DRAINAGE CALCULATIONS, HYDRAULICS & HYDROLOGY REPORT

393 Butlertown Road
Montville, CT

April 21, 2025

Green Site Design, LLC

DRAINAGE HYDRAULICS AND HYDROLOGY REPORT

393 Butlertown Road
Montville, CT

EXISTING CONDITIONS

The site is approximately 2.1 acres in area and is shown on the Existing Survey Plan (Sheet 1 of the site plans). The site has access onto Butlertown Road. There are no wetlands on the site.

PROPOSED DEVELOPMENT

This project is a modification of the previous approved site plan. The modification includes temporary sedimentation basins, in accordance with the 2024 CT Guidelines for Soil Erosion & Sedimentation Control, which will ultimately become a permanent water quality basin in accordance with the Connecticut the 2024 Stormwater Quality Manual (Manual).

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 and the 5,000 gallon Oil/Water separator will provide pre-treatment.

The Proposed Drainage Area contains the proposed development for the entire 2.18 aces of the site. The stormwater runoff from proposed development will be treated by the proposed water quality basin. The basin has been modelled to assume that the basin will be a dry basin below elevation 234 the onset of the storm event.

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

	2 Year	10 Year	25 Year	50 Year	100 Year
Existing	2.987 cfs	6.035 cfs	8.059 cfs	9.574 cfs	11.22 cfs
Proposed	0.884 cfs	3.048 cfs	4.418 cfs	5.212 cfs	7.296 cfs

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 a sedimentation trap during stabilization. In addition, a temporary sedimentation trap is proposed along the frontage of the site, to collect the runoff from the front section of the site, which would miss the stormwater basin. This additional sediment trap has not been included in the calculations.

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 = 2.2 ACRE

SSV = 294.8 CY = **7,960 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 basin are as follows, assuming water at elevation 234:

Drainage Area

Sedimentation Trap	
3,980 CF of Wet Storage Volume Required	4,531 CF Provided
3,980 CF of Dry Storage Volume Required	21,957 CF Provided
7,960 CF of Sediment Storage Volume Required	26,488 CF Total Provided

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.

Drainage Area 1

WQV = (1.3")(R)(A)/12

A = 2.2 Acre

R = 0.05 + 0.009(I)

I = 1.4 Acres / 2.2 Acres = 0.64 (64%)

R = 0.63

WQV = 0.150 Ac-Ft = 6,540 CF (Required)

26,488 CF (Provided in Water Quality Basin between elevation 234 and 240

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 a foot of freeboard for the 100 year storm event.

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	2.987	1	729	10,518	------	------	------	Existing Area
2	SCS Runoff	5.324	1	729	19,002	------	------	------	Proposed Area
3	Reservoir	0.884	1	763	14,442	2	236.79	9,591	Water Quality Basin

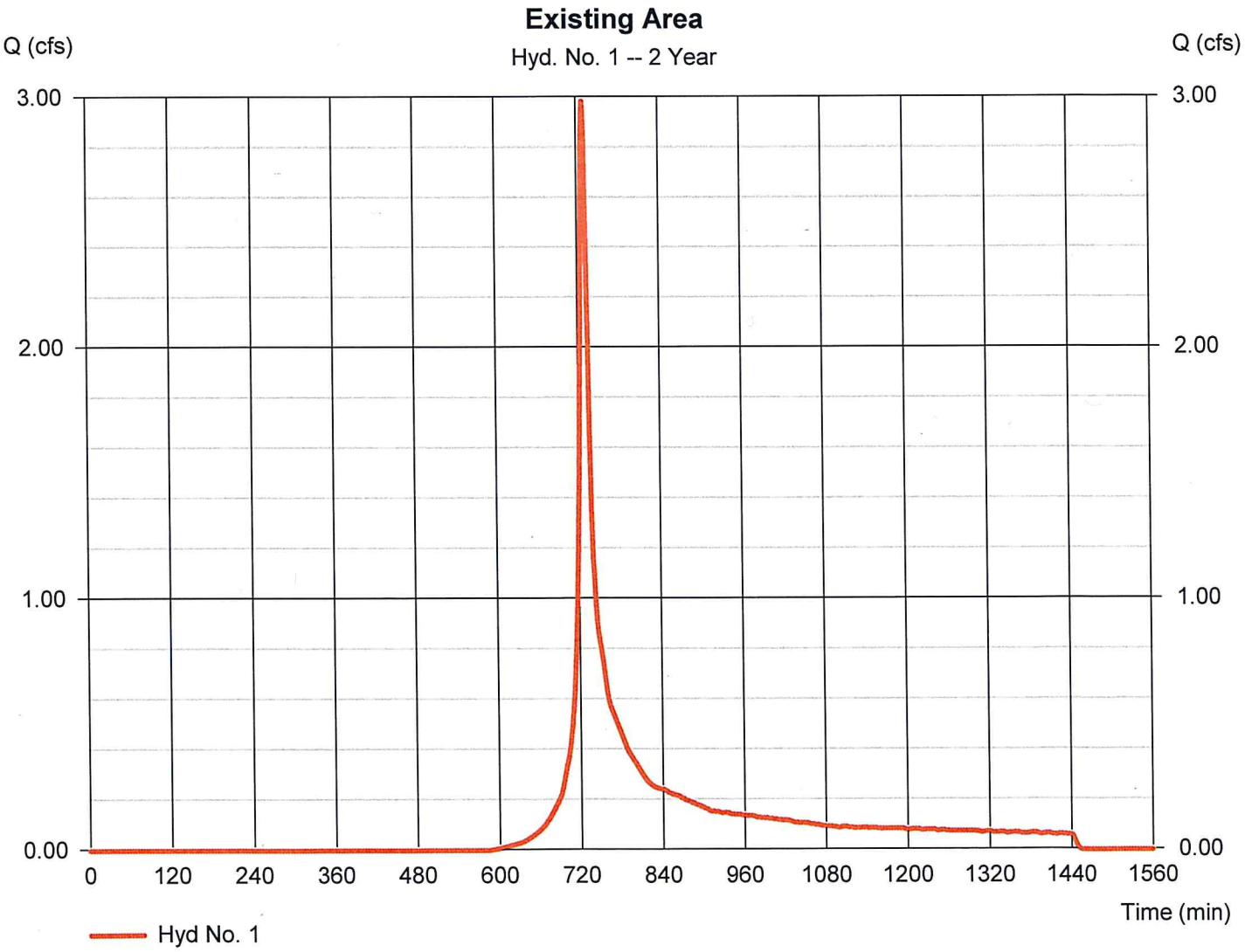
Hydrograph Report

Hyd. No. 1

Existing Area

Hydrograph type	= SCS Runoff	Peak discharge	= 2.987 cfs
Storm frequency	= 2 yrs	Time to peak	= 729 min
Time interval	= 1 min	Hyd. volume	= 10,518 cuft
Drainage area	= 2.180 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 3.45 in	Distribution	= Custom
Storm duration	= NOAA Type D Distribution 1 minutes	Shape factor	= 484

* Composite (Area/CN) = [(0.400 x 98) + (1.300 x 69)] / 2.180



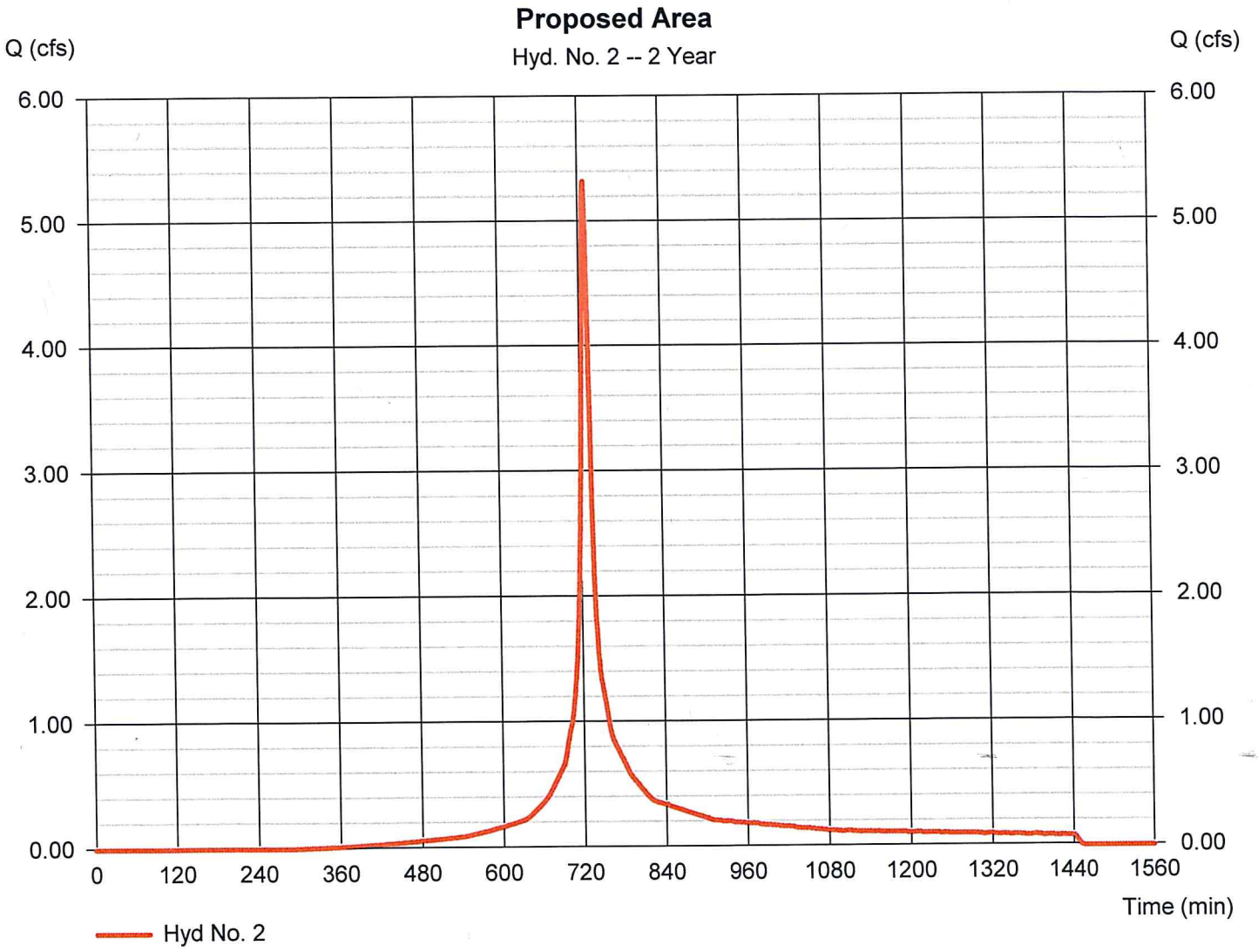
Hydrograph Report

Hyd. No. 2

Proposed Area

Hydrograph type	= SCS Runoff	Peak discharge	= 5.324 cfs
Storm frequency	= 2 yrs	Time to peak	= 729 min
Time interval	= 1 min	Hyd. volume	= 19,002 cuft
Drainage area	= 2.180 ac	Curve number	= 90*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 3.45 in	Distribution	= Custom
Storm duration	= NOAA Type D Distribution 1 minutes	Shape factor	= 484

