

# **DRAINAGE CALCULATIONS, HYDRAULICS & HYDROLOGY REPORT**

**2227 Route 32  
Montville, CT**

**August 2025**

# **DRAINAGE HYDRAULICS AND HYDROLOGY REPORT**

**2227 Route 32  
Montville, CT**

## **EXISTING CONDITIONS**

The site is approximately 1.1 acres in area and is shown on the Existing Conditions Survey (Sheet 1 of the site plans). There are also less than 0.5 acres of wetlands on the site.

## **PROPOSED DEVELOPMENT**

The project proposes the redevelopment of the site for a mixed-use building. The first floor will be a package store and other commercial uses and the second floor will be apartments. This project is a modification of the previously developed site plan, with the addition of a temporary sedimentation basin, in accordance with the 2024 CT Guidelines for Soil Erosion & Sedimentation Control, which will ultimately become a permanent water quality basin and forebay, in accordance with the Connecticut the 2024 Stormwater Quality Manual (Manual). There is presently no stormwater treatment on this site.

## **EXISTING AND PROPOSED HYDRAULICS**

The stormwater management system has been designed to provide for zero increase in peak stormwater discharge from the site. The project has been designed to actually result in a decrease in the peak stormwater rates leaving the project site. The proposed stormwater water quality basin will provide treatment of the runoff from the proposed site.

The Proposed Drainage Area contains the proposed development for the site. The stormwater runoff from the proposed development will be treated by the proposed water

quality basin and forebay. Based on the tests done on the site, the basin has been modelled to assume that the basin will be a dry basin at the onset of the storm event.

The drainage area to CTDOT Route 32, pre-construction is approximately 0.12 acres. The drainage area to CTDOT Route 32 post-construction will be approximately 0.9 acres. In addition, we will be reducing the amount of pavement within the drainage area to Route 32. Therefore, there will be a reduction of stormwater runoff to Route 32 after the project is completed.

The drainage area to northerly wetlands, pre-construction is approximately 0.3 acres. The drainage area to the northerly wetlands post-construction will be approximately 0.08 acres. Therefore, there will be a reduction of stormwater runoff to the northerly wetlands after the project is completed.

The existing soils in the area of the proposed development are well drained soils, which have a hydraulic designation of B. We have used a CN of 98 for both the existing and proposed paved areas, buildings and structures. For the vegetated areas we have used a CN of 69. How the overall CN's are calculated are shown on the hydrograph sheets for Hyd. #1 and Hyd. #2.

Both the existing and the proposed conditions for the development site have been analyzed for the 2-year, 10-year, 25-year, 50-year, and 100 year design storms using the SCS model and the NOAA Type D rainfall distribution, which is included in the calculations.

**Drainage Area 1**

	<b>2 Year</b>	<b>10 Year</b>	<b>25 Year</b>	<b>50 Year</b>	<b>100 Year</b>
<b>Existing</b>	1.688 cfs	3.065 cfs	3.946 cfs	4.597 cfs	5.297 cfs
<b>Proposed</b>	0.000 cfs	0.581 cfs	2.452 cfs	4.031 cfs	5.268 cfs

The Manual calls for 6 inches of freeboard for the 10 year storm event and 3 inches of freeboard for the 100 year storm event. We have provided over 6 inches of freeboard for the 100 year storm event.

## **EROSION & SEDIMENTATION CONTROL**

The 2024 CT Guidelines for Soil Erosion & Sedimentation Control applies to the construction phase of the project. A detailed erosion and sediment control plan has been provided in the site development plans. The proposed stormwater water quality basin has been designed to function as a sedimentation trap during stabilization. However, the bottom 3 feet of the stormwater quality basin will not be excavated until after the site is stabilized and the temporary sedimentation basin is converted to the stormwater quality basin. The basin will only be excavated down to elevation 130 for the sedimentation trap. And then the additional 3 feet will be excavated down to elevation 334 for the permanent stormwater basin. This will protect the existing infiltration rate of the native materials under the basin.

The first calculation required by the Guidelines is for the sediment storage volume (SSV). The sediment storage volume is the calculation for one year of predicted sediment load. The required SSV calculation for the temporary sediment trap is shown below.

### **Drainage Area**

$$SSV = A(134CY/Acre)$$

$$A = 0.9 \text{ ACRE}$$

$$SSV = 120.6 \text{ CY} = \underline{\underline{3,256 \text{ CF}}}$$

The second calculation required by the Guidelines is for wet storage volume (WSV). The wet storage volume is the volume in the basin that is located below the bottom of the riprap for the level spreader outlet of the basin. The volume of the wet storage is required to be half of the required SSV. The required wet storage volume is shown below along with the dry storage volumes (DSV).

The required and provided storage for the basins are as follows:

**Drainage Area** (Outlet structure inlet elevation = 132.0)

Sedimentation Trap

1,628 CF of Wet Storage Volume Required	3,388 CF Provided*
1,628 CF of Dry Storage Volume Required	3,008 CF Provided
3,256 CF of Sediment Storage Volume Required	6,396 CF Total Provided

**\*storage in the water quality basin between elevation 130 and 132 plus storage in the forebay below elevation 132**

## **CONNECTICUT STORMWATER QUALITY MANUAL**

The Connecticut 2024 Stormwater Quality Manual (Manual) applies to the post construction phase, for the operation of the facility. The temporary sediment trap has been designed to function as a water quality basin after the site is stabilized. The basin meets the criteria of the Connecticut Stormwater Quality Manual for a Water Quality Basin.

The proposed stormwater water quality basin has been designed to function a sedimentation trap during stabilization. However, the bottom 3 feet of the stormwater quality basin will not be excavated until after the site is stabilized and the temporary sedimentation basin is converted to the stormwater quality basin. The basin will only be excavated down to elevation 337 for the sedimentation trap. And then the additional 3 feet will be excavated down to elevation 334 for the permanent stormwater basin. This will protect the existing infiltration rate of the native materials under the basin.

## Drainage Area

$$WQV = (1.3'')(R)(A)/12$$

$$A = 0.9 \text{ Acre}$$

$$R = 0.05 + 0.009(I)$$

$$I = 0.5 \text{ Acres} / 0.9 \text{ Acres} = 0.56 \quad (56\%)$$

$$R = 0.55$$

$$WQV = 0.054 \text{ Ac-Ft} = 2,352 \text{ CF} \quad (\text{Required})$$

**5,022 CF (WQV Provided in Water Quality Basin between elevation 127 and 132, plus WQV provided in the forebay)**

**The Forebay provides 326 CF of WQV, which is 15% of the required WQV**

**Once development of the site is completed, there will be a decrease in volume and runoff from the site. The temporary sedimentation basin provides ample wet and dry storage volume to meet and exceed the requirements of the 2024 CT Guidelines for Soil & Sedimentation Control, as well as the 2024 CT Guidelines for Soil & Sedimentation Control. Likewise, the Water Quality Basin meets and exceeds the post construction requirements of the Connecticut 2024 Stormwater Quality Manual.**

# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

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	1.688	1	727	5,215	-----	-----	-----	Existing Area
2	SCS Runoff	2.140	1	727	6,647	-----	-----	-----	Proposed Area
3	Reservoir	2.101	1	728	6,329	2	132.26	488	Forbay
4	Reservoir	0.000	1	770	0	3	131.08	3,046	Stormwater Basin
Route 32 - Drainage Calculations - SCSgpw. Return Period: 2 Year								Friday, 09 / 5 / 2025	

# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

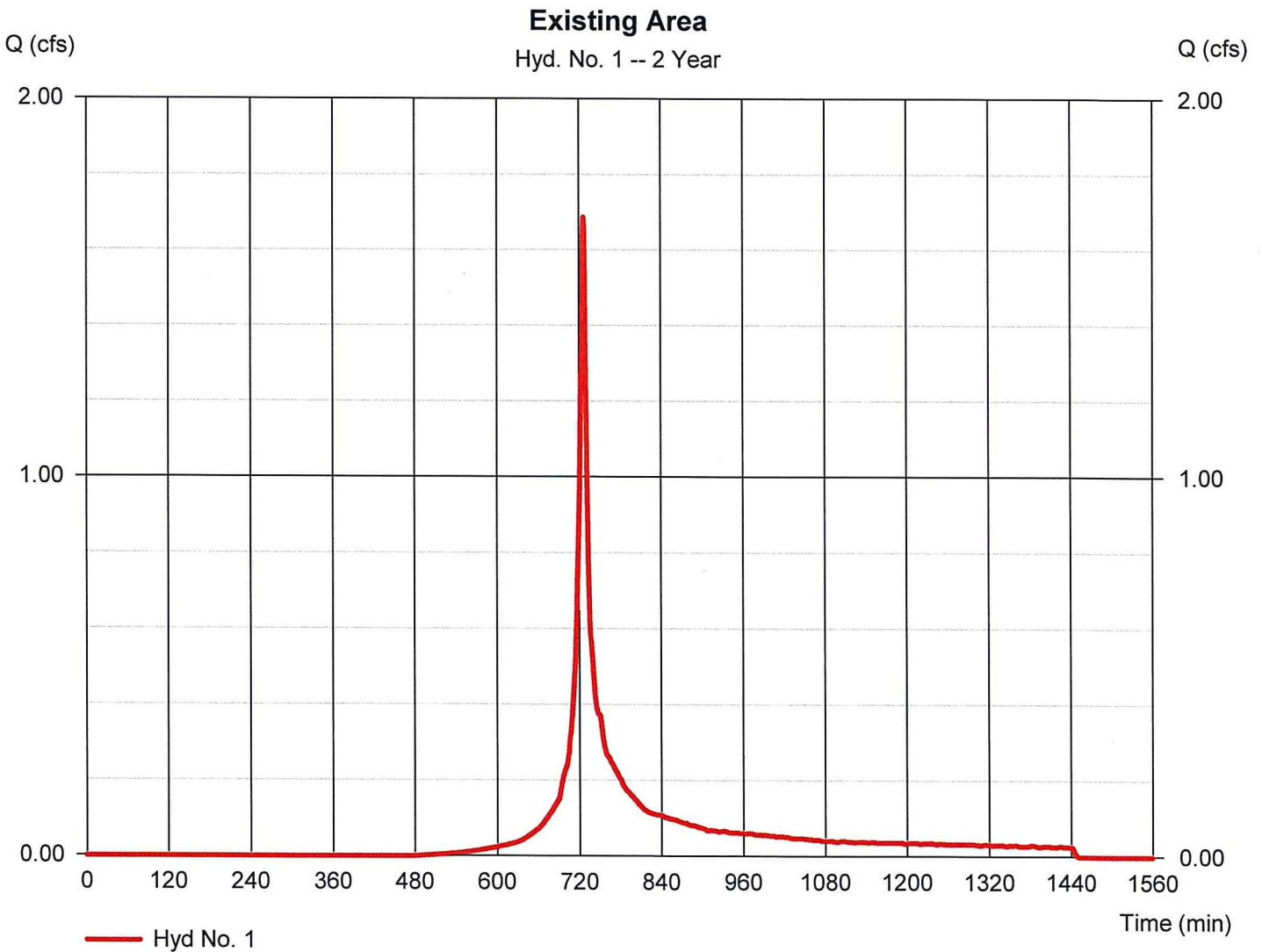
Friday, 09 / 5 / 2025

## Hyd. No. 1

### Existing Area

Hydrograph type	= SCS Runoff	Peak discharge	= 1.688 cfs
Storm frequency	= 2 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 5,215 cuft
Drainage area	= 0.800 ac	Curve number	= 82*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.45 in	Distribution	= Custom
Storm duration	= NOAA Type D Distribution 1 shape	Shape factor	= 484

