STORMWATER MANAGEMENT REPORT

Crystal Mall Adaptive Reuse

850 Hartford Turnpike (CT Route 85)
Waterford, Connecticut 06385

Prepared For:
GENERAL DYNAMICS
Electric Boat

January 26, 2026

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1.0 Narrative

The proposed project is the adaptive reuse of the former Crytal Mall (Mall) complex located at 850 Hartford Turnpike (CT Route 85), Waterford, Connecticut for use by the Electric Boat Corporation. The Location of the property in reference to the USGS Quad Map is attached as Figure 1. A location map is included on the Site Improvement Plans (Plans).

The Electric Boat adaptive reuse of the property includes the conversion of the existing retail mall building for office, work force development, and research and development use. The existing restaurant pad sites (currently Olive Garden and Longhorn Steakhouse) located along the Hartford Turnpike (CT Route 85) frontage will remain.

Proposed modifications to the site are depicted on the Plans. The existing bituminous concrete parking lots will be reconfigured and rehabilitated to accommodate the parking necessary for Electric Boats adaptive reuse of the facility. The entirety of the parking lots and parking spaces are necessary for Electric Boat's employee operations and the reuse of the property.

Stormwater management improvements have been proposed to the maximum extent practicable. The improvements have been proposed to meet the goals of the Waterford Zoning Regulations Section 25, and the 2024 CTDEEP Connecticut Stormwater Quality Manual (SQM).

2.0 Existing Conditions

The existing property is approximately 77.8 acres in total along the southwest side of Hartford Turnpike (CT Route 85) as shown on Figure 1 and the location map included on the Plans. The Crystal Mall was constructed on the property circa 1983-1984. The property is comprised primarily of commercially developed land containing the Crystal Mall Building, two restaurant pad sites, and approximately 46 acres of paved parking lots. The total impervious area on the site is 54.6 acres. The western portion of the property is approximately 22 acres of undeveloped woodland that includes a detention basin (referred to as the stormwater management basin herein) for the facility and the surrounding area. The property is bordered by Hartford Turnpike (CT Route 85) to the northeast, additional commercial development to the southeast (currently Home Depot) and northwest (currently Target), and undeveloped woodland to the southwest. An aerial view of the existing property and surrounding area as they currently exist is included in the Plans.

The existing topography of the site generally runs from the high points along Hartford Turnpike southwesterly toward the low point along the undeveloped woodlands. The elevations range between 196 along Hartford Turnpike and 78 along the southwest property line.

The site soils are generally comprised of Urban Land (307). Rock outcrops are present along the eastern side of the property along the CT Route 85 frontage. A USDA Soil Resource Report is included in Appendix B. Inland wetlands are present at the stormwater management basin and along the western edge of the site.

Stormwater from the facility is collected in a standard catch basin and culvert system. Inlets are typically cast iron 2' diameter or 2'x2' grates located throughout the parking areas as depicted on the Plans. The culverts are primarily reinforced concrete pipe (RCP) ranging in size from 12" through 72" diameter. It appears that the stormwater infrastructure was constructed with the Mall in the 1983-1984 era. Spot repairs and grate replacements have been performed as needed.

The stormwater discharge is to a vegetated stormwater management (detention) basin located at the southwest corner of the property, sometimes referred to as Trading Cove Pond on public mapping. The basin is located on a separate parcel under the same ownership. The basin location is shown on the Plans. This basin is sometimes referred to as the detention basin in previous applications; it is referred to as the stormwater management basin herein. The basin collects runoff from the mall property, the adjacent Home Depot property, and the State of CT Route 85 drainage system (Nevins Brook). It appears that the basin was constructed with the development of the Mall around 1983-1984. It was modified to its current configuration with the development of the adjacent Home Depot around 1995. Our understanding is that the intent of this detention basin was to mitigate peak stormwater runoff from the commercial developments at that time.

Nevins Brook

The stormwater management basin was constructed over Nevins Brook. Nevins Brook traverses the site in a closed catch basin and culvert system. The headwater of the brook appears to be a wetland system located northeast of the property; to the south of Dayton Road and flows behind the former Cohanzie School. The brook is collected at a 30" RCP inlet near the Dayton Place and Hartford Turnpike intersection and is conveyed across Hartford Turnpike in the State of Connecticut drainage system. At the time of the Mall construction a drainage manhole was constructed over the cross-culvert discharge and the flow was conveyed through the developed portion of the property by RCP culvert. Several catch basin inlets are located along the routing that collect stormwater runoff from CT Route 85. Stormwater from the Mall property is collected separately in a segregated collection system onsite. There is a portion of the Mall property in the Longhorn Steakhouse area that is collected in a drainage system and combines with the Nevins Brook system offsite in the Home Depot Parking lot. The brook discharges into the existing stormwater management basin where it combines with other discharge from the Mall and the Home Depot. The stormwater management basin is depicted on the Plans and in Picture 1.

CTDEEP classifies Nevins Brook as Streamflow Classification is Class 3 indicating it is moderately altered, and has intermediate balance points between ecological and human uses. The CTDEEP Surface Water Quality Classification is A.

Picture 1 - Aerial View of the Existing Stormwater Management Basin (A.K.A. Trading Cove Pond)

Stormwater Management Basin

Stormwater runoff from the Mall, Home Depot, and CT Route 85 (Nevins Brook) is discharged into the existing Stormwater management Basin. The basin is sometimes referred to as Trading Cove Pond in publicly available mapping.

It appears that the basin was constructed with the development of the Mall around 1983-1984. It was modified to its current configuration with the development of the adjacent Home Depot around 1995. Our understanding is that the intent of this detention basin was to mitigate peak stormwater runoff from the commercial developments at that time.

The Stormwater Management Basin is currently heavily vegetated and in good stable condition.

Water flow through the detention basin is controlled via a concrete outlet control structure with a 30" RCP culvert discharge. A view of the outlet control structure is shown in Picture 2.

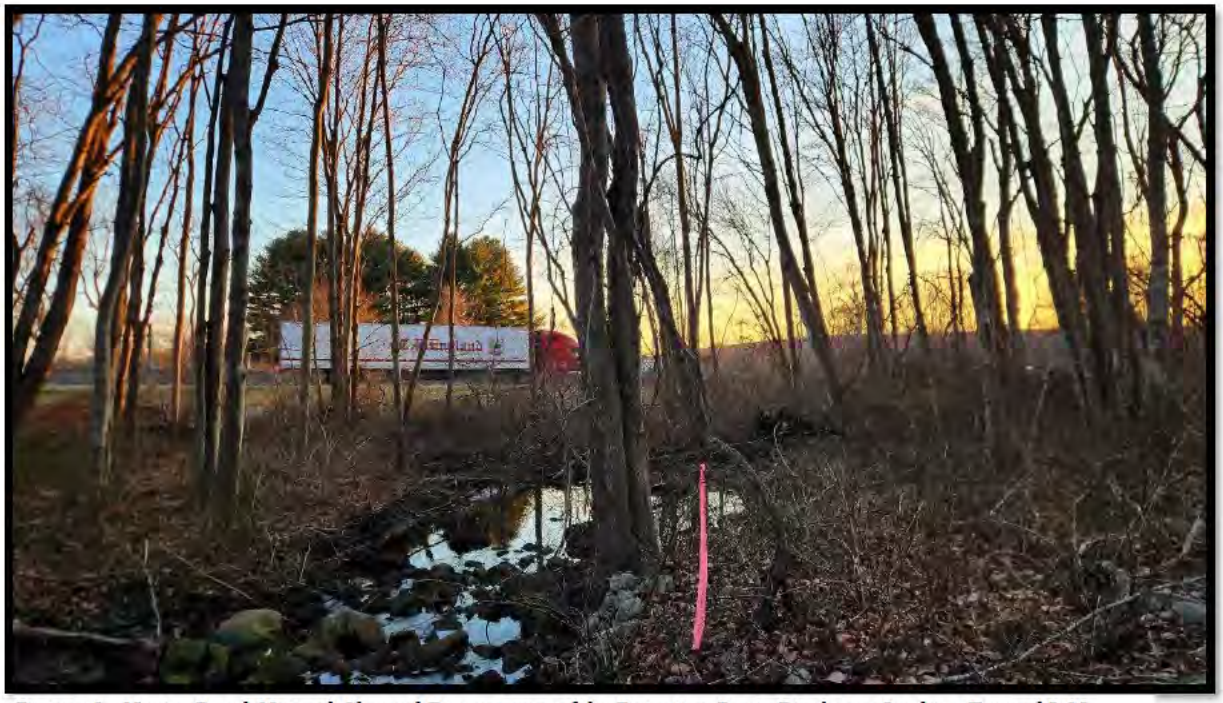
Discharge from the Stormwater Management Basin is through a concrete wingwall as shown in Picture 3.

The discharge continues as Nevins Brook downstream of the site through a stable natural stony stream channel as depicted in Picture 4 and 5.

Picture 2 - Detention Basin Outlet Control Structure

Picture 3 - Detention Basin Discharge Culvert

Picture 4 – Nevins Brook Natural Channel Located Immediately Downstream of the Detention Basin Discharge



Picture 5 - Nevins Brook Natural Channel Downstream of the Detention Basin Discharge Looking Toward I-95

Stormwater Quality

It appears that the intent of this detention basin construction was to mitigate peak stormwater runoff from the commercial developments at that time. Stormwater runoff pollutant renovation is also provided as a byproduct of the detention basin storage, stormwater flow path through the basin, and vegetation.

Robert Russo and Kyle Lynch of CLA performed grab samples of the stormwater discharge from the basin on two occasions: December 3, 2025 (CU86796) and December 19, 2025 (CU99833). A summary of the lab testing results is below. Full lab testing results are included in Appendix C.

	Units	RL	CU86796 12/3/2025 CM BASIN Storm Water Result	CU99833 12/19/2025 CM BASIN Storm Water Result	CTDEEP MS4 Outfall Screening Limits
Miscellaneous/Inorganics					
B.O.D./5 day	mg/L	4.0	< 4.0	5.2	
Chlorine Residual	mg/L	0.02	< 0.02	< 0.02	
Conductivity	umhos/cm	5.00	136	750	
Escherichia Coli	MPN/100 mls	10	2,490	197	410.0
MBAS	mg/L	0.10	< 0.05	< 0.10	
Ammonia as Nitrogen	mg/L	0.10	0.13	0.38	
Nitrite-N	mg/L	0.010	< 0.010	0.012	
Nitrate-N	mg/L	0.02	0.07	0.15	
pH	pH Units	1.00	6.1	6.26	
Nitrogen Tot Kjeldahl	mg/L	0.20	0.63	0.98	
Total Nitrogen	mg/L	0.10	0.7	1.14	2.5
Phosphorus, as P	mg/L	0.010		0.077	0.3
Turbidity	NTU	0.200	1.2	1.2	
Metals, Total					
Cadmium	mg/L	0.001	< 0.001	< 0.001	
Copper	mg/L	0.005	< 0.005	< 0.005	
Lead	mg/L	0.001	0.002	0.002	
Zinc	mg/L	0.004	0.016	0.046	

The samples were taken during a rain event to capture the first flush conditions. The December 19, 2025 sample also captured snow melt from a previous snow storm event. The results show that the water leaving the stormwater management basin has values below the CTDEEP MS4 General Permit standards set forth, with the exception of Escherichia Coli in the December 3, 2025. In our opinion the high levels of Escherichia Coli in the December 3, 2025 sample would be an anomaly and would not be typical of parking lot stormwater runoff, but may be from a source elsewhere in the contributing watershed.

3.0 Post Development Conditions

The proposed project is the adaptive reuse of the existing Crystal Mall Building. The existing Mall building will remain in place as it currently exists. The reuse includes the interior conversion of the building for office, work force development, and research and development. The existing restaurant pad sites (currently Olive Garden and Longhorn Steakhouse) located along the Hartford Turnpike (CT Route 85) frontage will remain.

Proposed modifications to the site are depicted on the Plans. The existing bituminous concrete parking lots will be reconfigured and rehabilitated to accommodate the parking necessary for Electric Boats adaptive reuse of the facility. The entirety of the parking lots and parking spaces are necessary for Electric Boat's employee operations and reuse of the property.

The reconfigured parking lot has reduced the amount of impervious surface onsite by approximately 1.2 Acres.

The existing stormwater infrastructure will remain in place. Existing tops, frames, and grates will be replaced with new structures. Due to the parking lot reconfiguration and landscape island relocations, additional stormwater infrastructure will be added to supplement the existing system. The new infrastructure was located to capture runoff and direct it to the existing system to prevent excessive gutter flow and ponding within the parking lots and generally includes the following improvements.

- All new drainage structures will be constructed with a 2-foot deep sump.
- All new drainage structures will include a hood on the discharge pipe.
- Permanent inlet filters are proposed within existing catch basin tops at strategic locations to filter runoff prior to entering the system.
- Four hydrodynamic separators are proposed where new piping runs are proposed to further cleanse the stormwater in the drainage system.

Zoning Considerations

The proposed project is considered a redevelopment project based on the Waterford Zoning Regulation and the CTDEEP 2024 Stormwater Quality Manual (SQM). Section 25.6.8 of the Waterford Zoning Regulations requires the redevelopment project comply with one of three objectives

1. Reduce the total impervious cover by 40% from the existing conditions; or
2. Where site conditions prevent a reduction in impervious cover, implement stormwater controls for at least 40% of the site's impervious cover; or
3. Implement a combination of impervious cover reduction and area treated with stormwater controls that shall equal or exceed 40% of the site's impervious cover.

The reduction in impervious cover to meet the 40% is not practical due to Electric Boat's need to utilize all of the available parking for their employees and visitors. Therefore, an approach to implement a

combination of impervious cover reduction and area treated with stormwater controls that shall equal or exceed 40% of the site's impervious cover has been proposed.

The entire existing impervious area onsite is 54.6 acres. Implementing impervious coverage reduction and stormwater controls for at least 40% of that area requires providing improvement and treatment for at least 22.4 acres of the site.

With the new parking lot reconfiguration, the impervious surface was reduced by approximately 1.2 Acres and is the maximum achievable due to the need for employee parking.

The structural stormwater management improvements have been proposed to the maximum extent achievable and generally include the following:

1. Four hydrodynamic separators have been proposed within the new stormwater infrastructure. The combined total watershed for these separators is 8.75 Acres.
2. Permanent catch basin inlet filter pretreatment has been proposed at strategic locations within the parking lots. The combined total watershed for these inlet filters is 22 Acres.

The proposed additional pervious surface and structural stormwater management improvements total 31.95 Acres. This equates to 58.5% of the existing impervious area, meeting the Zoning Regulation requirements. Additionally, a large portion of the remaining impervious surface (approximately 12 Acres) is the building roofs that have limited potential for pollutant loading to the stormwater runoff.

In addition to the structural stormwater management improvements, maintenance and operations improvements have also been proposed that generally include the following:

1. Snow storage will be primarily focused to the landscape areas, with limited storage in the parking areas. Due to the need for employee parking, excess snow will be trucked offsite to a separate facility as needed. This will reduce the amount of deicing materials within the stormwater runoff from the site.
2. Implement inspection and maintenance procedures for the facility as outlined in this document and the Plans.

4.0 Analysis

The overall site stormwater analysis was performed for the 2-year, 10-year, 25-year, 50-year, and 100-year frequency storms using the USDA/NRCS TR-55 method to determine the peak flow rates from the existing and post development site. Precipitation data and rainfall were acquired from NOAA Atlas 14, Volume 10, Version 3 for the site, and are included in Appendix A. NRCS Type D regional rainfall distribution was used in accordance with the 2024 CTDEEP Connecticut Stormwater Quality Manual. The soils within the analyzed watersheds generally fall into the hydrologic soil group D due to the current level of

development. A copy of the soil mapping is included in Appendix B. The runoff curve numbers for the site are based on the ground cover and hydrologic soil group and are included in Table 1.

Table 1 – Curve Numbers

Runoff curve numbers for the existing and post development conditions were compiled from Table 2-2 of the USDA/NRCS TR-55 manual a portion is included in Appendix A. The following curve numbers were used for the calculations:

Existing Conditions

Watershed EX 1	CN	Area
Impervious (roofs, pavement, rock outcrop, etc.)	98	55.35
Open space (lawns), HSG D, Good Condition	80	5.75

Watershed EX 2	CN	Area
Impervious (roofs, pavement, rock outcrop, etc.)	98	3.35
Open space (lawns), HSG D, Good Condition	80	0.75

Watershed EX 3	CN	Area
Impervious (roofs, pavement, rock outcrop, etc.)	98	0.05
Open space (lawns), HSG D, Good Condition	80	0.08

Watershed EX 4	CN	Area
Impervious (roofs, pavement, rock outcrop, etc.)	98	0.32
Open space (lawns), HSG D, Good Condition	80	0.23

Post Development Conditions

Watershed PD 1	CN	Area
Impervious (roofs, pavement, rock outcrop, etc.)	98	54.05
Open space (lawns), HSG D, Good Condition	80	6.80
Pervious Surface w/ Silva Cell Subsurface Storage	60	0.25

Watershed PD 2	CN	Area
Impervious (roofs, pavement, rock outcrop, etc.)	98	3.35
Open space (lawns), HSG D, Good Condition	80	0.75

Watershed PD 3	CN	Area
Impervious (roofs, pavement, rock outcrop, etc.)	98	0.05
Open space (lawns), HSG D, Good Condition	80	0.08

Watershed PD 4	CN	Area
Impervious (roofs, pavement, rock outcrop, etc.)	98	0.32
Open space (lawns), HSG D, Good Condition	80	0.23

Watershed Descriptions

The existing and post development watersheds are depicted on Figures 2 and 3. The following is a general description of each watershed.