* Composite (Area/CN) = [(1.600 x 98) + (0.580 x 69)] / 2.180



Hydrograph Report

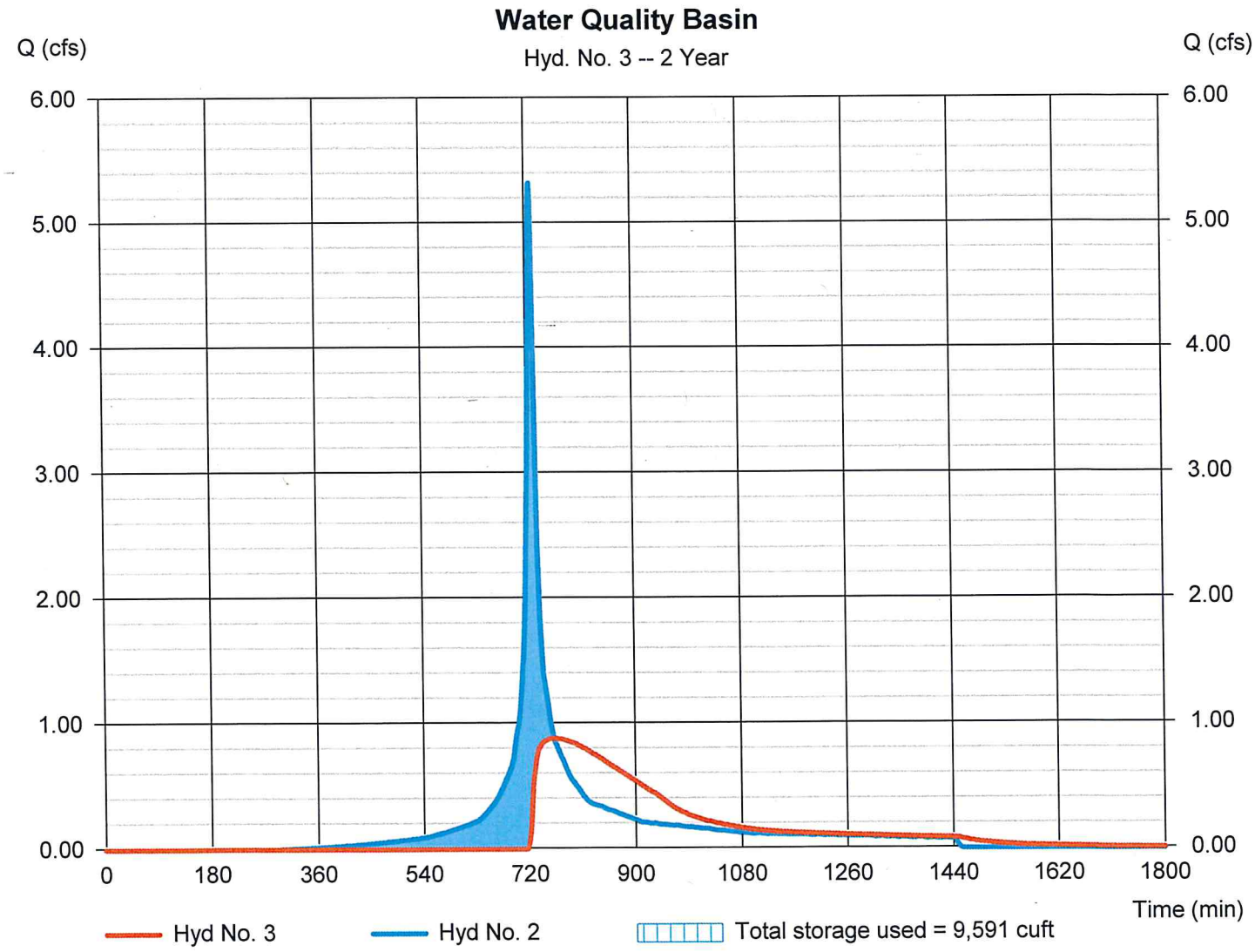
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025 Friday, 04 / 25 / 2025

Hyd. No. 3

Water Quality Basin

Hydrograph type	= Reservoir	Peak discharge	= 0.884 cfs
Storm frequency	= 2 yrs	Time to peak	= 763 min
Time interval	= 1 min	Hyd. volume	= 14,442 cuft
Inflow hyd. No.	= 2 - Proposed Area	Max. Elevation	= 236.79 ft
Reservoir name	= Pond 1	Max. Storage	= 9,591 cuft

Storage Indication method used.



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	6.035	1	729	20,981	------	------	------	Existing Area
2	SCS Runoff	8.648	1	729	31,744	------	------	------	Proposed Area
3	Reservoir	3.048	1	740	27,185	2	237.76	14,039	Water Quality Basin

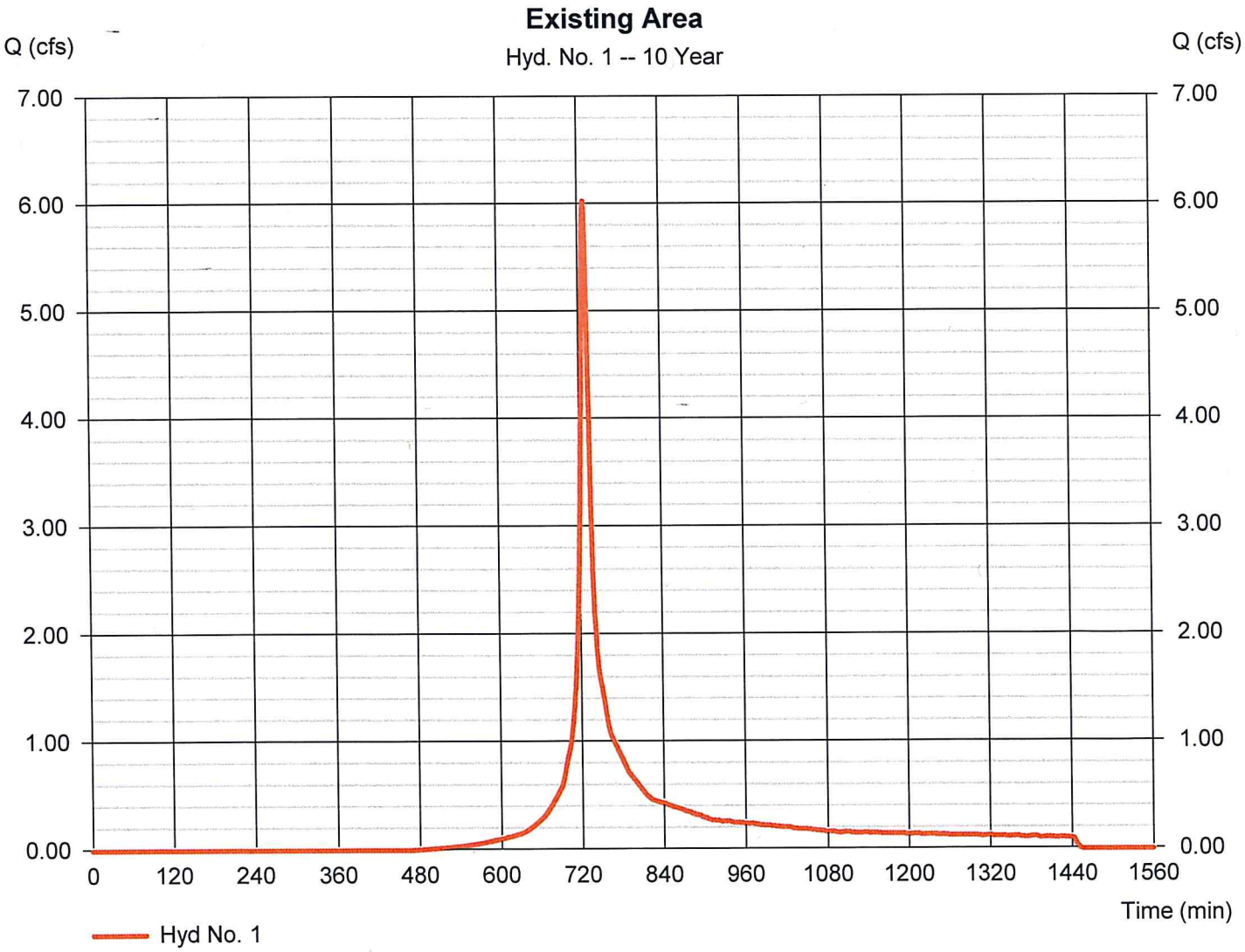
Hydrograph Report

Hyd. No. 1

Existing Area

Hydrograph type	= SCS Runoff	Peak discharge	= 6.035 cfs
Storm frequency	= 10 yrs	Time to peak	= 729 min
Time interval	= 1 min	Hyd. volume	= 20,981 cuft
Drainage area	= 2.180 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 5.14 in	Distribution	= Custom
Storm duration	= NOAA Type D Distribution 1 minutes	Shape factor	= 484