\* Composite (Area/CN) = [(0.350 x 98) + (0.450 x 69)] / 0.800



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

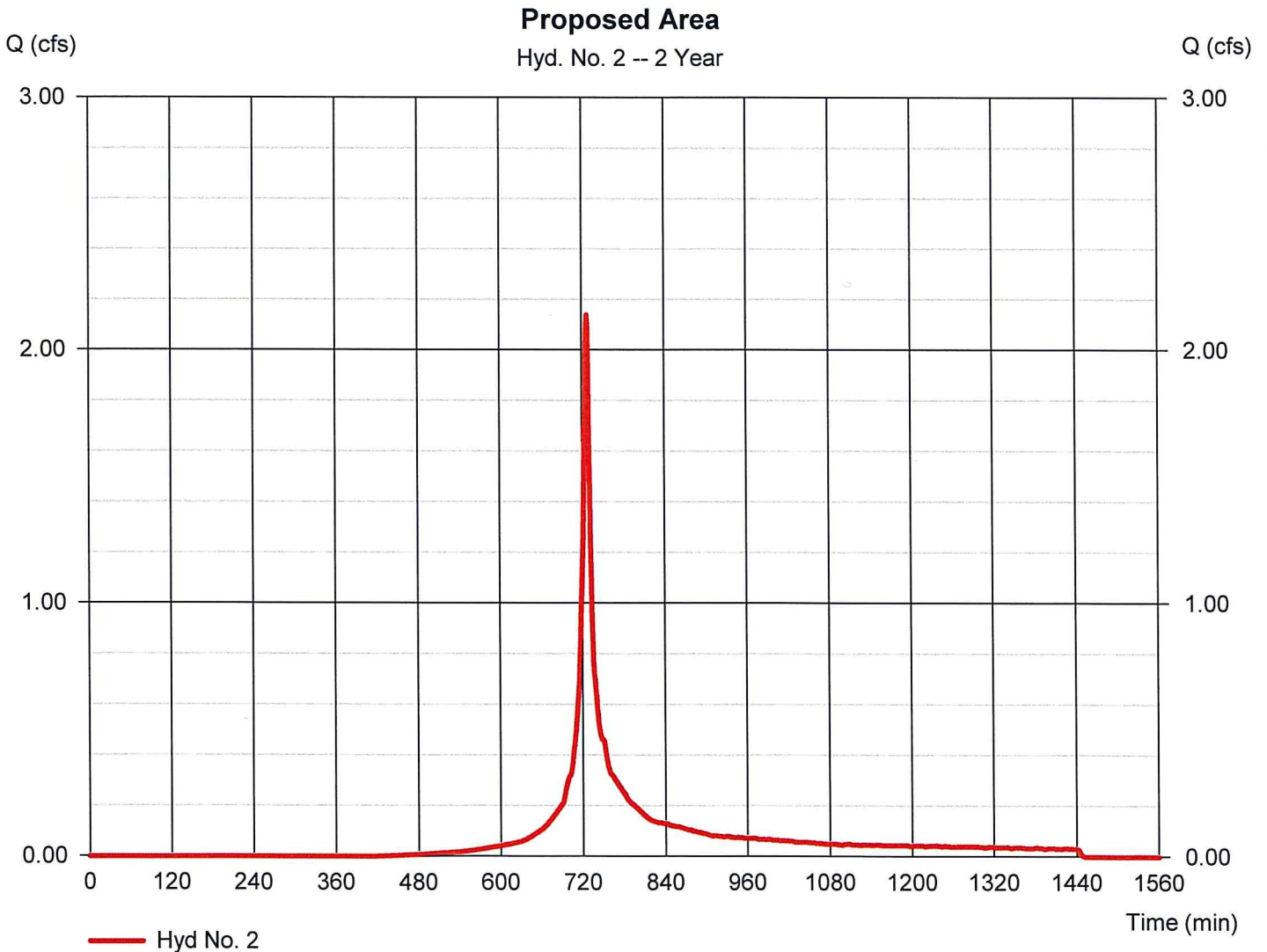
Friday, 09 / 5 / 2025

## Hyd. No. 2

### Proposed Area

Hydrograph type	= SCS Runoff	Peak discharge	= 2.140 cfs
Storm frequency	= 2 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 6,647 cuft
Drainage area	= 0.900 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.45 in	Distribution	= Custom
Storm duration	= NOAA Type D Distribution 1	Shape factor	= 484

\* Composite (Area/CN) = [(0.500 x 98) + (0.400 x 69)] / 0.900



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

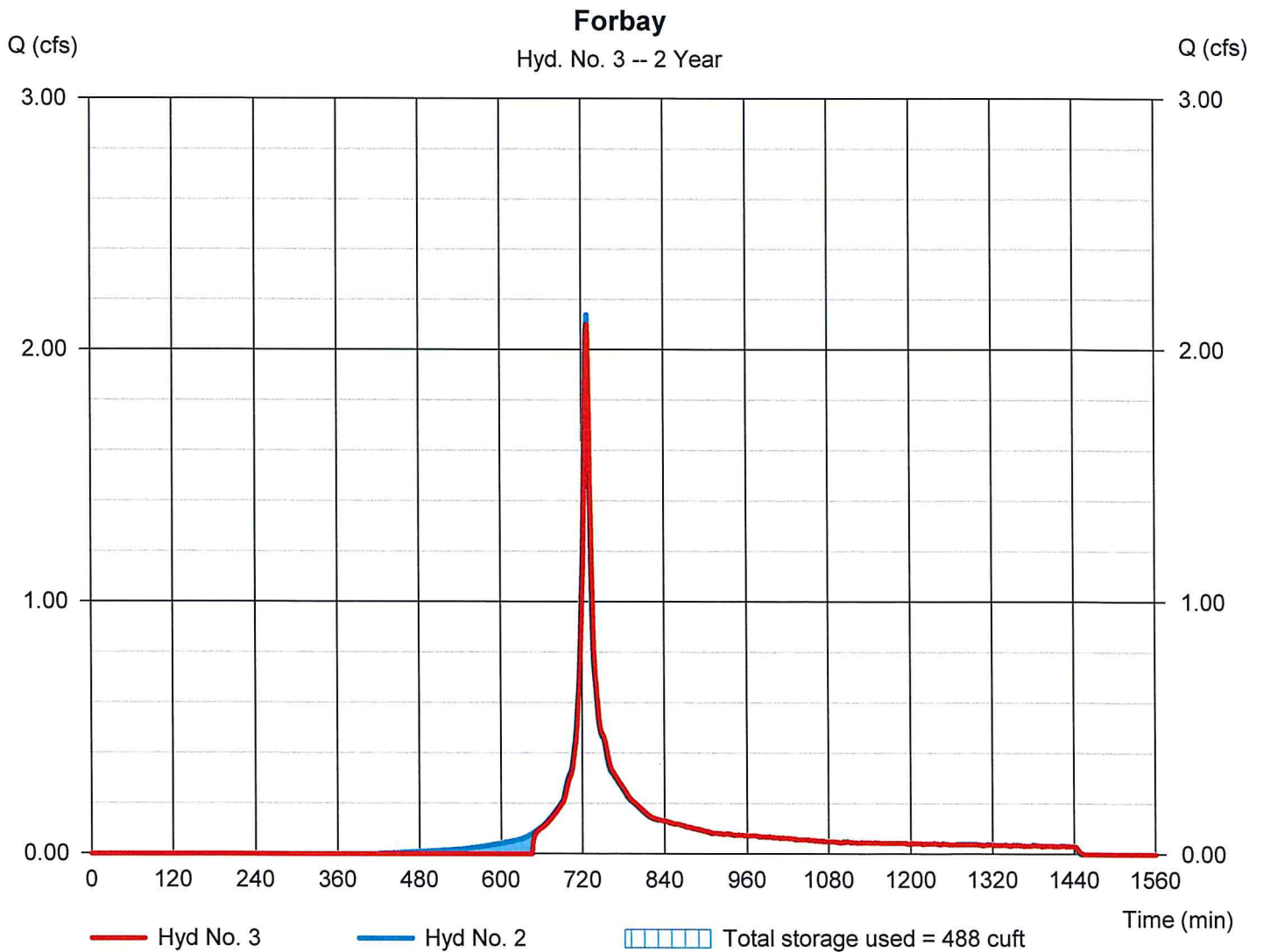
Friday, 09 / 5 / 2025

## Hyd. No. 3

Forbay

Hydrograph type	= Reservoir	Peak discharge	= 2.101 cfs
Storm frequency	= 2 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 6,329 cuft
Inflow hyd. No.	= 2 - Proposed Area	Max. Elevation	= 132.26 ft
Reservoir name	= Forebay	Max. Storage	= 488 cuft

Storage Indication method used.



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

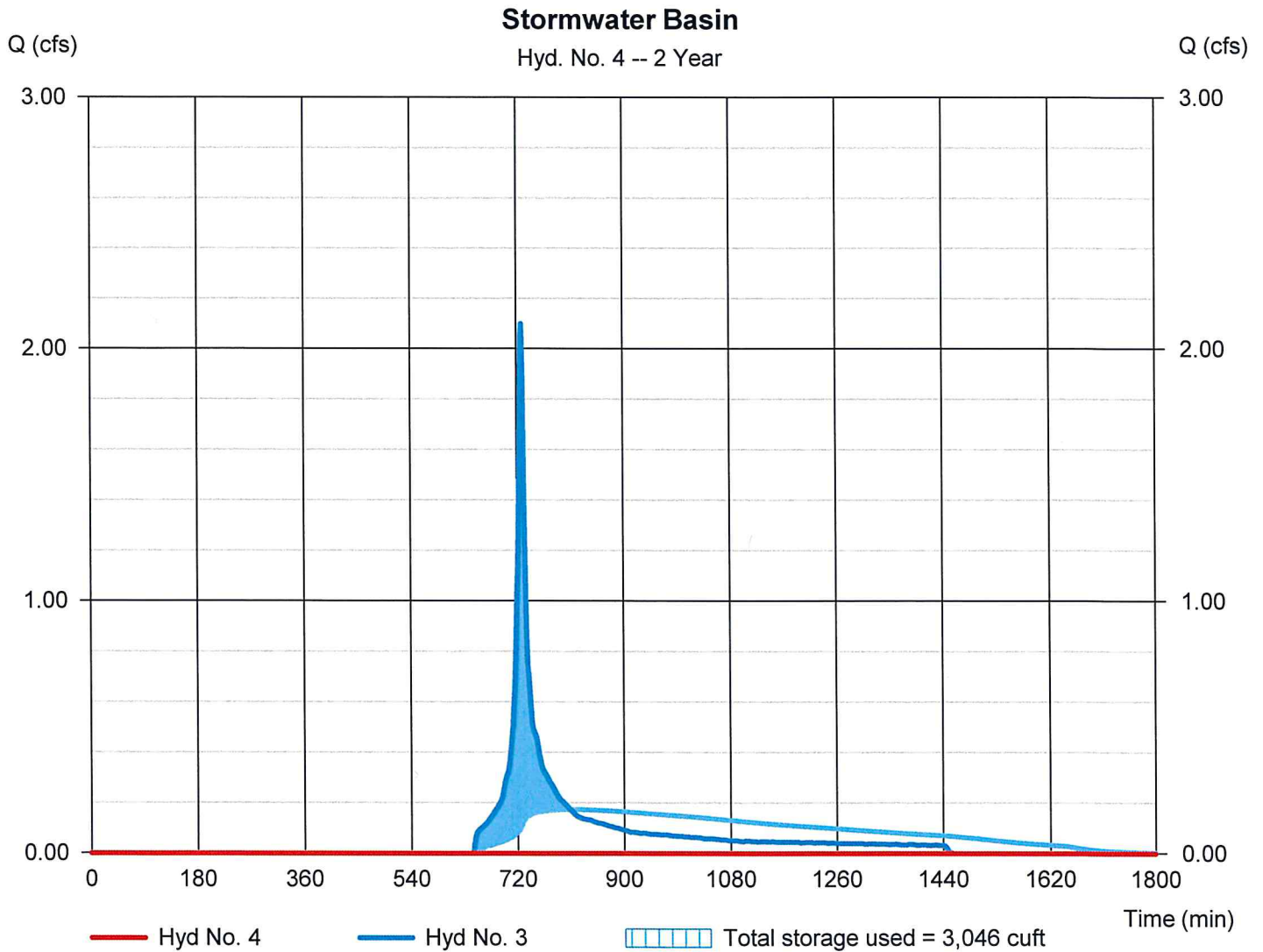
Friday, 09 / 5 / 2025

## Hyd. No. 4

### Stormwater Basin

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 2 yrs	Time to peak	= 770 min
Time interval	= 1 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 3 - Forbay	Max. Elevation	= 131.08 ft
Reservoir name	= Pond 1	Max. Storage	= 3,046 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

