination of the stream outfall, J east outfall and J west outfall

Site Drainage Area

Soils		Area (ft^2)	A Soil (ft^2)	B Soil (ft^2)	C Soil (ft^2)	D Soil (ft^2)
DaA, DaB OcB WyC2 XeA, XeB2, XfB	Dana Ockley Wynn Xenia	4309685	-	4309685	-	-
MsD2	Miamian Russell	76161	-	17898	58263	-
RwB	Miamian Russell		-	0	0	-
EcE2	Eden	245007	-	-	245007	-
Totals	106.31	4630853	0	4327583	303270	0
Percentages		100.00		93.45	6.55	

Note:

Soil areas calculated based on A, B, C, and D soils rather than individually. B/C soils were calculated based on the percentages of B and C soils.

Curve Number Calculations

Predeveloped Site

Land Use	%	A Soil	B Soil	C Soil	D Soil
Agricultural	60.0	67	78	85	89
Pasture	30.0	49	69	79	84
Wooded	10.0	36	60	73	79
Composite	74.06		68.7	5.4	

Developed Site

Land Use	%	A Soil	B Soil	C Soil	D Soil
Impervious	80.0	98	98	98	98
Grass	20.0	39	61	74	80
Composite	90.77		84.7	6.1	

Basin Description: Trailer Lot (Future)

Soils		Area (ft^2)	A Soil (ft^2)	B Soil (ft^2)	C Soil (ft^2)	D Soil (ft^2)
XeB2	Xenia	54516	-	54515.74	-	-
RwB	Miamian Russell		-	0	0	-
EcE2	Eden				0	
Totals	1.25	54516	0	54515.74	0	0
Percentages		100.00		100.00		

Note:

Soil areas calculated based on A, B, C, and D soils rather than individually. B/C soils were calculated based on the percentages of B and C soils.

Curve Number Calculations

Land Use	%	A Soil	B Soil	C Soil	D Soil
Impervious	77.5	98	98	98	98
Grass	1.7	39	61	74	80
Offsite	20.8	49	69	79	84
Composite	91.34		91.3		

Basin Description: Basin I (Future)

Soils		Area (ft^2)	A Soil (ft^2)	B Soil (ft^2)	C Soil (ft^2)	D Soil (ft^2)
WyC2 XeB2	Wynn Xenia	183606	-	183606.00	-	-
MsD2	Miamian Russell	28630	-	6728	21902	-
RwB	Miamian Russell	2893	-	1808	1085	-
Totals	4.94	215129	0	192142	22987	0
Percentages		100.00		89.31	10.69	

Note:

Soil areas calculated based on A, B, C, and D soils rather than individually. B/C soils were calculated based on the percentages of B and C soils.

Curve Number Calculations

Land Use	%	A Soil	B Soil	C Soil	D Soil
Impervious	65.6	98	98	98	98
Grass	14.5	39	61	74	80
Offsite	19.9	81	88	91	93
Composite	90.92		81.0	10.0	

Basin Description: F South Basin Asbuilt

Soils		Area (ft^2)	A Soil (ft^2)	B Soil (ft^2)	C Soil (ft^2)	D Soil (ft^2)
WyC2 XeA, XeB2, XfB	Wynn Xenia	1164832	-	1164832	-	-
MsD2	Miamian Russell	14859	-	3492	11367	-
RwB	Miamian Russell	53626	-	33516	20110	-
Totals	28.31	1233317	0	1201840	31477	0
Percentages		100.00		97.45	2.55	

Note:

Soil areas calculated based on A, B, C, and D soils rather than individually. B/C soils were calculated based on the percentages of B and C soils.

Curve Number Calculations

Land Use	%	A Soil	B Soil	C Soil	D Soil
Impervious	54.0	98	98	98	98
Grass	25.8	39	61	74	80
Offsite	20.2	81	88	91	93
Composite	86.52		84.2	2.3	

Basin Description: Stream Basin Asbuilt

Soils		Area (ft^2)	A Soil (ft^2)	B Soil (ft^2)	C Soil (ft^2)	D Soil (ft^2)	
DaA, DaB WyC2 XeA, XeB, XeB2	Dana Wynn Xenia	3043681	-	3043681	-	-	
MsC2, MsD2	Miamian Russell	205081	-	48194	156887	-	205081
RwB, RwB2 RvB2	Miamian Russell	1145445	-	715903	429542	-	1145445
EcE2 FcA RdA	Eden Fincastle Raub	513260	-	-	513260	-	
MtC2	Miamian Russell	243058	-	80938	162120	-	
Totals	118.24	5150525	0	3888716	1261809	0	
Percentages		100.00		75.50	24.50		

Note:

Soil areas calculated based on A, B, C, and D soils rather than individually. B/C soils were calculated based on the percentages of B and C soils.

Curve Number Calculations

Land Use	%	A Soil	B Soil	C Soil	D Soil
Impervious	0.7	98	98	98	98
Grass	3.0	39	61	74	80
Offsite	96.2	81	88	91	93
Composite	88.06		65.9	22.2	

Basin Description: H South Basin

Soils		Area (ft^2)	A Soil (ft^2)	B Soil (ft^2)	C Soil (ft^2)	D Soil (ft^2)
WyC2 XeB2	Wynn Xenia	459033	-	459033	-	-
RwB	Miamian Russell	91441	-	57151	34290	-
EcE2	Eden	23571	-	-	23571	-
Totals	13.18	574045	0	516184	57861	0
Percentages		100.00		89.92	10.08	

Note:

Soil areas calculated based on A, B, C, and D soils rather than individually. B/C soils were calculated based on the percentages of B and C soils.

Curve Number Calculations

Land Use	%	A Soil	B Soil	C Soil	D Soil
Impervious	31.3	98	98	98	98
Grass	27.0	39	61	74	80
Offsite	41.6	81	88	91	93
Composite	84.31		75.4	8.9	

Basin Description: F North Basin Asbuilt

Soils		Area (ft^2)	A Soil (ft^2)	B Soil (ft^2)	C Soil (ft^2)	D Soil (ft^2)
DaA WyC2 XeA, XeB2, XfB	Dana Wynn Xenia	1048500	-	1048500	-	-
EcE2	Eden	31308	-	-	31308	-
Totals	24.79	1079808	0	1048500	31308	0
Percentages		100.00		97.10	2.90	

Note:

Soil areas calculated based on A, B, C, and D soils rather than individually. B/C soils were calculated based on the percentages of B and C soils.

Curve Number Calculations

Land Use	%	A Soil	B Soil	C Soil	D Soil
Impervious	84.2	98	98	98	98
Grass	15.8	39	61	74	80
Offsite	0	49	69	79	84
Composite	92.20		89.5	2.7	

Basin Description: D Basin Asbuilt

Soils		Area (ft^2)	A Soil (ft^2)	B Soil (ft^2)	C Soil (ft^2)	D Soil (ft^2)
DaA	Dana					
OcB	Oakley					
WyC2	Wynn	365028	-	365028	-	-
XeA, XeB2, XfB	Xenia					
Totals	8.38	365028	0	365028	0	0
Percentages		100.00		100.00		

Note:

Soil areas calculated based on A, B, C, and D soils rather than individually. B/C soils were calculated based on the percentages of B and C soils.

Curve Number Calculations

Land Use	%	A Soil	B Soil	C Soil	D Soil
Impervious	72.4	98	98	98	98
Grass	27.6	39	61	74	80
Offsite	0	49	69	79	84
Composite	87.80		87.8		

Basin Description: Basin 1 Asbuilt

Soils		Area (ft^2)	A Soil (ft^2)	B Soil (ft^2)	C Soil (ft^2)	D Soil (ft^2)
DaA	Dana					
OcB	Oakley					
XeA, XeB, XfB	Xenia	646646	-	646646	-	-
FcA	Fincastle	216489	-	-	216489	-
Totals	19.81	863135	0	646646	216489	0
Percentages		100.00		74.92	25.08	

Note:

Soil areas calculated based on A, B, C, and D soils rather than individually. B/C soils were calculated based on the percentages of B and C soils.

Curve Number Calculations

Land Use	%	A Soil	B Soil	C Soil	D Soil
Impervious	81.0	98	98	98	98
Grass	19.0	39	61	74	80
Offsite	0	49	69	79	84
Composite	91.59		68.2	23.4	

Basin Description: J East Basin

Soils		Area (ft^2)	A Soil (ft^2)	B Soil (ft^2)	C Soil (ft^2)	D Soil (ft^2)
DaA, DaB	Dana					
OcB	Oakley	354275	-	354275	-	-
XeA, XfB	Xenia					
Totals	8.13	354275	0	354275	0	0
Percentages		100.00		100.00		

Note:

Soil areas calculated based on A, B, C, and D soils rather than individually. B/C soils were calculated based on the percentages of B and C soils.

Curve Number Calculations

Land Use	%	A Soil	B Soil	C Soil	D Soil
Impervious	53.0	98	98	98	98
Grass	47.0	39	61	74	80
Offsite	0	49	69	79	84
Composite	80.59		80.6		

Basin Description: H North Basin

Soils		Area (ft^2)	A Soil (ft^2)	B Soil (ft^2)	C Soil (ft^2)	D Soil (ft^2)
WyC2	Wynn	163037	-	163037	-	-
RwB	Miamian Russell	35824	-	22390	13434	-
EcE2	Eden	331383	-	-	331383	-
Totals	12.17	530244	0	185427	344817	0
Percentages		100.00		34.97	65.03	

Note:

Soil areas calculated based on A, B, C, and D soils rather than individually. B/C soils were calculated based on the percentages of B and C soils.

Curve Number Calculations

Land Use	%	A Soil	B Soil	C Soil	D Soil
Impervious	33.3	98	98	98	98
Grass	10.4	39	61	74	80
Offsite	56.3	81	88	91	93
Composite	90.50		31.0	59.5	

Basin Description: E Basin

Soils		Area (ft^2)	A Soil (ft^2)	B Soil (ft^2)	C Soil (ft^2)	D Soil (ft^2)
DaA, DaB WyC2 XeA, XfB	Dana Wynn Xenia	523287	-	523287	-	-
EcE2	Eden	1048	-	-	1048	-
Totals	12.04	524335	0	523287	1048	0
Percentages		100.00		99.80	0.20	

Note:

Soil areas calculated based on A, B, C, and D soils rather than individually. B/C soils were calculated based on the percentages of B and C soils.

Curve Number Calculations

Land Use	%	A Soil	B Soil	C Soil	D Soil
Impervious	65.5	98	98	98	98
Grass	34.5	39	61	74	80
Offsite	0	49	69	79	84
Composite	85.26		85.1	0.2	

Basin Description: J West Basin Asbuilt

Soils		Area (ft^2)	A Soil (ft^2)	B Soil (ft^2)	C Soil (ft^2)	D Soil (ft^2)
DaA, DaB	Dana					
XeA	Xenia	137689	-	137689	-	-
Totals	3.16	137689	0	137689	0	0
Percentages		100.00		100.00		

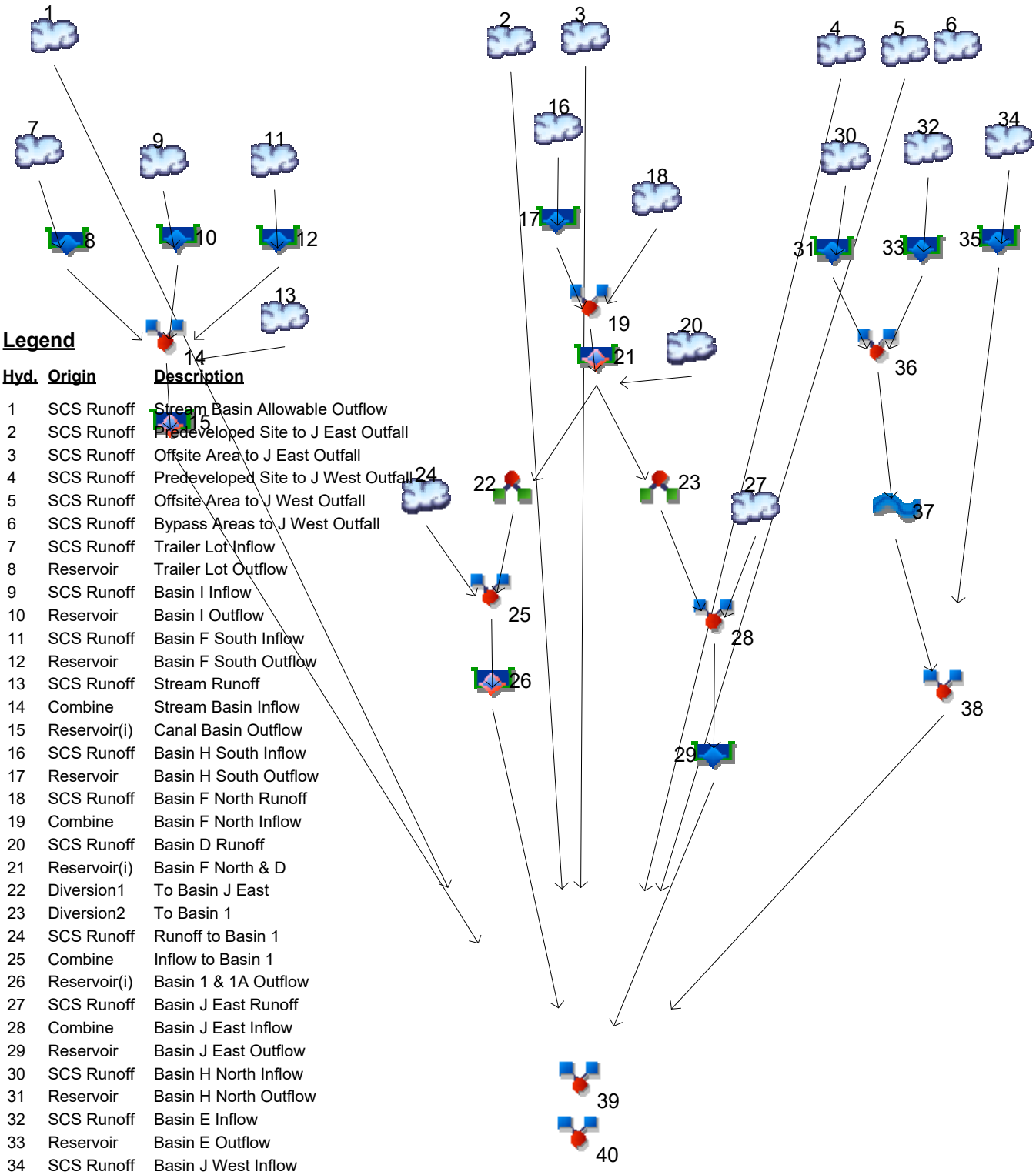
Note:

Soil areas calculated based on A, B, C, and D soils rather than individually. B/C soils were calculated based on the percentages of B and C soils.

Curve Number Calculations

Land Use	%	A Soil	B Soil	C Soil	D Soil
Impervious	88.3	98	98	98	98
Grass	11.7	39	61	74	80
Offsite	0	49	69	79	84
Composite	93.66		93.7		

Watershed Model Schematic



Legend

Hyd.	Origin	Description
1	SCS Runoff	Stream Basin Allowable Outflow
2	SCS Runoff	Predeveloped Site to J East Outfall
3	SCS Runoff	Offsite Area to J East Outfall
4	SCS Runoff	Predeveloped Site to J West Outfall
5	SCS Runoff	Offsite Area to J West Outfall
6	SCS Runoff	Bypass Areas to J West Outfall
7	SCS Runoff	Trailer Lot Inflow
8	Reservoir	Trailer Lot Outflow
9	SCS Runoff	Basin I Inflow
10	Reservoir	Basin I Outflow
11	SCS Runoff	Basin F South Inflow
12	Reservoir	Basin F South Outflow
13	SCS Runoff	Stream Runoff
14	Combine	Stream Basin Inflow
15	Reservoir(i)	Canal Basin Outflow
16	SCS Runoff	Basin H South Inflow
17	Reservoir	Basin H South Outflow
18	SCS Runoff	Basin F North Runoff
19	Combine	Basin F North Inflow
20	SCS Runoff	Basin D Runoff
21	Reservoir(i)	Basin F North & D
22	Diversion1	To Basin J East
23	Diversion2	To Basin 1
24	SCS Runoff	Runoff to Basin 1
25	Combine	Inflow to Basin 1
26	Reservoir(i)	Basin 1 & 1A Outflow
27	SCS Runoff	Basin J East Runoff
28	Combine	Basin J East Inflow
29	Reservoir	Basin J East Outflow
30	SCS Runoff	Basin H North Inflow
31	Reservoir	Basin H North Outflow
32	SCS Runoff	Basin E Inflow
33	Reservoir	Basin E Outflow
34	SCS Runoff	Basin J West Inflow
35	Reservoir	Basin J West Outflow
36	Combine	To Swale
37	Reach	Basin E to J West
38	Combine	J West Outfall
39	Combine	Mill Creek Flow
40	Combine	10yr Allowable to Mill Creek

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)							Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	44.38	96.00	-------	156.05	207.11	275.58	310.92	359.27	Stream Basin Allowable Outflow
2	SCS Runoff	------	12.96	28.03	-------	45.56	60.47	80.46	90.78	104.90	Predeveloped Site to J East Outfall
3	SCS Runoff	------	2.100	4.542	-------	7.383	9.799	13.04	14.71	17.00	Offsite Area to J East Outfall
4	SCS Runoff	------	7.135	15.43	-------	25.09	33.30	44.31	49.99	57.76	Predeveloped Site to J West Outfall
5	SCS Runoff	------	1.931	4.177	-------	6.790	9.012	11.99	13.53	15.63	Offsite Area to J West Outfall
6	SCS Runoff	------	1.565	2.569	-------	3.631	4.488	5.592	6.148	6.896	Bypass Areas to J West Outfall
7	SCS Runoff	------	1.887	2.759	-------	3.637	4.325	5.198	5.633	6.216	Trailer Lot Inflow
8	Reservoir	7	1.699	2.409	-------	3.044	3.506	4.060	4.349	4.779	Trailer Lot Outflow
9	SCS Runoff	------	7.294	10.73	-------	14.20	16.92	20.37	22.10	24.40	Basin I Inflow
10	Reservoir	9	0.223	1.396	-------	2.818	3.529	4.251	4.549	4.914	Basin I Outflow
11	SCS Runoff	------	31.94	50.55	-------	69.91	85.38	105.19	115.13	128.47	Basin F South Inflow
12	Reservoir	11	0.015	1.123	-------	1.896	2.406	2.938	3.166	3.451	Basin F South Outflow
13	SCS Runoff	------	60.31	92.97	-------	126.62	153.39	187.94	205.25	228.49	Stream Runoff
14	Combine	8, 10, 12, 13	60.65	94.61	-------	131.08	159.33	195.35	213.26	237.31	Stream Basin Inflow
15	Reservoir(i)	14	55.35	83.13	-------	112.28	133.21	159.21	171.91	189.76	Canal Basin Outflow
16	SCS Runoff	------	12.79	21.08	-------	29.86	36.94	46.09	50.69	56.89	Basin H South Inflow
17	Reservoir	16	0.400	4.965	-------	20.68	27.76	34.47	38.33	39.92	Basin H South Outflow
18	SCS Runoff	------	39.30	56.67	-------	74.06	87.67	104.92	113.52	125.02	Basin F North Runoff
19	Combine	17, 18	39.38	56.76	-------	75.95	106.18	131.01	144.72	159.36	Basin F North Inflow
20	SCS Runoff	------	10.28	15.91	-------	21.71	26.31	32.19	35.13	39.08	Basin D Runoff
21	Reservoir(i)	19, 20	19.62	23.33	-------	27.35	29.95	55.64	69.01	88.78	Basin F North & D
22	Diversion1	21	19.72	23.35	-------	27.73	30.23	31.60	31.71	32.25	To Basin J East
23	Diversion2	21	0.000	0.000	-------	0.000	0.000	24.04	37.30	56.53	To Basin 1
24	SCS Runoff	------	30.41	44.25	-------	58.15	69.05	82.88	89.76	98.98	Runoff to Basin 1
25	Combine	22, 24	45.71	61.52	-------	77.15	89.17	104.42	111.96	122.32	Inflow to Basin 1
26	Reservoir(i)	25	17.49	23.48	-------	28.19	31.16	34.19	38.41	44.18	Basin 1 & 1A Outflow
27	SCS Runoff	------	6.221	11.02	-------	16.33	20.69	26.39	29.29	33.21	Basin J East Runoff
28	Combine	23, 27	6.168	10.95	-------	16.15	20.60	27.40	41.68	62.25	Basin J East Inflow
29	Reservoir	28	3.927	5.518	-------	6.924	10.50	26.53	40.65	59.67	Basin J East Outflow
30	SCS Runoff	------	17.57	26.01	-------	34.54	41.25	49.77	54.02	59.71	Basin H North Inflow
31	Reservoir	30	5.296	9.213	-------	11.93	13.59	15.23	15.88	19.92	Basin H North Outflow
32	SCS Runoff	------	10.26	17.02	-------	24.19	29.99	37.47	41.24	46.32	Basin E Inflow
33	Reservoir	32	1.806	13.05	-------	23.99	29.48	36.44	40.01	44.20	Basin E Outflow
34	SCS Runoff	------	5.409	7.625	-------	9.831	11.55	13.73	14.82	16.28	Basin J West Inflow

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)							Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
35	Reservoir	34	1.622	1.905	-------	2.117	2.272	2.447	2.523	4.142	Basin J West Outflow
36	Combine	31, 33,	6.523	22.02	-------	34.60	41.77	50.31	54.49	59.44	To Swale
37	Reach	36	5.122	14.59	-------	24.06	31.56	39.99	43.81	48.90	Basin E to J West
38	Combine	35, 37	6.626	16.49	-------	26.17	33.83	42.42	46.32	52.06	J West Outfall
39	Combine	15, 26, 29, 38	78.65	119.17	-------	158.37	184.94	229.39	247.81	272.52	Mill Creek Flow
40	Combine	1, 2, 3, 4, 5,	68.50	148.19	-------	240.87	319.69	425.38	479.93	554.56	10yr Allowable to Mill Creek

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	207.11	6	738	1,063,454	------	------	------	Stream Basin Allowable Outflow
2	SCS Runoff	60.47	6	738	310,500	------	------	------	Predeveloped Site to J East Outfall
3	SCS Runoff	9.799	6	738	50,317	------	------	------	Offsite Area to J East Outfall
4	SCS Runoff	33.30	6	738	170,974	------	------	------	Predeveloped Site to J West Outfall
5	SCS Runoff	9.012	6	738	46,273	------	------	------	Offsite Area to J West Outfall
6	SCS Runoff	4.488	6	720	13,786	------	------	------	Bypass Areas to J West Outfall
7	SCS Runoff	4.325	6	720	13,576	------	------	------	Trailer Lot Inflow
8	Reservoir	3.506	6	726	13,575	7	633.96	1,207	Trailer Lot Outflow
9	SCS Runoff	16.92	6	720	52,975	------	------	------	Basin I Inflow
10	Reservoir	3.529	6	744	52,963	9	642.60	27,444	Basin I Outflow
11	SCS Runoff	85.38	6	720	262,856	------	------	------	Basin F South Inflow
12	Reservoir	2.406	6	960	163,643	11	628.19	186,067	Basin F South Outflow
13	SCS Runoff	153.39	6	756	1,215,937	------	------	------	Stream Runoff
14	Combine	159.33	6	756	1,446,116	8, 10, 12, 13	------	------	Stream Basin Inflow
15	Reservoir(i)	133.21	6	780	1,446,376	14	605.65	137,701	Canal Basin Outflow
16	SCS Runoff	36.94	6	720	113,484	------	------	------	Basin H South Inflow
17	Reservoir	27.76	6	732	113,488	16	642.30	39,212	Basin H South Outflow
18	SCS Runoff	87.67	6	720	276,973	------	------	------	Basin F North Runoff
19	Combine	106.18	6	726	390,460	17, 18	------	------	Basin F North Inflow
20	SCS Runoff	26.31	6	720	81,263	------	------	------	Basin D Runoff
21	Reservoir(i)	29.95	6	768	471,779	19, 20	621.71	177,636	Basin F North & D
22	Diversion1	30.23	6	768	475,484	21	------	------	To Basin J East
23	Diversion2	0.000	6	n/a	-3,704	21	------	------	To Basin 1
24	SCS Runoff	69.05	6	720	217,198	------	------	------	Runoff to Basin 1
25	Combine	89.17	6	720	692,682	22, 24	------	------	Inflow to Basin 1
26	Reservoir(i)	31.16	6	834	693,131	25	605.60	242,145	Basin 1 & 1A Outflow
27	SCS Runoff	20.69	6	720	63,777	------	------	------	Basin J East Runoff
28	Combine	20.60	6	720	60,073	23, 27	------	------	Basin J East Inflow
29	Reservoir	10.50	6	732	61,410	28	602.25	16,547	Basin J East Outflow
30	SCS Runoff	41.25	6	720	128,852	------	------	------	Basin H North Inflow
31	Reservoir	13.59	6	738	128,849	30	649.87	56,844	Basin H North Outflow
32	SCS Runoff	29.99	6	720	92,107	------	------	------	Basin E Inflow
33	Reservoir	29.48	6	726	92,112	32	610.79	20,019	Basin E Outflow
34	SCS Runoff	11.55	6	720	36,989	------	------	------	Basin J West Inflow

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
35	Reservoir	2.272	6	744	36,047	34	601.74	14,581	Basin J West Outflow
36	Combine	41.77	6	726	220,961	31, 33,	------	------	To Swale
37	Reach	31.56	6	738	220,926	36	------	------	Basin E to J West
38	Combine	33.83	6	738	256,972	35, 37	------	------	J West Outfall
39	Combine	184.94	6	780	2,457,892	15, 26, 29, 38	------	------	Mill Creek Flow
40	Combine	319.69	6	738	1,641,517	1, 2, 3, 4, 5,	------	------	10yr Allowable to Mill Creek

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	310.92	6	738	1,571,503	------	------	------	Stream Basin Allowable Outflow
2	SCS Runoff	90.78	6	738	458,837	------	------	------	Predeveloped Site to J East Outfall
3	SCS Runoff	14.71	6	738	74,355	------	------	------	Offsite Area to J East Outfall
4	SCS Runoff	49.99	6	738	252,654	------	------	------	Predeveloped Site to J West Outfall
5	SCS Runoff	13.53	6	738	68,380	------	------	------	Offsite Area to J West Outfall
6	SCS Runoff	6.148	6	720	18,957	------	------	------	Bypass Areas to J West Outfall
7	SCS Runoff	5.633	6	720	17,904	------	------	------	Trailer Lot Inflow
8	Reservoir	4.349	6	726	17,903	7	635.23	1,781	Trailer Lot Outflow
9	SCS Runoff	22.10	6	720	70,031	------	------	------	Basin I Inflow
10	Reservoir	4.549	6	744	70,020	9	643.74	36,248	Basin I Outflow
11	SCS Runoff	115.13	6	720	356,938	------	------	------	Basin F South Inflow
12	Reservoir	3.166	6	960	257,725	11	629.57	255,328	Basin F South Outflow
13	SCS Runoff	205.25	6	756	1,634,928	------	------	------	Stream Runoff
14	Combine	213.26	6	756	1,980,575	8, 10, 12, 13	------	------	Stream Basin Inflow
15	Reservoir(i)	171.91	6	780	1,980,582	14	606.59	212,622	Canal Basin Outflow
16	SCS Runoff	50.69	6	720	156,250	------	------	------	Basin H South Inflow
17	Reservoir	38.33	6	726	156,251	16	643.14	46,178	Basin H South Outflow
18	SCS Runoff	113.52	6	720	363,319	------	------	------	Basin F North Runoff
19	Combine	144.72	6	720	519,570	17, 18	------	------	Basin F North Inflow
20	SCS Runoff	35.13	6	720	109,467	------	------	------	Basin D Runoff
21	Reservoir(i)	69.01	6	750	631,348	19, 20	623.42	234,148	Basin F North & D
22	Diversion1	31.71	6	750	573,107	21	------	------	To Basin J East
23	Diversion2	37.30	6	750	58,242	21	------	------	To Basin 1
24	SCS Runoff	89.76	6	720	285,930	------	------	------	Runoff to Basin 1
25	Combine	111.96	6	720	859,037	22, 24	------	------	Inflow to Basin 1
26	Reservoir(i)	38.41	6	810	859,842	25	606.52	291,853	Basin 1 & 1A Outflow
27	SCS Runoff	29.29	6	720	89,962	------	------	------	Basin J East Runoff
28	Combine	41.68	6	750	148,203	23, 27	------	------	Basin J East Inflow
29	Reservoir	40.65	6	756	149,494	28	602.56	22,494	Basin J East Outflow
30	SCS Runoff	54.02	6	720	170,749	------	------	------	Basin H North Inflow
31	Reservoir	15.88	6	738	170,745	30	651.47	74,369	Basin H North Outflow
32	SCS Runoff	41.24	6	720	127,061	------	------	------	Basin E Inflow
33	Reservoir	40.01	6	726	127,065	32	610.91	21,360	Basin E Outflow
34	SCS Runoff	14.82	6	720	48,091	------	------	------	Basin J West Inflow

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
35	Reservoir	2.523	6	744	47,149	34	602.37	19,466	Basin J West Outflow
36	Combine	54.49	6	726	297,810	31, 33,	------	------	To Swale
37	Reach	43.81	6	738	297,772	36	------	------	Basin E to J West
38	Combine	46.32	6	738	344,921	35, 37	------	------	J West Outfall
39	Combine	247.81	6	768	3,334,840	15, 26, 29, 38	------	------	Mill Creek Flow
40	Combine	479.93	6	738	2,425,729	1, 2, 3, 4, 5,	------	------	10yr Allowable to Mill Creek

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	359.27	6	738	1,810,422	------	------	------	Stream Basin Allowable Outflow
2	SCS Runoff	104.90	6	738	528,595	------	------	------	Predeveloped Site to J East Outfall
3	SCS Runoff	17.00	6	738	85,659	------	------	------	Offsite Area to J East Outfall
4	SCS Runoff	57.76	6	738	291,066	------	------	------	Predeveloped Site to J West Outfall
5	SCS Runoff	15.63	6	738	78,776	------	------	------	Offsite Area to J West Outfall
6	SCS Runoff	6.896	6	720	21,320	------	------	------	Bypass Areas to J West Outfall
7	SCS Runoff	6.216	6	720	19,856	------	------	------	Trailer Lot Inflow
8	Reservoir	4.779	6	726	19,855	7	636.23	2,046	Trailer Lot Outflow
9	SCS Runoff	24.40	6	720	77,729	------	------	------	Basin I Inflow
10	Reservoir	4.914	6	744	77,717	9	644.21	40,364	Basin I Outflow
11	SCS Runoff	128.47	6	720	399,747	------	------	------	Basin F South Inflow
12	Reservoir	3.451	6	960	300,534	11	630.19	288,042	Basin F South Outflow
13	SCS Runoff	228.49	6	756	1,824,961	------	------	------	Stream Runoff
14	Combine	237.31	6	756	2,223,068	8, 10, 12, 13	------	------	Stream Basin Inflow
15	Reservoir(i)	189.76	6	786	2,223,955	14	606.99	247,898	Canal Basin Outflow
16	SCS Runoff	56.89	6	720	175,805	------	------	------	Basin H South Inflow
17	Reservoir	39.92	6	732	175,805	16	643.51	50,379	Basin H South Outflow
18	SCS Runoff	125.02	6	720	402,209	------	------	------	Basin F North Runoff
19	Combine	159.36	6	720	578,014	17, 18	------	------	Basin F North Inflow
20	SCS Runoff	39.08	6	720	122,265	------	------	------	Basin D Runoff
21	Reservoir(i)	88.78	6	744	706,758	19, 20	623.86	246,132	Basin F North & D
22	Diversion1	32.25	6	744	607,883	21	------	------	To Basin J East
23	Diversion2	56.53	6	744	98,876	21	------	------	To Basin 1
24	SCS Runoff	98.98	6	720	316,914	------	------	------	Runoff to Basin 1
25	Combine	122.32	6	720	924,797	22, 24	------	------	Inflow to Basin 1
26	Reservoir(i)	44.18	6	792	925,804	25	606.66	305,591	Basin 1 & 1A Outflow
27	SCS Runoff	33.21	6	720	102,045	------	------	------	Basin J East Runoff
28	Combine	62.25	6	744	200,920	23, 27	------	------	Basin J East Inflow
29	Reservoir	59.67	6	750	202,194	28	602.71	25,066	Basin J East Outflow
30	SCS Runoff	59.71	6	720	189,669	------	------	------	Basin H North Inflow
31	Reservoir	19.92	6	738	189,665	30	652.09	81,172	Basin H North Outflow
32	SCS Runoff	46.32	6	720	143,054	------	------	------	Basin E Inflow
33	Reservoir	44.20	6	726	143,060	32	610.97	22,058	Basin E Outflow
34	SCS Runoff	16.28	6	720	53,081	------	------	------	Basin J West Inflow

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
35	Reservoir	4.142	6	756	52,139	34	602.50	21,232	Basin J West Outflow
36	Combine	59.44	6	726	332,725	31, 33,	------	------	To Swale
37	Reach	48.90	6	738	332,689	36	------	------	Basin E to J West
38	Combine	52.06	6	738	384,828	35, 37	------	------	J West Outfall
39	Combine	272.52	6	756	3,736,787	15, 26, 29, 38	------	------	Mill Creek Flow
40	Combine	554.56	6	738	2,794,518	1, 2, 3, 4, 5,	------	------	10yr Allowable to Mill Creek

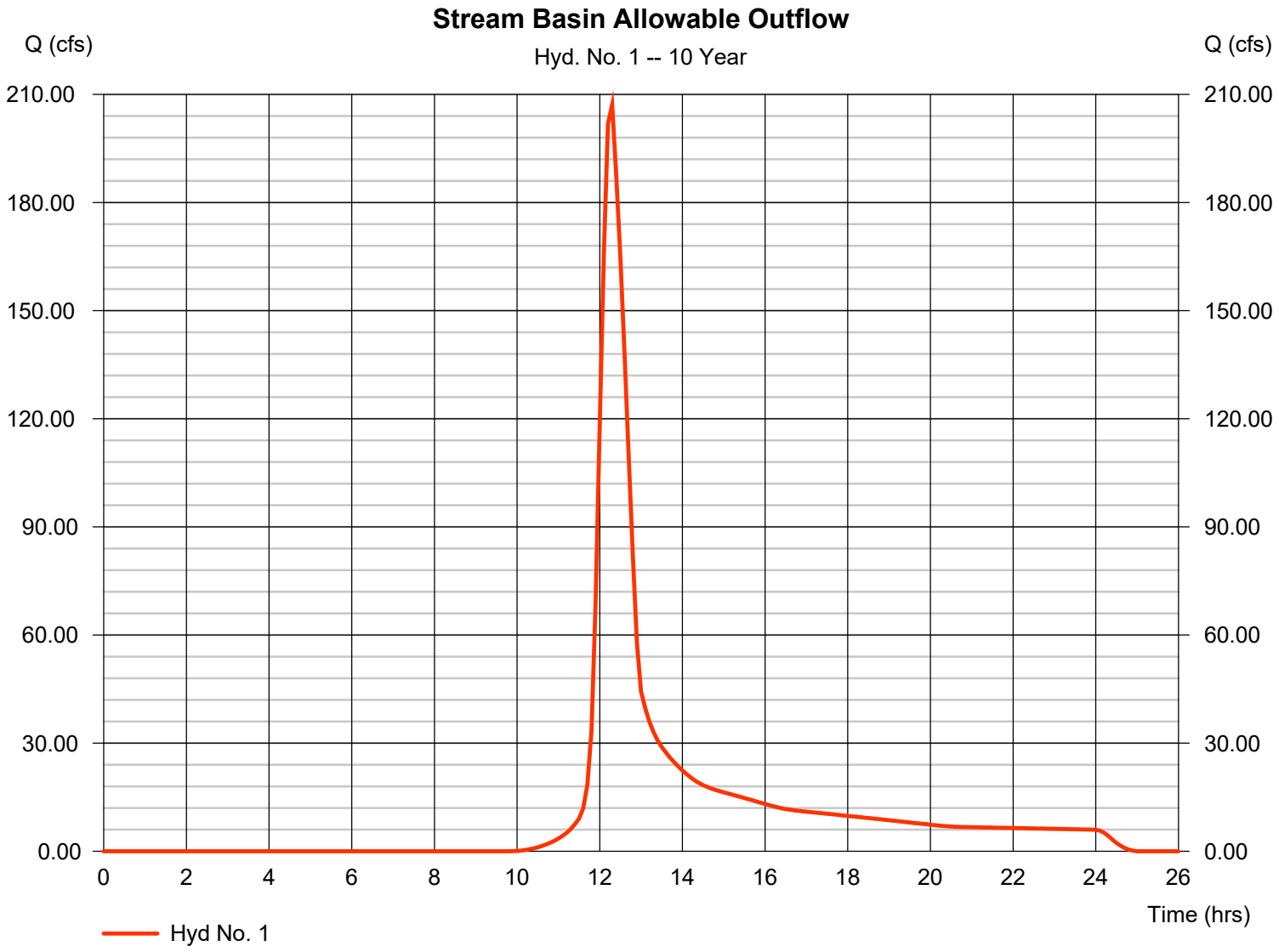
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 03 / 17 / 2016

Hyd. No. 1

Stream Basin Allowable Outflow

Hydrograph type	= SCS Runoff	Peak discharge	= 207.11 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.30 hrs
Time interval	= 6 min	Hyd. volume	= 1,063,454 cuft
Drainage area	= 165.700 ac	Curve number	= 74.1
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	=	Time of conc. (Tc)	= 35.60 min
Total precip.	= 4.15 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



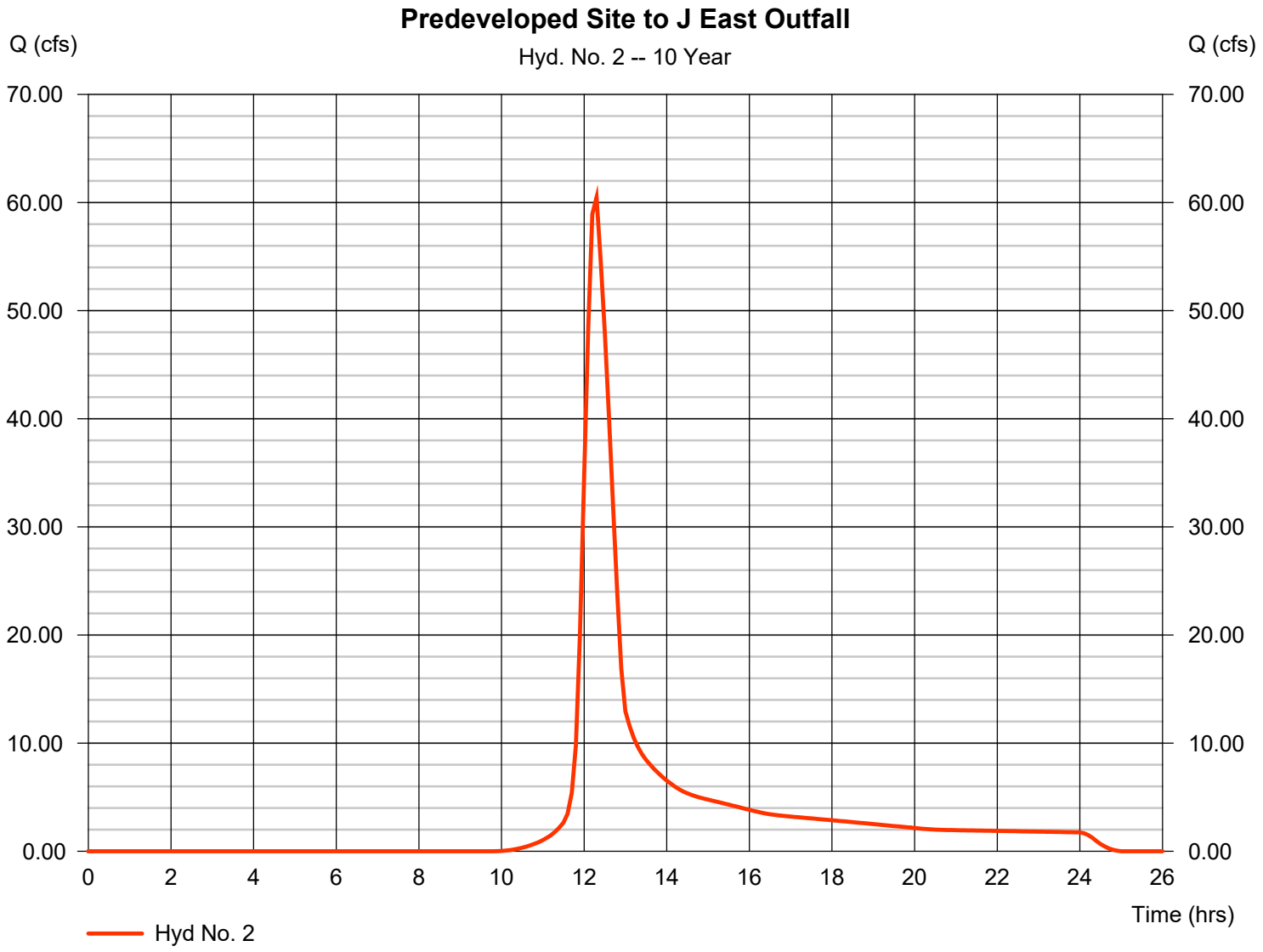
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 03 / 17 / 2016

Hyd. No. 2

Predeveloped Site to J East Outfall

Hydrograph type	= SCS Runoff	Peak discharge	= 60.47 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.30 hrs
Time interval	= 6 min	Hyd. volume	= 310,500 cuft
Drainage area	= 48.380 ac	Curve number	= 74.1
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 35.60 min
Total precip.	= 4.15 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

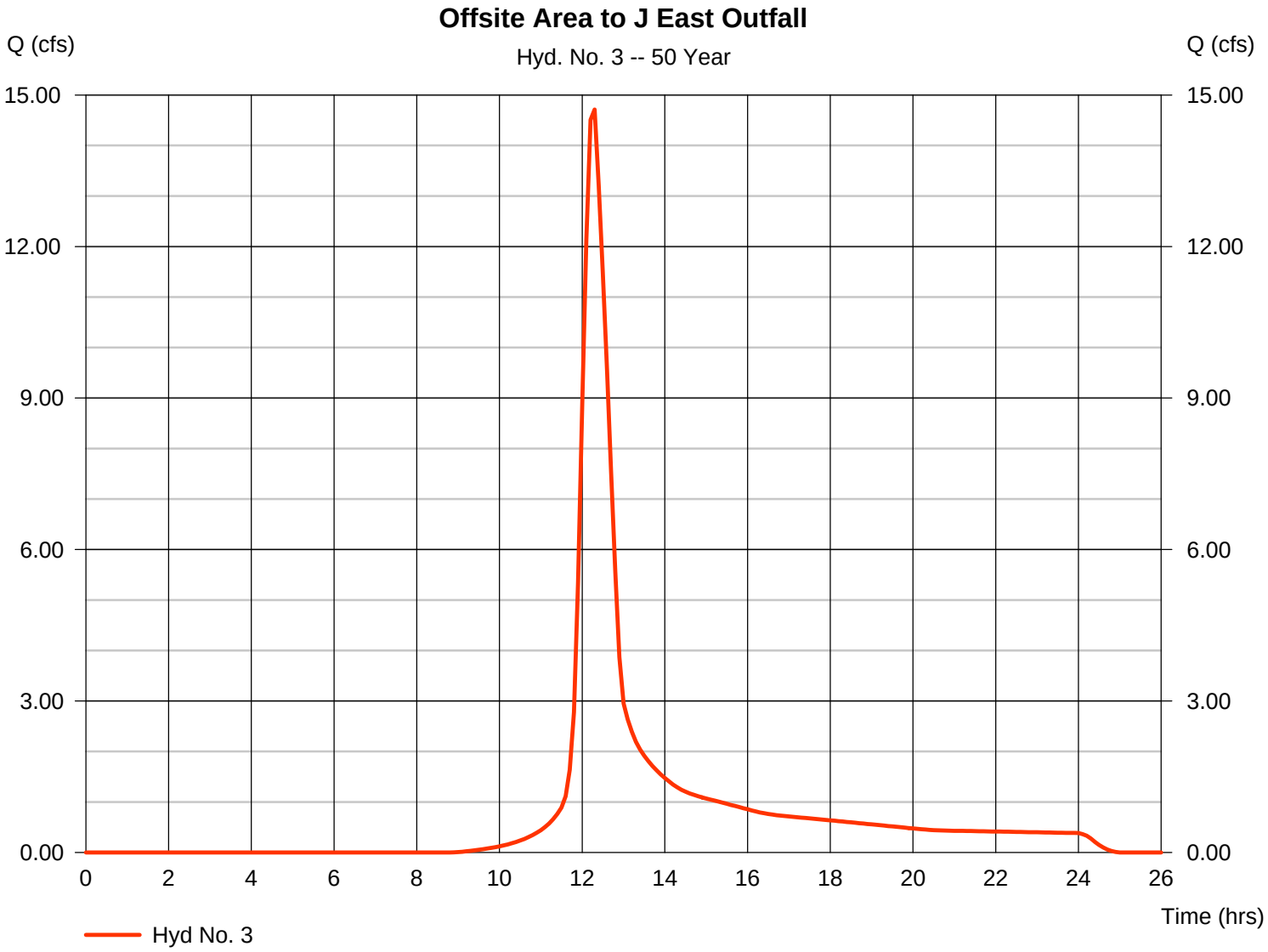


Hydrograph Report

Hyd. No. 3

Offsite Area to J East Outfall

Hydrograph type	=	SCS Runoff	Peak discharge	=	14.71 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.30 hrs
Time interval	=	6 min	Hyd. volume	=	1.707 acft
Drainage area	=	7.840 ac	Curve number	=	74.1
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	35.60 min
Total precip.	=	5.20 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



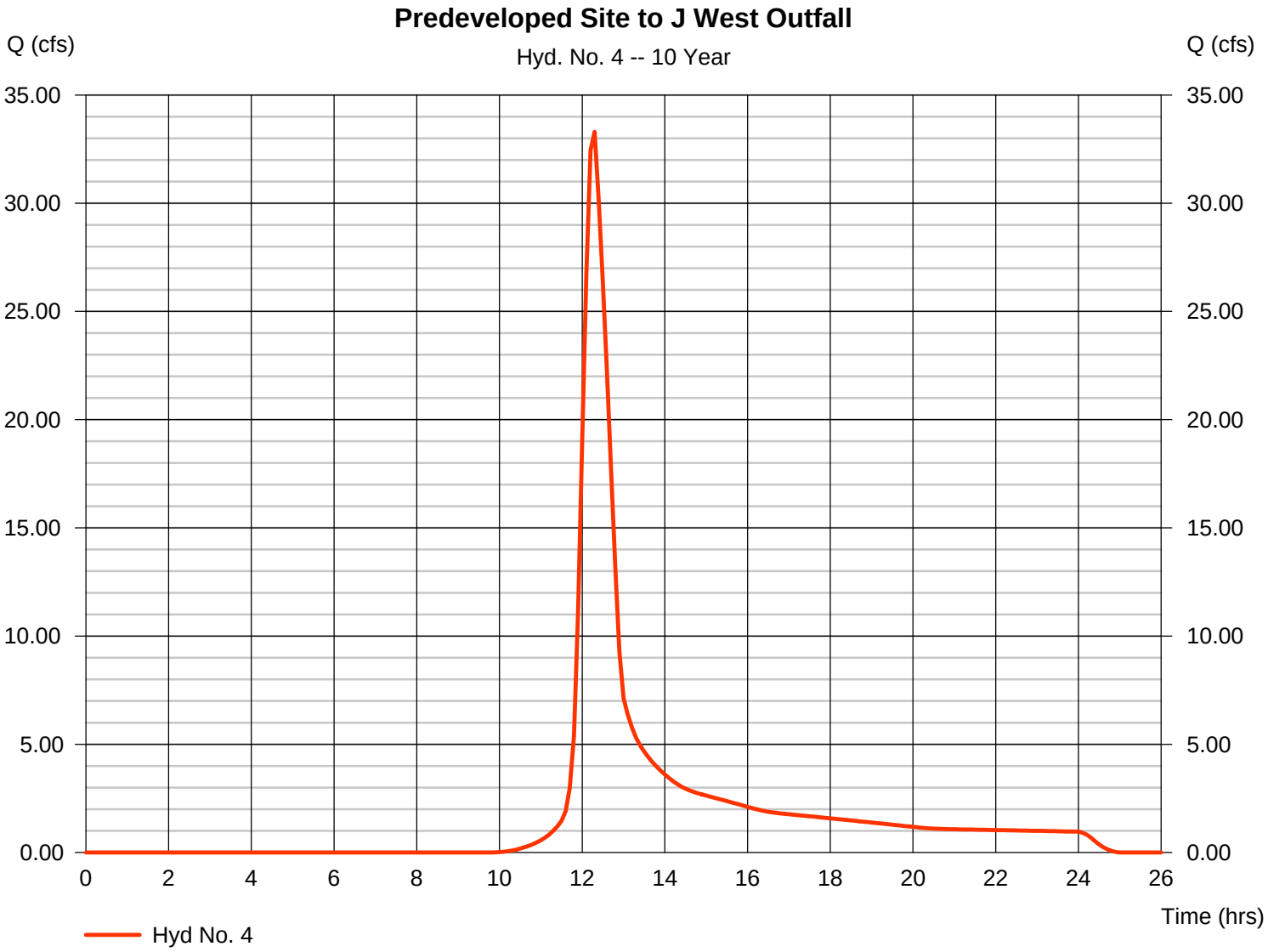
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Hyd. No. 4

Predeveloped Site to J West Outfall

Hydrograph type	=	SCS Runoff	Peak discharge	=	33.30 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.30 hrs
Time interval	=	6 min	Hyd. volume	=	3.925 acft
Drainage area	=	26.640 ac	Curve number	=	74.1
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	35.60 min
Total precip.	=	4.15 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



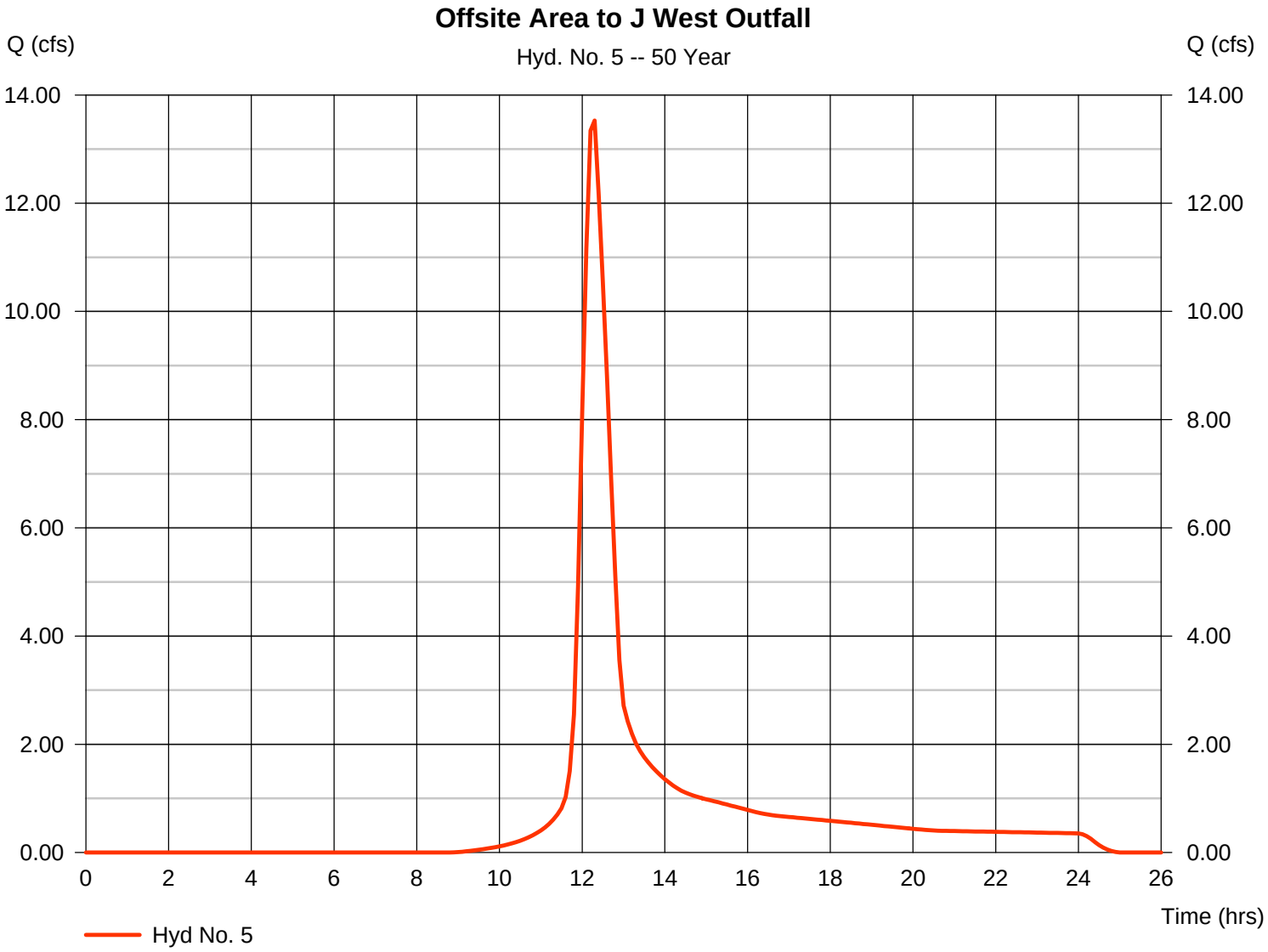
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 — Monday, Jul 2, 2007

Hyd. No. 5

Offsite Area to J West Outfall

Hydrograph type	=	SCS Runoff	Peak discharge	=	13.53 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.30 hrs
Time interval	=	6 min	Hyd. volume	=	1.570 acft
Drainage area	=	7.210 ac	Curve number	=	74.1
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	35.60 min
Total precip.	=	5.20 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



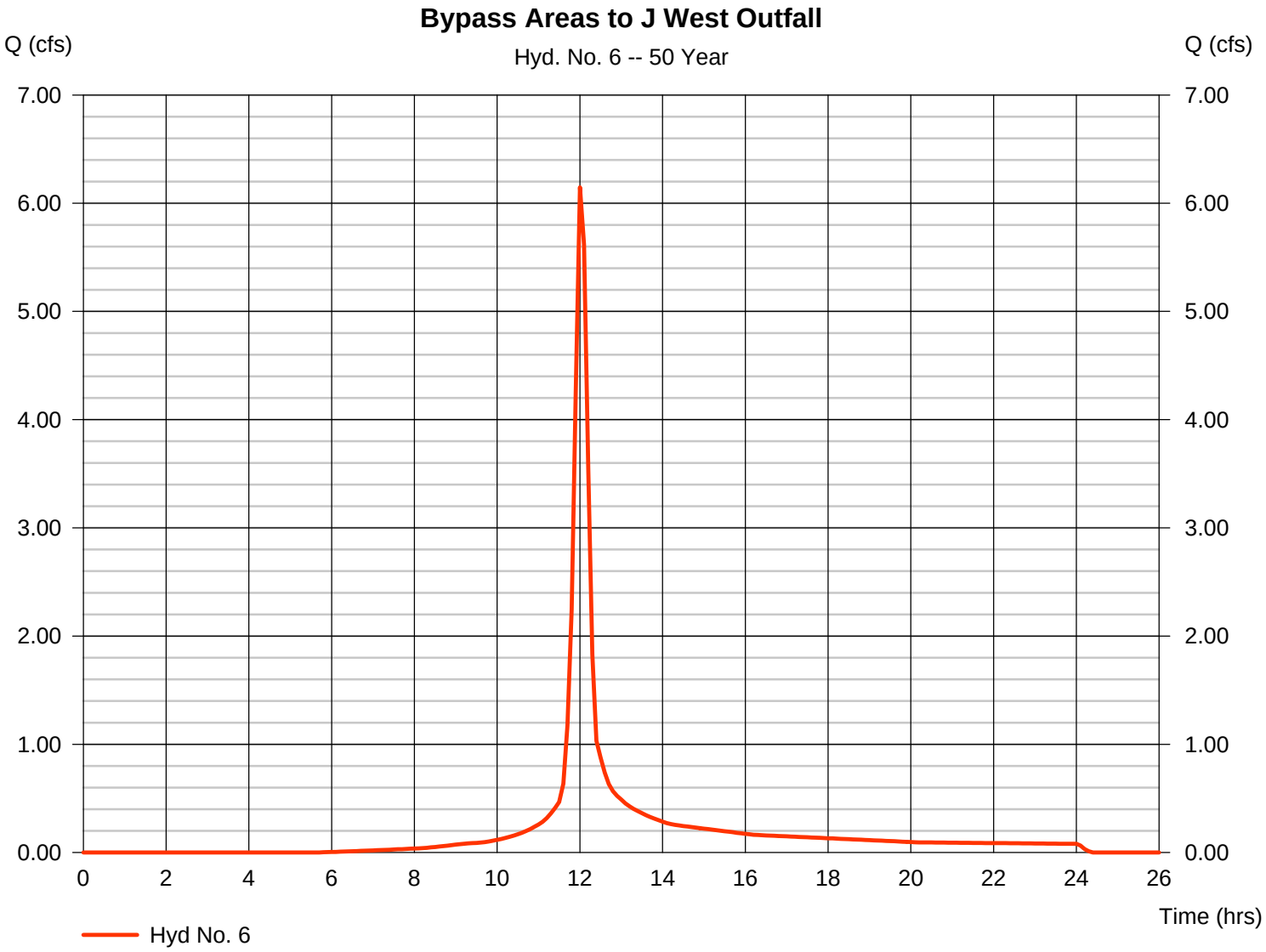
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 — Monday, Jul 2, 2007

Hyd. No. 6

Bypass Areas to J West Outfall

Hydrograph type	=	SCS Runoff	Peak discharge	=	6.147 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.00 hrs
Time interval	=	6 min	Hyd. volume	=	0.435 acft
Drainage area	=	1.590 ac	Curve number	=	84.5
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	10.00 min
Total precip.	=	5.20 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



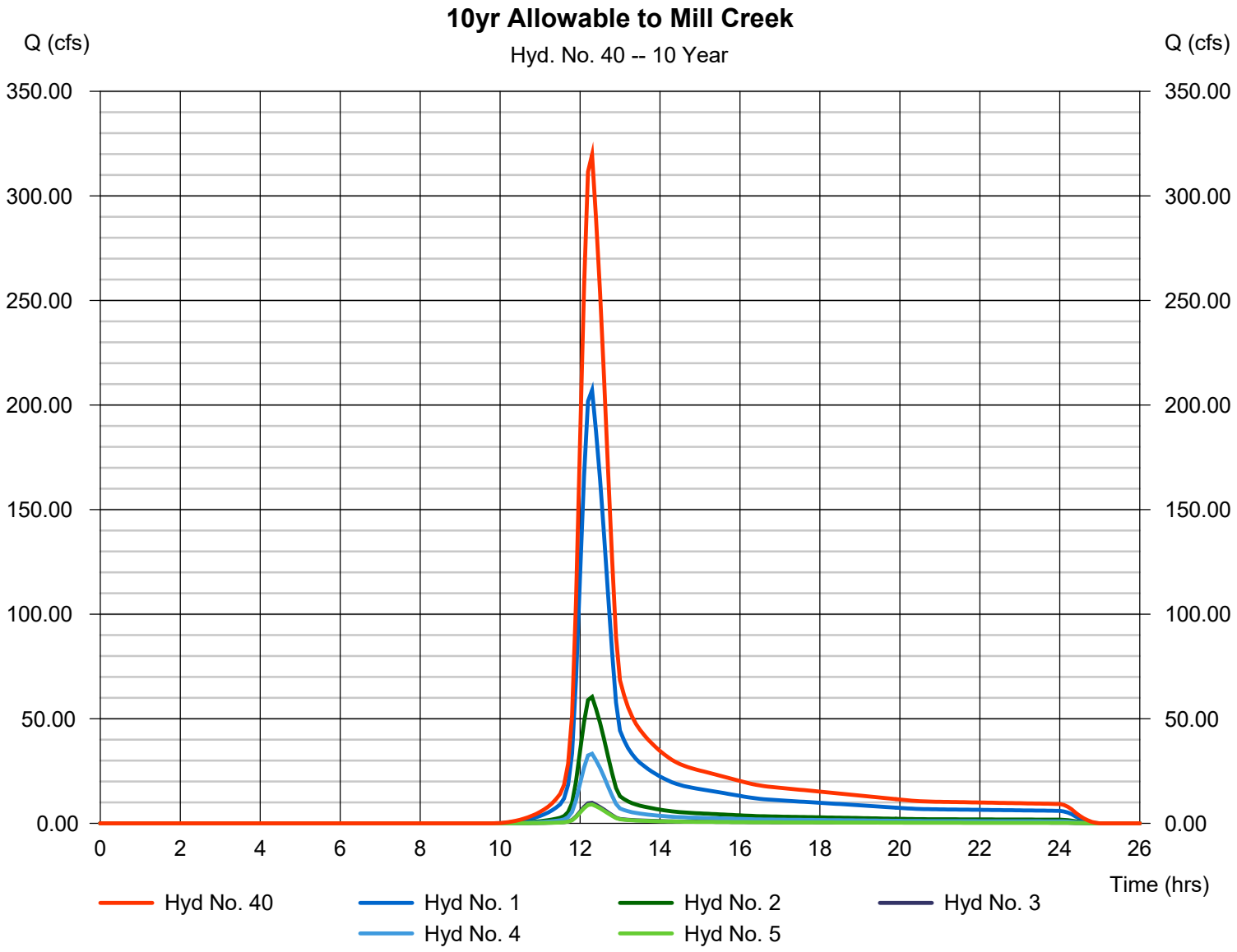
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 03 / 17 / 2016

Hyd. No. 40

10yr Allowable to Mill Creek

Hydrograph type	= Combine	Peak discharge	= 319.69 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.30 hrs
Time interval	= 6 min	Hyd. volume	= 1,641,517 cuft
Inflow hyds.	= 1, 2, 3, 4, 5	Contrib. drain. area	= 255.770 ac



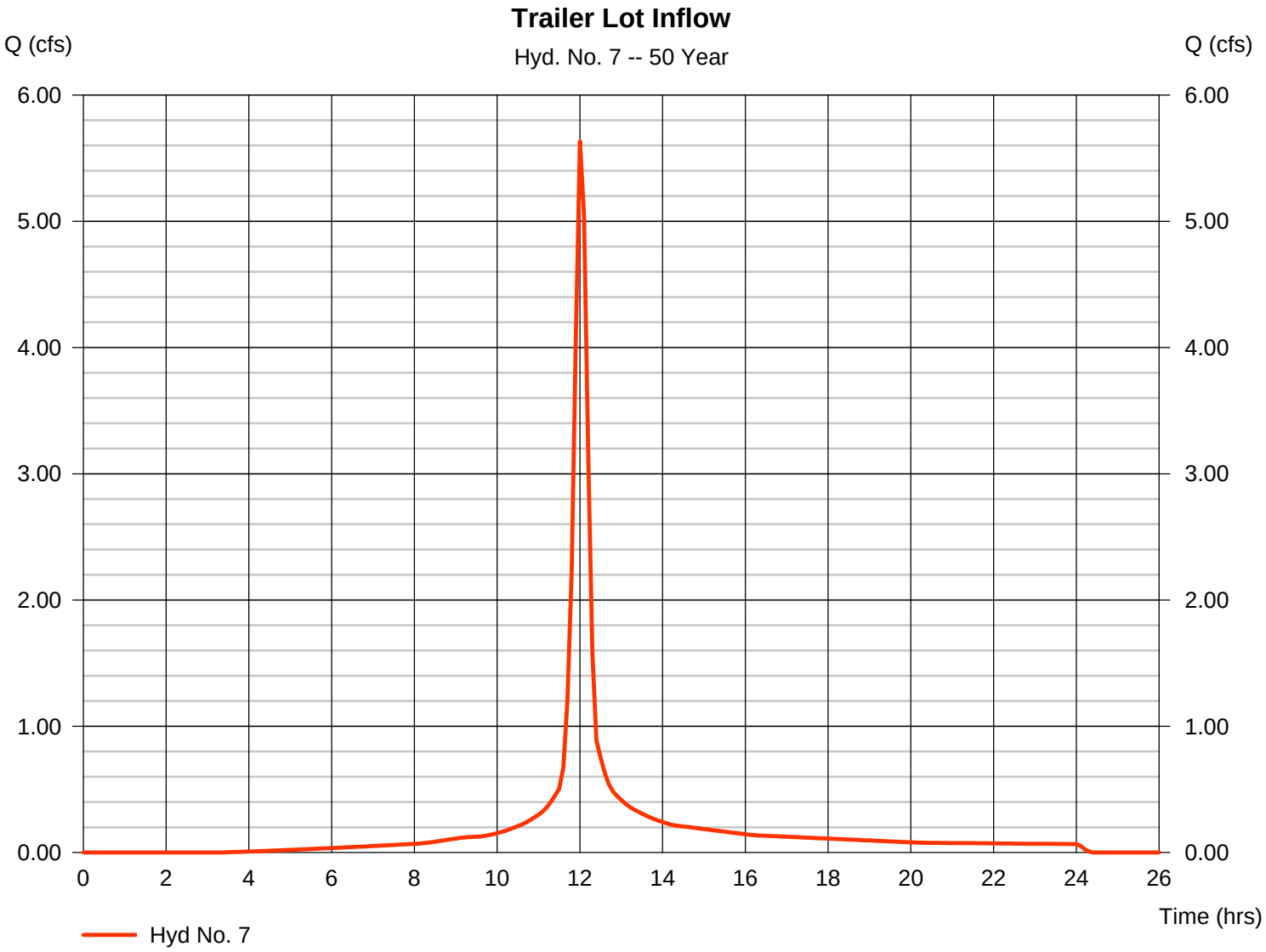
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Hyd. No. 7

Trailer Lot Inflow

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.633 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.00 hrs
Time interval	=	6 min	Hyd. volume	=	0.411 acft
Drainage area	=	1.250 ac	Curve number	=	91.3
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	10.00 min
Total precip.	=	5.20 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

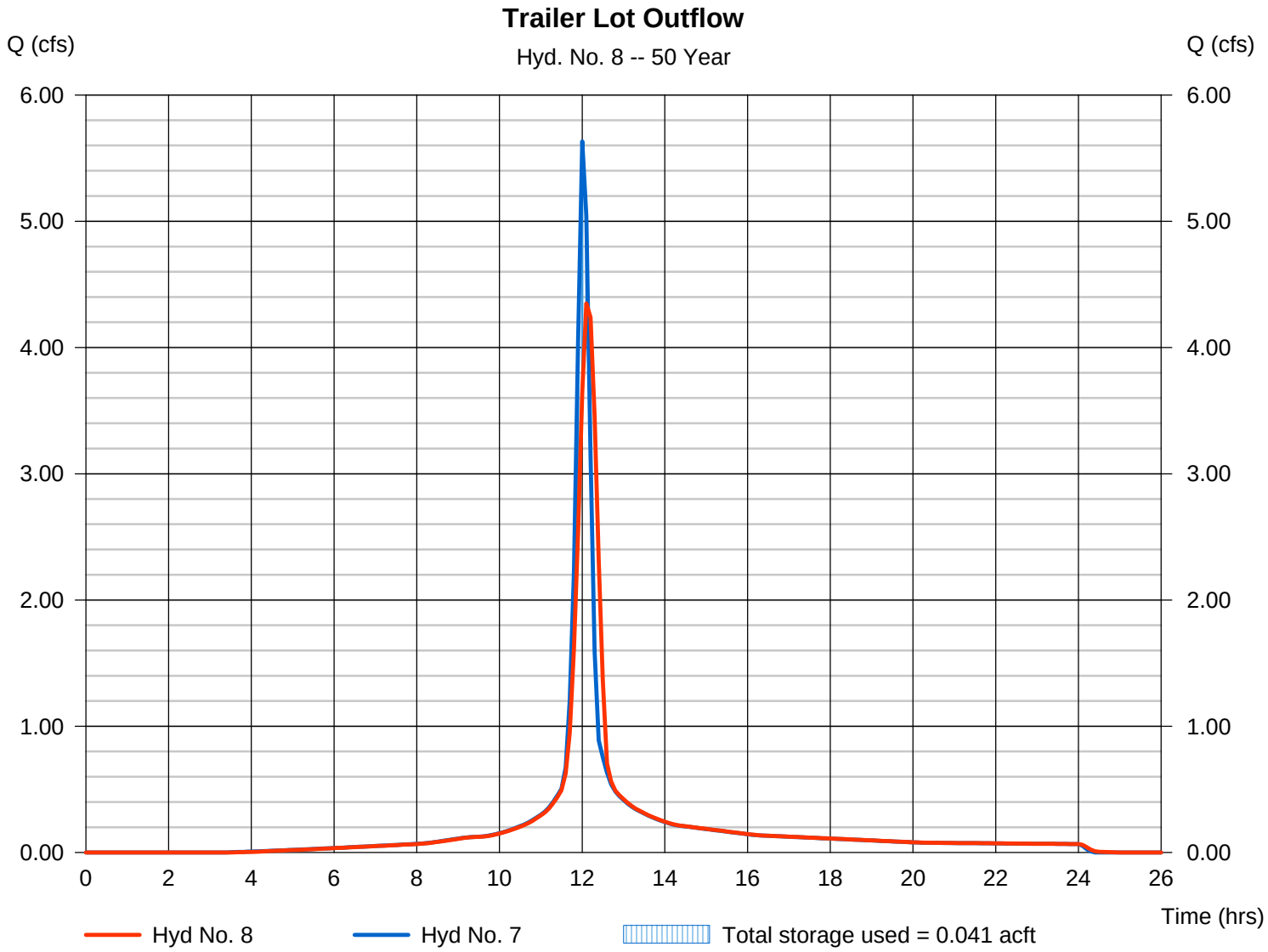
Hydraflow Hydrographs by Intelisolve v9.2 — Monday, Jul 2, 2007

Hyd. No. 8

Trailer Lot Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	4.349 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.10 hrs
Time interval	=	6 min	Hyd. volume	=	0.411 acft
Inflow hyd. No.	=	7 - Trailer Lot Inflow	Max. Elevation	=	635.23 ft
Reservoir name	=	Trailer Lot Basin	Max. Storage	=	0.041 acft

Storage Indication method used.