EX1/PD1 This is the major watershed on the property. The watershed surrounds the mall building and includes the majority of the parking lots and mall roof. It is generally contained within the parking lot curb line with sheet flow from a portion of CT Route 85 contributing. Is approximately 61.1 Ac. Discharge is to Analysis Point 1 (AP 1) which is a 72" culvert located within the existing Stormwater Management Basin.

EX2/PD2 This watershed generally surrounds the current Longhorn Steakhouse. It includes the parking lot surrounding the building, a portion of the southern driveway and sheet flow from a portion of CT Route 85. Discharge is to Analysis Point 2 (AP 2) which is a drainage manhole located at the property boundary with Home Depot. The final discharge is into the Stormwater Management Basin after passing through the Home Depot property.

EX3/PD3 This is an isolated watershed at the middle driveway near Olive Garden. A portion of the vegetated property frontage and CT Route 85 flow to an 18" RCP culvert inlet.

EX4/PD4 This watershed includes the CT Route 85 frontage along the Olive Garden development. It includes a portion of the front parking area, vegetated frontage and a portion of the northern entrance drive. Stormwater is collected in catch basins and discharges to the north through a 36" RCP culvert in a concrete wingwall.

Peak Flow Rates and Volumes

Peak stormwater flow rates and runoff volume for the existing conditions and post development conditions are summarized in Tables 2 and 3 respectively. Supporting calculations are included in the Calculations section.

The post development peak flow rates and runoff volume match the existing conditions. Stormwater improvements for water quality and impervious surface reduction have been made onsite as outlined herein. However, due to the order of magnitude of the existing watersheds and the impervious surfaces they contain, the proposed improvements did not impact the weighted curve numbers used in the calculations.

Table 3 – Peak Flow Rates

WATERSHED 1 (AP 1)	Peak Flow Rate (CFS)				
	2-Year	10-Year	25-Year	50-Year	100-Year
Existing Condition: EX 1 (Hyd. #1) :	199.840	303.000	367.040	414.480	464.880
Post Development: PD 1 (Hyd. #6) :	199.840	303.000	367.040	414.480	464.880
Change :	0.000	0.000	0.000	0.000	0.000

WATERSHED 2 (AP 2)	Peak Flow Rate (CFS)				
	2-Year	10-Year	25-Year	50-Year	100-Year
Existing Condition: EX 2 (Hyd. #2) :	13.480	20.620	25.050	28.320	31.800
Post Development: PD 1 (Hyd. #7) :	13.480	20.620	25.050	28.320	31.800
Change :	0.000	0.000	0.000	0.000	0.000

WATERSHED 3 (AP 3)	Peak Flow Rate (CFS)				
	2-Year	10-Year	25-Year	50-Year	100-Year
Existing Condition: EX 3 (Hyd. #3) :	0.332	0.560	0.702	0.807	0.918
Post Development: PD 1 (Hyd. #8) :	0.332	0.560	0.702	0.807	0.918
Change :	0.000	0.000	0.000	0.000	0.000

WATERSHED 4 (AP 4)	Peak Flow Rate (CFS)				
	2-Year	10-Year	25-Year	50-Year	100-Year
Existing Condition: EX 4 (Hyd. #4) :	1.552	2.512	3.106	3.545	4.011
Post Development: PD 1 (Hyd. #8) :	1.552	2.512	3.106	3.545	4.011
Change :	0.000	0.000	0.000	0.000	0.000

Table 4 – Runoff Volumes

WATERSHED 1 (AP 1)	Runoff Volume (CF)				
	2-Year	10-Year	25-Year	50-Year	100-Year
Existing Condition: EX 1 (Hyd. #1) :	685,232	1,066,260	1,305,249	1,483,001	1,672,285
Post Development: PD 1 (Hyd. #6) :	685,232	1,066,260	1,305,249	1,483,001	1,672,285
Change :	0	0	0	0	0

WATERSHED 2 (AP 2)	Runoff Volume (CF)				
	2-Year	10-Year	25-Year	50-Year	100-Year
Existing Condition: EX 2 (Hyd. #2) :	45,438	71,511	87,894	100,088	113,078
Post Development: PD 1 (Hyd. #7) :	45,438	71,511	87,894	100,088	113,078
Change :	0	0	0	0	0

WATERSHED 3 (AP 3)	Runoff Volume (CF)				
	2-Year	10-Year	25-Year	50-Year	100-Year
Existing Condition: EX 3 (Hyd. #3) :	1,040	1,796	2,282	2,648	3,039
Post Development: PD 1 (Hyd. #8) :	1,040	1,796	2,282	2,648	3,039
Change :	0	0	0	0	0

WATERSHED 4 (AP 4)	Runoff Volume (CF)				
	2-Year	10-Year	25-Year	50-Year	100-Year
Existing Condition: EX 4 (Hyd. #4) :	4,944	8,239	10,338	11,909	13,586
Post Development: PD 1 (Hyd. #8) :	4,944	8,239	10,338	11,909	13,586
Change :	0	0	0	0	0

Conclusion:
In our opinion, the proposed redevelopment will have no negative impact to the peak stormwater runoff rates and volumes leaving the site. Stormwater quality improvements and a reduction in impervious surface on the site have been proposed that benefit the watersheds and the receiving Stormwater Management Basin. As such, in our opinion, the proposed development will have no negative impact on the adjacent State of CT infrastructure, Nevins Brook, or properties downstream of the site.

5.0 CT DEEP 2024 Stormwater Quality Manual Compliance

The proposed development meets the five performance standards of the Connecticut DEEP 2024 Stormwater Quality Manual to the Maximum Extent Achievable (MEA). The project is a redevelopment of an existing facility; as such stormwater improvement have been incorporated into the proposed improvements as much as possible given the site parameters and necessary use of the site. Low impact development features have been incorporated into the site development plans including the addition of impervious landscape surfaces, subsurface infiltration by way of Silva Cell underground storage, catch basin inlet filters, and hydrodynamic separators. Low impact development features have been designed in accordance with the 2024 Connecticut Stormwater Quality Manual to treat the proposed stormwater runoff.

5.1 Standard 1 – Runoff Volume and Pollutant Retention

The primary discharge form the site is to the Stormwater Management Basin. Stormwater runoff pollutant renovation is provided in this basin as a byproduct of the detention basin storage, stormwater flow path through the basin, and vegetation. As previously outlined under the Existing Conditions narrative herein, the existing discharge from Stormwater Management Basin removes pollutants to levels meeting a CT DEEP standards and Stormwater Quality Manual standards.

As an improvement to the existing site and watershed additional pervious surface has been incorporated into the design amounting to approximately 1.2 Acres. Catch basin inlet filters have also been proposed to pre-treat approximately 22 Acres of the site. Four hydrodynamic separators are proposed that will further renovate the stormwater runoff. Hydrodynamic separator sizing is based on the water quality flow (WQF) as required in the SQM.

Hydrodynamic Separator 1 (HDS-1)

The proposed watershed for HDS-1 is depicted on Figure 4. The required water quality volume is calculated as follows:

Hydrodynamic Separator #1 (HDS-1)		
Water Quality Volume (WQV)		
Sizing in Accordance with Chapter 4 of the DEEP 2024 Storm Water Quality Manual		
Water Quality Volume (WQV) = (1")(R)(A) / 12		
P = 1.3"		
R = 0.05 + 0.009(I)		
I = percent of impervious cover		
A = watershed area		
Total Watershed Area (Ac.) :	3.50	
Watershed Impervious Area (Ac.) :	3.40	
I =	97.1%	
R =	0.924	
Required WQV =	0.3505	Ac.-Ft
	15,266.0	CF
Water Quality Flow (WQF)		
Sizing in Accordance with Appendix D of the DEEP 2024 Storm Water Quality Manual		
Water Quality Flow (WQF) = (qu)(A)(Q)		
qu = unit peak discharge (cfs/mi2/inch)		
A = watershed area (mi2)		
Q = runoff depth (in watershed inches)		
P (1.3" for water quality flow) :	1.3	in
Q =	1.20	
CN =	97	
Ia (from Table 4-1) :	0.062	in
Ia / P =	0.048	
Tc (Time of Concentration) :	0.167	Hr
qu (from Exhibit 4-III) :	700	csm/in
Total Watershed Area (Square Miles) =	0.00547	mi2
Required WQF =	**4.600**	CFS
	2,064.5	GPM

A Contech Cascade CS-8 unit has been proposed that is capable of treating up to 7.2 CFS in accordance with the CTDOT Guidelines for the Use of Hydrodynamic Separators on CTDOT Projects. The Contractor may select an alternate separator capable of treating the minimum water quality flow rates as outlined in Appendix D.

Hydrodynamic Separator 2 (HDS-2)

The proposed watershed for HDS-2 is depicted on Figure 4. The required water quality volume is calculated as follows:

Hydrodynamic Separator #2 (HDS-2)		
Water Quality Volume (WQV)		
Sizing in Accordance with Chapter 4 of the DEEP 2024 Storm Water Quality Manual		
Water Quality Volume (WQV) = (1")(R)(A) / 12		
P = 1.3"		
R = 0.05 + 0.009(I)		
I = percent of impervious cover		
A = watershed area		
Total Watershed Area (Ac.) :	2.20	
Watershed Impervious Area (Ac.) :	2.20	
I =	100.0%	
R =	0.950	
Required WQV =	0.2264	Ac.-Ft
	9,862.7	CF
Water Quality Flow (WQF)		
Sizing in Accordance with Appendix D of the DEEP 2024 Storm Water Quality Manual		
Water Quality Flow (WQF) = (qu)(A)(Q)		
qu = unit peak discharge (cfs/mi2/inch)		
A = watershed area (mi2)		
Q = runoff depth (in watershed inches)		
P (1.3" for water quality flow) :	1.3	in
Q =	1.24	
CN =	98	
Ia (from Table 4-1) :	0.041	in
Ia / P =	0.032	
Tc (Time of Concentration) :	0.167	Hr
qu (from Exhibit 4-III) :	700	csm/in
Total Watershed Area (Square Miles) =	0.00344	mi2
Required WQF =	**2.972**	CFS
	1,333.8	GPM

A Contech Cascade CS-6 unit has been proposed that is capable of treating up to 4.0 CFS in accordance with the CTDOT Guidelines for the Use of Hydrodynamic Separators on CTDOT Projects. The Contractor may select an alternate separator capable of treating the minimum water quality flow rates as outlined in Appendix D.

Hydrodynamic Separator 3 (HDS-3)

The proposed watershed for HDS-3 is depicted on Figure 4. The required water quality volume is calculated as follows:

Hydrodynamic Separator #3 (HDS-3)		
Water Quality Volume (WQV)		
Sizing in Accordance with Chapter 4 of the DEEP 2024 Storm Water Quality Manual		
Water Quality Volume (WQV) = (1")(R)(A) / 12		
P = 1.3"		
R = 0.05 + 0.009(I)		
I = percent of impervious cover		
A = watershed area		
Total Watershed Area (Ac.) :	2.05	
Watershed Impervious Area (Ac.) :	1.90	
I =	92.7%	
R =	0.884	
Required WQV =	0.1964	Ac.-Ft
	8,553.2	CF
Water Quality Flow (WQF)		
Sizing in Accordance with Appendix D of the DEEP 2024 Storm Water Quality Manual		
Water Quality Flow (WQF) = (qu)(A)(Q)		
qu = unit peak discharge (cfs/mi2/inch)		
A = watershed area (mi2)		
Q = runoff depth (in watershed inches)		
P (1.3" for water quality flow) :	1.3	in
Q =	1.15	
CN =	98	
Ia (from Table 4-1) :	0.041	in
Ia / P =	0.032	
Tc (Time of Concentration) :	0.167	Hr
qu (from Exhibit 4-III) :	700	csm/in
Total Watershed Area (Square Miles) =	0.00320	mi2
Required WQF =	**2.577**	CFS
	1,156.7	GPM

A Contech Cascade CS-6 unit has been proposed that is capable of treating up to 4.0 CFS in accordance with the CTDOT Guidelines for the Use of Hydrodynamic Separators on CTDOT Projects. The Contractor may select an alternate separator capable of treating the minimum water quality flow rates as outlined in Appendix D.

Hydrodynamic Separator 4 (HDS-4)

The proposed watershed for HDS-4 is depicted on Figure 4. The required water quality volume is calculated as follows:

Hydrodynamic Separator #4 (HDS-4)		
Water Quality Volume (WQV)		
Sizing in Accordance with Chapter 4 of the DEEP 2024 Storm Water Quality Manual Water Quality Volume (WQV) = (1")(R)(A) / 12 P = 1.3" R = 0.05 + 0.009(I) I = percent of impervious cover A = watershed area		
Total Watershed Area (Ac.) :	1.00	
Watershed Impervious Area (Ac.) :	1.00	
I =	100.0%	
R =	0.950	
Required WQV =	0.1029	Ac.-Ft
	4,483.1	CF
Water Quality Flow (WQF)		
Sizing in Accordance with Appendix D of the DEEP 2024 Storm Water Quality Manual Water Quality Flow (WQF) = (qu)(A)(Q) qu = unit peak discharge (cfs/mi2/inch) A = watershed area (mi2) Q = runoff depth (in watershed inches)		
P (1.3" for water quality flow) :	1.3	in
Q =	1.24	
CN =	98	
Ia (from Table 4-1) :	0.041	in
Ia / P =	0.032	
Tc (Time of Concentration) :	0.167	Hr
qu (from Exhibit 4-III) :	700	csm/in
Total Watershed Area (Square Miles) =	0.00156	mi2
Required WQF =	**1.351**	CFS
	606.3	GPM

A Contech Cascade CS-4 unit has been proposed that is capable of treating up to 1.8 CFS in accordance with the CTDOT Guidelines for the Use of Hydrodynamic Separators on CTDOT Projects. The Contractor may select an alternate separator capable of treating the minimum water quality flow rates as outlined in Appendix D.

5.2 Standard 2 – Stormwater Runoff Quantity Control

As outlined under the Analysis section of this report the peak flow rates and volume leaving the site match the existing conditions. Stormwater improvements by impervious surface reduction and addition of subsurface storage have been made onsite to the maximum extent achievable as outlined herein. However, due to the order of magnitude of the existing watersheds and the impervious surfaces they contain, the proposed improvements did not impact the weighted curve numbers used in the calculations or the calculated peak flow rates and runoff volumes.

5.3 Standard 3 – Construction Soil Erosion and Sediment Control

The erosion and sedimentation control plan was designed in accordance with the 2024 Connecticut DEEP Guidelines for Soil Erosion & Sediment Control. Erosion and sedimentation control measures are depicted on the site development plans. Plans, construction details, and a narrative are included in the plan set.

5.4 Standard 4 – Post Construction Operation and Maintenance

The following is a general operations and maintenance schedule for the stormwater infrastructure and project site. These provisions are also included on the project Plans.

Maintenance Schedule for Existing Stormwater Management Basins	
Activity	Schedule
• Inspect for damage, undercut, or eroded area Monitor for sediment accumulation	Semi-Annual inspection
• Repair undercut or eroded areas.	As needed maintenance
• Clean and remove debris & sediment from inlet and outlet structures • Inspect and clean debris & sediment in the basin • Clean and remove debris from inlets	Semi-annual

Maintenance Schedule for Catch Basins	
Activity	Schedule
• Clean out sediment from catch basin	• Between November 15th and December 15th (after leaf fall) • During April (after snow melt)

Maintenance Schedule for Catch Basin Inlet Filters	
Activity	Schedule
• Inspect inlet filters for accumulated sediment • Inspect oil skimmer pouches for solidification and color • Inspect the filter bag for punctures, tears, or other damage	Quarterly
• Remove sediment when accumulation reaches ½ of the filter volume. Use industrial vacuum or replace the filter bags • Replace oil skimmer pads when they have solidified or turned black • Replace damaged filter bags	As needed maintenance As observed at quarterly inspections

Maintenance Schedule for Hydrodynamic Separators	
Activity	Schedule
• Inspect sump for accumulated sediment • Inspect oil skimmer pouches for solidification and color • Inspect the filter bag for punctures, tears, or other damage	Semi-annual
• Remove sediment when accumulation reaches 50% of the maximum storage volume. Use industrial vacuum / Vac-all. • Replace oil skimmer pads when they have solidified or turned black • Replace damaged filter bags	As needed maintenance As observed at semi-annual inspections

Maintenance Schedule for Parking Areas	
Activity	Schedule
• Sweep parking lots & impervious areas	• Between November 15th and December 15th (after leaf fall) • During April (after snow melt)
• Remove and dispose of trash and debris onsite	Daily - As needed maintenance

5.5 Standard 5 – Stormwater Management Plan

During Construction

The stormwater pollution prevention plan and all erosion and sedimentation control measures have been designed in accordance with the 2024 Connecticut DEEP Guidelines for Soil Erosion & Sediment Control.

The location of temporary erosion and sedimentation control measures for the proposed development are included in the site development plan set. Construction details and an erosion and sedimentation control narrative are also included in the plan set. The narrative and construction details outline the requirements for stabilization of disturbed areas, slope stabilization requirements, and maintenance requirements.