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	3.065	1	727	9,597	-----	-----	-----	Existing Area
2	SCS Runoff	3.715	1	727	11,784	-----	-----	-----	Proposed Area
3	Reservoir	3.659	1	728	11,466	2	132.38	565	Forbay
4	Reservoir	0.581	1	747	1,354	3	132.11	4,948	Stormwater Basin
Route 32 - Drainage Calculations - SCSgpw. Return Period: 10 Year								Friday, 09 / 5 / 2025	

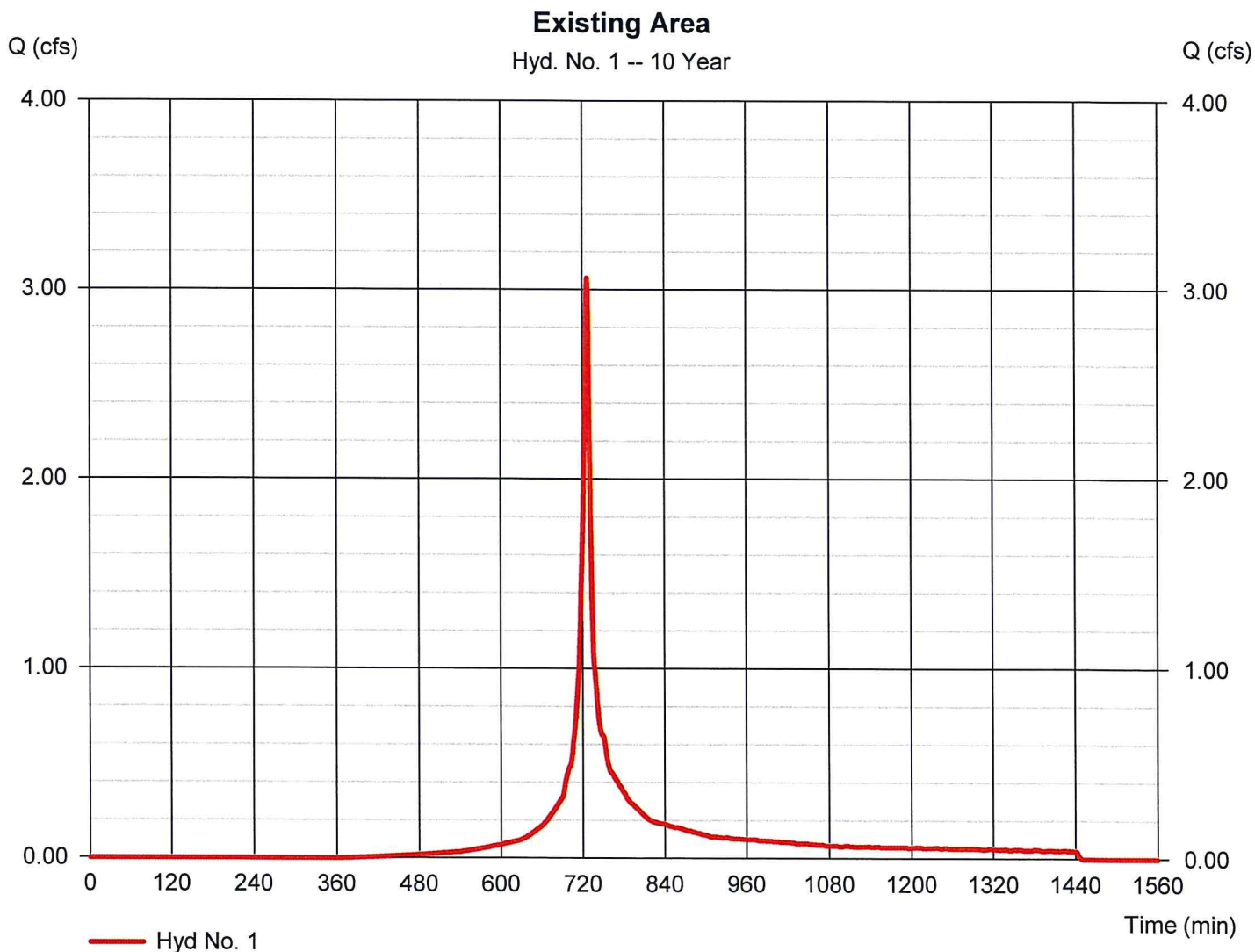
# Hydrograph Report

## Hyd. No. 1

### Existing Area

Hydrograph type	= SCS Runoff	Peak discharge	= 3.065 cfs
Storm frequency	= 10 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 9,597 cuft
Drainage area	= 0.800 ac	Curve number	= 82*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.14 in	Distribution	= Custom
Storm duration	= NOAA Type D Distribution 1	Shape factor	= 484

\* Composite (Area/CN) = [(0.350 x 98) + (0.450 x 69)] / 0.800



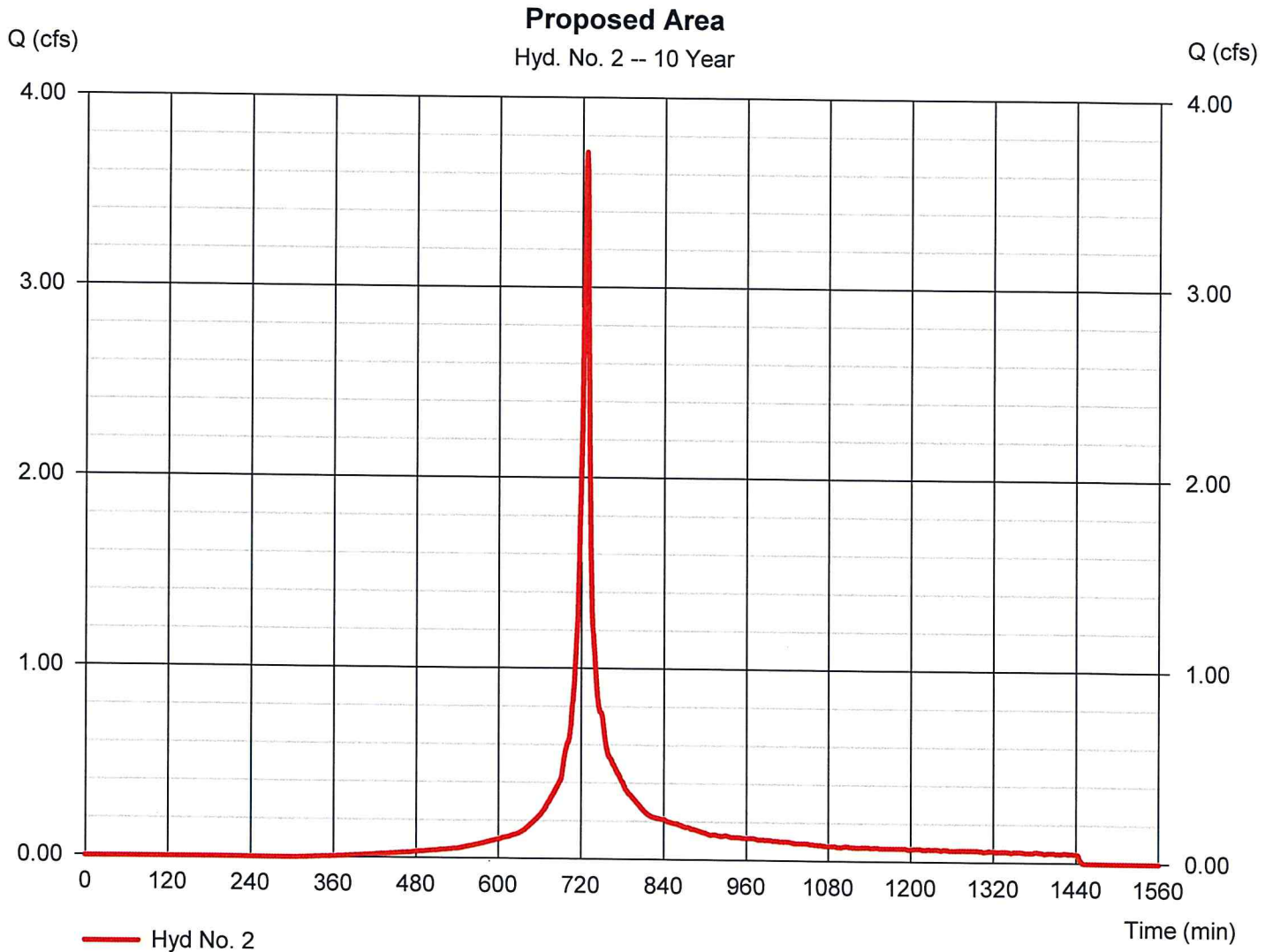
# Hydrograph Report

## Hyd. No. 2

### Proposed Area

Hydrograph type	= SCS Runoff	Peak discharge	= 3.715 cfs
Storm frequency	= 10 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 11,784 cuft
Drainage area	= 0.900 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.14 in	Distribution	= Custom
Storm duration	= NOAA Type D Distribution 1	Shape factor	= 484