* Composite (Area/CN) = [(0.400 x 98) + (1.300 x 69)] / 2.180



Hydrograph Report

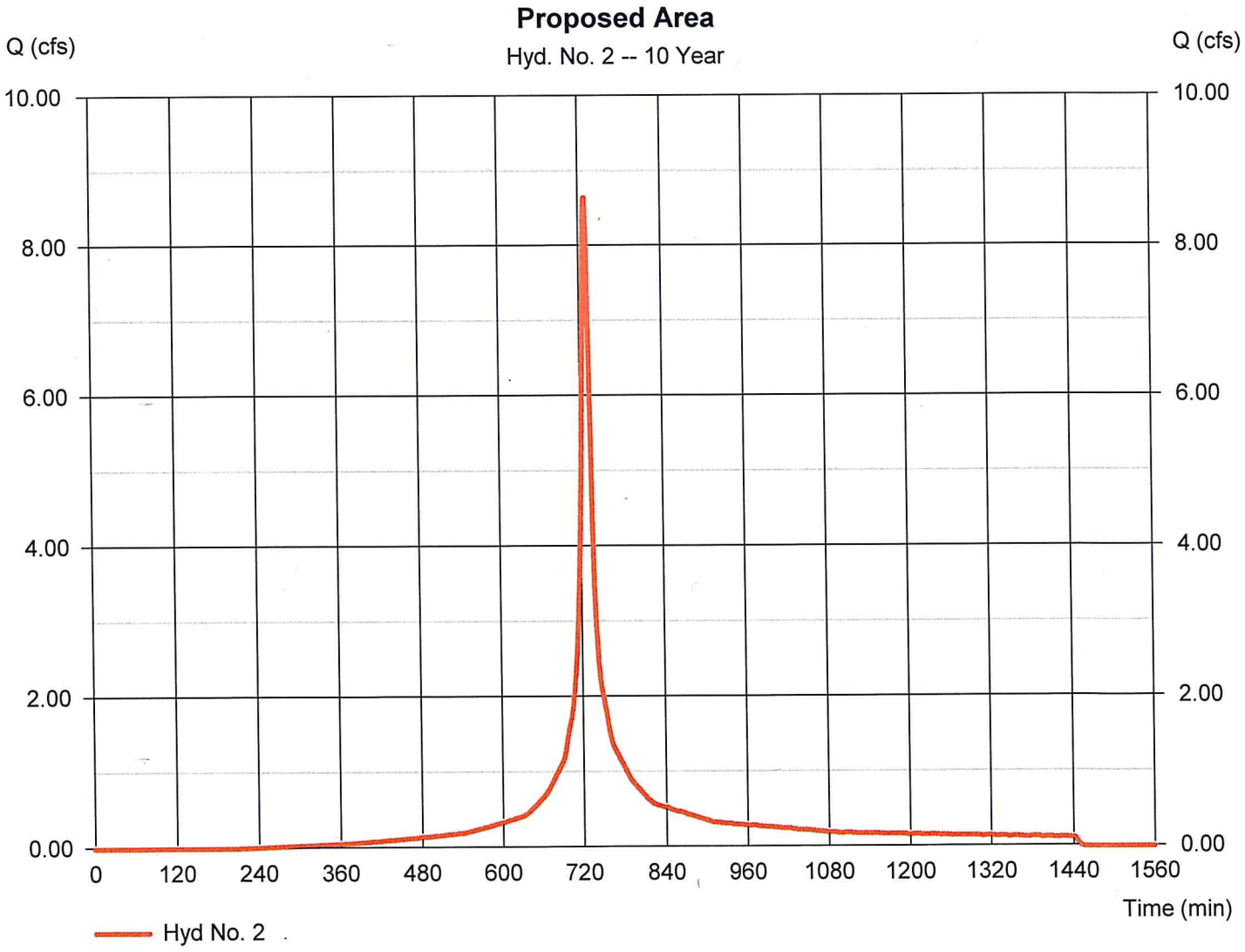
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025 — Friday, 04 / 25 / 2025

Hyd. No. 2

Proposed Area

Hydrograph type	= SCS Runoff	Peak discharge	= 8.648 cfs
Storm frequency	= 10 yrs	Time to peak	= 729 min
Time interval	= 1 min	Hyd. volume	= 31,744 cuft
Drainage area	= 2.180 ac	Curve number	= 90*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 5.14 in	Distribution	= Custom
Storm duration	= NOAA Type D Distribution 1 minute	Shape factor	= 484

* Composite (Area/CN) = [(1.600 x 98) + (0.580 x 69)] / 2.180



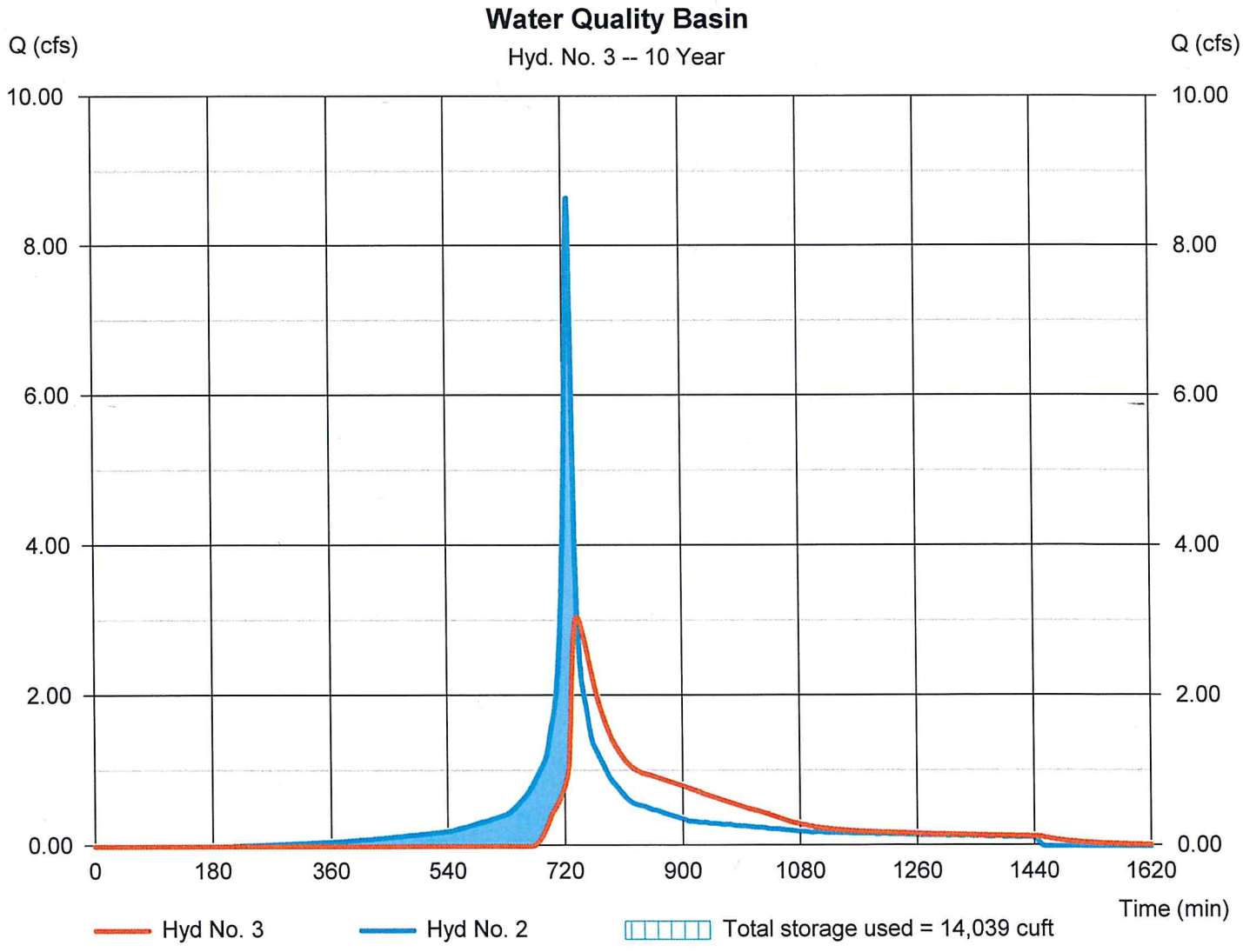
Hydrograph Report

Hyd. No. 3

Water Quality Basin

Hydrograph type	= Reservoir	Peak discharge	= 3.048 cfs
Storm frequency	= 10 yrs	Time to peak	= 740 min
Time interval	= 1 min	Hyd. volume	= 27,185 cuft
Inflow hyd. No.	= 2 - Proposed Area	Max. Elevation	= 237.76 ft
Reservoir name	= Pond 1	Max. Storage	= 14,039 cuft

Storage Indication method used.



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	8.059	1	729	28,119	------	------	------	Existing Area
2	SCS Runoff	10.72	1	728	39,890	------	------	------	Proposed Area
3	Reservoir	4.418	1	739	35,331	2	238.21	16,299	Water Quality Basin

Hydrograph Report

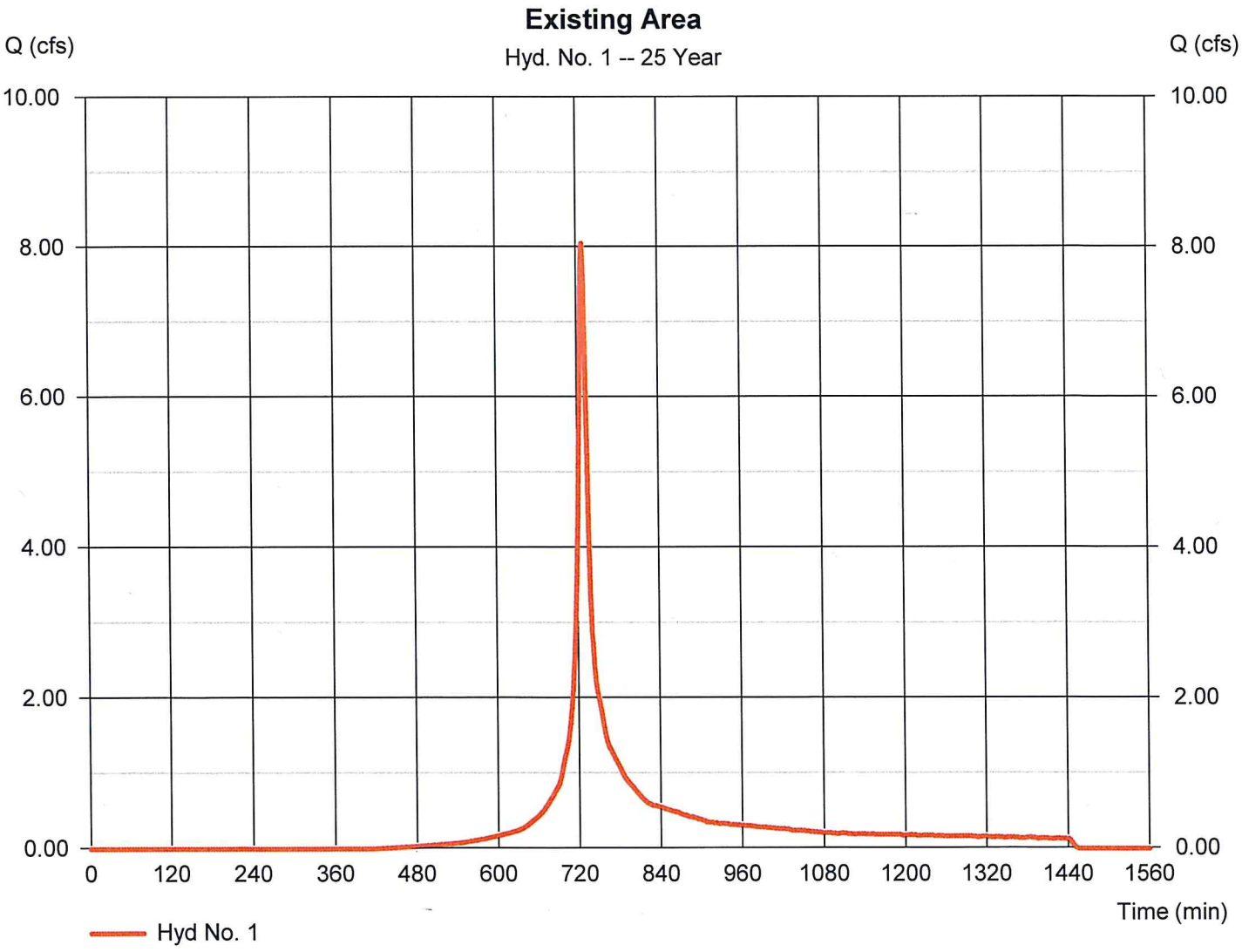
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025 — Friday, 04 / 25 / 2025

Hyd. No. 1

Existing Area

Hydrograph type	= SCS Runoff	Peak discharge	= 8.059 cfs
Storm frequency	= 25 yrs	Time to peak	= 729 min
Time interval	= 1 min	Hyd. volume	= 28,119 cuft
Drainage area	= 2.180 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 6.20 in	Distribution	= Custom
Storm duration	= NOAA Type D Distribution 1 minutes	Shape factor	= 484