Stormwater Management & Pollution Prevention:

Provisions for stormwater management and pollution prevention are outlined on the plans and are as follows:

1. Pollution Prevention Team:
   The General Contractor shall be responsible for carrying out the provisions of the plan.
2. Sweeping:
   Parking lots, sidewalks, and other impervious surfaces beyond the work site shall be swept clean of sand, silt, and litter daily at the end of the work day.
3. Outside Storage:
   Accessories or equipment stored outside shall be covered or maintained to minimize the possibility of these materials or their residue passing to stormwater.
4. Washing:
   No washing of vehicles, accessories, equipment, or appliances in the work site.
5. Maintenance and Inspection:
   a. The Contractor shall inspect, repair, and/or replace erosion control measures every 7 days and immediately following any significant rainfall or snow melt.
   b. Sediment deposits must be removed when deposits reach approximately one-half the height of the barrier.
   c. Daily dust control using water or approved equal shall be provided for all earth stockpiles, earth piled along excavations, surfaces of backfilled trenches and gravel surfaces.
6. Spills or Accidental Discharges:
   a. Comply with State and Federal regulations to contain and clean up any spill or discharge and dispose of materials at an approved facility.
   b. Contact Connecticut DEEP oil and chemical spill response division 860-424-3338.
   c. The following steps should be performed as soon as possible
      - Stop the source of the spill

- Contain the spill
- Cover the spill with absorbent material such as kitty litter, saw dust, or oil absorbent pads. Do not use straw.
- Dispose of absorber in accordance with Local and State regulations.

Post Construction

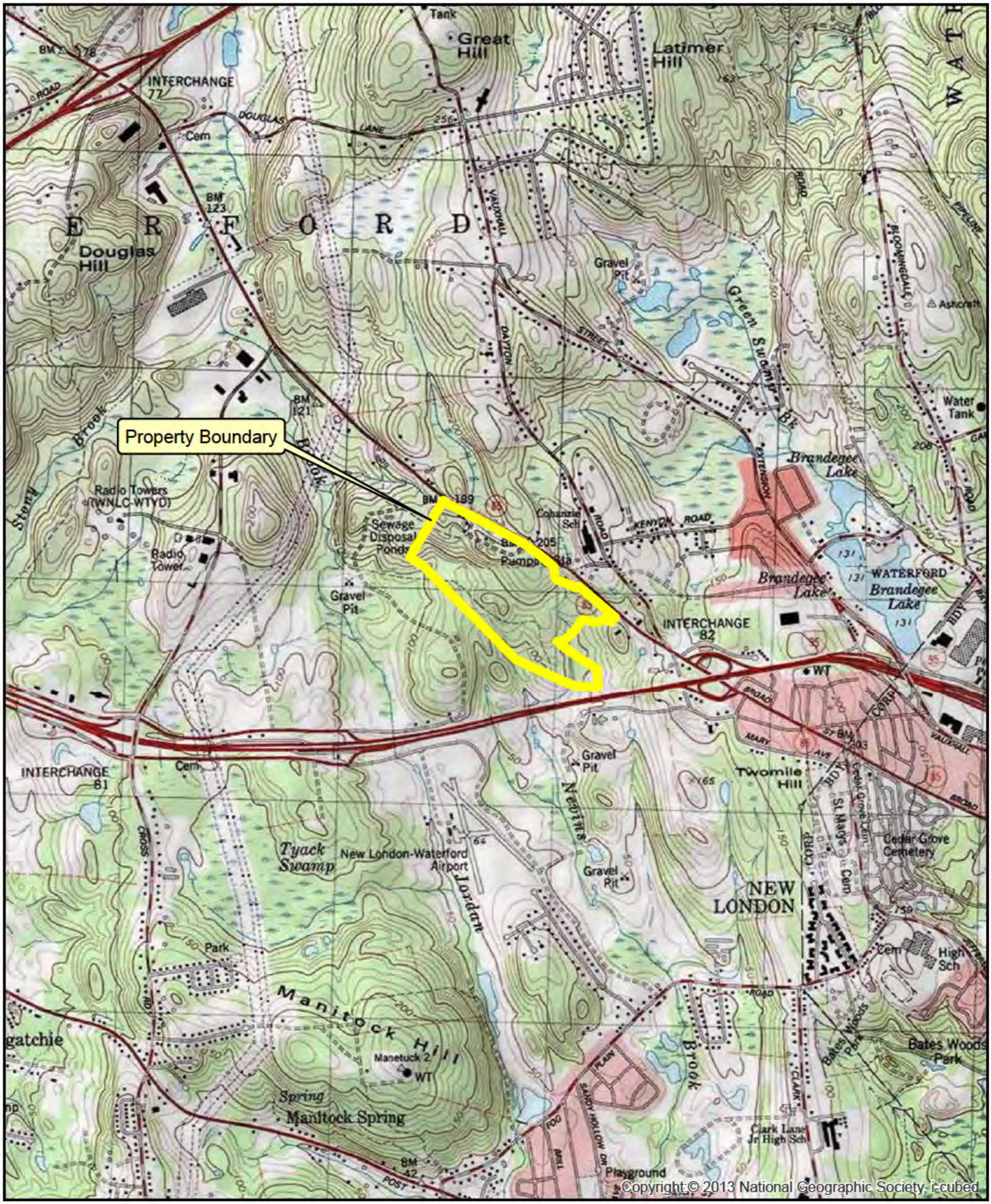
Stormwater Management & Pollution Prevention:

Provisions for stormwater management and pollution prevention are outlined on the plans and are as follows:

1. Pollution Prevention Team:
   The Owner shall be responsible for carrying out the provisions of the plan.
2. Sweeping:
   Parking lots, sidewalks, and other impervious surfaces shall be swept clean of sand and litter and any other pollutants at least twice per year
   a. Between November 15th and December 15th (after leaf fall)
   b. During April (after snow melt)
3. Outside Storage:
   Accessories or equipment stored outside shall be covered or maintained to minimize the possibility of these materials or their residue passing to stormwater.
4. Washing:
   No washing of vehicles, accessories, equipment, or appliances onsite.
5. Maintenance and Inspection:
   a. Inspect stormwater structures and outfalls twice per year.
   b. Clean sediment and debris from structures at least once per year during April.
   c. Stormwater Management Basin
      - Remove accumulated sediment, leaf litter, and trash from the inlets twice yearly. Between November 15th and December 15th (after leaf fall) and During April (after snow melt).
      - Perform yearly inspection for embankment erosion and restore as needed.
      - Review yearly for invasive species.
6. Spills or Accidental Discharges:
   d. Comply with State and Federal regulations to contain and clean up any spill or discharge and dispose of materials at an approved facility.
   e. Contact Connecticut DEEP oil and chemical spill response division 860-424-3338.
   f. The following steps should be performed as soon as possible
      - Stop the source of the spill
      - Contain the spill

- Cover the spill with absorbent material such as kitty litter, saw dust, or oil absorbent pads. Do not use straw.
- Dispose of absorber in accordance with Local and State regulations

FIGURES



CLA Engineers, Inc.
CIVIL • STRUCTURAL • SURVEYING
317 Main Street Norwich, Connecticut
860-886-1966 claengineers.com

LOCATION MAP

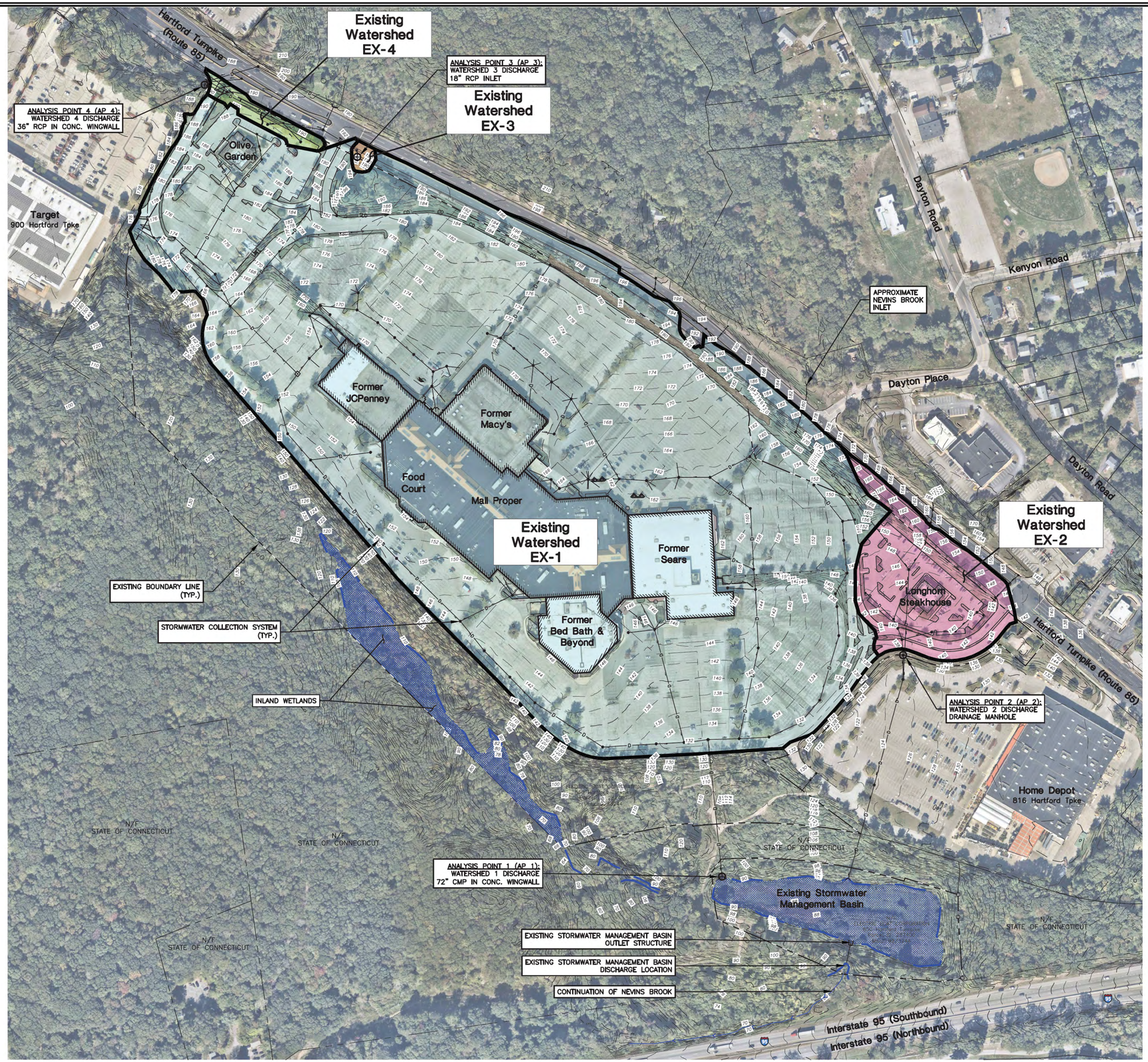
Crystal Mall Adaptive Reuse
850 Hartford Turnpike (CT Route 85)
Waterford, Connecticut
Montville Quad (#86)

DATE: 12/12/2025
SCALE: 1 in = 2,000 ft
SOURCE: USGS Quad

N

FIGURE

1



No.	DATE	REVISION

CLA Engineers, Inc.
CIVIL · STRUCTURAL · SURVEYING
317 Main Street Norwich, CT 06360
(860) 886-1966 Fax (860) 886-9165

GENERAL DYNAMICS
Electric Boat

Crystal Mall Adaptive Reuse

850 Hartford Turnpike (CT Route 85)
Waterford, Connecticut 06385

Watershed Map: Existing Conditions

Project No.	CLA-8185
Proj. Engineer	K.J.H.
Date:	1/26/2026
Figure No.	2

CLA

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317 Main Street Norwich, CT 06360
(860) 886-1966 Fax (860) 886-9165

No.	DATE	REVISION

GENERAL DYNAMICS
Electric Boat

Crystal Mall Adaptive Reuse

850 Hartford Turnpike (CT Route 85)
Waterford, Connecticut 06385

Watershed Map: Post Development

Project No. CLA-8185
Proj. Engineer K.J.H.
Date: 1/26/2026
Figure No. 3

CLA

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No.	DATE	REVISION

CLA Engineers, Inc.
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317 Main Street Norwich, CT 06360
(860) 886-1966 Fax (860) 886-9165

GENERAL DYNAMICS
Electric Boat

Crystal Mall Adaptive Reuse

850 Hartford Turnpike (CT Route 85)
Waterford, Connecticut 06385

Watershed Map: Hydrodynamic Separators

Project No.	CLA-8185
Proj. Engineer	K.J.H.
Date:	1/26/2026
Figure No.	4

CLA

M:\8000\8100\8185 - DME Crystal Mall Redevelopment\Drawings\CLA-8185 Stormwater Management Report - Watershed Mapping PD - HDS.dwg

CALCULATIONS:

Hydrograph Reports
2, 10, 25, 50, and 100-Year Frequencies

Hydraflow Table of Contents

8185.gpw

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2026 Sunday, 01 / 25 / 2026

Watershed Model Schematic

Legend

Hyd.	Origin	Description
1	SCS Runoff	EX1
2	SCS Runoff	EX2
3	SCS Runoff	EX3
4	SCS Runoff	EX4
6	SCS Runoff	PD1
7	SCS Runoff	PD2
8	SCS Runoff	PD3
9	SCS Runoff	PD4

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	------	-------	199.84	-------	-------	303.00	367.04	414.48	464.88	EX1
2	SCS Runoff	------	-------	13.48	-------	-------	20.62	25.05	28.32	31.80	EX2
3	SCS Runoff	------	-------	0.332	-------	-------	0.560	0.702	0.807	0.918	EX3
4	SCS Runoff	------	-------	1.552	-------	-------	2.512	3.106	3.545	4.011	EX4
6	SCS Runoff	------	-------	199.84	-------	-------	303.00	367.04	414.48	464.88	PD1
7	SCS Runoff	------	-------	13.48	-------	-------	20.62	25.05	28.32	31.80	PD2
8	SCS Runoff	------	-------	0.332	-------	-------	0.560	0.702	0.807	0.918	PD3
9	SCS Runoff	------	-------	1.552	-------	-------	2.512	3.106	3.545	4.011	PD4

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2026

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	199.84	1	727	685,232	------	------	------	EX1
2	SCS Runoff	13.48	1	727	45,438	------	------	------	EX2
3	SCS Runoff	0.332	1	727	1,040	------	------	------	EX3
4	SCS Runoff	1.552	1	727	4,944	------	------	------	EX4
6	SCS Runoff	199.84	1	727	685,232	------	------	------	PD1
7	SCS Runoff	13.48	1	727	45,438	------	------	------	PD2
8	SCS Runoff	0.332	1	727	1,040	------	------	------	PD3
9	SCS Runoff	1.552	1	727	4,944	------	------	------	PD4

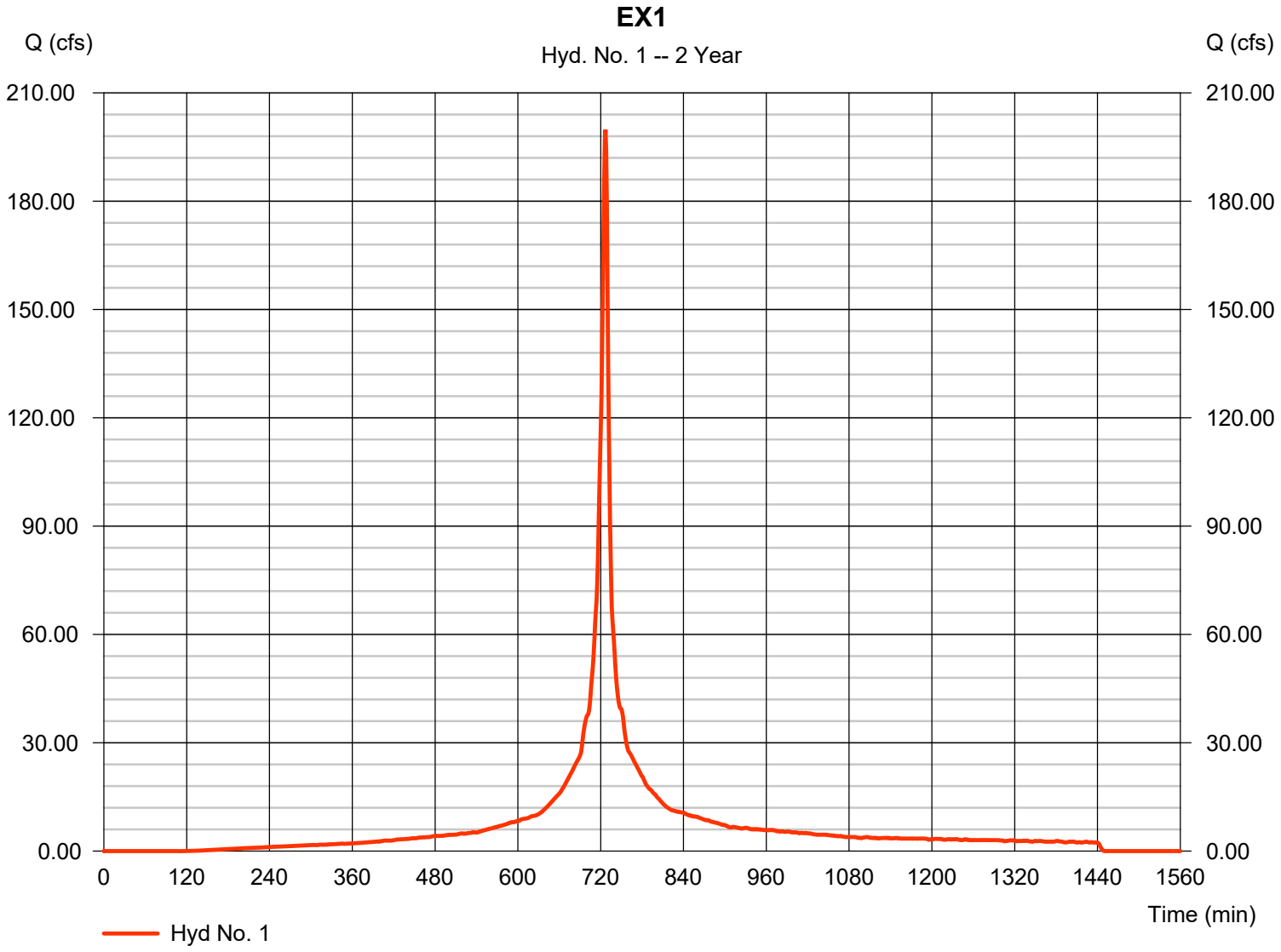
Hydrograph Report

Hyd. No. 1

EX1

Hydrograph type	=	SCS Runoff	Peak discharge	=	199.84 cfs
Storm frequency	=	2 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	685,232 cuft
Drainage area	=	61.100 ac	Curve number	=	96*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	3.45 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(55.350 x 98) + (5.750 x 80)] / 61.100