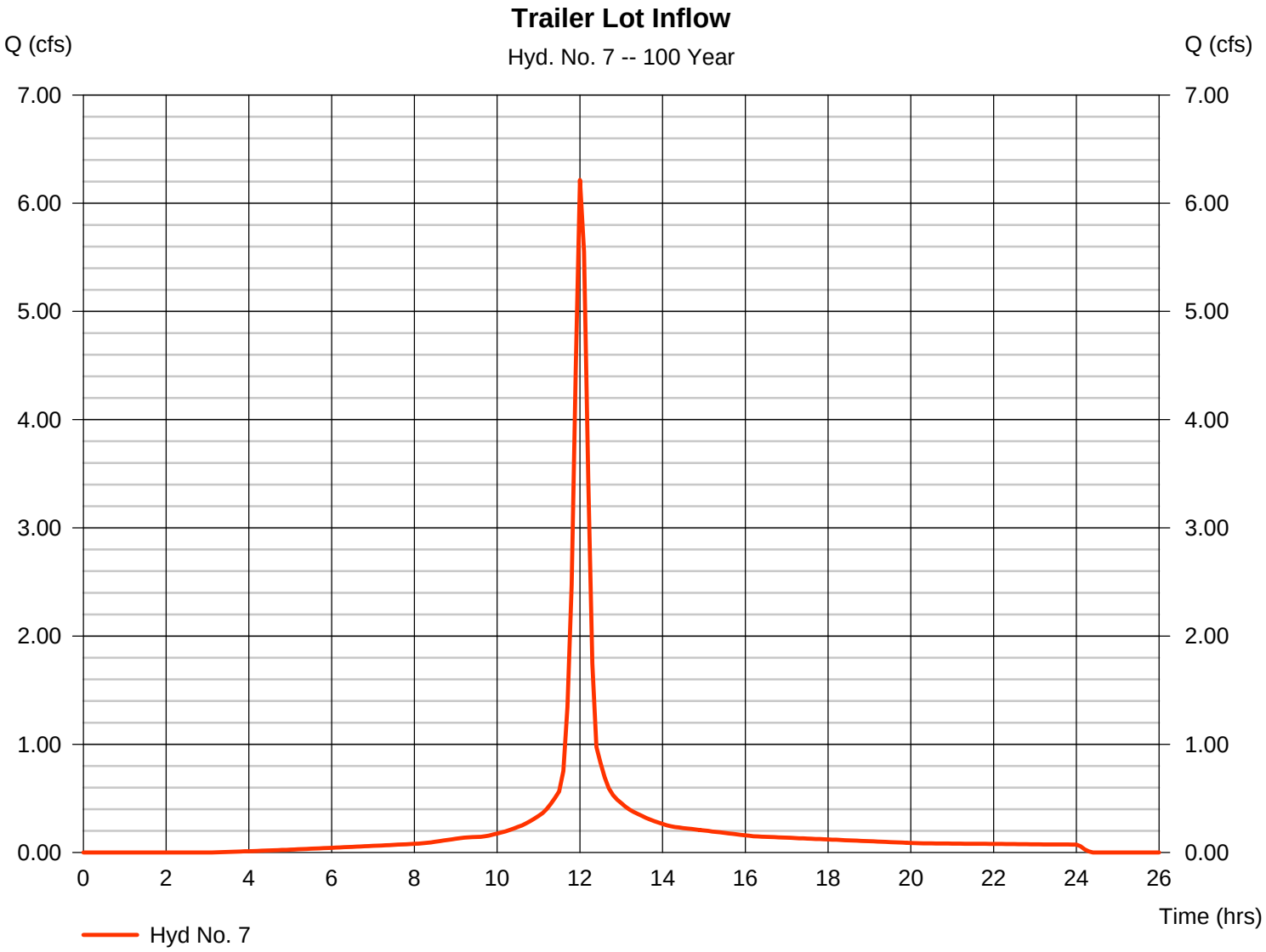
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Hyd. No. 7

Trailer Lot Inflow

Hydrograph type	=	SCS Runoff	Peak discharge	=	6.216 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.00 hrs
Time interval	=	6 min	Hyd. volume	=	0.456 acft
Drainage area	=	1.250 ac	Curve number	=	91.3
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	10.00 min
Total precip.	=	5.67 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

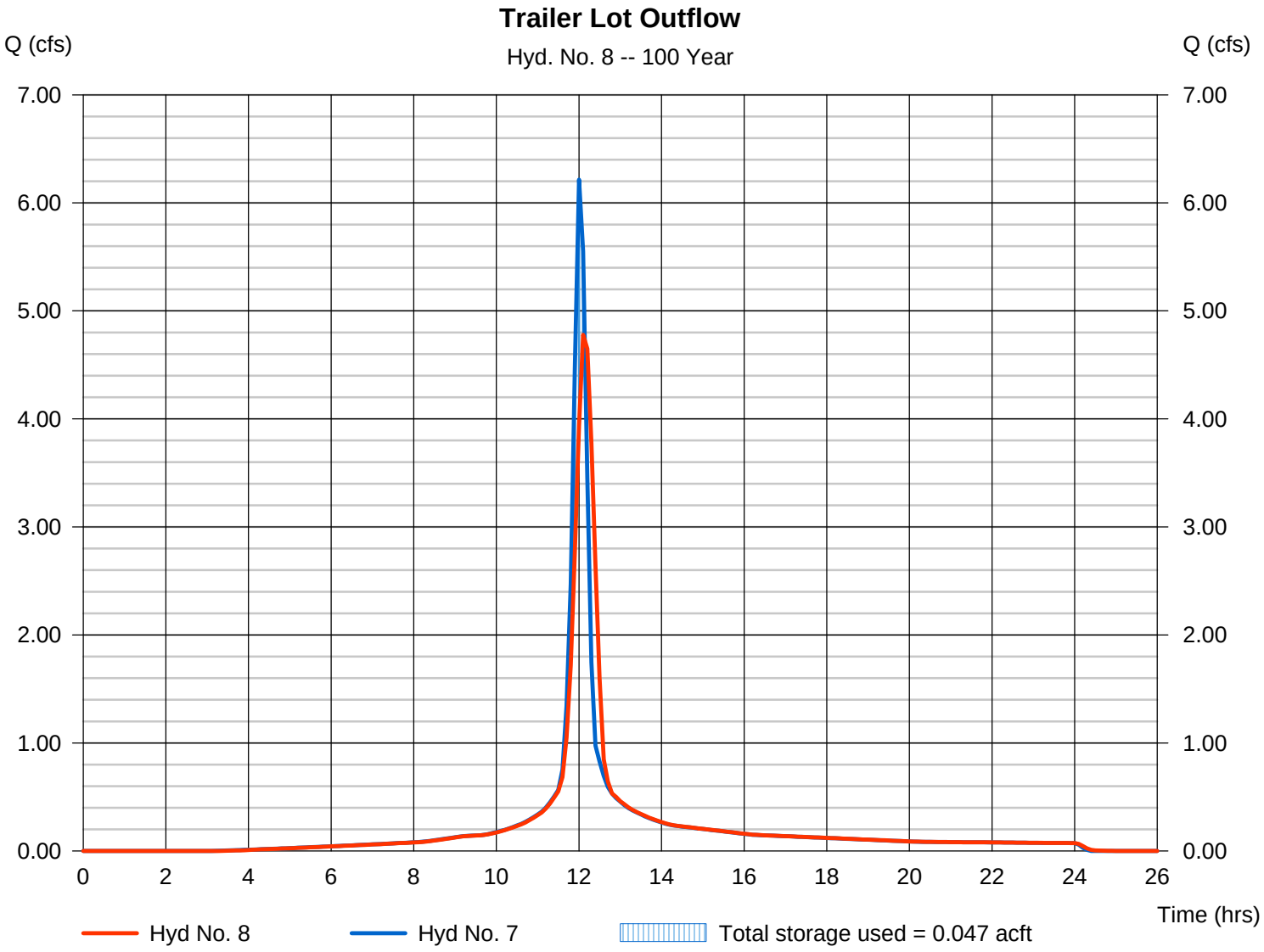
Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Hyd. No. 8

Trailer Lot Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	4.779 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.10 hrs
Time interval	=	6 min	Hyd. volume	=	0.456 acft
Inflow hyd. No.	=	7 - Trailer Lot Inflow	Max. Elevation	=	635.61 ft
Reservoir name	=	Trailer Lot Basin	Max. Storage	=	0.047 acft

Storage Indication method used.



Pond No. 1 - Trailer Lot Basin

Pond Data

UG Chambers - Invert elev. = 630.96 ft, Rise x Span = 5.00 x 5.00 ft, Barrel Len = 55.00 ft, No. Barrels = 2, Slope = 0.50%, Headers = No

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	630.96	n/a	0.000	0.000
0.53	631.49	n/a	0.002	0.002
1.06	632.02	n/a	0.004	0.006
1.58	632.54	n/a	0.006	0.012
2.11	633.07	n/a	0.006	0.018
2.64	633.60	n/a	0.007	0.025
3.17	634.13	n/a	0.007	0.031
3.69	634.65	n/a	0.006	0.038
4.22	635.18	n/a	0.006	0.043
4.75	635.71	n/a	0.004	0.048
5.28	636.24	n/a	0.002	0.050

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	11.00	0.00	0.00
Span (in)	= 12.00	11.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 630.96	630.96	0.00	0.00
Length (ft)	= 41.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

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 acft	Elevation ft	Clv A cfs	Clv 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	0.000	630.96	0.00	0.00	---	---	---	---	---	---	---	---	0.000
0.05	0.000	631.01	0.01 ic	0.01 ic	---	---	---	---	---	---	---	---	0.008
0.11	0.000	631.07	0.03 ic	0.03 ic	---	---	---	---	---	---	---	---	0.032
0.16	0.001	631.12	0.07 ic	0.07 ic	---	---	---	---	---	---	---	---	0.068
0.21	0.001	631.17	0.12 ic	0.12 ic	---	---	---	---	---	---	---	---	0.121
0.26	0.001	631.22	0.19 ic	0.19 ic	---	---	---	---	---	---	---	---	0.187
0.32	0.001	631.28	0.26 ic	0.26 ic	---	---	---	---	---	---	---	---	0.259
0.37	0.001	631.33	0.35 ic	0.35 ic	---	---	---	---	---	---	---	---	0.347
0.42	0.001	631.38	0.44 ic	0.44 ic	---	---	---	---	---	---	---	---	0.441
0.47	0.002	631.43	0.55 oc	0.55 ic	---	---	---	---	---	---	---	---	0.549
0.53	0.002	631.49	0.64 oc	0.64 ic	---	---	---	---	---	---	---	---	0.643
0.58	0.002	631.54	0.76 oc	0.76 ic	---	---	---	---	---	---	---	---	0.759
0.63	0.003	631.59	0.86 oc	0.86 ic	---	---	---	---	---	---	---	---	0.857
0.69	0.003	631.65	0.98 oc	0.98 ic	---	---	---	---	---	---	---	---	0.976
0.74	0.004	631.70	1.07 oc	1.07 ic	---	---	---	---	---	---	---	---	1.073
0.79	0.004	631.75	1.19 oc	1.19 ic	---	---	---	---	---	---	---	---	1.186
0.84	0.004	631.80	1.29 oc	1.28 ic	---	---	---	---	---	---	---	---	1.280
0.90	0.005	631.86	1.37 oc	1.37 ic	---	---	---	---	---	---	---	---	1.375
0.95	0.005	631.91	1.45 oc	1.45 ic	---	---	---	---	---	---	---	---	1.450
1.00	0.006	631.96	1.52 oc	1.52 ic	---	---	---	---	---	---	---	---	1.516
1.06	0.006	632.02	1.58 oc	1.58 ic	---	---	---	---	---	---	---	---	1.578
1.11	0.007	632.07	1.64 oc	1.64 ic	---	---	---	---	---	---	---	---	1.637
1.16	0.007	632.12	1.68 oc	1.68 ic	---	---	---	---	---	---	---	---	1.685
1.21	0.008	632.17	1.73 oc	1.73 ic	---	---	---	---	---	---	---	---	1.727
1.27	0.009	632.23	1.75 oc	1.75 ic	---	---	---	---	---	---	---	---	1.754
1.32	0.009	632.28	1.76 oc	1.76 ic	---	---	---	---	---	---	---	---	1.761
1.37	0.010	632.33	1.85 oc	1.85 ic	---	---	---	---	---	---	---	---	1.848
1.42	0.010	632.38	1.93 oc	1.93 ic	---	---	---	---	---	---	---	---	1.931
1.48	0.011	632.44	2.01 oc	2.01 ic	---	---	---	---	---	---	---	---	2.010
1.53	0.011	632.49	2.09 oc	2.09 ic	---	---	---	---	---	---	---	---	2.086
1.58	0.012	632.54	2.16 oc	2.16 ic	---	---	---	---	---	---	---	---	2.160
1.64	0.013	632.60	2.23 oc	2.23 ic	---	---	---	---	---	---	---	---	2.231
1.69	0.013	632.65	2.30 oc	2.30 ic	---	---	---	---	---	---	---	---	2.300
1.74	0.014	632.70	2.37 oc	2.37 ic	---	---	---	---	---	---	---	---	2.367

Continues on next page...

Trailer Lot Basin

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv 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
1.79	0.014	632.75	2.43 oc	2.43 ic	---	---	---	---	---	---	---	---	2.432
1.85	0.015	632.81	2.50 oc	2.50 ic	---	---	---	---	---	---	---	---	2.495
1.90	0.016	632.86	2.56 oc	2.56 ic	---	---	---	---	---	---	---	---	2.557
1.95	0.016	632.91	2.62 oc	2.62 ic	---	---	---	---	---	---	---	---	2.617
2.00	0.017	632.96	2.68 oc	2.68 ic	---	---	---	---	---	---	---	---	2.676
2.06	0.018	633.02	2.73 oc	2.73 ic	---	---	---	---	---	---	---	---	2.734
2.11	0.018	633.07	2.79 oc	2.79 ic	---	---	---	---	---	---	---	---	2.791
2.16	0.019	633.12	2.85 oc	2.85 ic	---	---	---	---	---	---	---	---	2.846
2.22	0.020	633.18	2.90 oc	2.90 ic	---	---	---	---	---	---	---	---	2.901
2.27	0.020	633.23	2.95 oc	2.95 ic	---	---	---	---	---	---	---	---	2.954
2.32	0.021	633.28	3.01 oc	3.01 ic	---	---	---	---	---	---	---	---	3.006
2.37	0.022	633.33	3.06 oc	3.06 ic	---	---	---	---	---	---	---	---	3.058
2.43	0.022	633.39	3.11 oc	3.11 ic	---	---	---	---	---	---	---	---	3.109
2.48	0.023	633.44	3.16 oc	3.16 ic	---	---	---	---	---	---	---	---	3.158
2.53	0.023	633.49	3.21 oc	3.21 ic	---	---	---	---	---	---	---	---	3.208
2.58	0.024	633.54	3.26 oc	3.26 ic	---	---	---	---	---	---	---	---	3.256
2.64	0.025	633.60	3.30 oc	3.30 ic	---	---	---	---	---	---	---	---	3.304
2.69	0.025	633.65	3.35 oc	3.35 ic	---	---	---	---	---	---	---	---	3.351
2.74	0.026	633.70	3.40 oc	3.40 ic	---	---	---	---	---	---	---	---	3.397
2.80	0.027	633.76	3.44 oc	3.44 ic	---	---	---	---	---	---	---	---	3.443
2.85	0.027	633.81	3.49 oc	3.49 ic	---	---	---	---	---	---	---	---	3.488
2.90	0.028	633.86	3.53 oc	3.53 ic	---	---	---	---	---	---	---	---	3.532
2.95	0.029	633.91	3.58 oc	3.58 ic	---	---	---	---	---	---	---	---	3.576
3.01	0.029	633.97	3.62 oc	3.62 ic	---	---	---	---	---	---	---	---	3.619
3.06	0.030	634.02	3.66 oc	3.66 ic	---	---	---	---	---	---	---	---	3.662
3.11	0.031	634.07	3.70 oc	3.70 ic	---	---	---	---	---	---	---	---	3.705
3.17	0.031	634.13	3.75 oc	3.75 ic	---	---	---	---	---	---	---	---	3.747
3.22	0.032	634.18	3.79 oc	3.79 ic	---	---	---	---	---	---	---	---	3.788
3.27	0.033	634.23	3.83 oc	3.83 ic	---	---	---	---	---	---	---	---	3.829
3.32	0.033	634.28	3.87 oc	3.87 ic	---	---	---	---	---	---	---	---	3.870
3.38	0.034	634.34	3.91 oc	3.91 ic	---	---	---	---	---	---	---	---	3.910
3.43	0.035	634.39	3.95 oc	3.95 ic	---	---	---	---	---	---	---	---	3.950
3.48	0.035	634.44	3.99 oc	3.99 ic	---	---	---	---	---	---	---	---	3.989
3.53	0.036	634.49	4.03 oc	4.03 ic	---	---	---	---	---	---	---	---	4.028
3.59	0.036	634.55	4.07 oc	4.07 ic	---	---	---	---	---	---	---	---	4.067
3.64	0.037	634.60	4.10 oc	4.10 ic	---	---	---	---	---	---	---	---	4.105
3.69	0.038	634.65	4.14 oc	4.14 ic	---	---	---	---	---	---	---	---	4.143
3.75	0.038	634.71	4.18 oc	4.18 ic	---	---	---	---	---	---	---	---	4.180
3.80	0.039	634.76	4.22 oc	4.22 ic	---	---	---	---	---	---	---	---	4.218
3.85	0.039	634.81	4.25 oc	4.25 ic	---	---	---	---	---	---	---	---	4.254
3.90	0.040	634.86	4.29 oc	4.29 ic	---	---	---	---	---	---	---	---	4.291
3.96	0.041	634.92	4.33 oc	4.33 ic	---	---	---	---	---	---	---	---	4.327
4.01	0.041	634.97	4.36 oc	4.36 ic	---	---	---	---	---	---	---	---	4.363
4.06	0.042	635.02	4.40 oc	4.40 ic	---	---	---	---	---	---	---	---	4.399
4.11	0.042	635.07	4.43 oc	4.43 ic	---	---	---	---	---	---	---	---	4.434
4.17	0.043	635.13	4.47 oc	4.47 ic	---	---	---	---	---	---	---	---	4.469
4.22	0.043	635.18	4.50 oc	4.50 ic	---	---	---	---	---	---	---	---	4.504
4.27	0.044	635.23	4.54 oc	4.54 ic	---	---	---	---	---	---	---	---	4.539
4.33	0.044	635.29	4.57 oc	4.57 ic	---	---	---	---	---	---	---	---	4.573
4.38	0.045	635.34	4.61 oc	4.61 ic	---	---	---	---	---	---	---	---	4.607
4.43	0.045	635.39	4.64 oc	4.64 ic	---	---	---	---	---	---	---	---	4.641
4.48	0.046	635.44	4.67 oc	4.67 ic	---	---	---	---	---	---	---	---	4.674
4.54	0.046	635.50	4.71 oc	4.71 ic	---	---	---	---	---	---	---	---	4.708
4.59	0.046	635.55	4.74 oc	4.74 ic	---	---	---	---	---	---	---	---	4.741
4.64	0.047	635.60	4.77 oc	4.77 ic	---	---	---	---	---	---	---	---	4.774
4.69	0.047	635.65	4.81 oc	4.81 ic	---	---	---	---	---	---	---	---	4.806
4.75	0.048	635.71	4.84 oc	4.84 ic	---	---	---	---	---	---	---	---	4.839
4.80	0.048	635.76	4.87 oc	4.87 ic	---	---	---	---	---	---	---	---	4.871
4.85	0.048	635.81	4.90 oc	4.90 ic	---	---	---	---	---	---	---	---	4.903
4.91	0.048	635.87	4.93 oc	4.93 ic	---	---	---	---	---	---	---	---	4.935
4.96	0.049	635.92	4.97 oc	4.97 ic	---	---	---	---	---	---	---	---	4.966
5.01	0.049	635.97	5.00 oc	5.00 ic	---	---	---	---	---	---	---	---	4.998
5.06	0.049	636.02	5.03 oc	5.03 ic	---	---	---	---	---	---	---	---	5.029
5.12	0.049	636.08	5.06 oc	5.06 ic	---	---	---	---	---	---	---	---	5.060
5.17	0.049	636.13	5.09 oc	5.09 ic	---	---	---	---	---	---	---	---	5.090
5.22	0.049	636.18	5.12 oc	5.12 ic	---	---	---	---	---	---	---	---	5.121
5.28	0.050	636.24	5.15 oc	5.15 ic	---	---	---	---	---	---	---	---	5.151

...End

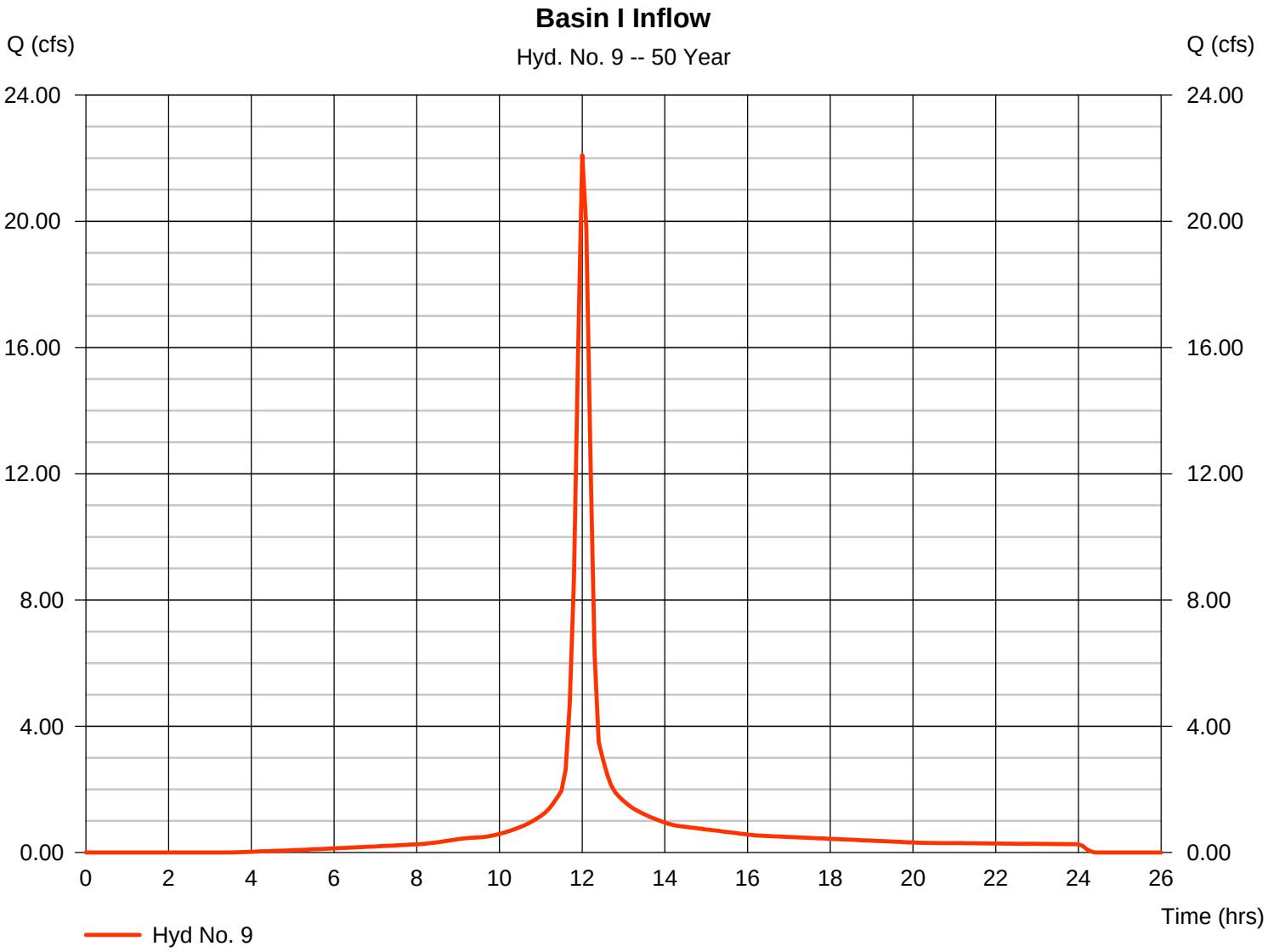
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Hyd. No. 9

Basin I Inflow

Hydrograph type	=	SCS Runoff	Peak discharge	=	22.10 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.00 hrs
Time interval	=	6 min	Hyd. volume	=	1.608 acft
Drainage area	=	4.940 ac	Curve number	=	90.9
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	12.50 min
Total precip.	=	5.20 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

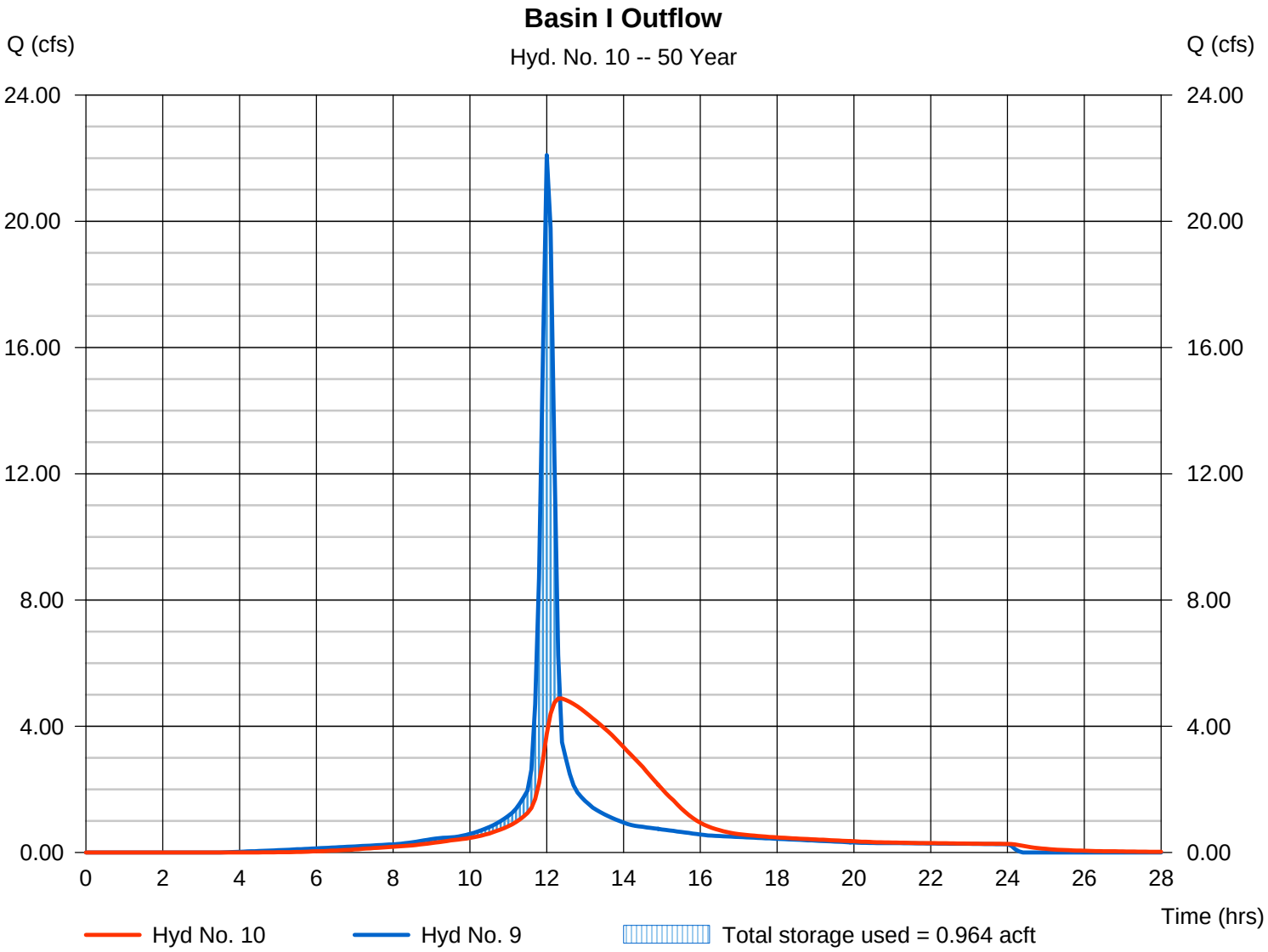
Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Hyd. No. 10

Basin I Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	4.877 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.30 hrs
Time interval	=	6 min	Hyd. volume	=	1.607 acft
Inflow hyd. No.	=	9 - Basin I Inflow	Max. Elevation	=	644.39 ft
Reservoir name	=	Basin I	Max. Storage	=	0.964 acft

Storage Indication method used. Wet pond routing start elevation = 640.50 ft.



Hydrograph Report

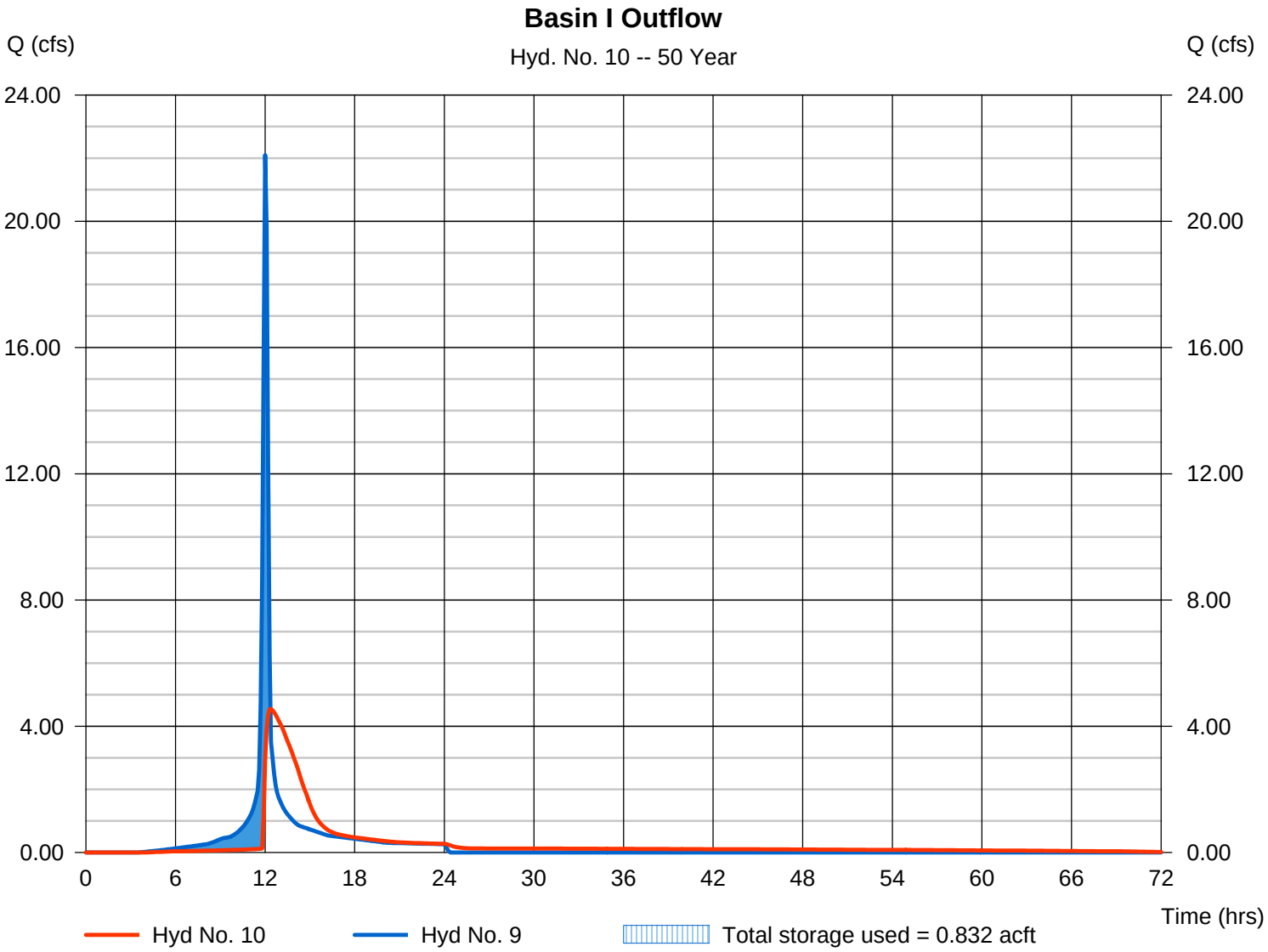
Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Hyd. No. 10

Basin I Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	4.549 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.40 hrs
Time interval	=	6 min	Hyd. volume	=	1.607 acft
Inflow hyd. No.	=	9 - Basin I Inflow	Max. Elevation	=	643.74 ft
Reservoir name	=	Basin I	Max. Storage	=	0.832 acft

Storage Indication method used.

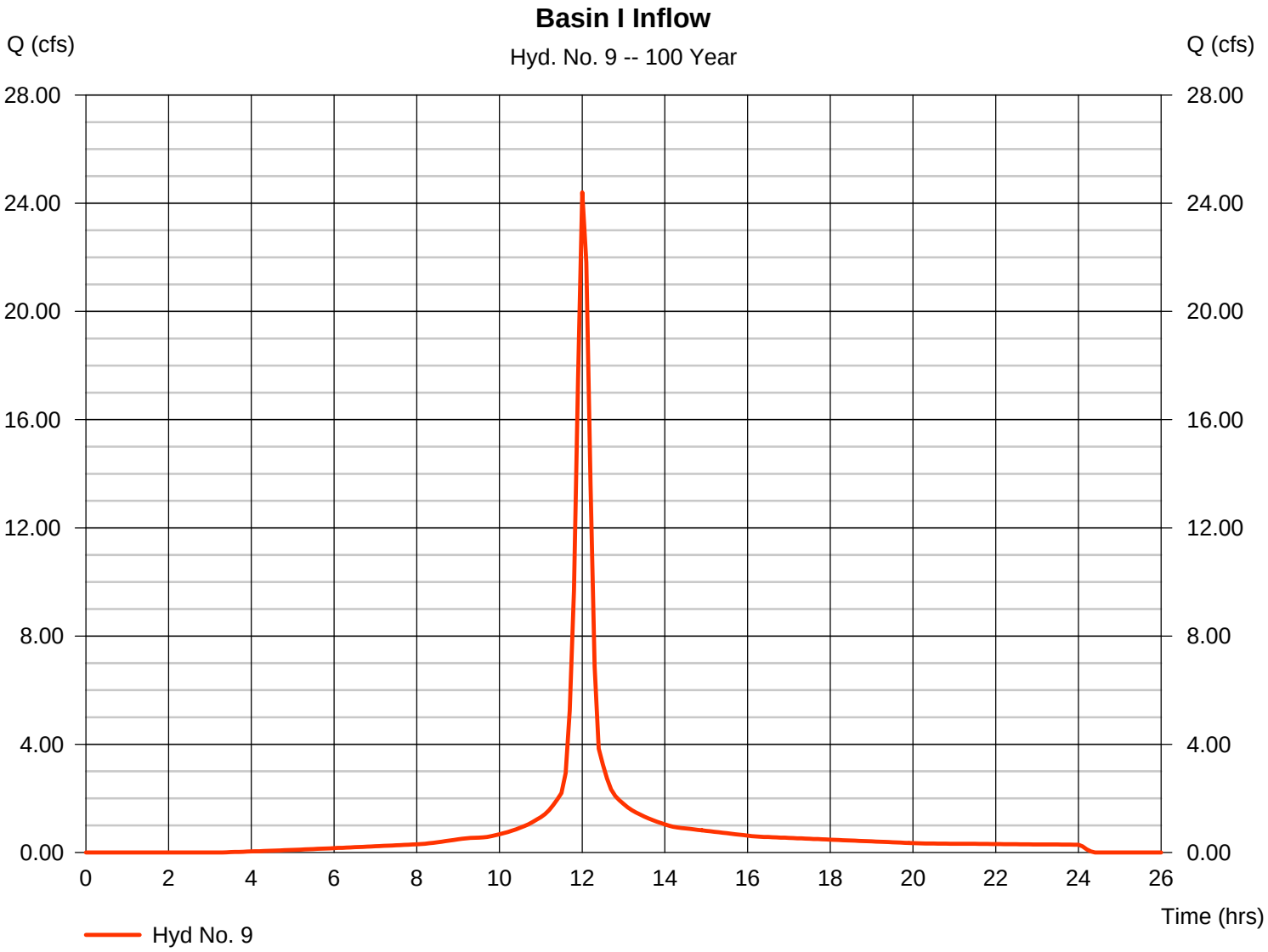


Hydrograph Report

Hyd. No. 9

Basin I Inflow

Hydrograph type	=	SCS Runoff	Peak discharge	=	24.40 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.00 hrs
Time interval	=	6 min	Hyd. volume	=	1.784 acft
Drainage area	=	4.940 ac	Curve number	=	90.9
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	12.50 min
Total precip.	=	5.67 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

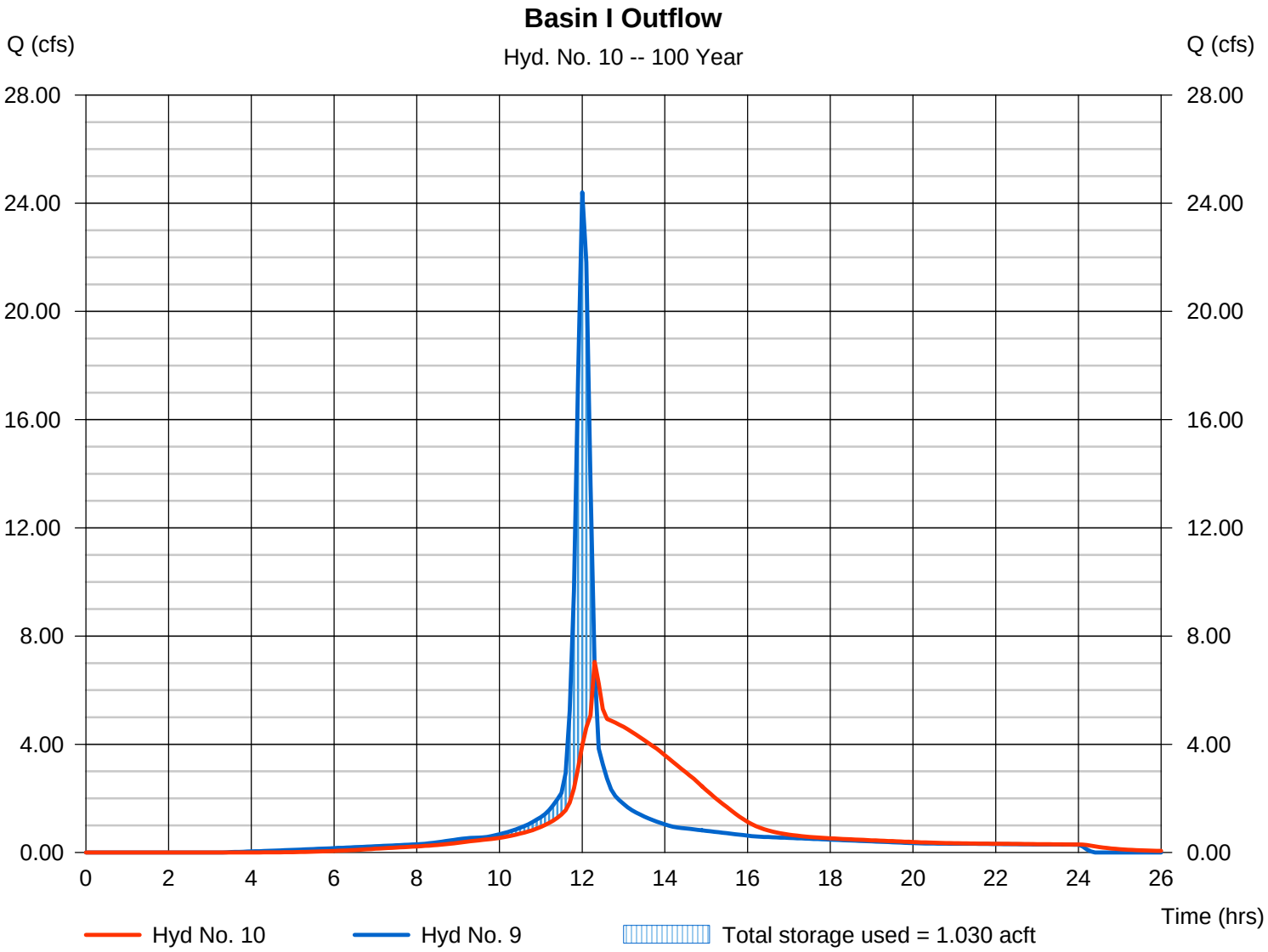
Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Hyd. No. 10

Basin I Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	7.049 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.30 hrs
Time interval	=	6 min	Hyd. volume	=	1.784 acft
Inflow hyd. No.	=	9 - Basin I Inflow	Max. Elevation	=	644.68 ft
Reservoir name	=	Basin I	Max. Storage	=	1.030 acft

Storage Indication method used. Wet pond routing start elevation = 640.50 ft.



Hydrograph Report

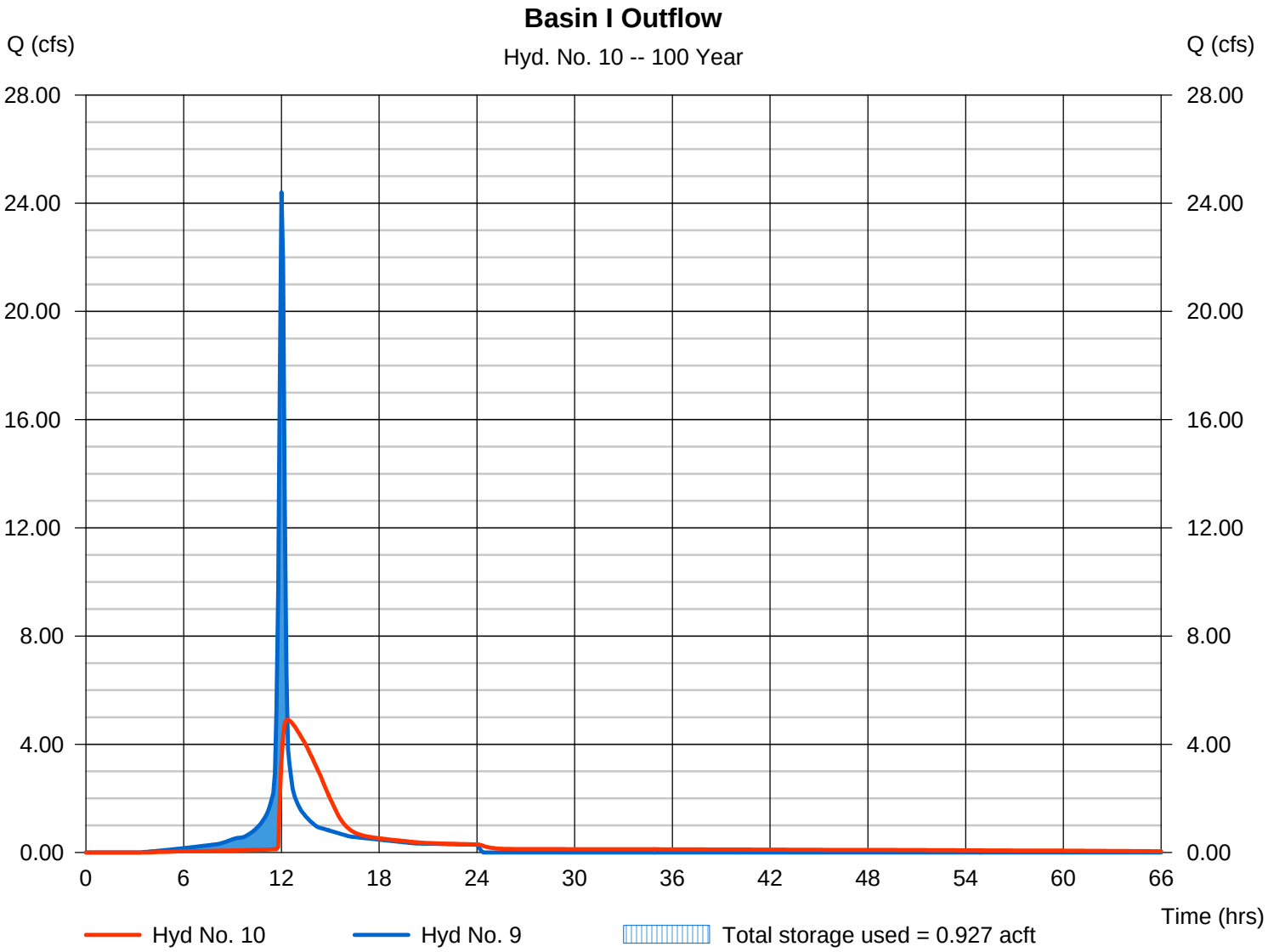
Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Hyd. No. 10

Basin I Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	4.914 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.40 hrs
Time interval	=	6 min	Hyd. volume	=	1.784 acft
Inflow hyd. No.	=	9 - Basin I Inflow	Max. Elevation	=	644.21 ft
Reservoir name	=	Basin I	Max. Storage	=	0.927 acft

Storage Indication method used.



Pond No. 2 - Basin I

Pond Data

Contours - User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 635.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	635.50	00	0.000	0.000
0.50	636.00	1,670	0.010	0.010
1.50	637.00	2,232	0.045	0.054
2.50	638.00	2,919	0.059	0.114
3.50	639.00	3,691	0.076	0.189
4.50	640.00	4,548	0.095	0.284
5.00	640.50	5,019	0.055	0.339
5.50	641.00	5,490	0.060	0.399
6.50	642.00	6,504	0.138	0.537
7.50	643.00	7,595	0.162	0.699
8.50	644.00	8,717	0.187	0.886
9.50	645.00	9,896	0.214	1.100

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	Inactive	10.00	0.00
Span (in)	= 18.00	1.50	10.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 635.50	635.50	640.50	0.00
Length (ft)	= 80.00	0.00	0.00	0.00
Slope (%)	= 1.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 8.00	30.00	0.00	0.00
Crest El. (ft)	= 644.50	645.00	0.00	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= Riser	Broad	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

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 acft	Elevation ft	Clv A cfs	Clv 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	0.000	635.50	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.05	0.001	635.55	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.10	0.002	635.60	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.15	0.003	635.65	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.20	0.004	635.70	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.25	0.005	635.75	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.30	0.006	635.80	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.35	0.007	635.85	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.40	0.008	635.90	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.45	0.009	635.95	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.50	0.010	636.00	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.60	0.014	636.10	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.70	0.019	636.20	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.80	0.023	636.30	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.90	0.028	636.40	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.00	0.032	636.50	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.10	0.036	636.60	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.20	0.041	636.70	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.30	0.045	636.80	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.40	0.050	636.90	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.50	0.054	637.00	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.60	0.060	637.10	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.70	0.066	637.20	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.80	0.072	637.30	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.90	0.078	637.40	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.00	0.084	637.50	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.10	0.090	637.60	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.20	0.096	637.70	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.30	0.102	637.80	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.40	0.108	637.90	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.50	0.114	638.00	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.60	0.121	638.10	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.70	0.129	638.20	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000

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Basin I

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv 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
2.80	0.136	638.30	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.90	0.144	638.40	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
3.00	0.151	638.50	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
3.10	0.159	638.60	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
3.20	0.167	638.70	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
3.30	0.174	638.80	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
3.40	0.182	638.90	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
3.50	0.189	639.00	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
3.60	0.199	639.10	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
3.70	0.208	639.20	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
3.80	0.218	639.30	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
3.90	0.227	639.40	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.00	0.237	639.50	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.10	0.246	639.60	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.20	0.256	639.70	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.30	0.265	639.80	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.40	0.275	639.90	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.50	0.284	640.00	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.55	0.289	640.05	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.60	0.295	640.10	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.65	0.300	640.15	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.70	0.306	640.20	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.75	0.311	640.25	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.80	0.317	640.30	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.85	0.322	640.35	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.90	0.328	640.40	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.95	0.333	640.45	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
5.00	0.339	640.50	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
5.05	0.345	640.55	0.01 ic	0.00	0.01 ic	---	0.00	0.00	---	---	---	---	0.011
5.10	0.351	640.60	0.05 ic	0.00	0.04 ic	---	0.00	0.00	---	---	---	---	0.042
5.15	0.357	640.65	0.09 ic	0.00	0.09 ic	---	0.00	0.00	---	---	---	---	0.089
5.20	0.363	640.70	0.16 ic	0.00	0.16 ic	---	0.00	0.00	---	---	---	---	0.158
5.25	0.369	640.75	0.24 ic	0.00	0.24 ic	---	0.00	0.00	---	---	---	---	0.236
5.30	0.375	640.80	0.33 ic	0.00	0.33 ic	---	0.00	0.00	---	---	---	---	0.330
5.35	0.381	640.85	0.44 ic	0.00	0.44 ic	---	0.00	0.00	---	---	---	---	0.440
5.40	0.387	640.90	0.58 ic	0.00	0.56 ic	---	0.00	0.00	---	---	---	---	0.564
5.45	0.393	640.95	0.72 ic	0.00	0.70 ic	---	0.00	0.00	---	---	---	---	0.697
5.50	0.399	641.00	0.84 ic	0.00	0.82 ic	---	0.00	0.00	---	---	---	---	0.825
5.60	0.413	641.10	1.12 ic	0.00	1.12 ic	---	0.00	0.00	---	---	---	---	1.120
5.70	0.427	641.20	1.42 ic	0.00	1.40 ic	---	0.00	0.00	---	---	---	---	1.397
5.80	0.440	641.30	1.65 ic	0.00	1.64 ic	---	0.00	0.00	---	---	---	---	1.640
5.90	0.454	641.40	1.84 ic	0.00	1.83 ic	---	0.00	0.00	---	---	---	---	1.825
6.00	0.468	641.50	2.03 ic	0.00	2.01 ic	---	0.00	0.00	---	---	---	---	2.005
6.10	0.482	641.60	2.17 ic	0.00	2.17 ic	---	0.00	0.00	---	---	---	---	2.170
6.20	0.496	641.70	2.37 ic	0.00	2.32 ic	---	0.00	0.00	---	---	---	---	2.324
6.30	0.509	641.80	2.51 ic	0.00	2.47 ic	---	0.00	0.00	---	---	---	---	2.468
6.40	0.523	641.90	2.60 ic	0.00	2.60 ic	---	0.00	0.00	---	---	---	---	2.604
6.50	0.537	642.00	2.73 ic	0.00	2.73 ic	---	0.00	0.00	---	---	---	---	2.733
6.60	0.553	642.10	2.88 ic	0.00	2.86 ic	---	0.00	0.00	---	---	---	---	2.856
6.70	0.569	642.20	2.97 ic	0.00	2.97 ic	---	0.00	0.00	---	---	---	---	2.975
6.80	0.585	642.30	3.11 ic	0.00	3.09 ic	---	0.00	0.00	---	---	---	---	3.088
6.90	0.602	642.40	3.20 ic	0.00	3.20 ic	---	0.00	0.00	---	---	---	---	3.198
7.00	0.618	642.50	3.33 ic	0.00	3.30 ic	---	0.00	0.00	---	---	---	---	3.304
7.10	0.634	642.60	3.41 ic	0.00	3.41 ic	---	0.00	0.00	---	---	---	---	3.407
7.20	0.650	642.70	3.51 ic	0.00	3.51 ic	---	0.00	0.00	---	---	---	---	3.506
7.30	0.666	642.80	3.64 ic	0.00	3.60 ic	---	0.00	0.00	---	---	---	---	3.603
7.40	0.682	642.90	3.72 ic	0.00	3.70 ic	---	0.00	0.00	---	---	---	---	3.698
7.50	0.699	643.00	3.80 ic	0.00	3.79 ic	---	0.00	0.00	---	---	---	---	3.790
7.60	0.717	643.10	3.88 ic	0.00	3.88 ic	---	0.00	0.00	---	---	---	---	3.880
7.70	0.736	643.20	3.97 ic	0.00	3.97 ic	---	0.00	0.00	---	---	---	---	3.968
7.80	0.755	643.30	4.05 ic	0.00	4.05 ic	---	0.00	0.00	---	---	---	---	4.054
7.90	0.774	643.40	4.19 ic	0.00	4.14 ic	---	0.00	0.00	---	---	---	---	4.138
8.00	0.792	643.50	4.27 ic	0.00	4.22 ic	---	0.00	0.00	---	---	---	---	4.220
8.10	0.811	643.60	4.34 ic	0.00	4.30 ic	---	0.00	0.00	---	---	---	---	4.301
8.20	0.830	643.70	4.42 ic	0.00	4.38 ic	---	0.00	0.00	---	---	---	---	4.381
8.30	0.848	643.80	4.50 ic	0.00	4.46 ic	---	0.00	0.00	---	---	---	---	4.459
8.40	0.867	643.90	4.57 ic	0.00	4.54 ic	---	0.00	0.00	---	---	---	---	4.535
8.50	0.886	644.00	4.65 ic	0.00	4.61 ic	---	0.00	0.00	---	---	---	---	4.611
8.60	0.907	644.10	4.72 ic	0.00	4.68 ic	---	0.00	0.00	---	---	---	---	4.685
8.70	0.929	644.20	4.80 ic	0.00	4.76 ic	---	0.00	0.00	---	---	---	---	4.758
8.80	0.950	644.30	4.87 ic	0.00	4.83 ic	---	0.00	0.00	---	---	---	---	4.830
8.90	0.971	644.40	4.94 ic	0.00	4.90 ic	---	0.00	0.00	---	---	---	---	4.901
9.00	0.993	644.50	5.01 ic	0.00	4.97 ic	---	0.00	0.00	---	---	---	---	4.971
9.10	1.014	644.60	5.88 ic	0.00	5.04 ic	---	0.84	0.00	---	---	---	---	5.881

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Basin I

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv 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
9.20	1.035	644.70	7.49 ic	0.00	5.11 ic	---	2.38	0.00	---	---	---	---	7.487
9.30	1.057	644.80	9.55 oc	0.00	5.17 ic	---	4.37	0.00	---	---	---	---	9.548
9.40	1.078	644.90	11.97 oc	0.00	5.24 ic	---	6.73	0.00	---	---	---	---	11.97
9.50	1.100	645.00	14.72 oc	0.00	5.31 ic	---	9.42	0.00	---	---	---	---	14.72

...End

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Project:	Port Union at Union Centre Building I	Designed By:	RWB	Date:	5/12/07
Job No.:	Rough graded under 07F053	Checked By:		Date:	
Basin ID:	Building I Basin (Future)	Revised By:		Date:	

Required Water Quality Volume

WQ_v = P C A/12

Site Drainage Area (A) = 3.95 acres (To Basin) WQ_v = 0.220 acre-ft.

Rainfall Depth (P) = 0.75 in. Sediment Storage Allowance = 20 %
Sediment Storage Allowance = 0.04 Ac-ft

Runoff Coefficient (C) = 0.89 **Total WQ_v =** 0.264 Ac-ft
= 11,495 cu.ft.