* Composite (Area/CN) = [(0.400 x 98) + (1.300 x 69)] / 2.180



Hydrograph Report

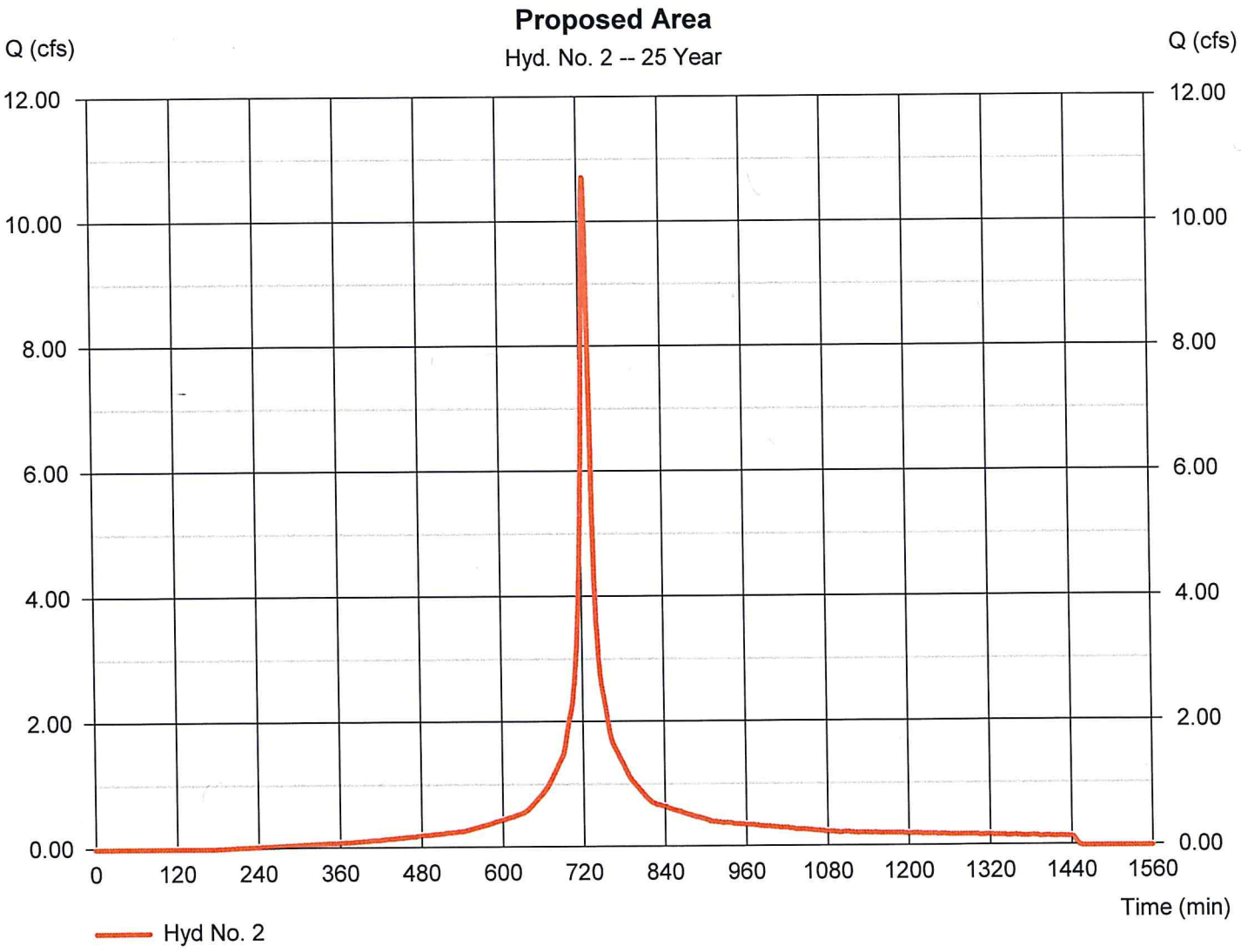
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025 — Friday, 04 / 25 / 2025

Hyd. No. 2

Proposed Area

Hydrograph type	= SCS Runoff	Peak discharge	= 10.72 cfs
Storm frequency	= 25 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 39,890 cuft
Drainage area	= 2.180 ac	Curve number	= 90*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 6.20 in	Distribution	= Custom
Storm duration	= NOAA Type D Distribution 1 minutes	Shape factor	= 484

* Composite (Area/CN) = [(1.600 x 98) + (0.580 x 69)] / 2.180



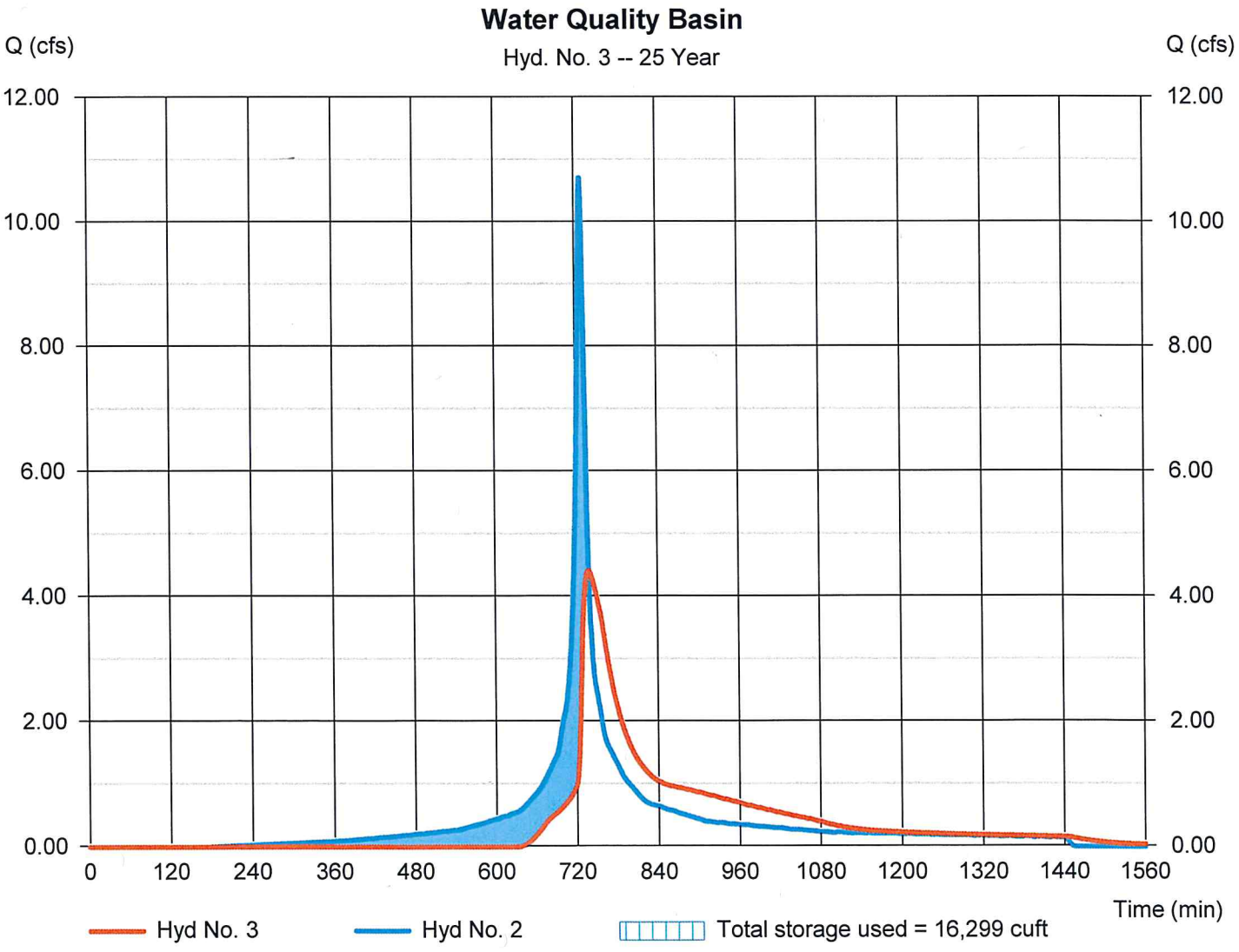
Hydrograph Report

Hyd. No. 3

Water Quality Basin

Hydrograph type	= Reservoir	Peak discharge	= 4.418 cfs
Storm frequency	= 25 yrs	Time to peak	= 739 min
Time interval	= 1 min	Hyd. volume	= 35,331 cuft
Inflow hyd. No.	= 2 - Proposed Area	Max. Elevation	= 238.21 ft
Reservoir name	= Pond 1	Max. Storage	= 16,299 cuft

Storage Indication method used.



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	9.574	1	729	33,549	------	------	------	Existing Area
2	SCS Runoff	12.24	1	728	45,926	------	------	------	Proposed Area
3	Reservoir	5.212	1	738	41,367	2	238.53	17,942	Water Quality Basin