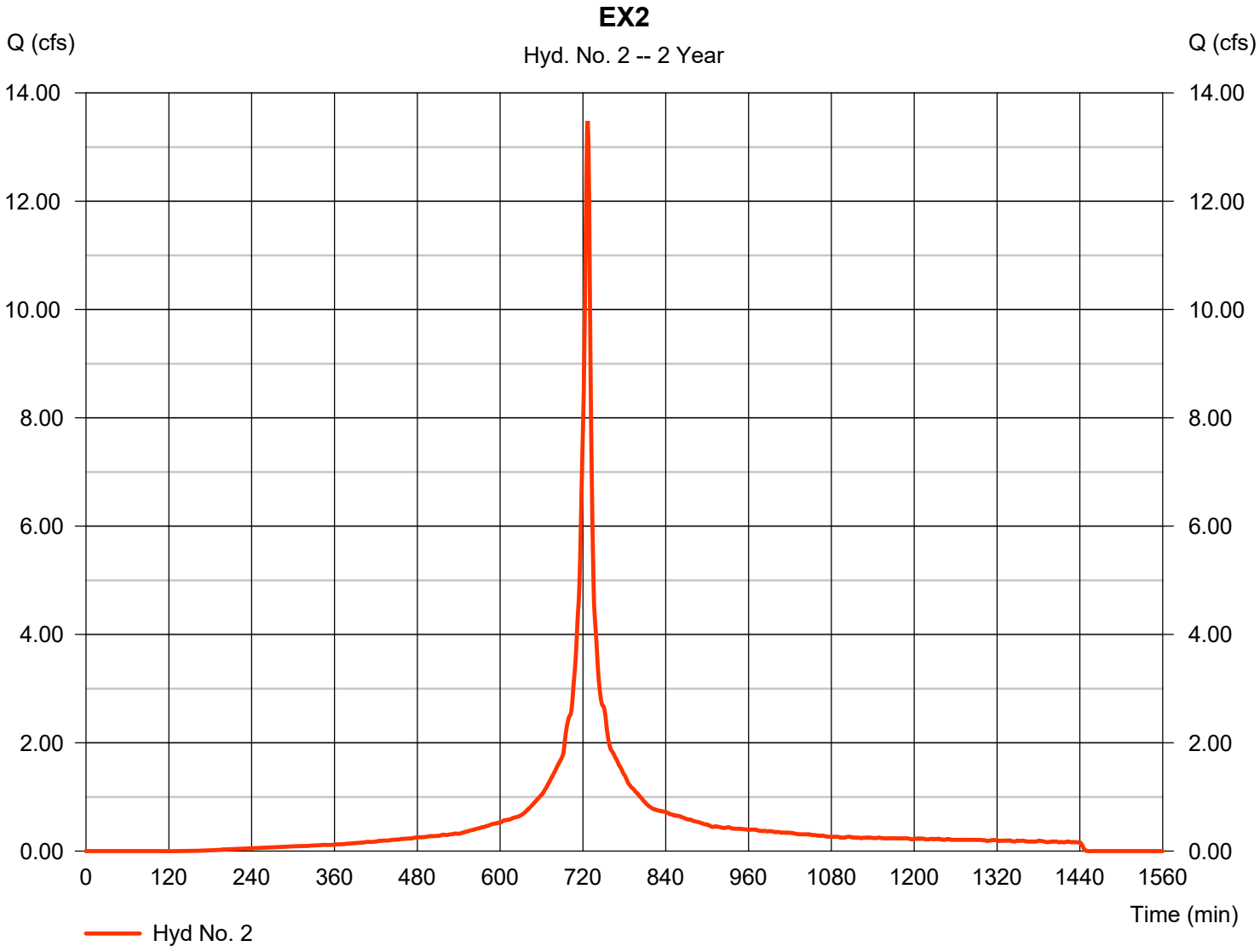
Hydrograph Report

Hyd. No. 2

EX2

Hydrograph type	=	SCS Runoff	Peak discharge	=	13.48 cfs
Storm frequency	=	2 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	45,438 cuft
Drainage area	=	4.200 ac	Curve number	=	95*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	3.45 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(3.450 x 98) + (0.750 x 80)] / 4.200



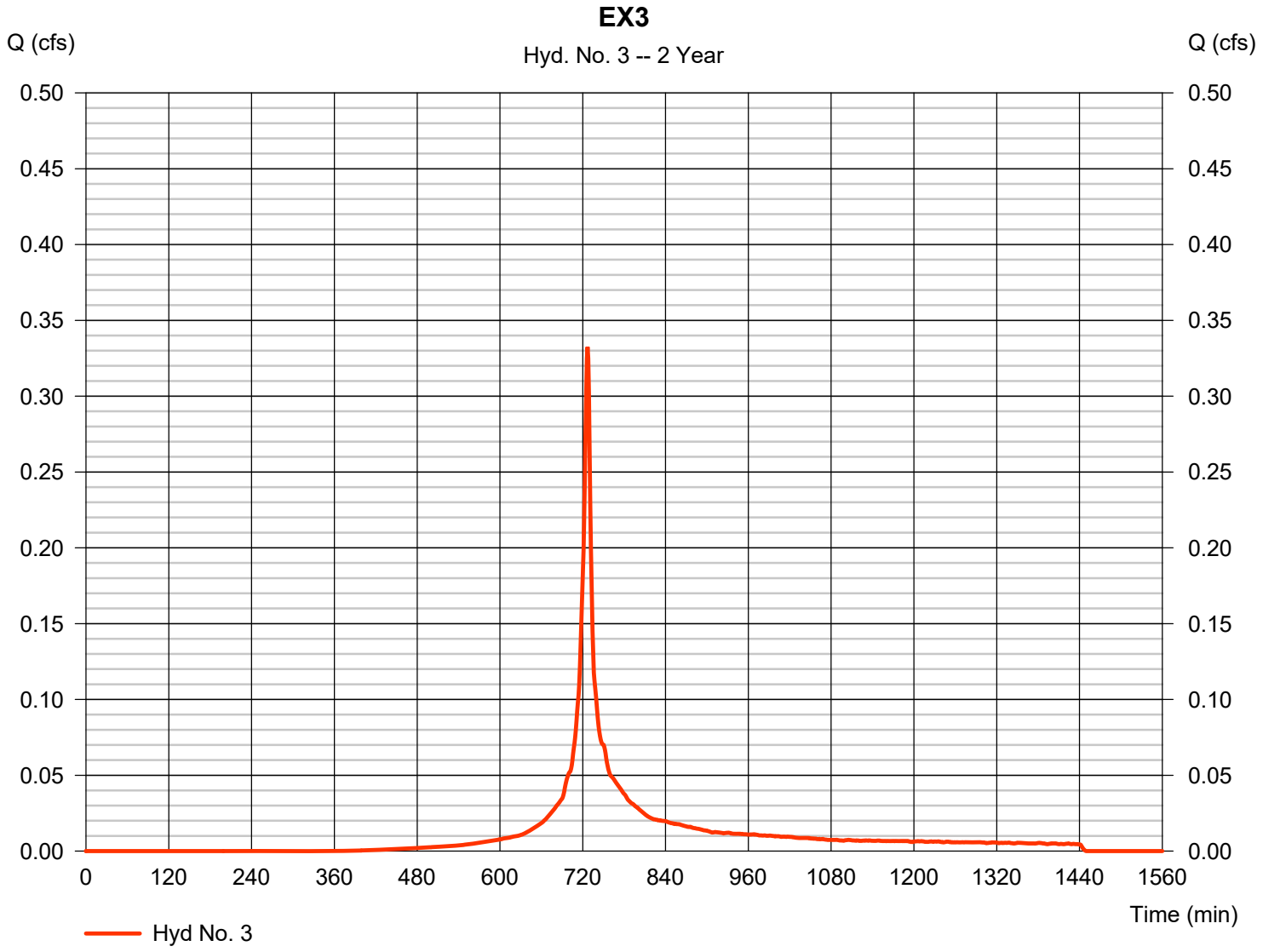
Hydrograph Report

Hyd. No. 3

EX3

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.332 cfs
Storm frequency	=	2 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	1,040 cuft
Drainage area	=	0.130 ac	Curve number	=	87*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	3.45 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(0.050 x 98) + (0.080 x 80)] / 0.130



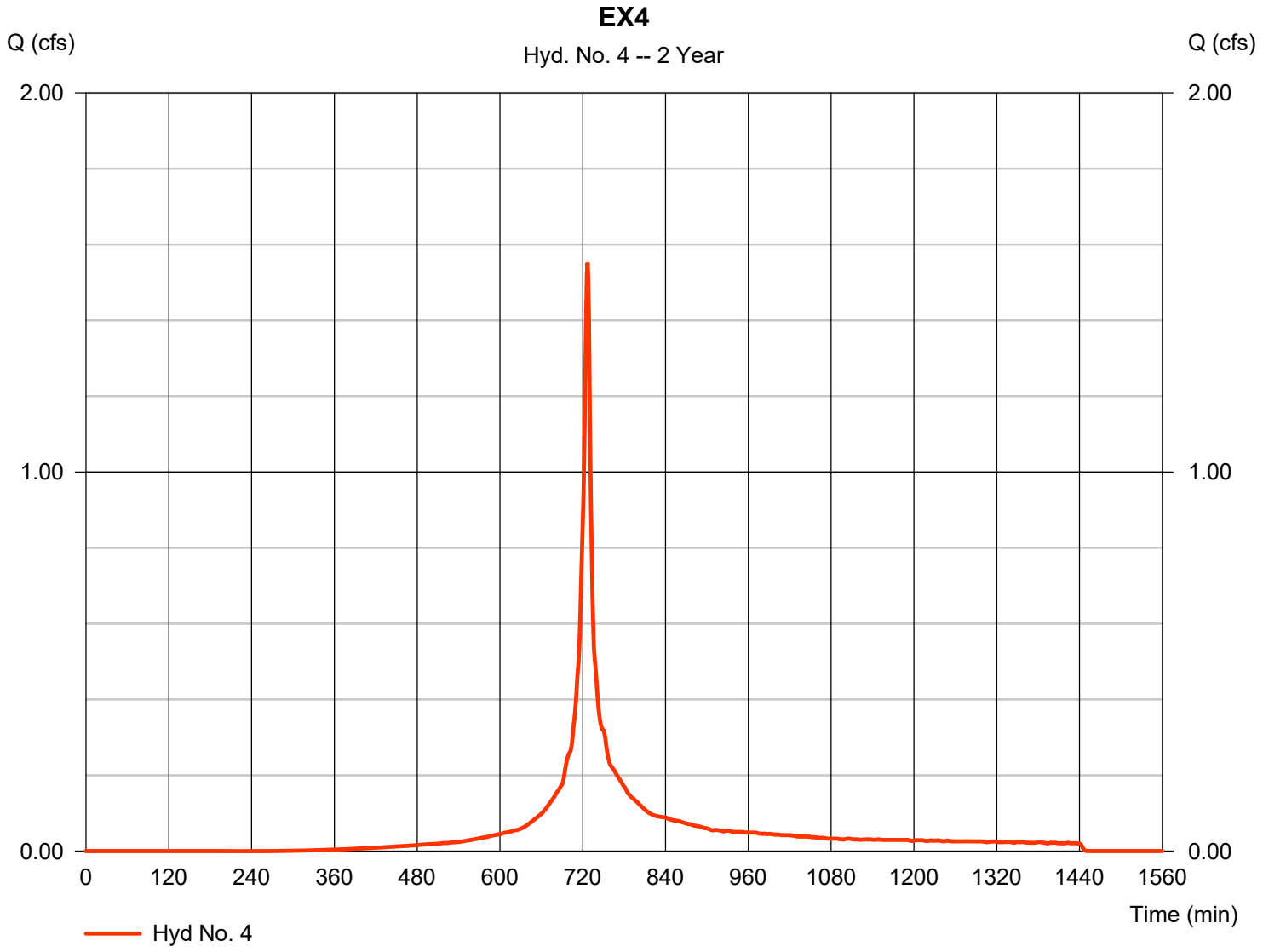
Hydrograph Report

Hyd. No. 4

EX4

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.552 cfs
Storm frequency	=	2 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	4,944 cuft
Drainage area	=	0.550 ac	Curve number	=	90*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	3.45 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(0.320 x 98) + (0.230 x 80)] / 0.550



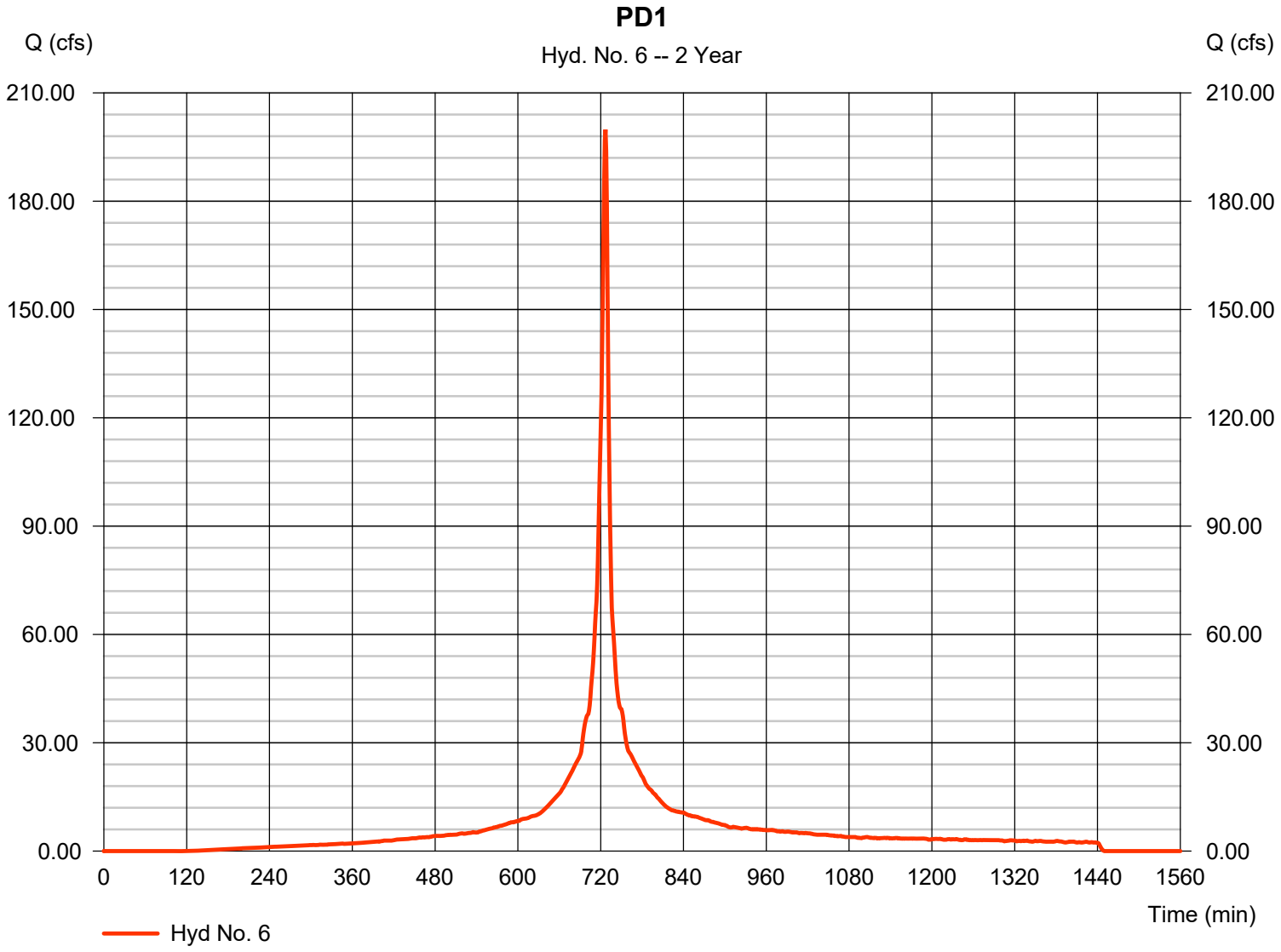
Hydrograph Report

Hyd. No. 6

PD1

Hydrograph type	=	SCS Runoff	Peak discharge	=	199.84 cfs
Storm frequency	=	2 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	685,232 cuft
Drainage area	=	61.100 ac	Curve number	=	96*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	3.45 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(54.050 x 98) + (6.800 x 80) + (0.250 x 60)] / 61.100