\* Composite (Area/CN) = [(0.500 x 98) + (0.400 x 69)] / 0.900



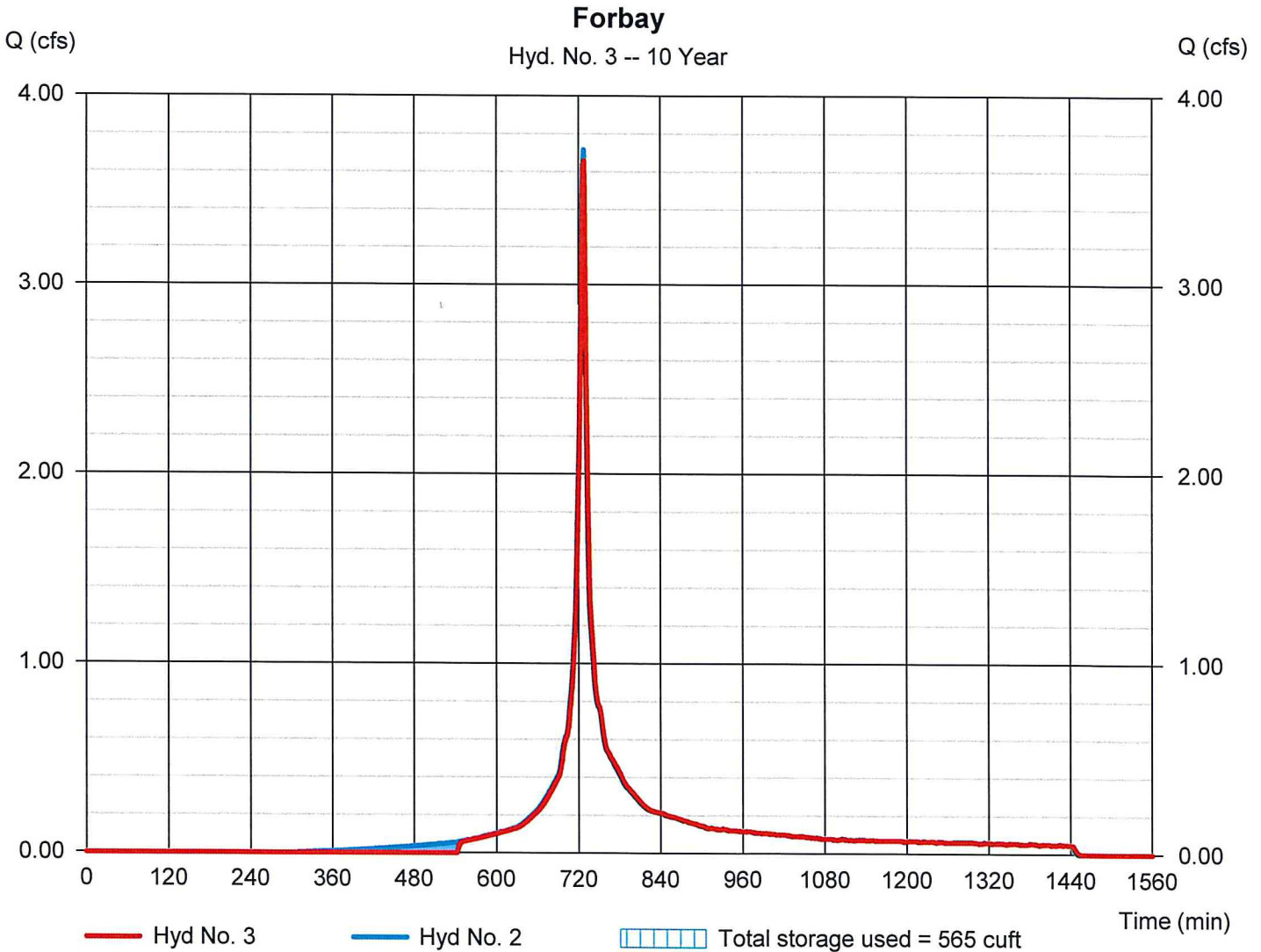
# Hydrograph Report

## Hyd. No. 3

Forbay

Hydrograph type	= Reservoir	Peak discharge	= 3.659 cfs
Storm frequency	= 10 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 11,466 cuft
Inflow hyd. No.	= 2 - Proposed Area	Max. Elevation	= 132.38 ft
Reservoir name	= Forebay	Max. Storage	= 565 cuft

Storage Indication method used.



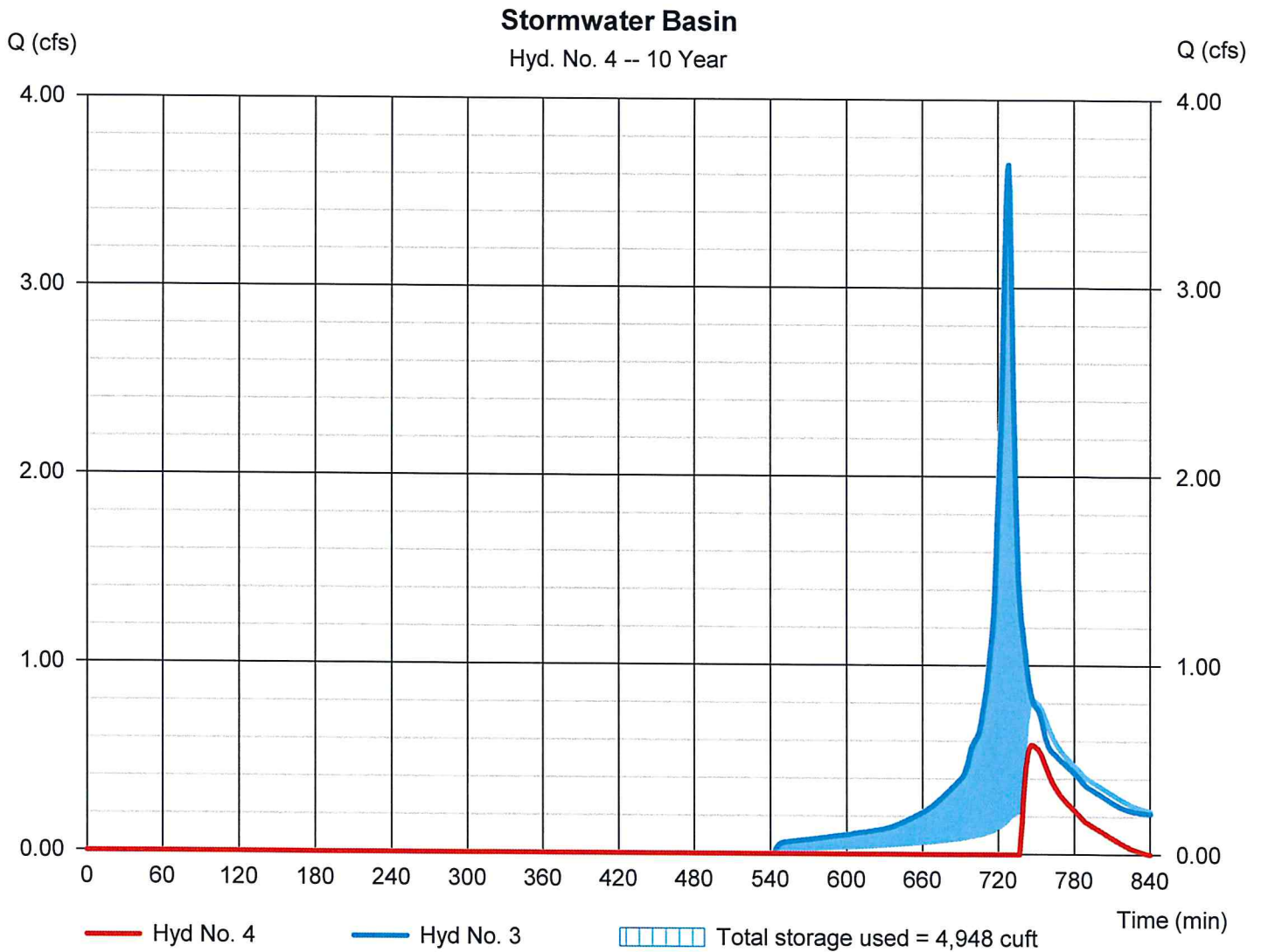
# Hydrograph Report

## Hyd. No. 4

### Stormwater Basin

Hydrograph type	= Reservoir	Peak discharge	= 0.581 cfs
Storm frequency	= 10 yrs	Time to peak	= 747 min
Time interval	= 1 min	Hyd. volume	= 1,354 cuft
Inflow hyd. No.	= 3 - Forbay	Max. Elevation	= 132.11 ft
Reservoir name	= Pond 1	Max. Storage	= 4,948 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

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	3.946	1	727	12,493	-----	-----	-----	Existing Area
2	SCS Runoff	4.709	1	727	15,132	-----	-----	-----	Proposed Area
3	Reservoir	4.644	1	728	14,814	2	132.44	608	Forbay
4	Reservoir	2.452	1	733	3,627	3	132.29	5,345	Stormwater Basin
Route 32 - Drainage Calculations - SCSgpw. Return Period: 25 Year								Friday, 09 / 5 / 2025	

# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

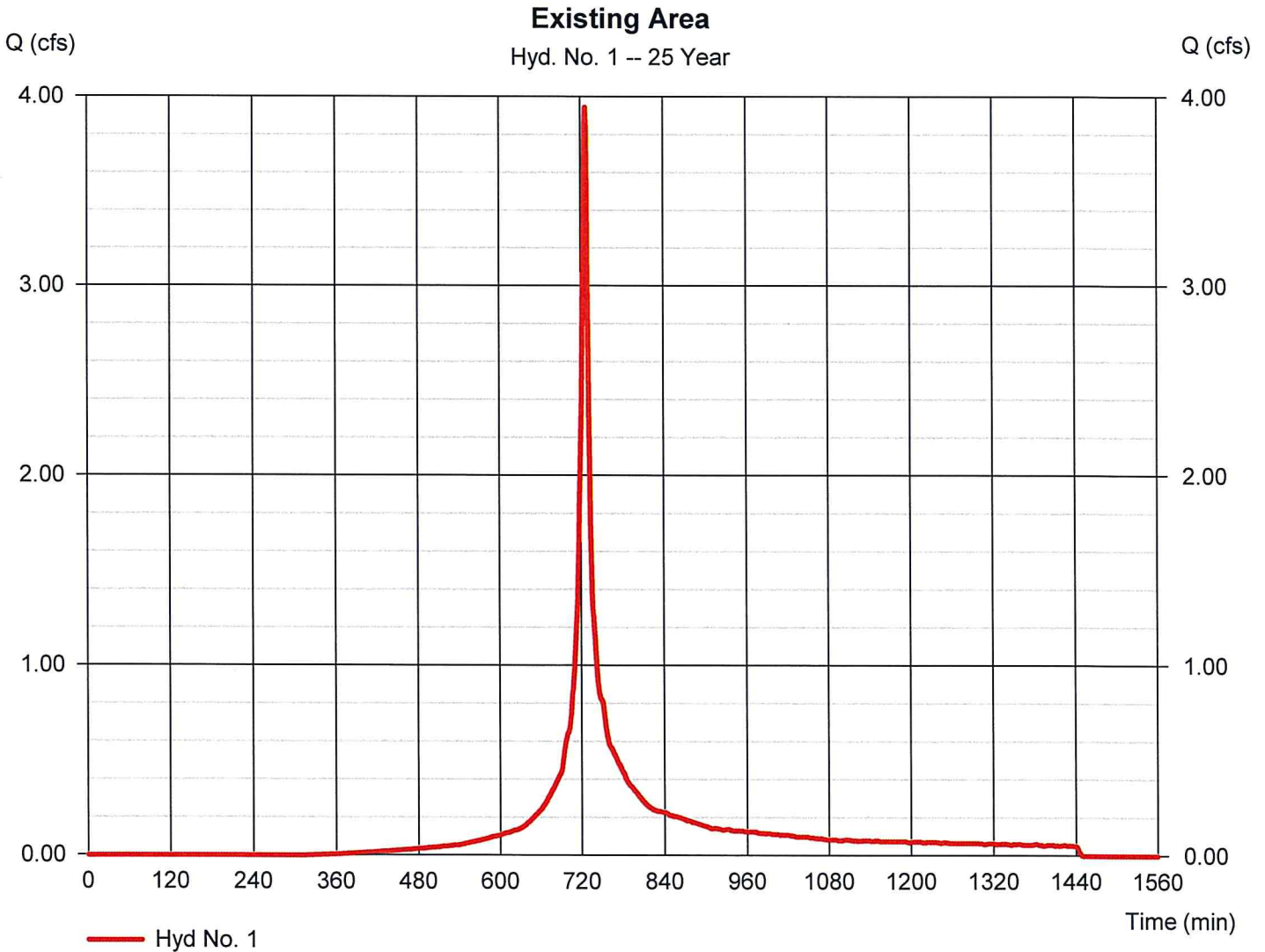
Friday, 09 / 5 / 2025

## Hyd. No. 1

### Existing Area

Hydrograph type	= SCS Runoff	Peak discharge	= 3.946 cfs
Storm frequency	= 25 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 12,493 cuft
Drainage area	= 0.800 ac	Curve number	= 82*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.20 in	Distribution	= Custom
Storm duration	= NOAA Type D Distribution 1	Shape factor	= 484