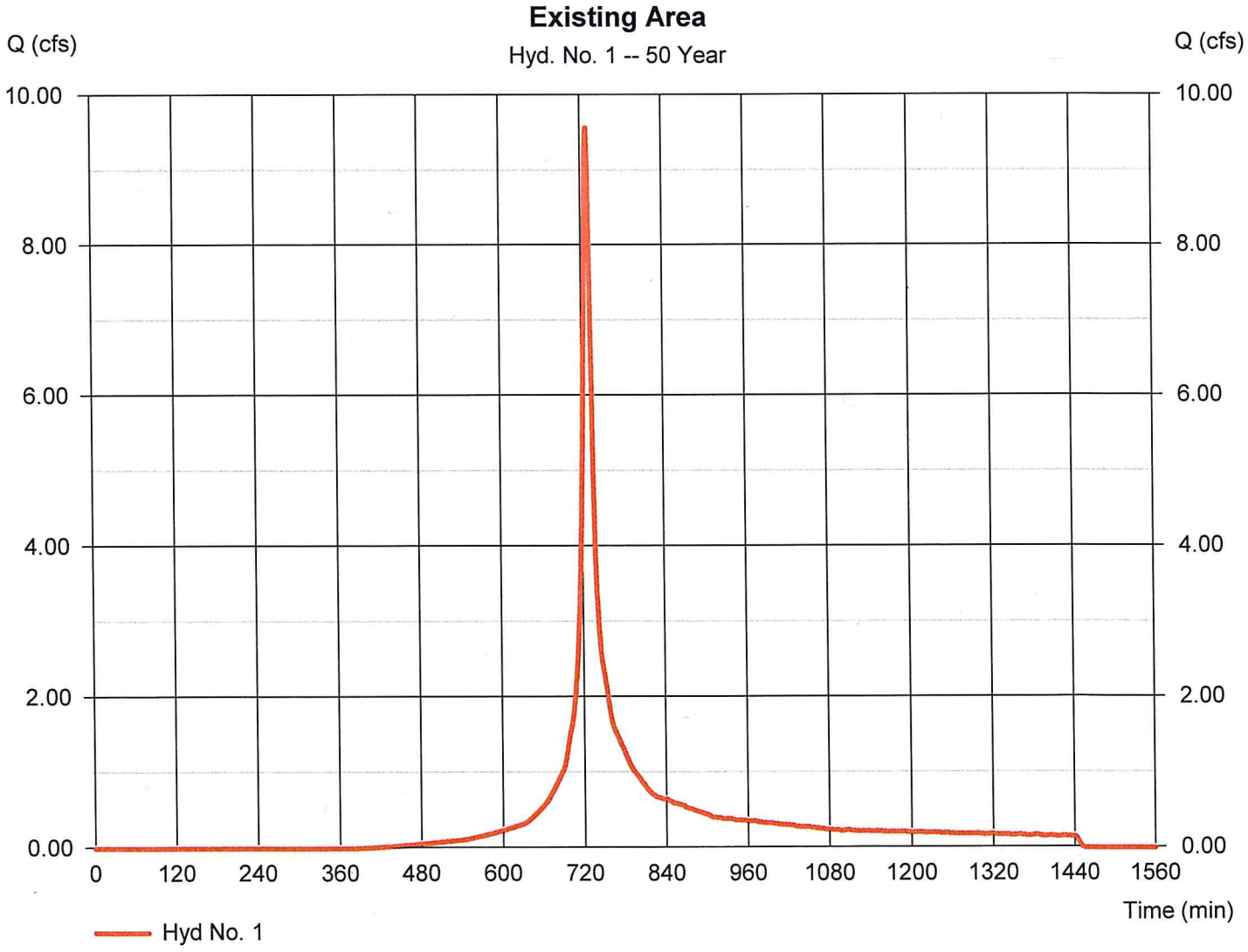
Hydrograph Report

Hyd. No. 1

Existing Area

Hydrograph type	= SCS Runoff	Peak discharge	= 9.574 cfs
Storm frequency	= 50 yrs	Time to peak	= 729 min
Time interval	= 1 min	Hyd. volume	= 33,549 cuft
Drainage area	= 2.180 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 6.98 in	Distribution	= Custom
Storm duration	= NOAA Type D Distribution 1 minutes	Shape factor	= 484

* Composite (Area/CN) = [(0.400 x 98) + (1.300 x 69)] / 2.180



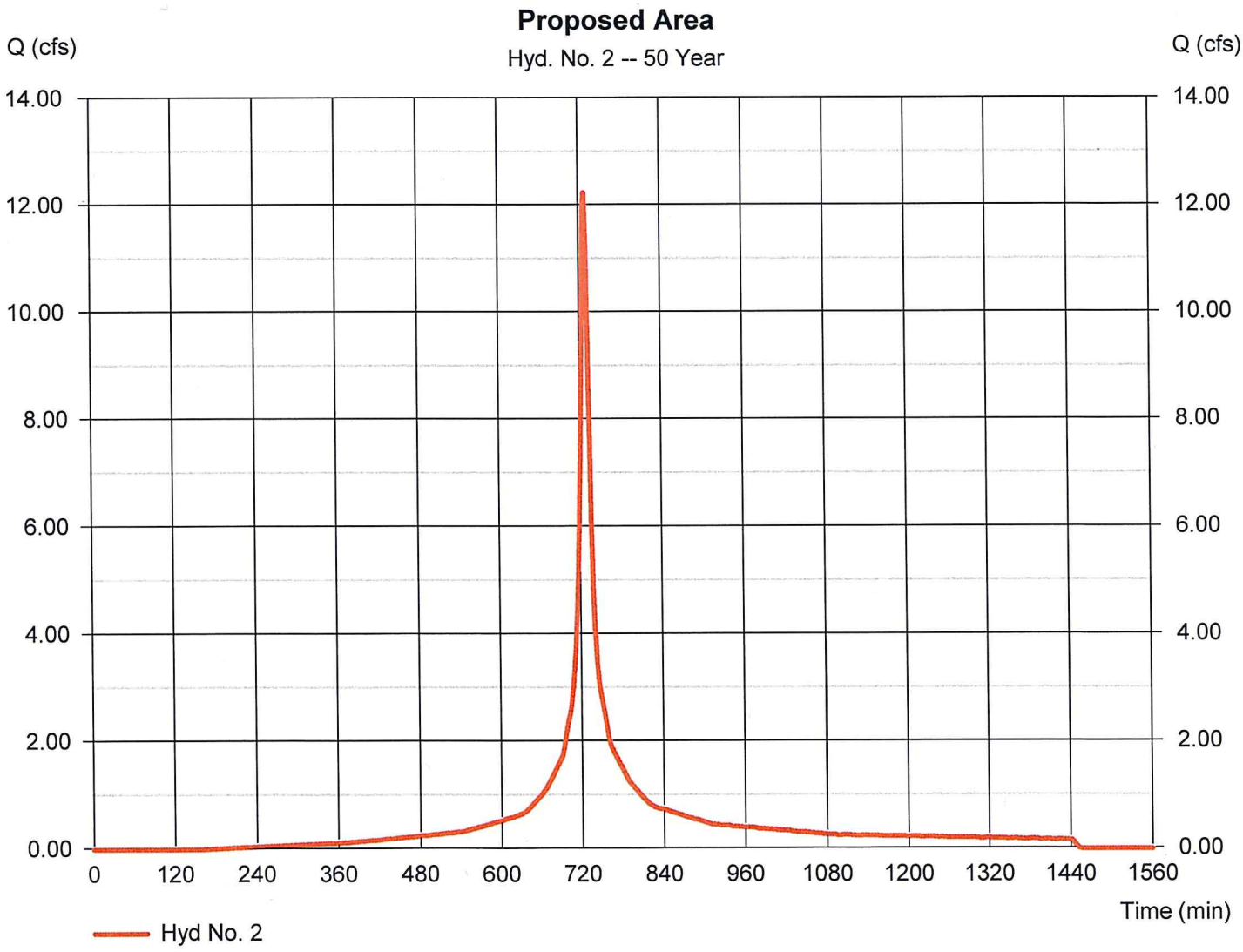
Hydrograph Report

Hyd. No. 2

Proposed Area

Hydrograph type	= SCS Runoff	Peak discharge	= 12.24 cfs
Storm frequency	= 50 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 45,926 cuft
Drainage area	= 2.180 ac	Curve number	= 90*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 6.98 in	Distribution	= Custom
Storm duration	= NOAA Type D Distribution 1 minutes	Shape factor	= 484

* Composite (Area/CN) = [(1.600 x 98) + (0.580 x 69)] / 2.180



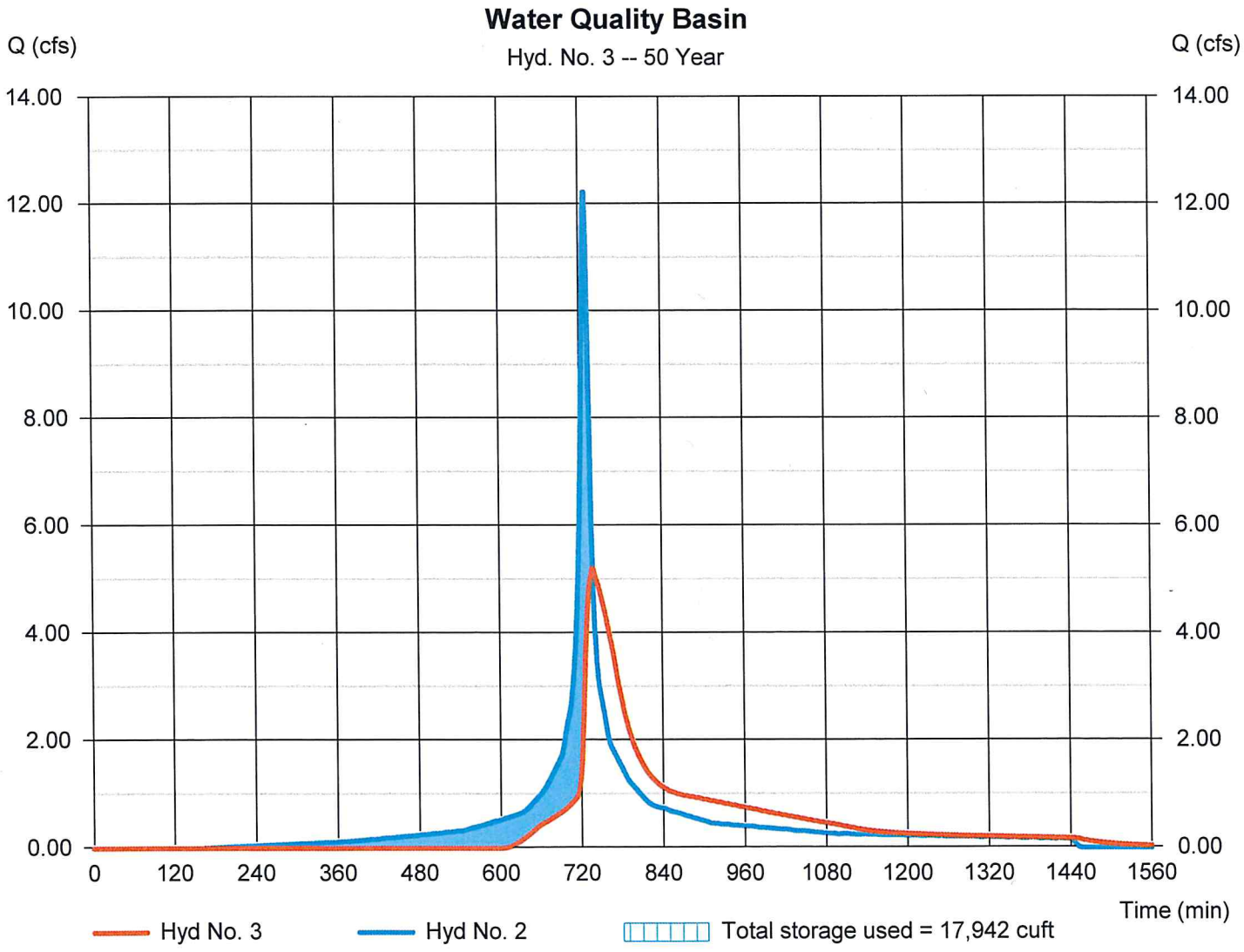
Hydrograph Report

Hyd. No. 3

Water Quality Basin

Hydrograph type	= Reservoir	Peak discharge	= 5.212 cfs
Storm frequency	= 50 yrs	Time to peak	= 738 min
Time interval	= 1 min	Hyd. volume	= 41,367 cuft
Inflow hyd. No.	= 2 - Proposed Area	Max. Elevation	= 238.53 ft
Reservoir name	= Pond 1	Max. Storage	= 17,942 cuft

Storage Indication method used.