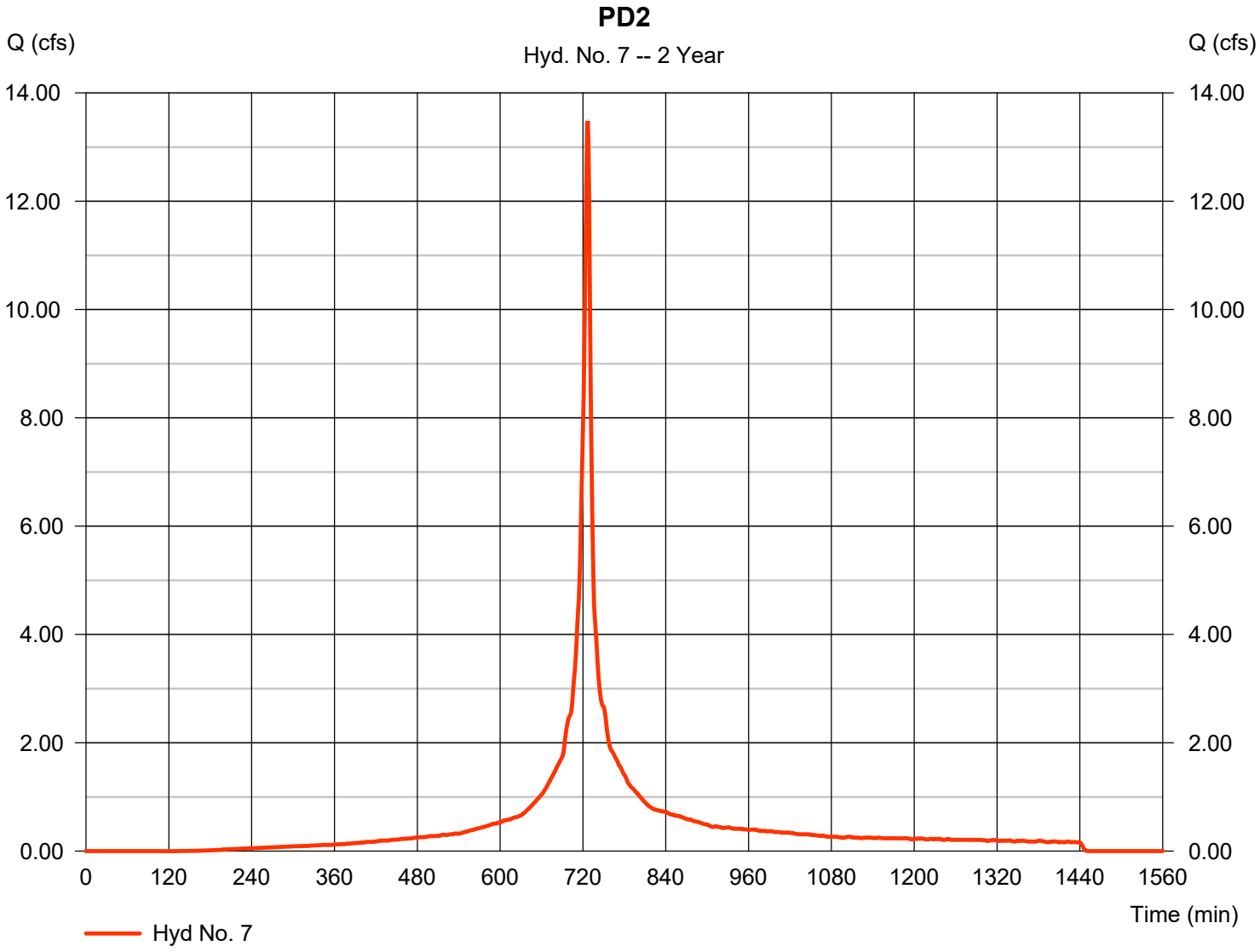
Hydrograph Report

Hyd. No. 7

PD2

Hydrograph type	=	SCS Runoff	Peak discharge	=	13.48 cfs
Storm frequency	=	2 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	45,438 cuft
Drainage area	=	4.200 ac	Curve number	=	95*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	3.45 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cda	Shape factor	=	484

* Composite (Area/CN) = [(3.450 x 98) + (0.750 x 80)] / 4.200



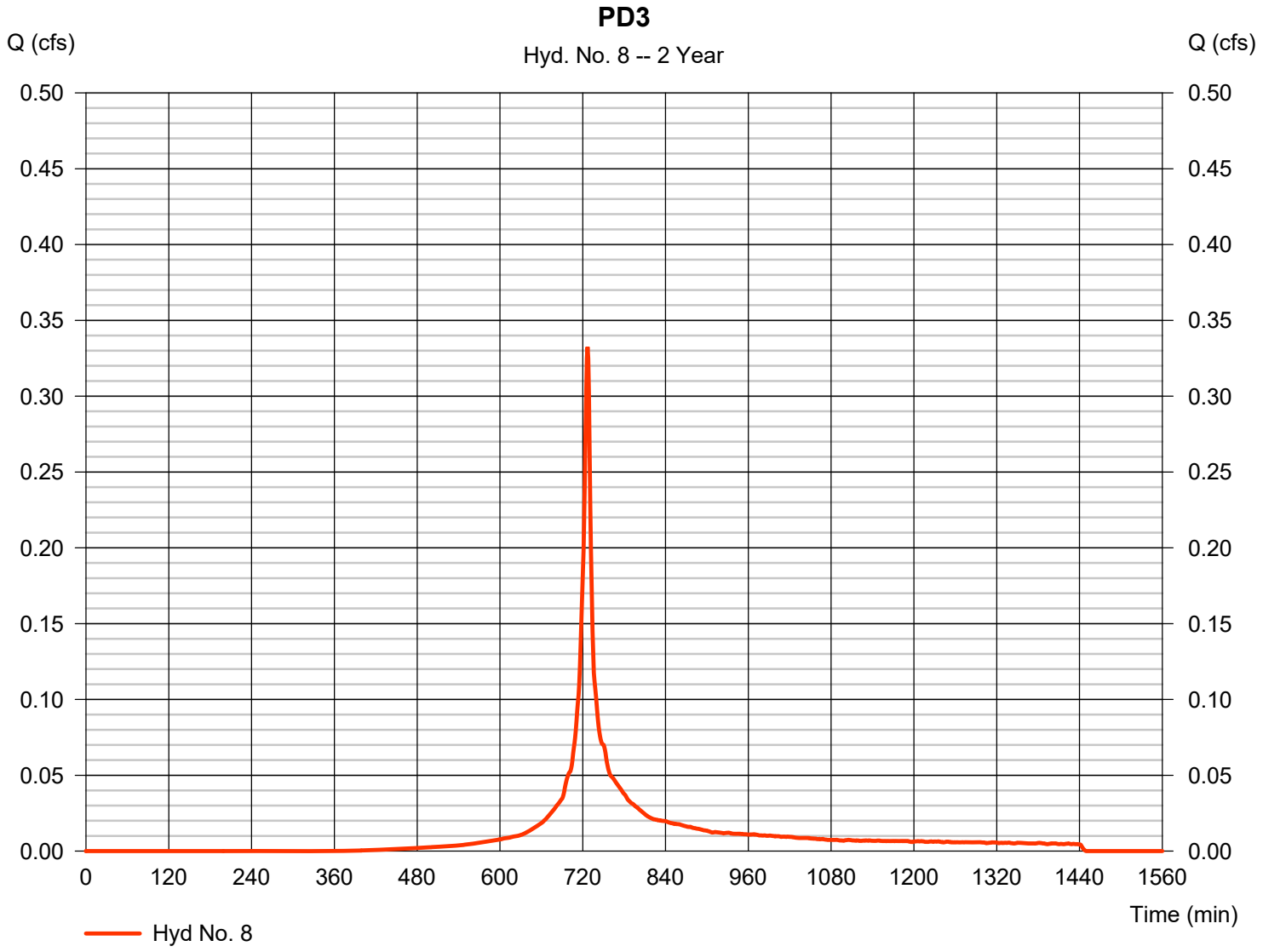
Hydrograph Report

Hyd. No. 8

PD3

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.332 cfs
Storm frequency	=	2 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	1,040 cuft
Drainage area	=	0.130 ac	Curve number	=	87*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	3.45 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(0.050 x 98) + (0.080 x 80)] / 0.130



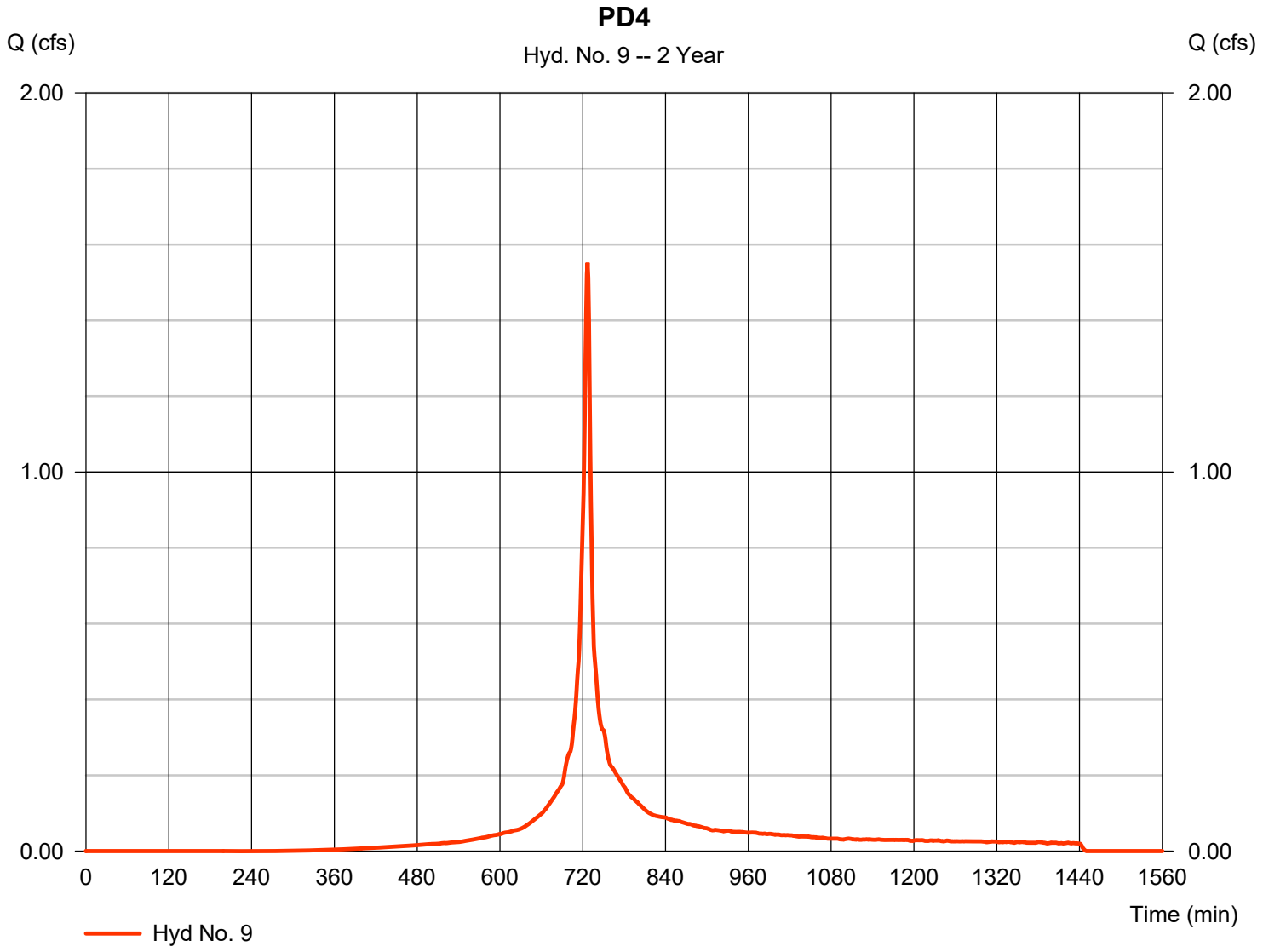
Hydrograph Report

Hyd. No. 9

PD4

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.552 cfs
Storm frequency	=	2 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	4,944 cuft
Drainage area	=	0.550 ac	Curve number	=	90*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	3.45 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(0.320 x 98) + (0.230 x 80)] / 0.550



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2026

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	303.00	1	727	1,066,260	------	------	------	EX1
2	SCS Runoff	20.62	1	727	71,511	------	------	------	EX2
3	SCS Runoff	0.560	1	727	1,796	------	------	------	EX3
4	SCS Runoff	2.512	1	727	8,239	------	------	------	EX4
6	SCS Runoff	303.00	1	727	1,066,260	------	------	------	PD1
7	SCS Runoff	20.62	1	727	71,511	------	------	------	PD2
8	SCS Runoff	0.560	1	727	1,796	------	------	------	PD3
9	SCS Runoff	2.512	1	727	8,239	------	------	------	PD4

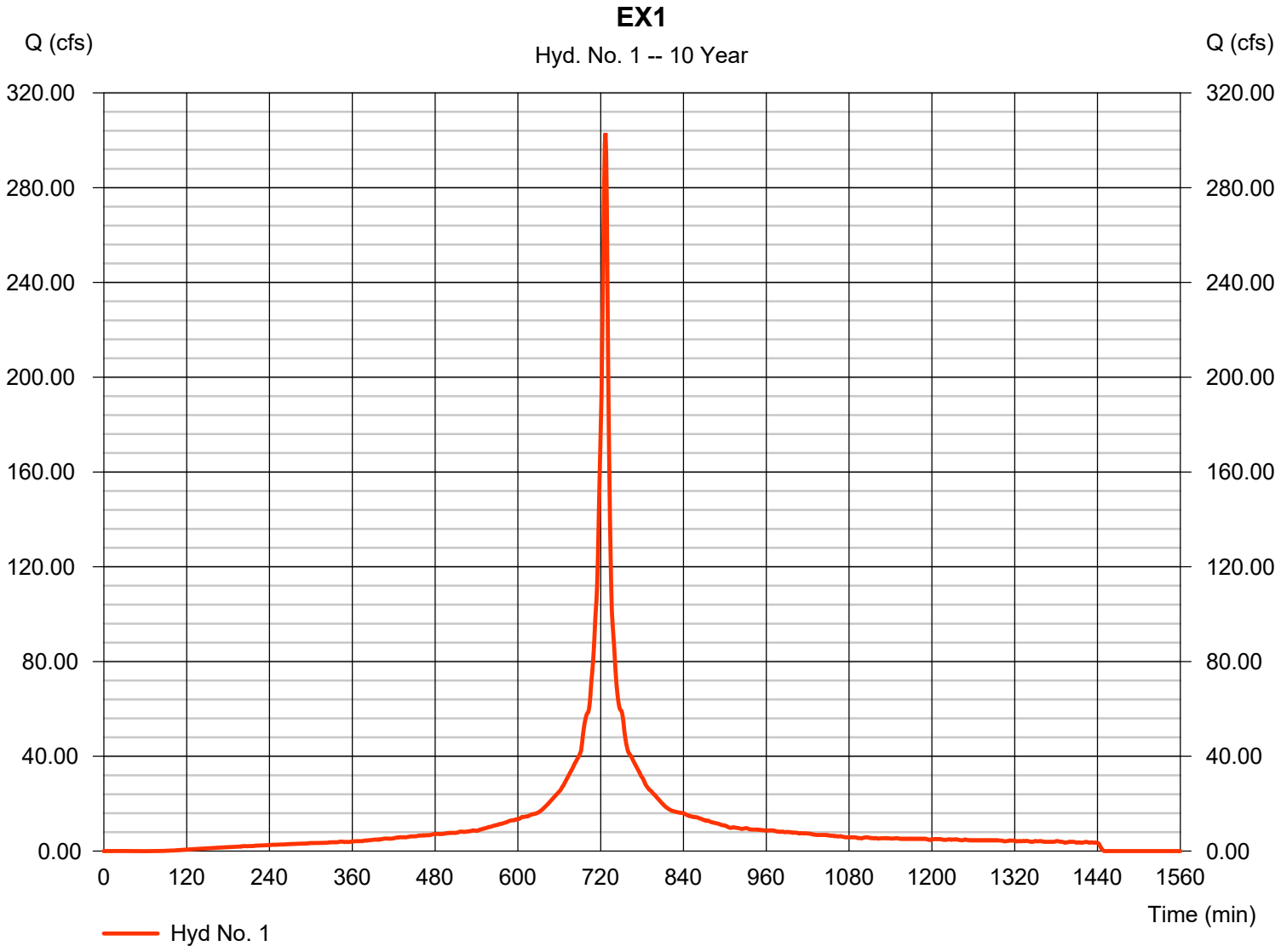
Hydrograph Report

Hyd. No. 1

EX1

Hydrograph type	=	SCS Runoff	Peak discharge	=	303.00 cfs
Storm frequency	=	10 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	1,066,260 cuft
Drainage area	=	61.100 ac	Curve number	=	96*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	5.13 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(55.350 x 98) + (5.750 x 80)] / 61.100