\* Composite (Area/CN) = [(0.350 x 98) + (0.450 x 69)] / 0.800



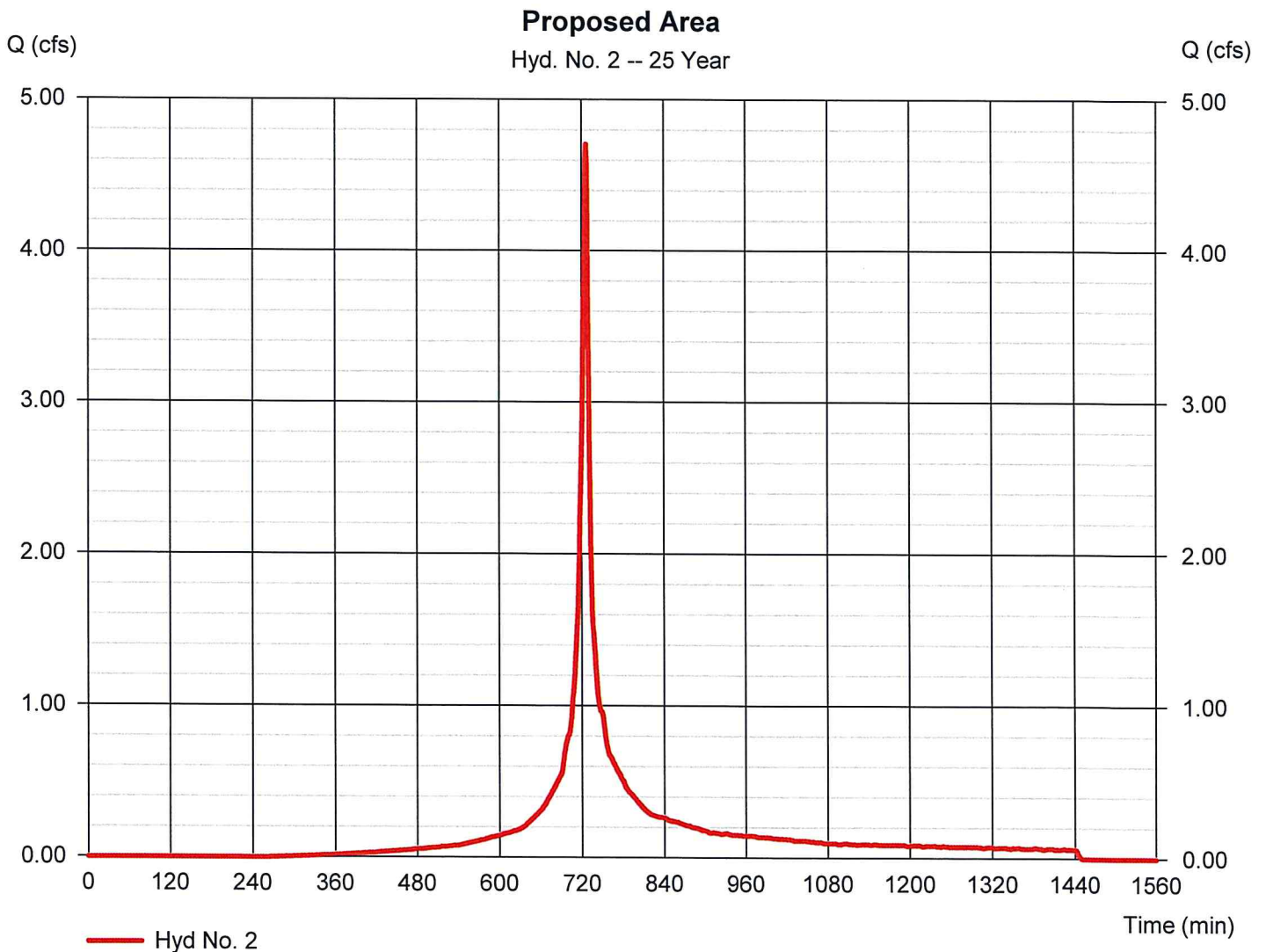
# Hydrograph Report

## Hyd. No. 2

### Proposed Area

Hydrograph type	= SCS Runoff	Peak discharge	= 4.709 cfs
Storm frequency	= 25 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 15,132 cuft
Drainage area	= 0.900 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.20 in	Distribution	= Custom
Storm duration	= NOAA Type D Distribution 1 shape	Shape factor	= 484

\* Composite (Area/CN) = [(0.500 x 98) + (0.400 x 69)] / 0.900



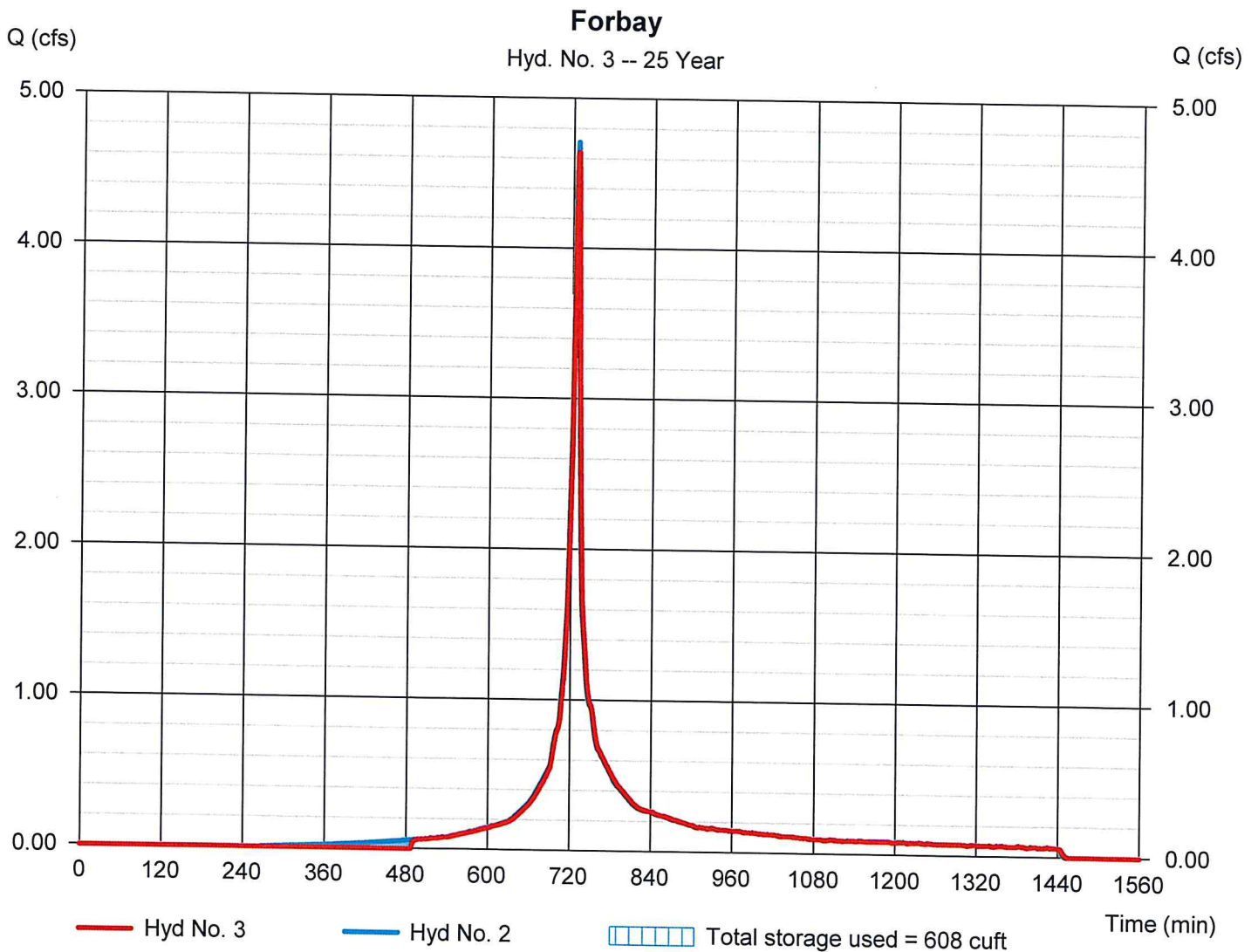
# Hydrograph Report

## Hyd. No. 3

Forbay

Hydrograph type	= Reservoir	Peak discharge	= 4.644 cfs
Storm frequency	= 25 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 14,814 cuft
Inflow hyd. No.	= 2 - Proposed Area	Max. Elevation	= 132.44 ft
Reservoir name	= Forebay	Max. Storage	= 608 cuft

Storage Indication method used.



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

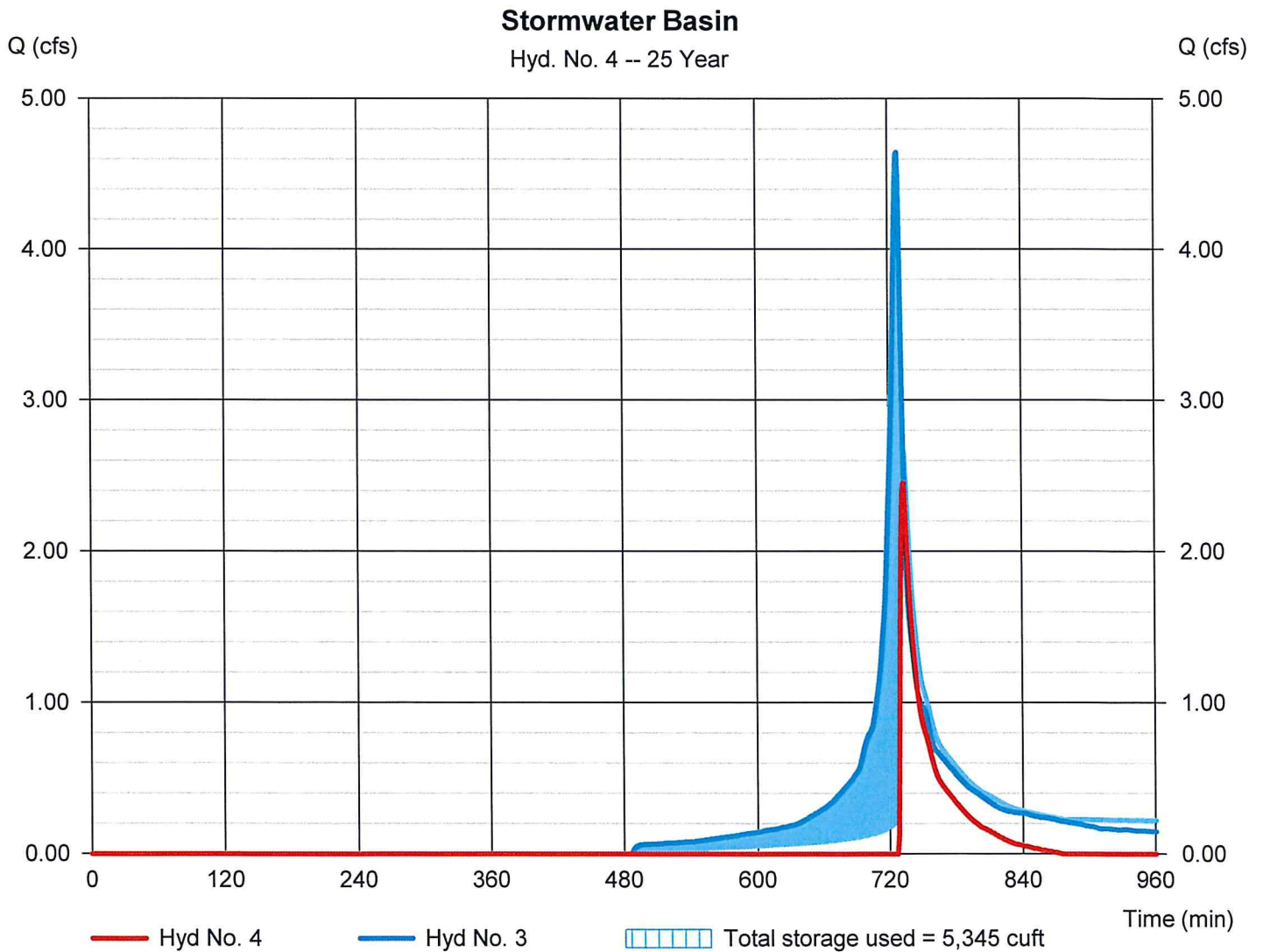
Friday, 09 / 5 / 2025

## Hyd. No. 4

### Stormwater Basin

Hydrograph type	= Reservoir	Peak discharge	= 2.452 cfs
Storm frequency	= 25 yrs	Time to peak	= 733 min
Time interval	= 1 min	Hyd. volume	= 3,627 cuft
Inflow hyd. No.	= 3 - Forbay	Max. Elevation	= 132.29 ft
Reservoir name	= Pond 1	Max. Storage	= 5,345 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