Water Quality Release Rate

Q_{wqv} = Total WQ_v/RT

Retention Time (RT) = 24 hours Q_{wqv} = 0.13 cfs

Water Quality Outlet Orifice

Contour Areas

	Elevation ft	Area ft^2	Volume ft^3	Cum. Vol. ft^3	Elevation at V	Storage at Elev
Basin Inv. =	635.50	0.00	0.00	0.00		
Contour 1 =	636.00	1669.88	417.47	417.47		
Contour 2 =	637.00	2232.36	1951.12	2368.59		
Contour 3 =	638.00	2919.10	2575.73	4944.32		
Contour 4 =	639.00	3691.23	3305.16	8249.48		
Contour 5 =	640.00	4548.40	4119.81	12369.30	639.79	
Contour 6 =	641.00	5489.56	5018.98	17388.28		14714.62
Contour 7 =	642.00	6504.10	5996.83	23385.11		
Contour 8 =	643.00	7594.54	7049.32	30434.43		
Contour 9 =	644.00	8716.56	8155.55	38589.98		
Contour 10 =	645.00	9896.08	9306.32	47896.30		
Contour 11 =						
Contour 12 =						
Contour 13 =						
Contour 14 =						

$Q = N C_d A_o (2 g \Delta h)^{1/2}$

C_d = 0.61

$A_o = \pi D^2/4$ for circular orifices; = h * w for rectangular orifices

g = 32.20 ft/sec^2

Q = Q_{wqv} = 0.13 cfs

Lowest Orifice 635.5
Required Volume = V = 11495 ft^3 Number of orifices = N = 1
Elevation at V = 639.79

Orifice h = 1.500 inch Orifice w = 0.00 inch (= 0 for circular orifice)

Δh_{min} = Elev at V - Basin Inv - 1/2 h = 4.23 ft

$A_{trial} = Q/(N C_d (2 g \Delta h_{min})^{1/2})$ = 1.90 in^2 Actual A = A_o = 1.77 in^2

$\Delta h = (Q/(N C_d A_o))^2/(2 g)$ = 4.90 ft

Elev = 640.47 > Elevation at V = 639.79 Good

Storage = 14714.62 ft^3

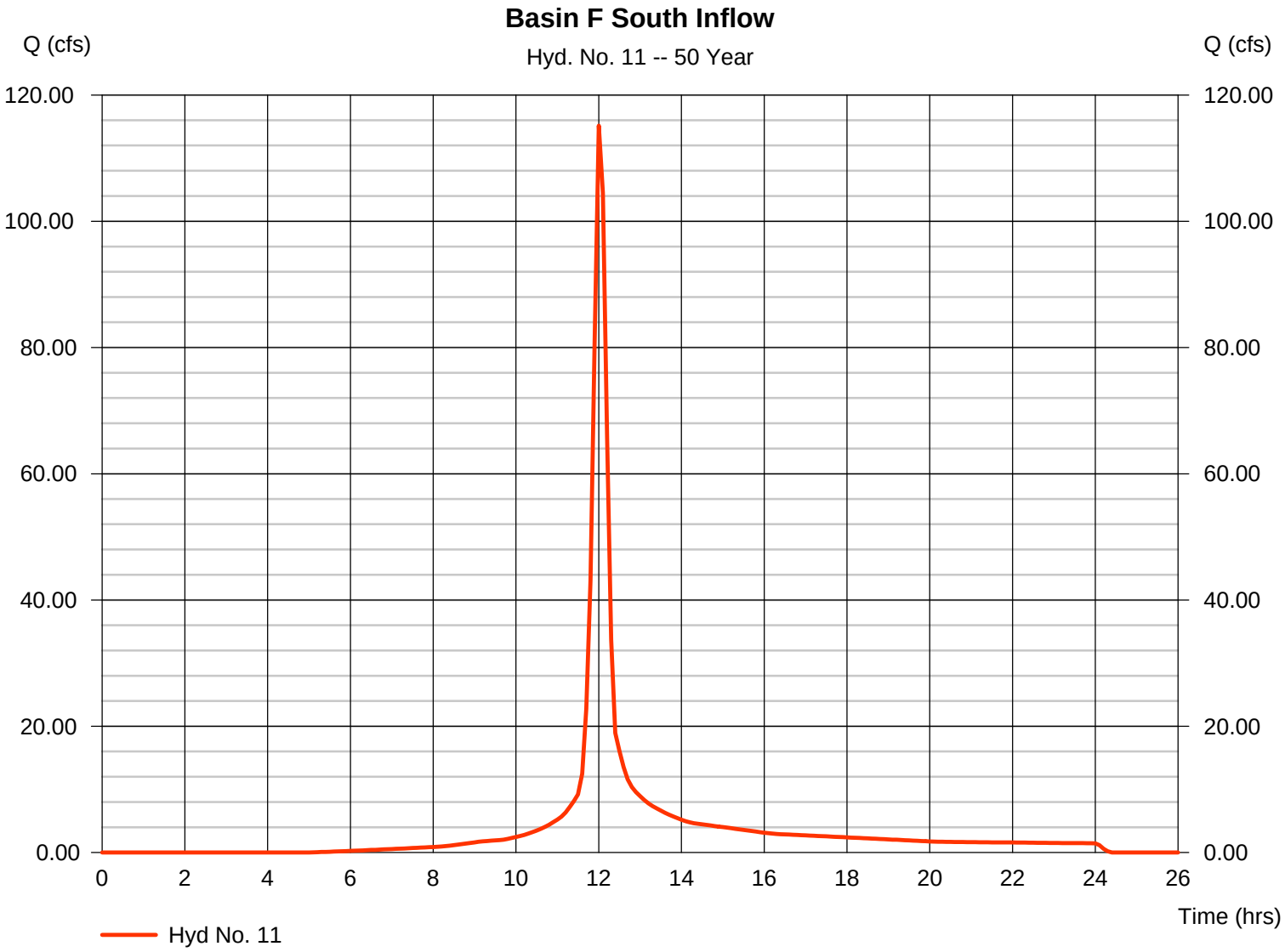
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 — Monday, Jul 2, 2007

Hyd. No. 11

Basin F South Inflow

Hydrograph type	=	SCS Runoff	Peak discharge	=	115.13 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.00 hrs
Time interval	=	6 min	Hyd. volume	=	8.194 acft
Drainage area	=	28.310 ac	Curve number	=	86.5
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	13.00 min
Total precip.	=	5.20 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

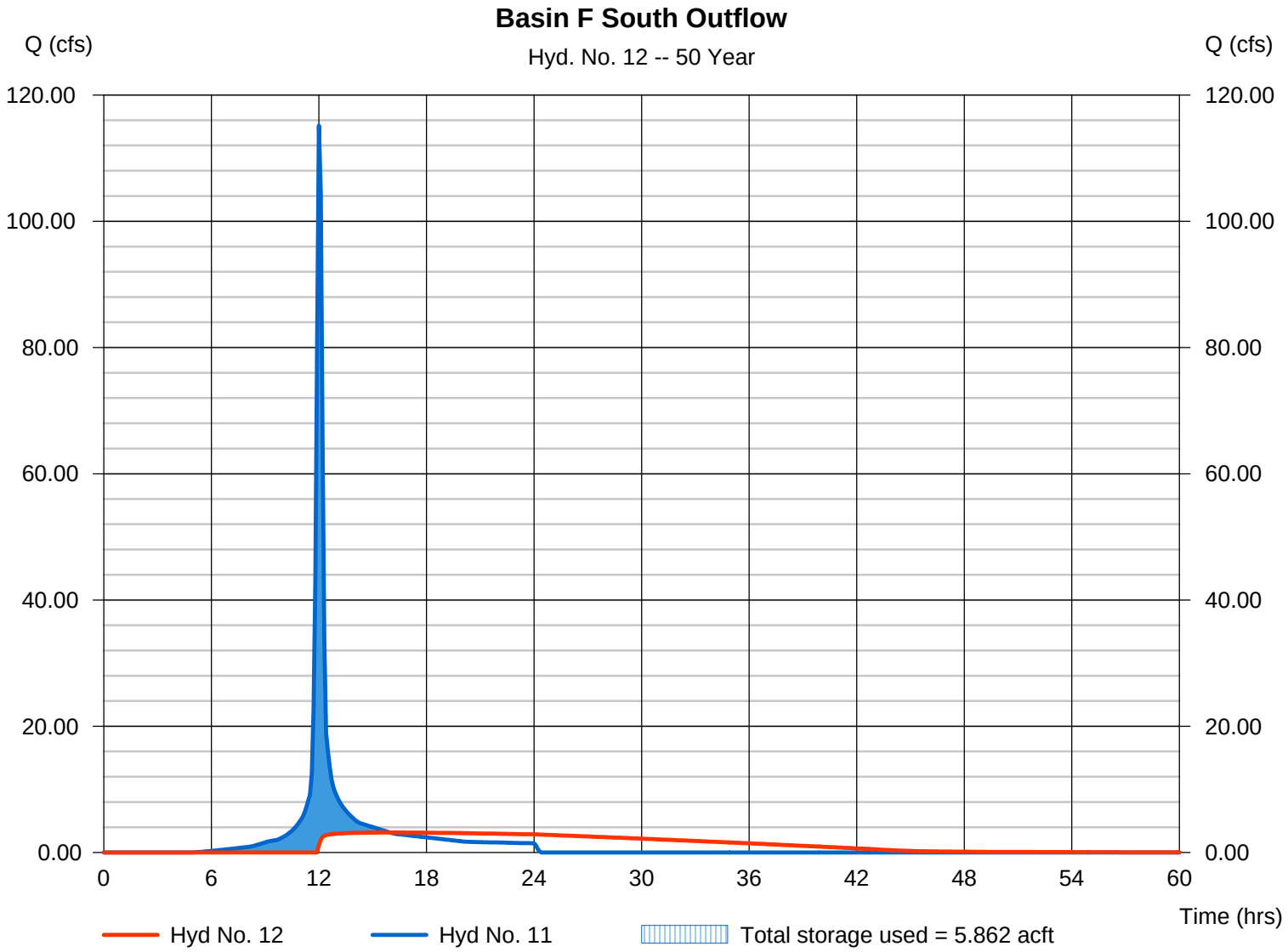
Hydraflow Hydrographs by Intelisolve v9.2 — Monday, Jul 2, 2007

Hyd. No. 12

Basin F South Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	3.166 cfs
Storm frequency	=	50 yrs	Time to peak	=	16.00 hrs
Time interval	=	6 min	Hyd. volume	=	5.917 acft
Inflow hyd. No.	=	11 - Basin F South Inflow	Max. Elevation	=	629.57 ft
Reservoir name	=	Basin F South	Max. Storage	=	5.862 acft

Storage Indication method used.



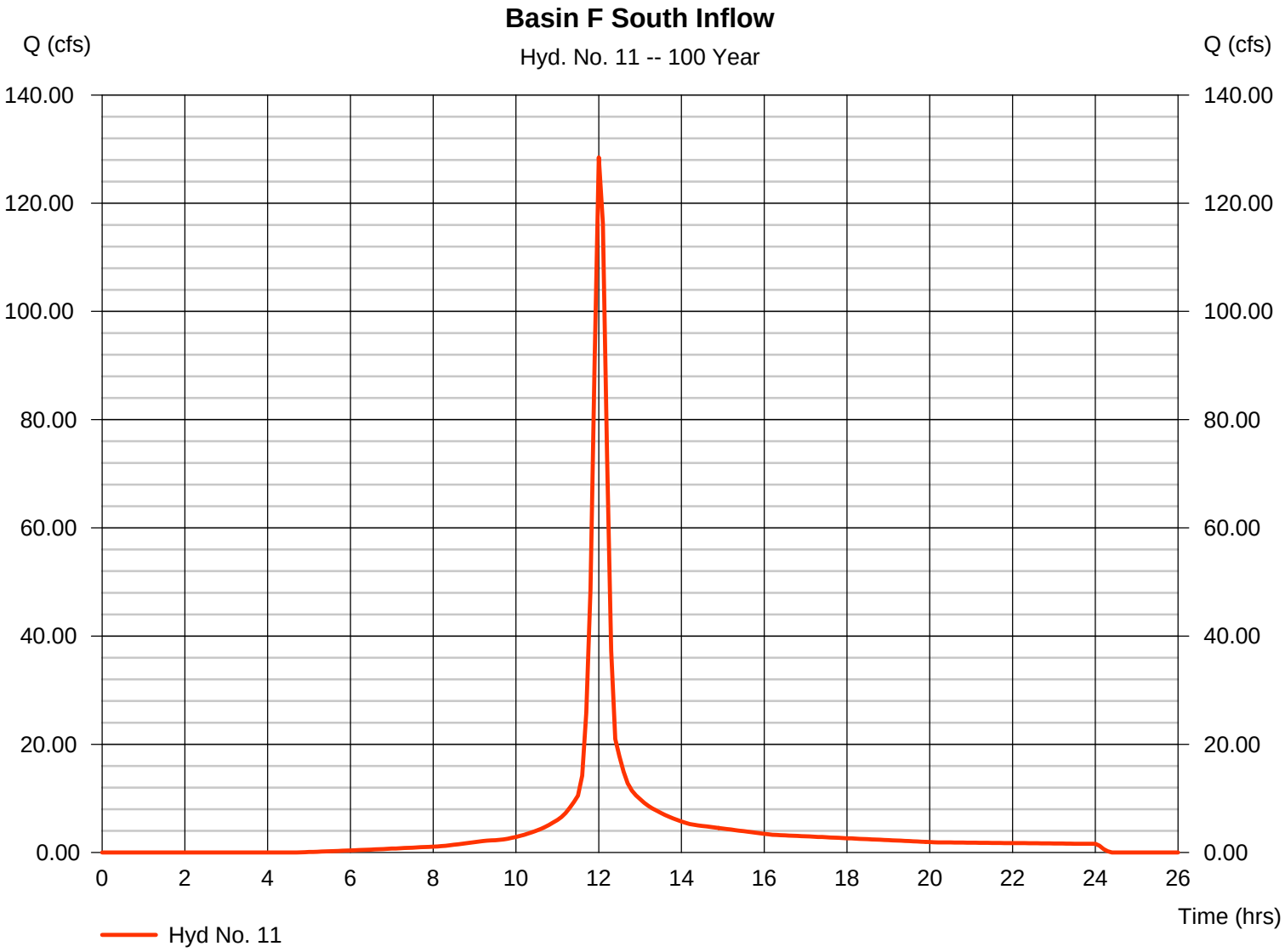
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 — Monday, Jul 2, 2007

Hyd. No. 11

Basin F South Inflow

Hydrograph type	=	SCS Runoff	Peak discharge	=	128.47 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.00 hrs
Time interval	=	6 min	Hyd. volume	=	9.177 acft
Drainage area	=	28.310 ac	Curve number	=	86.5
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	13.00 min
Total precip.	=	5.67 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

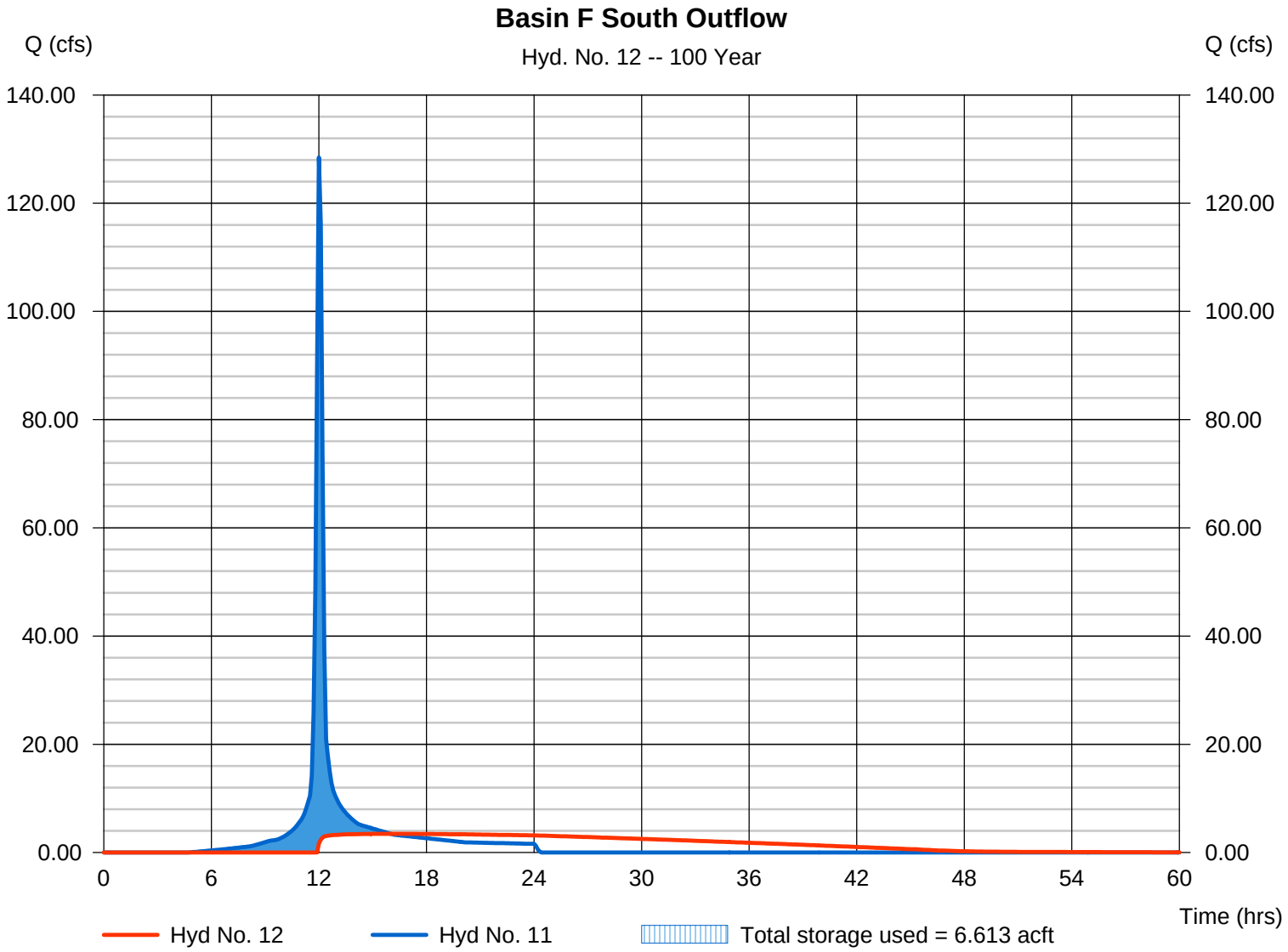
Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Hyd. No. 12

Basin F South Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	3.451 cfs
Storm frequency	=	100 yrs	Time to peak	=	16.00 hrs
Time interval	=	6 min	Hyd. volume	=	6.899 acft
Inflow hyd. No.	=	11 - Basin F South Inflow	Max. Elevation	=	630.19 ft
Reservoir name	=	Basin F South	Max. Storage	=	6.613 acft

Storage Indication method used.



Pond No. 3 - Basin F South

Pond Data

Contours - User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 622.21 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	622.21	00	0.000	0.000
0.79	623.00	11,927	0.108	0.108
1.79	624.00	24,381	0.417	0.525
2.79	625.00	36,108	0.694	1.219
3.79	626.00	39,537	0.868	2.088
4.79	627.00	43,035	0.948	3.035
5.79	628.00	46,602	1.029	4.064
6.79	629.00	50,238	1.112	5.176
7.79	630.00	53,944	1.196	6.372
8.39	630.60	56,201	0.759	7.130
8.79	631.00	57,532	0.522	7.652

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	9.00	0.00	0.00
Span (in)	= 12.00	9.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 622.21	622.21	0.00	0.00
Length (ft)	= 88.00	0.00	0.00	0.00
Slope (%)	= 0.43	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 40.00	0.00	0.00	0.00
Crest El. (ft)	= 631.00	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Broad	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 626.29

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 acft	Elevation ft	Clv A cfs	Clv 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	0.000	622.21	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.08	0.011	622.29	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.16	0.022	622.37	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.24	0.032	622.45	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.32	0.043	622.53	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.40	0.054	622.60	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.47	0.065	622.68	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.55	0.076	622.76	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.63	0.087	622.84	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.71	0.097	622.92	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.79	0.108	623.00	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.89	0.150	623.10	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.99	0.192	623.20	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
1.09	0.233	623.30	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
1.19	0.275	623.40	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
1.29	0.317	623.50	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
1.39	0.358	623.60	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
1.49	0.400	623.70	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
1.59	0.442	623.80	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
1.69	0.483	623.90	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
1.79	0.525	624.00	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
1.89	0.594	624.10	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
1.99	0.664	624.20	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
2.09	0.733	624.30	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
2.19	0.803	624.40	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
2.29	0.872	624.50	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
2.39	0.942	624.60	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
2.49	1.011	624.70	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
2.59	1.080	624.80	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
2.69	1.150	624.90	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
2.79	1.219	625.00	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
2.89	1.306	625.10	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
2.99	1.393	625.20	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
3.09	1.480	625.30	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000

Continues on next page...

Basin F South

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv 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
3.19	1.567	625.40	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
3.29	1.653	625.50	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
3.39	1.740	625.60	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
3.49	1.827	625.70	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
3.59	1.914	625.80	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
3.69	2.001	625.90	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
3.79	2.088	626.00	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
3.89	2.182	626.10	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
3.99	2.277	626.20	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
4.09	2.372	626.30	0.18 oc	0.17 ic	---	---	0.00	---	---	---	---	---	0.174
4.19	2.467	626.40	0.58 oc	0.58 ic	---	---	0.00	---	---	---	---	---	0.579
4.29	2.561	626.50	0.80 oc	0.80 ic	---	---	0.00	---	---	---	---	---	0.800
4.39	2.656	626.60	0.97 oc	0.97 ic	---	---	0.00	---	---	---	---	---	0.973
4.49	2.751	626.70	1.12 oc	1.12 ic	---	---	0.00	---	---	---	---	---	1.119
4.59	2.846	626.80	1.25 oc	1.25 ic	---	---	0.00	---	---	---	---	---	1.248
4.69	2.941	626.90	1.36 oc	1.36 ic	---	---	0.00	---	---	---	---	---	1.365
4.79	3.035	627.00	1.47 oc	1.47 ic	---	---	0.00	---	---	---	---	---	1.472
4.89	3.138	627.10	1.57 oc	1.57 ic	---	---	0.00	---	---	---	---	---	1.573
4.99	3.241	627.20	1.67 oc	1.67 ic	---	---	0.00	---	---	---	---	---	1.667
5.09	3.344	627.30	1.76 oc	1.76 ic	---	---	0.00	---	---	---	---	---	1.756
5.19	3.447	627.40	1.84 oc	1.84 ic	---	---	0.00	---	---	---	---	---	1.841
5.29	3.550	627.50	1.92 oc	1.92 ic	---	---	0.00	---	---	---	---	---	1.922
5.39	3.653	627.60	2.00 oc	2.00 ic	---	---	0.00	---	---	---	---	---	2.000
5.49	3.756	627.70	2.07 oc	2.07 ic	---	---	0.00	---	---	---	---	---	2.075
5.59	3.858	627.80	2.15 oc	2.15 ic	---	---	0.00	---	---	---	---	---	2.147
5.69	3.961	627.90	2.22 oc	2.22 ic	---	---	0.00	---	---	---	---	---	2.217
5.79	4.064	628.00	2.29 oc	2.29 ic	---	---	0.00	---	---	---	---	---	2.285
5.89	4.175	628.10	2.35 oc	2.35 ic	---	---	0.00	---	---	---	---	---	2.351
5.99	4.287	628.20	2.42 oc	2.42 ic	---	---	0.00	---	---	---	---	---	2.415
6.09	4.398	628.30	2.48 oc	2.48 ic	---	---	0.00	---	---	---	---	---	2.477
6.19	4.509	628.40	2.54 oc	2.54 ic	---	---	0.00	---	---	---	---	---	2.538
6.29	4.620	628.50	2.60 oc	2.60 ic	---	---	0.00	---	---	---	---	---	2.598
6.39	4.731	628.60	2.66 oc	2.66 ic	---	---	0.00	---	---	---	---	---	2.656
6.49	4.842	628.70	2.71 oc	2.71 ic	---	---	0.00	---	---	---	---	---	2.713
6.59	4.953	628.80	2.77 oc	2.77 ic	---	---	0.00	---	---	---	---	---	2.768
6.69	5.065	628.90	2.82 oc	2.82 ic	---	---	0.00	---	---	---	---	---	2.823
6.79	5.176	629.00	2.88 oc	2.88 ic	---	---	0.00	---	---	---	---	---	2.877
6.89	5.295	629.10	2.93 oc	2.93 ic	---	---	0.00	---	---	---	---	---	2.929
6.99	5.415	629.20	2.98 oc	2.98 ic	---	---	0.00	---	---	---	---	---	2.981
7.09	5.535	629.30	3.03 oc	3.03 ic	---	---	0.00	---	---	---	---	---	3.032
7.19	5.654	629.40	3.08 oc	3.08 ic	---	---	0.00	---	---	---	---	---	3.082
7.29	5.774	629.50	3.13 oc	3.13 ic	---	---	0.00	---	---	---	---	---	3.131
7.39	5.893	629.60	3.18 oc	3.18 ic	---	---	0.00	---	---	---	---	---	3.179
7.49	6.013	629.70	3.23 oc	3.23 ic	---	---	0.00	---	---	---	---	---	3.227
7.59	6.132	629.80	3.27 oc	3.27 ic	---	---	0.00	---	---	---	---	---	3.274
7.69	6.252	629.90	3.32 oc	3.32 ic	---	---	0.00	---	---	---	---	---	3.320
7.79	6.372	630.00	3.37 oc	3.37 ic	---	---	0.00	---	---	---	---	---	3.366
7.85	6.447	630.06	3.39 oc	3.39 ic	---	---	0.00	---	---	---	---	---	3.393
7.91	6.523	630.12	3.42 oc	3.42 ic	---	---	0.00	---	---	---	---	---	3.420
7.97	6.599	630.18	3.45 oc	3.45 ic	---	---	0.00	---	---	---	---	---	3.447
8.03	6.675	630.24	3.47 oc	3.47 ic	---	---	0.00	---	---	---	---	---	3.473
8.09	6.751	630.30	3.50 oc	3.50 ic	---	---	0.00	---	---	---	---	---	3.499
8.15	6.827	630.36	3.53 oc	3.53 ic	---	---	0.00	---	---	---	---	---	3.525
8.21	6.903	630.42	3.55 oc	3.55 ic	---	---	0.00	---	---	---	---	---	3.551
8.27	6.978	630.48	3.58 oc	3.58 ic	---	---	0.00	---	---	---	---	---	3.577
8.33	7.054	630.54	3.60 oc	3.60 ic	---	---	0.00	---	---	---	---	---	3.602
8.39	7.130	630.60	3.63 oc	3.63 ic	---	---	0.00	---	---	---	---	---	3.628
8.43	7.182	630.64	3.64 oc	3.64 ic	---	---	0.00	---	---	---	---	---	3.645
8.47	7.235	630.68	3.66 oc	3.66 ic	---	---	0.00	---	---	---	---	---	3.661
8.51	7.287	630.72	3.68 oc	3.68 ic	---	---	0.00	---	---	---	---	---	3.678
8.55	7.339	630.76	3.69 oc	3.69 ic	---	---	0.00	---	---	---	---	---	3.695
8.59	7.391	630.80	3.71 oc	3.71 ic	---	---	0.00	---	---	---	---	---	3.711
8.63	7.444	630.84	3.73 oc	3.73 ic	---	---	0.00	---	---	---	---	---	3.727
8.67	7.496	630.88	3.74 oc	3.74 ic	---	---	0.00	---	---	---	---	---	3.744
8.71	7.548	630.92	3.76 oc	3.76 ic	---	---	0.00	---	---	---	---	---	3.760
8.75	7.600	630.96	3.78 oc	3.78 ic	---	---	0.00	---	---	---	---	---	3.776
8.79	7.652	631.00	3.79 oc	3.79 ic	---	---	0.00	---	---	---	---	---	3.793

...End

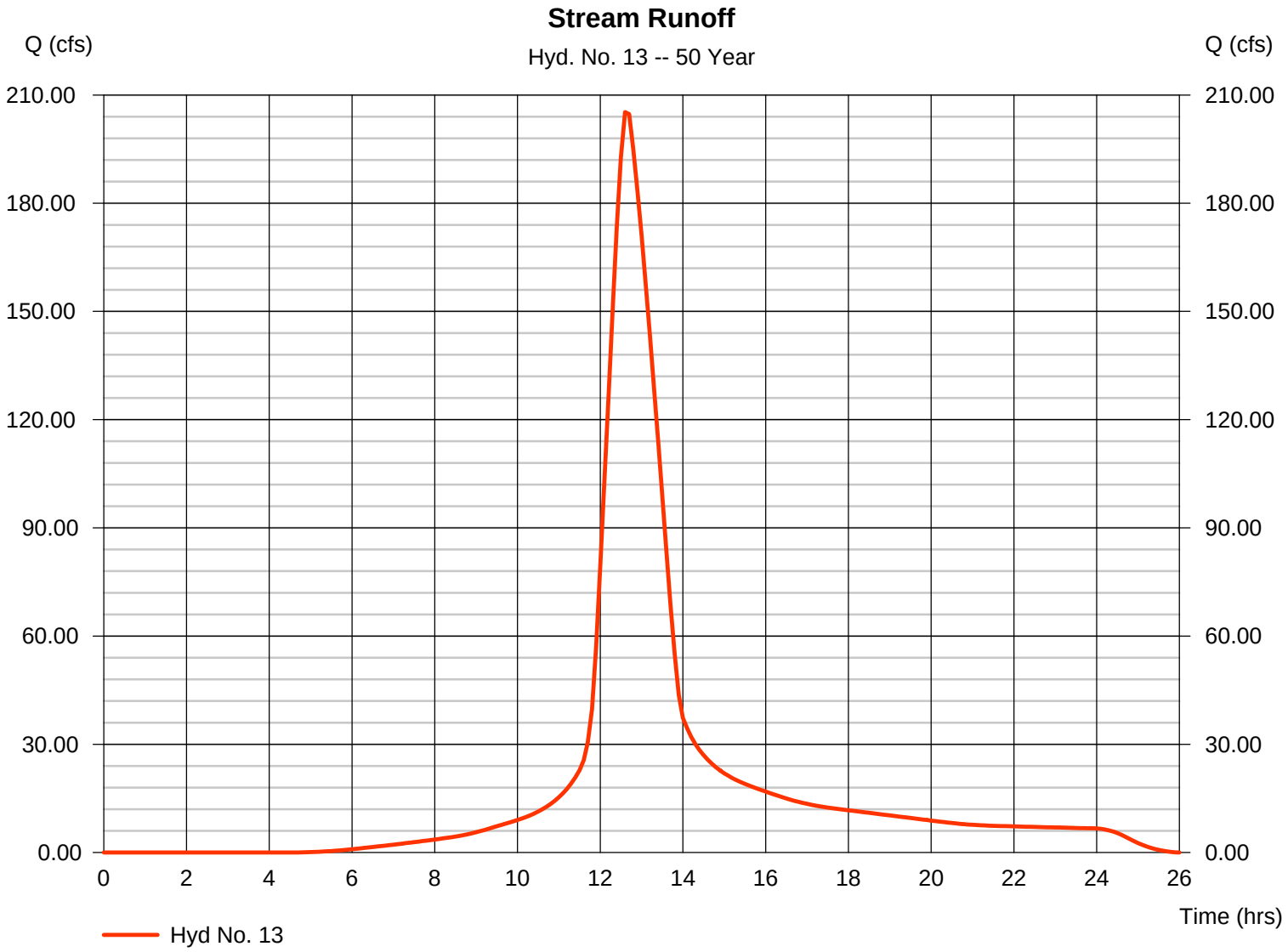
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 — Monday, Jul 2, 2007

Hyd. No. 13

Stream Runoff

Hydrograph type	=	SCS Runoff	Peak discharge	=	205.25 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.60 hrs
Time interval	=	6 min	Hyd. volume	=	37.533 acft
Drainage area	=	118.240 ac	Curve number	=	88.1
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	78.30 min
Total precip.	=	5.20 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



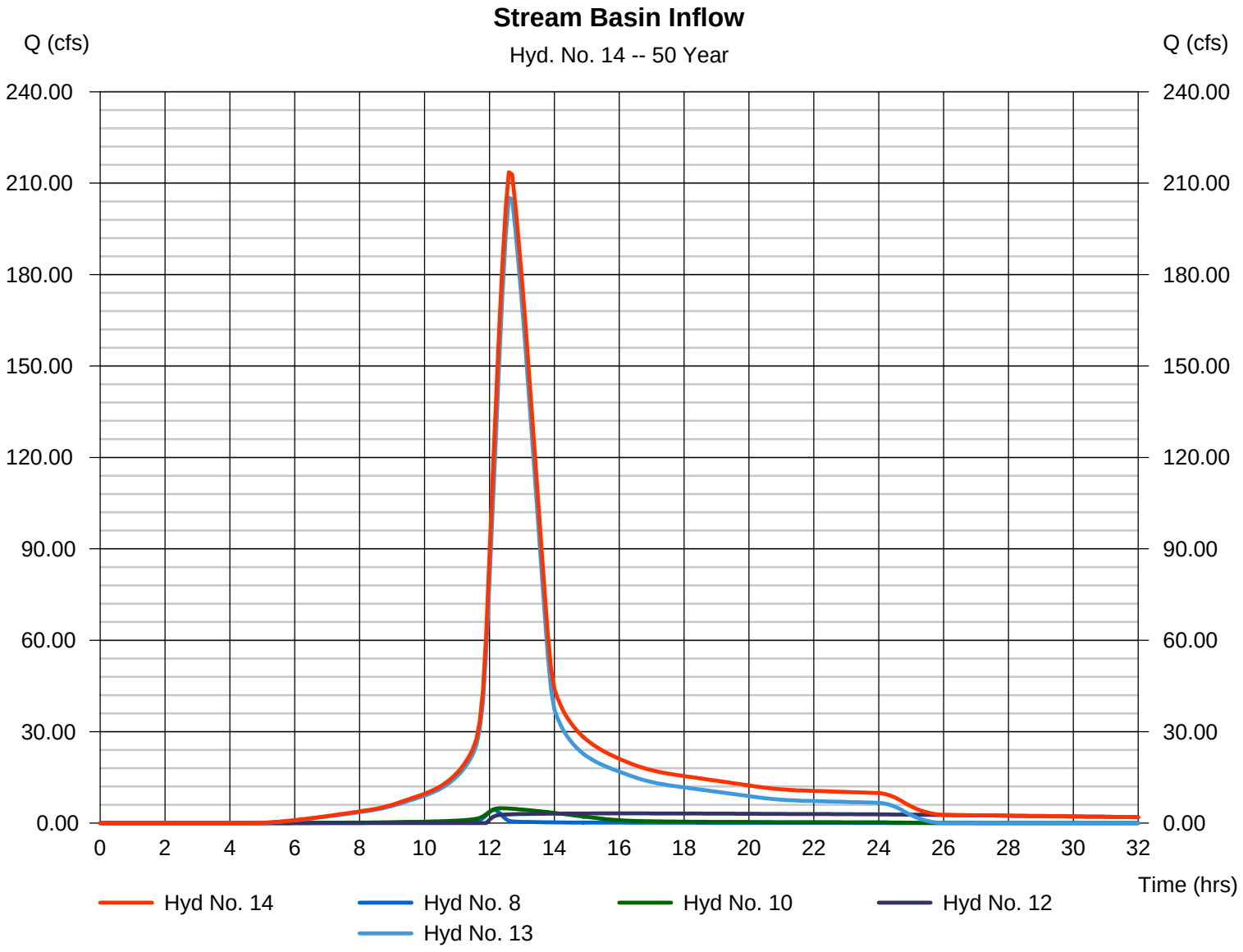
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Hyd. No. 14

Stream Basin Inflow

Hydrograph type	=	Combine	Peak discharge	=	213.60 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.60 hrs
Time interval	=	6 min	Hyd. volume	=	45.467 acft
Inflow hyds.	=	8, 10, 12, 13	Contrib. drain. area	=	118.240 ac



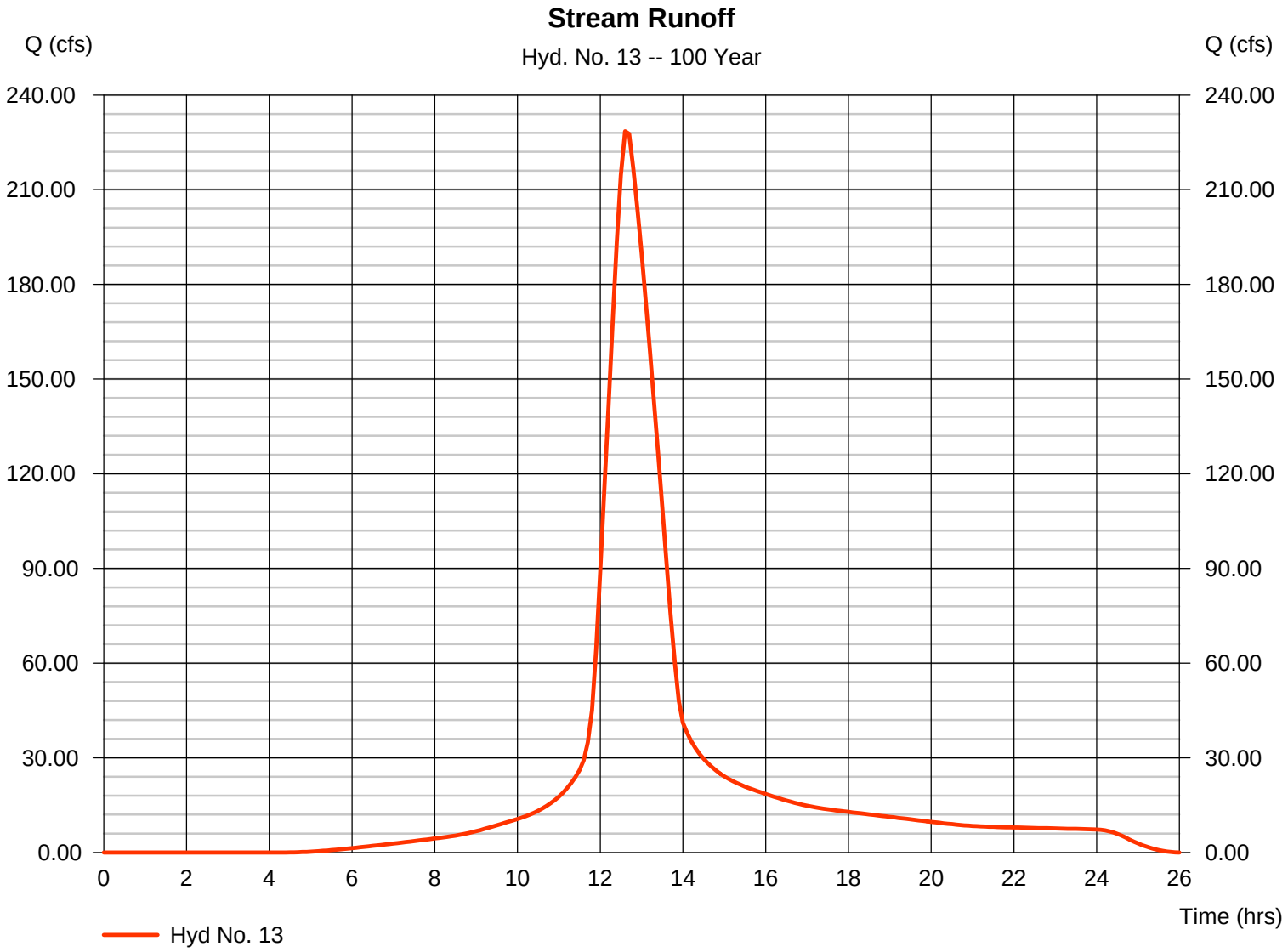
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 — Monday, Jul 2, 2007

Hyd. No. 13

Stream Runoff

Hydrograph type	=	SCS Runoff	Peak discharge	=	228.49 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.60 hrs
Time interval	=	6 min	Hyd. volume	=	41.895 acft
Drainage area	=	118.240 ac	Curve number	=	88.1
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	78.30 min
Total precip.	=	5.67 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



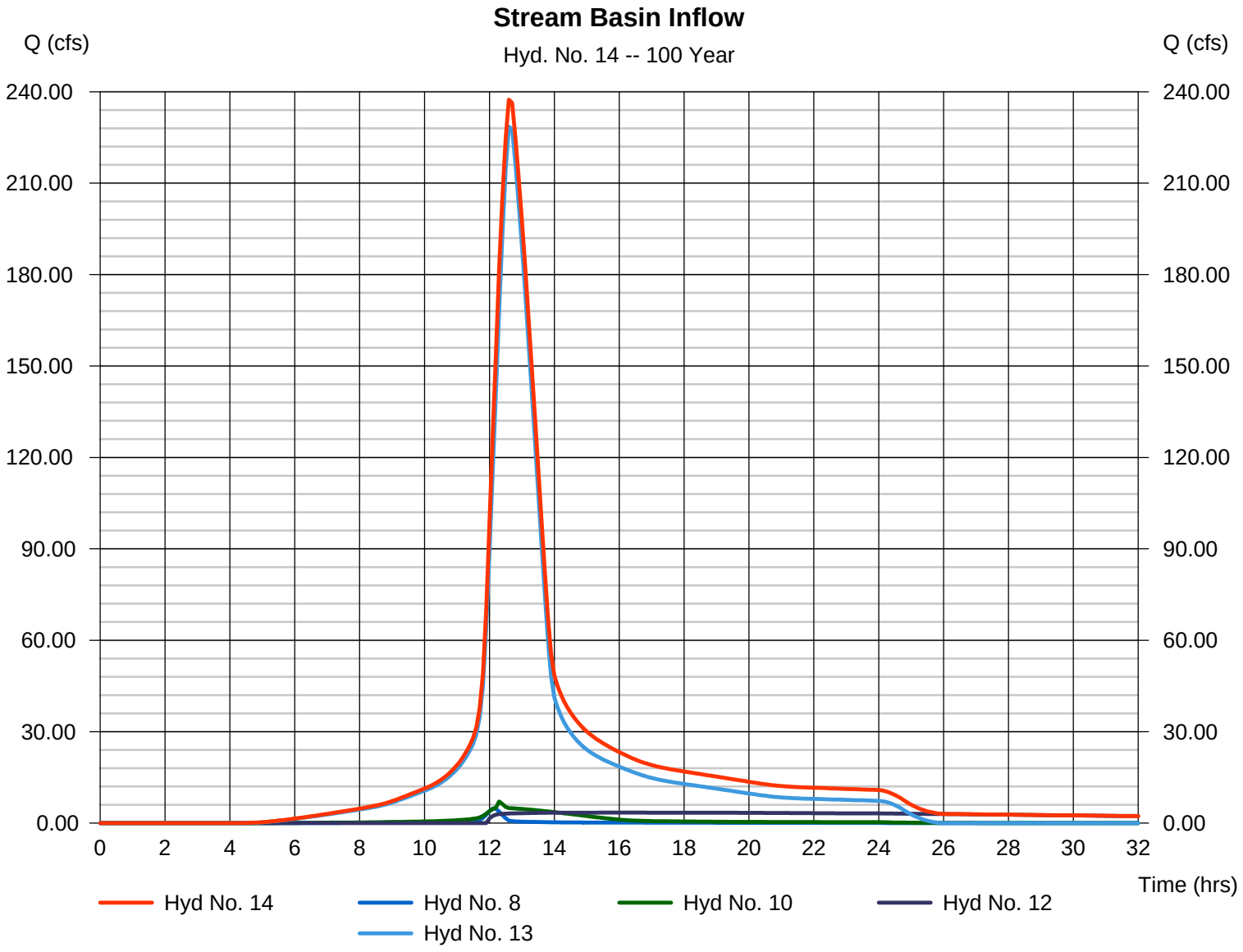
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 — Monday, Jul 2, 2007

Hyd. No. 14

Stream Basin Inflow

Hydrograph type	= Combine	Peak discharge	= 237.43 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.60 hrs
Time interval	= 6 min	Hyd. volume	= 51.034 acft
Inflow hyds.	= 8, 10, 12, 13	Contrib. drain. area	= 118.240 ac



Pond Report

Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Pond No. 4 - Stream Basin

Pond Data

Contours - User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 600.65 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	600.65	00	0.000	0.000
0.35	601.00	452	0.002	0.002
1.35	602.00	4,771	0.060	0.062
2.35	603.00	18,606	0.268	0.330
3.35	604.00	39,282	0.664	0.995
4.35	605.00	54,834	1.080	2.075
5.35	606.00	80,309	1.551	3.626
6.35	607.00	93,435	1.994	5.620
7.35	608.00	105,847	2.287	7.908
7.63	608.28	111,329	0.698	8.606

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 4.59	0.00	0.00	0.00
Crest El. (ft)	= 600.65	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Broad	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

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 acft	Elevation ft	Clv A cfs	Clv 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	0.000	600.65	---	---	---	---	0.00	---	---	---	---	---	0.000
0.04	0.000	600.69	---	---	---	---	0.08	---	---	---	---	---	0.078
0.07	0.000	600.72	---	---	---	---	0.22	---	---	---	---	---	0.221
0.11	0.001	600.75	---	---	---	---	0.41	---	---	---	---	---	0.405
0.14	0.001	600.79	---	---	---	---	0.62	---	---	---	---	---	0.624
0.18	0.001	600.82	---	---	---	---	0.87	---	---	---	---	---	0.873
0.21	0.001	600.86	---	---	---	---	1.15	---	---	---	---	---	1.148
0.25	0.001	600.89	---	---	---	---	1.45	---	---	---	---	---	1.445
0.28	0.001	600.93	---	---	---	---	1.77	---	---	---	---	---	1.766
0.32	0.002	600.96	---	---	---	---	2.11	---	---	---	---	---	2.107
0.35	0.002	601.00	---	---	---	---	2.47	---	---	---	---	---	2.471
0.45	0.008	601.10	---	---	---	---	3.60	---	---	---	---	---	3.602
0.55	0.014	601.20	---	---	---	---	4.87	---	---	---	---	---	4.868
0.65	0.020	601.30	---	---	---	---	6.25	---	---	---	---	---	6.253
0.75	0.026	601.40	---	---	---	---	7.75	---	---	---	---	---	7.749
0.85	0.032	601.50	---	---	---	---	9.35	---	---	---	---	---	9.350
0.95	0.038	601.60	---	---	---	---	11.05	---	---	---	---	---	11.05
1.05	0.044	601.70	---	---	---	---	12.84	---	---	---	---	---	12.84
1.15	0.050	601.80	---	---	---	---	14.71	---	---	---	---	---	14.71
1.25	0.056	601.90	---	---	---	---	16.67	---	---	---	---	---	16.67
1.35	0.062	602.00	---	---	---	---	18.72	---	---	---	---	---	18.72
1.45	0.089	602.10	---	---	---	---	20.84	---	---	---	---	---	20.84
1.55	0.115	602.20	---	---	---	---	23.03	---	---	---	---	---	23.03
1.65	0.142	602.30	---	---	---	---	25.29	---	---	---	---	---	25.29
1.75	0.169	602.40	---	---	---	---	27.62	---	---	---	---	---	27.62
1.85	0.196	602.50	---	---	---	---	30.03	---	---	---	---	---	30.03
1.95	0.223	602.60	---	---	---	---	32.49	---	---	---	---	---	32.49
2.05	0.250	602.70	---	---	---	---	35.02	---	---	---	---	---	35.02
2.15	0.276	602.80	---	---	---	---	37.62	---	---	---	---	---	37.62
2.25	0.303	602.90	---	---	---	---	40.27	---	---	---	---	---	40.27
2.35	0.330	603.00	---	---	---	---	42.99	---	---	---	---	---	42.99
2.45	0.397	603.10	---	---	---	---	45.76	---	---	---	---	---	45.76
2.55	0.463	603.20	---	---	---	---	48.60	---	---	---	---	---	48.60
2.65	0.529	603.30	---	---	---	---	51.48	---	---	---	---	---	51.48
2.75	0.596	603.40	---	---	---	---	54.42	---	---	---	---	---	54.42

Continues on next page...

Stream Basin

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv 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
2.85	0.662	603.50	---	---	---	---	57.41	---	---	---	---	---	57.41
2.95	0.729	603.60	---	---	---	---	60.46	---	---	---	---	---	60.46
3.05	0.795	603.70	---	---	---	---	63.56	---	---	---	---	---	63.56
3.15	0.862	603.80	---	---	---	---	66.71	---	---	---	---	---	66.71
3.25	0.928	603.90	---	---	---	---	69.91	---	---	---	---	---	69.91
3.35	0.995	604.00	---	---	---	---	73.17	---	---	---	---	---	73.17
3.45	1.103	604.10	---	---	---	---	76.47	---	---	---	---	---	76.47
3.55	1.211	604.20	---	---	---	---	79.82	---	---	---	---	---	79.82
3.65	1.319	604.30	---	---	---	---	83.22	---	---	---	---	---	83.22
3.75	1.427	604.40	---	---	---	---	86.66	---	---	---	---	---	86.66
3.85	1.535	604.50	---	---	---	---	90.15	---	---	---	---	---	90.15
3.95	1.643	604.60	---	---	---	---	93.68	---	---	---	---	---	93.68
4.05	1.751	604.70	---	---	---	---	97.26	---	---	---	---	---	97.26
4.15	1.859	604.80	---	---	---	---	100.88	---	---	---	---	---	100.88
4.25	1.967	604.90	---	---	---	---	104.55	---	---	---	---	---	104.55
4.35	2.075	605.00	---	---	---	---	108.27	---	---	---	---	---	108.27
4.45	2.230	605.10	---	---	---	---	112.03	---	---	---	---	---	112.03
4.55	2.385	605.20	---	---	---	---	115.82	---	---	---	---	---	115.82
4.65	2.540	605.30	---	---	---	---	119.66	---	---	---	---	---	119.66
4.75	2.695	605.40	---	---	---	---	123.54	---	---	---	---	---	123.54
4.85	2.850	605.50	---	---	---	---	127.46	---	---	---	---	---	127.46
4.95	3.006	605.60	---	---	---	---	131.43	---	---	---	---	---	131.43
5.05	3.161	605.70	---	---	---	---	135.42	---	---	---	---	---	135.42
5.15	3.316	605.80	---	---	---	---	139.47	---	---	---	---	---	139.47
5.25	3.471	605.90	---	---	---	---	143.55	---	---	---	---	---	143.55
5.35	3.626	606.00	---	---	---	---	147.68	---	---	---	---	---	147.68
5.45	3.826	606.10	---	---	---	---	151.84	---	---	---	---	---	151.84
5.55	4.025	606.20	---	---	---	---	156.04	---	---	---	---	---	156.04
5.65	4.224	606.30	---	---	---	---	160.27	---	---	---	---	---	160.27
5.75	4.424	606.40	---	---	---	---	164.54	---	---	---	---	---	164.54
5.85	4.623	606.50	---	---	---	---	168.85	---	---	---	---	---	168.85
5.95	4.823	606.60	---	---	---	---	173.20	---	---	---	---	---	173.20
6.05	5.022	606.70	---	---	---	---	177.58	---	---	---	---	---	177.58
6.15	5.222	606.80	---	---	---	---	182.00	---	---	---	---	---	182.00
6.25	5.421	606.90	---	---	---	---	186.46	---	---	---	---	---	186.46
6.35	5.620	607.00	---	---	---	---	190.96	---	---	---	---	---	190.96
6.45	5.849	607.10	---	---	---	---	195.49	---	---	---	---	---	195.49
6.55	6.078	607.20	---	---	---	---	200.05	---	---	---	---	---	200.05
6.65	6.307	607.30	---	---	---	---	204.65	---	---	---	---	---	204.65
6.75	6.535	607.40	---	---	---	---	209.28	---	---	---	---	---	209.28
6.85	6.764	607.50	---	---	---	---	213.95	---	---	---	---	---	213.95
6.95	6.993	607.60	---	---	---	---	218.65	---	---	---	---	---	218.65
7.05	7.222	607.70	---	---	---	---	223.38	---	---	---	---	---	223.38
7.15	7.450	607.80	---	---	---	---	228.15	---	---	---	---	---	228.15
7.25	7.679	607.90	---	---	---	---	232.95	---	---	---	---	---	232.95
7.35	7.908	608.00	---	---	---	---	237.80	---	---	---	---	---	237.80
7.38	7.978	608.03	---	---	---	---	239.16	---	---	---	---	---	239.16
7.41	8.047	608.06	---	---	---	---	240.53	---	---	---	---	---	240.53
7.43	8.117	608.08	---	---	---	---	241.89	---	---	---	---	---	241.89
7.46	8.187	608.11	---	---	---	---	243.26	---	---	---	---	---	243.26
7.49	8.257	608.14	---	---	---	---	244.63	---	---	---	---	---	244.63
7.52	8.327	608.17	---	---	---	---	246.01	---	---	---	---	---	246.01
7.55	8.396	608.20	---	---	---	---	247.38	---	---	---	---	---	247.38
7.57	8.466	608.22	---	---	---	---	248.76	---	---	---	---	---	248.76
7.60	8.536	608.25	---	---	---	---	250.14	---	---	---	---	---	250.14
7.63	8.606	608.28	---	---	---	---	251.52	---	---	---	---	---	251.52

...End

Hydrograph Report

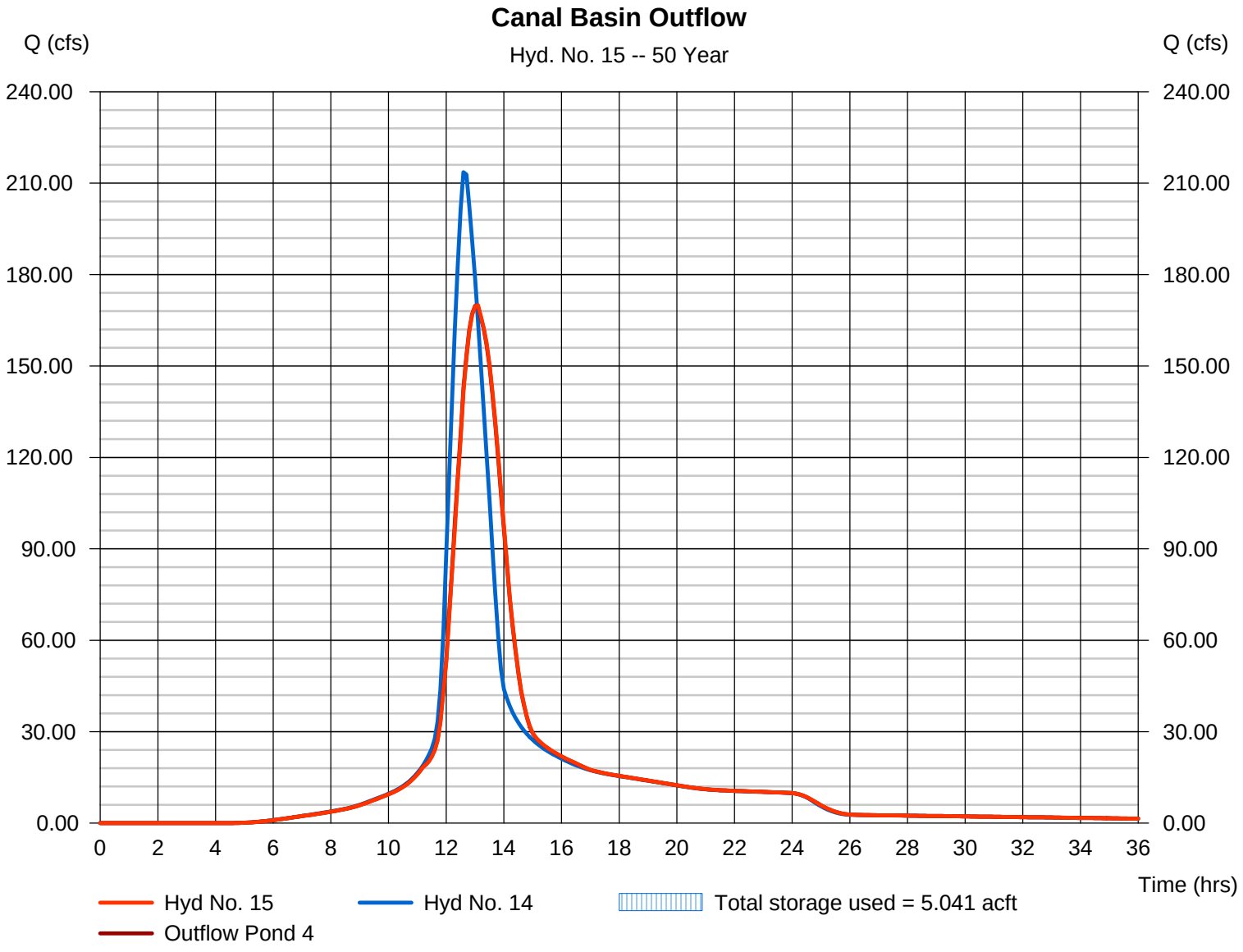
Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Hyd. No. 15

Canal Basin Outflow

Hydrograph type	=	Reservoir (Interconnected)	Peak discharge	=	170.01 cfs
Storm frequency	=	50 yrs	Time to peak	=	13.10 hrs
Time interval	=	6 min	Hyd. volume	=	45.484 acft
Upper Pond			**Lower Pond**		
Pond name	=	Stream Basin	Pond name	=	Canal Basin
Inflow hyd.	=	14 - Stream Basin Inflow	Other Inflow hyd.	=	None
Max. Elevation	=	606.66 ft	Max. Elevation	=	601.79 ft
Max. Storage	=	4.930 acft	Max. Storage	=	0.111 acft

Interconnected Pond Routing. Storage Indication method used.



Hydrograph Report

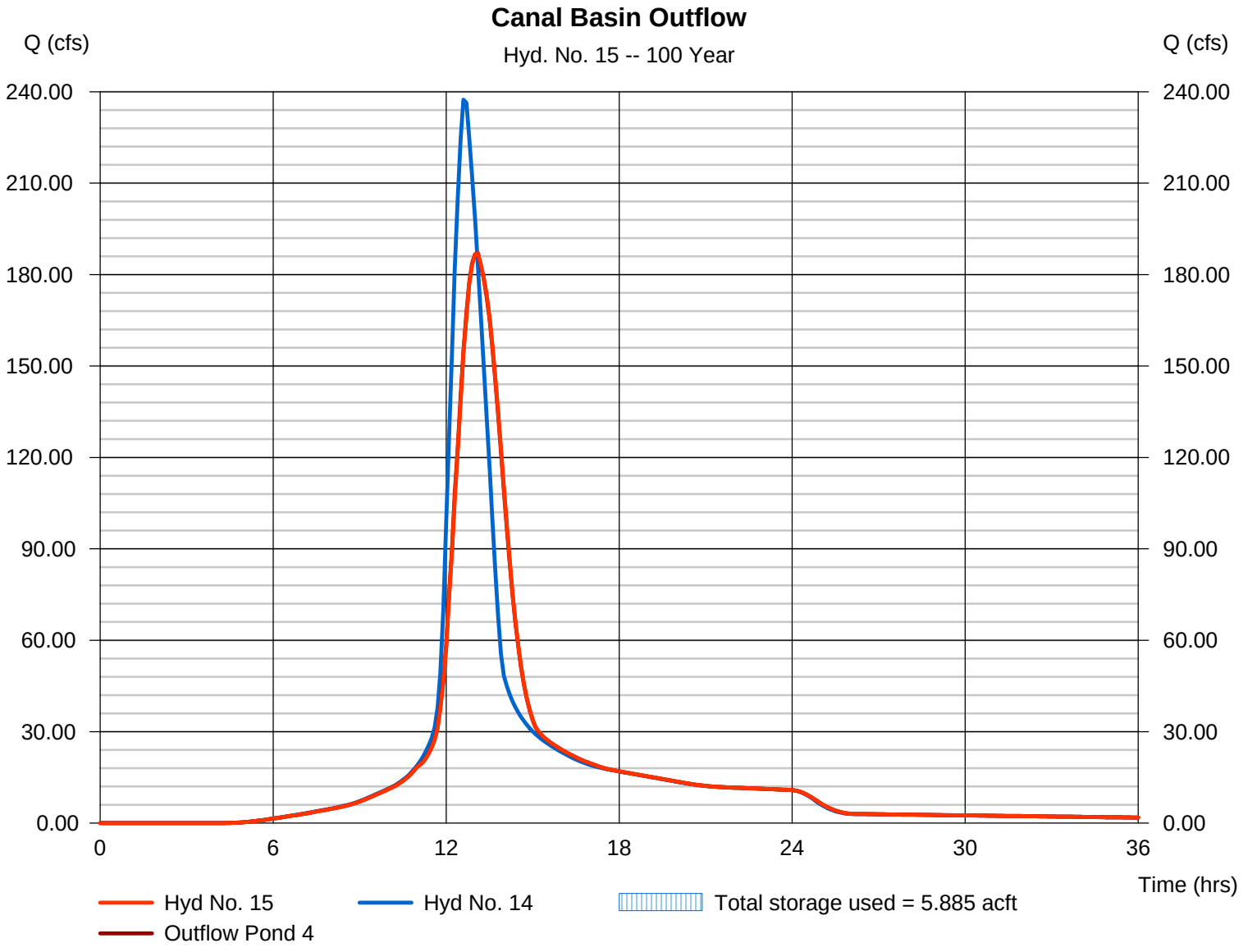
Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Hyd. No. 15

Canal Basin Outflow

Hydrograph type	=	Reservoir (Interconnected)	Peak discharge	=	187.02 cfs
Storm frequency	=	100 yrs	Time to peak	=	13.10 hrs
Time interval	=	6 min	Hyd. volume	=	51.050 acft
Upper Pond			**Lower Pond**		
Pond name	=	Stream Basin	Pond name	=	Canal Basin
Inflow hyd.	=	14 - Stream Basin Inflow	Other Inflow hyd.	=	None
Max. Elevation	=	607.07 ft	Max. Elevation	=	601.92 ft
Max. Storage	=	5.763 acft	Max. Storage	=	0.122 acft

Interconnected Pond Routing. Storage Indication method used.



Pond Report

Pond No. 5 - Canal Basin

Pond Data

Contours - User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 599.70 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	599.70	00	0.000	0.000
0.30	600.00	803	0.003	0.003
1.30	601.00	2,940	0.043	0.046
2.30	602.00	4,319	0.083	0.129

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 17.00	0.00	0.00	0.00
Crest El. (ft)	= 599.70	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Broad	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

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 acft	Elevation ft	Clv A cfs	Clv 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	0.000	599.70	---	---	---	---	0.00	---	---	---	---	---	0.000
0.03	0.000	599.73	---	---	---	---	0.29	---	---	---	---	---	0.294
0.06	0.001	599.76	---	---	---	---	0.83	---	---	---	---	---	0.833
0.09	0.001	599.79	---	---	---	---	1.53	---	---	---	---	---	1.531
0.12	0.001	599.82	---	---	---	---	2.36	---	---	---	---	---	2.357
0.15	0.001	599.85	---	---	---	---	3.30	---	---	---	---	---	3.296
0.18	0.002	599.88	---	---	---	---	4.33	---	---	---	---	---	4.330
0.21	0.002	599.91	---	---	---	---	5.46	---	---	---	---	---	5.456
0.24	0.002	599.94	---	---	---	---	6.66	---	---	---	---	---	6.663
0.27	0.002	599.97	---	---	---	---	7.95	---	---	---	---	---	7.954
0.30	0.003	600.00	---	---	---	---	9.30	---	---	---	---	---	9.301
0.40	0.007	600.10	---	---	---	---	14.32	---	---	---	---	---	14.32
0.50	0.011	600.20	---	---	---	---	20.01	---	---	---	---	---	20.01
0.60	0.016	600.30	---	---	---	---	26.30	---	---	---	---	---	26.30
0.70	0.020	600.40	---	---	---	---	33.15	---	---	---	---	---	33.15
0.80	0.024	600.50	---	---	---	---	40.50	---	---	---	---	---	40.50
0.90	0.029	600.60	---	---	---	---	48.33	---	---	---	---	---	48.33
1.00	0.033	600.70	---	---	---	---	56.59	---	---	---	---	---	56.59
1.10	0.037	600.80	---	---	---	---	65.29	---	---	---	---	---	65.29
1.20	0.041	600.90	---	---	---	---	74.39	---	---	---	---	---	74.39
1.30	0.046	601.00	---	---	---	---	83.91	---	---	---	---	---	83.91
1.40	0.054	601.10	---	---	---	---	93.77	---	---	---	---	---	93.77
1.50	0.062	601.20	---	---	---	---	104.00	---	---	---	---	---	104.00
1.60	0.071	601.30	---	---	---	---	114.56	---	---	---	---	---	114.56
1.70	0.079	601.40	---	---	---	---	125.47	---	---	---	---	---	125.47
1.80	0.087	601.50	---	---	---	---	136.70	---	---	---	---	---	136.70
1.90	0.096	601.60	---	---	---	---	148.25	---	---	---	---	---	148.25
2.00	0.104	601.70	---	---	---	---	160.10	---	---	---	---	---	160.10
2.10	0.112	601.80	---	---	---	---	172.25	---	---	---	---	---	172.25
2.20	0.121	601.90	---	---	---	---	184.70	---	---	---	---	---	184.70
2.30	0.129	602.00	---	---	---	---	197.46	---	---	---	---	---	197.46

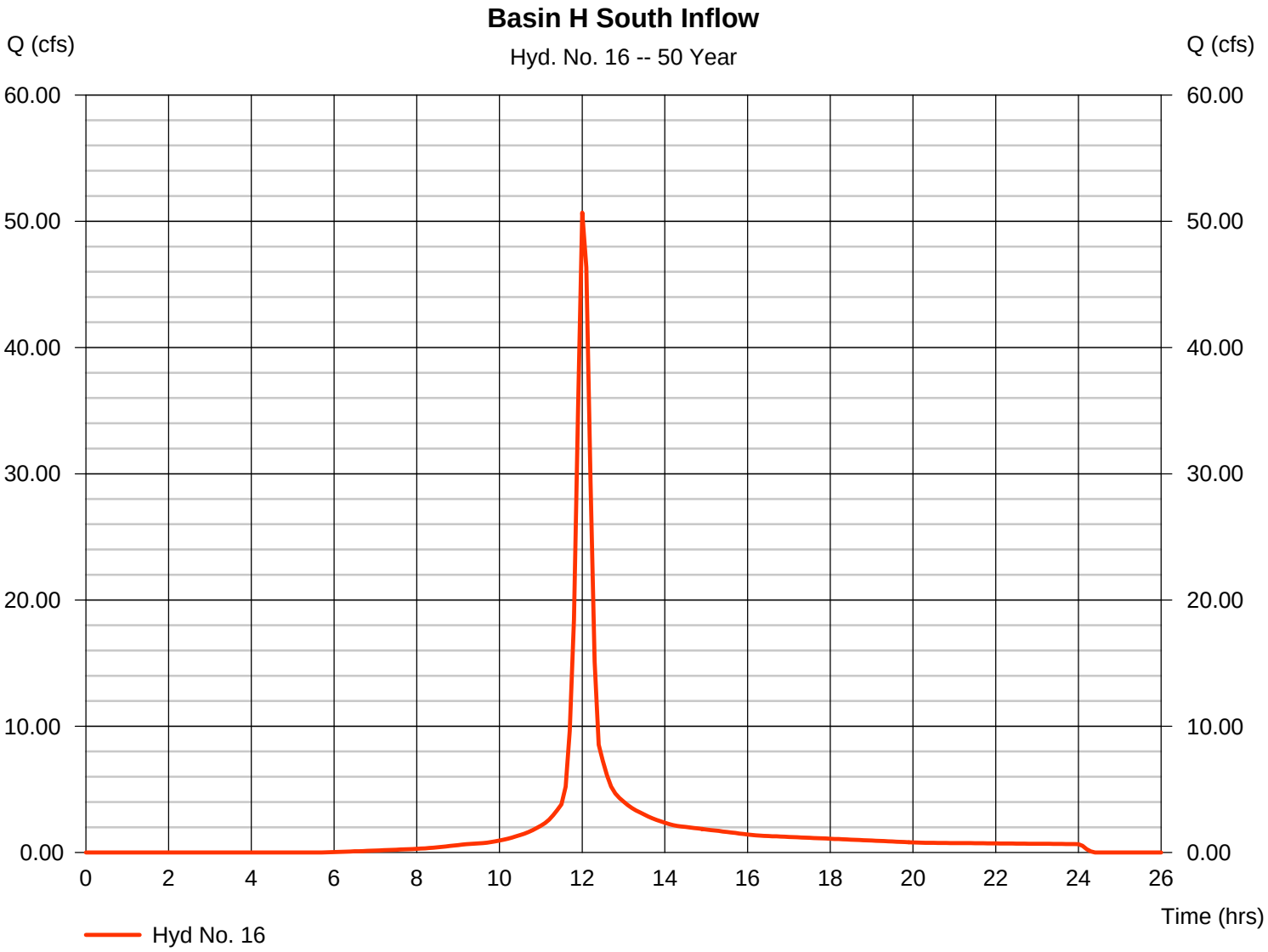
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 — Monday, Jul 2, 2007

Hyd. No. 16

Basin H South Inflow

Hydrograph type	=	SCS Runoff	Peak discharge	=	50.69 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.00 hrs
Time interval	=	6 min	Hyd. volume	=	3.587 acft
Drainage area	=	13.180 ac	Curve number	=	84.3
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	12.50 min
Total precip.	=	5.20 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

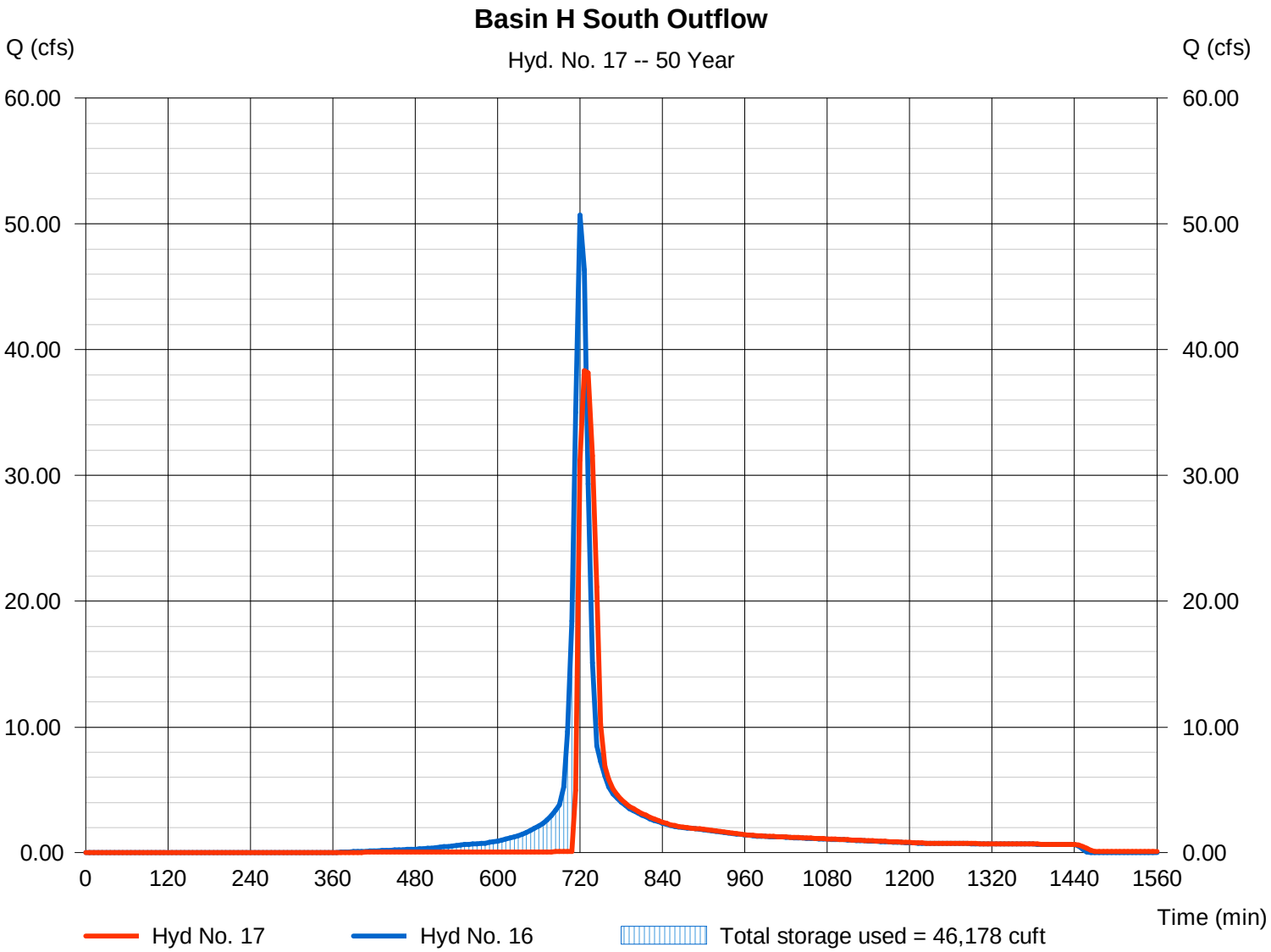
Hydraflow Hydrographs by Intelisolve v9.2 — Wednesday, Apr 30, 2008

Hyd. No. 17

Basin H South Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	38.33 cfs
Storm frequency	=	50 yrs	Time to peak	=	726 min
Time interval	=	6 min	Hyd. volume	=	156,251 cuft
Inflow hyd. No.	=	16 - Basin H South Inflow	Max. Elevation	=	643.14 ft
Reservoir name	=	Basin H South	Max. Storage	=	46,178 cuft

Storage Indication method used.