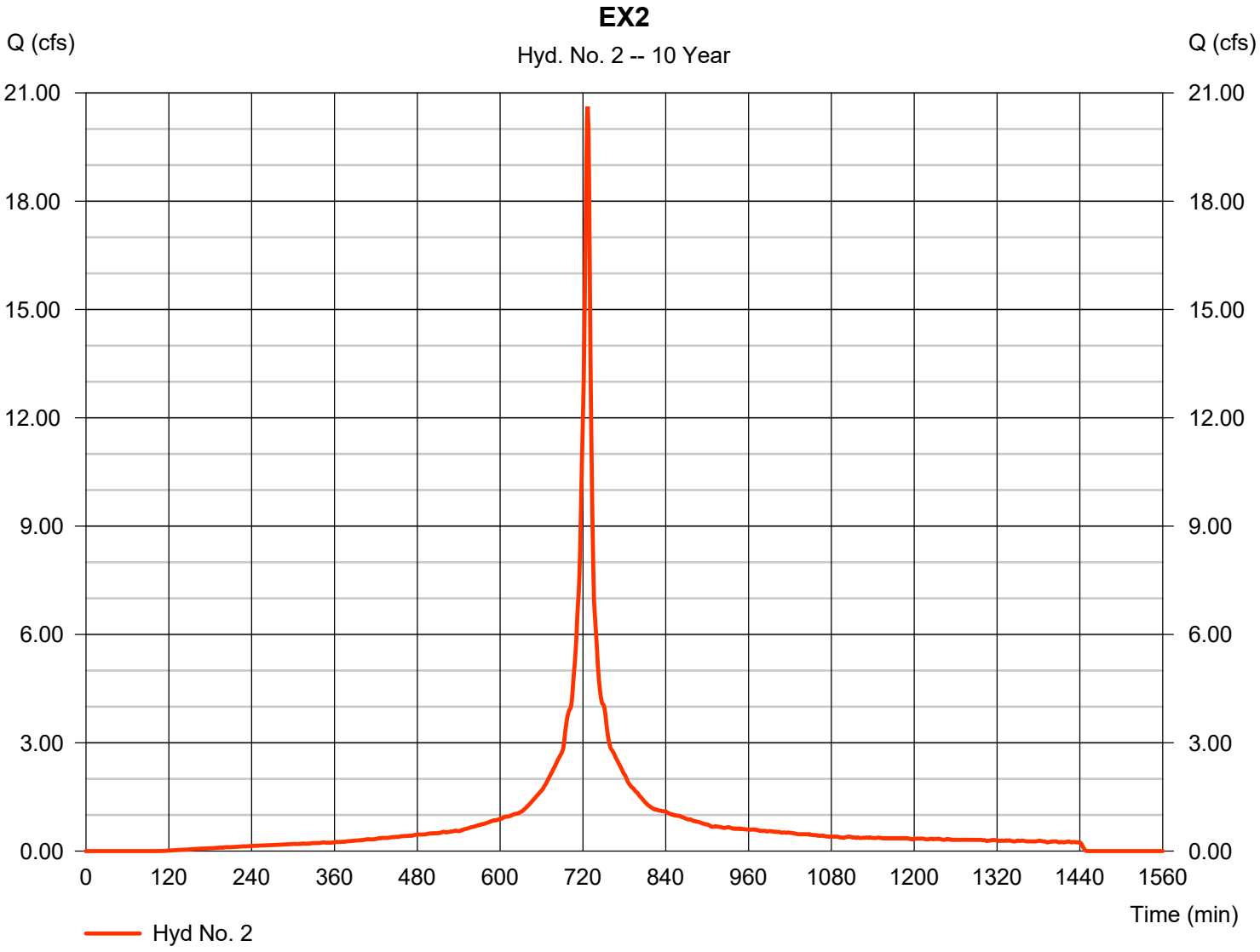
Hydrograph Report

Hyd. No. 2

EX2

Hydrograph type	=	SCS Runoff	Peak discharge	=	20.62 cfs
Storm frequency	=	10 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	71,511 cuft
Drainage area	=	4.200 ac	Curve number	=	95*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	5.13 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(3.450 x 98) + (0.750 x 80)] / 4.200



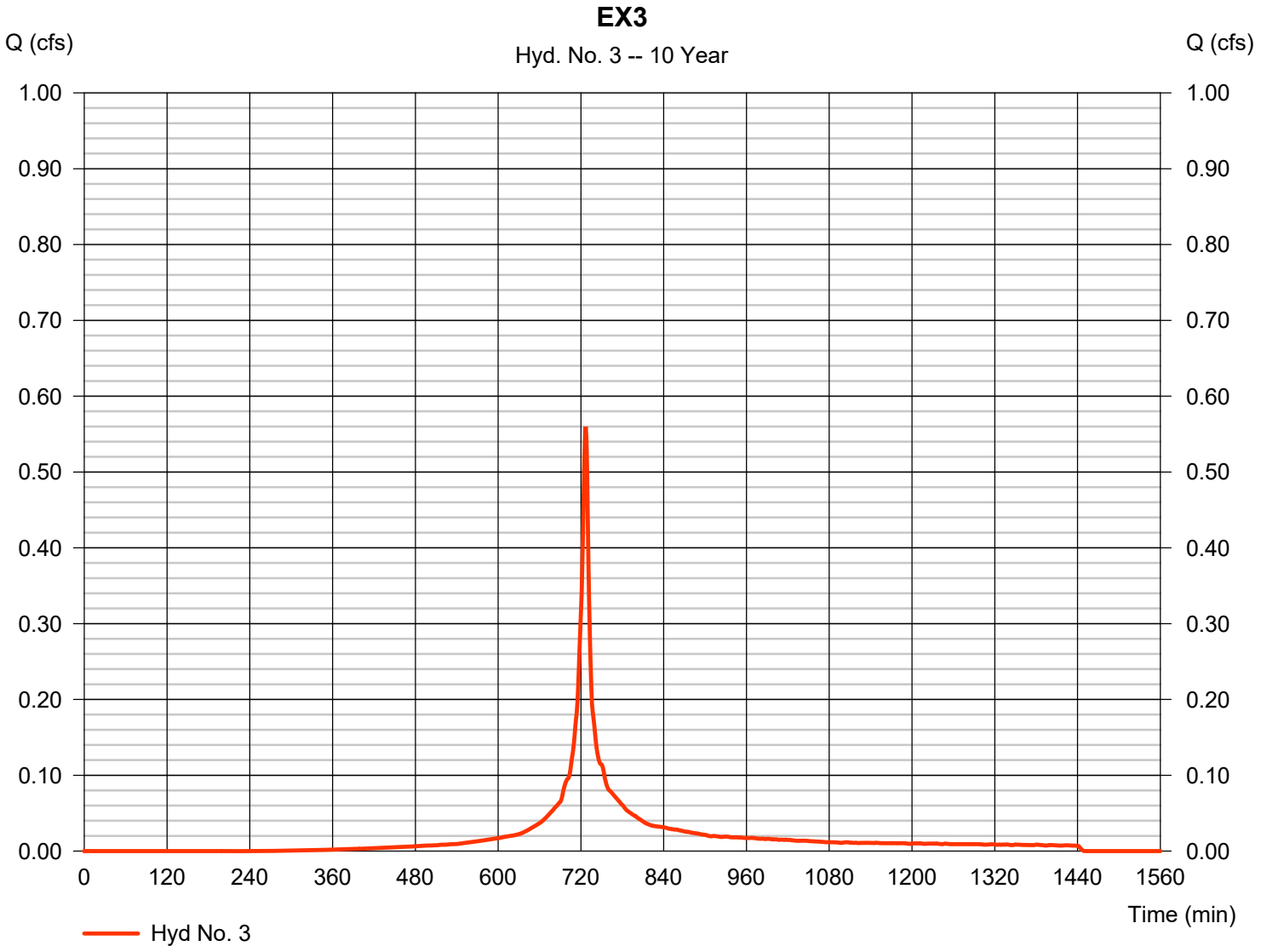
Hydrograph Report

Hyd. No. 3

EX3

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.560 cfs
Storm frequency	=	10 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	1,796 cuft
Drainage area	=	0.130 ac	Curve number	=	87*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	5.13 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(0.050 x 98) + (0.080 x 80)] / 0.130



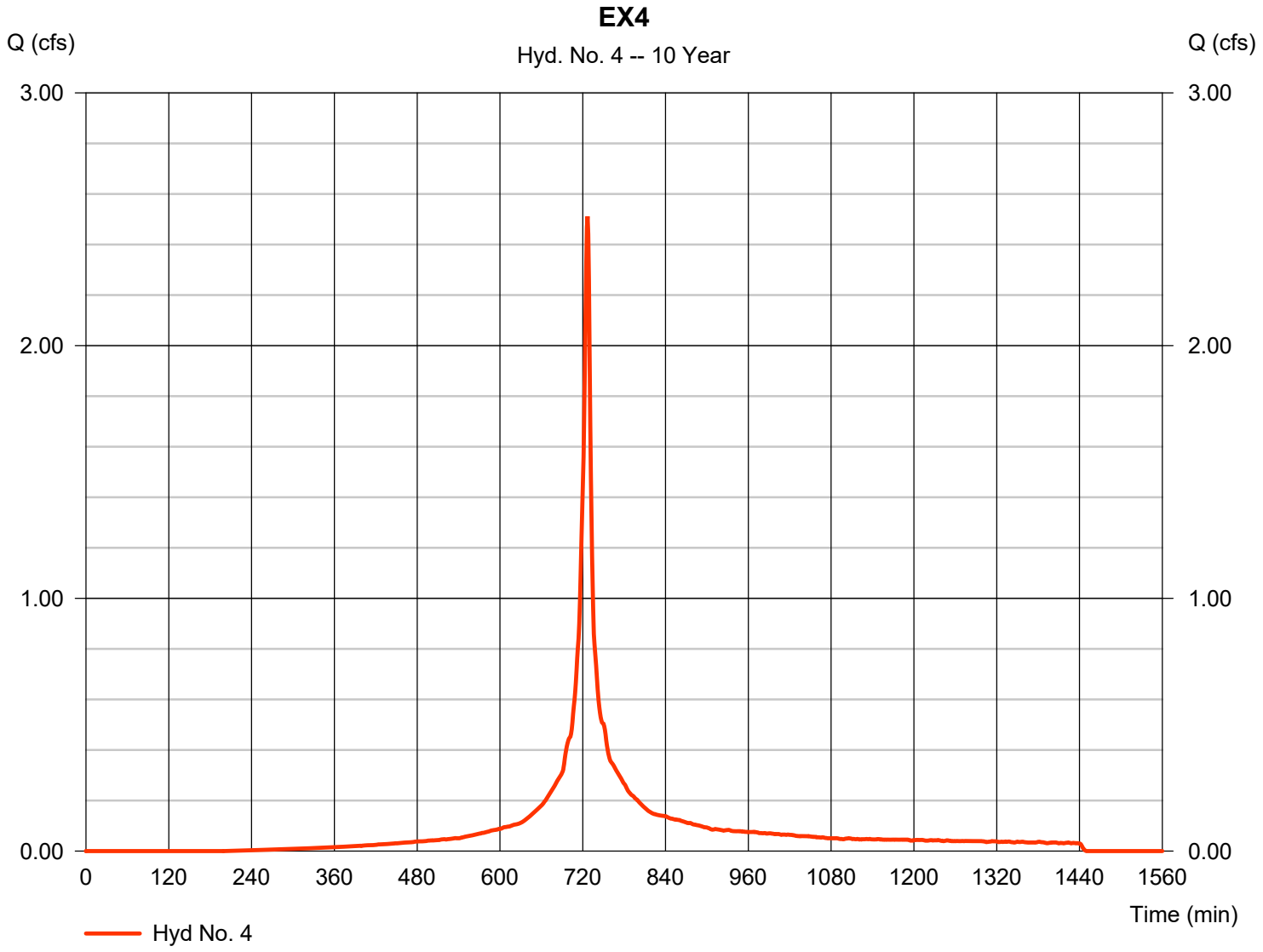
Hydrograph Report

Hyd. No. 4

EX4

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.512 cfs
Storm frequency	=	10 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	8,239 cuft
Drainage area	=	0.550 ac	Curve number	=	90*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	5.13 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(0.320 x 98) + (0.230 x 80)] / 0.550



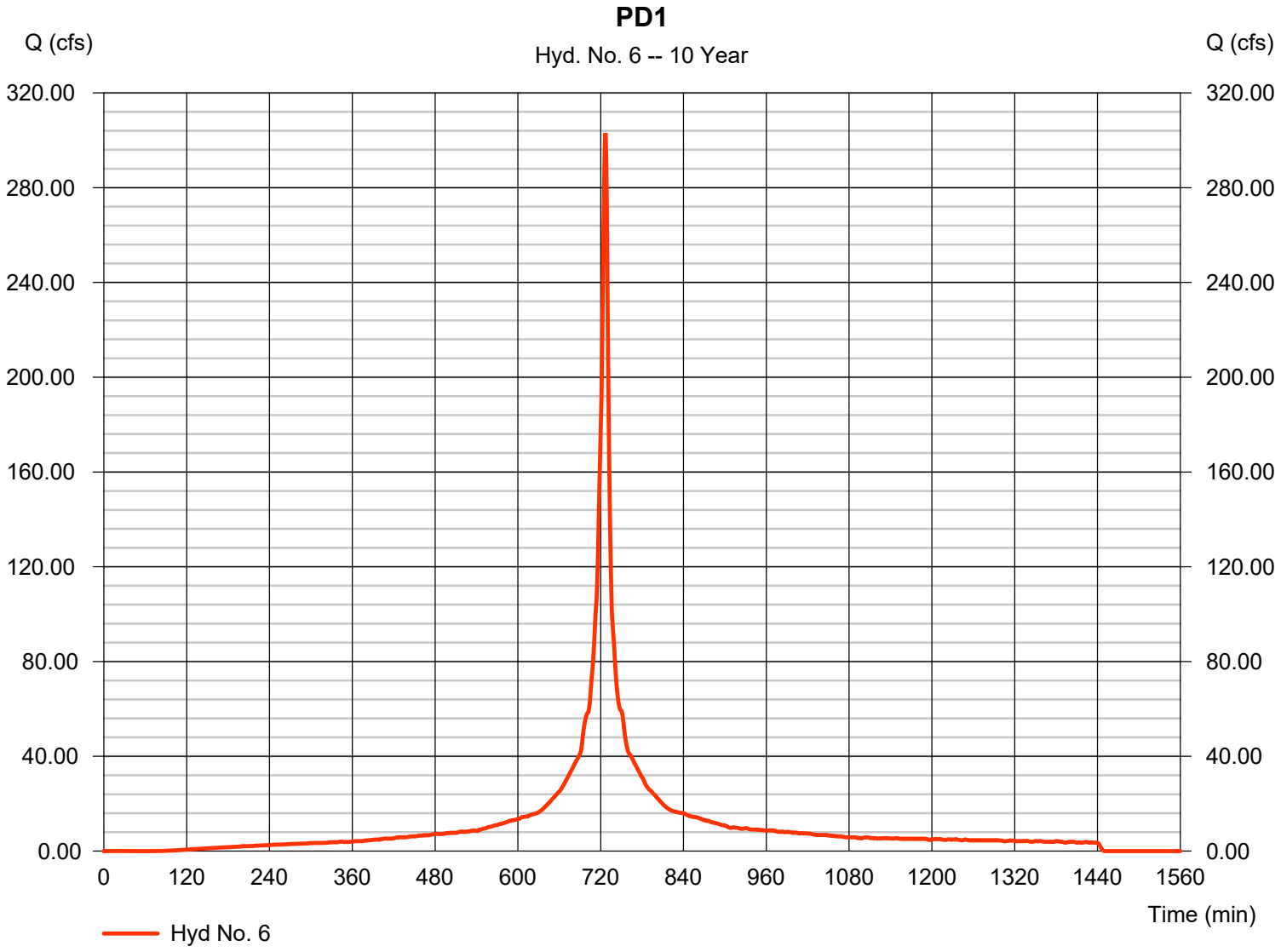
Hydrograph Report

Hyd. No. 6

PD1

Hydrograph type	=	SCS Runoff	Peak discharge	=	303.00 cfs
Storm frequency	=	10 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	1,066,260 cuft
Drainage area	=	61.100 ac	Curve number	=	96*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	5.13 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(54.050 x 98) + (6.800 x 80) + (0.250 x 60)] / 61.100



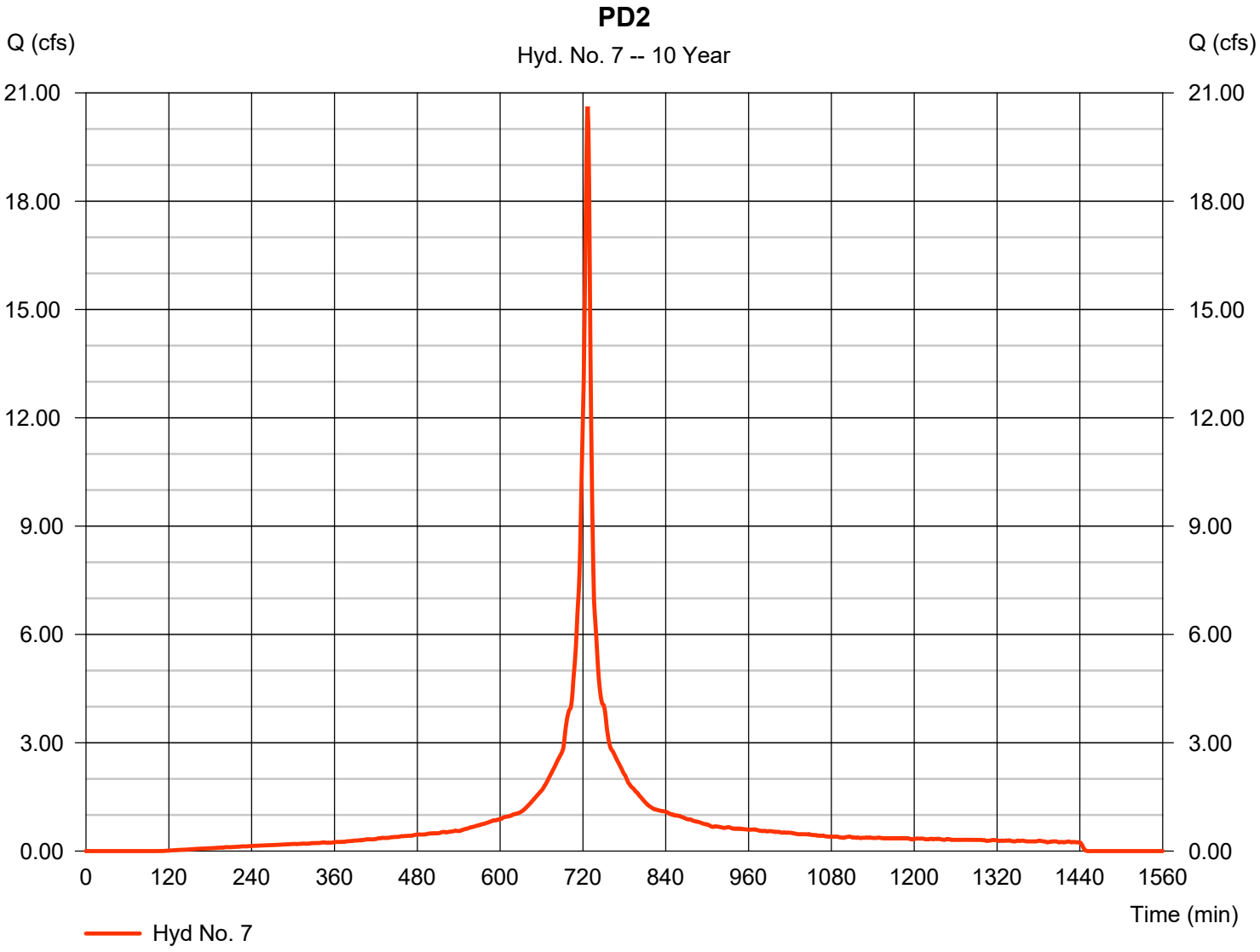
Hydrograph Report

Hyd. No. 7

PD2

Hydrograph type	=	SCS Runoff	Peak discharge	=	20.62 cfs
Storm frequency	=	10 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	71,511 cuft
Drainage area	=	4.200 ac	Curve number	=	95*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	5.13 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(3.450 x 98) + (0.750 x 80)] / 4.200