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	4.597	1	727	14,667	-----	-----	-----	Existing Area
2	SCS Runoff	5.439	1	727	17,632	-----	-----	-----	Proposed Area
3	Reservoir	5.362	1	728	17,314	2	132.49	637	Forbay
4	Reservoir	4.031	1	731	5,397	3	132.41	5,597	Stormwater Basin
Route 32 - Drainage Calculations - SCSgpw. Return Period: 50 Year								Friday, 09 / 5 / 2025	

# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

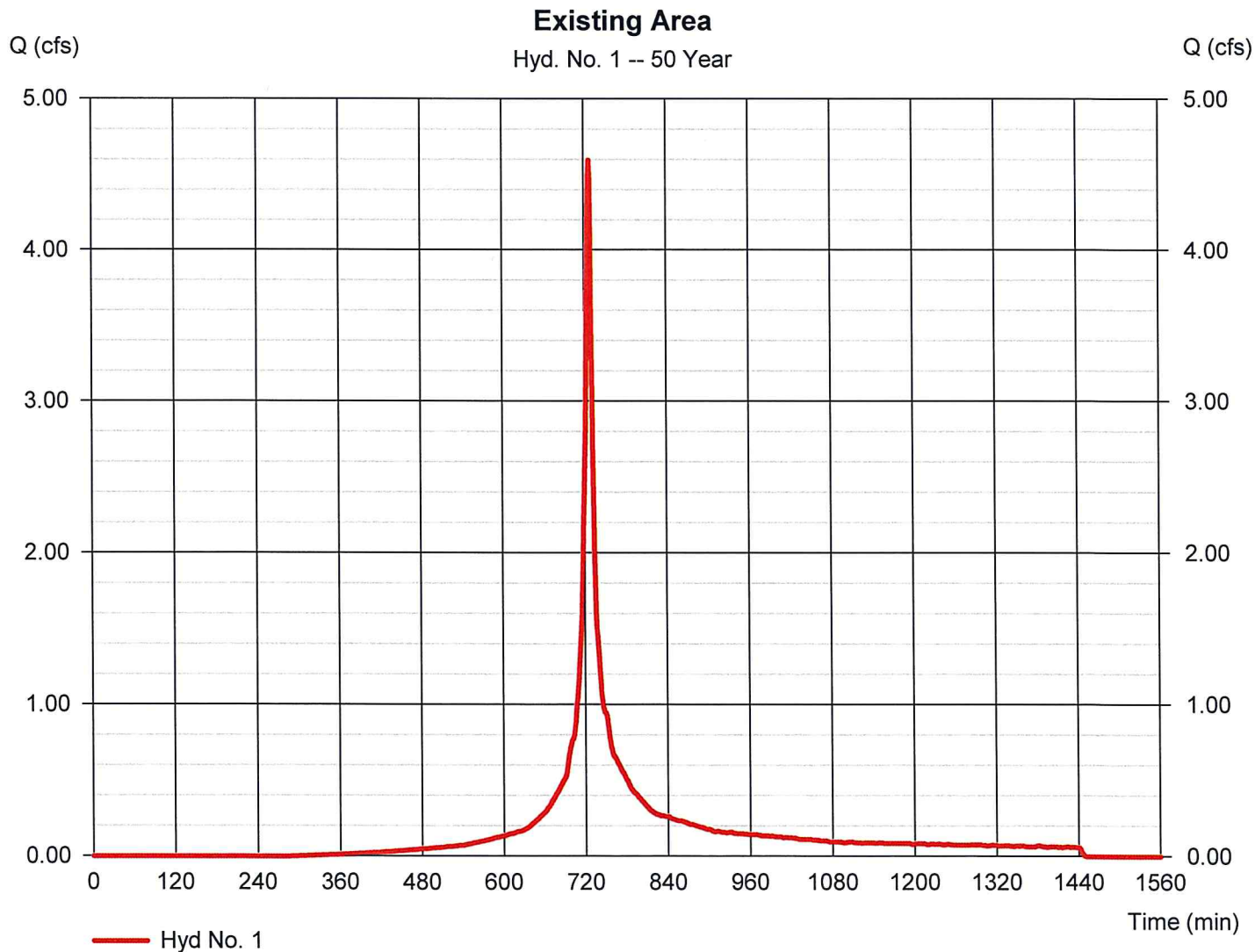
Friday, 09 / 5 / 2025

## Hyd. No. 1

### Existing Area

Hydrograph type	= SCS Runoff	Peak discharge	= 4.597 cfs
Storm frequency	= 50 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 14,667 cuft
Drainage area	= 0.800 ac	Curve number	= 82*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.98 in	Distribution	= Custom
Storm duration	= NOAA Type D Distribution 1	Shape factor	= 484

\* Composite (Area/CN) =  $[(0.350 \times 98) + (0.450 \times 69)] / 0.800$



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

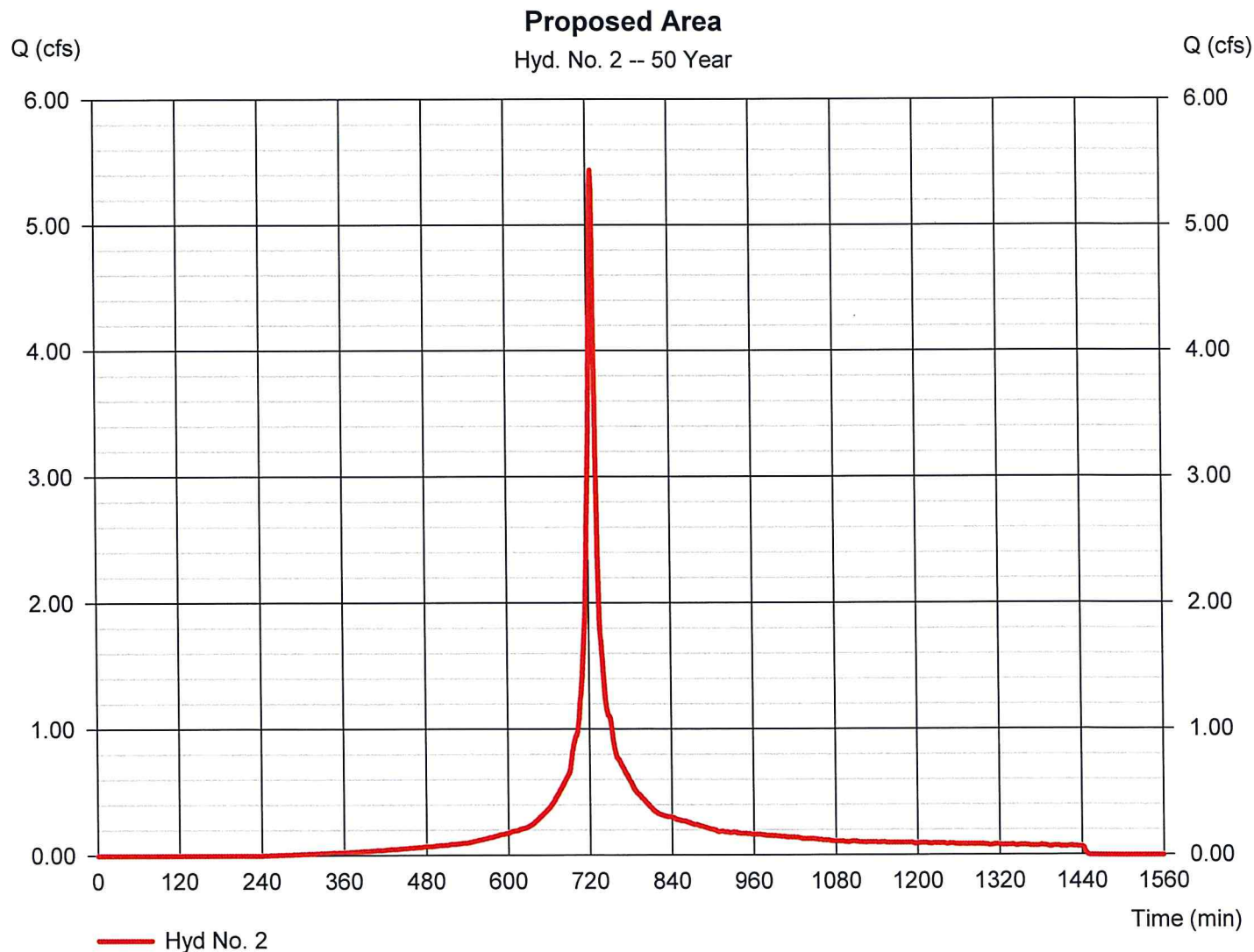
Friday, 09 / 5 / 2025

## Hyd. No. 2

### Proposed Area

Hydrograph type	= SCS Runoff	Peak discharge	= 5.439 cfs
Storm frequency	= 50 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 17,632 cuft
Drainage area	= 0.900 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.98 in	Distribution	= Custom
Storm duration	= NOAA Type D Distribution 1	Shape factor	= 484

\* Composite (Area/CN) = [(0.500 x 98) + (0.400 x 69)] / 0.900



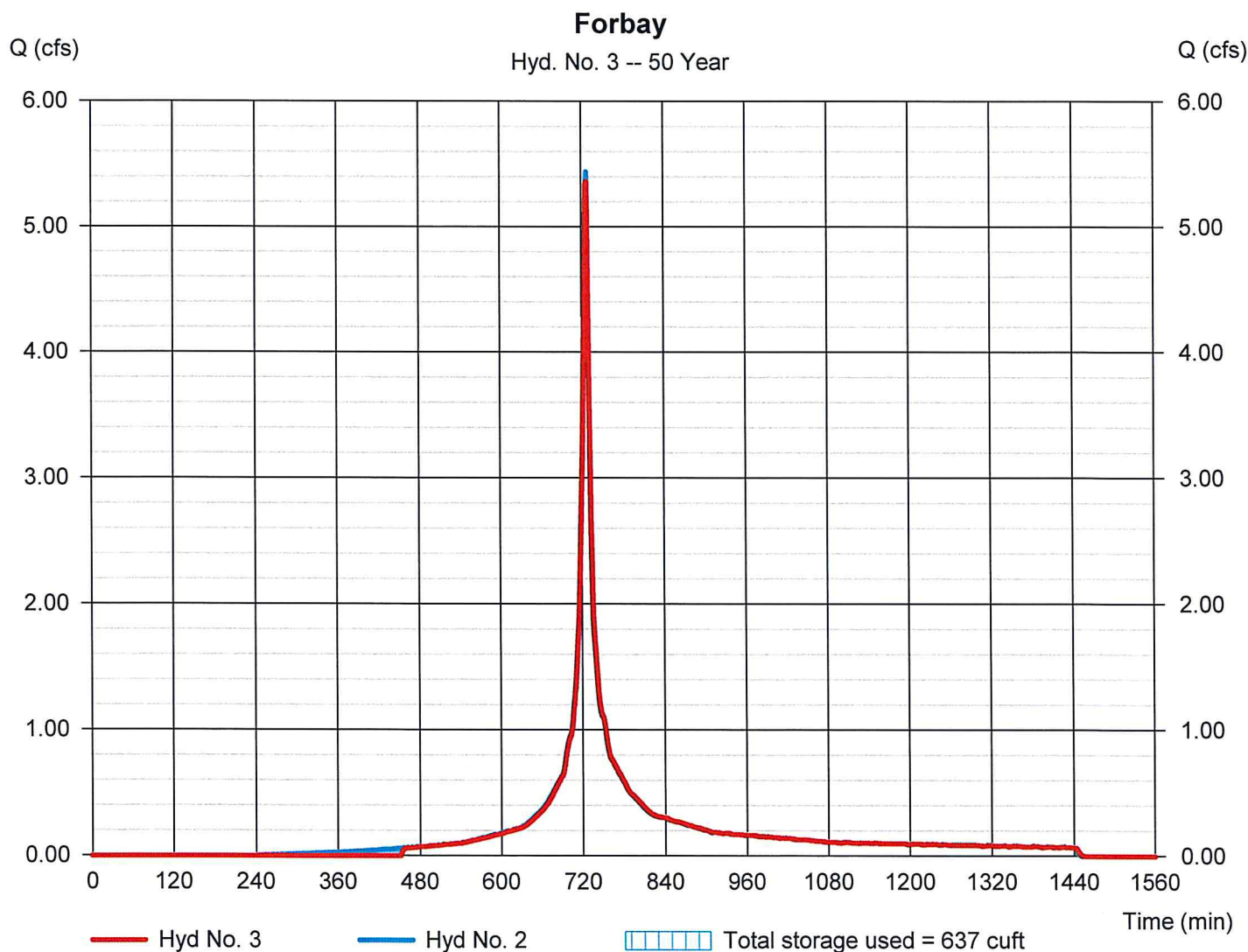
# Hydrograph Report

## Hyd. No. 3

Forbay

Hydrograph type	= Reservoir	Peak discharge	= 5.362 cfs
Storm frequency	= 50 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 17,314 cuft
Inflow hyd. No.	= 2 - Proposed Area	Max. Elevation	= 132.49 ft
Reservoir name	= Forebay	Max. Storage	= 637 cuft

Storage Indication method used.