Hydrograph Report

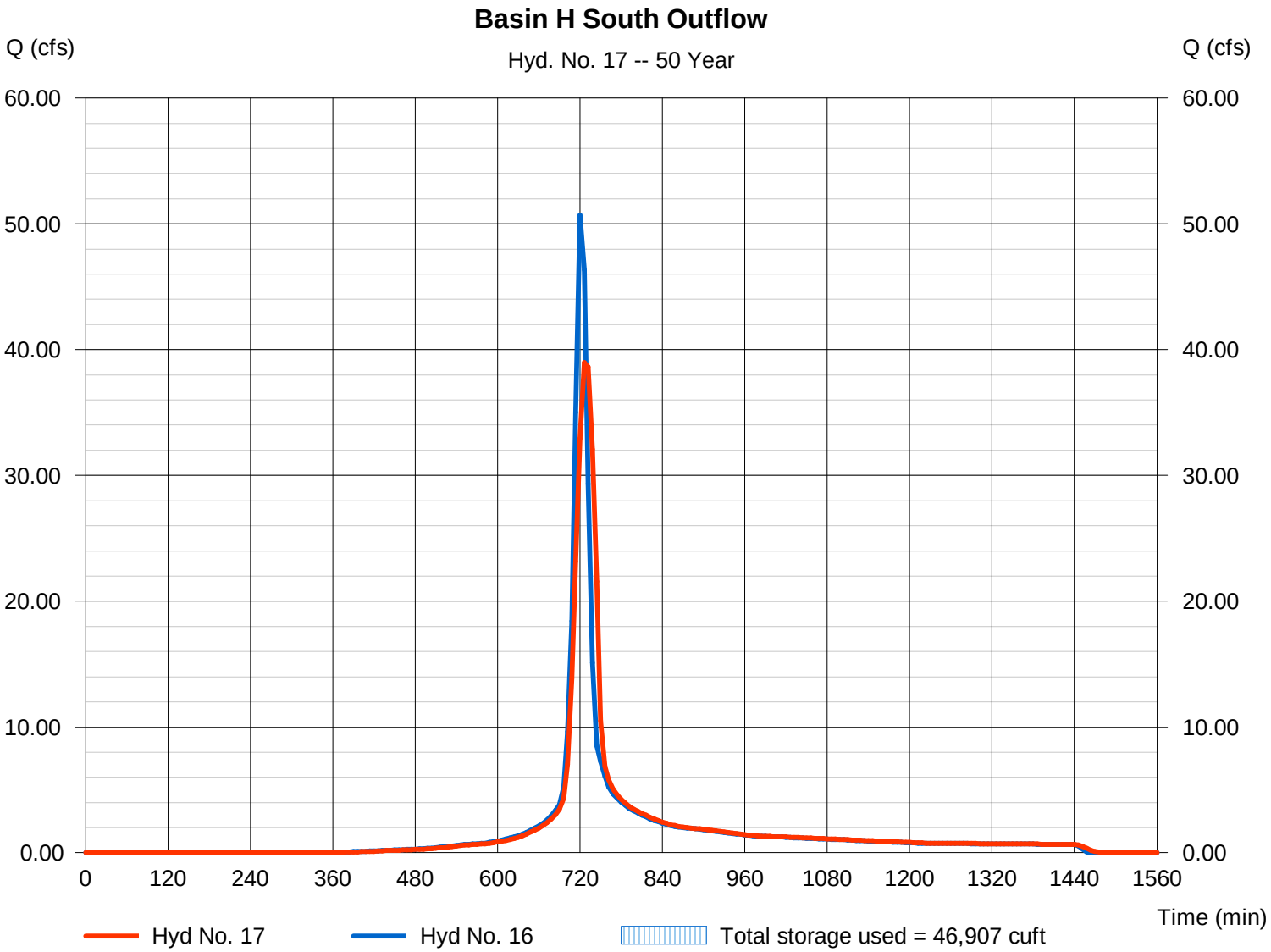
Hydraflow Hydrographs by Intelisolve v9.2 — Wednesday, Apr 30, 2008

Hyd. No. 17

Basin H South Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	38.97 cfs
Storm frequency	=	50 yrs	Time to peak	=	726 min
Time interval	=	6 min	Hyd. volume	=	156,249 cuft
Inflow hyd. No.	=	16 - Basin H South Inflow	Max. Elevation	=	643.19 ft
Reservoir name	=	Basin H South	Max. Storage	=	46,907 cuft

Storage Indication method used. Wet pond routing start elevation = 641.00 ft.

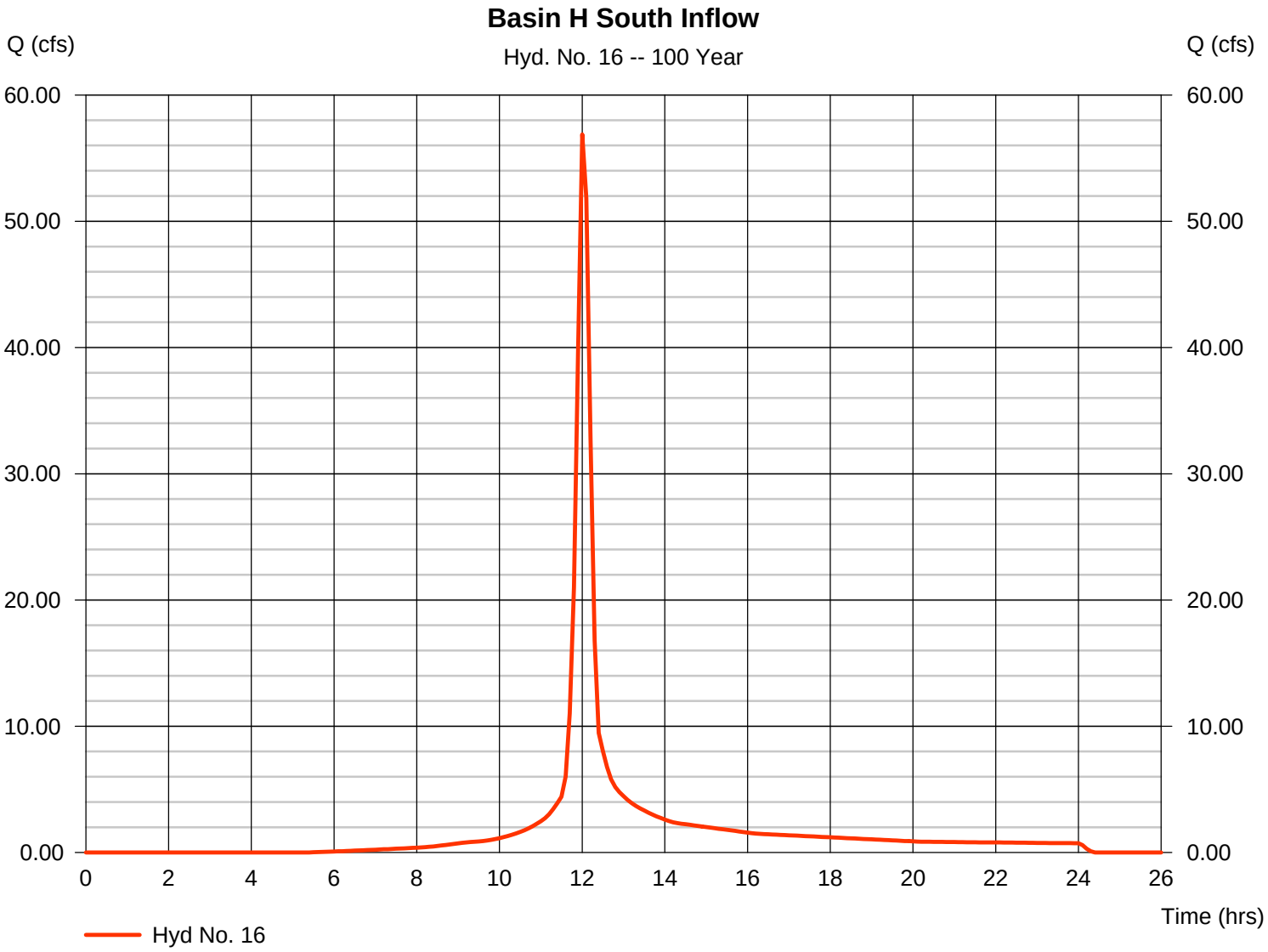


Hydrograph Report

Hyd. No. 16

Basin H South Inflow

Hydrograph type	=	SCS Runoff	Peak discharge	=	56.89 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.00 hrs
Time interval	=	6 min	Hyd. volume	=	4.036 acft
Drainage area	=	13.180 ac	Curve number	=	84.3
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	12.50 min
Total precip.	=	5.67 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

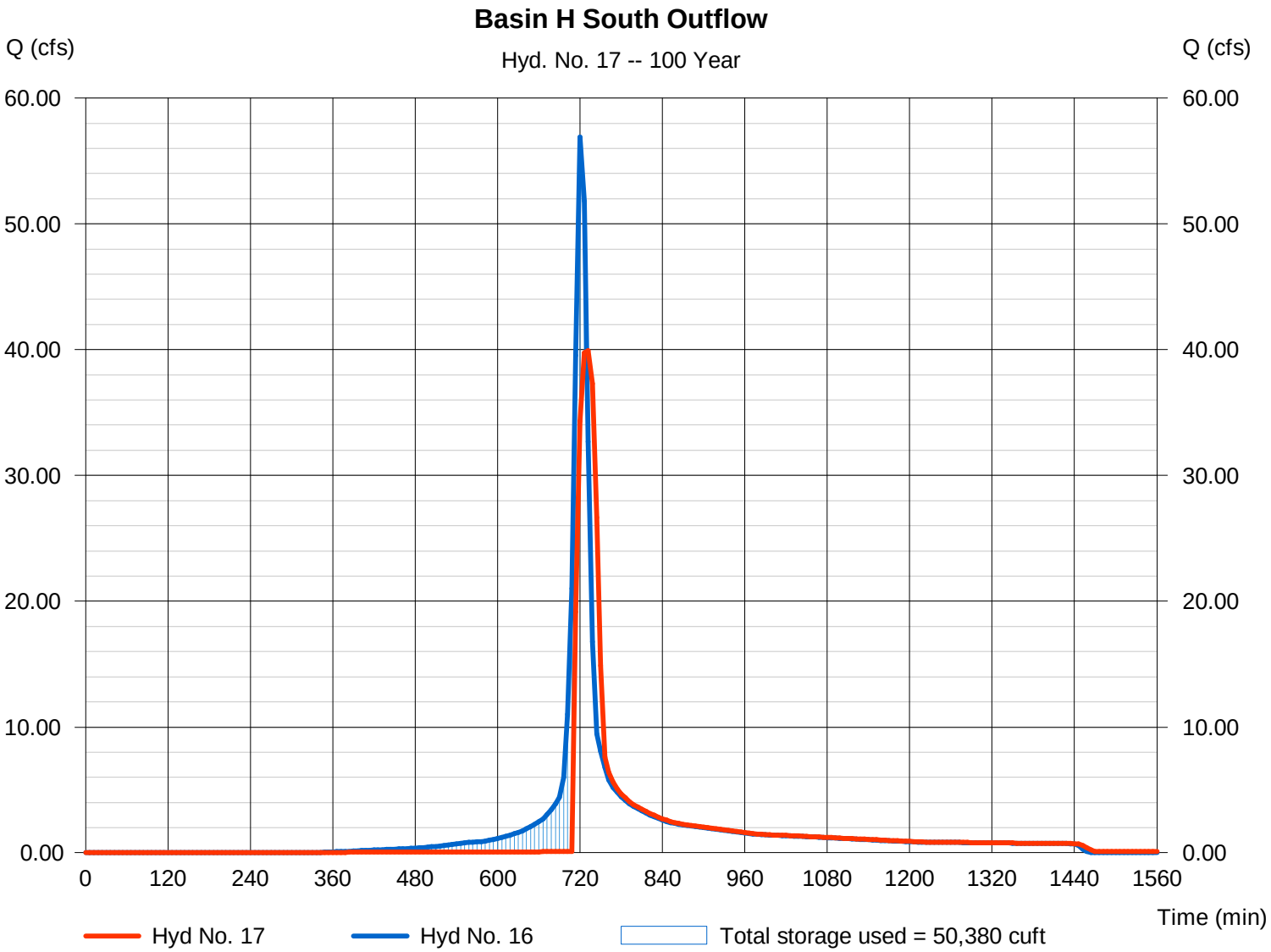
Hydraflow Hydrographs by Intelisolve v9.2 — Wednesday, Apr 30, 2008

Hyd. No. 17

Basin H South Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	39.92 cfs
Storm frequency	=	100 yrs	Time to peak	=	732 min
Time interval	=	6 min	Hyd. volume	=	175,805 cuft
Inflow hyd. No.	=	16 - Basin H South Inflow	Max. Elevation	=	643.51 ft
Reservoir name	=	Basin H South	Max. Storage	=	50,380 cuft

Storage Indication method used.



Hydrograph Report

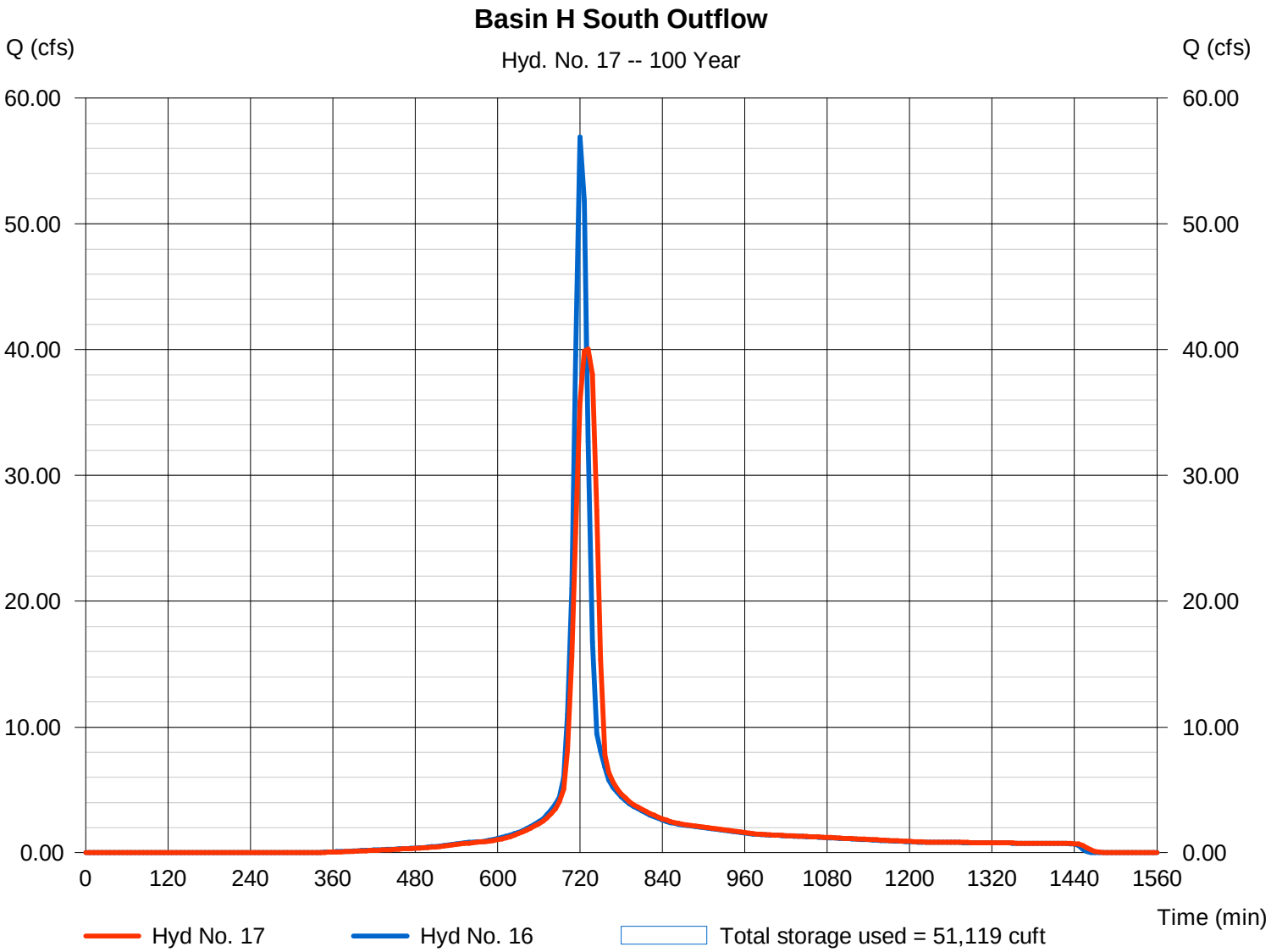
Hydraflow Hydrographs by Intelisolve v9.2 — Wednesday, Apr 30, 2008

Hyd. No. 17

Basin H South Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	40.06 cfs
Storm frequency	=	100 yrs	Time to peak	=	732 min
Time interval	=	6 min	Hyd. volume	=	175,804 cuft
Inflow hyd. No.	=	16 - Basin H South Inflow	Max. Elevation	=	643.58 ft
Reservoir name	=	Basin H South	Max. Storage	=	51,119 cuft

Storage Indication method used. Wet pond routing start elevation = 641.00 ft.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.2 — Wednesday, Apr 30, 2008

Pond No. 16 - Basin H South

Pond Data

Contours - User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 633.52 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	633.52	00	0	0
0.48	634.00	01	0	0
1.48	635.00	270	136	136
2.48	636.00	2,956	1,613	1,749
3.48	637.00	4,255	3,606	5,354
4.48	638.00	5,329	4,792	10,146
5.48	639.00	6,353	5,841	15,987
6.48	640.00	7,292	6,823	22,810
7.48	641.00	8,235	7,764	30,573
8.48	642.00	6,254	7,245	37,818
9.48	643.00	10,340	8,297	46,115
10.48	644.00	11,433	10,887	57,001
11.48	645.00	11,433	11,433	68,434

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 24.00	1.25	6.00	0.00
Span (in)	= 24.00	1.25	48.00	0.00
No. Barrels	= 1	1	3	0
Invert El. (ft)	= 633.52	633.52	641.00	0.00
Length (ft)	= 150.00	0.00	0.00	0.00
Slope (%)	= 2.66	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 8.00	30.00	0.00	0.00
Crest El. (ft)	= 644.02	644.30	0.00	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= Riser	Broad	---	---
Multi-Stage	= Yes	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
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	Clv A cfs	Clv 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	633.52	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.05	0	633.57	0.00 ic	0.00 ic	0.00	---	0.00	0.00	---	---	---	---	0.003
0.10	0	633.62	0.01 ic	0.01 ic	0.00	---	0.00	0.00	---	---	---	---	0.009
0.14	0	633.66	0.01 ic	0.01 ic	0.00	---	0.00	0.00	---	---	---	---	0.012
0.19	0	633.71	0.02 ic	0.02 ic	0.00	---	0.00	0.00	---	---	---	---	0.015
0.24	0	633.76	0.02 ic	0.02 ic	0.00	---	0.00	0.00	---	---	---	---	0.018
0.29	0	633.81	0.02 ic	0.02 ic	0.00	---	0.00	0.00	---	---	---	---	0.020
0.34	0	633.86	0.02 ic	0.02 ic	0.00	---	0.00	0.00	---	---	---	---	0.022
0.38	0	633.90	0.03 ic	0.02 ic	0.00	---	0.00	0.00	---	---	---	---	0.023
0.43	0	633.95	0.03 ic	0.03 ic	0.00	---	0.00	0.00	---	---	---	---	0.025
0.48	0	634.00	0.03 ic	0.03 ic	0.00	---	0.00	0.00	---	---	---	---	0.026
0.58	14	634.10	0.03 ic	0.03 ic	0.00	---	0.00	0.00	---	---	---	---	0.029
0.68	27	634.20	0.04 ic	0.03 ic	0.00	---	0.00	0.00	---	---	---	---	0.032
0.78	41	634.30	0.04 ic	0.03 ic	0.00	---	0.00	0.00	---	---	---	---	0.035
0.88	54	634.40	0.04 ic	0.04 ic	0.00	---	0.00	0.00	---	---	---	---	0.037
0.98	68	634.50	0.04 ic	0.04 ic	0.00	---	0.00	0.00	---	---	---	---	0.039
1.08	82	634.60	0.04 ic	0.04 ic	0.00	---	0.00	0.00	---	---	---	---	0.041
1.18	95	634.70	0.05 ic	0.04 ic	0.00	---	0.00	0.00	---	---	---	---	0.043
1.28	109	634.80	0.05 ic	0.04 ic	0.00	---	0.00	0.00	---	---	---	---	0.045
1.38	122	634.90	0.05 ic	0.05 ic	0.00	---	0.00	0.00	---	---	---	---	0.047
1.48	136	635.00	0.05 ic	0.05 ic	0.00	---	0.00	0.00	---	---	---	---	0.048
1.58	297	635.10	0.06 ic	0.05 ic	0.00	---	0.00	0.00	---	---	---	---	0.050
1.68	458	635.20	0.06 ic	0.05 ic	0.00	---	0.00	0.00	---	---	---	---	0.052
1.78	620	635.30	0.06 ic	0.05 ic	0.00	---	0.00	0.00	---	---	---	---	0.053
1.88	781	635.40	0.06 ic	0.05 ic	0.00	---	0.00	0.00	---	---	---	---	0.055
1.98	942	635.50	0.06 ic	0.06 ic	0.00	---	0.00	0.00	---	---	---	---	0.056
2.08	1,104	635.60	0.06 ic	0.06 ic	0.00	---	0.00	0.00	---	---	---	---	0.058
2.18	1,265	635.70	0.06 ic	0.06 ic	0.00	---	0.00	0.00	---	---	---	---	0.059
2.28	1,426	635.80	0.06 ic	0.06 ic	0.00	---	0.00	0.00	---	---	---	---	0.061
2.38	1,588	635.90	0.06 ic	0.06 ic	0.00	---	0.00	0.00	---	---	---	---	0.062

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Basin H South

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv 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
2.48	1,749	636.00	0.06 ic	0.06 ic	0.00	---	0.00	0.00	---	---	---	---	0.063
2.58	2,109	636.10	0.06 ic	0.06 ic	0.00	---	0.00	0.00	---	---	---	---	0.065
2.68	2,470	636.20	0.07 ic	0.07 ic	0.00	---	0.00	0.00	---	---	---	---	0.066
2.78	2,831	636.30	0.07 ic	0.07 ic	0.00	---	0.00	0.00	---	---	---	---	0.067
2.88	3,191	636.40	0.07 ic	0.07 ic	0.00	---	0.00	0.00	---	---	---	---	0.068
2.98	3,552	636.50	0.07 ic	0.07 ic	0.00	---	0.00	0.00	---	---	---	---	0.070
3.08	3,912	636.60	0.07 ic	0.07 ic	0.00	---	0.00	0.00	---	---	---	---	0.071
3.18	4,273	636.70	0.07 ic	0.07 ic	0.00	---	0.00	0.00	---	---	---	---	0.072
3.28	4,633	636.80	0.07 ic	0.07 ic	0.00	---	0.00	0.00	---	---	---	---	0.073
3.38	4,994	636.90	0.07 ic	0.07 ic	0.00	---	0.00	0.00	---	---	---	---	0.074
3.48	5,354	637.00	0.08 ic	0.08 ic	0.00	---	0.00	0.00	---	---	---	---	0.075
3.58	5,834	637.10	0.08 ic	0.08 ic	0.00	---	0.00	0.00	---	---	---	---	0.076
3.68	6,313	637.20	0.08 ic	0.08 ic	0.00	---	0.00	0.00	---	---	---	---	0.078
3.78	6,792	637.30	0.08 ic	0.08 ic	0.00	---	0.00	0.00	---	---	---	---	0.079
3.88	7,271	637.40	0.08 ic	0.08 ic	0.00	---	0.00	0.00	---	---	---	---	0.080
3.98	7,750	637.50	0.08 ic	0.08 ic	0.00	---	0.00	0.00	---	---	---	---	0.081
4.08	8,230	637.60	0.08 ic	0.08 ic	0.00	---	0.00	0.00	---	---	---	---	0.082
4.18	8,709	637.70	0.08 ic	0.08 ic	0.00	---	0.00	0.00	---	---	---	---	0.083
4.28	9,188	637.80	0.08 ic	0.08 ic	0.00	---	0.00	0.00	---	---	---	---	0.084
4.38	9,667	637.90	0.08 ic	0.08 ic	0.00	---	0.00	0.00	---	---	---	---	0.085
4.48	10,146	638.00	0.09 ic	0.09 ic	0.00	---	0.00	0.00	---	---	---	---	0.086
4.58	10,731	638.10	0.09 ic	0.09 ic	0.00	---	0.00	0.00	---	---	---	---	0.087
4.68	11,315	638.20	0.09 ic	0.09 ic	0.00	---	0.00	0.00	---	---	---	---	0.088
4.78	11,899	638.30	0.09 ic	0.09 ic	0.00	---	0.00	0.00	---	---	---	---	0.089
4.88	12,483	638.40	0.09 ic	0.09 ic	0.00	---	0.00	0.00	---	---	---	---	0.090
4.98	13,067	638.50	0.09 ic	0.09 ic	0.00	---	0.00	0.00	---	---	---	---	0.090
5.08	13,651	638.60	0.09 ic	0.09 ic	0.00	---	0.00	0.00	---	---	---	---	0.091
5.18	14,235	638.70	0.09 ic	0.09 ic	0.00	---	0.00	0.00	---	---	---	---	0.092
5.28	14,819	638.80	0.09 ic	0.09 ic	0.00	---	0.00	0.00	---	---	---	---	0.093
5.38	15,403	638.90	0.09 ic	0.09 ic	0.00	---	0.00	0.00	---	---	---	---	0.094
5.48	15,987	639.00	0.10 ic	0.09 ic	0.00	---	0.00	0.00	---	---	---	---	0.095
5.58	16,670	639.10	0.10 ic	0.10 ic	0.00	---	0.00	0.00	---	---	---	---	0.096
5.68	17,352	639.20	0.11 ic	0.10 ic	0.00	---	0.00	0.00	---	---	---	---	0.097
5.78	18,034	639.30	0.11 ic	0.10 ic	0.00	---	0.00	0.00	---	---	---	---	0.098
5.88	18,716	639.40	0.11 ic	0.10 ic	0.00	---	0.00	0.00	---	---	---	---	0.098
5.98	19,399	639.50	0.11 ic	0.10 ic	0.00	---	0.00	0.00	---	---	---	---	0.099
6.08	20,081	639.60	0.11 ic	0.10 ic	0.00	---	0.00	0.00	---	---	---	---	0.100
6.18	20,763	639.70	0.11 ic	0.10 ic	0.00	---	0.00	0.00	---	---	---	---	0.101
6.28	21,445	639.80	0.11 ic	0.10 ic	0.00	---	0.00	0.00	---	---	---	---	0.102
6.38	22,128	639.90	0.11 ic	0.10 ic	0.00	---	0.00	0.00	---	---	---	---	0.103
6.48	22,810	640.00	0.11 ic	0.10 ic	0.00	---	0.00	0.00	---	---	---	---	0.103
6.58	23,586	640.10	0.11 ic	0.10 ic	0.00	---	0.00	0.00	---	---	---	---	0.104
6.68	24,363	640.20	0.11 ic	0.11 ic	0.00	---	0.00	0.00	---	---	---	---	0.105
6.78	25,139	640.30	0.11 ic	0.11 ic	0.00	---	0.00	0.00	---	---	---	---	0.106
6.88	25,915	640.40	0.11 ic	0.11 ic	0.00	---	0.00	0.00	---	---	---	---	0.107
6.98	26,692	640.50	0.11 ic	0.11 ic	0.00	---	0.00	0.00	---	---	---	---	0.107
7.08	27,468	640.60	0.11 ic	0.11 ic	0.00	---	0.00	0.00	---	---	---	---	0.108
7.18	28,244	640.70	0.12 ic	0.11 ic	0.00	---	0.00	0.00	---	---	---	---	0.109
7.28	29,021	640.80	0.12 ic	0.11 ic	0.00	---	0.00	0.00	---	---	---	---	0.110
7.38	29,797	640.90	0.12 ic	0.11 ic	0.00	---	0.00	0.00	---	---	---	---	0.110
7.48	30,573	641.00	0.12 ic	0.11 ic	0.00	---	0.00	0.00	---	---	---	---	0.111
7.58	31,298	641.10	1.41 ic	0.11 ic	1.29 ic	---	0.00	0.00	---	---	---	---	1.401
7.68	32,022	641.20	3.77 ic	0.11 ic	3.65 ic	---	0.00	0.00	---	---	---	---	3.760
7.78	32,747	641.30	6.85 ic	0.11 ic	6.71 ic	---	0.00	0.00	---	---	---	---	6.817
7.88	33,471	641.40	10.44 ic	0.10 ic	10.33 ic	---	0.00	0.00	---	---	---	---	10.44
7.98	34,196	641.50	14.54 ic	0.10 ic	14.44 ic	---	0.00	0.00	---	---	---	---	14.54
8.08	34,920	641.60	17.19 ic	0.10 ic	17.09 ic	---	0.00	0.00	---	---	---	---	17.19
8.18	35,645	641.70	19.47 ic	0.10 ic	19.38 ic	---	0.00	0.00	---	---	---	---	19.47
8.28	36,369	641.80	21.52 ic	0.09 ic	21.42 ic	---	0.00	0.00	---	---	---	---	21.52
8.38	37,093	641.90	23.38 ic	0.09 ic	23.29 ic	---	0.00	0.00	---	---	---	---	23.38
8.48	37,818	642.00	25.11 ic	0.09 ic	25.02 ic	---	0.00	0.00	---	---	---	---	25.11
8.58	38,648	642.10	26.72 ic	0.09 ic	26.63 ic	---	0.00	0.00	---	---	---	---	26.72
8.68	39,477	642.20	28.24 ic	0.08 ic	28.16 ic	---	0.00	0.00	---	---	---	---	28.24
8.78	40,307	642.30	29.68 ic	0.08 ic	29.60 ic	---	0.00	0.00	---	---	---	---	29.68
8.88	41,137	642.40	31.06 ic	0.08 ic	30.98 ic	---	0.00	0.00	---	---	---	---	31.06
8.98	41,966	642.50	32.37 ic	0.08 ic	32.30 ic	---	0.00	0.00	---	---	---	---	32.37
9.08	42,796	642.60	33.64 ic	0.07 ic	33.57 ic	---	0.00	0.00	---	---	---	---	33.64
9.18	43,626	642.70	34.86 ic	0.07 ic	34.79 ic	---	0.00	0.00	---	---	---	---	34.86
9.28	44,456	642.80	36.03 ic	0.07 ic	35.97 ic	---	0.00	0.00	---	---	---	---	36.03
9.38	45,285	642.90	37.17 ic	0.06 ic	37.11 ic	---	0.00	0.00	---	---	---	---	37.17
9.48	46,115	643.00	38.28 ic	0.06 ic	38.22 ic	---	0.00	0.00	---	---	---	---	38.28
9.58	47,204	643.10	39.26 ic	0.06 ic	39.21 ic	---	0.00	0.00	---	---	---	---	39.26
9.68	48,292	643.20	39.49 ic	0.06 ic	39.43 ic	---	0.00	0.00	---	---	---	---	39.49

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Basin H South

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv 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
9.78	49,381	643.30	39.72 ic	0.06 ic	39.66 ic	---	0.00	0.00	---	---	---	---	39.72
9.88	50,470	643.40	39.94 ic	0.06 ic	39.88 ic	---	0.00	0.00	---	---	---	---	39.94
9.98	51,558	643.50	40.17 ic	0.06 ic	40.11 ic	---	0.00	0.00	---	---	---	---	40.17
10.08	52,647	643.60	40.39 ic	0.06 ic	40.33 ic	---	0.00	0.00	---	---	---	---	40.39
10.18	53,735	643.70	40.61 ic	0.06 ic	40.55 ic	---	0.00	0.00	---	---	---	---	40.61
10.28	54,824	643.80	40.83 ic	0.06 ic	40.77 ic	---	0.00	0.00	---	---	---	---	40.83
10.38	55,913	643.90	41.05 ic	0.06 ic	40.99 ic	---	0.00	0.00	---	---	---	---	41.05
10.48	57,001	644.00	41.27 ic	0.06 ic	41.21 ic	---	0.00	0.00	---	---	---	---	41.27
10.58	58,145	644.10	41.61 ic	0.06 ic	40.95 ic	---	0.60	0.00	---	---	---	---	41.61
10.68	59,288	644.20	42.13 ic	0.06 ic	40.04 ic	---	2.03	0.00	---	---	---	---	42.13
10.78	60,431	644.30	42.73 ic	0.06 ic	38.73 ic	---	3.95	0.00	---	---	---	---	42.73
10.88	61,575	644.40	43.39 ic	0.05 ic	37.10 ic	---	6.24	2.46	---	---	---	---	45.85
10.98	62,718	644.50	44.09 ic	0.05 ic	35.18 ic	---	8.86	6.97	---	---	---	---	51.06
11.08	63,861	644.60	44.80 ic	0.05 ic	33.00 ic	---	11.76	12.81	---	---	---	---	57.61
11.18	65,005	644.70	45.53 ic	0.04 ic	30.55 ic	---	14.93	19.72	---	---	---	---	65.25
11.28	66,148	644.80	46.25 ic	0.04 ic	27.86 ic	---	18.34	27.56	---	---	---	---	73.81
11.38	67,291	644.90	46.90 ic	0.04 ic	25.28 ic	---	21.58 s	36.23	---	---	---	---	83.13
11.48	68,434	645.00	47.39 ic	0.03 ic	23.48 ic	---	23.88 s	45.68	---	---	---	---	93.08

...End

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Project:	Port Union at Union Centre Building H	Designed By:	RWB	Date:	5/12/07
Job No.:	07F053.000	Checked By:		Date:	
Basin ID:	H South Basin	Revised By:	MJL	Date:	4/30/08

Required Water Quality Volume

WQ_v = P C A/12

Site Drainage Area (A) = 7.60 acres (To Basin) WQ_v = 0.328 acre-ft.

Rainfall Depth (P) = 0.75 in. Sediment Storage Allowance = 20 %
Sediment Storage Allowance = 0.07 Ac-ft

Runoff Coefficient (C) = 0.69 **Total WQ_v =** 0.394 Ac-ft
= 17,167 cu.ft.

Water Quality Release Rate

Q_{wqv} = Total WQ_v/RT

Retention Time (RT) = 48 hours Q_{wqv} = 0.10 cfs

Water Quality Outlet Orifice

Contour Areas

	Elevation ft	Area ft^2	Volume ft^3	Cum. Vol. ft^3	Elevation at V	Storage at Elev
Basin Inv. =	633.52	0.00	0.00	0.00		
Contour 1 =	634.00	1.00	0.24	0.24		
Contour 2 =	635.00	270.00	135.50	135.74		
Contour 3 =	636.00	2956.00	1613.00	1748.74		
Contour 4 =	637.00	4255.00	3605.50	5354.24		
Contour 5 =	638.00	5329.00	4792.00	10146.24		
Contour 6 =	639.00	6353.00	5841.00	15987.24		
Contour 7 =	640.00	7292.00	6822.50	22809.74	639.17	
Contour 8 =	641.00	8235.00	7763.50	30573.24		27181.21
Contour 9 =	642.00	6254.00	7244.50	37817.74		
Contour 10 =	643.00	10340.00	8297.00	46114.74		
Contour 11 =	644.00	11433.00	10886.50	57001.24		
Contour 12 =	645.00	11433.00	11433.00	68434.24		
Contour 13 =						
Contour 14 =						

$Q = N C_d A_o (2 g \Delta h)^{1/2}$

C_d = 0.61

$A_o = \pi D^2/4$ for circular orifices; = h * w for rectangular orifices

g = 32.20 ft/sec^2

Q = Q_{wqv} = 0.10 cfs

Lowest Orifice 634.84
Required Volume = V = 17167 ft^3 Number of orifices = N = 1
Elevation at V = 639.17

Orifice h = 1.250 inch Orifice w = 0.00 inch (= 0 for circular orifice)
Δh_{min} = Elev at V - Basin Inv - 1/2 h = 5.60 ft

$A_{trial} = Q/(N C_d (2 g \Delta h_{min})^{1/2})$ = 1.23 in^2 Actual A = A_o = 1.23 in^2

$\Delta h = (Q/(N C_d A_o))^2/(2 g)$ = 5.67 ft
Elev = 640.56 > Elevation at V = 639.17 Good

Storage = 27181.21 ft^3

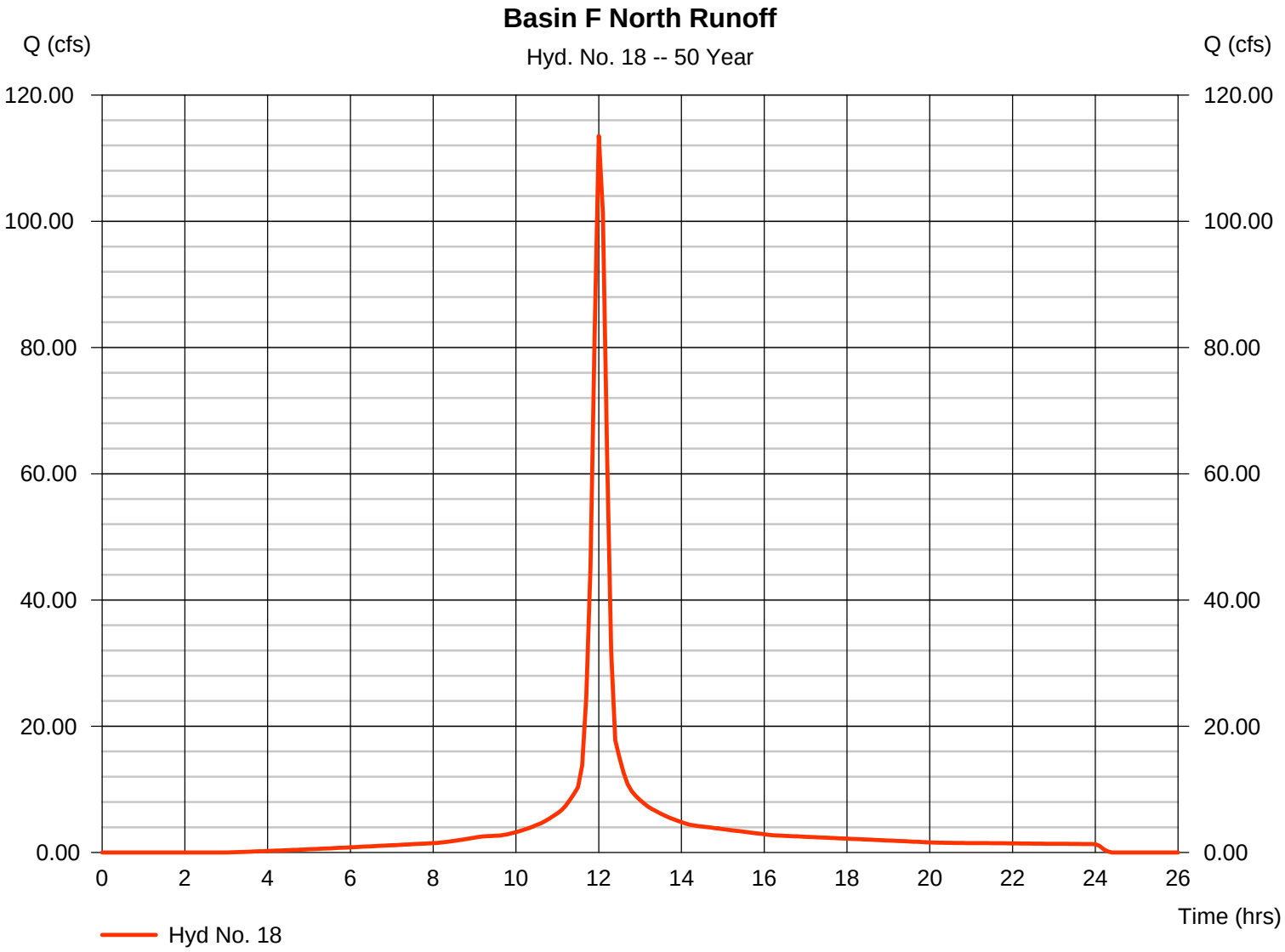
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 — Monday, Jul 2, 2007

Hyd. No. 18

Basin F North Runoff

Hydrograph type	=	SCS Runoff	Peak discharge	=	113.51 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.00 hrs
Time interval	=	6 min	Hyd. volume	=	8.341 acft
Drainage area	=	24.790 ac	Curve number	=	92.2
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	13.80 min
Total precip.	=	5.20 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



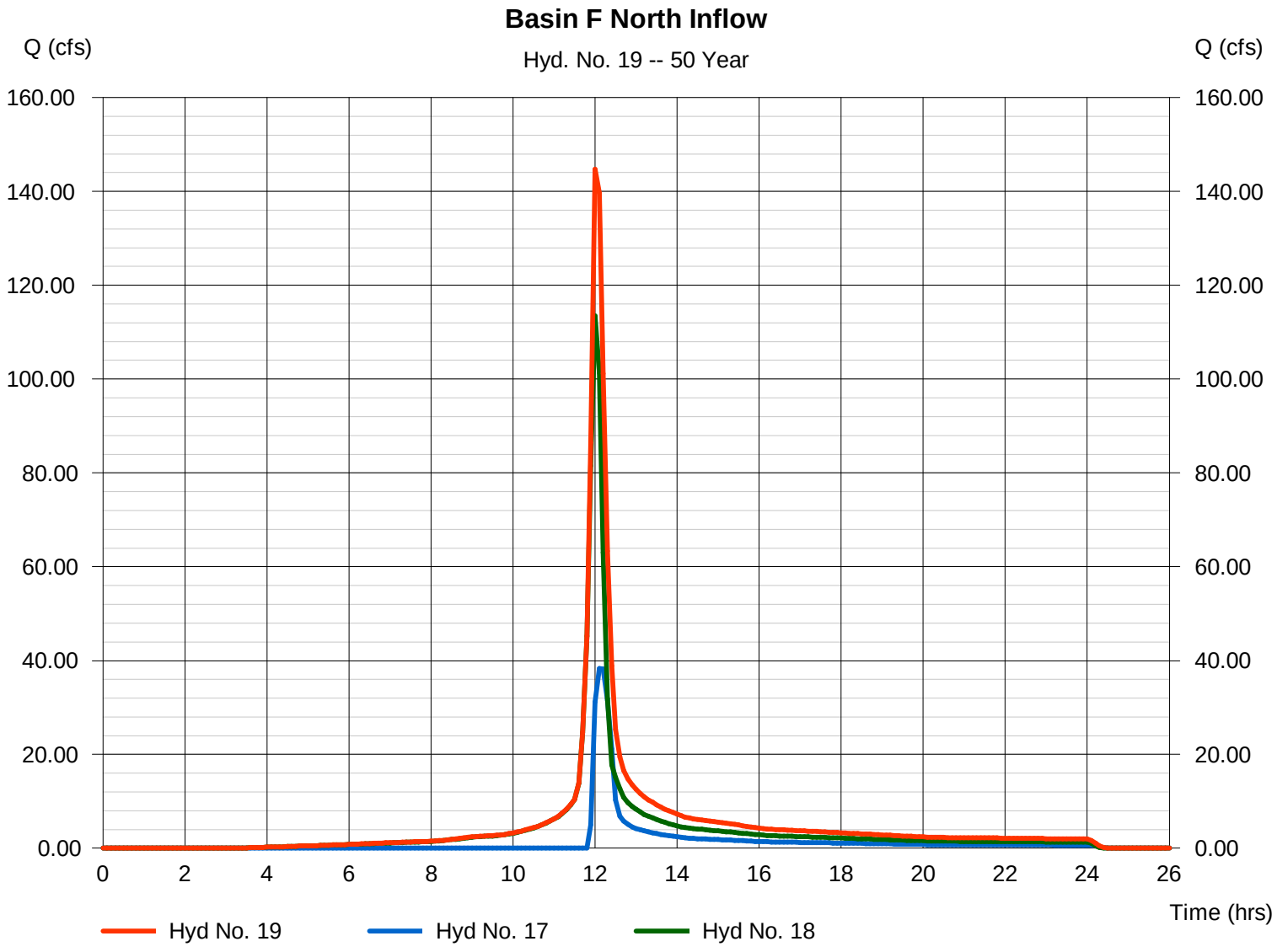
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 Wednesday, Apr 30, 2008

Hyd. No. 19

Basin F North Inflow

Hydrograph type	= Combine	Peak discharge	= 144.72 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.00 hrs
Time interval	= 6 min	Hyd. volume	= 519,570 cuft
Inflow hyds.	= 17, 18	Contrib. drain. area	= 24.790 ac



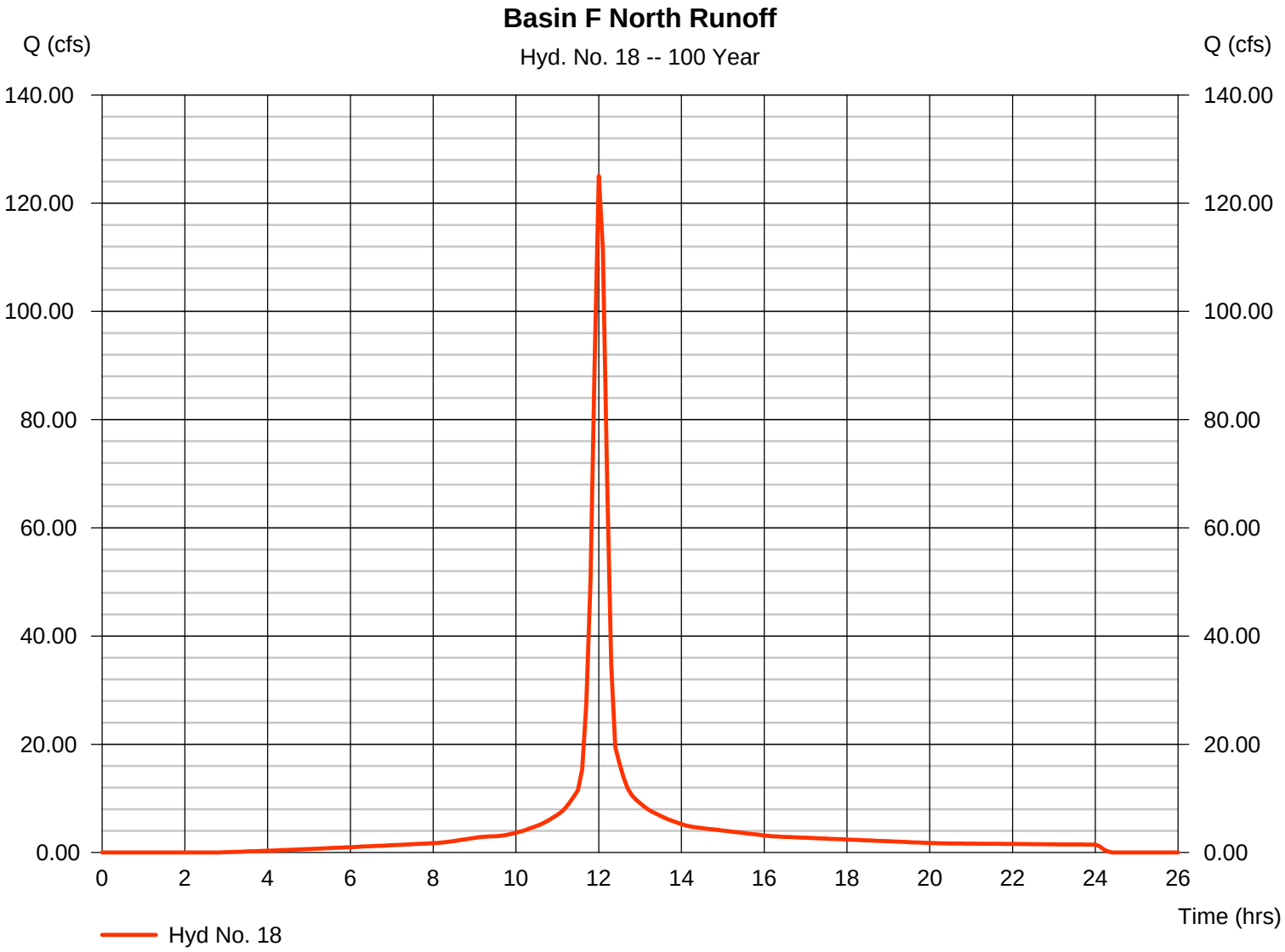
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 — Monday, Jul 2, 2007

Hyd. No. 18

Basin F North Runoff

Hydrograph type	=	SCS Runoff	Peak discharge	=	125.02 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.00 hrs
Time interval	=	6 min	Hyd. volume	=	9.233 acft
Drainage area	=	24.790 ac	Curve number	=	92.2
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	13.80 min
Total precip.	=	5.67 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

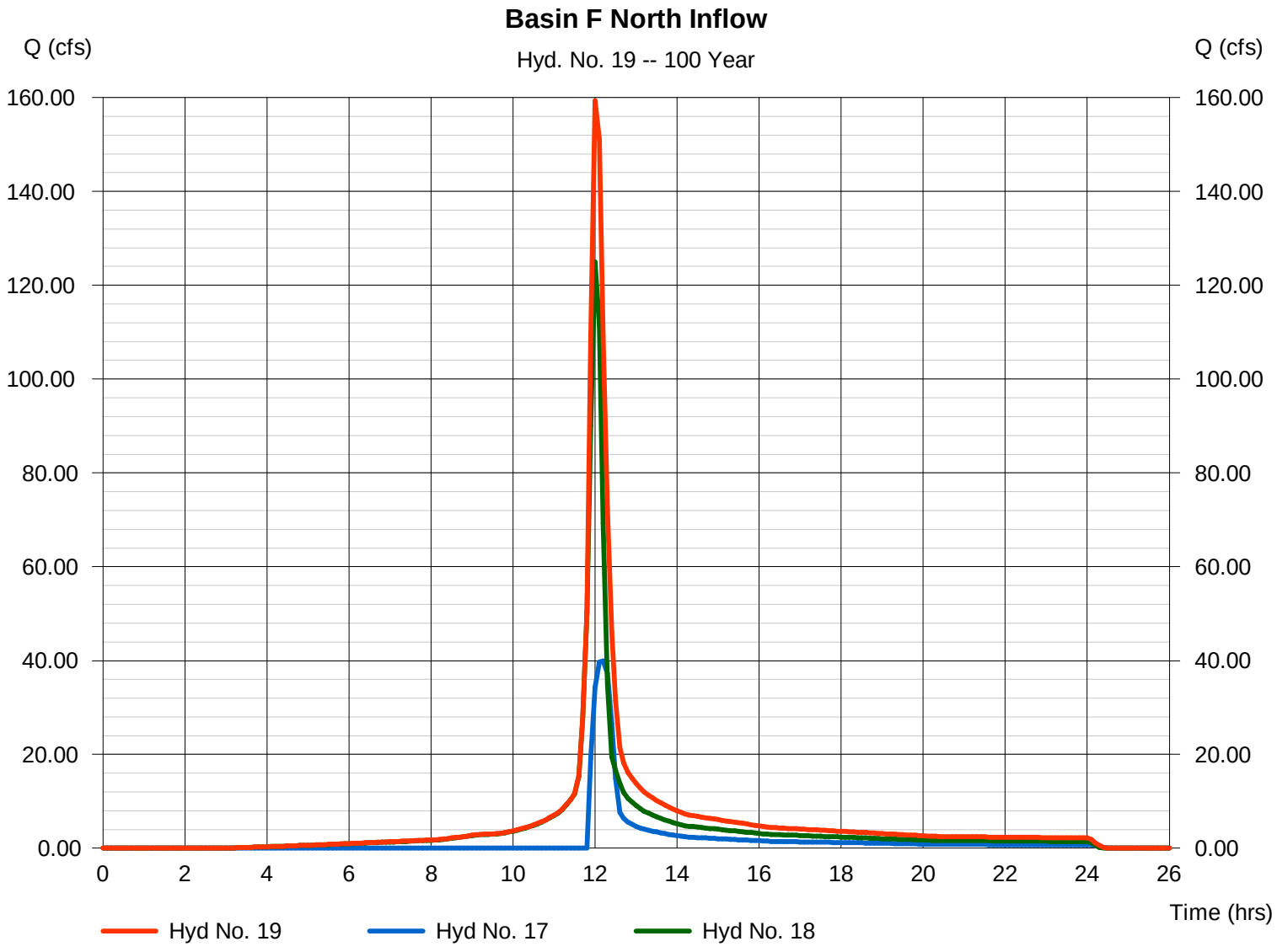
Hydraflow Hydrographs by Intelisolve v9.2

Wednesday, Apr 30, 2008

Hyd. No. 19

Basin F North Inflow

Hydrograph type	= Combine	Peak discharge	= 159.36 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.00 hrs
Time interval	= 6 min	Hyd. volume	= 578,014 cuft
Inflow hyds.	= 17, 18	Contrib. drain. area	= 24.790 ac



Pond Report

Pond No. 8 - Basin F North

Pond Data

Contours - User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 609.82 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	609.82	00	0.000	0.000
0.18	610.00	03	0.000	0.000
1.18	611.00	21	0.000	0.000
2.18	612.00	43	0.001	0.001
3.18	613.00	116	0.002	0.003
4.18	614.00	416	0.006	0.009
5.18	615.00	1,459	0.022	0.030
6.18	616.00	3,020	0.051	0.082
7.18	617.00	4,896	0.091	0.173
8.18	618.00	7,072	0.137	0.310
9.18	619.00	9,100	0.186	0.496
10.18	620.00	11,131	0.232	0.728
11.18	621.00	13,156	0.279	1.007
12.18	622.00	15,192	0.325	1.332
13.18	623.00	17,522	0.376	1.708
14.18	624.00	20,169	0.433	2.140
14.47	624.29	21,039	0.137	2.277
15.18	625.00	23,414	0.362	2.640

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 21.00	24.00	10.00	0.00
Span (in)	= 21.00	24.00	72.00	0.00
No. Barrels	= 1	1	4	0
Invert El. (ft)	= 609.82	617.68	622.94	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 8.00	50.00	0.00	0.00
Crest El. (ft)	= 623.66	624.29	0.00	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= Rect	Broad	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

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 acft	Elevation ft	Clv A cfs	Clv 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	0.000	609.82	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.02	0.000	609.84	0.00 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	0.002
0.04	0.000	609.86	0.01 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	0.008
0.05	0.000	609.87	0.02 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	0.017
0.07	0.000	609.89	0.03 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	0.031
0.09	0.000	609.91	0.05 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	0.048
0.11	0.000	609.93	0.07 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	0.069
0.13	0.000	609.95	0.09 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	0.093
0.14	0.000	609.96	0.12 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	0.122
0.16	0.000	609.98	0.15 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	0.154
0.18	0.000	610.00	0.19 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	0.189
0.28	0.000	610.10	0.45 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	0.448
0.38	0.000	610.20	0.81 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	0.811
0.48	0.000	610.30	1.26 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	1.264
0.58	0.000	610.40	1.80 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	1.805
0.68	0.000	610.50	2.43 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	2.427
0.78	0.000	610.60	3.12 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	3.119
0.88	0.000	610.70	3.87 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	3.871
0.98	0.000	610.80	4.67 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	4.674
1.08	0.000	610.90	5.52 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	5.516
1.18	0.000	611.00	6.38 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	6.384
1.28	0.000	611.10	7.27 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	7.266
1.38	0.000	611.20	8.14 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	8.140
1.48	0.001	611.30	8.99 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	8.986
1.58	0.001	611.40	9.78 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	9.782
1.68	0.001	611.50	10.47 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	10.47
1.78	0.001	611.60	11.02 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	11.02

Continues on next page...

Basin F North

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv 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
1.88	0.001	611.70	11.61 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	11.61
1.98	0.001	611.80	12.17 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	12.17
2.08	0.001	611.90	12.71 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	12.71
2.18	0.001	612.00	13.23 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	13.23
2.28	0.001	612.10	13.73 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	13.73
2.38	0.001	612.20	14.21 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	14.21
2.48	0.002	612.30	14.67 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	14.67
2.58	0.002	612.40	15.12 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	15.12
2.68	0.002	612.50	15.56 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	15.56
2.78	0.002	612.60	15.98 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	15.98
2.88	0.002	612.70	16.40 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	16.40
2.98	0.002	612.80	16.80 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	16.80
3.08	0.003	612.90	17.19 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	17.19
3.18	0.003	613.00	17.58 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	17.58
3.28	0.003	613.10	17.96 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	17.96
3.38	0.004	613.20	18.33 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	18.33
3.48	0.005	613.30	18.69 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	18.69
3.58	0.005	613.40	19.05 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	19.05
3.68	0.006	613.50	19.39 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	19.39
3.78	0.007	613.60	19.74 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	19.74
3.88	0.007	613.70	20.07 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	20.07
3.98	0.008	613.80	20.40 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	20.40
4.08	0.008	613.90	20.73 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	20.73
4.18	0.009	614.00	21.05 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	21.05
4.28	0.011	614.10	21.37 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	21.37
4.38	0.013	614.20	21.68 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	21.68
4.48	0.015	614.30	21.99 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	21.99
4.58	0.018	614.40	22.29 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	22.29
4.68	0.020	614.50	22.59 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	22.59
4.78	0.022	614.60	22.88 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	22.88
4.88	0.024	614.70	23.17 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	23.17
4.98	0.026	614.80	23.46 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	23.46
5.08	0.028	614.90	23.75 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	23.75
5.18	0.030	615.00	24.03 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	24.03
5.28	0.036	615.10	24.30 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	24.30
5.38	0.041	615.20	24.58 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	24.58
5.48	0.046	615.30	24.85 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	24.85
5.58	0.051	615.40	25.12 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	25.12
5.68	0.056	615.50	25.38 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	25.38
5.78	0.061	615.60	25.65 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	25.65
5.88	0.066	615.70	25.91 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	25.91
5.98	0.072	615.80	26.16 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	26.16
6.08	0.077	615.90	26.42 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	26.42
6.18	0.082	616.00	26.67 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	26.67
6.28	0.091	616.10	26.92 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	26.92
6.38	0.100	616.20	27.17 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	27.17
6.48	0.109	616.30	27.42 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	27.42
6.58	0.118	616.40	27.66 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	27.66
6.68	0.127	616.50	27.90 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	27.90
6.78	0.136	616.60	28.14 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	28.14
6.88	0.145	616.70	28.38 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	28.38
6.98	0.155	616.80	28.61 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	28.61
7.08	0.164	616.90	28.84 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	28.84
7.18	0.173	617.00	29.08 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	29.08
7.28	0.186	617.10	29.31 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	29.31
7.38	0.200	617.20	29.53 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	29.53
7.48	0.214	617.30	29.76 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	29.76
7.58	0.228	617.40	29.98 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	29.98
7.68	0.241	617.50	30.21 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	30.21
7.78	0.255	617.60	30.43 ic	0.00	0.00	---	0.00	0.00	---	---	---	---	30.43
7.88	0.269	617.70	30.65 ic	0.00 ic	0.00	---	0.00	0.00	---	---	---	---	30.65
7.98	0.283	617.80	30.87 ic	0.09 ic	0.00	---	0.00	0.00	---	---	---	---	30.96
8.08	0.296	617.90	31.08 ic	0.30 ic	0.00	---	0.00	0.00	---	---	---	---	31.38
8.18	0.310	618.00	31.30 ic	0.63 ic	0.00	---	0.00	0.00	---	---	---	---	31.92
8.28	0.329	618.10	31.51 ic	1.06 ic	0.00	---	0.00	0.00	---	---	---	---	32.57
8.38	0.347	618.20	31.72 ic	1.60 ic	0.00	---	0.00	0.00	---	---	---	---	33.32
8.48	0.366	618.30	31.93 ic	2.22 ic	0.00	---	0.00	0.00	---	---	---	---	34.16
8.58	0.384	618.40	32.14 ic	2.95 ic	0.00	---	0.00	0.00	---	---	---	---	35.09
8.68	0.403	618.50	32.35 ic	3.74 ic	0.00	---	0.00	0.00	---	---	---	---	36.09
8.78	0.421	618.60	32.56 ic	4.61 ic	0.00	---	0.00	0.00	---	---	---	---	37.17
8.88	0.440	618.70	32.76 ic	5.54 ic	0.00	---	0.00	0.00	---	---	---	---	38.30
8.98	0.459	618.80	32.97 ic	6.53 ic	0.00	---	0.00	0.00	---	---	---	---	39.49
9.08	0.477	618.90	33.17 ic	7.56 ic	0.00	---	0.00	0.00	---	---	---	---	40.73
9.18	0.496	619.00	33.37 ic	8.61 ic	0.00	---	0.00	0.00	---	---	---	---	41.98

Continues on next page...