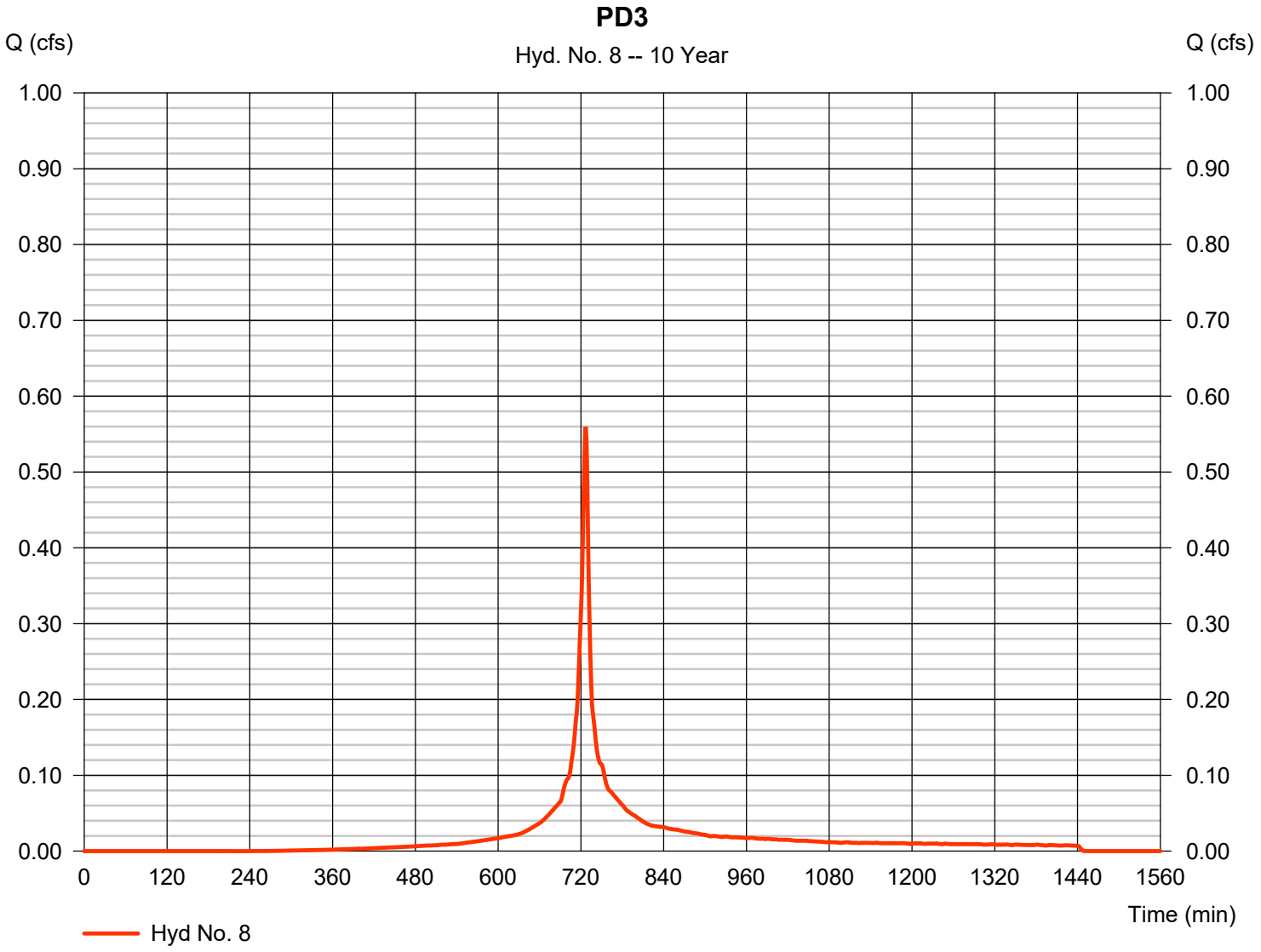
Hydrograph Report

Hyd. No. 8

PD3

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.560 cfs
Storm frequency	=	10 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	1,796 cuft
Drainage area	=	0.130 ac	Curve number	=	87*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	5.13 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(0.050 x 98) + (0.080 x 80)] / 0.130



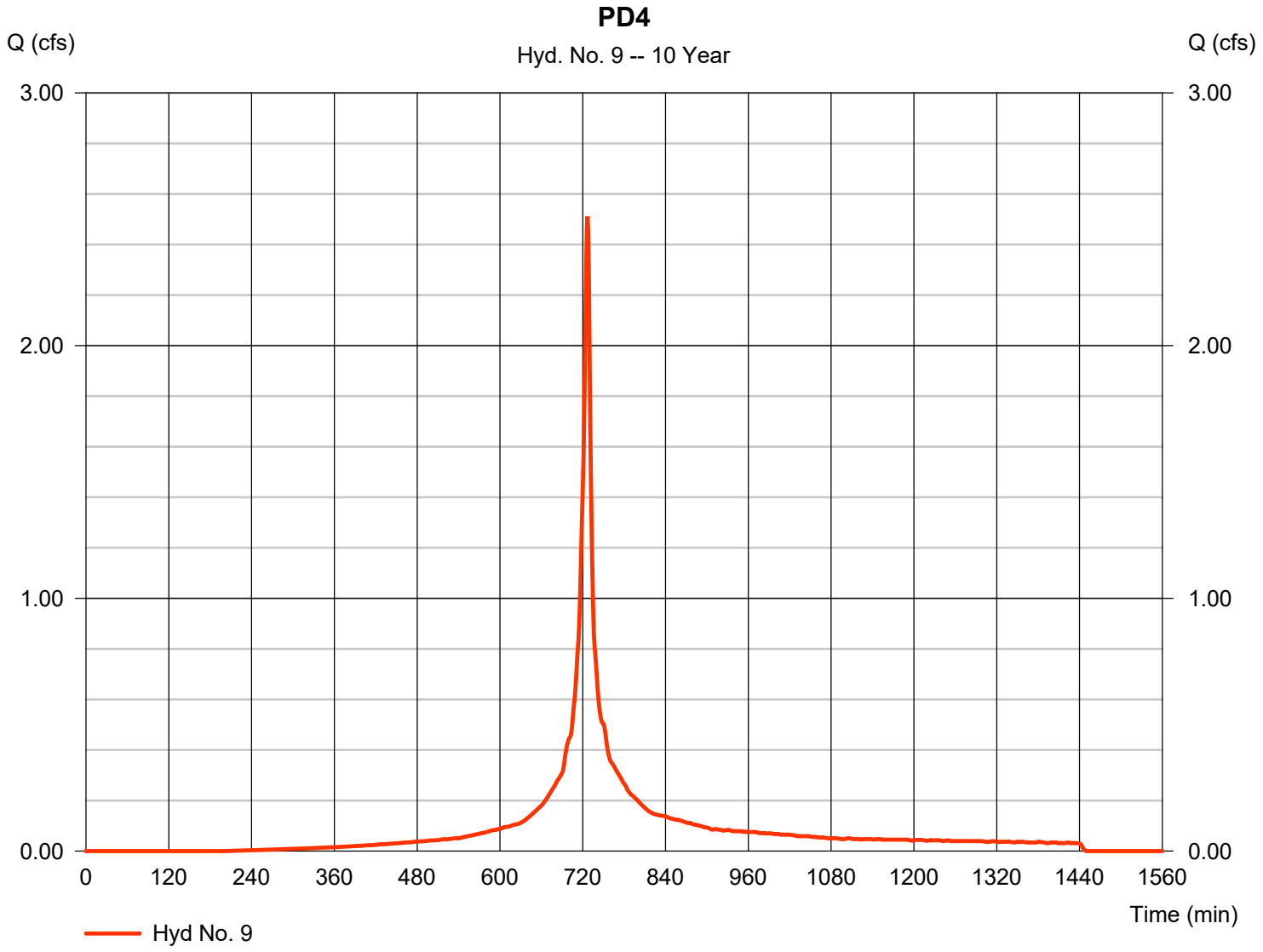
Hydrograph Report

Hyd. No. 9

PD4

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.512 cfs
Storm frequency	=	10 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	8,239 cuft
Drainage area	=	0.550 ac	Curve number	=	90*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	5.13 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(0.320 x 98) + (0.230 x 80)] / 0.550



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2026

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	367.04	1	727	1,305,249	------	------	------	EX1
2	SCS Runoff	25.05	1	727	87,894	------	------	------	EX2
3	SCS Runoff	0.702	1	727	2,282	------	------	------	EX3
4	SCS Runoff	3.106	1	727	10,338	------	------	------	EX4
6	SCS Runoff	367.04	1	727	1,305,249	------	------	------	PD1
7	SCS Runoff	25.05	1	727	87,894	------	------	------	PD2
8	SCS Runoff	0.702	1	727	2,282	------	------	------	PD3
9	SCS Runoff	3.106	1	727	10,338	------	------	------	PD4

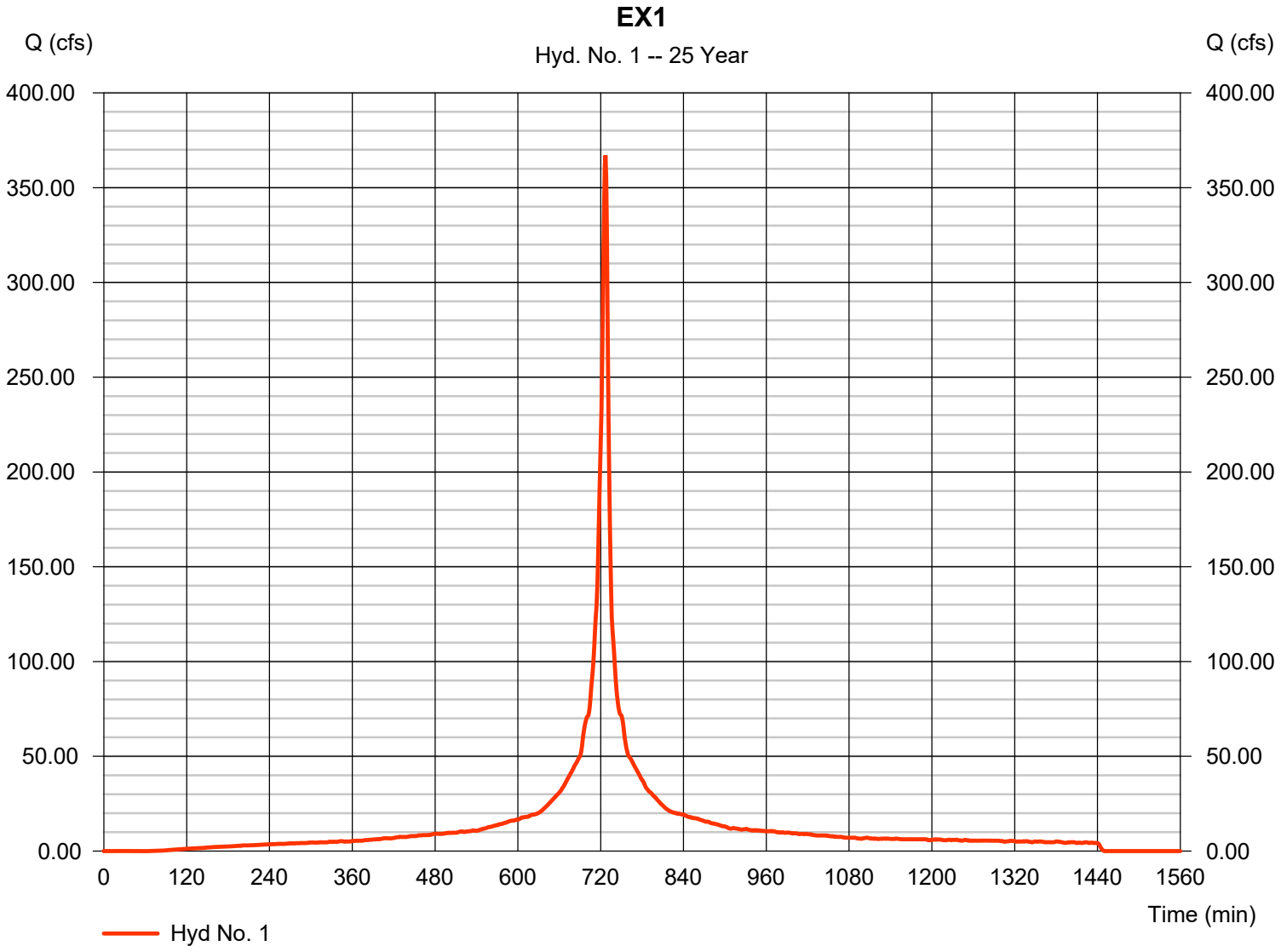
Hydrograph Report

Hyd. No. 1

EX1

Hydrograph type	=	SCS Runoff	Peak discharge	=	367.04 cfs
Storm frequency	=	25 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	1,305,249 cuft
Drainage area	=	61.100 ac	Curve number	=	96*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(55.350 x 98) + (5.750 x 80)] / 61.100



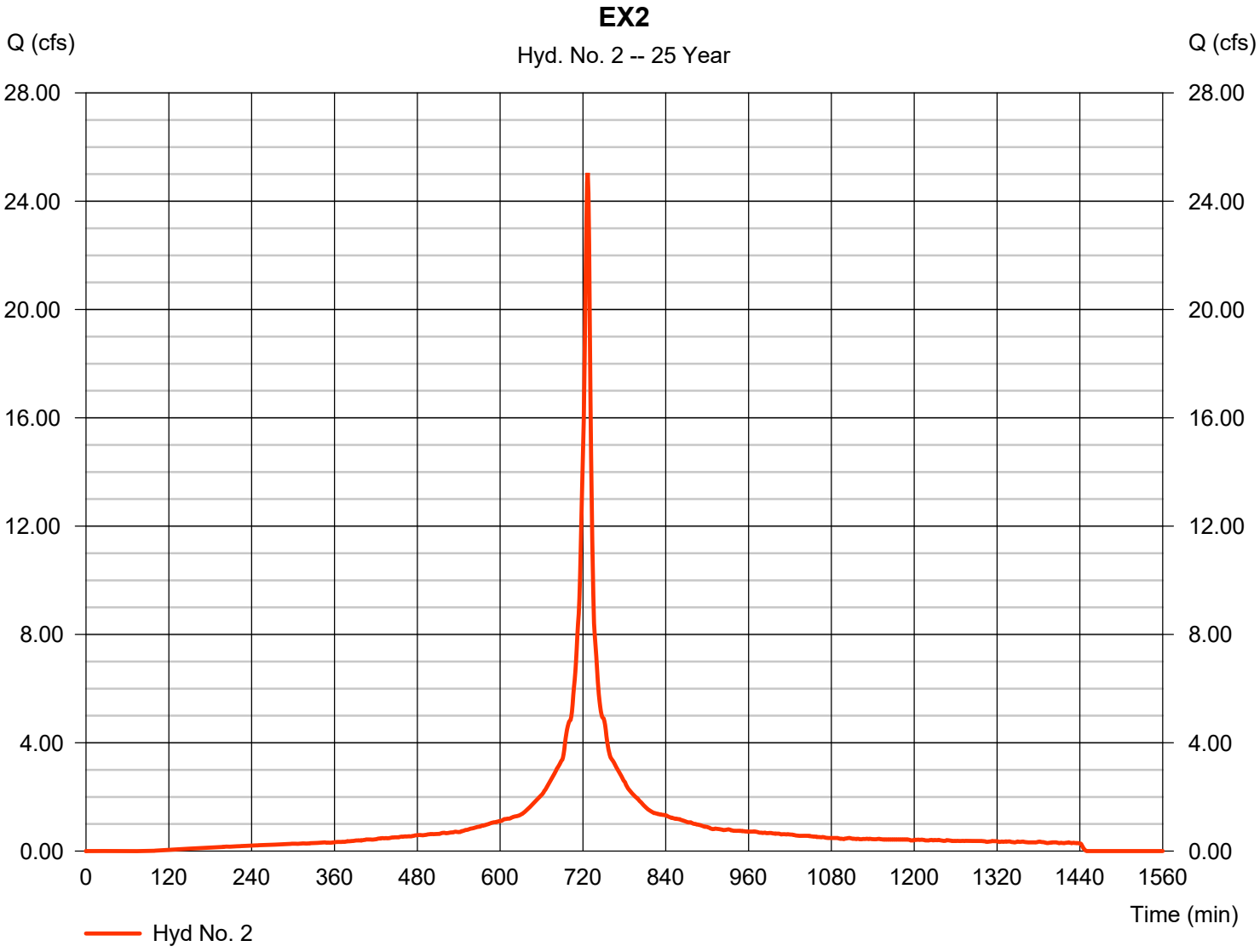
Hydrograph Report

Hyd. No. 2

EX2

Hydrograph type	=	SCS Runoff	Peak discharge	=	25.05 cfs
Storm frequency	=	25 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	87,894 cuft
Drainage area	=	4.200 ac	Curve number	=	95*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(3.450 x 98) + (0.750 x 80)] / 4.200