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

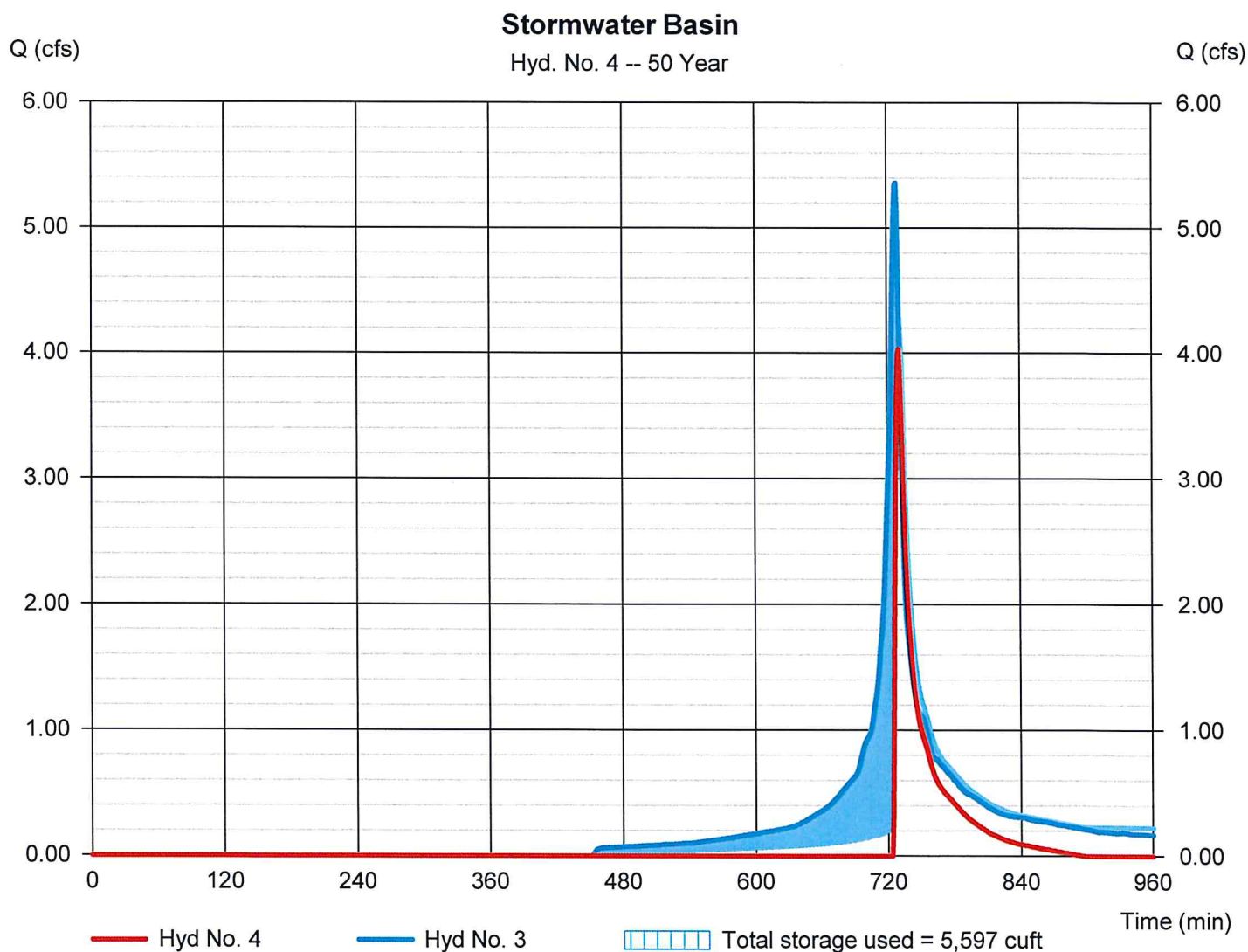
Friday, 09 / 5 / 2025

## Hyd. No. 4

### Stormwater Basin

Hydrograph type	= Reservoir	Peak discharge	= 4.031 cfs
Storm frequency	= 50 yrs	Time to peak	= 731 min
Time interval	= 1 min	Hyd. volume	= 5,397 cuft
Inflow hyd. No.	= 3 - Forbay	Max. Elevation	= 132.41 ft
Reservoir name	= Pond 1	Max. Storage	= 5,597 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

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	5.297	1	727	17,037	-----	-----	-----	Existing Area
2	SCS Runoff	6.223	1	727	20,348	-----	-----	-----	Proposed Area
3	Reservoir	6.137	1	728	20,030	2	132.54	667	Forbay
4	Reservoir	5.268	1	730	7,361	3	132.48	5,772	Stormwater Basin
Route 32 - Drainage Calculations - SCS								Return Period: 100 Year	Friday, 09 / 5 / 2025

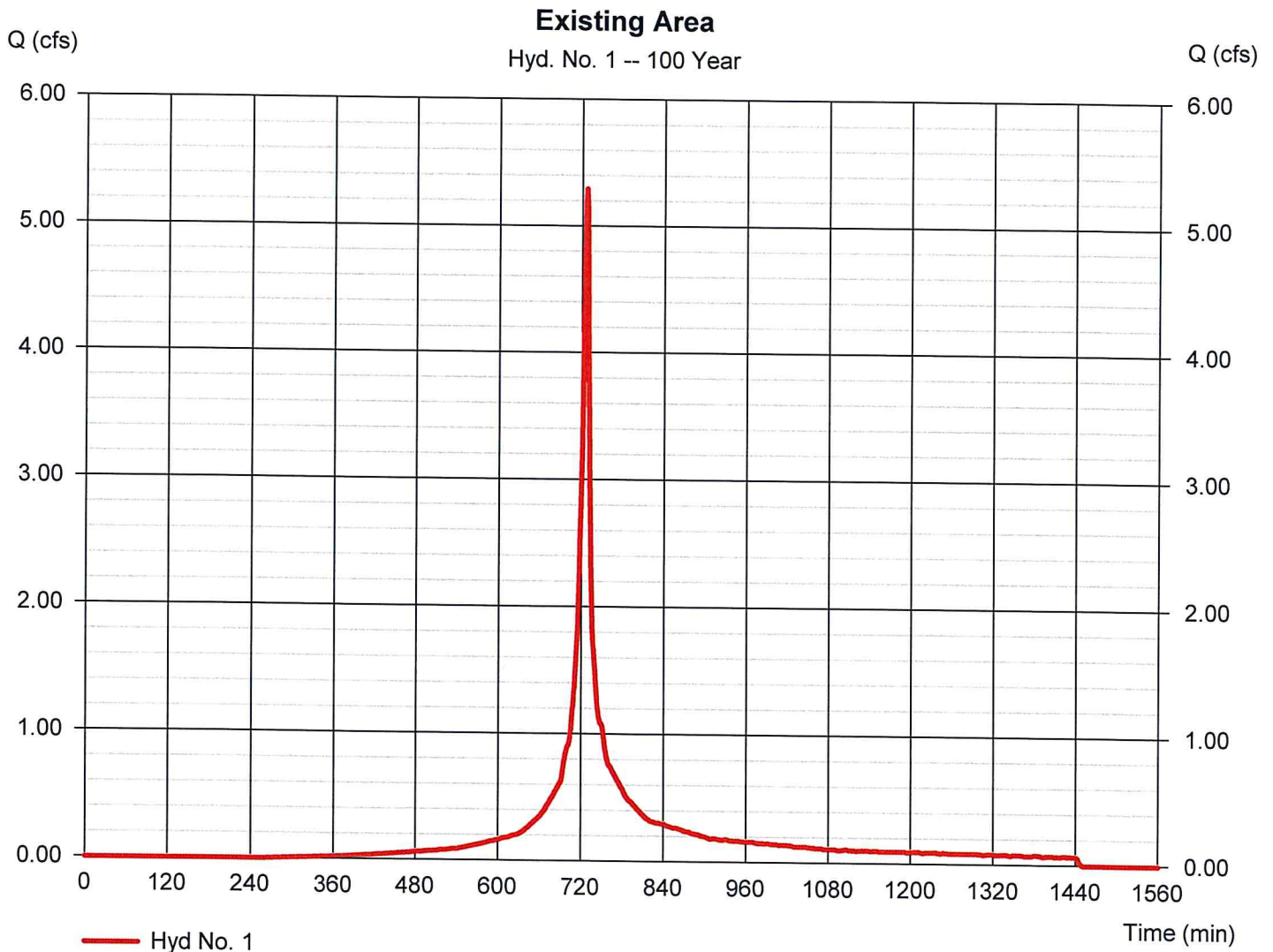
# Hydrograph Report

## Hyd. No. 1

### Existing Area

Hydrograph type	= SCS Runoff	Peak discharge	= 5.297 cfs
Storm frequency	= 100 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 17,037 cuft
Drainage area	= 0.800 ac	Curve number	= 82*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.82 in	Distribution	= Custom
Storm duration	= NOAA Type D Distribution 1 shape	Shape factor	= 484