Basin F North

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv 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
9.28	0.519	619.10	33.57 ic	9.68 ic	0.00	---	0.00	0.00	---	---	---	---	43.25
9.38	0.542	619.20	33.77 ic	10.76 ic	0.00	---	0.00	0.00	---	---	---	---	44.53
9.48	0.565	619.30	33.97 ic	11.82 ic	0.00	---	0.00	0.00	---	---	---	---	45.78
9.58	0.589	619.40	34.17 ic	12.84 ic	0.00	---	0.00	0.00	---	---	---	---	47.00
9.68	0.612	619.50	34.36 ic	13.79 ic	0.00	---	0.00	0.00	---	---	---	---	48.15
9.78	0.635	619.60	34.56 ic	14.62 ic	0.00	---	0.00	0.00	---	---	---	---	49.18
9.88	0.658	619.70	34.75 ic	15.27 ic	0.00	---	0.00	0.00	---	---	---	---	50.02
9.98	0.682	619.80	34.94 ic	16.01 ic	0.00	---	0.00	0.00	---	---	---	---	50.95
10.08	0.705	619.90	35.13 ic	16.70 ic	0.00	---	0.00	0.00	---	---	---	---	51.84
10.18	0.728	620.00	35.32 ic	17.38 ic	0.00	---	0.00	0.00	---	---	---	---	52.70
10.28	0.756	620.10	35.51 ic	18.02 ic	0.00	---	0.00	0.00	---	---	---	---	53.54
10.38	0.784	620.20	35.70 ic	18.65 ic	0.00	---	0.00	0.00	---	---	---	---	54.35
10.48	0.812	620.30	35.89 ic	19.25 ic	0.00	---	0.00	0.00	---	---	---	---	55.14
10.58	0.839	620.40	36.07 ic	19.84 ic	0.00	---	0.00	0.00	---	---	---	---	55.91
10.68	0.867	620.50	36.26 ic	20.40 ic	0.00	---	0.00	0.00	---	---	---	---	56.66
10.78	0.895	620.60	36.44 ic	20.96 ic	0.00	---	0.00	0.00	---	---	---	---	57.40
10.88	0.923	620.70	36.63 ic	21.50 ic	0.00	---	0.00	0.00	---	---	---	---	58.12
10.98	0.951	620.80	36.81 ic	22.02 ic	0.00	---	0.00	0.00	---	---	---	---	58.83
11.08	0.979	620.90	36.99 ic	22.53 ic	0.00	---	0.00	0.00	---	---	---	---	59.53
11.18	1.007	621.00	37.17 ic	23.04 ic	0.00	---	0.00	0.00	---	---	---	---	60.21
11.28	1.039	621.10	37.35 ic	23.53 ic	0.00	---	0.00	0.00	---	---	---	---	60.88
11.38	1.072	621.20	37.53 ic	24.01 ic	0.00	---	0.00	0.00	---	---	---	---	61.54
11.48	1.104	621.30	37.71 ic	24.48 ic	0.00	---	0.00	0.00	---	---	---	---	62.19
11.58	1.137	621.40	37.89 ic	24.94 ic	0.00	---	0.00	0.00	---	---	---	---	62.83
11.68	1.169	621.50	38.06 ic	25.40 ic	0.00	---	0.00	0.00	---	---	---	---	63.46
11.78	1.202	621.60	38.24 ic	25.84 ic	0.00	---	0.00	0.00	---	---	---	---	64.08
11.88	1.235	621.70	38.41 ic	26.28 ic	0.00	---	0.00	0.00	---	---	---	---	64.70
11.98	1.267	621.80	38.59 ic	26.71 ic	0.00	---	0.00	0.00	---	---	---	---	65.30
12.08	1.300	621.90	38.76 ic	27.14 ic	0.00	---	0.00	0.00	---	---	---	---	65.90
12.18	1.332	622.00	38.94 ic	27.56 ic	0.00	---	0.00	0.00	---	---	---	---	66.49
12.28	1.370	622.10	39.11 ic	27.97 ic	0.00	---	0.00	0.00	---	---	---	---	67.08
12.38	1.407	622.20	39.28 ic	28.38 ic	0.00	---	0.00	0.00	---	---	---	---	67.65
12.48	1.445	622.30	39.45 ic	28.78 ic	0.00	---	0.00	0.00	---	---	---	---	68.22
12.58	1.482	622.40	39.62 ic	29.17 ic	0.00	---	0.00	0.00	---	---	---	---	68.79
12.68	1.520	622.50	39.79 ic	29.56 ic	0.00	---	0.00	0.00	---	---	---	---	69.35
12.78	1.557	622.60	39.95 ic	29.95 ic	0.00	---	0.00	0.00	---	---	---	---	69.90
12.88	1.595	622.70	40.12 ic	30.32 ic	0.00	---	0.00	0.00	---	---	---	---	70.45
12.98	1.633	622.80	40.29 ic	30.70 ic	0.00	---	0.00	0.00	---	---	---	---	70.99
13.08	1.670	622.90	40.45 ic	31.07 ic	0.00	---	0.00	0.00	---	---	---	---	71.52
13.18	1.708	623.00	40.62 ic	31.44 ic	1.20 ic	---	0.00	0.00	---	---	---	---	73.26
13.28	1.751	623.10	40.79 ic	31.80 ic	5.23 ic	---	0.00	0.00	---	---	---	---	77.81
13.38	1.794	623.20	40.95 ic	32.16 ic	10.83 ic	---	0.00	0.00	---	---	---	---	83.94
13.48	1.837	623.30	41.11 ic	32.51 ic	17.64 ic	---	0.00	0.00	---	---	---	---	91.27
13.58	1.881	623.40	41.28 ic	32.86 ic	25.49 ic	---	0.00	0.00	---	---	---	---	99.62
13.68	1.924	623.50	41.44 ic	33.21 ic	34.23 ic	---	0.00	0.00	---	---	---	---	108.87
13.78	1.967	623.60	41.60 ic	33.55 ic	43.80 ic	---	0.00	0.00	---	---	---	---	118.95
13.88	2.010	623.70	41.76 ic	33.89 ic	54.12 ic	---	0.21	0.00	---	---	---	---	129.98
13.98	2.054	623.80	41.92 ic	34.22 ic	64.11 ic	---	1.39	0.00	---	---	---	---	141.64
14.08	2.097	623.90	42.08 ic	34.56 ic	70.97 ic	---	3.13	0.00	---	---	---	---	150.73
14.18	2.140	624.00	42.24 ic	34.89 ic	77.24 ic	---	5.28	0.00	---	---	---	---	159.65
14.21	2.154	624.03	42.28 ic	34.98 ic	78.96 ic	---	5.97	0.00	---	---	---	---	162.20
14.24	2.168	624.06	42.33 ic	35.08 ic	80.65 ic	---	6.69	0.00	---	---	---	---	164.74
14.27	2.181	624.09	42.38 ic	35.17 ic	82.30 ic	---	7.43	0.00	---	---	---	---	167.28
14.30	2.195	624.12	42.42 ic	35.26 ic	83.92 ic	---	8.20	0.00	---	---	---	---	169.81
14.33	2.209	624.15	42.47 ic	35.36 ic	85.50 ic	---	9.00	0.00	---	---	---	---	172.33
14.35	2.223	624.17	42.51 ic	35.45 ic	87.06 ic	---	9.82	0.00	---	---	---	---	174.85
14.38	2.236	624.20	42.56 ic	35.54 ic	88.59 ic	---	10.66	0.00	---	---	---	---	177.35
14.41	2.250	624.23	42.61 ic	35.64 ic	90.09 ic	---	11.52	0.00	---	---	---	---	179.86
14.44	2.264	624.26	42.65 ic	35.73 ic	91.57 ic	---	12.41	0.00	---	---	---	---	182.37
14.47	2.277	624.29	42.70 ic	35.82 ic	93.03 ic	---	13.32	0.00	---	---	---	---	184.87
14.54	2.314	624.36	42.81 ic	36.05 ic	96.51 ic	---	15.64	2.46	---	---	---	---	193.47
14.61	2.350	624.43	42.92 ic	36.27 ic	99.86 ic	---	18.07	6.95	---	---	---	---	204.06
14.68	2.386	624.50	43.03 ic	36.50 ic	103.10 ic	---	20.62	12.78	---	---	---	---	216.02
14.75	2.422	624.57	43.14 ic	36.72 ic	106.25 ic	---	23.28	19.67	---	---	---	---	229.05
14.83	2.459	624.64	43.25 ic	36.94 ic	109.30 ic	---	26.04	27.49	---	---	---	---	243.02
14.90	2.495	624.72	43.36 ic	37.16 ic	112.27 ic	---	28.91	36.13	---	---	---	---	257.83
14.97	2.531	624.79	43.47 ic	37.38 ic	115.17 ic	---	31.87	45.54	---	---	---	---	273.43
15.04	2.567	624.86	43.58 ic	37.59 ic	117.99 ic	---	34.92	55.62	---	---	---	---	289.70
15.11	2.603	624.93	43.69 ic	37.81 ic	120.74 ic	---	38.07	66.37	---	---	---	---	306.69
15.18	2.640	625.00	43.80 ic	38.02 ic	123.45 ic	---	41.32	77.78	---	---	---	---	324.37

...End

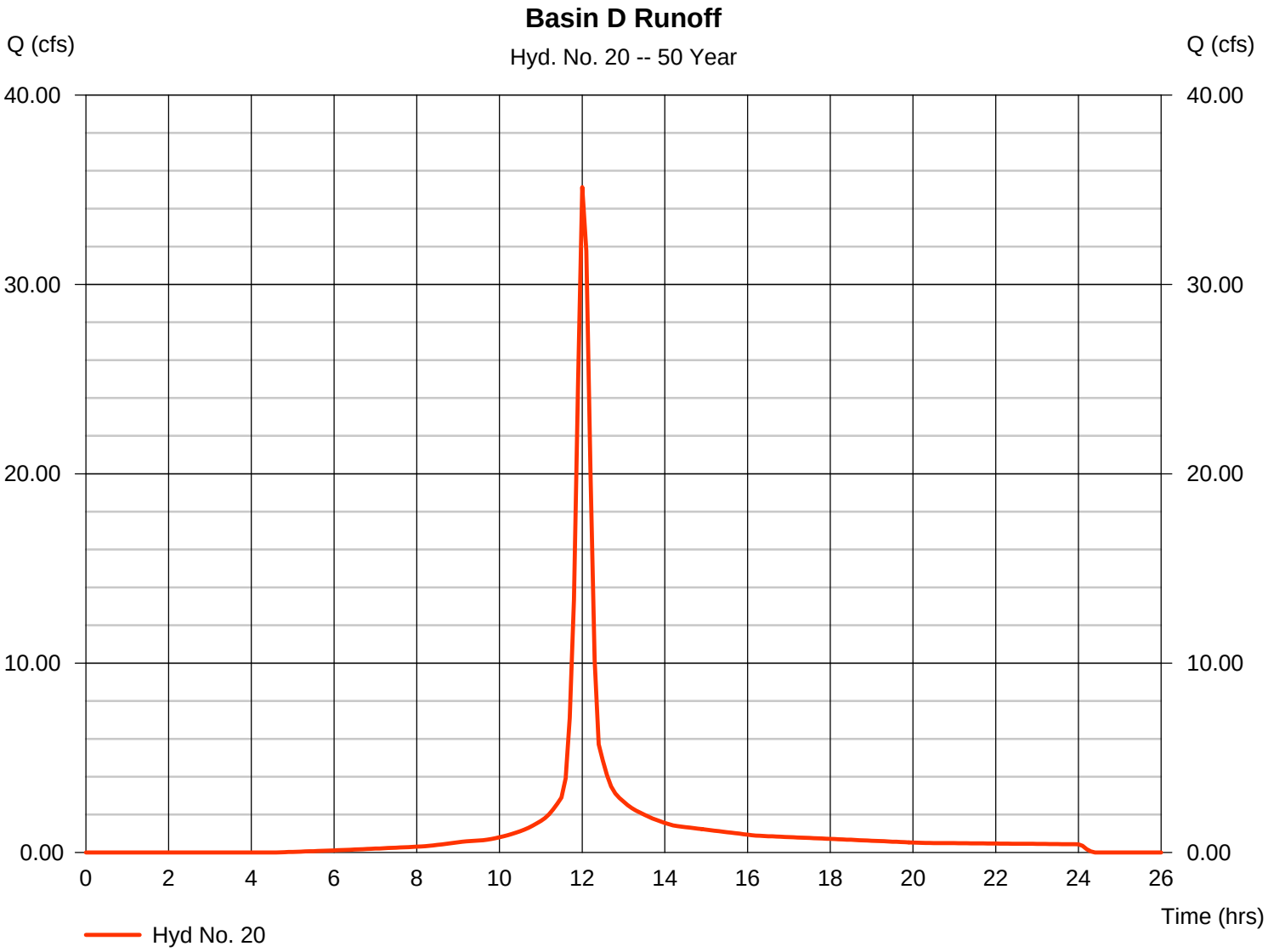
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Hyd. No. 20

Basin D Runoff

Hydrograph type	=	SCS Runoff	Peak discharge	=	35.13 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.00 hrs
Time interval	=	6 min	Hyd. volume	=	2.513 acft
Drainage area	=	8.380 ac	Curve number	=	87.8
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	12.40 min
Total precip.	=	5.20 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

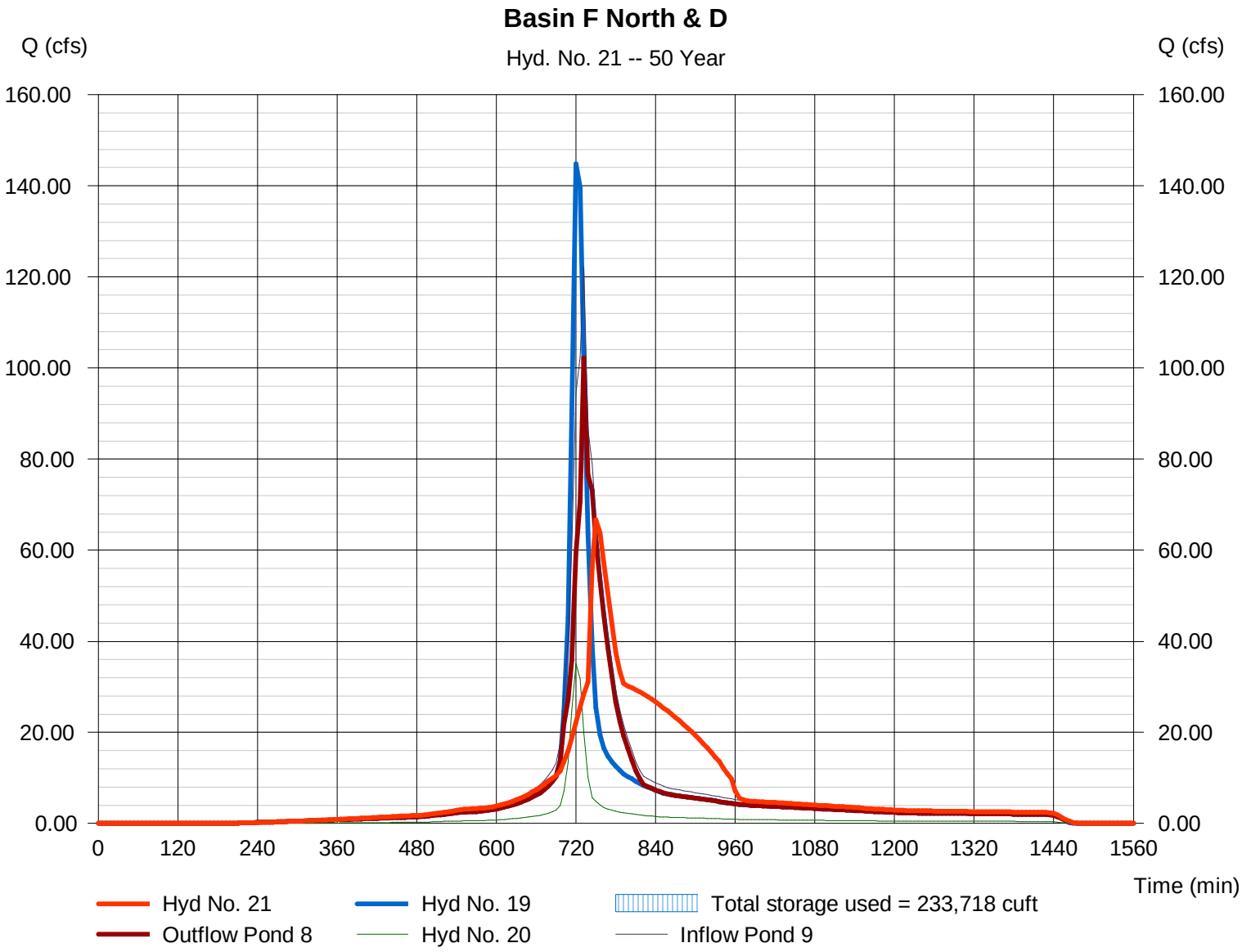
Hydraflow Hydrographs by Intelisolve v9.2 — Wednesday, Apr 30, 2008

Hyd. No. 21

Basin F North & D

Hydrograph type	=	Reservoir (Interconnected)	Peak discharge	=	66.70 cfs
Storm frequency	=	50 yrs	Time to peak	=	750 min
Time interval	=	6 min	Hyd. volume	=	601,542 cuft
Upper Pond			**Lower Pond**		
Pond name	=	Basin F North	Pond name	=	Basin D
Inflow hyd.	=	19 - Basin F North Inflow	Other Inflow hyd.	=	20 - Basin D Ru
Max. Elevation	=	623.44 ft	Max. Elevation	=	614.31 ft
Max. Storage	=	82,499 cuft	Max. Storage	=	151,219 cuft

Interconnected Pond Routing. Storage Indication method used.



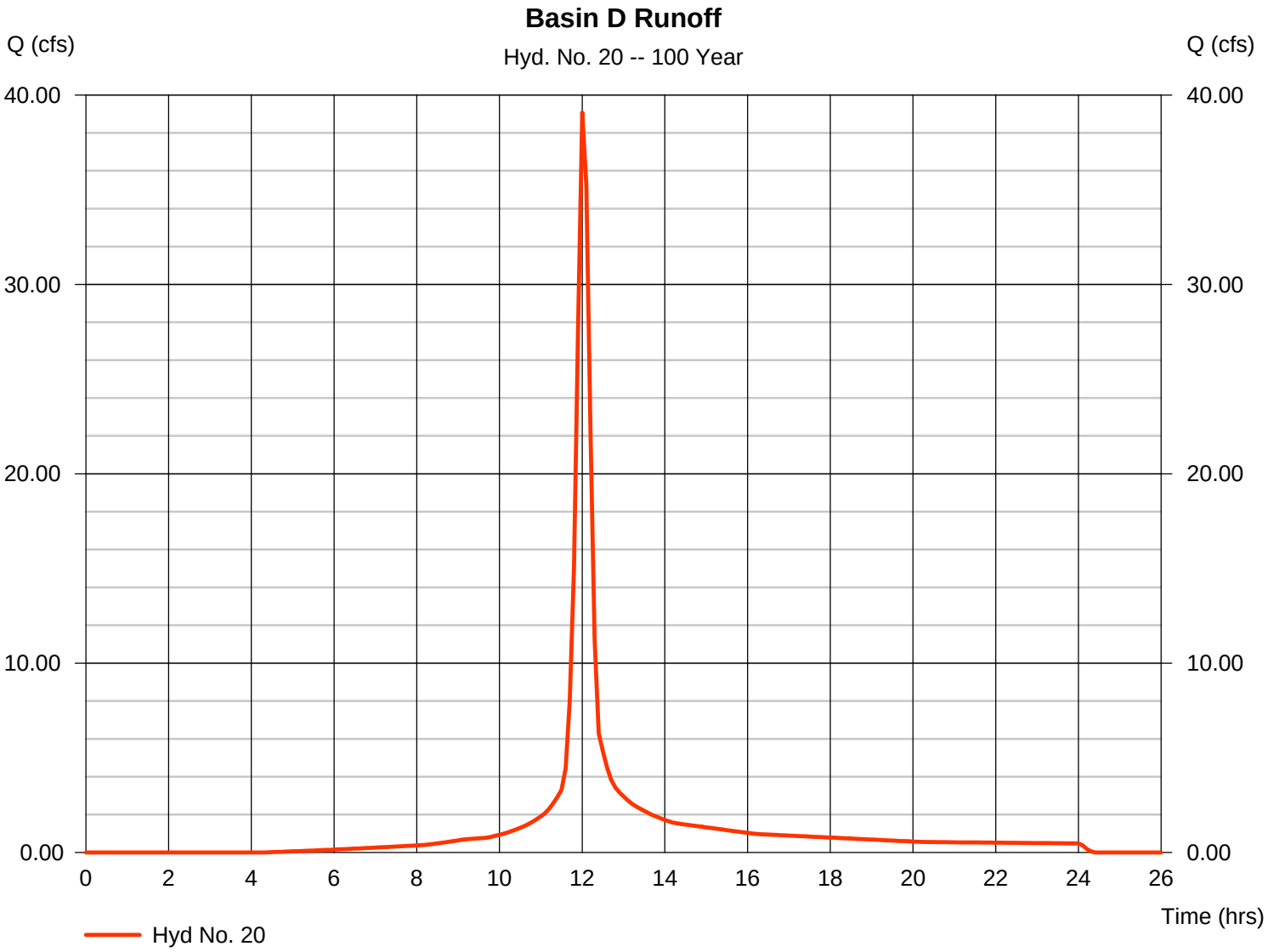
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Hyd. No. 20

Basin D Runoff

Hydrograph type	=	SCS Runoff	Peak discharge	=	39.08 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.00 hrs
Time interval	=	6 min	Hyd. volume	=	2.807 acft
Drainage area	=	8.380 ac	Curve number	=	87.8
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	12.40 min
Total precip.	=	5.67 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

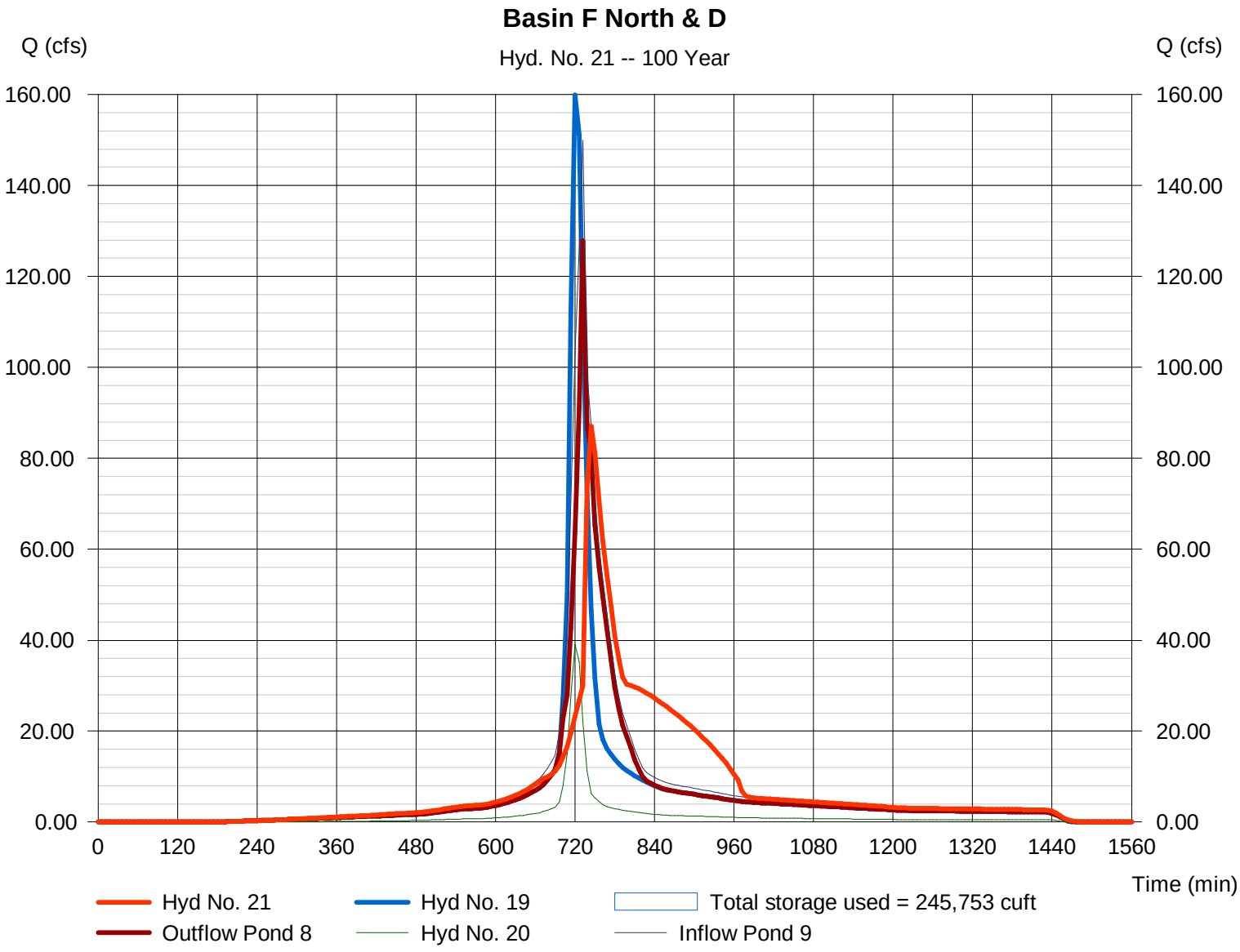
Hydraflow Hydrographs by Intelisolve v9.2 Wednesday, Apr 30, 2008

Hyd. No. 21

Basin F North & D

Hydrograph type	=	Reservoir (Interconnected)	Peak discharge	=	87.01 cfs
Storm frequency	=	100 yrs	Time to peak	=	744 min
Time interval	=	6 min	Hyd. volume	=	676,905 cuft
Upper Pond			**Lower Pond**		
Pond name	=	Basin F North	Pond name	=	Basin D
Inflow hyd.	=	19 - Basin F North Inflow	Other Inflow hyd.	=	20 - Basin D Ru
Max. Elevation	=	623.87 ft	Max. Elevation	=	614.58 ft
Max. Storage	=	87,451 cuft	Max. Storage	=	158,302 cuft

Interconnected Pond Routing. Storage Indication method used.



Pond No. 9 - Basin D

Pond Data

Contours - User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 603.05 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	603.05	00	0.000	0.000
0.95	604.00	424	0.005	0.005
1.95	605.00	3,555	0.046	0.050
2.95	606.00	8,424	0.138	0.188
3.95	607.00	11,005	0.223	0.411
4.95	608.00	13,100	0.277	0.687
5.95	609.00	14,990	0.322	1.010
6.95	610.00	16,864	0.366	1.376
7.95	611.00	18,772	0.409	1.785
8.95	612.00	20,736	0.453	2.238
9.95	613.00	22,770	0.499	2.737
10.95	614.00	24,909	0.547	3.285
11.95	615.00	27,875	0.606	3.891
12.95	616.00	30,700	0.672	4.563
13.95	617.00	33,375	0.735	5.298
14.95	618.00	34,579	0.780	6.078

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 42.00	20.00	0.00	0.00
Span (in)	= 42.00	20.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 603.05	603.05	0.00	0.00
Length (ft)	= 191.00	0.00	0.00	0.00
Slope (%)	= 0.55	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 20.00	34.00	0.00	0.00
Crest El. (ft)	= 613.54	614.79	0.00	0.00
Weir Coeff.	= 2.60	2.60	3.33	3.33
Weir Type	= Broad	Broad	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

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 acft	Elevation ft	Clv A cfs	Clv 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	0.000	603.05	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.10	0.000	603.15	0.04 ic	0.04 ic	---	---	0.00	0.00	---	---	---	---	0.040
0.19	0.001	603.24	0.17 ic	0.16 ic	---	---	0.00	0.00	---	---	---	---	0.159
0.29	0.001	603.33	0.38 ic	0.35 ic	---	---	0.00	0.00	---	---	---	---	0.353
0.38	0.002	603.43	0.61 ic	0.61 ic	---	---	0.00	0.00	---	---	---	---	0.612
0.48	0.002	603.52	0.99 ic	0.93 ic	---	---	0.00	0.00	---	---	---	---	0.935
0.57	0.003	603.62	1.32 ic	1.32 ic	---	---	0.00	0.00	---	---	---	---	1.321
0.67	0.003	603.71	1.81 ic	1.81 ic	---	---	0.00	0.00	---	---	---	---	1.806
0.76	0.004	603.81	2.28 ic	2.28 ic	---	---	0.00	0.00	---	---	---	---	2.281
0.86	0.004	603.90	2.82 ic	2.82 ic	---	---	0.00	0.00	---	---	---	---	2.817
0.95	0.005	604.00	3.41 ic	3.41 ic	---	---	0.00	0.00	---	---	---	---	3.414
1.05	0.009	604.10	4.10 ic	4.09 ic	---	---	0.00	0.00	---	---	---	---	4.094
1.15	0.014	604.20	4.84 ic	4.80 ic	---	---	0.00	0.00	---	---	---	---	4.798
1.25	0.018	604.30	5.48 ic	5.48 ic	---	---	0.00	0.00	---	---	---	---	5.481
1.35	0.023	604.40	6.33 ic	6.25 ic	---	---	0.00	0.00	---	---	---	---	6.247
1.45	0.027	604.50	7.00 ic	7.00 ic	---	---	0.00	0.00	---	---	---	---	7.002
1.55	0.032	604.60	7.70 ic	7.69 ic	---	---	0.00	0.00	---	---	---	---	7.687
1.65	0.037	604.70	8.44 ic	8.26 ic	---	---	0.00	0.00	---	---	---	---	8.259
1.75	0.041	604.80	8.83 ic	8.75 ic	---	---	0.00	0.00	---	---	---	---	8.755
1.85	0.046	604.90	9.23 ic	9.21 ic	---	---	0.00	0.00	---	---	---	---	9.213
1.95	0.050	605.00	9.64 ic	9.64 ic	---	---	0.00	0.00	---	---	---	---	9.642
2.05	0.064	605.10	10.06 ic	10.06 ic	---	---	0.00	0.00	---	---	---	---	10.06
2.15	0.078	605.20	10.48 ic	10.47 ic	---	---	0.00	0.00	---	---	---	---	10.47
2.25	0.092	605.30	10.92 ic	10.85 ic	---	---	0.00	0.00	---	---	---	---	10.85
2.35	0.105	605.40	11.37 ic	11.22 ic	---	---	0.00	0.00	---	---	---	---	11.22
2.45	0.119	605.50	11.82 ic	11.57 ic	---	---	0.00	0.00	---	---	---	---	11.57
2.55	0.133	605.60	11.93 ic	11.93 ic	---	---	0.00	0.00	---	---	---	---	11.93
2.65	0.147	605.70	12.33 ic	12.33 ic	---	---	0.00	0.00	---	---	---	---	12.33
2.75	0.160	605.80	12.76 ic	12.70 ic	---	---	0.00	0.00	---	---	---	---	12.70

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Basin D

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv 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
2.85	0.174	605.90	13.25 ic	13.01 ic	---	---	0.00	0.00	---	---	---	---	13.01
2.95	0.188	606.00	13.35 ic	13.35 ic	---	---	0.00	0.00	---	---	---	---	13.35
3.05	0.210	606.10	13.74 ic	13.73 ic	---	---	0.00	0.00	---	---	---	---	13.73
3.15	0.232	606.20	14.25 ic	14.02 ic	---	---	0.00	0.00	---	---	---	---	14.02
3.25	0.255	606.30	14.34 ic	14.34 ic	---	---	0.00	0.00	---	---	---	---	14.34
3.35	0.277	606.40	14.76 ic	14.68 ic	---	---	0.00	0.00	---	---	---	---	14.68
3.45	0.299	606.50	15.28 ic	14.96 ic	---	---	0.00	0.00	---	---	---	---	14.96
3.55	0.322	606.60	15.30 ic	15.30 ic	---	---	0.00	0.00	---	---	---	---	15.30
3.65	0.344	606.70	15.81 ic	15.58 ic	---	---	0.00	0.00	---	---	---	---	15.58
3.75	0.366	606.80	15.88 ic	15.88 ic	---	---	0.00	0.00	---	---	---	---	15.88
3.85	0.389	606.90	16.34 ic	16.18 ic	---	---	0.00	0.00	---	---	---	---	16.18
3.95	0.411	607.00	16.45 ic	16.45 ic	---	---	0.00	0.00	---	---	---	---	16.45
4.05	0.438	607.10	16.89 ic	16.76 ic	---	---	0.00	0.00	---	---	---	---	16.76
4.15	0.466	607.20	17.01 ic	17.01 ic	---	---	0.00	0.00	---	---	---	---	17.01
4.25	0.494	607.30	17.44 ic	17.32 ic	---	---	0.00	0.00	---	---	---	---	17.32
4.35	0.521	607.40	17.57 ic	17.57 ic	---	---	0.00	0.00	---	---	---	---	17.57
4.45	0.549	607.50	18.00 ic	17.86 ic	---	---	0.00	0.00	---	---	---	---	17.86
4.55	0.577	607.60	18.11 ic	18.11 ic	---	---	0.00	0.00	---	---	---	---	18.11
4.65	0.604	607.70	18.56 ic	18.39 ic	---	---	0.00	0.00	---	---	---	---	18.39
4.75	0.632	607.80	18.64 ic	18.64 ic	---	---	0.00	0.00	---	---	---	---	18.64
4.85	0.660	607.90	19.14 ic	18.90 ic	---	---	0.00	0.00	---	---	---	---	18.90
4.95	0.687	608.00	19.17 ic	19.17 ic	---	---	0.00	0.00	---	---	---	---	19.17
5.05	0.720	608.10	19.72 ic	19.40 ic	---	---	0.00	0.00	---	---	---	---	19.40
5.15	0.752	608.20	19.72 ic	19.68 ic	---	---	0.00	0.00	---	---	---	---	19.68
5.25	0.784	608.30	19.88 ic	19.88 ic	---	---	0.00	0.00	---	---	---	---	19.88
5.35	0.816	608.40	20.30 ic	20.16 ic	---	---	0.00	0.00	---	---	---	---	20.16
5.45	0.849	608.50	20.39 ic	20.39 ic	---	---	0.00	0.00	---	---	---	---	20.39
5.55	0.881	608.60	20.90 ic	20.62 ic	---	---	0.00	0.00	---	---	---	---	20.62
5.65	0.913	608.70	20.90 ic	20.89 ic	---	---	0.00	0.00	---	---	---	---	20.89
5.75	0.945	608.80	21.50 ic	21.08 ic	---	---	0.00	0.00	---	---	---	---	21.08
5.85	0.978	608.90	21.50 ic	21.34 ic	---	---	0.00	0.00	---	---	---	---	21.34
5.95	1.010	609.00	21.57 ic	21.57 ic	---	---	0.00	0.00	---	---	---	---	21.57
6.05	1.046	609.10	22.10 ic	21.78 ic	---	---	0.00	0.00	---	---	---	---	21.78
6.15	1.083	609.20	22.10 ic	22.03 ic	---	---	0.00	0.00	---	---	---	---	22.03
6.25	1.120	609.30	22.23 ic	22.23 ic	---	---	0.00	0.00	---	---	---	---	22.23
6.35	1.156	609.40	22.71 ic	22.46 ic	---	---	0.00	0.00	---	---	---	---	22.46
6.45	1.193	609.50	22.71 ic	22.70 ic	---	---	0.00	0.00	---	---	---	---	22.70
6.55	1.229	609.60	22.88 ic	22.88 ic	---	---	0.00	0.00	---	---	---	---	22.88
6.65	1.266	609.70	23.32 ic	23.12 ic	---	---	0.00	0.00	---	---	---	---	23.12
6.75	1.302	609.80	23.35 ic	23.35 ic	---	---	0.00	0.00	---	---	---	---	23.35
6.85	1.339	609.90	23.94 ic	23.53 ic	---	---	0.00	0.00	---	---	---	---	23.53
6.95	1.376	610.00	23.94 ic	23.76 ic	---	---	0.00	0.00	---	---	---	---	23.76
7.05	1.416	610.10	23.98 ic	23.98 ic	---	---	0.00	0.00	---	---	---	---	23.98
7.15	1.457	610.20	24.57 ic	24.16 ic	---	---	0.00	0.00	---	---	---	---	24.16
7.25	1.498	610.30	24.57 ic	24.38 ic	---	---	0.00	0.00	---	---	---	---	24.38
7.35	1.539	610.40	24.60 ic	24.60 ic	---	---	0.00	0.00	---	---	---	---	24.60
7.45	1.580	610.50	25.19 ic	24.77 ic	---	---	0.00	0.00	---	---	---	---	24.77
7.55	1.621	610.60	25.19 ic	24.99 ic	---	---	0.00	0.00	---	---	---	---	24.99
7.65	1.662	610.70	25.21 ic	25.21 ic	---	---	0.00	0.00	---	---	---	---	25.21
7.75	1.703	610.80	25.37 ic	25.37 ic	---	---	0.00	0.00	---	---	---	---	25.37
7.85	1.744	610.90	25.82 ic	25.59 ic	---	---	0.00	0.00	---	---	---	---	25.59
7.95	1.785	611.00	25.82 ic	25.80 ic	---	---	0.00	0.00	---	---	---	---	25.80
8.05	1.830	611.10	25.97 ic	25.97 ic	---	---	0.00	0.00	---	---	---	---	25.97
8.15	1.875	611.20	26.46 ic	26.17 ic	---	---	0.00	0.00	---	---	---	---	26.17
8.25	1.921	611.30	26.46 ic	26.38 ic	---	---	0.00	0.00	---	---	---	---	26.38
8.35	1.966	611.40	26.56 ic	26.56 ic	---	---	0.00	0.00	---	---	---	---	26.56
8.45	2.011	611.50	27.09 ic	26.74 ic	---	---	0.00	0.00	---	---	---	---	26.74
8.55	2.057	611.60	27.09 ic	26.94 ic	---	---	0.00	0.00	---	---	---	---	26.94
8.65	2.102	611.70	27.14 ic	27.14 ic	---	---	0.00	0.00	---	---	---	---	27.14
8.75	2.147	611.80	27.73 ic	27.29 ic	---	---	0.00	0.00	---	---	---	---	27.29
8.85	2.193	611.90	27.73 ic	27.50 ic	---	---	0.00	0.00	---	---	---	---	27.50
8.95	2.238	612.00	27.73 ic	27.70 ic	---	---	0.00	0.00	---	---	---	---	27.70
9.05	2.288	612.10	27.86 ic	27.86 ic	---	---	0.00	0.00	---	---	---	---	27.86
9.15	2.338	612.20	28.38 ic	28.04 ic	---	---	0.00	0.00	---	---	---	---	28.04
9.25	2.388	612.30	28.38 ic	28.23 ic	---	---	0.00	0.00	---	---	---	---	28.23
9.35	2.438	612.40	28.42 ic	28.42 ic	---	---	0.00	0.00	---	---	---	---	28.42
9.45	2.488	612.50	29.02 ic	28.57 ic	---	---	0.00	0.00	---	---	---	---	28.57
9.55	2.538	612.60	29.02 ic	28.76 ic	---	---	0.00	0.00	---	---	---	---	28.76
9.65	2.588	612.70	29.02 ic	28.95 ic	---	---	0.00	0.00	---	---	---	---	28.95
9.75	2.638	612.80	29.12 ic	29.12 ic	---	---	0.00	0.00	---	---	---	---	29.12
9.85	2.688	612.90	29.66 ic	29.28 ic	---	---	0.00	0.00	---	---	---	---	29.28
9.95	2.737	613.00	29.66 ic	29.47 ic	---	---	0.00	0.00	---	---	---	---	29.47
10.05	2.792	613.10	29.66 ic	29.66 ic	---	---	0.00	0.00	---	---	---	---	29.66
10.15	2.847	613.20	29.81 ic	29.80 ic	---	---	0.00	0.00	---	---	---	---	29.80

Continues on next page...

Basin D

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv 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
10.25	2.902	613.30	30.31 ic	29.98 ic	---	---	0.00	0.00	---	---	---	---	29.98
10.35	2.956	613.40	30.31 ic	30.16 ic	---	---	0.00	0.00	---	---	---	---	30.16
10.45	3.011	613.50	30.34 ic	30.34 ic	---	---	0.00	0.00	---	---	---	---	30.34
10.55	3.066	613.60	30.48 ic	30.48 ic	---	---	0.76	0.00	---	---	---	---	31.24
10.65	3.121	613.70	30.96 ic	30.65 ic	---	---	3.32	0.00	---	---	---	---	33.98
10.75	3.175	613.80	30.96 ic	30.83 ic	---	---	6.89	0.00	---	---	---	---	37.72
10.85	3.230	613.90	31.00 ic	31.00 ic	---	---	11.22	0.00	---	---	---	---	42.22
10.95	3.285	614.00	31.14 ic	31.14 ic	---	---	16.22	0.00	---	---	---	---	47.37
11.05	3.345	614.10	31.60 ic	31.32 ic	---	---	21.79	0.00	---	---	---	---	53.11
11.15	3.406	614.20	31.60 ic	31.49 ic	---	---	27.88	0.00	---	---	---	---	59.38
11.25	3.467	614.30	31.66 ic	31.66 ic	---	---	34.45	0.00	---	---	---	---	66.11
11.35	3.527	614.40	31.80 ic	31.80 ic	---	---	41.47	0.00	---	---	---	---	73.26
11.45	3.588	614.50	32.25 ic	31.97 ic	---	---	48.90	0.00	---	---	---	---	80.87
11.55	3.648	614.60	32.25 ic	32.14 ic	---	---	56.74	0.00	---	---	---	---	88.89
11.65	3.709	614.70	32.30 ic	32.30 ic	---	---	64.95	0.00	---	---	---	---	97.26
11.75	3.769	614.80	32.44 ic	32.44 ic	---	---	73.53	0.09	---	---	---	---	106.06
11.85	3.830	614.90	32.90 ic	32.61 ic	---	---	82.45	3.22	---	---	---	---	118.28
11.95	3.891	615.00	32.90 ic	32.78 ic	---	---	91.74	8.51	---	---	---	---	133.02
12.05	3.958	615.10	32.94 ic	32.94 ic	---	---	101.32	15.26	---	---	---	---	149.51
12.15	4.025	615.20	33.07 ic	33.07 ic	---	---	111.22	23.21	---	---	---	---	167.50
12.25	4.092	615.30	33.54 ic	33.23 ic	---	---	121.41	32.19	---	---	---	---	186.84
12.35	4.160	615.40	33.54 ic	33.40 ic	---	---	131.90	42.11	---	---	---	---	207.41
12.45	4.227	615.50	33.56 ic	33.56 ic	---	---	142.68	52.87	---	---	---	---	229.11
12.55	4.294	615.60	33.70 ic	33.69 ic	---	---	153.74	64.44	---	---	---	---	251.87
12.65	4.361	615.70	34.19 ic	33.85 ic	---	---	165.06	76.72	---	---	---	---	275.63
12.75	4.429	615.80	34.19 ic	34.01 ic	---	---	176.65	89.71	---	---	---	---	300.37
12.85	4.496	615.90	34.19 ic	34.17 ic	---	---	188.50	103.35	---	---	---	---	326.03
12.95	4.563	616.00	34.31 ic	34.31 ic	---	---	200.64	117.66	---	---	---	---	352.61
13.05	4.637	616.10	34.83 ic	34.45 ic	---	---	212.99	132.54	---	---	---	---	379.99
13.15	4.710	616.20	34.83 ic	34.61 ic	---	---	225.60	148.01	---	---	---	---	408.22
13.25	4.784	616.30	34.83 ic	34.77 ic	---	---	238.43	164.02	---	---	---	---	437.22
13.35	4.857	616.40	34.91 ic	34.91 ic	---	---	251.50	180.58	---	---	---	---	466.99
13.45	4.931	616.50	35.47 ic	35.05 ic	---	---	264.80	197.66	---	---	---	---	497.50
13.55	5.004	616.60	35.47 ic	35.20 ic	---	---	278.34	215.25	---	---	---	---	528.79
13.65	5.078	616.70	35.47 ic	35.36 ic	---	---	292.08	233.32	---	---	---	---	560.76
13.75	5.151	616.80	35.51 ic	35.51 ic	---	---	306.05	251.88	---	---	---	---	593.44
13.85	5.225	616.90	35.64 ic	35.64 ic	---	---	320.24	270.90	---	---	---	---	626.78
13.95	5.298	617.00	36.11 ic	35.78 ic	---	---	334.67	290.43	---	---	---	---	660.89
14.05	5.376	617.10	36.11 ic	35.94 ic	---	---	349.28	310.36	---	---	---	---	695.58
14.15	5.454	617.20	36.11 ic	36.09 ic	---	---	364.11	330.74	---	---	---	---	730.94
14.25	5.532	617.30	36.22 ic	36.22 ic	---	---	379.12	351.52	---	---	---	---	766.86
14.35	5.610	617.40	36.75 ic	36.36 ic	---	---	394.34	372.73	---	---	---	---	803.43
14.45	5.688	617.50	36.75 ic	36.51 ic	---	---	409.76	394.35	---	---	---	---	840.62
14.55	5.766	617.60	36.75 ic	36.66 ic	---	---	425.39	416.39	---	---	---	---	878.43
14.65	5.844	617.70	36.80 ic	36.80 ic	---	---	441.18	438.79	---	---	---	---	916.77
14.75	5.922	617.80	36.92 ic	36.92 ic	---	---	457.18	461.60	---	---	---	---	955.71
14.85	6.000	617.90	37.38 ic	37.07 ic	---	---	473.37	484.79	---	---	---	---	995.23
14.95	6.078	618.00	37.38 ic	37.22 ic	---	---	489.79	508.41	---	---	---	---	1035.42

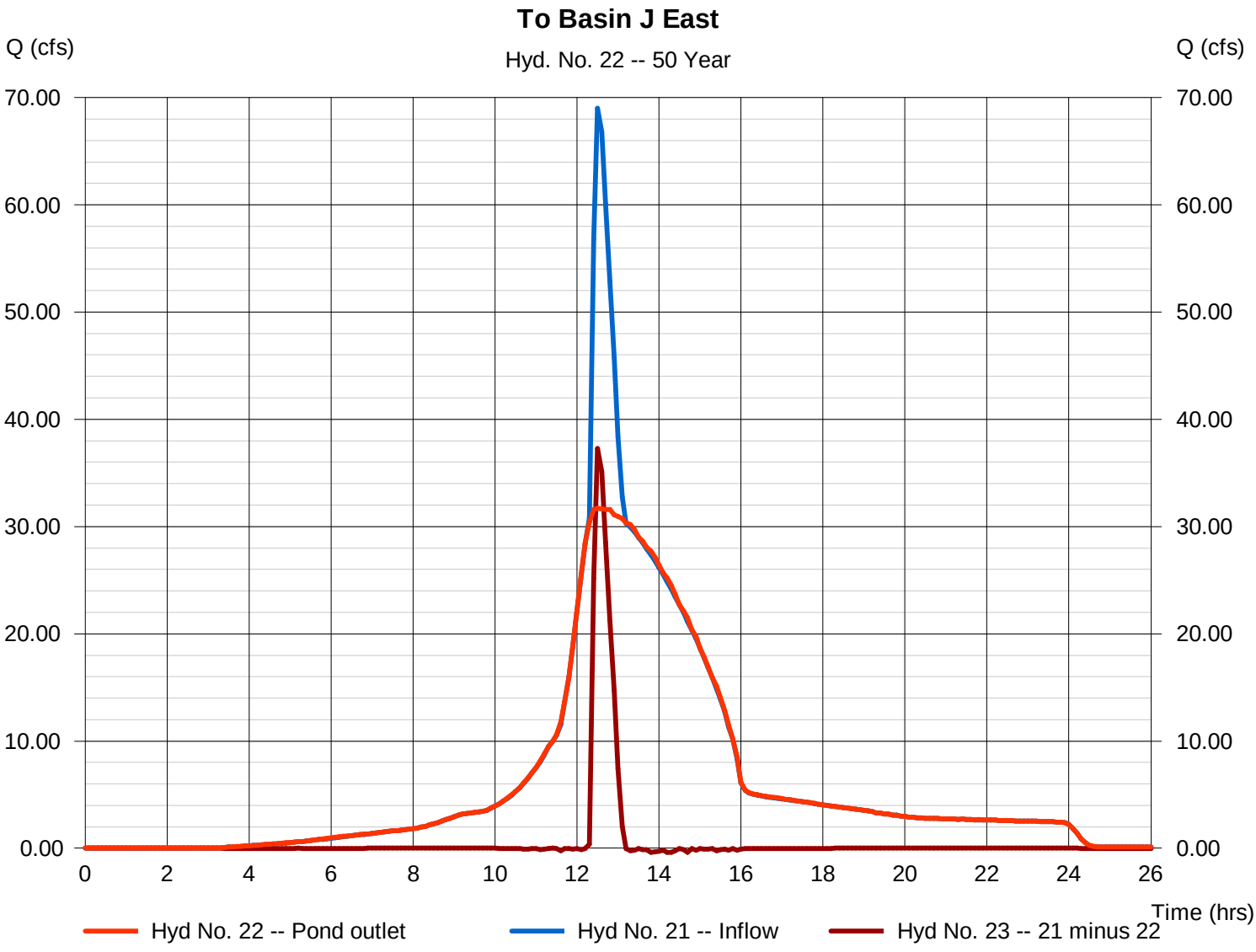
...End

Hydrograph Report

Hyd. No. 22

To Basin J East

Hydrograph type	=	Diversion1	Peak discharge	=	31.71 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.50 hrs
Time interval	=	6 min	Hyd. volume	=	573,107 cuft
Inflow hydrograph	=	21 - Basin F North & D	2nd diverted hyd.	=	23
Diversion method	=	Pond - Basin D	Pond structure	=	Culv/Orf A

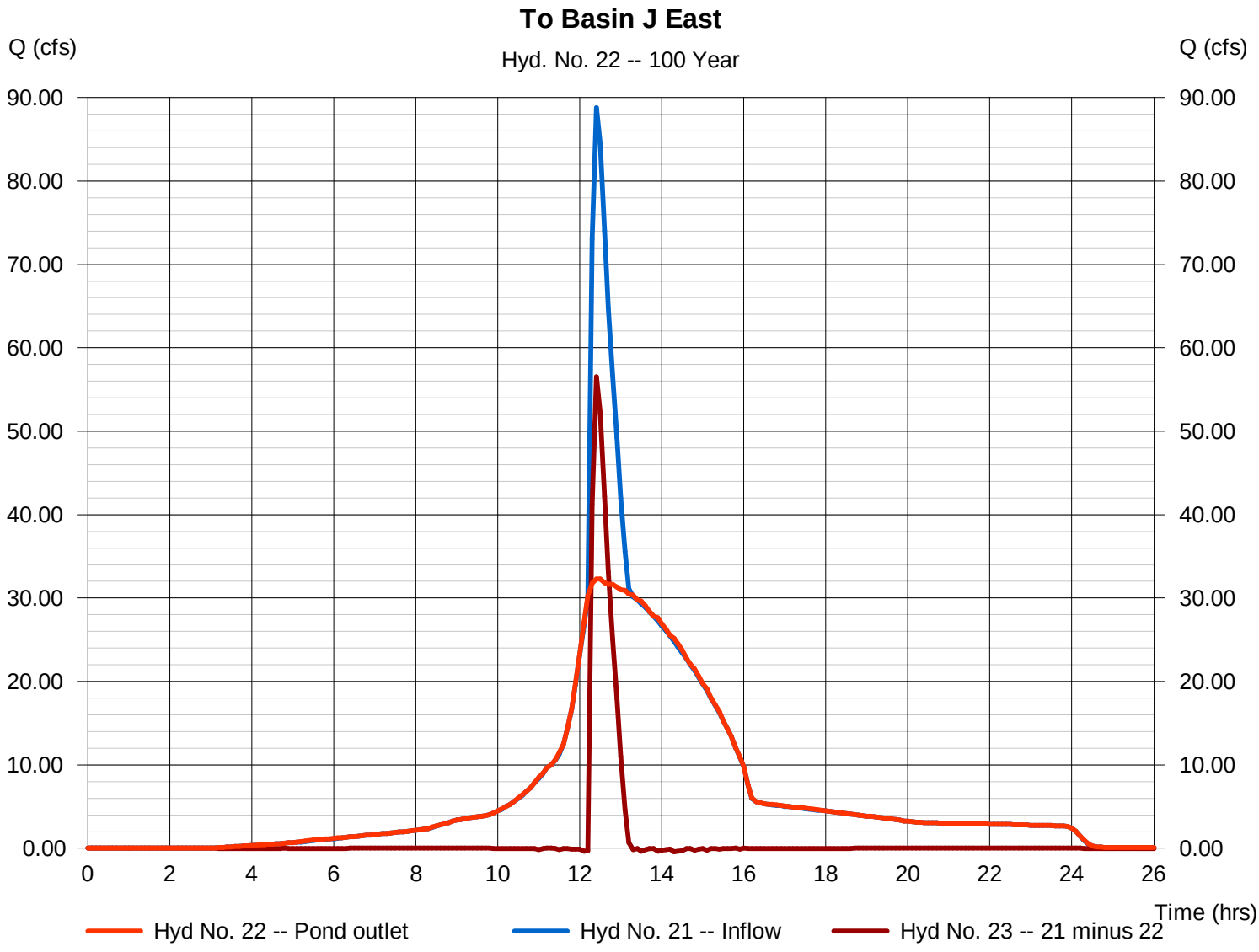


Hydrograph Report

Hyd. No. 22

To Basin J East

Hydrograph type	=	Diversion1	Peak discharge	=	32.25 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.40 hrs
Time interval	=	6 min	Hyd. volume	=	607,883 cuft
Inflow hydrograph	=	21 - Basin F North & D	2nd diverted hyd.	=	23
Diversion method	=	Pond - Basin D	Pond structure	=	Culv/Orf A

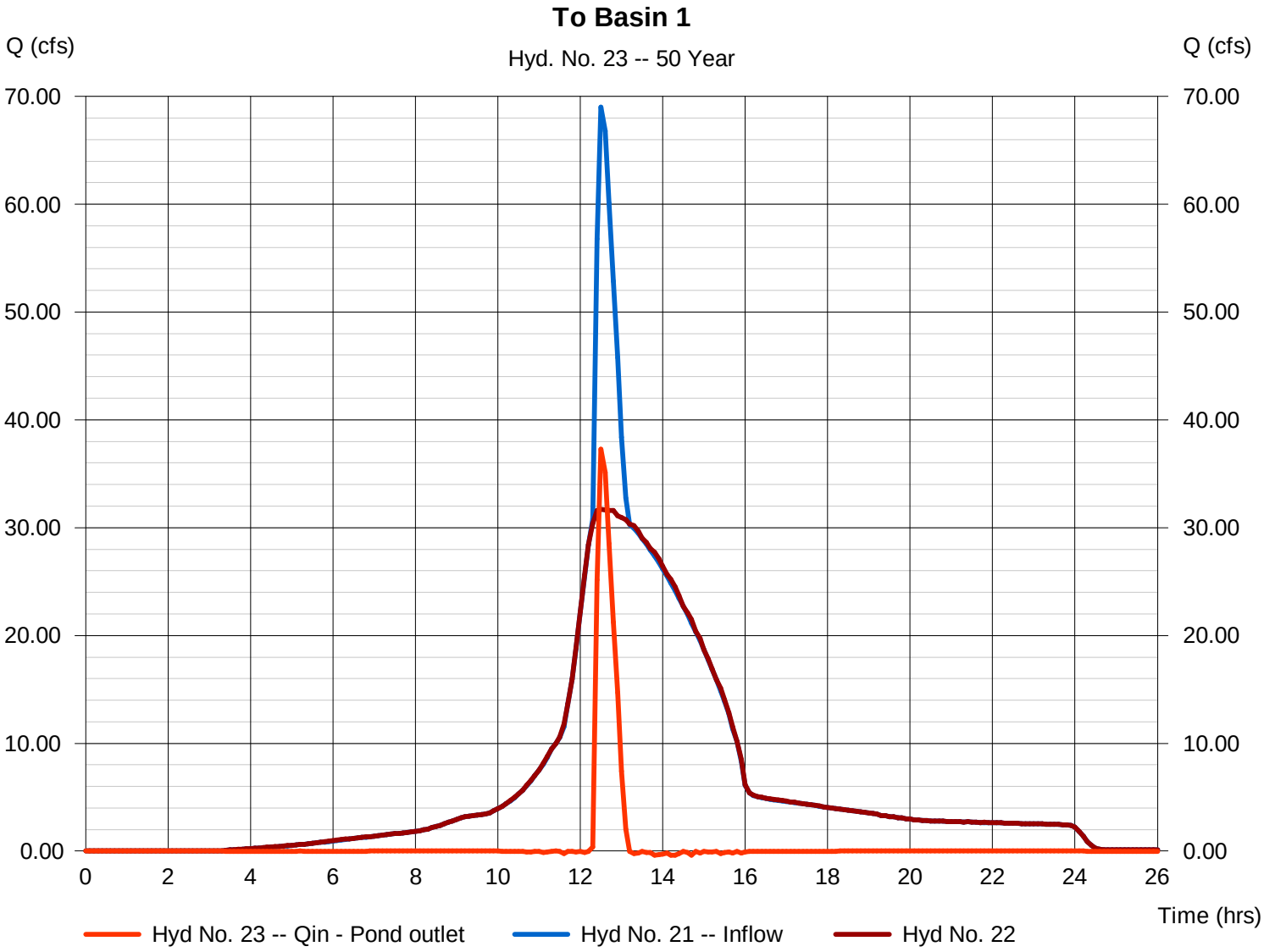


Hydrograph Report

Hyd. No. 23

To Basin 1

Hydrograph type	=	Diversion2	Peak discharge	=	37.30 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.50 hrs
Time interval	=	6 min	Hyd. volume	=	58,240 cuft
Inflow hydrograph	=	21 - Basin F North & D	2nd diverted hyd.	=	22
Diversion method	=	Pond - Basin D	Pond structure	=	Culv/Orf A

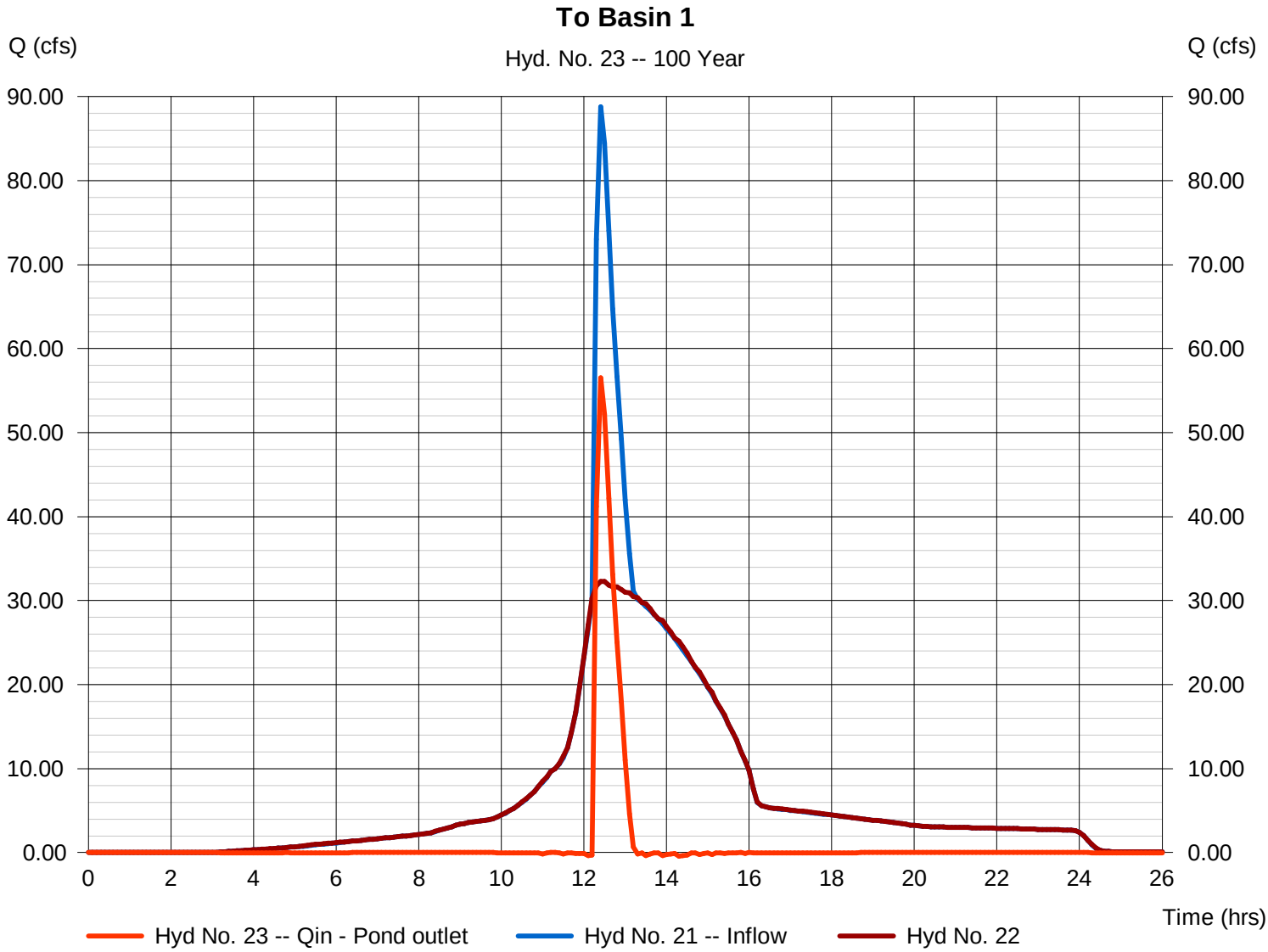


Hydrograph Report

Hyd. No. 23

To Basin 1

Hydrograph type	=	Diversion2	Peak discharge	=	56.53 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.40 hrs
Time interval	=	6 min	Hyd. volume	=	98,874 cuft
Inflow hydrograph	=	21 - Basin F North & D	2nd diverted hyd.	=	22
Diversion method	=	Pond - Basin D	Pond structure	=	Culv/Orf A



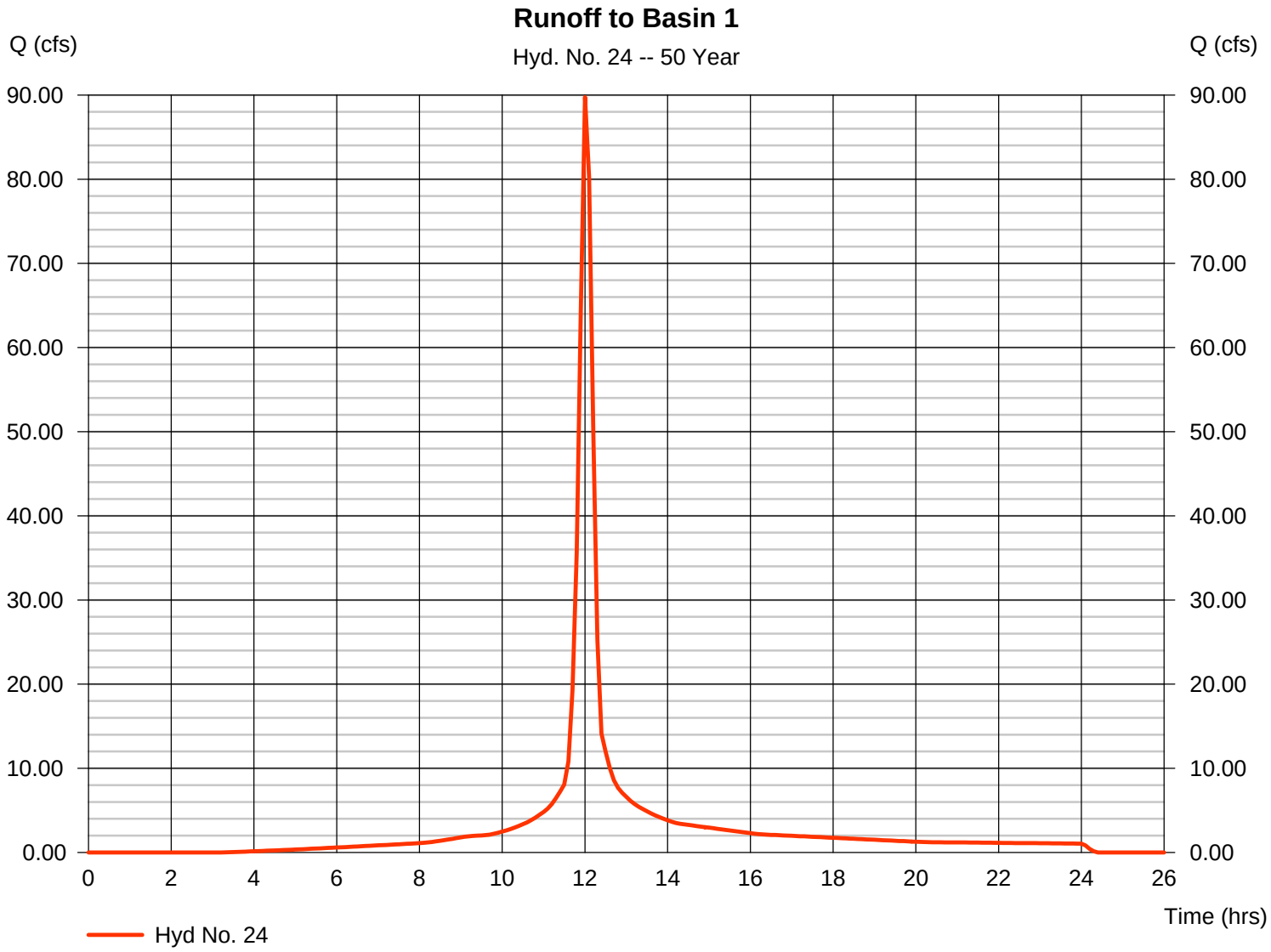
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Hyd. No. 24