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	11.22	1	729	39,523	------	------	------	Existing Area
2	SCS Runoff	13.87	1	728	52,453	------	------	------	Proposed Area
3	Reservoir	7.296	1	736	47,894	2	238.76	19,229	Water Quality Basin

Hydrograph Report

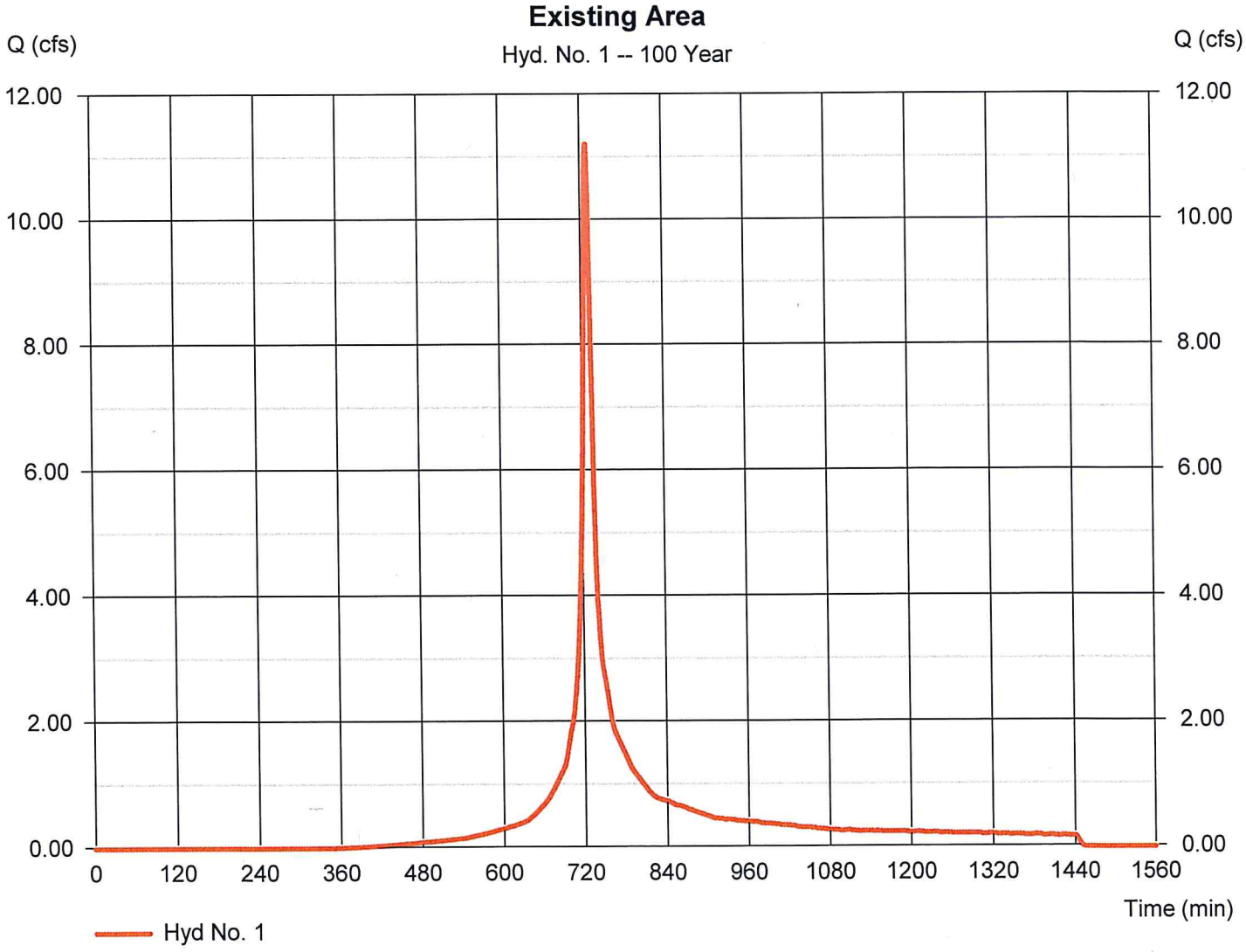
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025 — Friday, 04 / 25 / 2025

Hyd. No. 1

Existing Area

Hydrograph type	= SCS Runoff	Peak discharge	= 11.22 cfs
Storm frequency	= 100 yrs	Time to peak	= 729 min
Time interval	= 1 min	Hyd. volume	= 39,523 cuft
Drainage area	= 2.180 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 7.82 in	Distribution	= Custom
Storm duration	= NOAA Type D Distribution 1 minutes	Shape factor	= 484

* Composite (Area/CN) = [(0.400 x 98) + (1.300 x 69)] / 2.180



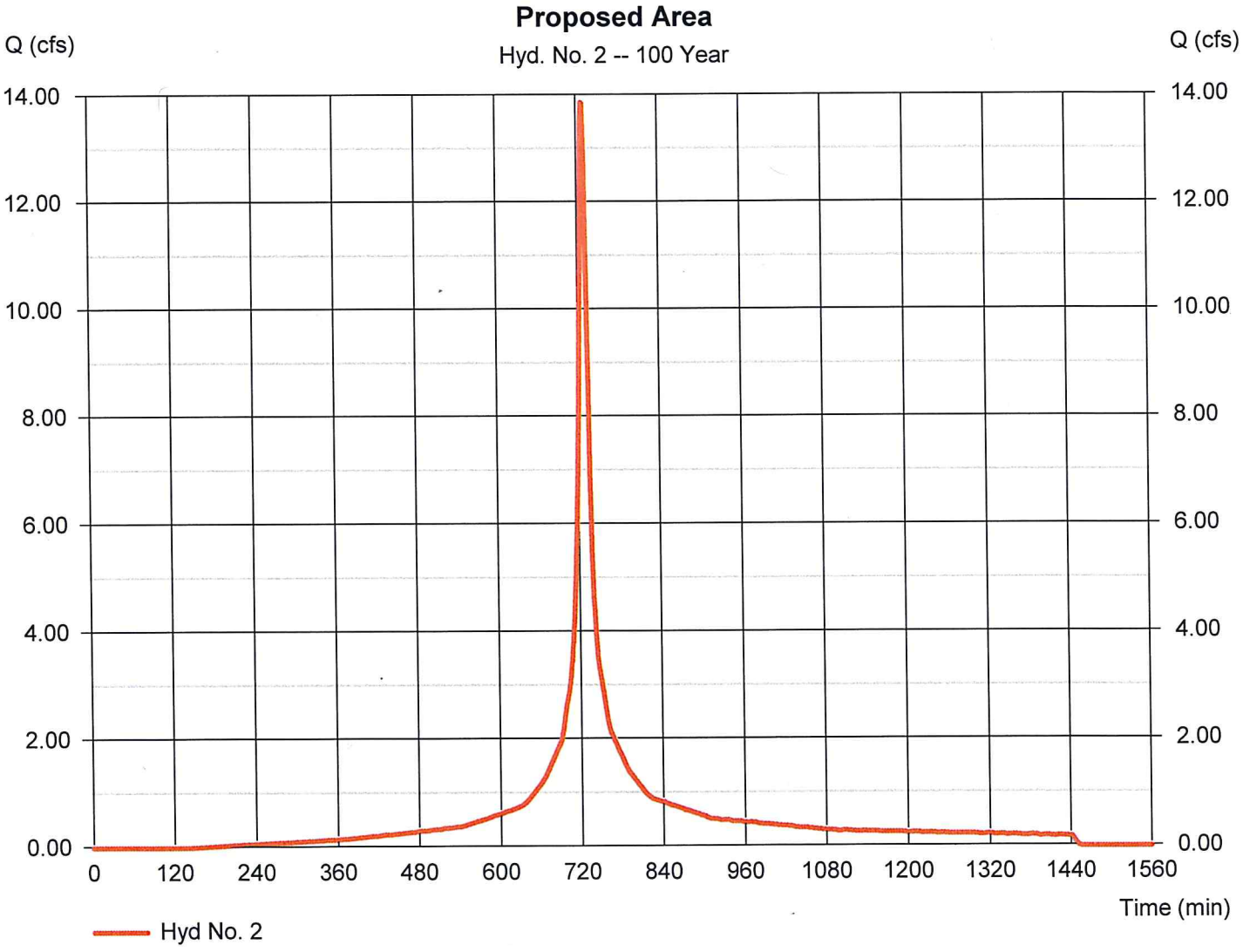
Hydrograph Report

Hyd. No. 2

Proposed Area

Hydrograph type	= SCS Runoff	Peak discharge	= 13.87 cfs
Storm frequency	= 100 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 52,453 cuft
Drainage area	= 2.180 ac	Curve number	= 90*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 7.82 in	Distribution	= Custom
Storm duration	= NOAA Type D Distribution 1 minutes	Shape factor	= 484