\* Composite (Area/CN) = [(0.350 x 98) + (0.450 x 69)] / 0.800



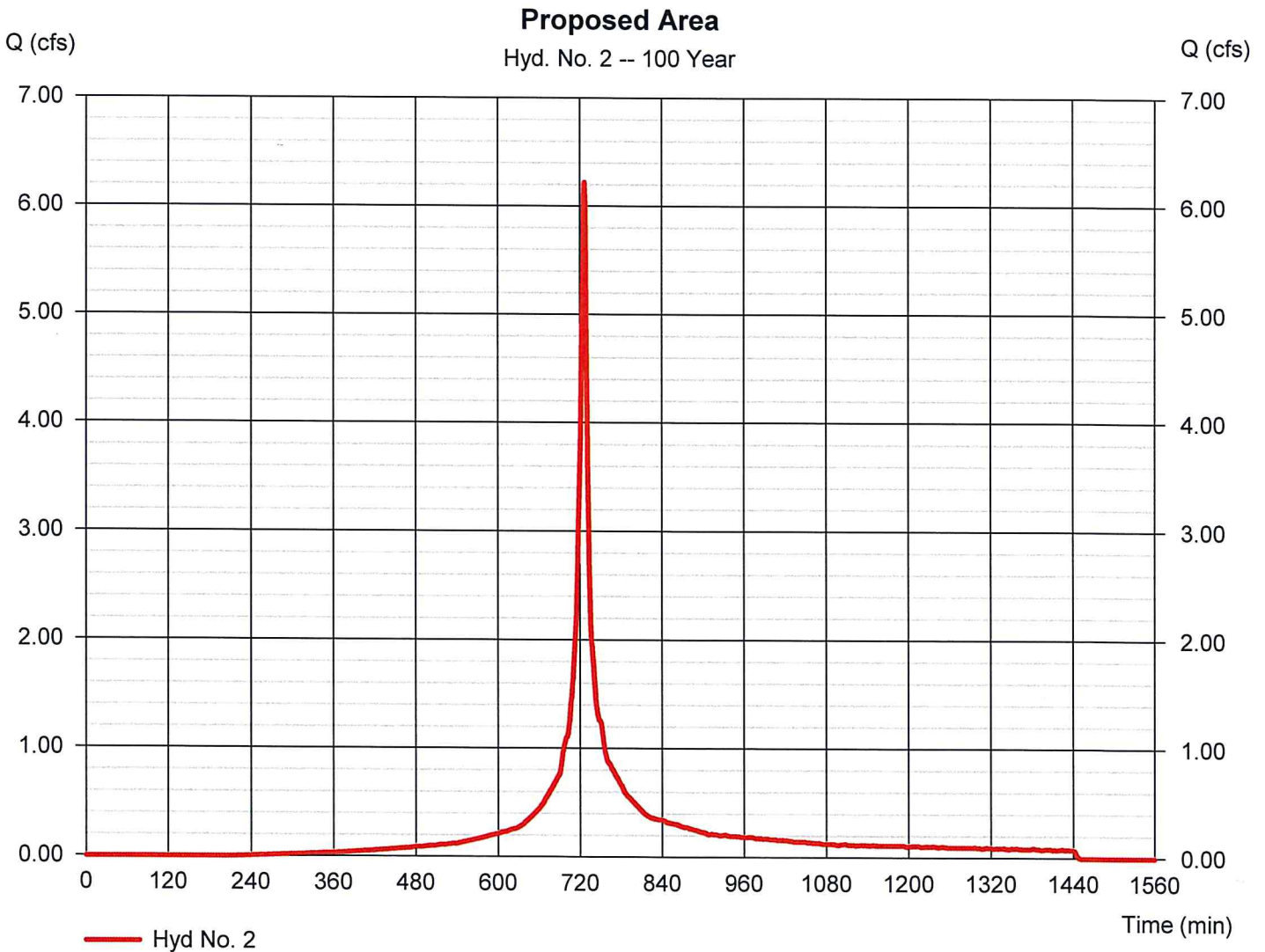
# Hydrograph Report

## Hyd. No. 2

### Proposed Area

Hydrograph type	= SCS Runoff	Peak discharge	= 6.223 cfs
Storm frequency	= 100 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 20,348 cuft
Drainage area	= 0.900 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.82 in	Distribution	= Custom
Storm duration	= NOAA Type D Distribution 1	Shape factor	= 484

\* Composite (Area/CN) = [(0.500 x 98) + (0.400 x 69)] / 0.900



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

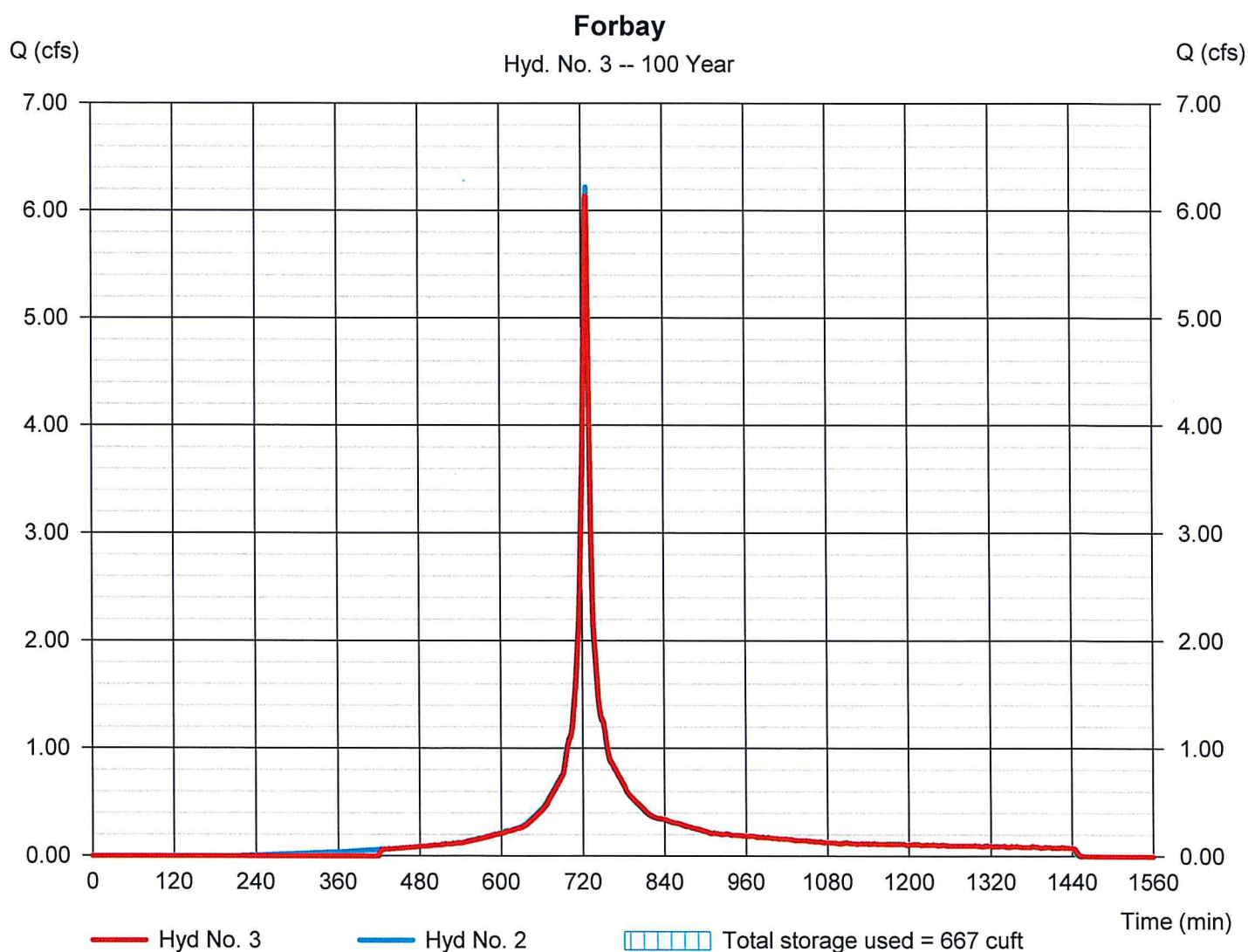
Friday, 09 / 5 / 2025

## Hyd. No. 3

Forbay

Hydrograph type	= Reservoir	Peak discharge	= 6.137 cfs
Storm frequency	= 100 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 20,030 cuft
Inflow hyd. No.	= 2 - Proposed Area	Max. Elevation	= 132.54 ft
Reservoir name	= Forebay	Max. Storage	= 667 cuft

Storage Indication method used.



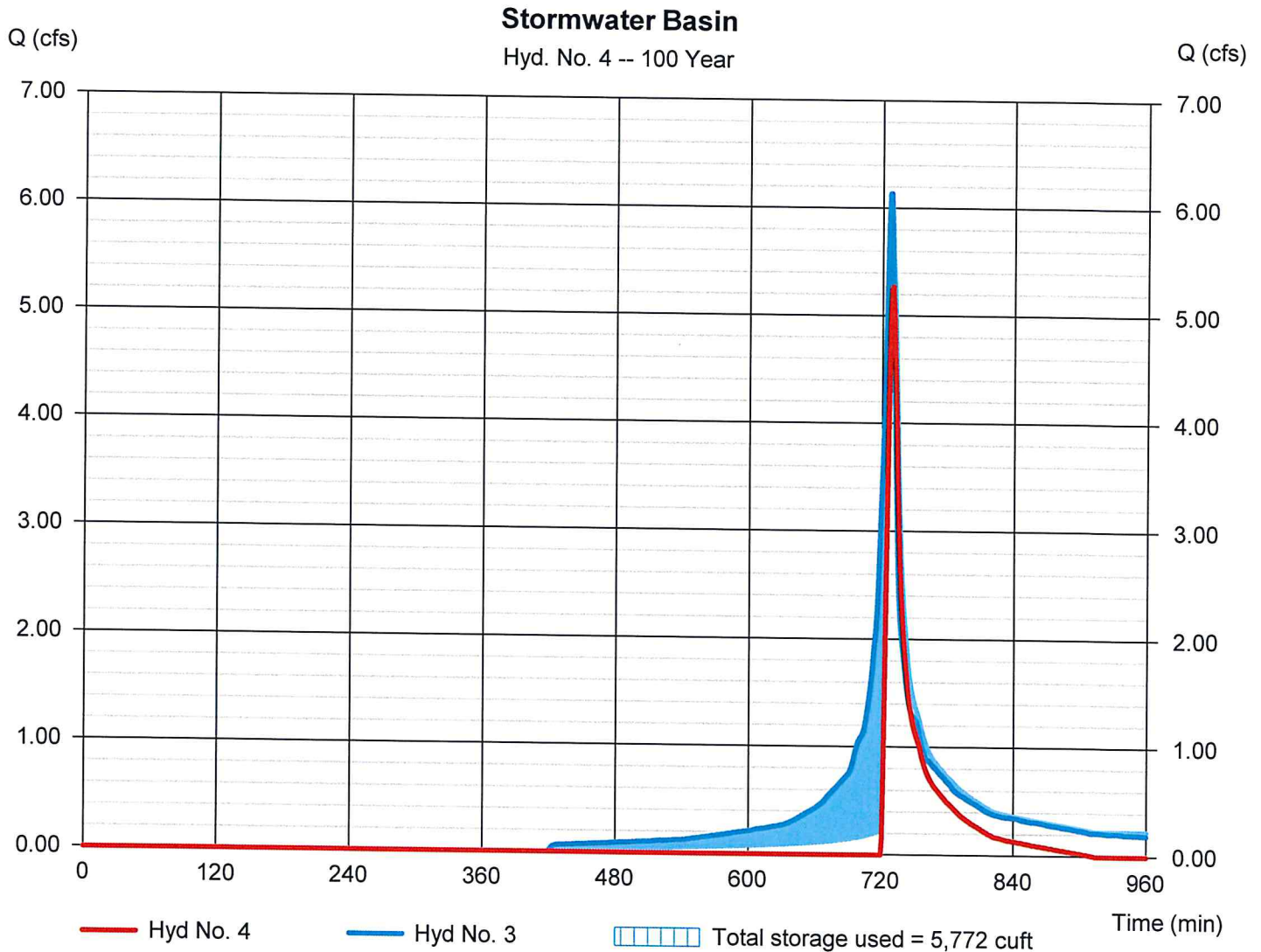
# Hydrograph Report

## Hyd. No. 4

### Stormwater Basin

Hydrograph type	= Reservoir	Peak discharge	= 5.268 cfs
Storm frequency	= 100 yrs	Time to peak	= 730 min
Time interval	= 1 min	Hyd. volume	= 7,361 cuft
Inflow hyd. No.	= 3 - Forbay	Max. Elevation	= 132.48 ft
Reservoir name	= Pond 1	Max. Storage	= 5,772 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



# Pond Report

## Pond No. 1 - Pond 1

### Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 127.00 ft

### Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	127.00	145	0	0
0.50	127.50	255	99	99
1.00	128.00	365	154	253
1.50	128.50	525	221	474
2.00	129.00	675	299	773
2.50	129.50	860	383	1,156
3.00	130.00	1,050	477	1,633
3.50	130.50	1,290	584	2,217
4.00	131.00	1,520	702	2,918
4.50	131.50	1,790	826	3,745
5.00	132.00	2,050	959	4,704
5.50	132.50	2,360	1,101	5,805
6.00	133.00	2,660	1,254	7,060

### Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	Inactive	Inactive	Inactive	Inactive
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	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	No	No	No

### Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 6.00	0.00	0.00	0.00
Crest El. (ft)	= 132.00	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Broad	Broad	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 4.800 (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).