Runoff to Basin 1

Hydrograph type	=	SCS Runoff	Peak discharge	=	89.76 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.00 hrs
Time interval	=	6 min	Hyd. volume	=	6.564 acft
Drainage area	=	19.810 ac	Curve number	=	91.6
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	13.90 min
Total precip.	=	5.20 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

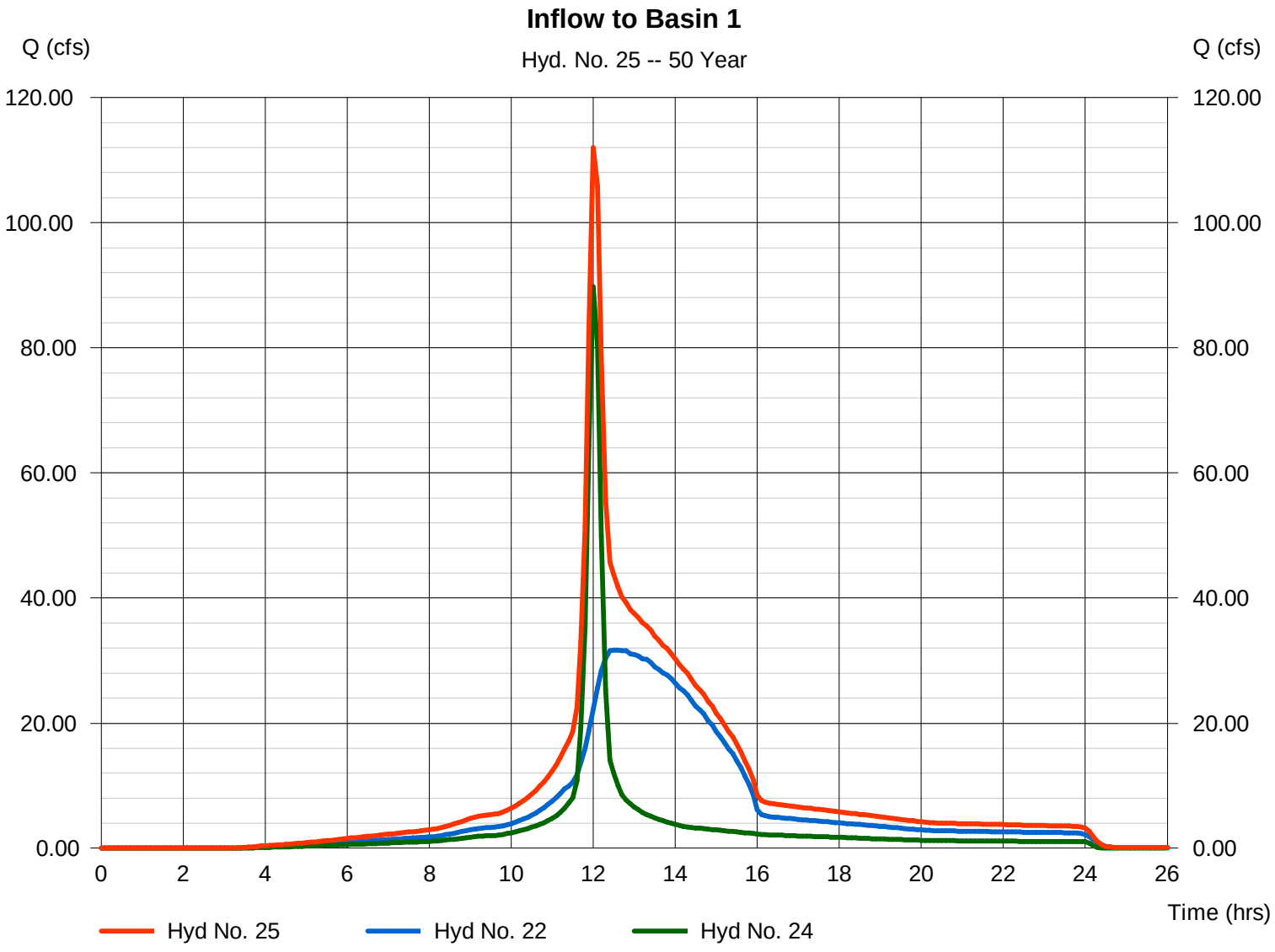
Hydraflow Hydrographs by Intelisolve v9.2

Wednesday, Apr 30, 2008

Hyd. No. 25

Inflow to Basin 1

Hydrograph type	= Combine	Peak discharge	= 111.96 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.00 hrs
Time interval	= 6 min	Hyd. volume	= 859,036 cuft
Inflow hyds.	= 22, 24	Contrib. drain. area	= 19.810 ac



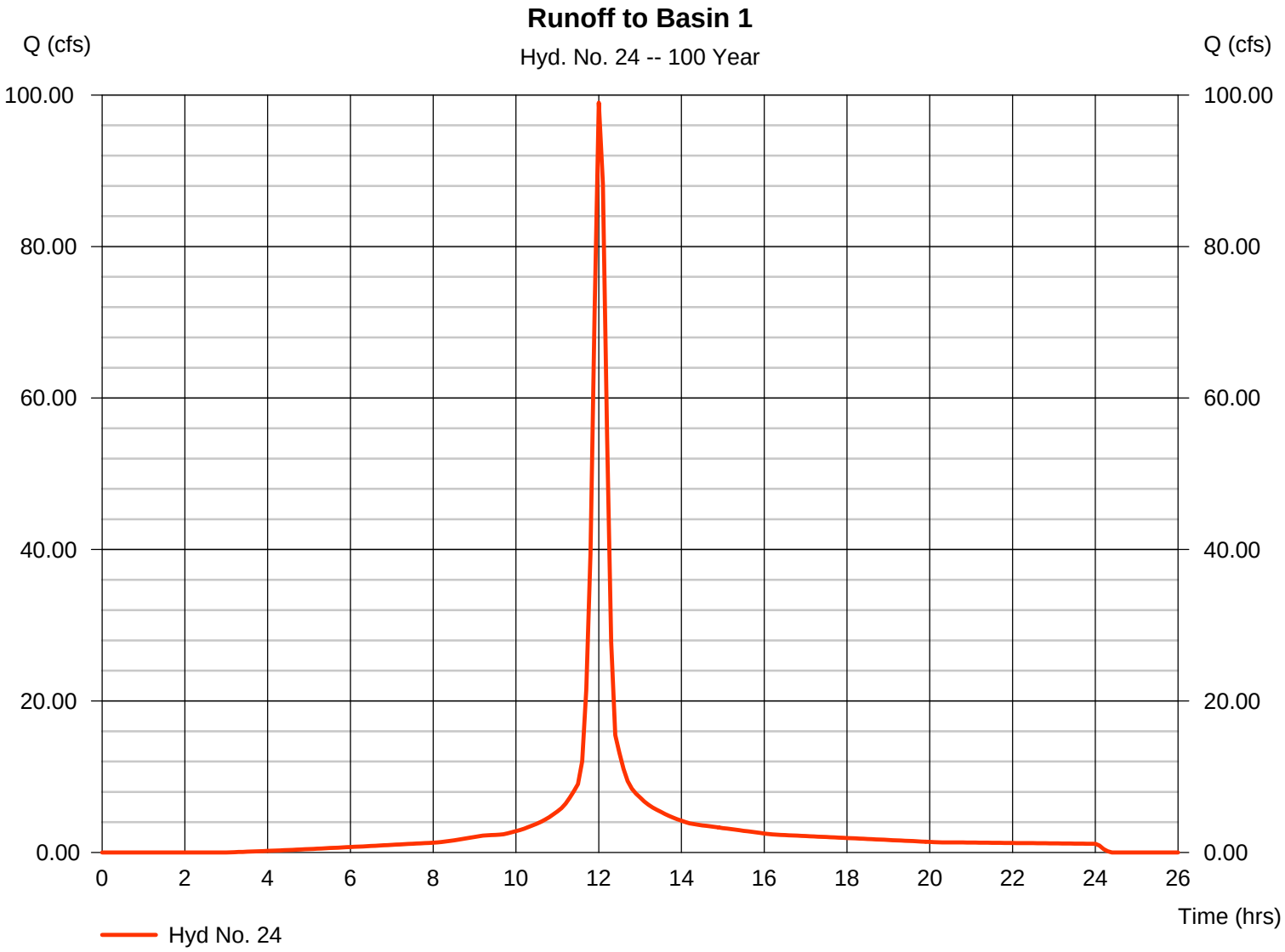
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Hyd. No. 24

Runoff to Basin 1

Hydrograph type	=	SCS Runoff	Peak discharge	=	98.98 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.00 hrs
Time interval	=	6 min	Hyd. volume	=	7.275 acft
Drainage area	=	19.810 ac	Curve number	=	91.6
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	13.90 min
Total precip.	=	5.67 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

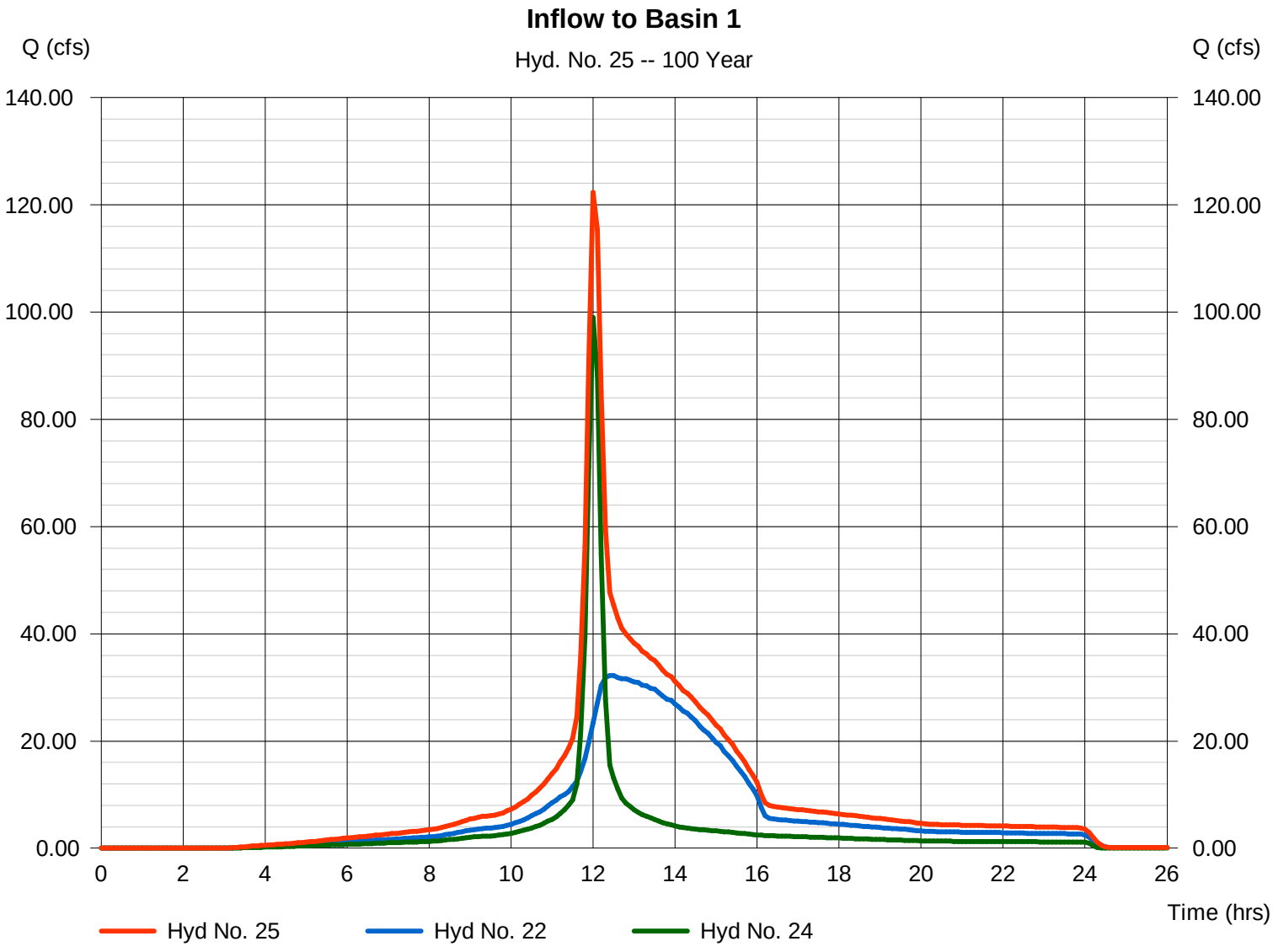


Hydrograph Report

Hyd. No. 25

Inflow to Basin 1

Hydrograph type	= Combine	Peak discharge	= 122.32 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.00 hrs
Time interval	= 6 min	Hyd. volume	= 924,797 cuft
Inflow hyds.	= 22, 24	Contrib. drain. area	= 19.810 ac



Pond Report

Hydraflow Hydrographs by Intelisolve v9.2 — Monday, Jul 2, 2007

Pond No. 11 - Basin 1

Pond Data

Contours - User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 602.15 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	602.15	51,330	0.000	0.000
0.85	603.00	54,440	1.032	1.032
1.85	604.00	59,254	1.305	2.337
2.85	605.00	63,949	1.414	3.751
3.85	606.00	68,567	1.521	5.272
4.85	607.00	73,208	1.627	6.900
5.14	607.29	75,232	0.494	7.394

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 54.00	54.00	0.00	0.00
Span (in)	= 54.00	54.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 602.15	602.18	0.00	0.00
Length (ft)	= 64.00	64.00	0.00	0.00
Slope (%)	= 0.71	0.78	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	Inactive	100.00	0.00	0.00
Crest El. (ft)	= 602.39	605.91	0.00	0.00
Weir Coeff.	= 3.00	2.60	3.33	3.33
Weir Type	= Broad	Broad	---	---
Multi-Stage	= Yes	No	No	No
Exfil.(in/hr)	= 0.000 (by Contour)			
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 acft	Elevation ft	Clv A cfs	Clv 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	0.000	602.15	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.09	0.103	602.24	0.07 ic	0.03 ic	---	---	0.00	0.00	---	---	---	---	0.099
0.17	0.206	602.32	0.28 ic	0.19 ic	---	---	0.00	0.00	---	---	---	---	0.466
0.26	0.310	602.41	0.62 ic	0.48 ic	---	---	0.00	0.00	---	---	---	---	1.106
0.34	0.413	602.49	1.09 ic	0.91 ic	---	---	0.00	0.00	---	---	---	---	2.005
0.43	0.516	602.58	1.69 ic	1.47 ic	---	---	0.00	0.00	---	---	---	---	3.166
0.51	0.619	602.66	2.43 ic	2.15 ic	---	---	0.00	0.00	---	---	---	---	4.583
0.60	0.722	602.75	3.27 ic	2.97 ic	---	---	0.00	0.00	---	---	---	---	6.245
0.68	0.826	602.83	4.26 ic	3.90 ic	---	---	0.00	0.00	---	---	---	---	8.162
0.76	0.929	602.92	5.36 ic	4.95 ic	---	---	0.00	0.00	---	---	---	---	10.31
0.85	1.032	603.00	6.57 ic	6.12 ic	---	---	0.00	0.00	---	---	---	---	12.69
0.95	1.162	603.10	8.12 ic	7.65 ic	---	---	0.00	0.00	---	---	---	---	15.78
1.05	1.293	603.20	9.84 ic	9.32 ic	---	---	0.00	0.00	---	---	---	---	19.16
1.15	1.423	603.30	11.72 ic	11.17 ic	---	---	0.00	0.00	---	---	---	---	22.89
1.25	1.554	603.40	13.73 ic	13.14 ic	---	---	0.00	0.00	---	---	---	---	26.87
1.35	1.684	603.50	15.57 oc	15.23 ic	---	---	0.00	0.00	---	---	---	---	30.79
1.45	1.815	603.60	17.36 oc	17.49 ic	---	---	0.00	0.00	---	---	---	---	34.85
1.55	1.945	603.70	19.16 oc	19.51 oc	---	---	0.00	0.00	---	---	---	---	38.66
1.65	2.076	603.80	21.02 oc	21.44 oc	---	---	0.00	0.00	---	---	---	---	42.46
1.75	2.206	603.90	22.87 oc	23.36 oc	---	---	0.00	0.00	---	---	---	---	46.23
1.85	2.337	604.00	24.75 oc	25.33 oc	---	---	0.00	0.00	---	---	---	---	50.08
1.95	2.478	604.10	26.61 oc	27.33 oc	---	---	0.00	0.00	---	---	---	---	53.94
2.05	2.620	604.20	28.56 oc	29.29 oc	---	---	0.00	0.00	---	---	---	---	57.85
2.15	2.761	604.30	30.45 oc	31.35 oc	---	---	0.00	0.00	---	---	---	---	61.80
2.25	2.903	604.40	32.35 oc	33.34 oc	---	---	0.00	0.00	---	---	---	---	65.69
2.35	3.044	604.50	34.32 oc	35.33 oc	---	---	0.00	0.00	---	---	---	---	69.65
2.45	3.185	604.60	36.21 oc	37.39 oc	---	---	0.00	0.00	---	---	---	---	73.61
2.55	3.327	604.70	38.16 oc	39.37 oc	---	---	0.00	0.00	---	---	---	---	77.52
2.65	3.468	604.80	40.01 oc	41.39 oc	---	---	0.00	0.00	---	---	---	---	81.40
2.75	3.610	604.90	41.90 oc	43.31 oc	---	---	0.00	0.00	---	---	---	---	85.21
2.85	3.751	605.00	43.75 oc	45.32 oc	---	---	0.00	0.00	---	---	---	---	89.07
2.95	3.903	605.10	45.60 oc	47.22 oc	---	---	0.00	0.00	---	---	---	---	92.83
3.05	4.055	605.20	47.40 oc	49.13 oc	---	---	0.00	0.00	---	---	---	---	96.53
3.15	4.207	605.30	49.14 oc	50.96 oc	---	---	0.00	0.00	---	---	---	---	100.10
3.25	4.360	605.40	50.90 oc	52.78 oc	---	---	0.00	0.00	---	---	---	---	103.69
3.35	4.512	605.50	52.58 oc	54.57 oc	---	---	0.00	0.00	---	---	---	---	107.15
3.45	4.664	605.60	54.20 oc	56.31 oc	---	---	0.00	0.00	---	---	---	---	110.51
3.55	4.816	605.70	55.76 oc	57.93 oc	---	---	0.00	0.00	---	---	---	---	113.69

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Basin 1

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv 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
3.65	4.968	605.80	57.24 oc	59.52 oc	---	---	0.00	0.00	---	---	---	---	116.76
3.75	5.120	605.90	58.66 oc	61.06 oc	---	---	0.00	0.00	---	---	---	---	119.71
3.85	5.272	606.00	59.99 oc	62.46 oc	---	---	0.00	7.02	---	---	---	---	129.47
3.95	5.435	606.10	61.23 oc	63.79 oc	---	---	0.00	21.53	---	---	---	---	146.56
4.05	5.598	606.20	62.34 oc	65.00 oc	---	---	0.00	40.61	---	---	---	---	167.96
4.15	5.760	606.30	63.33 oc	66.07 oc	---	---	0.00	63.31	---	---	---	---	192.71
4.25	5.923	606.40	64.13 oc	66.98 oc	---	---	0.00	89.16	---	---	---	---	220.27
4.35	6.086	606.50	64.74 oc	67.69 oc	---	---	0.00	117.80	---	---	---	---	250.23
4.45	6.249	606.60	65.00 oc	68.10 oc	---	---	0.00	149.00	---	---	---	---	282.10
4.55	6.411	606.70	68.15 oc	69.14 oc	---	---	0.00	182.51	---	---	---	---	319.80
4.65	6.574	606.80	74.60 oc	75.51 oc	---	---	0.00	218.24	---	---	---	---	368.34
4.75	6.737	606.90	80.53 oc	81.38 oc	---	---	0.00	256.03	---	---	---	---	417.94
4.85	6.900	607.00	86.07 oc	86.86 oc	---	---	0.00	295.89	---	---	---	---	468.82
4.88	6.949	607.03	87.61 oc	88.39 oc	---	---	0.00	307.77	---	---	---	---	483.77
4.91	6.998	607.06	89.12 oc	89.88 oc	---	---	0.00	319.81	---	---	---	---	498.82
4.94	7.048	607.09	90.61 oc	91.36 oc	---	---	0.00	332.00	---	---	---	---	513.96
4.97	7.097	607.12	92.07 oc	92.81 oc	---	---	0.00	344.37	---	---	---	---	529.25
4.99	7.147	607.15	93.51 oc	94.24 oc	---	---	0.00	356.86	---	---	---	---	544.61
5.02	7.196	607.17	94.93 oc	95.64 oc	---	---	0.00	369.50	---	---	---	---	560.07
5.05	7.245	607.20	96.32 oc	97.02 oc	---	---	0.00	382.23	---	---	---	---	575.57
5.08	7.295	607.23	97.69 oc	98.39 oc	---	---	0.00	395.16	---	---	---	---	591.24
5.11	7.344	607.26	99.05 oc	99.74 oc	---	---	0.00	408.26	---	---	---	---	607.05
5.14	7.394	607.29	100.40 oc	101.07 oc	---	---	0.00	421.50	---	---	---	---	622.97

...End

Hydrograph Report

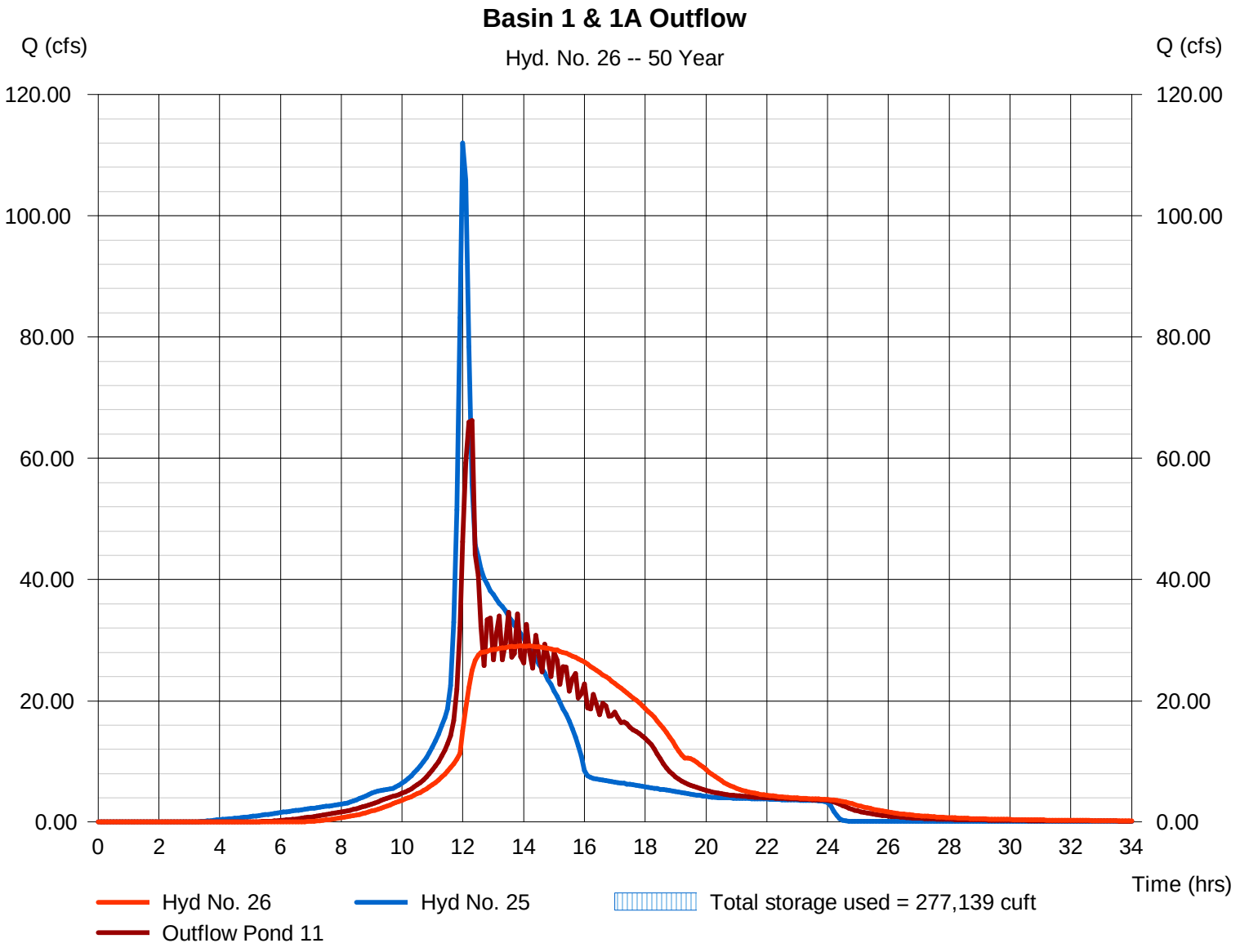
Hydraflow Hydrographs by Intelisolve v9.2 — Wednesday, Apr 30, 2008

Hyd. No. 26

Basin 1 & 1A Outflow

Hydrograph type	=	Reservoir (Interconnected)	Peak discharge	=	29.11 cfs
Storm frequency	=	50 yrs	Time to peak	=	13.90 hrs
Time interval	=	6 min	Hyd. volume	=	865,298 cuft
Upper Pond			**Lower Pond**		
Pond name	=	Basin 1	Pond name	=	Basin 1A
Inflow hyd.	=	25 - Inflow to Basin 1	Other Inflow hyd.	=	None
Max. Elevation	=	605.03 ft	Max. Elevation	=	605.06 ft
Max. Storage	=	158,613 cuft	Max. Storage	=	118,525 cuft

Interconnected Pond Routing. Storage Indication method used.



Hydrograph Report

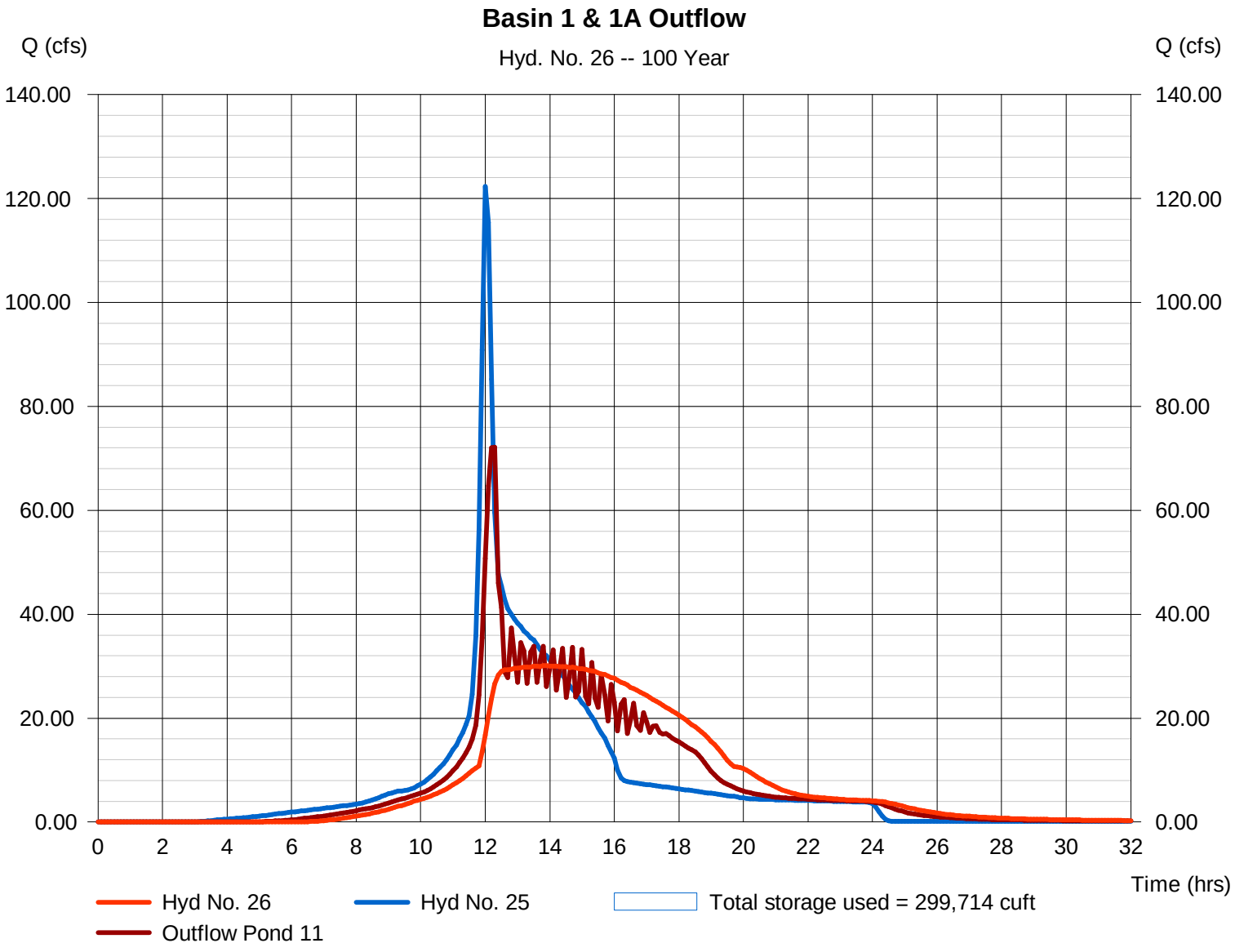
Hydraflow Hydrographs by Intelisolve v9.2 — Wednesday, Apr 30, 2008

Hyd. No. 26

Basin 1 & 1A Outflow

Hydrograph type	=	Reservoir (Interconnected)	Peak discharge	=	30.08 cfs
Storm frequency	=	100 yrs	Time to peak	=	13.80 hrs
Time interval	=	6 min	Hyd. volume	=	934,632 cuft
Upper Pond			**Lower Pond**		
Pond name	=	Basin 1	Pond name	=	Basin 1A
Inflow hyd.	=	25 - Inflow to Basin 1	Other Inflow hyd.	=	None
Max. Elevation	=	605.27 ft	Max. Elevation	=	605.32 ft
Max. Storage	=	173,497 cuft	Max. Storage	=	126,217 cuft

Interconnected Pond Routing. Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Pond No. 12 - Basin 1A

Pond Data

Contours - User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 599.72 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	599.72	15,729	0.000	0.000
0.28	600.00	16,411	0.103	0.103
1.28	601.00	18,922	0.406	0.509
2.28	602.00	21,334	0.462	0.971
3.28	603.00	23,730	0.517	1.488
4.28	604.00	26,128	0.572	2.060
5.28	605.00	28,695	0.629	2.690
6.28	606.00	31,471	0.691	3.380
7.28	607.00	34,920	0.762	4.142
7.50	607.22	36,056	0.179	4.322
7.72	607.44	36,056	0.182	4.504
7.94	607.66	36,056	0.182	4.686

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 24.00	0.00	0.00	0.00
Span (in)	= 24.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 599.72	0.00	0.00	0.00
Length (ft)	= 110.00	0.00	0.00	0.00
Slope (%)	= 0.44	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 20.00	0.00	0.00	0.00
Crest El. (ft)	= 606.34	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Broad	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

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 acft	Elevation ft	Clv A cfs	Clv 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	0.000	599.72	0.00	---	---	---	0.00	---	---	---	---	---	0.000
0.03	0.010	599.75	0.00 oc	---	---	---	0.00	---	---	---	---	---	0.005
0.06	0.021	599.78	0.02 ic	---	---	---	0.00	---	---	---	---	---	0.020
0.08	0.031	599.80	0.04 ic	---	---	---	0.00	---	---	---	---	---	0.045
0.11	0.041	599.83	0.08 ic	---	---	---	0.00	---	---	---	---	---	0.080
0.14	0.052	599.86	0.12 ic	---	---	---	0.00	---	---	---	---	---	0.124
0.17	0.062	599.89	0.18 ic	---	---	---	0.00	---	---	---	---	---	0.177
0.20	0.072	599.92	0.24 ic	---	---	---	0.00	---	---	---	---	---	0.240
0.22	0.083	599.94	0.31 ic	---	---	---	0.00	---	---	---	---	---	0.312
0.25	0.093	599.97	0.39 ic	---	---	---	0.00	---	---	---	---	---	0.394
0.28	0.103	600.00	0.48 ic	---	---	---	0.00	---	---	---	---	---	0.484
0.38	0.144	600.10	0.88 ic	---	---	---	0.00	---	---	---	---	---	0.875
0.48	0.184	600.20	1.37 ic	---	---	---	0.00	---	---	---	---	---	1.368
0.58	0.225	600.30	1.97 ic	---	---	---	0.00	---	---	---	---	---	1.967
0.68	0.266	600.40	2.65 ic	---	---	---	0.00	---	---	---	---	---	2.647
0.78	0.306	600.50	3.41 ic	---	---	---	0.00	---	---	---	---	---	3.413
0.88	0.347	600.60	4.26 ic	---	---	---	0.00	---	---	---	---	---	4.258
0.98	0.387	600.70	5.05 oc	---	---	---	0.00	---	---	---	---	---	5.046
1.08	0.428	600.80	5.80 oc	---	---	---	0.00	---	---	---	---	---	5.803
1.18	0.468	600.90	6.57 oc	---	---	---	0.00	---	---	---	---	---	6.572
1.28	0.509	601.00	7.31 oc	---	---	---	0.00	---	---	---	---	---	7.311
1.38	0.555	601.10	8.03 oc	---	---	---	0.00	---	---	---	---	---	8.032
1.48	0.601	601.20	8.70 oc	---	---	---	0.00	---	---	---	---	---	8.700
1.58	0.647	601.30	9.32 oc	---	---	---	0.00	---	---	---	---	---	9.317
1.68	0.694	601.40	9.86 oc	---	---	---	0.00	---	---	---	---	---	9.857
1.78	0.740	601.50	10.30 oc	---	---	---	0.00	---	---	---	---	---	10.30
1.88	0.786	601.60	10.58 oc	---	---	---	0.00	---	---	---	---	---	10.58
1.98	0.832	601.70	10.57 oc	---	---	---	0.00	---	---	---	---	---	10.57
2.08	0.879	601.80	11.20 oc	---	---	---	0.00	---	---	---	---	---	11.20
2.18	0.925	601.90	12.15 oc	---	---	---	0.00	---	---	---	---	---	12.15
2.28	0.971	602.00	13.04 oc	---	---	---	0.00	---	---	---	---	---	13.04
2.38	1.023	602.10	13.87 oc	---	---	---	0.00	---	---	---	---	---	13.87
2.48	1.074	602.20	14.65 oc	---	---	---	0.00	---	---	---	---	---	14.65

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Basin 1A

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv 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
2.58	1.126	602.30	15.39 oc	---	---	---	0.00	---	---	---	---	---	15.39
2.68	1.178	602.40	16.09 oc	---	---	---	0.00	---	---	---	---	---	16.09
2.78	1.230	602.50	16.77 oc	---	---	---	0.00	---	---	---	---	---	16.77
2.88	1.281	602.60	17.42 oc	---	---	---	0.00	---	---	---	---	---	17.42
2.98	1.333	602.70	18.05 oc	---	---	---	0.00	---	---	---	---	---	18.05
3.08	1.385	602.80	18.65 oc	---	---	---	0.00	---	---	---	---	---	18.65
3.18	1.436	602.90	19.24 oc	---	---	---	0.00	---	---	---	---	---	19.24
3.28	1.488	603.00	19.81 oc	---	---	---	0.00	---	---	---	---	---	19.81
3.38	1.545	603.10	20.37 oc	---	---	---	0.00	---	---	---	---	---	20.37
3.48	1.603	603.20	20.91 oc	---	---	---	0.00	---	---	---	---	---	20.91
3.58	1.660	603.30	21.43 oc	---	---	---	0.00	---	---	---	---	---	21.43
3.68	1.717	603.40	21.94 oc	---	---	---	0.00	---	---	---	---	---	21.94
3.78	1.774	603.50	22.45 oc	---	---	---	0.00	---	---	---	---	---	22.45
3.88	1.832	603.60	22.94 oc	---	---	---	0.00	---	---	---	---	---	22.94
3.98	1.889	603.70	23.42 oc	---	---	---	0.00	---	---	---	---	---	23.42
4.08	1.946	603.80	23.89 oc	---	---	---	0.00	---	---	---	---	---	23.89
4.18	2.003	603.90	24.35 oc	---	---	---	0.00	---	---	---	---	---	24.35
4.28	2.060	604.00	24.80 oc	---	---	---	0.00	---	---	---	---	---	24.80
4.38	2.123	604.10	25.25 oc	---	---	---	0.00	---	---	---	---	---	25.25
4.48	2.186	604.20	25.68 oc	---	---	---	0.00	---	---	---	---	---	25.68
4.58	2.249	604.30	26.11 oc	---	---	---	0.00	---	---	---	---	---	26.11
4.68	2.312	604.40	26.53 oc	---	---	---	0.00	---	---	---	---	---	26.53
4.78	2.375	604.50	26.95 oc	---	---	---	0.00	---	---	---	---	---	26.95
4.88	2.438	604.60	27.36 oc	---	---	---	0.00	---	---	---	---	---	27.36
4.98	2.501	604.70	27.76 oc	---	---	---	0.00	---	---	---	---	---	27.76
5.08	2.564	604.80	28.16 oc	---	---	---	0.00	---	---	---	---	---	28.16
5.18	2.627	604.90	28.55 oc	---	---	---	0.00	---	---	---	---	---	28.55
5.28	2.690	605.00	28.94 oc	---	---	---	0.00	---	---	---	---	---	28.94
5.38	2.759	605.10	29.32 oc	---	---	---	0.00	---	---	---	---	---	29.32
5.48	2.828	605.20	29.70 oc	---	---	---	0.00	---	---	---	---	---	29.70
5.58	2.897	605.30	30.07 oc	---	---	---	0.00	---	---	---	---	---	30.07
5.68	2.966	605.40	30.44 oc	---	---	---	0.00	---	---	---	---	---	30.44
5.78	3.035	605.50	30.80 oc	---	---	---	0.00	---	---	---	---	---	30.80
5.88	3.104	605.60	31.16 oc	---	---	---	0.00	---	---	---	---	---	31.16
5.98	3.173	605.70	31.52 oc	---	---	---	0.00	---	---	---	---	---	31.52
6.08	3.242	605.80	31.87 oc	---	---	---	0.00	---	---	---	---	---	31.87
6.18	3.311	605.90	32.22 oc	---	---	---	0.00	---	---	---	---	---	32.22
6.28	3.380	606.00	32.56 oc	---	---	---	0.00	---	---	---	---	---	32.56
6.38	3.457	606.10	32.90 oc	---	---	---	0.00	---	---	---	---	---	32.90
6.48	3.533	606.20	33.24 oc	---	---	---	0.00	---	---	---	---	---	33.24
6.58	3.609	606.30	33.57 oc	---	---	---	0.00	---	---	---	---	---	33.57
6.68	3.685	606.40	33.90 oc	---	---	---	0.76	---	---	---	---	---	34.66
6.78	3.761	606.50	34.23 oc	---	---	---	3.32	---	---	---	---	---	37.55
6.88	3.838	606.60	34.55 oc	---	---	---	6.89	---	---	---	---	---	41.44
6.98	3.914	606.70	34.87 oc	---	---	---	11.22	---	---	---	---	---	46.09
7.08	3.990	606.80	35.19 oc	---	---	---	16.21	---	---	---	---	---	51.40
7.18	4.066	606.90	35.50 oc	---	---	---	21.78	---	---	---	---	---	57.28
7.28	4.142	607.00	35.81 oc	---	---	---	27.88	---	---	---	---	---	63.69
7.30	4.160	607.02	35.88 oc	---	---	---	29.28	---	---	---	---	---	65.17
7.32	4.178	607.04	35.95 oc	---	---	---	30.71	---	---	---	---	---	66.66
7.35	4.196	607.07	36.02 oc	---	---	---	32.16	---	---	---	---	---	68.18
7.37	4.214	607.09	36.09 oc	---	---	---	33.63	---	---	---	---	---	69.72
7.39	4.232	607.11	36.15 oc	---	---	---	35.12	---	---	---	---	---	71.28
7.41	4.250	607.13	36.22 oc	---	---	---	36.64	---	---	---	---	---	72.86
7.43	4.268	607.15	36.29 oc	---	---	---	38.17	---	---	---	---	---	74.46
7.46	4.286	607.18	36.36 oc	---	---	---	39.73	---	---	---	---	---	76.09
7.48	4.304	607.20	36.42 oc	---	---	---	41.31	---	---	---	---	---	77.73
7.50	4.322	607.22	36.49 oc	---	---	---	42.92	---	---	---	---	---	79.41
7.52	4.340	607.24	36.56 oc	---	---	---	44.54	---	---	---	---	---	81.10
7.54	4.358	607.26	36.63 oc	---	---	---	46.18	---	---	---	---	---	82.80
7.57	4.376	607.29	36.69 oc	---	---	---	47.83	---	---	---	---	---	84.53
7.59	4.395	607.31	36.76 oc	---	---	---	49.51	---	---	---	---	---	86.27
7.61	4.413	607.33	36.82 oc	---	---	---	51.21	---	---	---	---	---	88.03
7.63	4.431	607.35	36.89 oc	---	---	---	52.92	---	---	---	---	---	89.81
7.65	4.449	607.37	36.96 oc	---	---	---	54.65	---	---	---	---	---	91.61
7.68	4.467	607.40	37.02 oc	---	---	---	56.41	---	---	---	---	---	93.43
7.70	4.486	607.42	37.09 oc	---	---	---	58.18	---	---	---	---	---	95.27
7.72	4.504	607.44	37.16 oc	---	---	---	59.98	---	---	---	---	---	97.14
7.74	4.522	607.46	37.22 oc	---	---	---	61.79	---	---	---	---	---	99.01
7.76	4.540	607.48	37.29 oc	---	---	---	63.62	---	---	---	---	---	100.90
7.79	4.558	607.51	37.35 oc	---	---	---	65.46	---	---	---	---	---	102.81
7.81	4.577	607.53	37.42 oc	---	---	---	67.32	---	---	---	---	---	104.73
7.83	4.595	607.55	37.48 oc	---	---	---	69.19	---	---	---	---	---	106.68
7.85	4.613	607.57	37.55 oc	---	---	---	71.09	---	---	---	---	---	108.64

Continues on next page...

Basin 1A

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv 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
7.87	4.631	607.59	37.61 oc	---	---	---	73.00	---	---	---	---	---	110.61
7.90	4.649	607.62	37.68 oc	---	---	---	74.92	---	---	---	---	---	112.60
7.92	4.668	607.64	37.74 oc	---	---	---	76.87	---	---	---	---	---	114.61
7.94	4.686	607.66	37.81 oc	---	---	---	78.86	---	---	---	---	---	116.67

...End

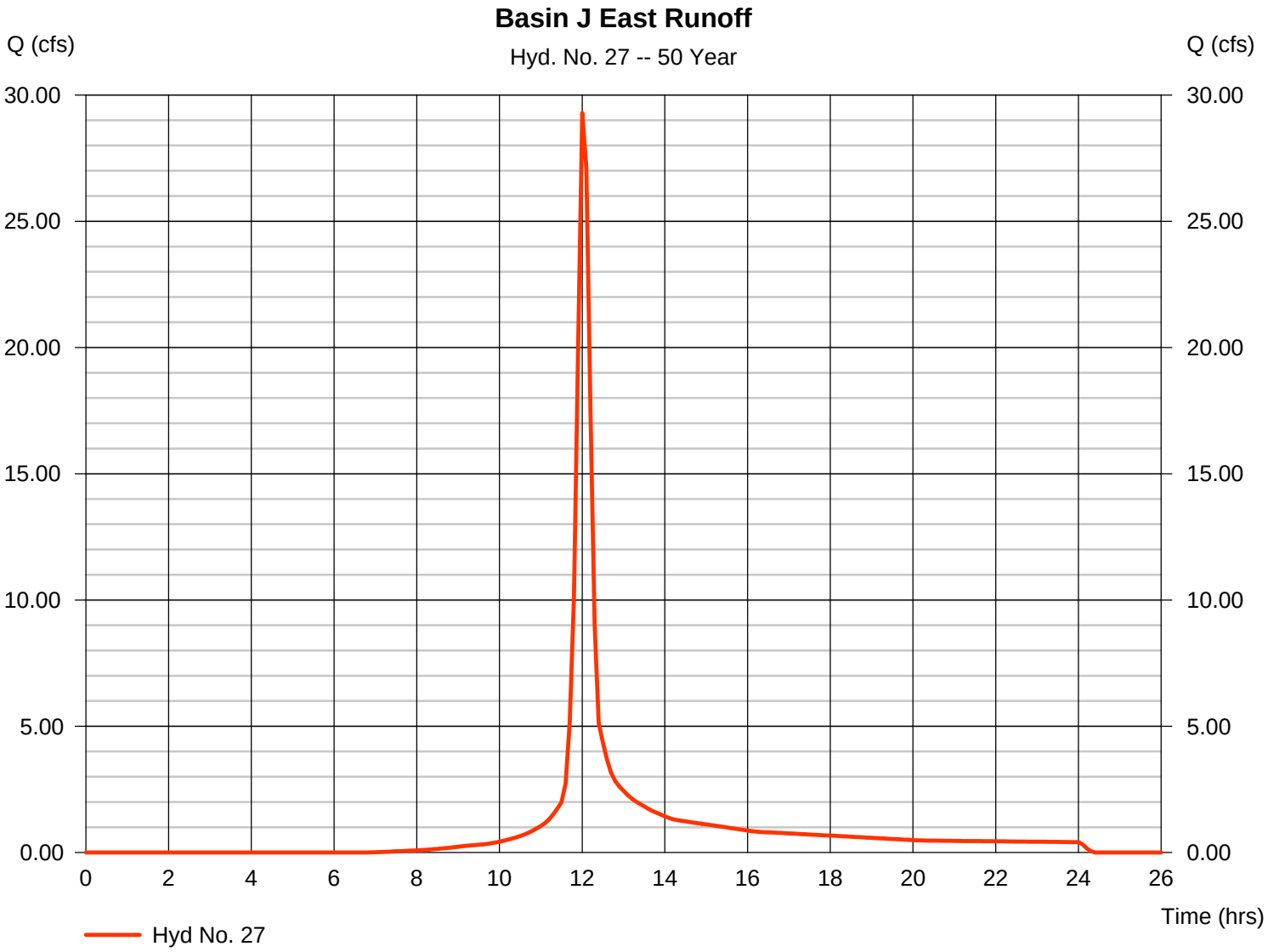
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Hyd. No. 27

Basin J East Runoff

Hydrograph type	=	SCS Runoff	Peak discharge	=	29.29 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.00 hrs
Time interval	=	6 min	Hyd. volume	=	2.065 acft
Drainage area	=	8.460 ac	Curve number	=	80.6
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	12.70 min
Total precip.	=	5.20 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

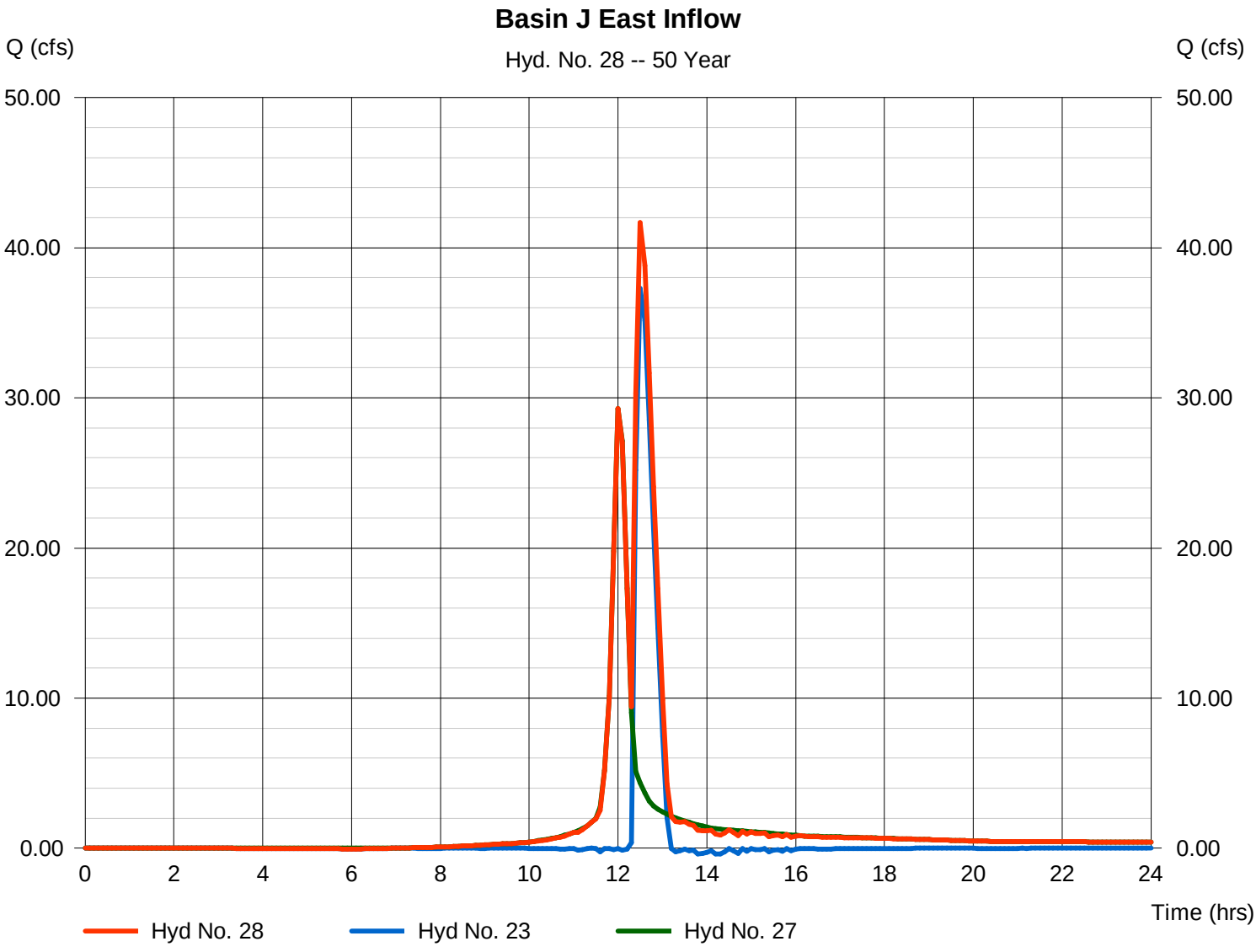
Hydraflow Hydrographs by Intelisolve v9.2

Wednesday, Apr 30, 2008

Hyd. No. 28

Basin J East Inflow

Hydrograph type	= Combine	Peak discharge	= 41.68 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.50 hrs
Time interval	= 6 min	Hyd. volume	= 148,202 cuft
Inflow hyds.	= 23, 27	Contrib. drain. area	= 8.460 ac



Hydrograph Report

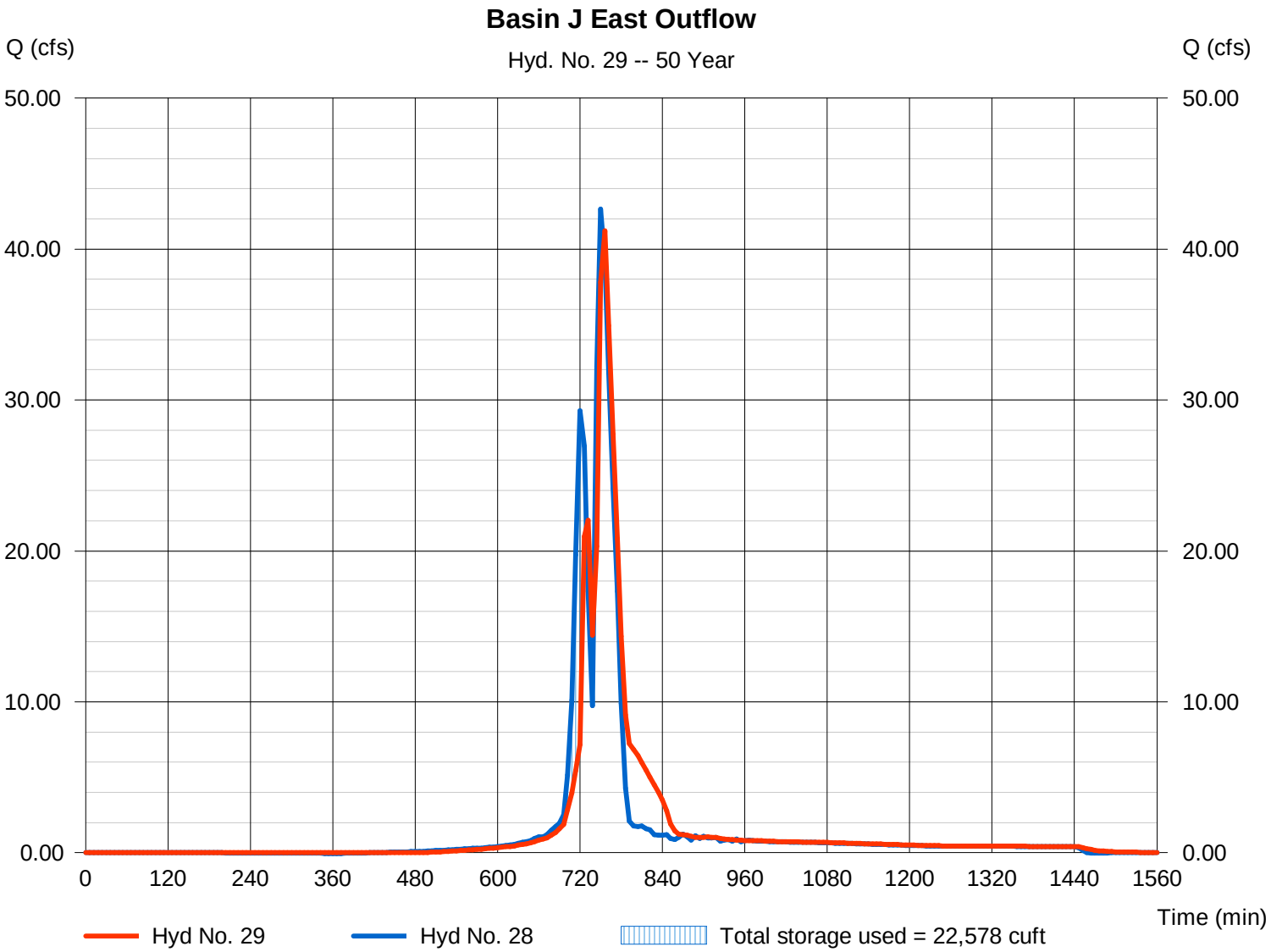
Hydraflow Hydrographs by Intelisolve v9.2 — Wednesday, Apr 30, 2008

Hyd. No. 29

Basin J East Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	41.21 cfs
Storm frequency	=	50 yrs	Time to peak	=	756 min
Time interval	=	6 min	Hyd. volume	=	150,960 cuft
Inflow hyd. No.	=	28 - Basin J East Inflow	Max. Elevation	=	602.57 ft
Reservoir name	=	Basin J East	Max. Storage	=	22,578 cuft

Storage Indication method used.