* Composite (Area/CN) = [(1.600 x 98) + (0.580 x 69)] / 2.180



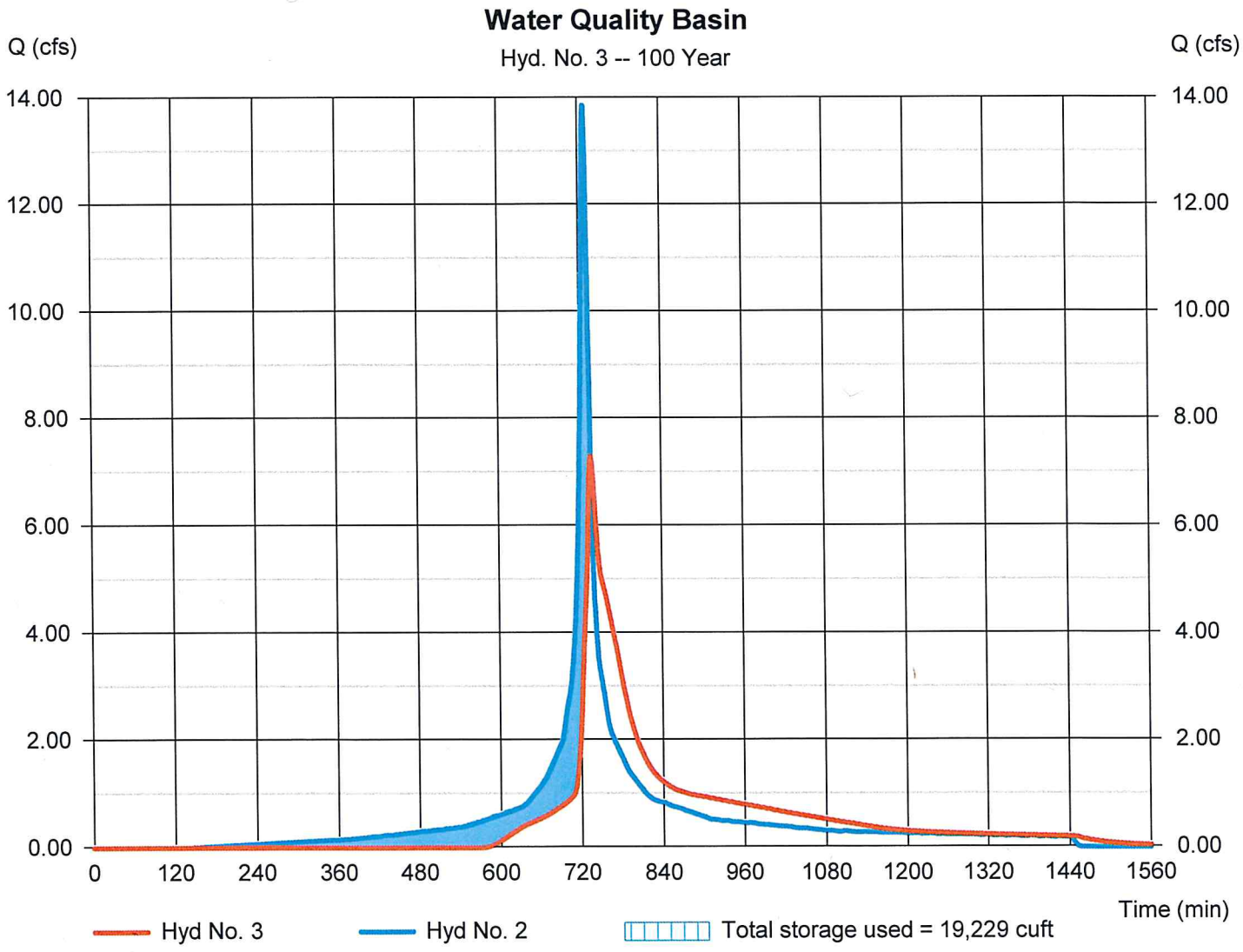
Hydrograph Report

Hyd. No. 3

Water Quality Basin

Hydrograph type	= Reservoir	Peak discharge	= 7.296 cfs
Storm frequency	= 100 yrs	Time to peak	= 736 min
Time interval	= 1 min	Hyd. volume	= 47,894 cuft
Inflow hyd. No.	= 2 - Proposed Area	Max. Elevation	= 238.76 ft
Reservoir name	= Pond 1	Max. Storage	= 19,229 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025 — Friday, 04 / 25 / 2025

Pond No. 1 - Pond 1

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 234.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	234.00	2,475	0	0
0.50	234.50	2,840	1,328	1,328
1.00	235.00	3,205	1,510	2,838
1.50	235.50	3,570	1,693	4,531
2.00	236.00	3,810	1,844	6,375
2.50	236.50	4,113	1,980	8,355
3.00	237.00	4,416	2,132	10,487
3.50	237.50	4,719	2,283	12,770
4.00	238.00	5,025	2,435	15,205
4.50	238.50	5,333	2,589	17,794
5.00	239.00	5,642	2,743	20,537
5.50	239.50	5,951	2,898	23,435
6.00	240.00	6,263	3,053	26,488

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	6.00	12.00	0.00
Span (in)	= 18.00	6.00	12.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 235.50	235.50	237.00	0.00
Length (ft)	= 150.00	1.00	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

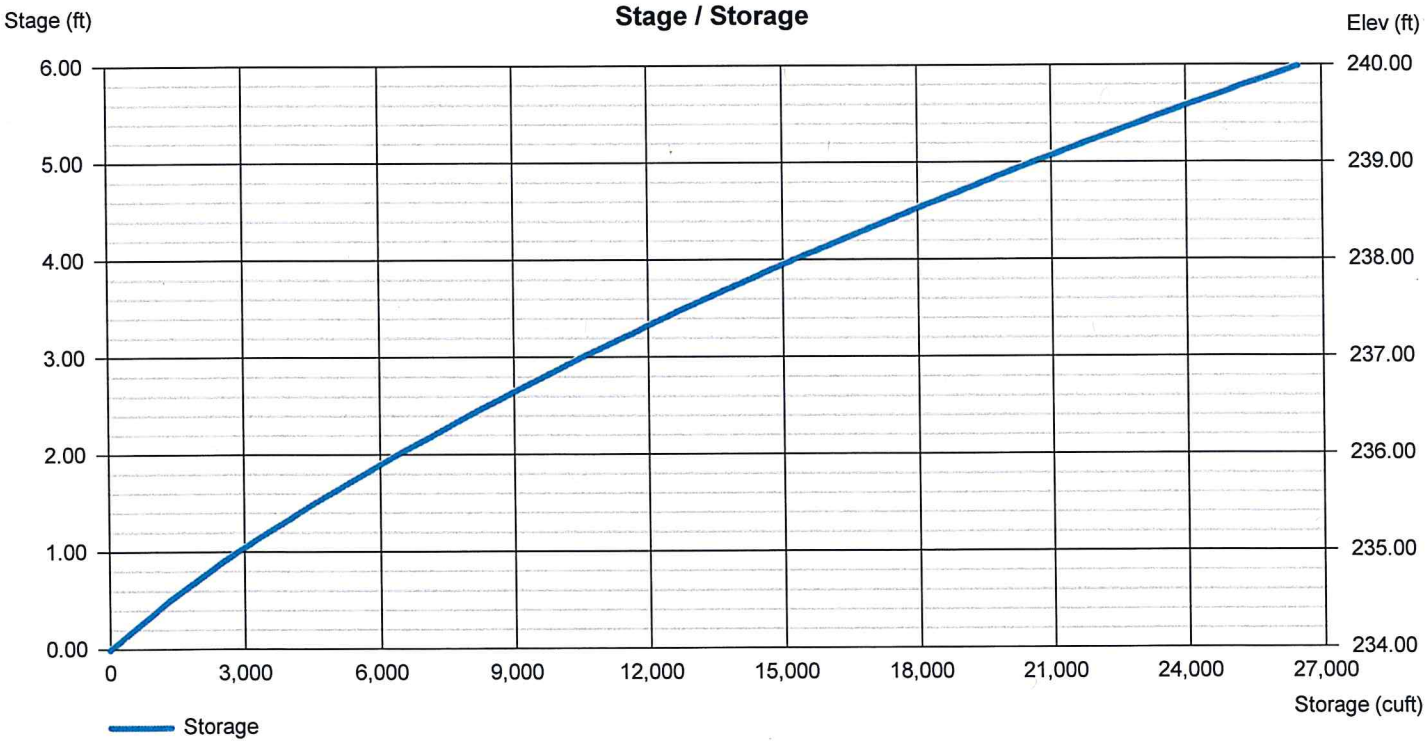
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 4.00	0.00	0.00	0.00
Crest El. (ft)	= 238.50	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	---	---	---
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).



NOAA Atlas 14, Volume 10, Version 3
Location name: Oakdale, Connecticut, USA*
Latitude: 41.4238°, Longitude: -72.2074°
Elevation: 217 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