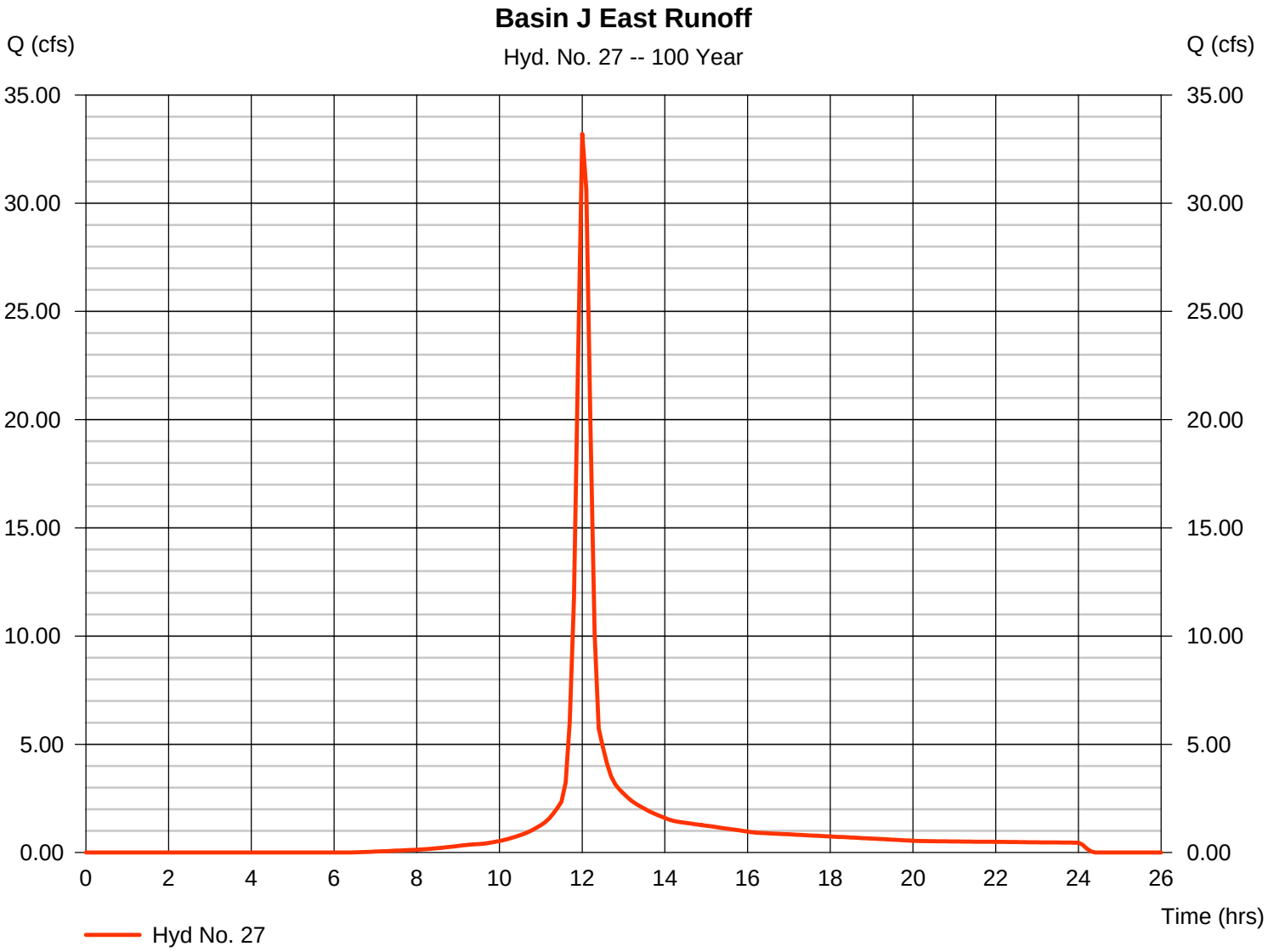
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Hyd. No. 27

Basin J East Runoff

Hydrograph type	=	SCS Runoff	Peak discharge	=	33.21 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.00 hrs
Time interval	=	6 min	Hyd. volume	=	2.343 acft
Drainage area	=	8.460 ac	Curve number	=	80.6
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	12.70 min
Total precip.	=	5.67 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

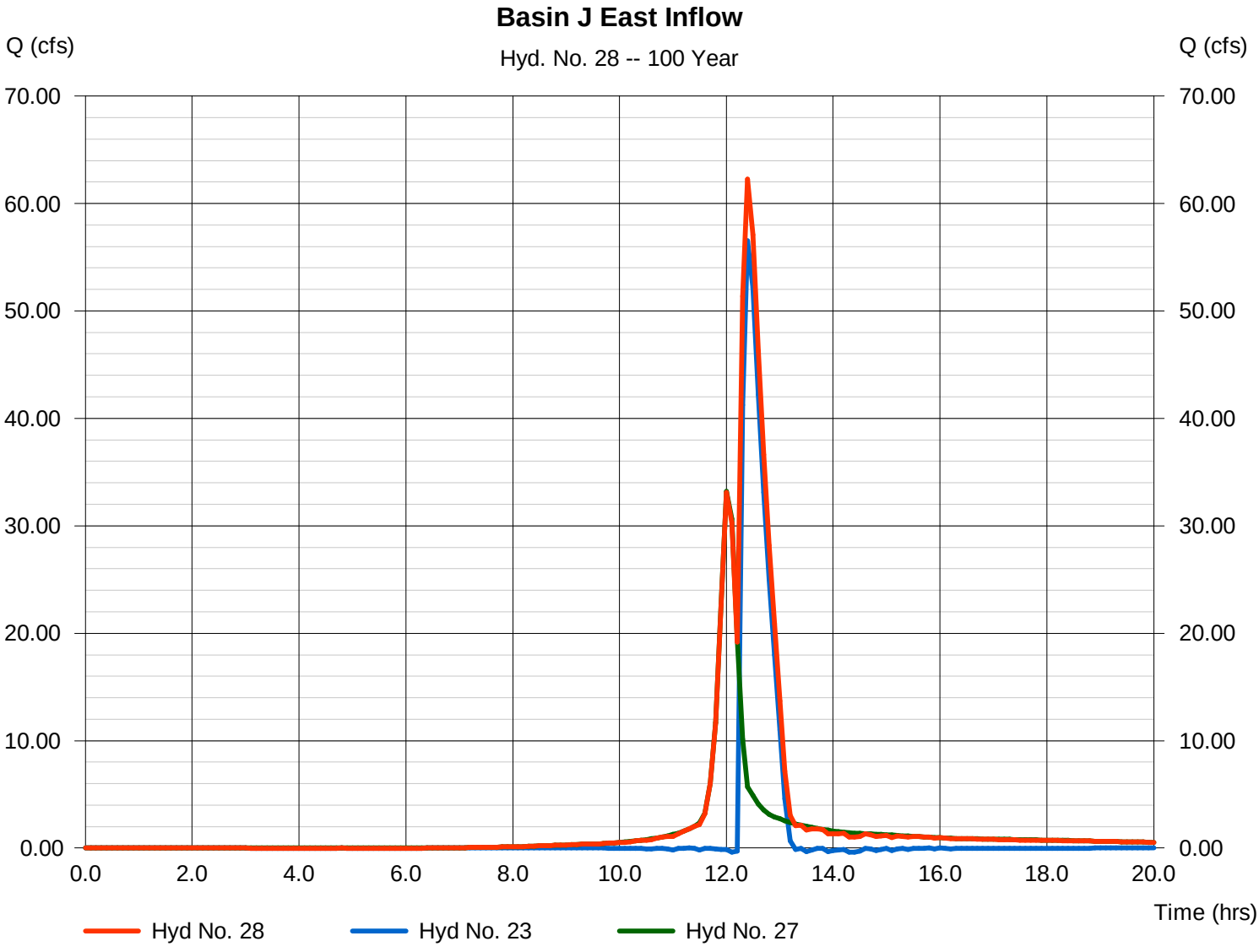
Hydraflow Hydrographs by Intelisolve v9.2

Wednesday, Apr 30, 2008

Hyd. No. 28

Basin J East Inflow

Hydrograph type	= Combine	Peak discharge	= 62.25 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.40 hrs
Time interval	= 6 min	Hyd. volume	= 200,919 cuft
Inflow hyds.	= 23, 27	Contrib. drain. area	= 8.460 ac



Hydrograph Report

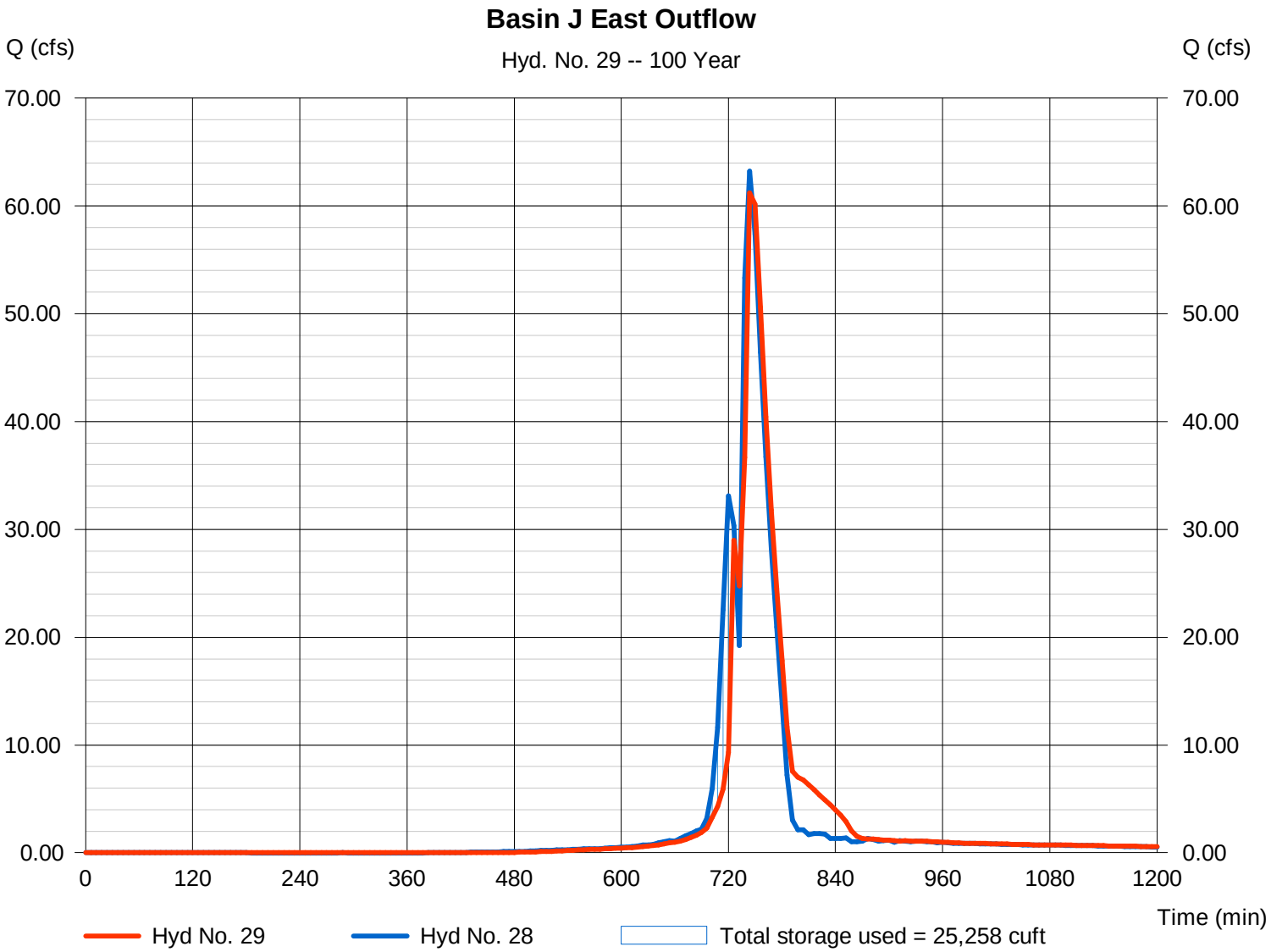
Hydraflow Hydrographs by Intelisolve v9.2 Wednesday, Apr 30, 2008

Hyd. No. 29

Basin J East Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	61.19 cfs
Storm frequency	=	100 yrs	Time to peak	=	744 min
Time interval	=	6 min	Hyd. volume	=	203,658 cuft
Inflow hyd. No.	=	28 - Basin J East Inflow	Max. Elevation	=	602.71 ft
Reservoir name	=	Basin J East	Max. Storage	=	25,258 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Pond No. 10 - Basin J East

Pond Data

Contours - User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 600.07 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	600.07	00	0.000	0.000
0.93	601.00	5,539	0.059	0.059
1.93	602.00	12,699	0.209	0.268
2.93	603.00	25,892	0.443	0.711

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 15.00	0.00	0.00	0.00
Span (in)	= 15.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 600.07	0.00	0.00	0.00
Length (ft)	= 32.40	0.00	0.00	0.00
Slope (%)	= 4.98	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 3.00	53.00	0.00	0.00
Crest El. (ft)	= 602.50	602.18	0.00	0.00
Weir Coeff.	= 2.60	2.60	3.33	3.33
Weir Type	= Broad	Broad	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

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 acft	Elevation ft	Clv A cfs	Clv 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	0.000	600.07	0.00	---	---	---	0.00	0.00	---	---	---	---	0.000
0.09	0.006	600.16	0.04 ic	---	---	---	0.00	0.00	---	---	---	---	0.043
0.19	0.012	600.26	0.17 ic	---	---	---	0.00	0.00	---	---	---	---	0.168
0.28	0.018	600.35	0.37 ic	---	---	---	0.00	0.00	---	---	---	---	0.368
0.37	0.024	600.44	0.64 ic	---	---	---	0.00	0.00	---	---	---	---	0.637
0.47	0.030	600.54	0.97 ic	---	---	---	0.00	0.00	---	---	---	---	0.968
0.56	0.035	600.63	1.35 ic	---	---	---	0.00	0.00	---	---	---	---	1.349
0.65	0.041	600.72	1.78 ic	---	---	---	0.00	0.00	---	---	---	---	1.777
0.74	0.047	600.81	2.24 ic	---	---	---	0.00	0.00	---	---	---	---	2.240
0.84	0.053	600.91	2.72 ic	---	---	---	0.00	0.00	---	---	---	---	2.723
0.93	0.059	601.00	3.22 ic	---	---	---	0.00	0.00	---	---	---	---	3.216
1.03	0.080	601.10	3.74 ic	---	---	---	0.00	0.00	---	---	---	---	3.738
1.13	0.101	601.20	4.22 ic	---	---	---	0.00	0.00	---	---	---	---	4.224
1.23	0.122	601.30	4.62 ic	---	---	---	0.00	0.00	---	---	---	---	4.618
1.33	0.143	601.40	4.96 ic	---	---	---	0.00	0.00	---	---	---	---	4.960
1.43	0.164	601.50	5.30 ic	---	---	---	0.00	0.00	---	---	---	---	5.300
1.53	0.185	601.60	5.62 ic	---	---	---	0.00	0.00	---	---	---	---	5.620
1.63	0.206	601.70	5.92 ic	---	---	---	0.00	0.00	---	---	---	---	5.922
1.73	0.227	601.80	6.21 ic	---	---	---	0.00	0.00	---	---	---	---	6.210
1.83	0.248	601.90	6.48 ic	---	---	---	0.00	0.00	---	---	---	---	6.485
1.93	0.268	602.00	6.75 ic	---	---	---	0.00	0.00	---	---	---	---	6.749
2.03	0.313	602.10	7.00 ic	---	---	---	0.00	0.00	---	---	---	---	7.003
2.13	0.357	602.20	7.25 ic	---	---	---	0.00	0.39	---	---	---	---	7.638
2.23	0.401	602.30	7.48 ic	---	---	---	0.00	5.72	---	---	---	---	13.21
2.33	0.446	602.40	7.71 ic	---	---	---	0.00	14.21	---	---	---	---	21.93
2.43	0.490	602.50	7.94 ic	---	---	---	0.00	24.93	---	---	---	---	32.87
2.53	0.534	602.60	8.15 ic	---	---	---	0.25	37.50	---	---	---	---	45.90
2.63	0.579	602.70	8.37 ic	---	---	---	0.70	51.65	---	---	---	---	60.71
2.73	0.623	602.80	8.57 ic	---	---	---	1.28	67.24	---	---	---	---	77.09
2.83	0.667	602.90	8.77 ic	---	---	---	1.97	84.15	---	---	---	---	94.89
2.93	0.711	603.00	8.97 ic	---	---	---	2.76	102.32	---	---	---	---	114.05

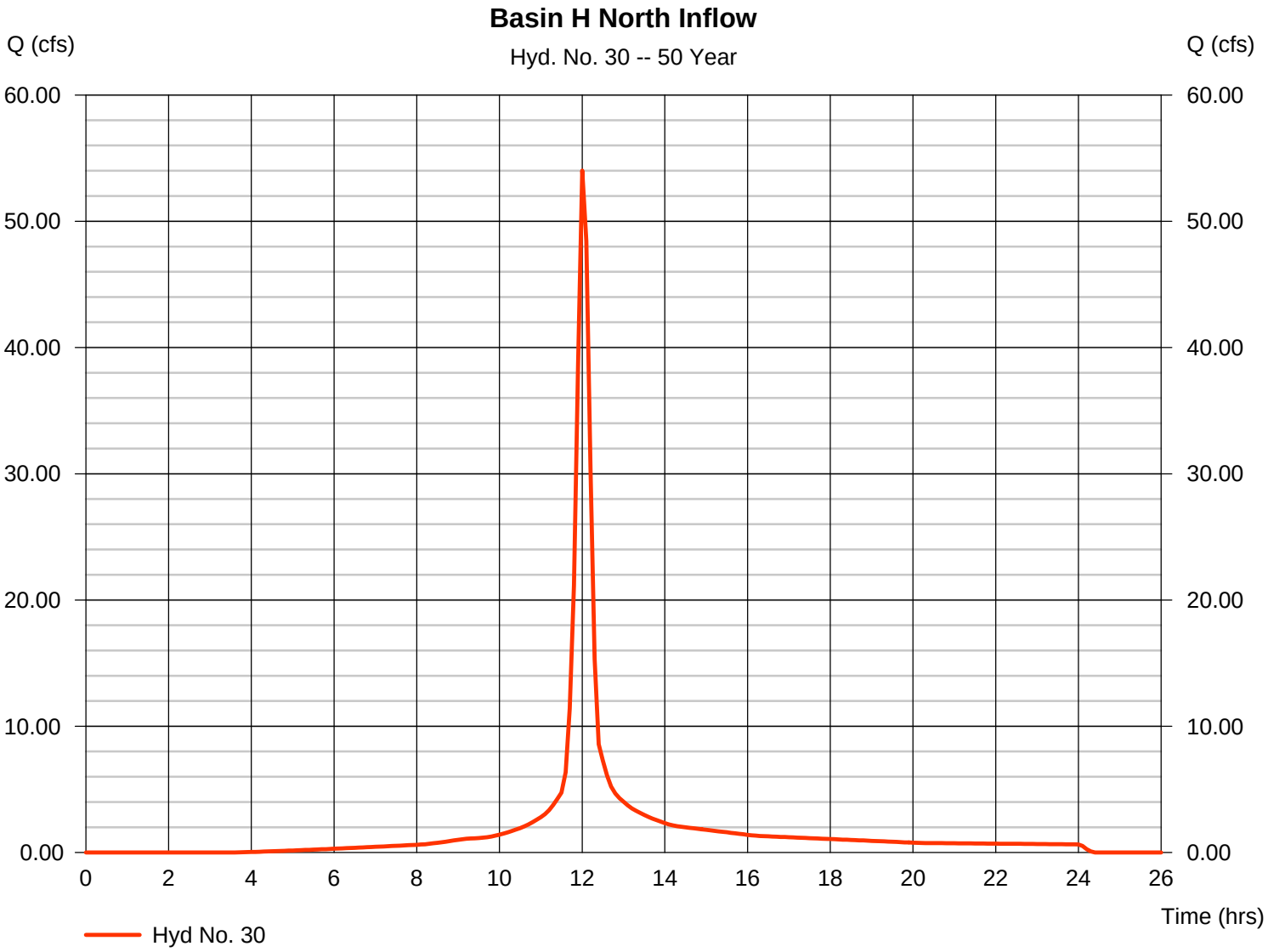
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Hyd. No. 30

Basin H North Inflow

Hydrograph type	=	SCS Runoff	Peak discharge	=	54.02 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.00 hrs
Time interval	=	6 min	Hyd. volume	=	3.920 acft
Drainage area	=	12.170 ac	Curve number	=	90.5
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	11.30 min
Total precip.	=	5.20 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

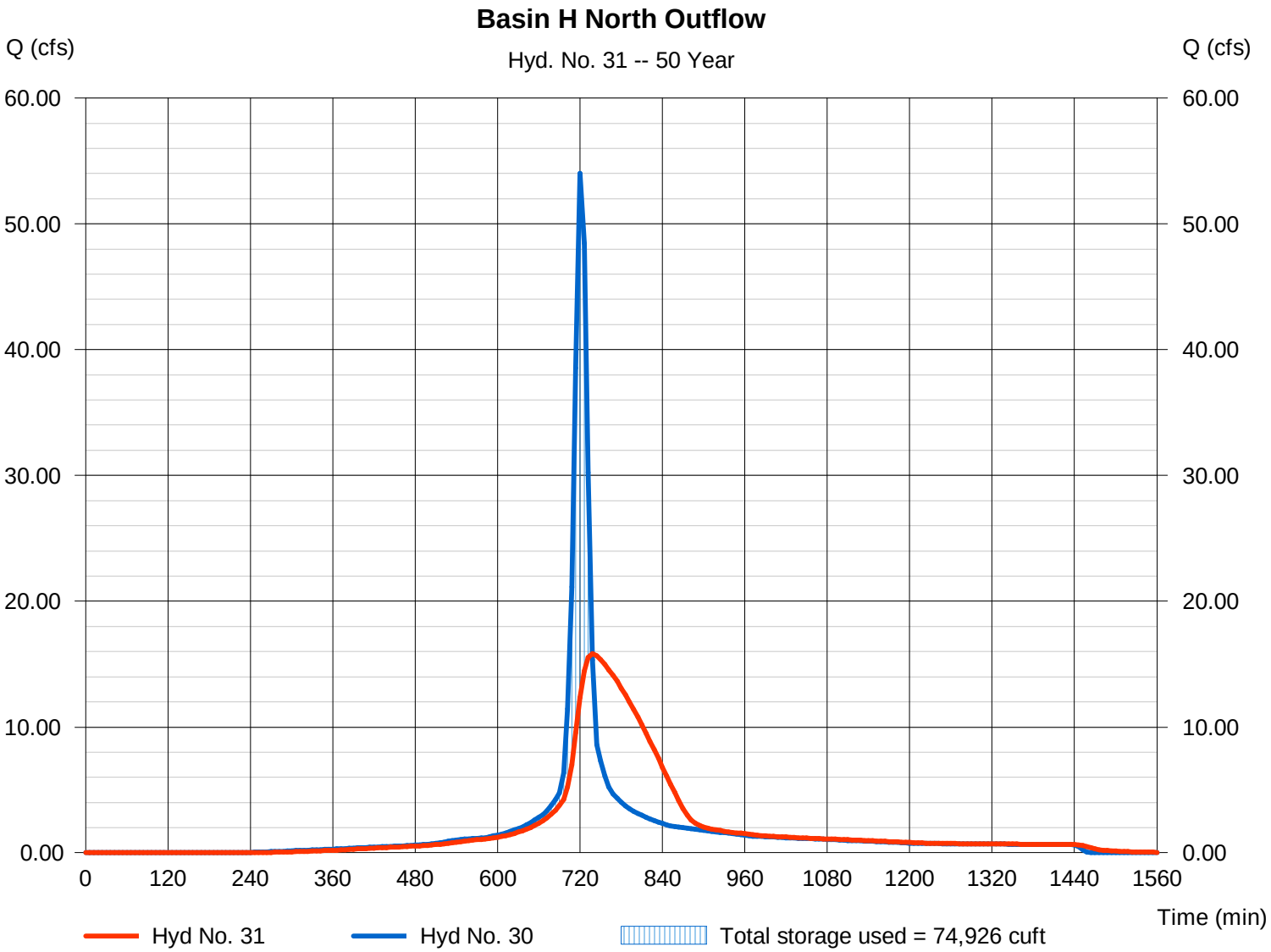
Hydraflow Hydrographs by Intelisolve v9.2 — Wednesday, Apr 30, 2008

Hyd. No. 31

Basin H North Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	15.83 cfs
Storm frequency	=	50 yrs	Time to peak	=	738 min
Time interval	=	6 min	Hyd. volume	=	170,746 cuft
Inflow hyd. No.	=	30 - Basin H North Inflow	Max. Elevation	=	651.52 ft
Reservoir name	=	Basin H North	Max. Storage	=	74,926 cuft

Storage Indication method used. Wet pond routing start elevation = 645.10 ft.



Hydrograph Report

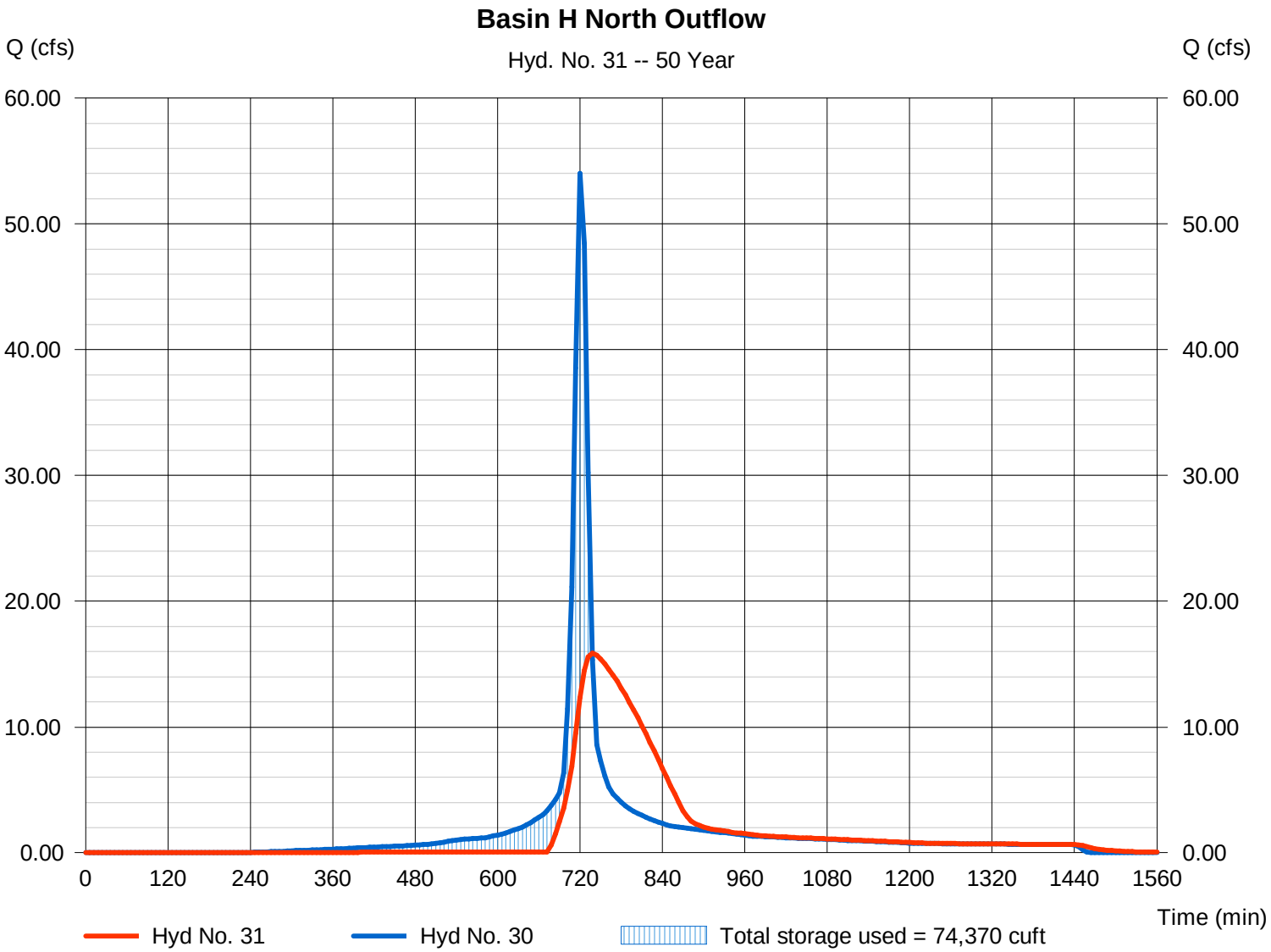
Hydraflow Hydrographs by Intelisolve v9.2 — Wednesday, Apr 30, 2008

Hyd. No. 31

Basin H North Outflow

Hydrograph type	= Reservoir	Peak discharge	= 15.88 cfs
Storm frequency	= 50 yrs	Time to peak	= 738 min
Time interval	= 6 min	Hyd. volume	= 170,745 cuft
Inflow hyd. No.	= 30 - Basin H North Inflow	Max. Elevation	= 651.47 ft
Reservoir name	= Basin H North	Max. Storage	= 74,370 cuft

Storage Indication method used.

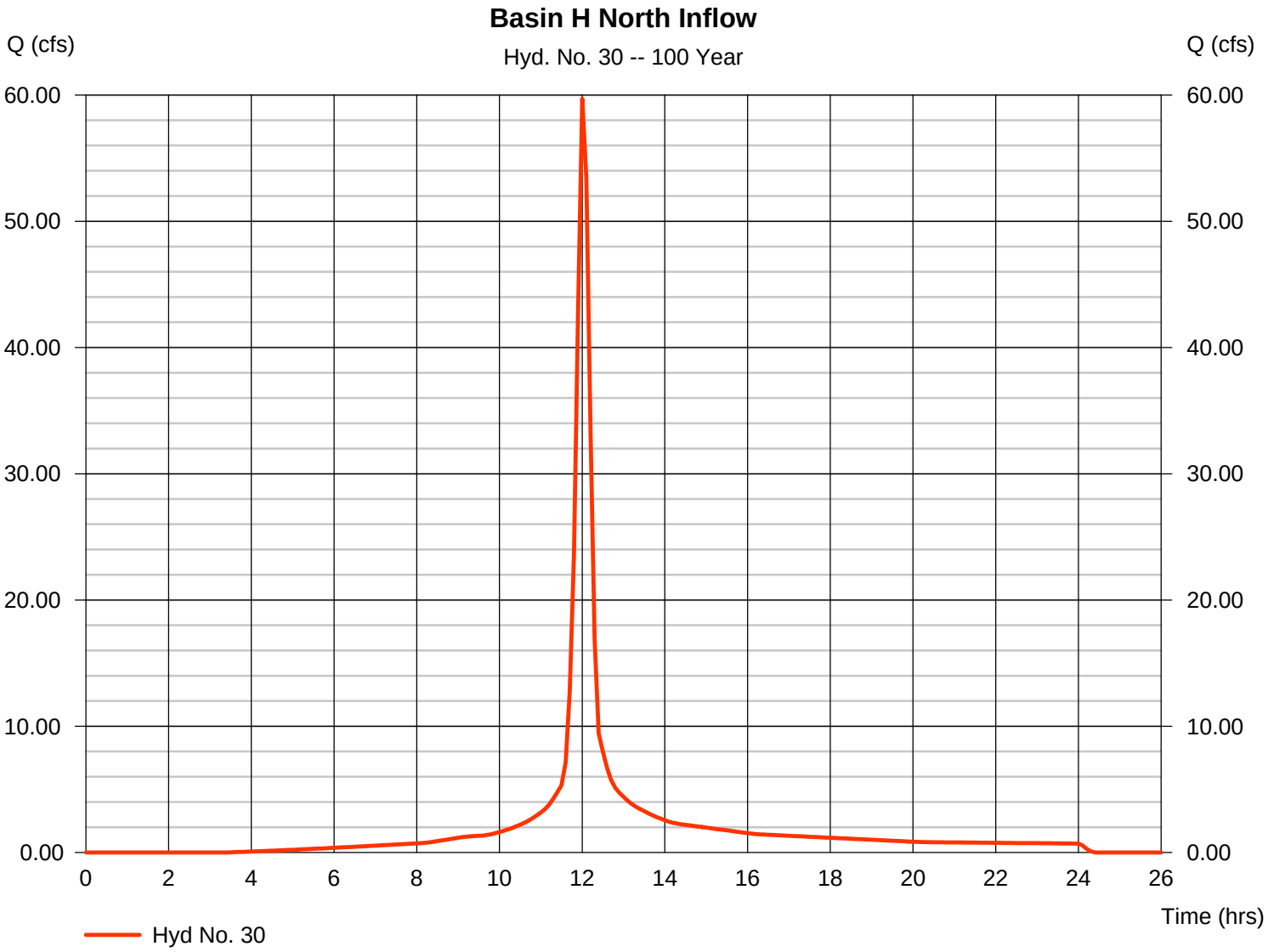


Hydrograph Report

Hyd. No. 30

Basin H North Inflow

Hydrograph type	=	SCS Runoff	Peak discharge	=	59.71 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.00 hrs
Time interval	=	6 min	Hyd. volume	=	4.354 acft
Drainage area	=	12.170 ac	Curve number	=	90.5
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	11.30 min
Total precip.	=	5.67 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

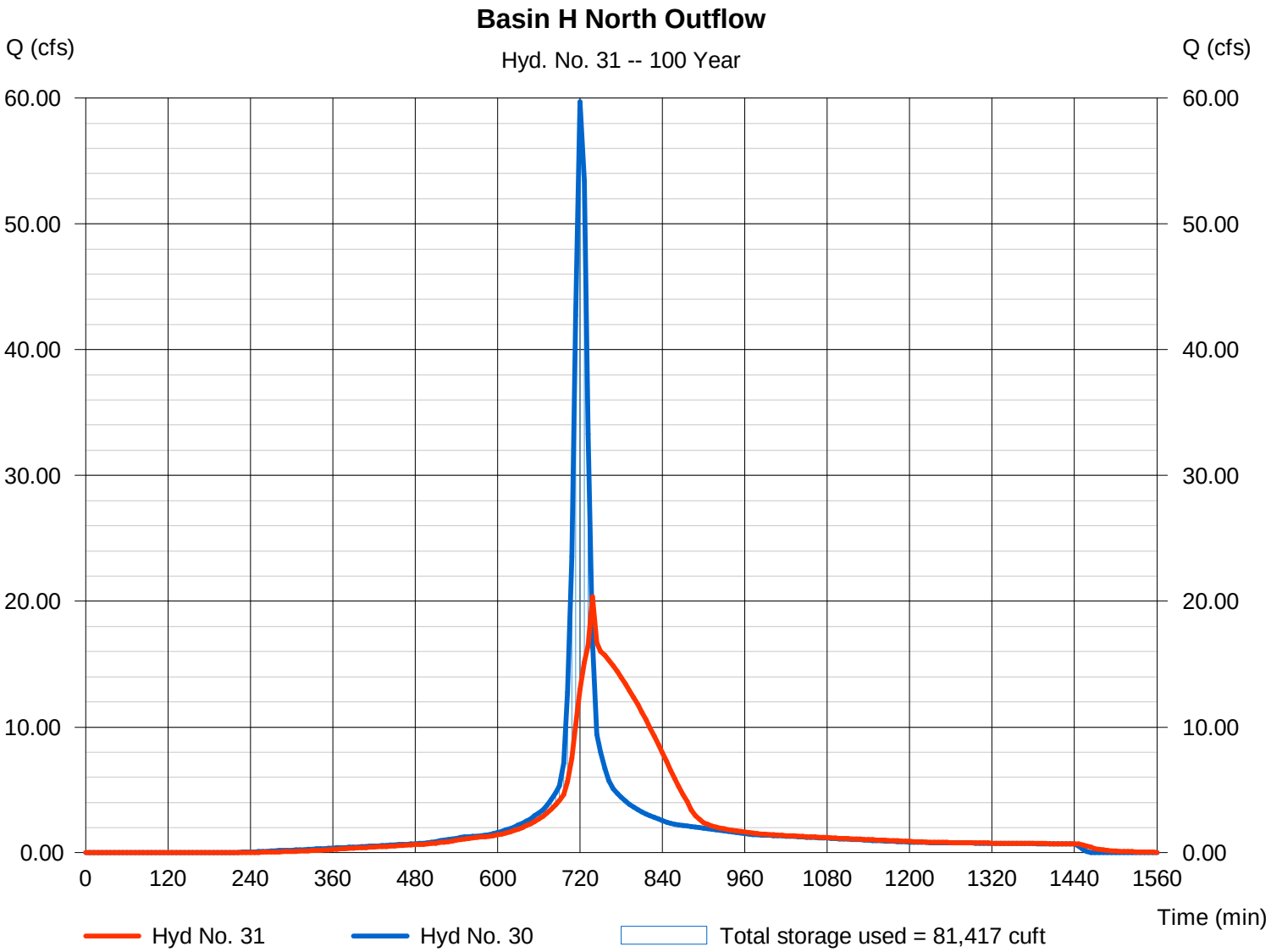
Hydraflow Hydrographs by Intelisolve v9.2 — Wednesday, Apr 30, 2008

Hyd. No. 31

Basin H North Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	20.35 cfs
Storm frequency	=	100 yrs	Time to peak	=	738 min
Time interval	=	6 min	Hyd. volume	=	189,666 cuft
Inflow hyd. No.	=	30 - Basin H North Inflow	Max. Elevation	=	652.12 ft
Reservoir name	=	Basin H North	Max. Storage	=	81,417 cuft

Storage Indication method used. Wet pond routing start elevation = 645.10 ft.



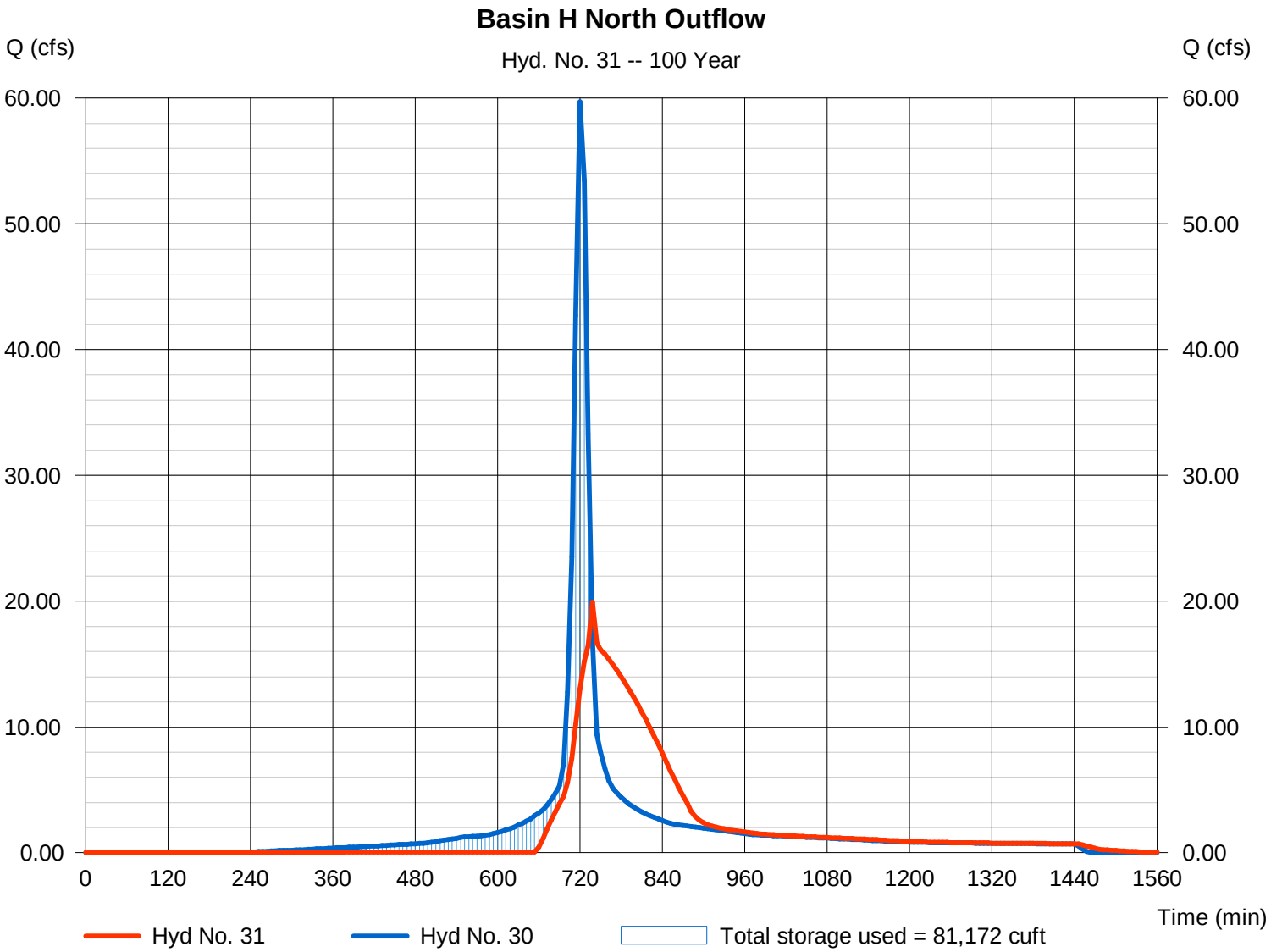
Hydrograph Report

Hyd. No. 31

Basin H North Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	19.92 cfs
Storm frequency	=	100 yrs	Time to peak	=	738 min
Time interval	=	6 min	Hyd. volume	=	189,665 cuft
Inflow hyd. No.	=	30 - Basin H North Inflow	Max. Elevation	=	652.09 ft
Reservoir name	=	Basin H North	Max. Storage	=	81,172 cuft

Storage Indication method used.



Pond No. 15 - Basin H North

Pond Data

Contours - User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 639.08 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	639.08	00	0	0
0.92	640.00	558	257	257
1.92	641.00	2,518	1,538	1,795
2.92	642.00	3,570	3,044	4,839
3.92	643.00	4,340	3,955	8,794
4.92	644.00	5,064	4,702	13,496
5.92	645.00	5,816	5,440	18,936
6.92	646.00	6,603	6,210	25,145
7.92	647.00	7,421	7,012	32,157
8.92	648.00	8,280	7,851	40,008
9.92	649.00	9,174	8,727	48,735
10.92	650.00	10,114	9,644	58,379
11.92	651.00	11,114	10,614	68,993
12.92	652.00	12,129	11,622	80,614
13.92	653.00	12,129	12,129	92,743
14.92	654.00	12,129	12,129	104,872

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 24.00	Inactive	8.00	0.00
Span (in)	= 24.00	1.13	24.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 639.08	639.08	645.10	0.00
Length (ft)	= 98.00	0.00	0.00	0.00
Slope (%)	= 1.90	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 12.00	30.00	0.00	0.00
Crest El. (ft)	= 651.86	652.58	0.00	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= Riser	Broad	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

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	Clv A cfs	Clv 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	639.08	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.09	26	639.17	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.18	51	639.26	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.28	77	639.36	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.37	103	639.45	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.46	128	639.54	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.55	154	639.63	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.64	180	639.72	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.74	205	639.82	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.83	231	639.91	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.92	257	640.00	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.02	410	640.10	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.12	564	640.20	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.22	718	640.30	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.32	872	640.40	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.42	1,026	640.50	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.52	1,179	640.60	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.62	1,333	640.70	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.72	1,487	640.80	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.82	1,641	640.90	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.92	1,795	641.00	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.02	2,099	641.10	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.12	2,403	641.20	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.22	2,708	641.30	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.32	3,012	641.40	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.42	3,317	641.50	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.52	3,621	641.60	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000

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Basin H North

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv 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
2.62	3,925	641.70	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.72	4,230	641.80	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.82	4,534	641.90	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.92	4,839	642.00	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
3.02	5,234	642.10	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
3.12	5,630	642.20	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
3.22	6,025	642.30	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
3.32	6,421	642.40	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
3.42	6,816	642.50	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
3.52	7,212	642.60	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
3.62	7,607	642.70	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
3.72	8,003	642.80	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
3.82	8,398	642.90	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
3.92	8,794	643.00	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.02	9,264	643.10	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.12	9,734	643.20	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.22	10,204	643.30	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.32	10,674	643.40	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.42	11,145	643.50	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.52	11,615	643.60	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.62	12,085	643.70	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.72	12,555	643.80	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.82	13,025	643.90	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
4.92	13,496	644.00	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
5.02	14,040	644.10	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
5.12	14,584	644.20	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
5.22	15,128	644.30	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
5.32	15,672	644.40	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
5.42	16,216	644.50	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
5.52	16,760	644.60	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
5.62	17,304	644.70	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
5.72	17,848	644.80	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
5.82	18,392	644.90	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
5.92	18,936	645.00	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
6.02	19,557	645.10	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
6.12	20,178	645.20	0.00	0.00	0.22 ic	---	0.00	0.00	---	---	---	---	0.215
6.22	20,799	645.30	0.00	0.00	0.61 ic	---	0.00	0.00	---	---	---	---	0.609
6.32	21,419	645.40	0.00	0.00	1.12 ic	---	0.00	0.00	---	---	---	---	1.118
6.42	22,040	645.50	0.00	0.00	1.72 ic	---	0.00	0.00	---	---	---	---	1.722
6.52	22,661	645.60	0.00	0.00	2.41 ic	---	0.00	0.00	---	---	---	---	2.407
6.62	23,282	645.70	0.00	0.00	3.16 ic	---	0.00	0.00	---	---	---	---	3.164
6.72	23,903	645.80	0.00	0.00	3.89 ic	---	0.00	0.00	---	---	---	---	3.887
6.82	24,524	645.90	0.00	0.00	4.38 ic	---	0.00	0.00	---	---	---	---	4.385
6.92	25,145	646.00	0.00	0.00	4.83 ic	---	0.00	0.00	---	---	---	---	4.833
7.02	25,846	646.10	0.00	0.00	5.24 ic	---	0.00	0.00	---	---	---	---	5.242
7.12	26,548	646.20	0.00	0.00	5.62 ic	---	0.00	0.00	---	---	---	---	5.621
7.22	27,249	646.30	0.00	0.00	5.98 ic	---	0.00	0.00	---	---	---	---	5.976
7.32	27,950	646.40	0.00	0.00	6.31 ic	---	0.00	0.00	---	---	---	---	6.312
7.42	28,651	646.50	0.00	0.00	6.63 ic	---	0.00	0.00	---	---	---	---	6.630
7.52	29,352	646.60	0.00	0.00	6.93 ic	---	0.00	0.00	---	---	---	---	6.934
7.62	30,054	646.70	0.00	0.00	7.23 ic	---	0.00	0.00	---	---	---	---	7.225
7.72	30,755	646.80	0.00	0.00	7.50 ic	---	0.00	0.00	---	---	---	---	7.505
7.82	31,456	646.90	0.00	0.00	7.77 ic	---	0.00	0.00	---	---	---	---	7.774
7.92	32,157	647.00	0.00	0.00	8.04 ic	---	0.00	0.00	---	---	---	---	8.036
8.02	32,942	647.10	0.00	0.00	8.29 ic	---	0.00	0.00	---	---	---	---	8.288
8.12	33,727	647.20	0.00	0.00	8.53 ic	---	0.00	0.00	---	---	---	---	8.533
8.22	34,512	647.30	0.00	0.00	8.77 ic	---	0.00	0.00	---	---	---	---	8.771
8.32	35,297	647.40	0.00	0.00	9.00 ic	---	0.00	0.00	---	---	---	---	9.003
8.42	36,082	647.50	0.00	0.00	9.23 ic	---	0.00	0.00	---	---	---	---	9.229
8.52	36,867	647.60	0.00	0.00	9.45 ic	---	0.00	0.00	---	---	---	---	9.450
8.62	37,653	647.70	0.00	0.00	9.67 ic	---	0.00	0.00	---	---	---	---	9.665
8.72	38,438	647.80	0.00	0.00	9.88 ic	---	0.00	0.00	---	---	---	---	9.876
8.82	39,223	647.90	0.00	0.00	10.08 ic	---	0.00	0.00	---	---	---	---	10.08
8.92	40,008	648.00	0.00	0.00	10.29 ic	---	0.00	0.00	---	---	---	---	10.29
9.02	40,880	648.10	0.00	0.00	10.48 ic	---	0.00	0.00	---	---	---	---	10.48
9.12	41,753	648.20	0.00	0.00	10.68 ic	---	0.00	0.00	---	---	---	---	10.68
9.22	42,626	648.30	0.00	0.00	10.87 ic	---	0.00	0.00	---	---	---	---	10.87
9.32	43,498	648.40	0.00	0.00	11.06 ic	---	0.00	0.00	---	---	---	---	11.06
9.42	44,371	648.50	0.00	0.00	11.24 ic	---	0.00	0.00	---	---	---	---	11.24
9.52	45,244	648.60	0.00	0.00	11.42 ic	---	0.00	0.00	---	---	---	---	11.42
9.62	46,117	648.70	0.00	0.00	11.60 ic	---	0.00	0.00	---	---	---	---	11.60
9.72	46,989	648.80	0.00	0.00	11.78 ic	---	0.00	0.00	---	---	---	---	11.78
9.82	47,862	648.90	0.00	0.00	11.95 ic	---	0.00	0.00	---	---	---	---	11.95

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Basin H North

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv 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
9.92	48,735	649.00	0.00	0.00	12.12 ic	---	0.00	0.00	---	---	---	---	12.12
10.02	49,699	649.10	0.00	0.00	12.29 ic	---	0.00	0.00	---	---	---	---	12.29
10.12	50,663	649.20	0.00	0.00	12.46 ic	---	0.00	0.00	---	---	---	---	12.46
10.22	51,628	649.30	0.00	0.00	12.62 ic	---	0.00	0.00	---	---	---	---	12.62
10.32	52,592	649.40	0.00	0.00	12.79 ic	---	0.00	0.00	---	---	---	---	12.79
10.42	53,557	649.50	0.00	0.00	12.95 ic	---	0.00	0.00	---	---	---	---	12.95
10.52	54,521	649.60	0.00	0.00	13.10 ic	---	0.00	0.00	---	---	---	---	13.10
10.62	55,485	649.70	0.00	0.00	13.26 ic	---	0.00	0.00	---	---	---	---	13.26
10.72	56,450	649.80	0.00	0.00	13.42 ic	---	0.00	0.00	---	---	---	---	13.42
10.82	57,414	649.90	0.00	0.00	13.57 ic	---	0.00	0.00	---	---	---	---	13.57
10.92	58,379	650.00	0.00	0.00	13.72 ic	---	0.00	0.00	---	---	---	---	13.72
11.02	59,440	650.10	0.00	0.00	13.87 ic	---	0.00	0.00	---	---	---	---	13.87
11.12	60,501	650.20	0.00	0.00	14.02 ic	---	0.00	0.00	---	---	---	---	14.02
11.22	61,563	650.30	0.00	0.00	14.16 ic	---	0.00	0.00	---	---	---	---	14.16
11.32	62,624	650.40	0.00	0.00	14.31 ic	---	0.00	0.00	---	---	---	---	14.31
11.42	63,686	650.50	0.00	0.00	14.45 ic	---	0.00	0.00	---	---	---	---	14.45
11.52	64,747	650.60	0.00	0.00	14.59 ic	---	0.00	0.00	---	---	---	---	14.59
11.62	65,808	650.70	0.00	0.00	14.73 ic	---	0.00	0.00	---	---	---	---	14.73
11.72	66,870	650.80	0.00	0.00	14.87 ic	---	0.00	0.00	---	---	---	---	14.87
11.82	67,931	650.90	0.00	0.00	15.01 ic	---	0.00	0.00	---	---	---	---	15.01
11.92	68,993	651.00	0.00	0.00	15.15 ic	---	0.00	0.00	---	---	---	---	15.15
12.02	70,155	651.10	0.00	0.00	15.28 ic	---	0.00	0.00	---	---	---	---	15.28
12.12	71,317	651.20	0.00	0.00	15.42 ic	---	0.00	0.00	---	---	---	---	15.42
12.22	72,479	651.30	0.00	0.00	15.55 ic	---	0.00	0.00	---	---	---	---	15.55
12.32	73,641	651.40	0.00	0.00	15.68 ic	---	0.00	0.00	---	---	---	---	15.68
12.42	74,803	651.50	0.00	0.00	15.81 ic	---	0.00	0.00	---	---	---	---	15.81
12.52	75,966	651.60	0.00	0.00	15.94 ic	---	0.00	0.00	---	---	---	---	15.94
12.62	77,128	651.70	0.00	0.00	16.07 ic	---	0.00	0.00	---	---	---	---	16.07
12.72	78,290	651.80	0.00	0.00	16.20 ic	---	0.00	0.00	---	---	---	---	16.20
12.82	79,452	651.90	0.32 ic	0.00	16.33 ic	---	0.32	0.00	---	---	---	---	16.64
12.92	80,614	652.00	2.09 ic	0.00	16.45 ic	---	2.09	0.00	---	---	---	---	18.55
13.02	81,827	652.10	4.72 ic	0.00	16.58 ic	---	4.70	0.00	---	---	---	---	21.27
13.12	83,040	652.20	7.96 ic	0.00	16.70 ic	---	7.92	0.00	---	---	---	---	24.62
13.22	84,253	652.30	11.69 ic	0.00	16.82 ic	---	11.66	0.00	---	---	---	---	28.48
13.32	85,466	652.40	15.85 ic	0.00	16.95 ic	---	15.85	0.00	---	---	---	---	32.80
13.42	86,679	652.50	20.45 ic	0.00	17.07 ic	---	20.45	0.00	---	---	---	---	37.52
13.52	87,892	652.60	25.43 ic	0.00	17.19 ic	---	25.43	0.22	---	---	---	---	42.84
13.62	89,104	652.70	30.76 ic	0.00	17.31 ic	---	30.76	3.23	---	---	---	---	51.30
13.72	90,317	652.80	36.41 ic	0.00	17.42 ic	---	36.41	8.04	---	---	---	---	61.87
13.82	91,530	652.90	42.37 ic	0.00	17.54 ic	---	42.37	14.10	---	---	---	---	74.02
13.92	92,743	653.00	48.64 ic	0.00	17.66 ic	---	48.64	21.23	---	---	---	---	87.53
14.02	93,956	653.10	52.57 ic	0.00	17.78 ic	---	52.56 s	29.24	---	---	---	---	99.59
14.12	95,169	653.20	53.29 ic	0.00	17.89 ic	---	53.29 s	38.08	---	---	---	---	109.26
14.22	96,382	653.30	53.81 ic	0.00	18.01 ic	---	53.81 s	47.64	---	---	---	---	119.46
14.32	97,595	653.40	54.24 ic	0.00	18.12 ic	---	54.24 s	57.91	---	---	---	---	130.27
14.42	98,808	653.50	54.61 ic	0.00	18.23 ic	---	54.61 s	68.81	---	---	---	---	141.66
14.52	100,021	653.60	54.95 ic	0.00	18.35 ic	---	54.94 s	80.34	---	---	---	---	153.63
14.62	101,234	653.70	55.25 ic	0.00	18.46 ic	---	55.25 s	92.43	---	---	---	---	166.14
14.72	102,446	653.80	55.54 ic	0.00	18.57 ic	---	55.53 s	105.08	---	---	---	---	179.18
14.82	103,659	653.90	55.80 ic	0.00	18.68 ic	---	55.80 s	118.26	---	---	---	---	192.74
14.92	104,872	654.00	56.06 ic	0.00	18.79 ic	---	56.06 s	131.98	---	---	---	---	206.83

...End

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Project:	Port Union at Union Centre Building H	Designed By:	RWB	Date:	6/29/07
Job No.:	07F053.000	Checked By:		Date:	
Basin ID:	H North Basin	Revised By:	MJL	Date:	4/30/08

Required Water Quality Volume

WQ_v = P C A/12

Site Drainage Area (A) = 5.32 acres (To Basin) WQ_v = 0.252 acre-ft.

Rainfall Depth (P) = 0.75 in. Sediment Storage Allowance = 20 %
Sediment Storage Allowance = 0.05 Ac-ft

Runoff Coefficient (C) = 0.76 **Total WQ_v =** 0.302 Ac-ft
= 13,166 cu.ft.

Water Quality Release Rate

Q_{wqv} = Total WQ_v/RT

Retention Time (RT) = 48 hours Q_{wqv} = 0.08 cfs

Water Quality Outlet Orifice

Contour Areas

	Elevation ft	Area ft^2	Volume ft^3	Cum. Vol. ft^3	Elevation at V	Storage at Elev
Basin Inv. =	639.08	0.00	0.00	0.00		
Contour 1 =	640.00	558.00	256.68	256.68		
Contour 2 =	641.00	2518.00	1538.00	1794.68		
Contour 3 =	642.00	3570.00	3044.00	4838.68		
Contour 4 =	643.00	4340.00	3955.00	8793.68		
Contour 5 =	644.00	5064.00	4702.00	13495.68	643.93	
Contour 6 =	645.00	5816.00	5440.00	18935.68		13498.80
Contour 7 =	646.00	6603.00	6209.50	25145.18		
Contour 8 =	647.00	7421.00	7012.00	32157.18		
Contour 9 =	648.00	8280.00	7850.50	40007.68		
Contour 10 =	649.00	9174.00	8727.00	48734.68		
Contour 11 =	650.00	10114.00	9644.00	58378.68		
Contour 12 =	651.00	11114.00	10614.00	68992.68		
Contour 13 =	652.00	12129.00	11621.50	80614.18		
Contour 14 =	653.00	12129.00	12129.00	92743.18		

$Q = N C_d A_o (2 g \Delta h)^{1/2}$

C_d = 0.61

$A_o = \pi D^2/4$ for circular orifices; = h * w for rectangular orifices

g = 32.20 ft/sec^2

Q = Q_{wqv} = 0.08 cfs

Lowest Orifice 638.87
Required Volume = V = 13166 ft^3 Number of orifices = N = 1
Elevation at V = 643.93

Orifice h = 1.125 inch Orifice w = 0.00 inch (= 0 for circular orifice)

Δh_{min} = Elev at V - Basin Inv - 1/2 h = 4.80 ft

$A_{trial} = Q/(N C_d (2 g \Delta h_{min})^{1/2})$ = 1.02 in^2 Actual A = A_o = 0.99 in^2

$\Delta h = (Q/(N C_d A_o))^2/(2 g)$ = 5.08 ft

Elev = 644.00 > Elevation at V = 643.93 Good

Storage = 13498.80 ft^3

Hydrograph Report

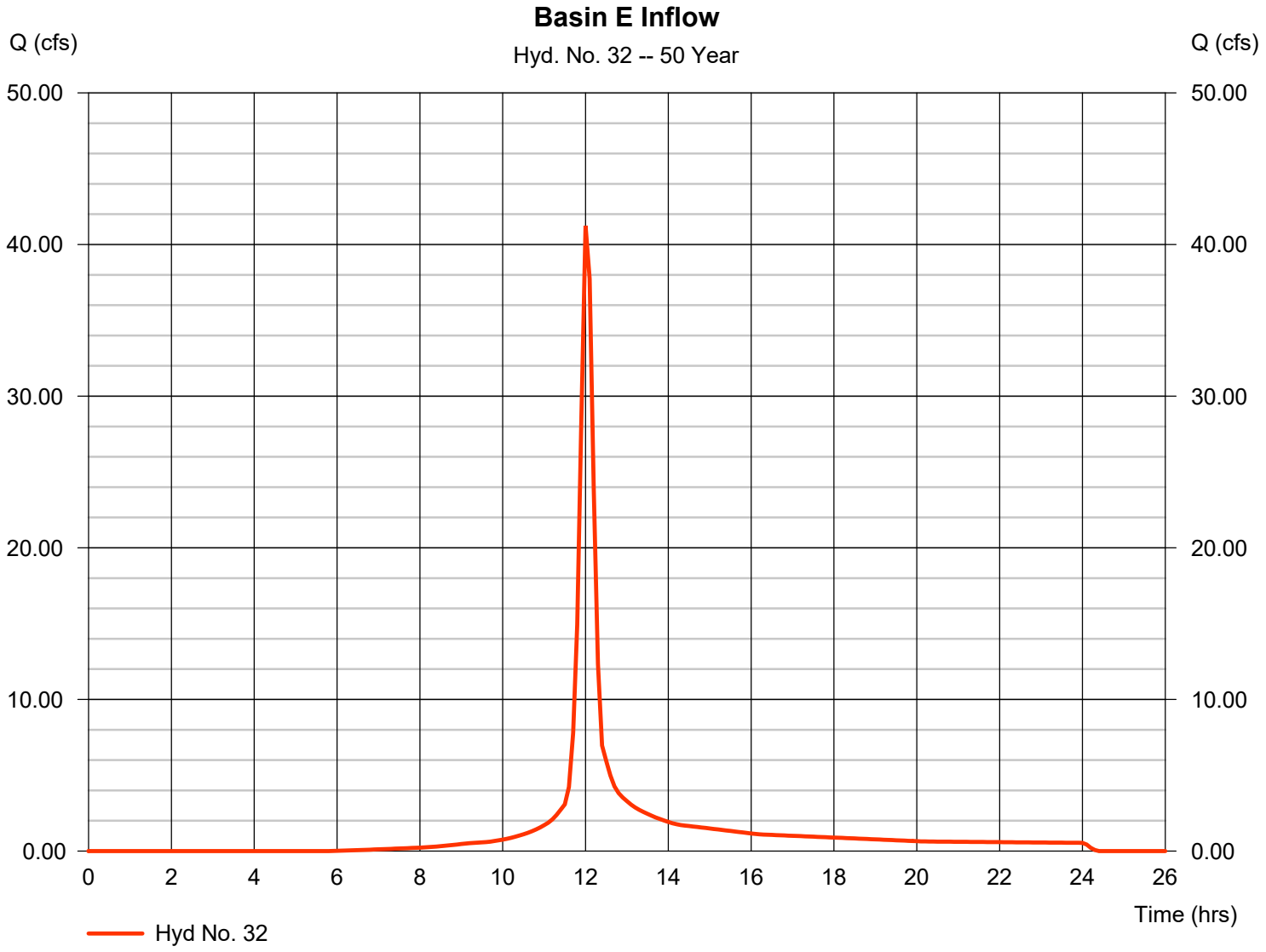
Q1

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 03 / 17 / 2016

Hyd. No. 32

Basin E Inflow

Hydrograph type	= SCS Runoff	Peak discharge	= 41.24 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.00 hrs
Time interval	= 6 min	Hyd. volume	= 127,061 cuft
Drainage area	= 10.810 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 13.30 min
Total precip.	= 5.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Q2

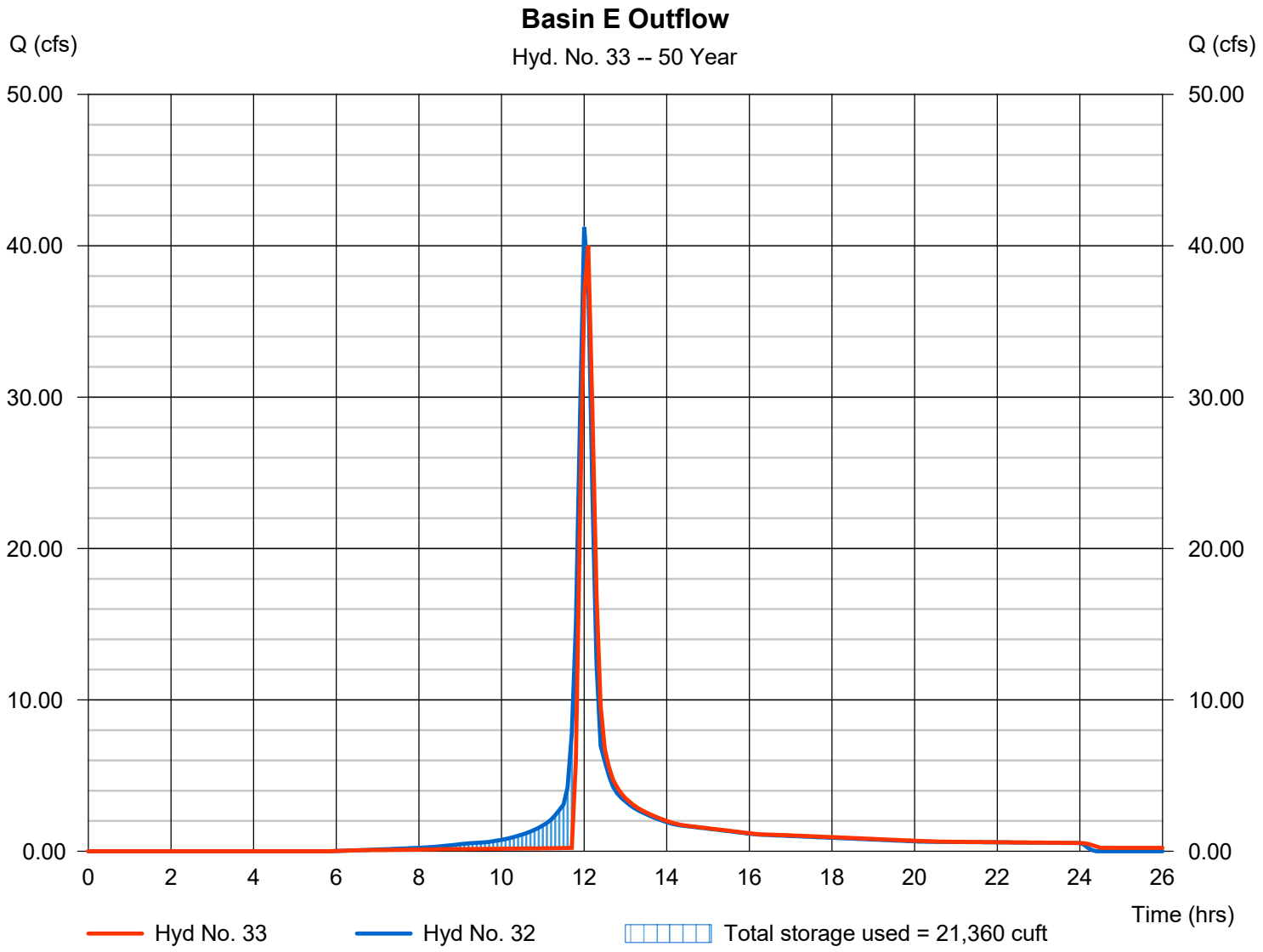
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 03 / 17 / 2016

Hyd. No. 33

Basin E Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	40.01 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.10 hrs
Time interval	=	6 min	Hyd. volume	=	127,065 cuft
Inflow hyd. No.	=	32 - Basin E Inflow	Max. Elevation	=	610.91 ft
Reservoir name	=	Basin E	Max. Storage	=	21,360 cuft

Storage Indication method used.



Hydrograph Report

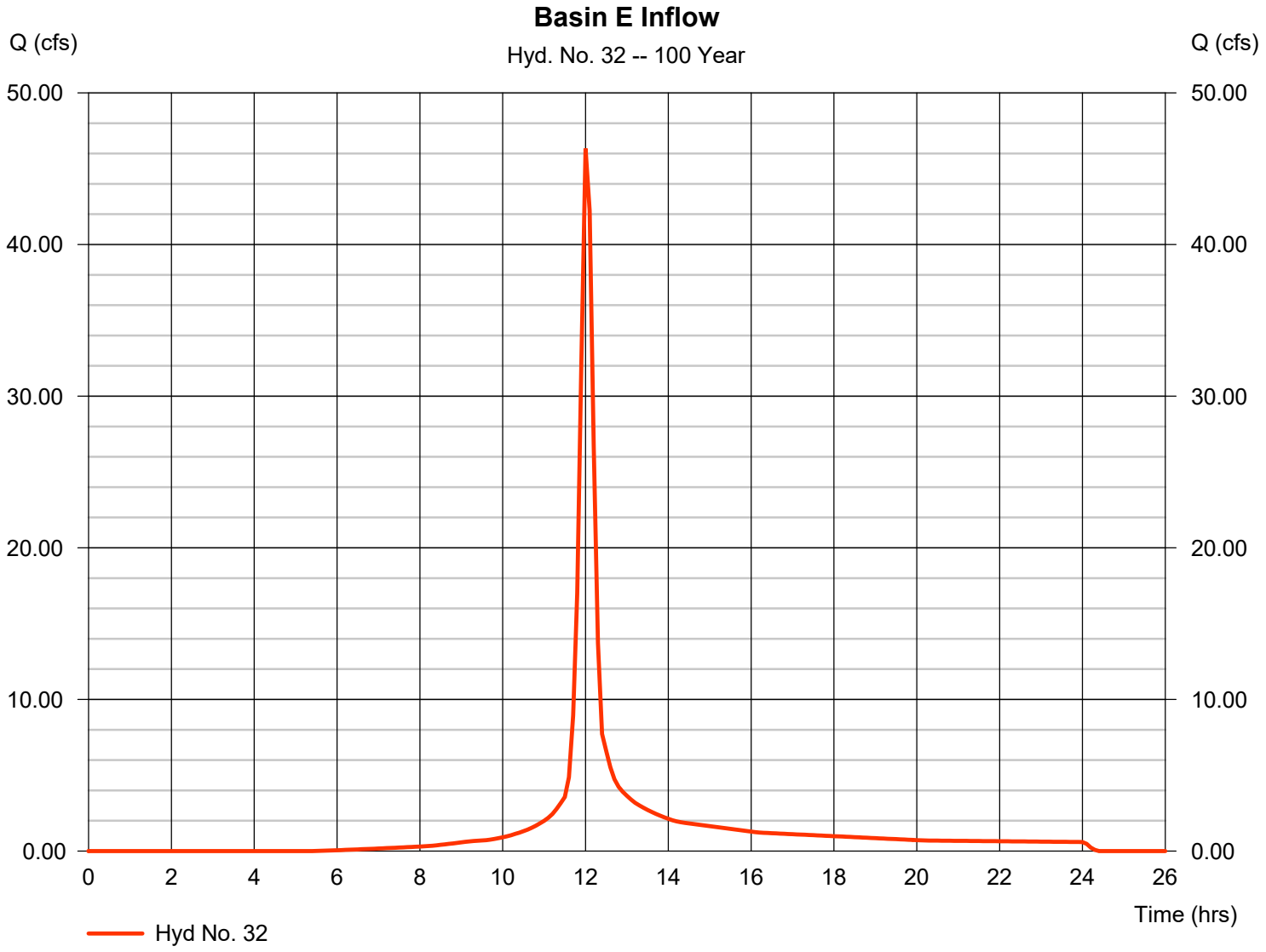
Q3

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 03 / 17 / 2016

Hyd. No. 32

Basin E Inflow

Hydrograph type	= SCS Runoff	Peak discharge	= 46.32 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.00 hrs
Time interval	= 6 min	Hyd. volume	= 143,054 cuft
Drainage area	= 10.810 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 13.30 min
Total precip.	= 5.67 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Q4

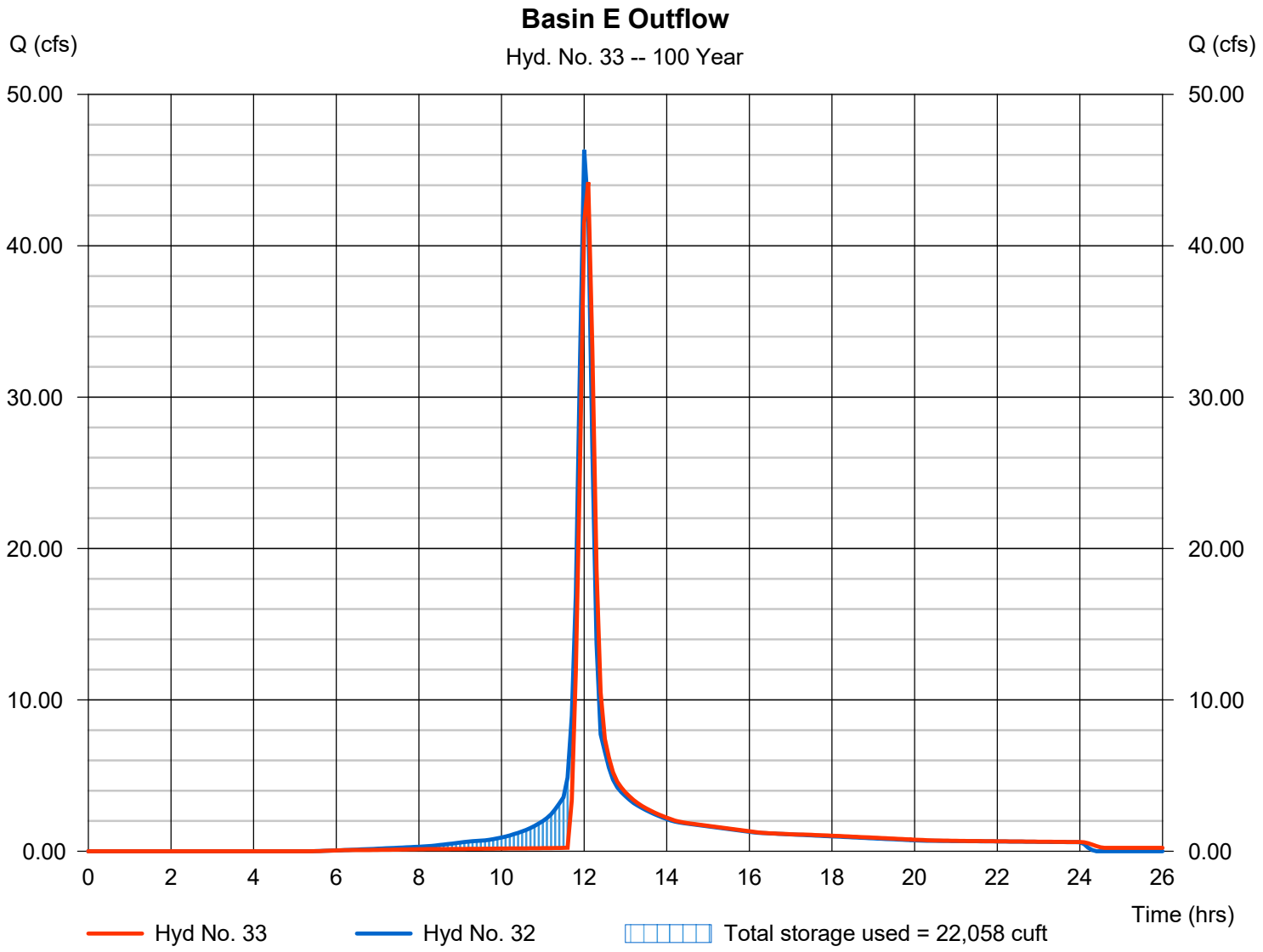
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 03 / 17 / 2016

Hyd. No. 33

Basin E Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	44.20 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.10 hrs
Time interval	=	6 min	Hyd. volume	=	143,060 cuft
Inflow hyd. No.	=	32 - Basin E Inflow	Max. Elevation	=	610.97 ft
Reservoir name	=	Basin E	Max. Storage	=	22,058 cuft

Storage Indication method used.



Pond Report

Pond No. 13 - Basin E

Pond Data

Contours -User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 606.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	606.50	00	0	0
0.50	607.00	28	7	7
1.50	608.00	1,250	639	646
2.50	609.00	5,301	3,276	3,922
3.50	610.00	9,429	7,365	11,287
4.50	611.00	13,491	11,460	22,747
5.50	612.00	25,544	19,518	42,264
6.50	613.00	25,544	25,544	67,808

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 36.00	2.13	0.00	0.00
Span (in)	= 36.00	2.13	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 606.42	606.50	0.00	0.00
Length (ft)	= 29.00	0.00	0.00	0.00
Slope (%)	= 0.55	0.00	0.00	n/a
N-Value	= .015	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 40.00	24.00	0.00	0.00
Crest El. (ft)	= 611.30	610.25	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Broad	Rect	---	---
Multi-Stage	= No	Yes	No	No

Exfil.(in/hr) = 0.000 (by Contour)

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	Clv A cfs	Clv 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	606.50	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.05	1	606.55	0.05 ic	0.00 ic	---	---	0.00	0.00	---	---	---	---	0.004
0.10	1	606.60	0.05 ic	0.02 ic	---	---	0.00	0.00	---	---	---	---	0.016
0.15	2	606.65	0.05 ic	0.03 ic	---	---	0.00	0.00	---	---	---	---	0.029
0.20	3	606.70	0.05 ic	0.04 ic	---	---	0.00	0.00	---	---	---	---	0.040
0.25	4	606.75	0.05 ic	0.05 ic	---	---	0.00	0.00	---	---	---	---	0.048
0.30	4	606.80	0.06 ic	0.05 ic	---	---	0.00	0.00	---	---	---	---	0.055
0.35	5	606.85	0.06 ic	0.06 ic	---	---	0.00	0.00	---	---	---	---	0.061
0.40	6	606.90	0.07 ic	0.07 ic	---	---	0.00	0.00	---	---	---	---	0.066
0.45	6	606.95	0.07 ic	0.07 ic	---	---	0.00	0.00	---	---	---	---	0.071
0.50	7	607.00	0.08 ic	0.08 ic	---	---	0.00	0.00	---	---	---	---	0.076
0.60	71	607.10	0.08 ic	0.08 ic	---	---	0.00	0.00	---	---	---	---	0.085
0.70	135	607.20	0.10 ic	0.09 ic	---	---	0.00	0.00	---	---	---	---	0.093
0.80	199	607.30	0.10 ic	0.10 ic	---	---	0.00	0.00	---	---	---	---	0.100
0.90	263	607.40	0.11 ic	0.11 ic	---	---	0.00	0.00	---	---	---	---	0.107
1.00	327	607.50	0.11 ic	0.11 ic	---	---	0.00	0.00	---	---	---	---	0.113
1.10	391	607.60	0.13 ic	0.12 ic	---	---	0.00	0.00	---	---	---	---	0.119
1.20	454	607.70	0.13 ic	0.12 ic	---	---	0.00	0.00	---	---	---	---	0.125
1.30	518	607.80	0.13 ic	0.13 ic	---	---	0.00	0.00	---	---	---	---	0.130
1.40	582	607.90	0.14 ic	0.14 ic	---	---	0.00	0.00	---	---	---	---	0.136
1.50	646	608.00	0.15 ic	0.14 ic	---	---	0.00	0.00	---	---	---	---	0.141
1.60	974	608.10	0.15 ic	0.15 ic	---	---	0.00	0.00	---	---	---	---	0.146
1.70	1,301	608.20	0.15 ic	0.15 ic	---	---	0.00	0.00	---	---	---	---	0.151
1.80	1,629	608.30	0.16 ic	0.16 ic	---	---	0.00	0.00	---	---	---	---	0.155
1.90	1,956	608.40	0.17 ic	0.16 ic	---	---	0.00	0.00	---	---	---	---	0.160
2.00	2,284	608.50	0.17 ic	0.16 ic	---	---	0.00	0.00	---	---	---	---	0.164
2.10	2,611	608.60	0.17 ic	0.17 ic	---	---	0.00	0.00	---	---	---	---	0.168
2.20	2,939	608.70	0.17 ic	0.17 ic	---	---	0.00	0.00	---	---	---	---	0.172
2.30	3,267	608.80	0.18 ic	0.18 ic	---	---	0.00	0.00	---	---	---	---	0.176
2.40	3,594	608.90	0.18 ic	0.18 ic	---	---	0.00	0.00	---	---	---	---	0.180
2.50	3,922	609.00	0.20 ic	0.18 ic	---	---	0.00	0.00	---	---	---	---	0.184
2.60	4,658	609.10	0.20 ic	0.19 ic	---	---	0.00	0.00	---	---	---	---	0.188
2.70	5,395	609.20	0.20 ic	0.19 ic	---	---	0.00	0.00	---	---	---	---	0.192
2.80	6,131	609.30	0.20 ic	0.20 ic	---	---	0.00	0.00	---	---	---	---	0.195
2.90	6,868	609.40	0.20 ic	0.20 ic	---	---	0.00	0.00	---	---	---	---	0.199

Continues on next page...

Basin E

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv 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
3.00	7,604	609.50	0.20 ic	0.20 ic	---	---	0.00	0.00	---	---	---	---	0.202
3.10	8,341	609.60	0.21 ic	0.21 ic	---	---	0.00	0.00	---	---	---	---	0.206
3.20	9,077	609.70	0.23 ic	0.21 ic	---	---	0.00	0.00	---	---	---	---	0.209
3.30	9,814	609.80	0.23 ic	0.21 ic	---	---	0.00	0.00	---	---	---	---	0.212
3.40	10,550	609.90	0.23 ic	0.22 ic	---	---	0.00	0.00	---	---	---	---	0.216
3.50	11,287	610.00	0.23 ic	0.22 ic	---	---	0.00	0.00	---	---	---	---	0.219
3.60	12,433	610.10	0.23 ic	0.22 ic	---	---	0.00	0.00	---	---	---	---	0.222
3.70	13,579	610.20	0.23 ic	0.23 ic	---	---	0.00	0.00	---	---	---	---	0.225
3.80	14,725	610.30	1.12 oc	0.22 ic	---	---	0.00	0.89	---	---	---	---	1.113
3.90	15,871	610.40	4.88 oc	0.20 ic	---	---	0.00	4.64	---	---	---	---	4.843
4.00	17,017	610.50	10.27 oc	0.18 ic	---	---	0.00	9.98	---	---	---	---	10.17
4.10	18,163	610.60	16.72 oc	0.14 ic	---	---	0.00	16.54	---	---	---	---	16.68
4.20	19,309	610.70	24.24 oc	0.13 ic	---	---	0.00	24.11	---	---	---	---	24.24
4.30	20,455	610.80	32.70 oc	0.12 ic	---	---	0.00	32.58	---	---	---	---	32.70
4.40	21,601	610.90	41.96 oc	0.10 ic	---	---	0.00	41.86	---	---	---	---	41.96
4.50	22,747	611.00	47.58 oc	0.08 ic	---	---	0.00	47.50 s	---	---	---	---	47.58
4.60	24,698	611.10	51.33 oc	0.07 ic	---	---	0.00	51.25 s	---	---	---	---	51.32
4.70	26,650	611.20	54.31 oc	0.07 ic	---	---	0.00	54.25 s	---	---	---	---	54.31
4.80	28,602	611.30	56.84 oc	0.06 ic	---	---	0.00	56.77 s	---	---	---	---	56.83
4.90	30,554	611.40	59.06 oc	0.05 ic	---	---	3.28	58.99 s	---	---	---	---	62.33
5.00	32,505	611.50	61.05 oc	0.05 ic	---	---	9.29	61.00 s	---	---	---	---	70.34
5.10	34,457	611.60	62.89 oc	0.05 ic	---	---	17.08	62.83 s	---	---	---	---	79.95
5.20	36,409	611.70	64.60 oc	0.04 ic	---	---	26.29	64.54 s	---	---	---	---	90.88
5.30	38,361	611.80	66.02 ic	0.04 ic	---	---	36.75	65.96 s	---	---	---	---	102.75
5.40	40,312	611.90	67.03 ic	0.04 ic	---	---	48.31	66.97 s	---	---	---	---	115.32
5.50	42,264	612.00	68.00 ic	0.04 ic	---	---	60.91	67.95 s	---	---	---	---	128.89
5.60	44,819	612.10	68.93 ic	0.03 ic	---	---	74.41	68.87 s	---	---	---	---	143.32
5.70	47,373	612.20	69.84 ic	0.03 ic	---	---	88.79	69.80 s	---	---	---	---	158.62
5.80	49,927	612.30	70.72 ic	0.03 ic	---	---	103.99	70.65 s	---	---	---	---	174.67
5.90	52,482	612.40	71.59 ic	0.03 ic	---	---	119.97	71.51 s	---	---	---	---	191.51
6.00	55,036	612.50	72.43 ic	0.03 ic	---	---	136.69	72.36 s	---	---	---	---	209.08
6.10	57,591	612.60	73.26 ic	0.03 ic	---	---	154.13	73.22 s	---	---	---	---	227.37
6.20	60,145	612.70	74.08 ic	0.02 ic	---	---	172.25	73.99 s	---	---	---	---	246.26
6.30	62,699	612.80	74.89 ic	0.02 ic	---	---	191.03	74.82 s	---	---	---	---	265.87
6.40	65,254	612.90	75.68 ic	0.02 ic	---	---	210.44	75.65 s	---	---	---	---	286.11
6.50	67,808	613.00	76.46 ic	0.02 ic	---	---	230.52	76.38 s	---	---	---	---	306.92

...End

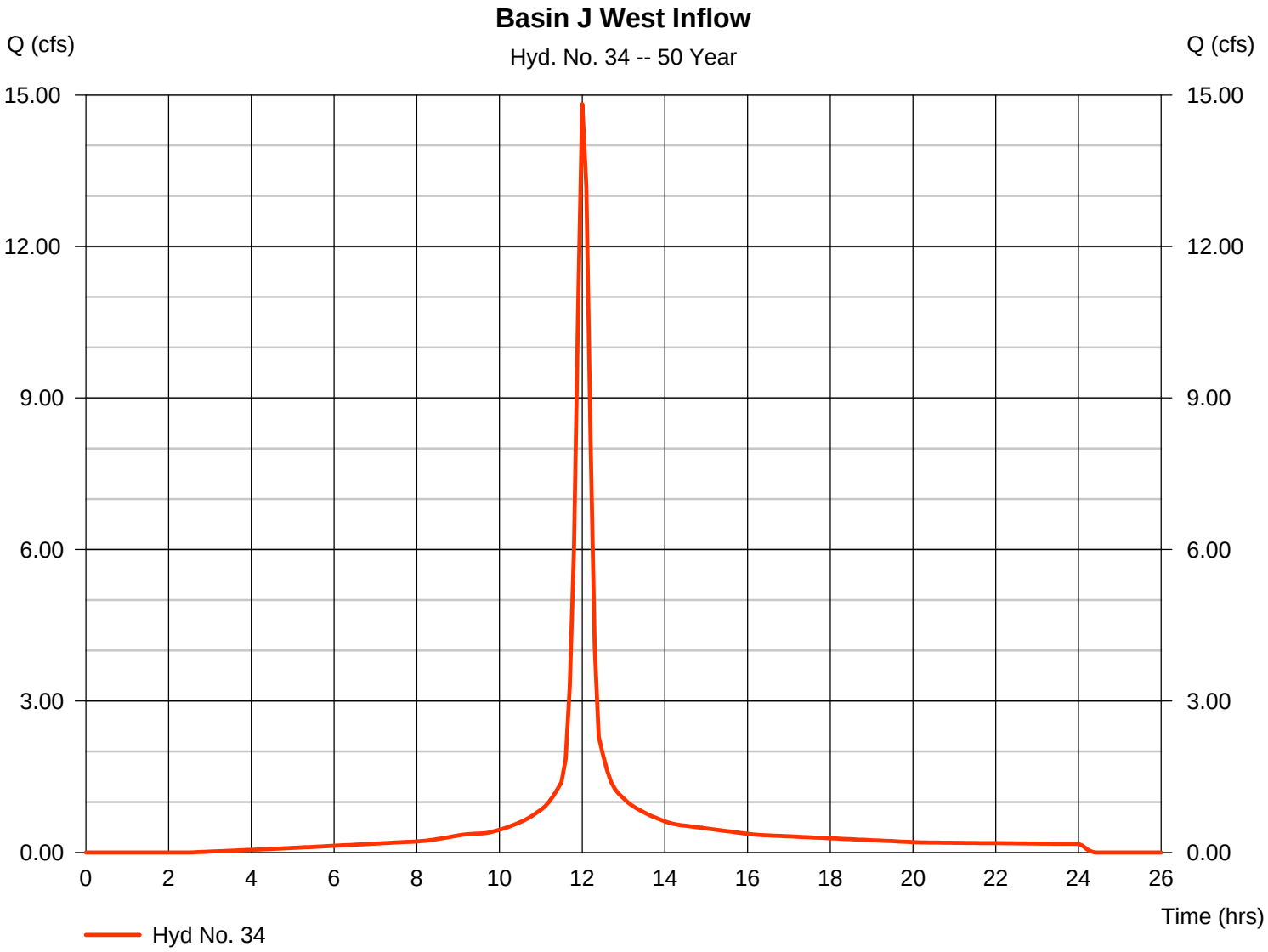
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 Monday, Jul 2, 2007

Hyd. No. 34

Basin J West Inflow

Hydrograph type	=	SCS Runoff	Peak discharge	=	14.82 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.00 hrs
Time interval	=	6 min	Hyd. volume	=	1.104 acft
Drainage area	=	3.160 ac	Curve number	=	93.7
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	12.70 min
Total precip.	=	5.20 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

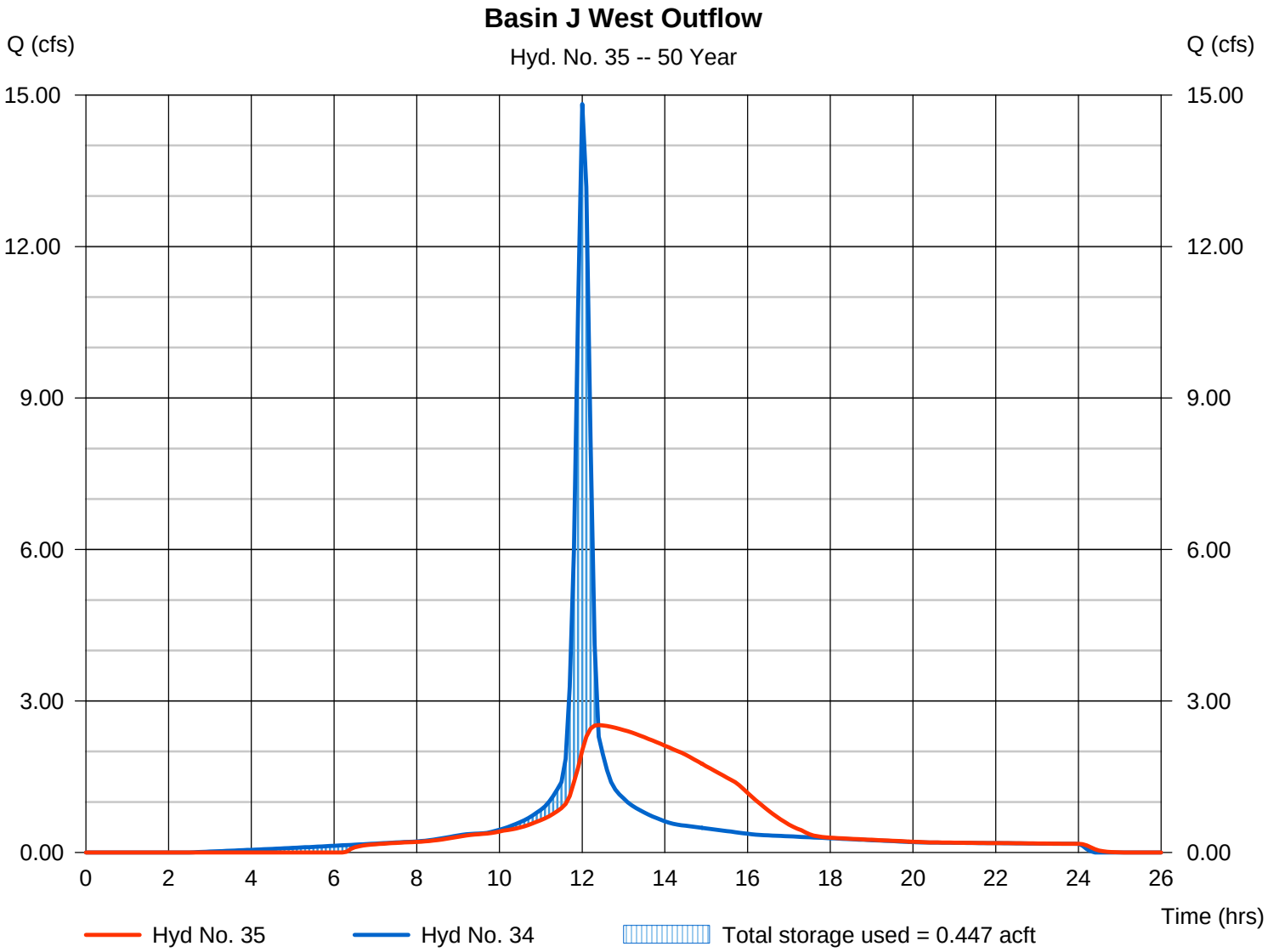
Hydraflow Hydrographs by Intelisolve v9.2 — Monday, Jul 2, 2007

Hyd. No. 35

Basin J West Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	2.523 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.40 hrs
Time interval	=	6 min	Hyd. volume	=	1.082 acft
Inflow hyd. No.	=	34 - Basin J West Inflow	Max. Elevation	=	602.37 ft
Reservoir name	=	Basin J West	Max. Storage	=	0.447 acft

Storage Indication method used.



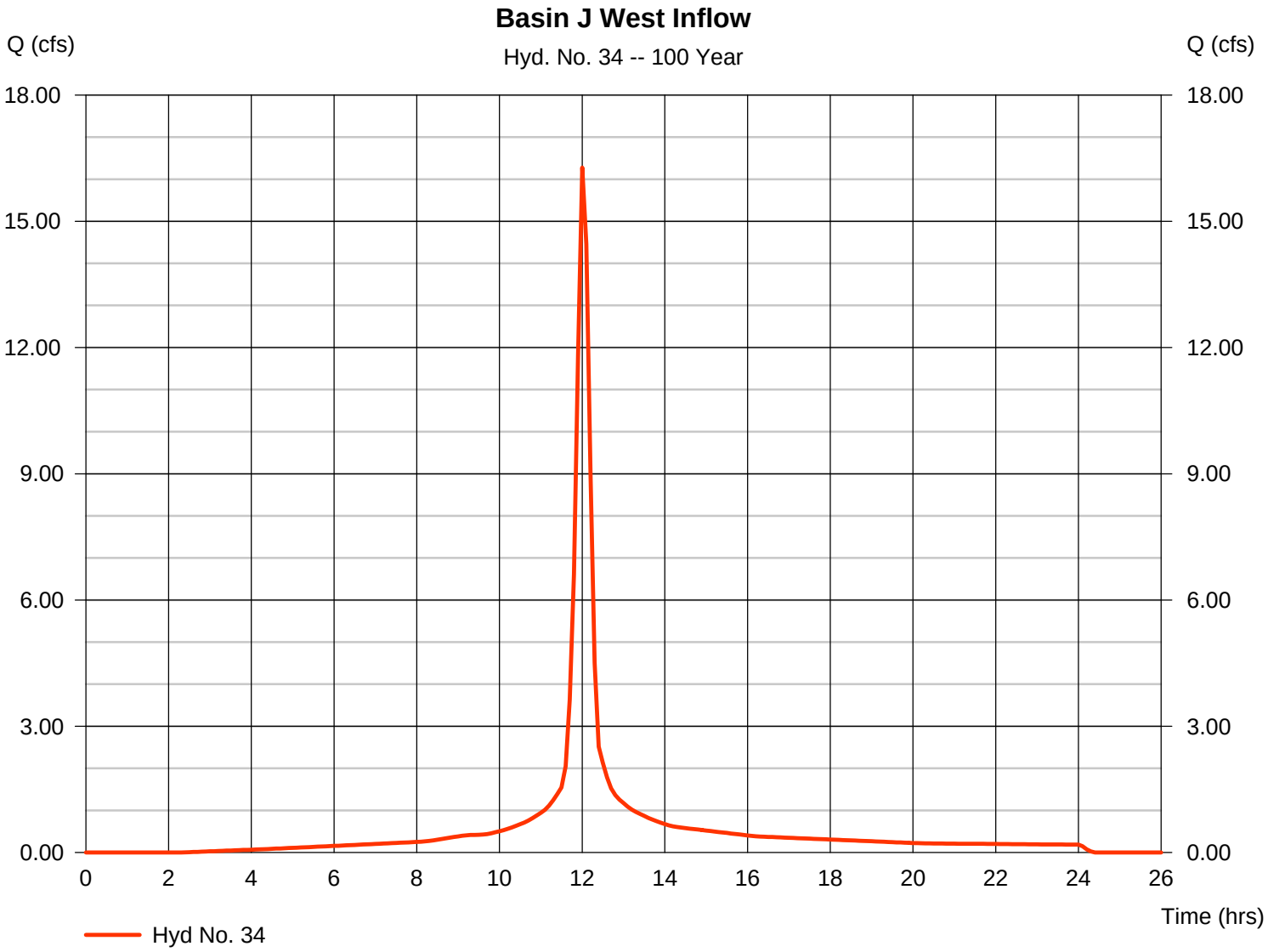
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2 — Monday, Jul 2, 2007

Hyd. No. 34

Basin J West Inflow

Hydrograph type	=	SCS Runoff	Peak discharge	=	16.28 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.00 hrs
Time interval	=	6 min	Hyd. volume	=	1.219 acft
Drainage area	=	3.160 ac	Curve number	=	93.7
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	USER	Time of conc. (Tc)	=	12.70 min
Total precip.	=	5.67 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

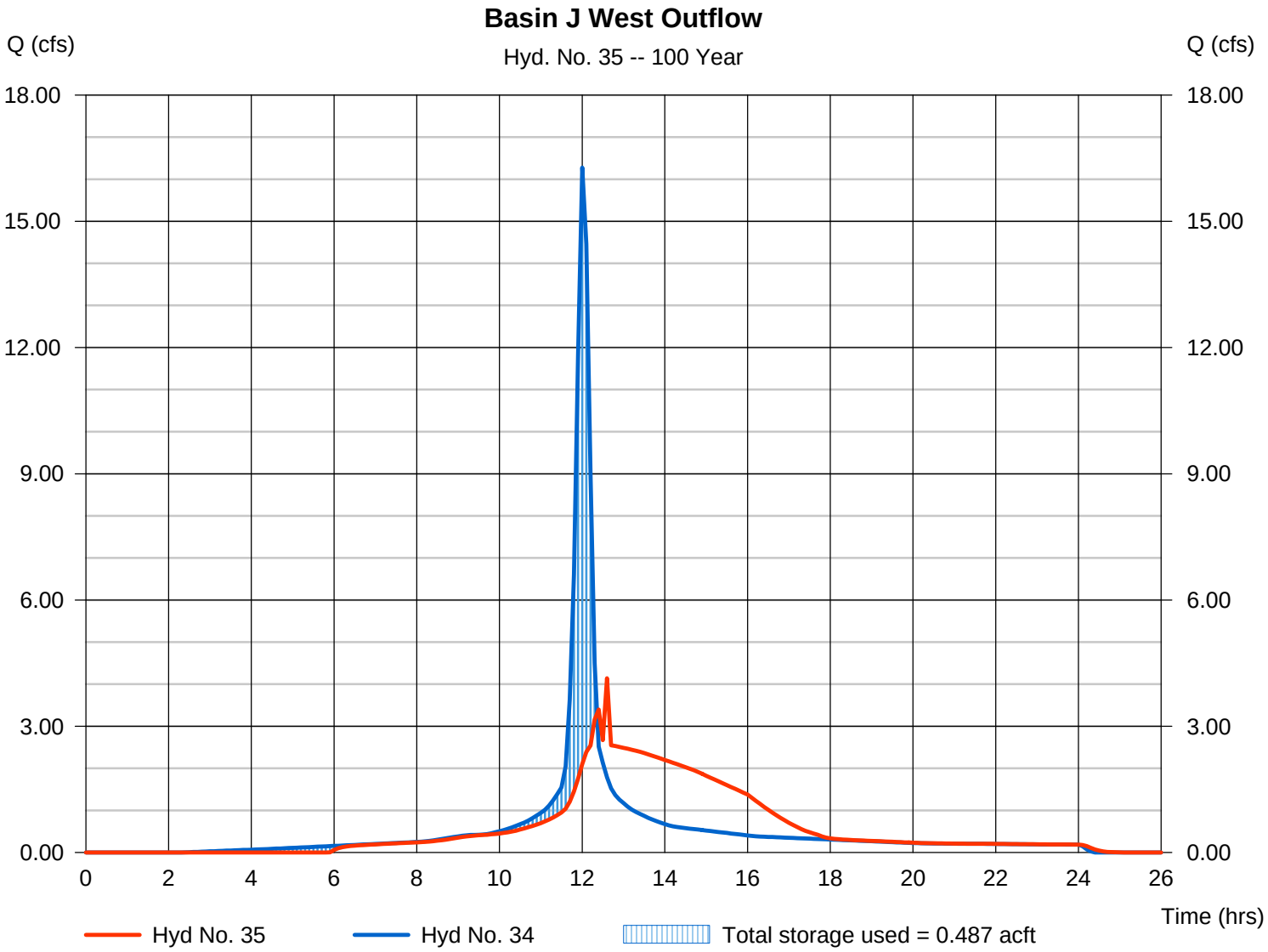
Hydraflow Hydrographs by Intelisolve v9.2 — Monday, Jul 2, 2007

Hyd. No. 35

Basin J West Outflow

Hydrograph type	=	Reservoir	Peak discharge	=	4.142 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.60 hrs
Time interval	=	6 min	Hyd. volume	=	1.197 acft
Inflow hyd. No.	=	34 - Basin J West Inflow	Max. Elevation	=	602.50 ft
Reservoir name	=	Basin J West	Max. Storage	=	0.487 acft

Storage Indication method used.



Pond Report

Pond No. 14 - Basin J West

Pond Data

Contours - User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 597.29 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	597.29	00	0.000	0.000
0.60	598.00	133	0.001	0.001
1.60	599.00	1,670	0.021	0.022
2.60	600.00	4,674	0.073	0.094
3.60	601.00	6,138	0.124	0.219
4.60	602.00	7,787	0.160	0.378
5.16	602.45	8,603	0.105	0.484
5.55	602.84	9,691	0.082	0.566

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	7.50	0.00	0.00
Span (in)	= 12.00	7.50	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 597.29	597.29	0.00	0.00
Length (ft)	= 35.00	0.00	0.00	0.00
Slope (%)	= 1.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 50.00	0.00	0.00	0.00
Crest El. (ft)	= 602.45	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Broad	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 599.00

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 acft	Elevation ft	Clv A cfs	Clv 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	0.000	597.29	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.06	0.000	597.35	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.12	0.000	597.41	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.18	0.000	597.47	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.24	0.000	597.53	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.30	0.000	597.59	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.36	0.001	597.65	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.42	0.001	597.71	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.48	0.001	597.77	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.54	0.001	597.83	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.60	0.001	598.00	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.70	0.003	598.10	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.80	0.005	598.20	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.90	0.007	598.30	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
1.00	0.009	598.40	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
1.10	0.011	598.50	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
1.20	0.013	598.60	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
1.30	0.015	598.70	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
1.40	0.017	598.80	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
1.50	0.020	598.90	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
1.60	0.022	599.00	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
1.70	0.029	599.10	0.44 ic	0.43 ic	---	---	0.00	---	---	---	---	---	0.435
1.80	0.036	599.20	0.62 ic	0.62 ic	---	---	0.00	---	---	---	---	---	0.615
1.90	0.043	599.30	0.75 ic	0.75 ic	---	---	0.00	---	---	---	---	---	0.753
2.00	0.051	599.40	0.87 ic	0.87 ic	---	---	0.00	---	---	---	---	---	0.870
2.10	0.058	599.50	0.97 ic	0.97 ic	---	---	0.00	---	---	---	---	---	0.973
2.20	0.065	599.60	1.07 ic	1.07 ic	---	---	0.00	---	---	---	---	---	1.066
2.30	0.073	599.70	1.15 ic	1.15 ic	---	---	0.00	---	---	---	---	---	1.151
2.40	0.080	599.80	1.23 ic	1.23 ic	---	---	0.00	---	---	---	---	---	1.230
2.50	0.087	599.90	1.31 ic	1.30 ic	---	---	0.00	---	---	---	---	---	1.305
2.60	0.094	600.00	1.38 ic	1.38 ic	---	---	0.00	---	---	---	---	---	1.376
2.70	0.107	600.10	1.44 ic	1.44 ic	---	---	0.00	---	---	---	---	---	1.443
2.80	0.119	600.20	1.51 ic	1.51 ic	---	---	0.00	---	---	---	---	---	1.507
2.90	0.132	600.30	1.57 ic	1.57 ic	---	---	0.00	---	---	---	---	---	1.569
3.00	0.144	600.40	1.63 ic	1.63 ic	---	---	0.00	---	---	---	---	---	1.628
3.10	0.156	600.50	1.69 ic	1.68 ic	---	---	0.00	---	---	---	---	---	1.685
3.20	0.169	600.60	1.74 ic	1.74 ic	---	---	0.00	---	---	---	---	---	1.740

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Basin J West

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv 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
3.30	0.181	600.70	1.79 ic	1.79 ic	---	---	0.00	---	---	---	---	---	1.794
3.40	0.194	600.80	1.85 ic	1.85 ic	---	---	0.00	---	---	---	---	---	1.846
3.50	0.206	600.90	1.90 ic	1.90 ic	---	---	0.00	---	---	---	---	---	1.896
3.60	0.219	601.00	1.95 ic	1.95 ic	---	---	0.00	---	---	---	---	---	1.946
3.70	0.235	601.10	1.99 ic	1.99 ic	---	---	0.00	---	---	---	---	---	1.994
3.80	0.251	601.20	2.04 ic	2.04 ic	---	---	0.00	---	---	---	---	---	2.041
3.90	0.266	601.30	2.09 ic	2.09 ic	---	---	0.00	---	---	---	---	---	2.086
4.00	0.282	601.40	2.13 ic	2.13 ic	---	---	0.00	---	---	---	---	---	2.131
4.10	0.298	601.50	2.18 ic	2.18 ic	---	---	0.00	---	---	---	---	---	2.175
4.20	0.314	601.60	2.22 ic	2.22 ic	---	---	0.00	---	---	---	---	---	2.218
4.30	0.330	601.70	2.26 ic	2.26 ic	---	---	0.00	---	---	---	---	---	2.261
4.40	0.346	601.80	2.30 ic	2.30 ic	---	---	0.00	---	---	---	---	---	2.302
4.50	0.362	601.90	2.34 ic	2.34 ic	---	---	0.00	---	---	---	---	---	2.343
4.60	0.378	602.00	2.38 ic	2.38 ic	---	---	0.00	---	---	---	---	---	2.383
4.66	0.389	602.06	2.41 ic	2.41 ic	---	---	0.00	---	---	---	---	---	2.405
4.71	0.399	602.11	2.43 ic	2.43 ic	---	---	0.00	---	---	---	---	---	2.427
4.77	0.410	602.17	2.45 ic	2.45 ic	---	---	0.00	---	---	---	---	---	2.449
4.82	0.421	602.22	2.47 ic	2.47 ic	---	---	0.00	---	---	---	---	---	2.470
4.88	0.431	602.28	2.49 ic	2.49 ic	---	---	0.00	---	---	---	---	---	2.492
4.94	0.442	602.34	2.51 ic	2.51 ic	---	---	0.00	---	---	---	---	---	2.513
4.99	0.452	602.39	2.53 ic	2.53 ic	---	---	0.00	---	---	---	---	---	2.534
5.05	0.463	602.45	2.55 ic	2.55 ic	---	---	0.00	---	---	---	---	---	2.555
5.10	0.473	602.50	2.58 ic	2.58 ic	---	---	1.64	---	---	---	---	---	4.219
5.16	0.484	602.45	2.56 ic	2.56 ic	---	---	0.00	---	---	---	---	---	2.555
5.20	0.492	602.49	2.57 ic	2.57 ic	---	---	1.00	---	---	---	---	---	3.571
5.24	0.500	602.53	2.58 ic	2.58 ic	---	---	2.83	---	---	---	---	---	5.416
5.28	0.508	602.57	2.60 ic	2.60 ic	---	---	5.20	---	---	---	---	---	7.801
5.32	0.516	602.61	2.61 ic	2.61 ic	---	---	8.01	---	---	---	---	---	10.62
5.36	0.525	602.65	2.63 ic	2.63 ic	---	---	11.19	---	---	---	---	---	13.82
5.39	0.533	602.68	2.64 ic	2.64 ic	---	---	14.72	---	---	---	---	---	17.36
5.43	0.541	602.72	2.65 ic	2.65 ic	---	---	18.54	---	---	---	---	---	21.20
5.47	0.549	602.76	2.67 ic	2.67 ic	---	---	22.66	---	---	---	---	---	25.33
5.51	0.557	602.80	2.68 ic	2.68 ic	---	---	27.04	---	---	---	---	---	29.72
5.55	0.566	602.84	2.70 ic	2.70 ic	---	---	31.66	---	---	---	---	---	34.36

...End

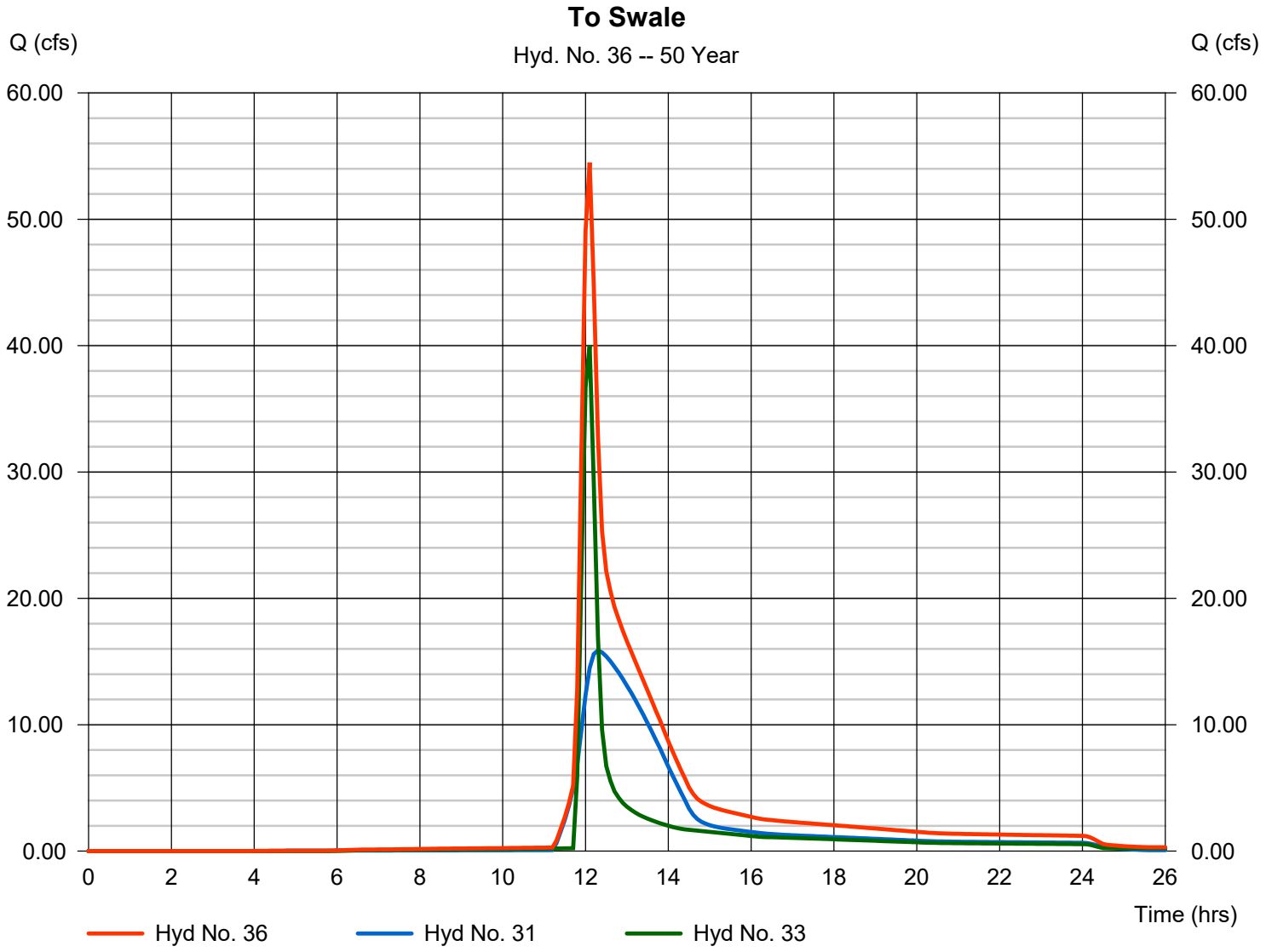
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 03 / 17 / 2016

Hyd. No. 36

To Swale

Hydrograph type	=	Combine	Peak discharge	=	54.49 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.10 hrs
Time interval	=	6 min	Hyd. volume	=	297,810 cuft
Inflow hyds.	=	31, 33	Contrib. drain. area	=	0.000 ac



Hydrograph Report

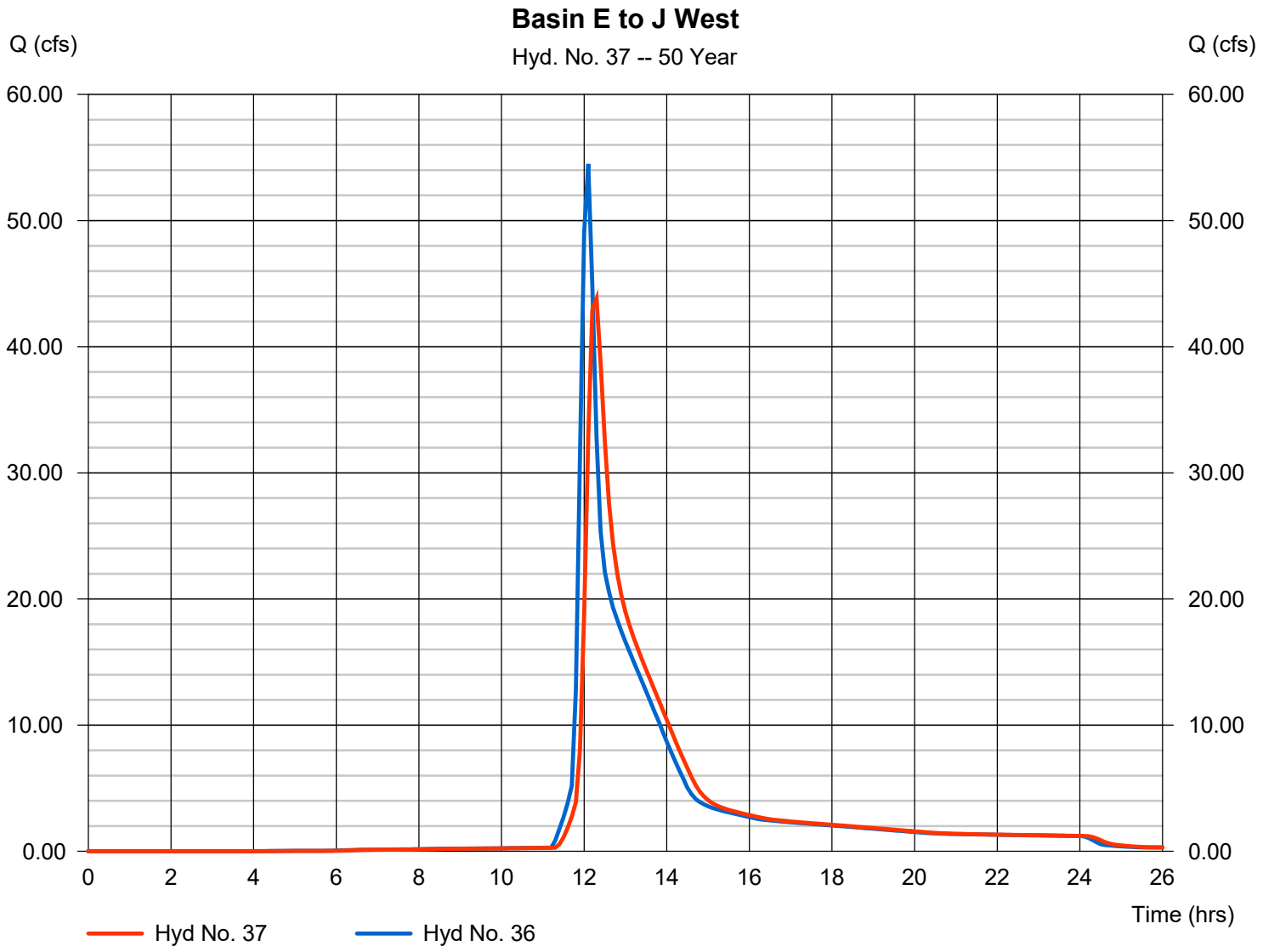
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 03 / 17 / 2016

Hyd. No. 37

Basin E to J West

Hydrograph type	=	Reach	Peak discharge	=	43.81 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.30 hrs
Time interval	=	6 min	Hyd. volume	=	297,772 cuft
Inflow hyd. No.	=	36 - To Swale	Section type	=	Trapezoidal
Reach length	=	1950.0 ft	Channel slope	=	0.4 %
Manning's n	=	0.035	Bottom width	=	5.0 ft
Side slope	=	3.0:1	Max. depth	=	3.0 ft
Rating curve x	=	0.920	Rating curve m	=	1.321
Ave. velocity	=	2.48 ft/s	Routing coeff.	=	0.4644

Modified Att-Kin routing method used.



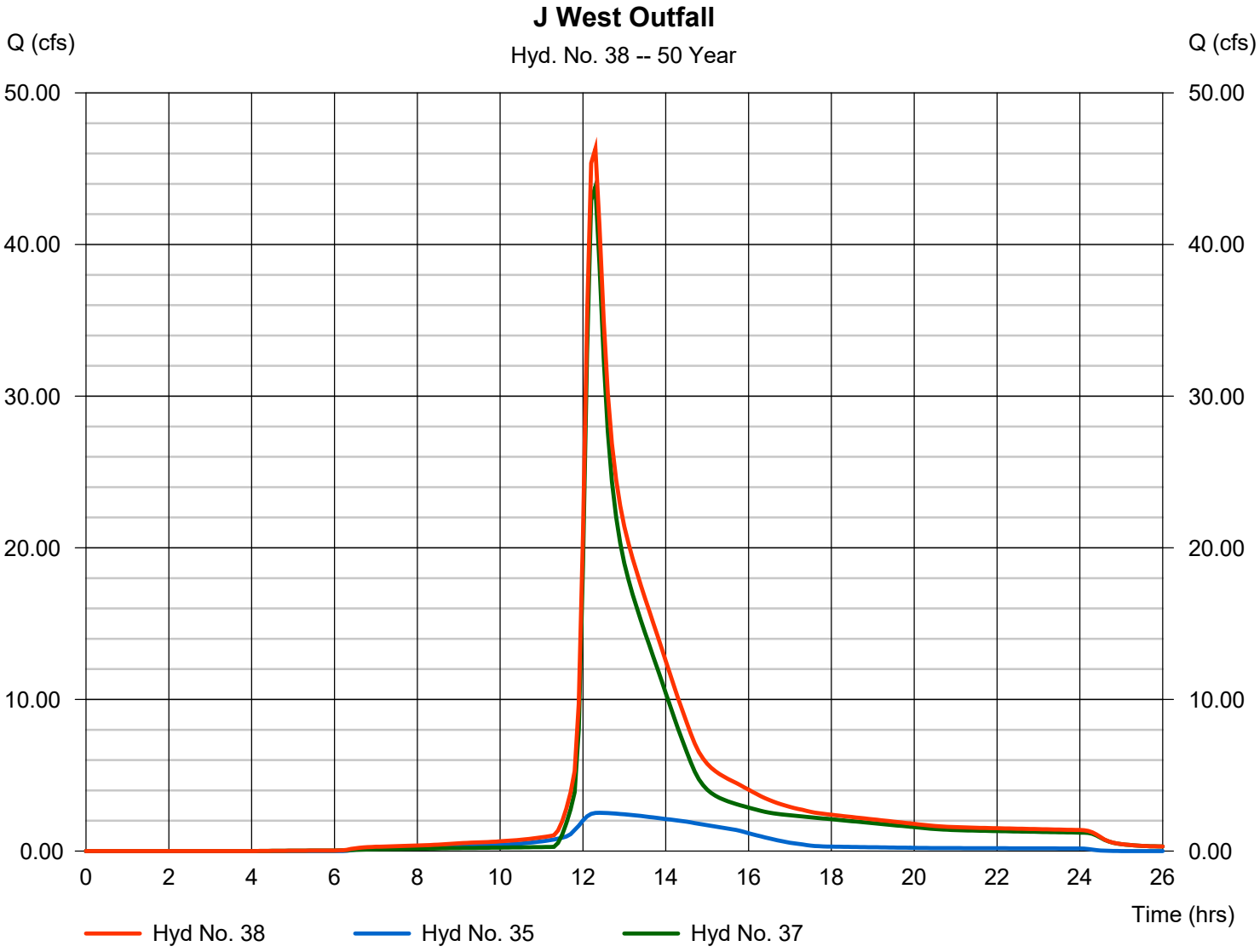
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 03 / 17 / 2016

Hyd. No. 38

J West Outfall

Hydrograph type	=	Combine	Peak discharge	=	46.32 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.30 hrs
Time interval	=	6 min	Hyd. volume	=	344,921 cuft
Inflow hyds.	=	35, 37	Contrib. drain. area	=	0.000 ac



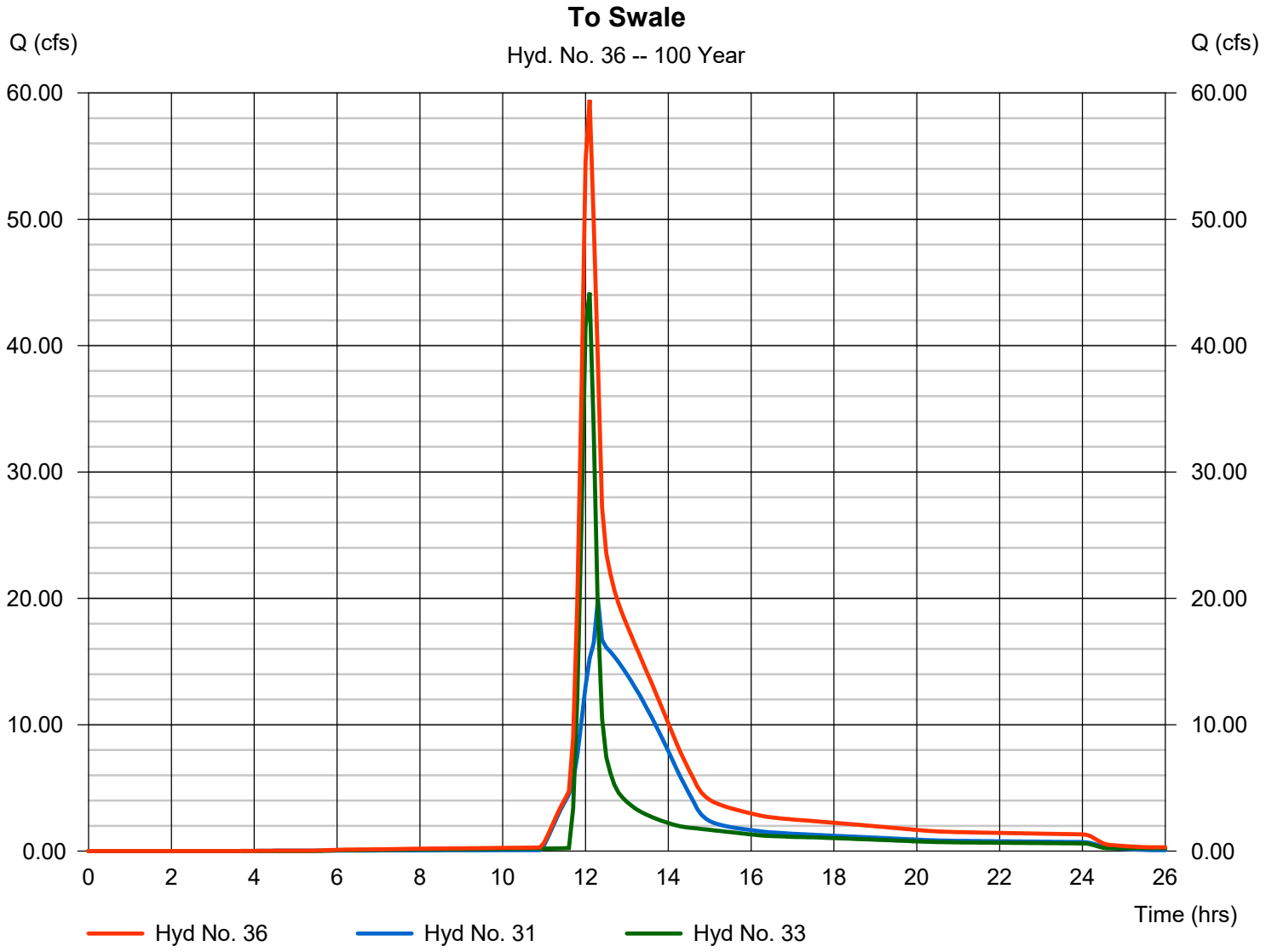
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 03 / 17 / 2016

Hyd. No. 36

To Swale

Hydrograph type	= Combine	Peak discharge	= 59.44 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.10 hrs
Time interval	= 6 min	Hyd. volume	= 332,725 cuft
Inflow hyds.	= 31, 33	Contrib. drain. area	= 0.000 ac



Hydrograph Report

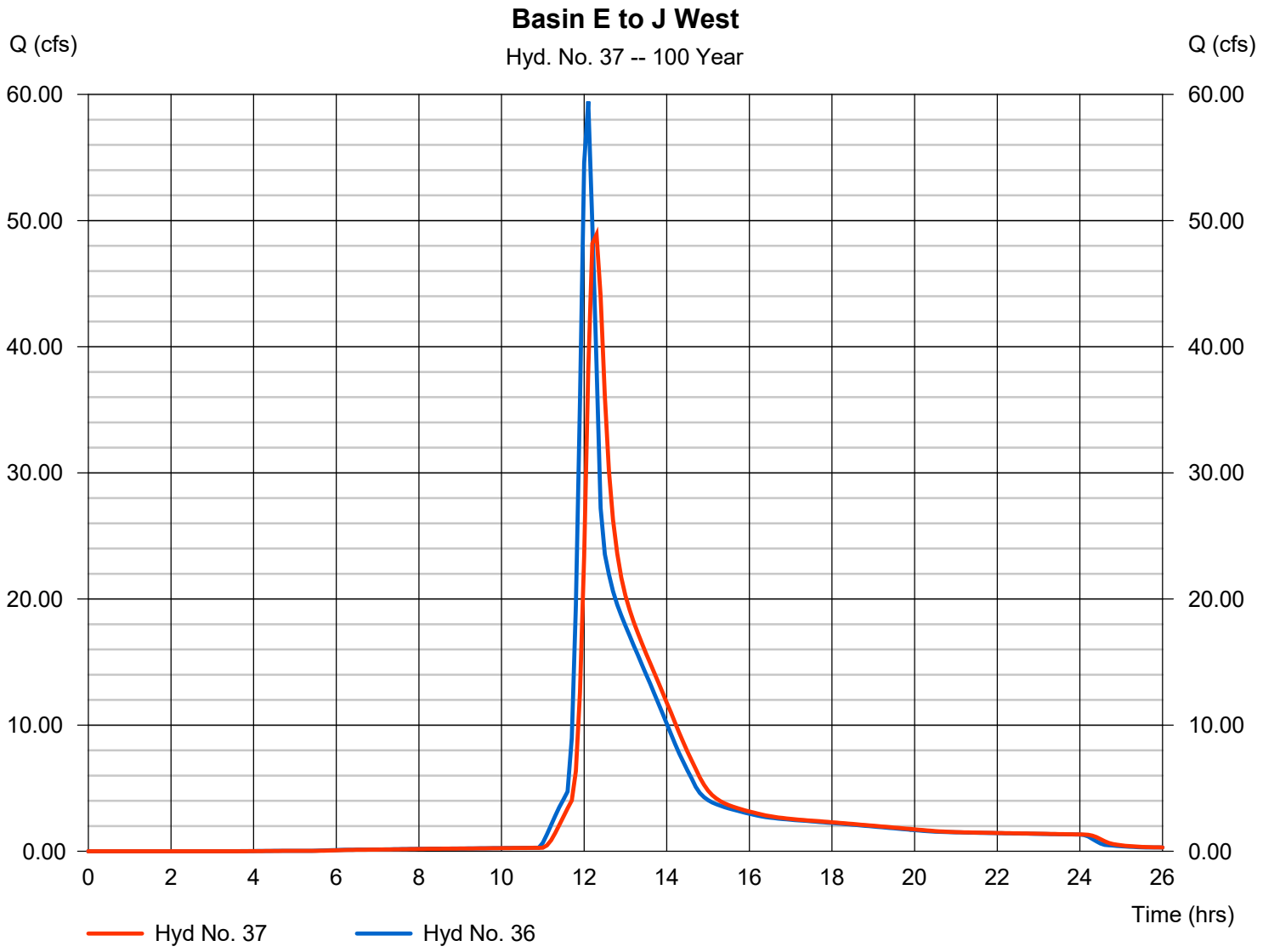
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 03 / 17 / 2016

Hyd. No. 37

Basin E to J West

Hydrograph type	=	Reach	Peak discharge	=	48.90 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.30 hrs
Time interval	=	6 min	Hyd. volume	=	332,689 cuft
Inflow hyd. No.	=	36 - To Swale	Section type	=	Trapezoidal
Reach length	=	1950.0 ft	Channel slope	=	0.4 %
Manning's n	=	0.035	Bottom width	=	5.0 ft
Side slope	=	3.0:1	Max. depth	=	3.0 ft
Rating curve x	=	0.920	Rating curve m	=	1.321
Ave. velocity	=	2.53 ft/s	Routing coeff.	=	0.4719

Modified Att-Kin routing method used.



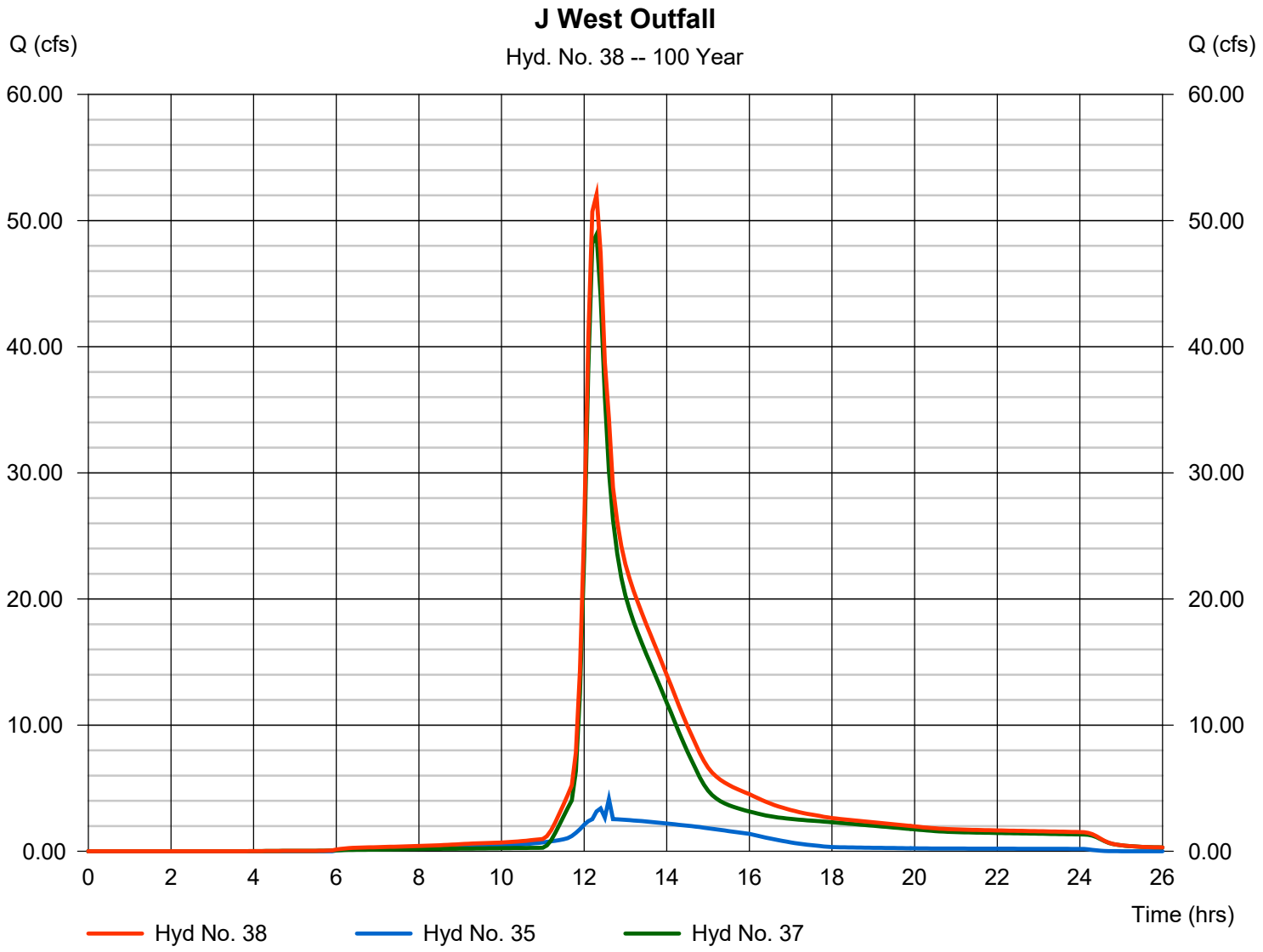
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 03 / 17 / 2016

Hyd. No. 38

J West Outfall

Hydrograph type	= Combine	Peak discharge	= 52.06 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.30 hrs
Time interval	= 6 min	Hyd. volume	= 384,828 cuft
Inflow hyds.	= 35, 37	Contrib. drain. area	= 0.000 ac



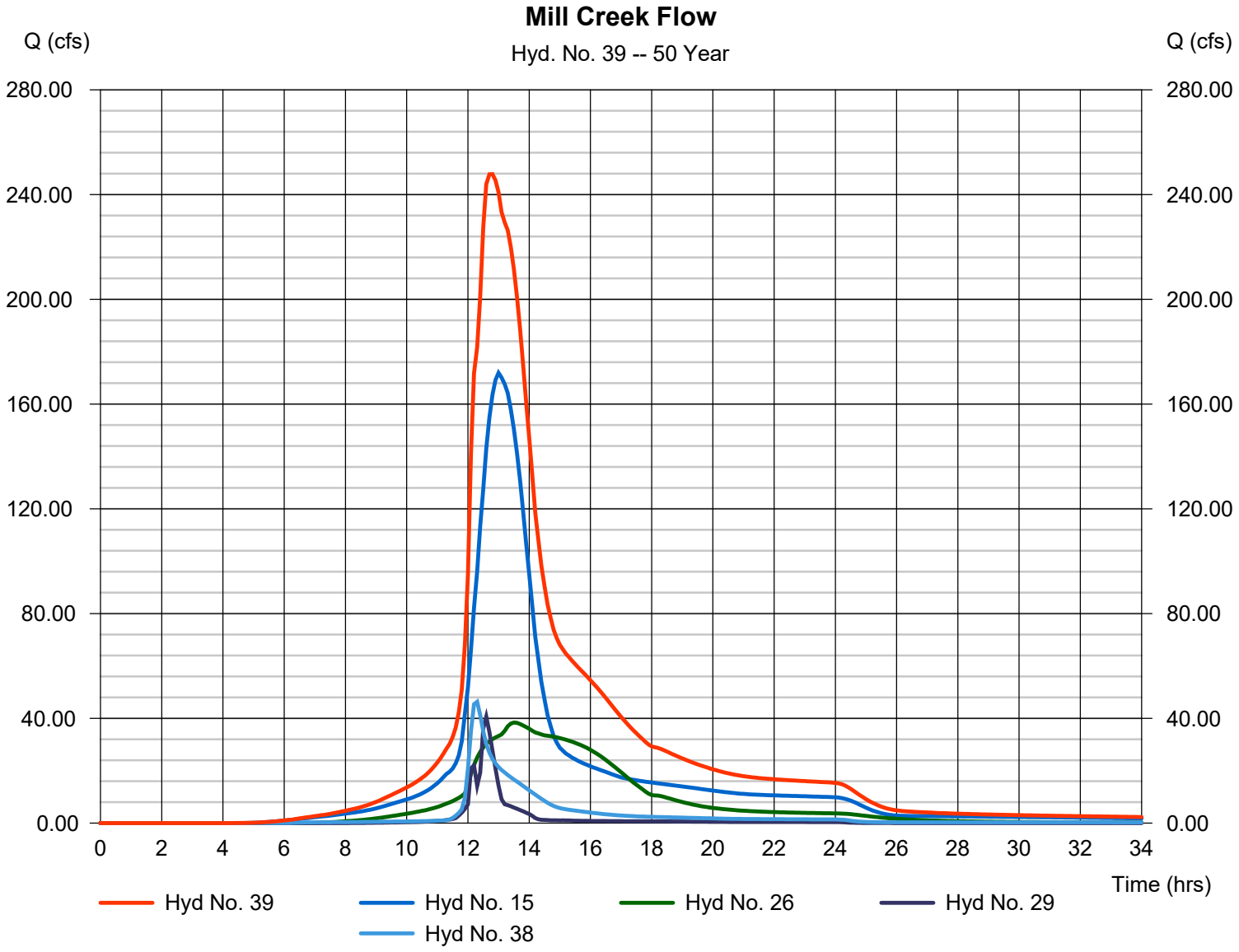
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 03 / 17 / 2016

Hyd. No. 39

Mill Creek Flow

Hydrograph type	= Combine	Peak discharge	= 247.81 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.80 hrs
Time interval	= 6 min	Hyd. volume	= 3,334,840 cuft
Inflow hyds.	= 15, 26, 29, 38	Contrib. drain. area	= 0.000 ac



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5 Thursday, 03 / 17 / 2016

Hyd. No. 39

Mill Creek Flow

Hydrograph type	= Combine	Peak discharge	= 272.52 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.60 hrs
Time interval	= 6 min	Hyd. volume	= 3,736,787 cuft
Inflow hyds.	= 15, 26, 29, 38	Contrib. drain. area	= 0.000 ac