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PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	4.06 (3.16-5.06)	4.85 (3.77-6.06)	6.14 (4.76-7.70)	7.24 (5.58-9.12)	8.72 (6.52-11.4)	9.84 (7.20-13.1)	11.0 (7.85-15.2)	12.4 (8.33-17.3)	14.3 (9.28-20.6)	15.9 (10.1-23.3)
10-min	2.87 (2.23-3.59)	3.44 (2.67-4.30)	4.36 (3.38-5.47)	5.12 (3.94-6.45)	6.18 (4.61-8.09)	6.97 (5.10-9.29)	7.81 (5.56-10.8)	8.77 (5.90-12.3)	10.1 (6.57-14.6)	11.3 (7.13-16.5)
15-min	2.25 (1.75-2.81)	2.70 (2.10-3.37)	3.42 (2.65-4.29)	4.02 (3.10-5.06)	4.85 (3.62-6.34)	5.47 (4.00-7.29)	6.12 (4.36-8.44)	6.87 (4.62-9.60)	7.95 (5.15-11.5)	8.84 (5.60-13.0)
30-min	1.58 (1.23-1.98)	1.89 (1.47-2.37)	2.40 (1.86-3.01)	2.83 (2.18-3.56)	3.41 (2.54-4.45)	3.84 (2.81-5.12)	4.30 (3.06-5.92)	4.82 (3.25-6.74)	5.57 (3.61-8.03)	6.19 (3.92-9.07)
60-min	1.02 (0.793-1.27)	1.22 (0.948-1.52)	1.55 (1.20-1.94)	1.82 (1.40-2.29)	2.19 (1.64-2.87)	2.47 (1.81-3.30)	2.77 (1.97-3.81)	3.10 (2.09-4.34)	3.59 (2.32-5.16)	3.98 (2.52-5.84)
2-hr	0.670 (0.525-0.832)	0.800 (0.627-0.994)	1.01 (0.790-1.26)	1.19 (0.923-1.49)	1.43 (1.08-1.86)	1.61 (1.19-2.14)	1.81 (1.30-2.47)	2.03 (1.37-2.82)	2.36 (1.54-3.37)	2.64 (1.68-3.83)
3-hr	0.519 (0.408-0.641)	0.619 (0.486-0.765)	0.782 (0.613-0.970)	0.917 (0.715-1.14)	1.10 (0.834-1.43)	1.24 (0.920-1.64)	1.39 (1.00-1.90)	1.56 (1.06-2.16)	1.82 (1.19-2.59)	2.04 (1.30-2.94)
6-hr	0.331 (0.263-0.406)	0.394 (0.312-0.484)	0.496 (0.392-0.611)	0.581 (0.457-0.720)	0.699 (0.531-0.898)	0.786 (0.586-1.03)	0.879 (0.637-1.19)	0.989 (0.674-1.35)	1.15 (0.754-1.62)	1.29 (0.823-1.84)
12-hr	0.204 (0.163-0.249)	0.242 (0.193-0.296)	0.305 (0.243-0.373)	0.357 (0.283-0.439)	0.429 (0.328-0.546)	0.482 (0.361-0.626)	0.539 (0.393-0.722)	0.605 (0.415-0.819)	0.703 (0.462-0.977)	0.784 (0.503-1.11)
24-hr	0.120 (0.097-0.145)	0.143 (0.115-0.174)	0.182 (0.146-0.221)	0.214 (0.170-0.261)	0.257 (0.198-0.326)	0.290 (0.219-0.374)	0.325 (0.238-0.432)	0.366 (0.252-0.491)	0.426 (0.282-0.587)	0.477 (0.307-0.668)
2-day	0.067 (0.054-0.080)	0.081 (0.066-0.097)	0.104 (0.084-0.125)	0.123 (0.099-0.149)	0.149 (0.116-0.188)	0.168 (0.128-0.216)	0.189 (0.140-0.251)	0.215 (0.148-0.285)	0.253 (0.167-0.345)	0.285 (0.184-0.395)
3-day	0.048 (0.039-0.058)	0.058 (0.048-0.070)	0.075 (0.061-0.090)	0.089 (0.072-0.107)	0.108 (0.084-0.135)	0.122 (0.093-0.155)	0.137 (0.102-0.180)	0.155 (0.107-0.205)	0.183 (0.121-0.248)	0.207 (0.134-0.285)
4-day	0.039 (0.032-0.046)	0.047 (0.038-0.056)	0.060 (0.049-0.072)	0.071 (0.057-0.085)	0.086 (0.067-0.107)	0.097 (0.074-0.123)	0.109 (0.081-0.143)	0.123 (0.085-0.162)	0.145 (0.096-0.196)	0.164 (0.106-0.224)
7-day	0.026 (0.022-0.031)	0.031 (0.026-0.037)	0.039 (0.032-0.047)	0.046 (0.038-0.055)	0.055 (0.044-0.069)	0.062 (0.048-0.079)	0.070 (0.052-0.091)	0.079 (0.055-0.103)	0.092 (0.061-0.123)	0.103 (0.067-0.140)
10-day	0.021 (0.017-0.025)	0.025 (0.020-0.030)	0.031 (0.025-0.037)	0.036 (0.029-0.043)	0.043 (0.034-0.053)	0.048 (0.037-0.060)	0.053 (0.040-0.069)	0.060 (0.042-0.077)	0.069 (0.046-0.092)	0.077 (0.050-0.103)
20-day	0.015 (0.012-0.018)	0.017 (0.014-0.020)	0.020 (0.017-0.024)	0.023 (0.019-0.027)	0.026 (0.021-0.032)	0.029 (0.022-0.036)	0.032 (0.024-0.040)	0.035 (0.025-0.045)	0.039 (0.026-0.052)	0.042 (0.028-0.057)
30-day	0.012 (0.010-0.015)	0.014 (0.011-0.016)	0.016 (0.013-0.019)	0.018 (0.015-0.021)	0.020 (0.016-0.025)	0.022 (0.017-0.027)	0.024 (0.018-0.030)	0.026 (0.018-0.033)	0.029 (0.019-0.037)	0.030 (0.020-0.040)
45-day	0.010 (0.009-0.012)	0.011 (0.009-0.013)	0.013 (0.011-0.015)	0.014 (0.012-0.016)	0.016 (0.012-0.019)	0.017 (0.013-0.021)	0.018 (0.014-0.023)	0.020 (0.014-0.025)	0.021 (0.014-0.028)	0.022 (0.014-0.029)
60-day	0.009 (0.007-0.010)	0.010 (0.008-0.011)	0.011 (0.009-0.013)	0.012 (0.010-0.014)	0.013 (0.010-0.016)	0.014 (0.011-0.017)	0.015 (0.011-0.019)	0.016 (0.011-0.021)	0.017 (0.012-0.022)	0.018 (0.012-0.024)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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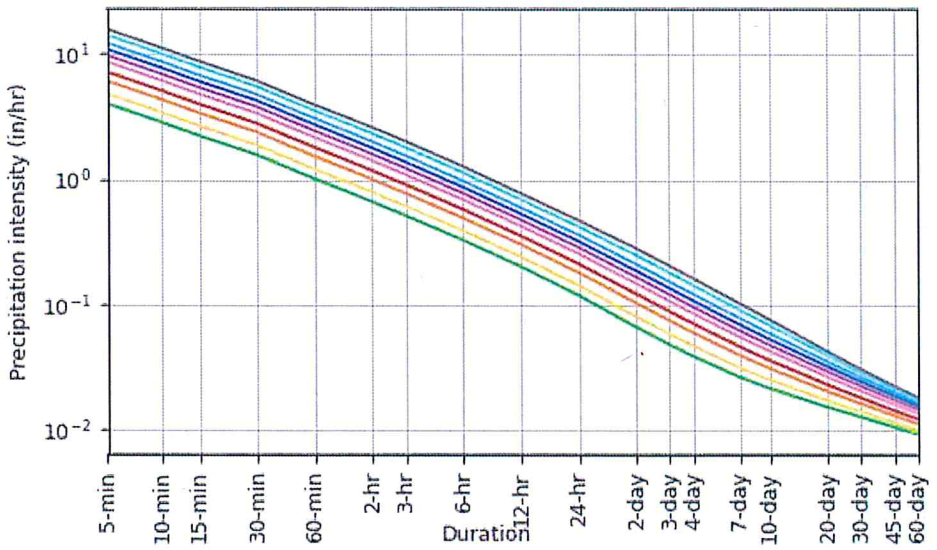
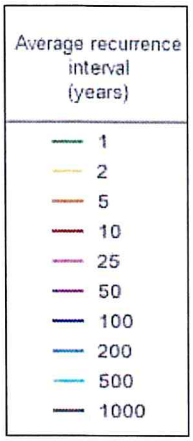
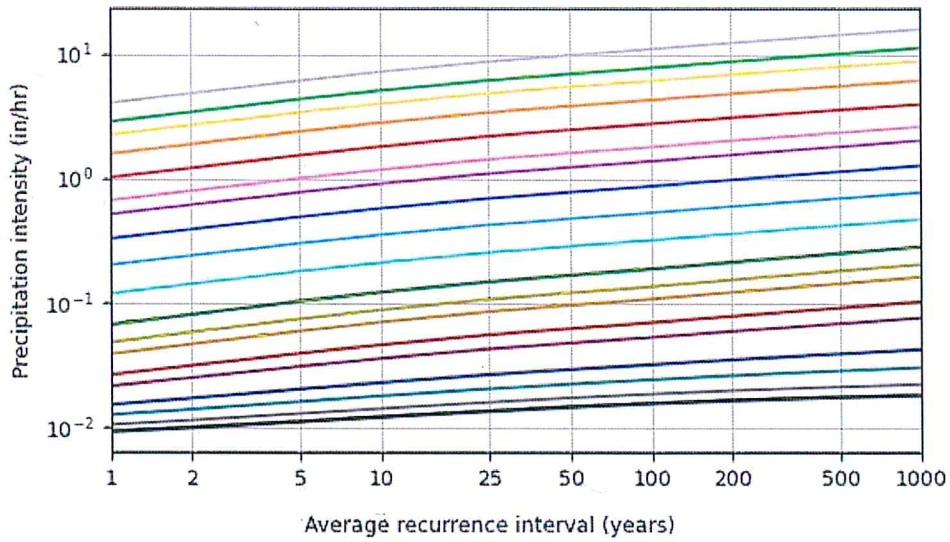
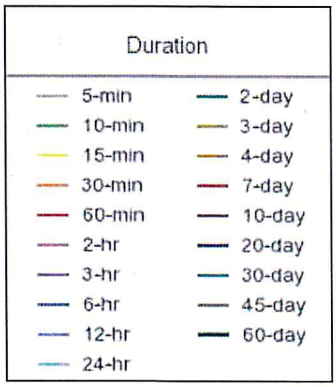
PF graphical

PDS-based intensity-duration-frequency (IDF) curves
Latitude: 41.4238°, Longitude: -72.2074°









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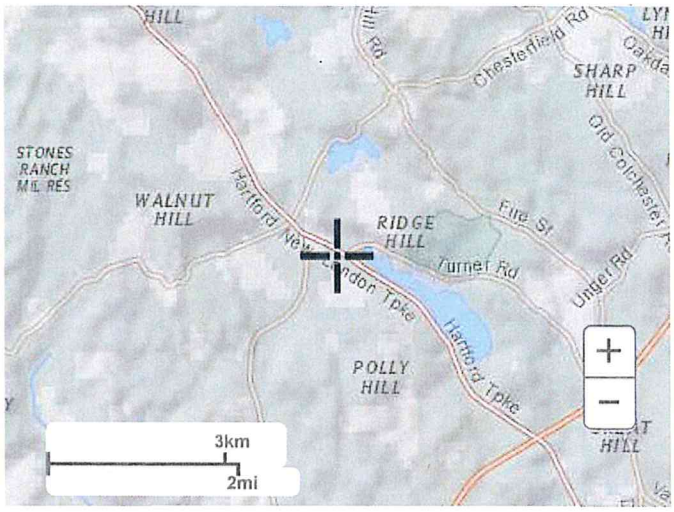
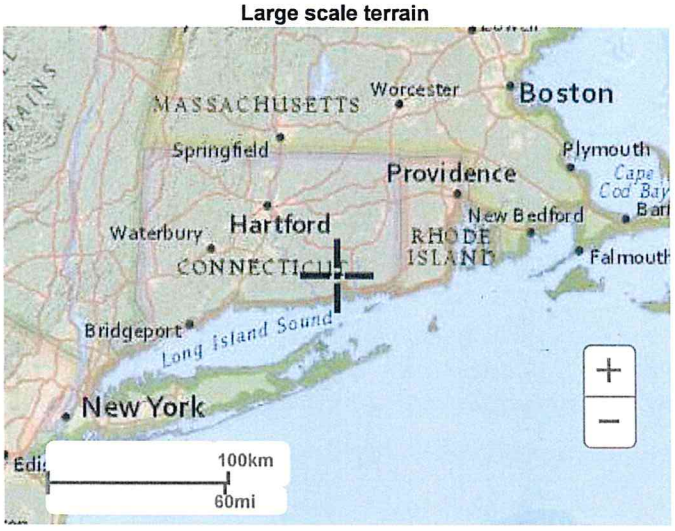
Maps & aerials

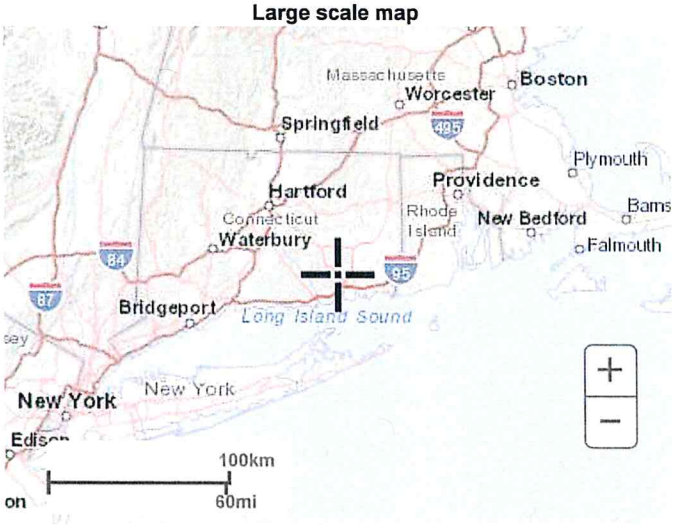
Small scale terrain



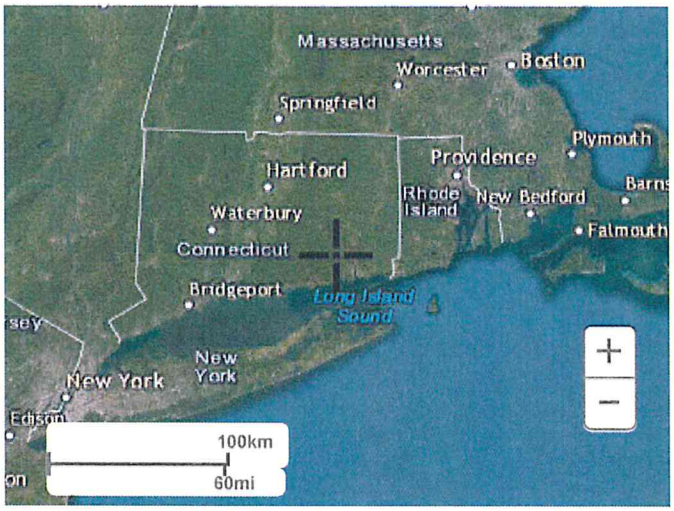
Large scale terrain



Large scale map



Large scale aerial



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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

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