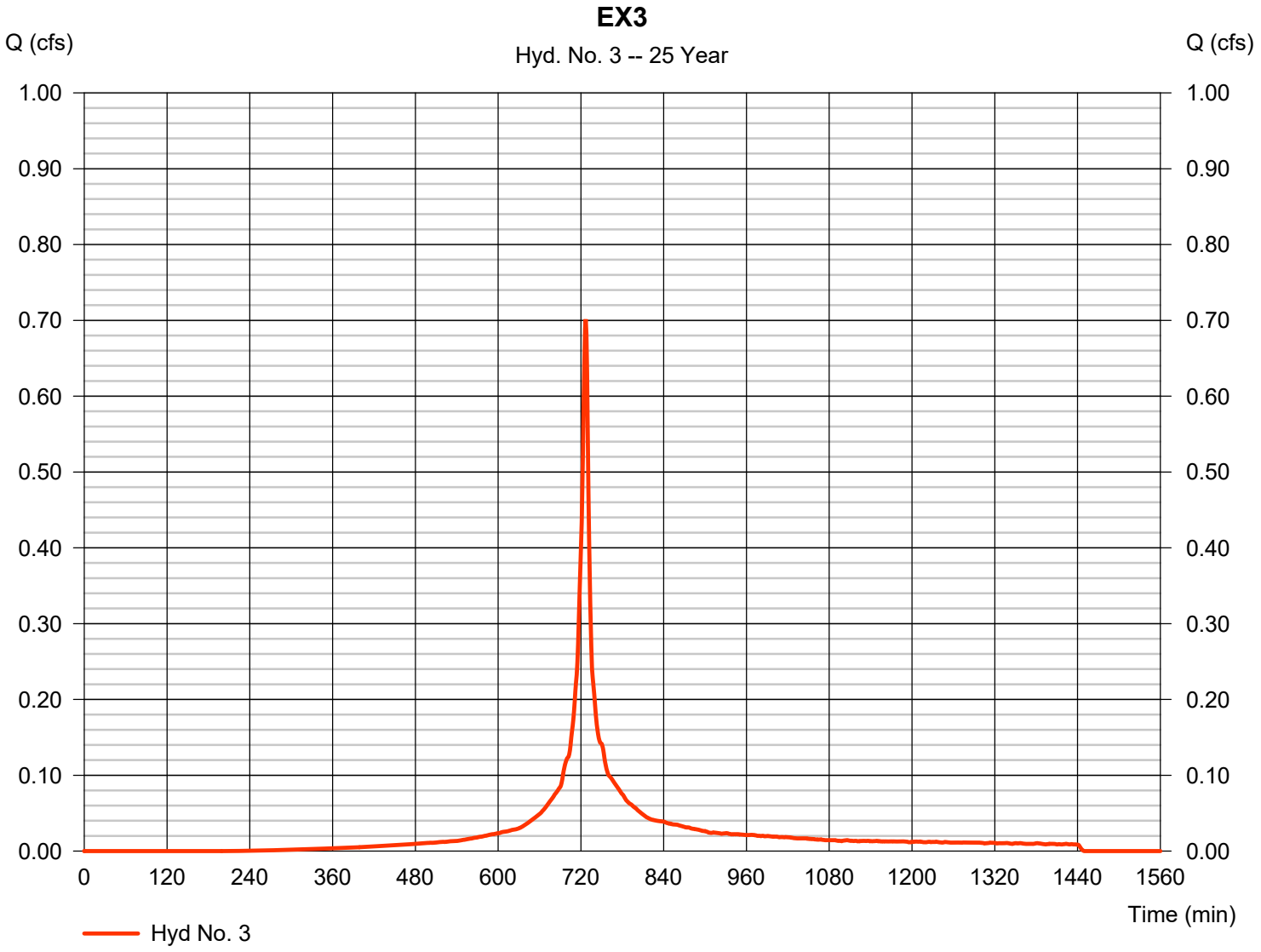
Hydrograph Report

Hyd. No. 3

EX3

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.702 cfs
Storm frequency	=	25 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	2,282 cuft
Drainage area	=	0.130 ac	Curve number	=	87*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(0.050 x 98) + (0.080 x 80)] / 0.130



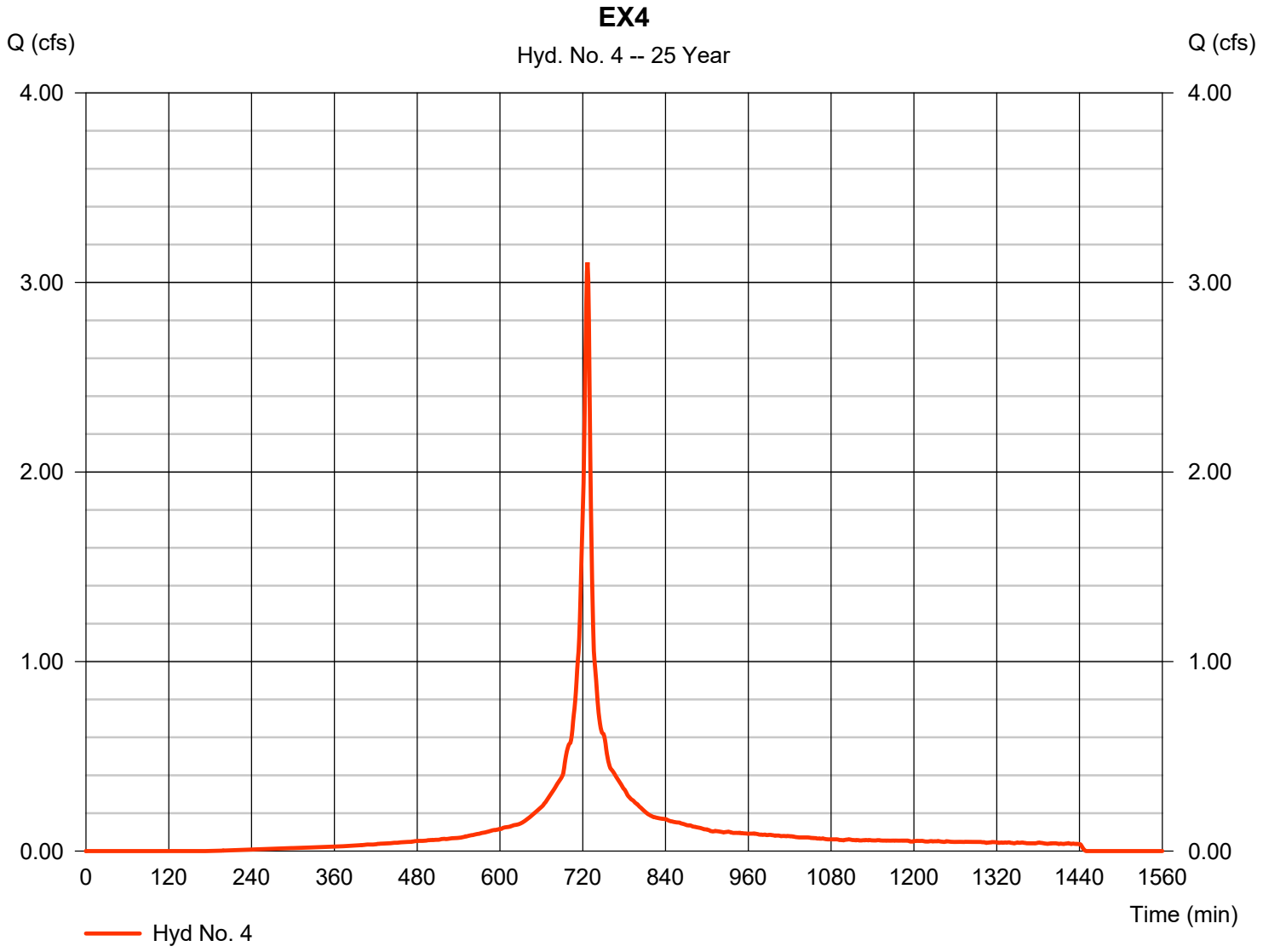
Hydrograph Report

Hyd. No. 4

EX4

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.106 cfs
Storm frequency	=	25 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	10,338 cuft
Drainage area	=	0.550 ac	Curve number	=	90*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cda	Shape factor	=	484

* Composite (Area/CN) = [(0.320 x 98) + (0.230 x 80)] / 0.550



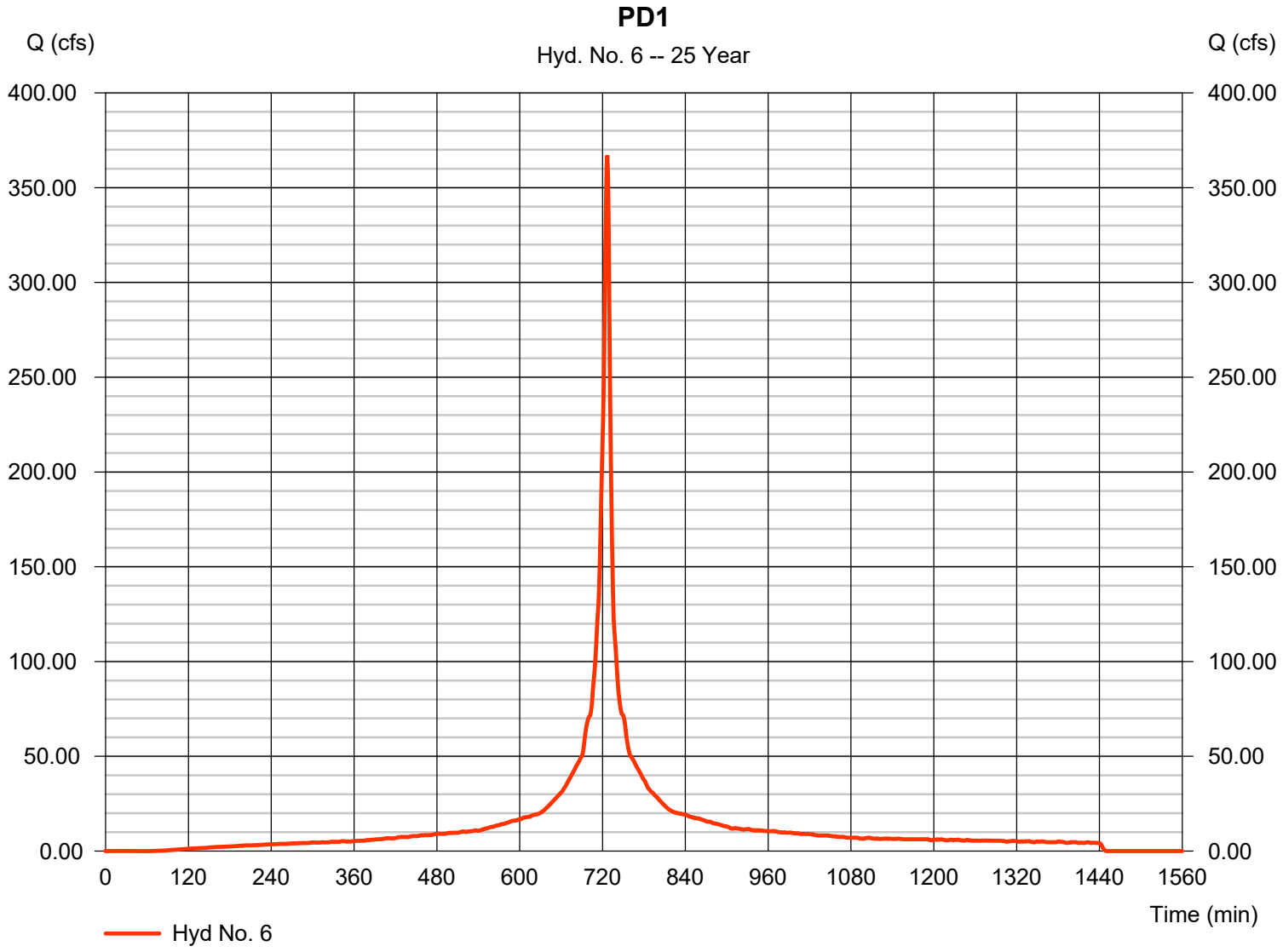
Hydrograph Report

Hyd. No. 6

PD1

Hydrograph type	=	SCS Runoff	Peak discharge	=	367.04 cfs
Storm frequency	=	25 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	1,305,249 cuft
Drainage area	=	61.100 ac	Curve number	=	96*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(54.050 x 98) + (6.800 x 80) + (0.250 x 60)] / 61.100



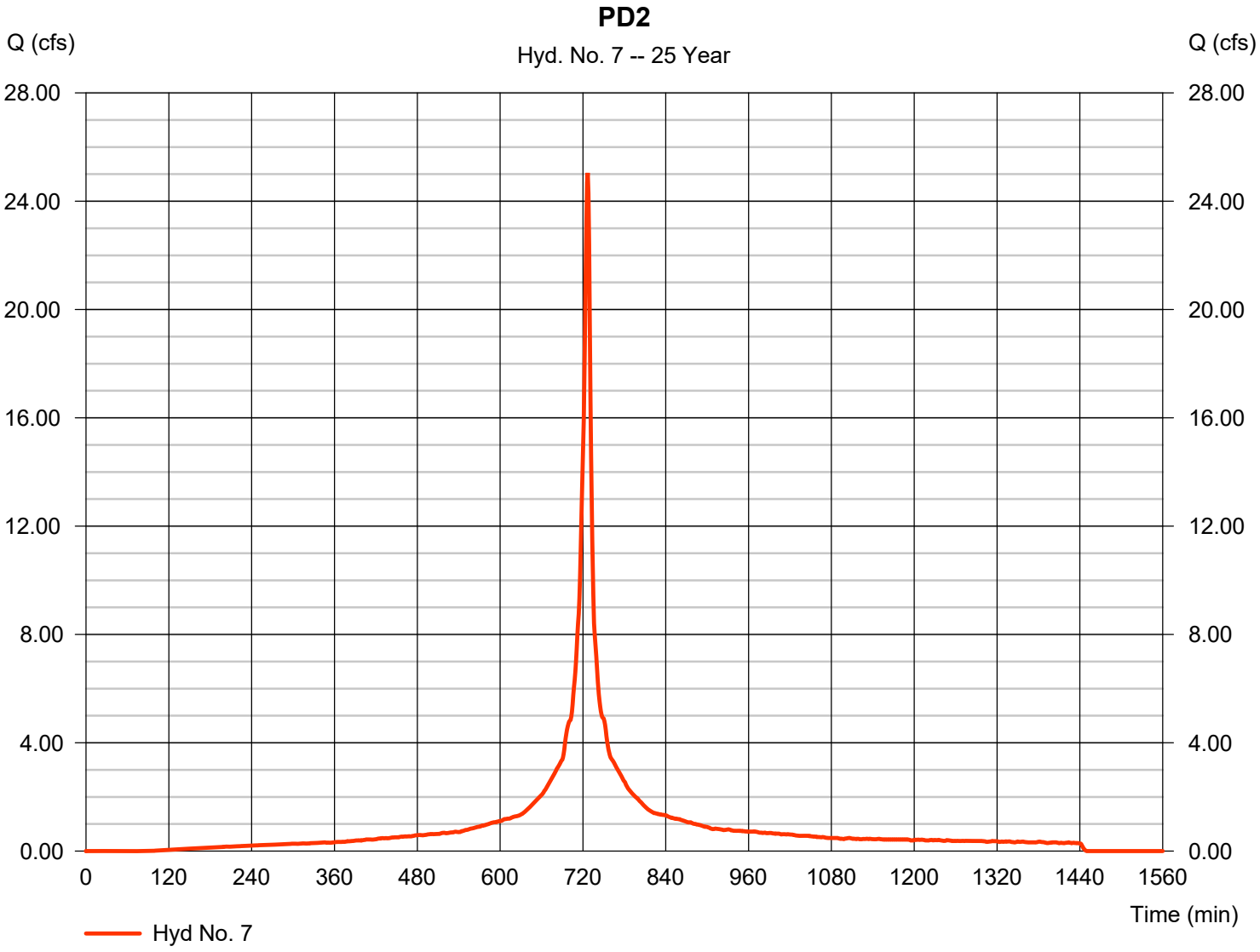
Hydrograph Report

Hyd. No. 7

PD2

Hydrograph type	=	SCS Runoff	Peak discharge	=	25.05 cfs
Storm frequency	=	25 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	87,894 cuft
Drainage area	=	4.200 ac	Curve number	=	95*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(3.450 x 98) + (0.750 x 80)] / 4.200



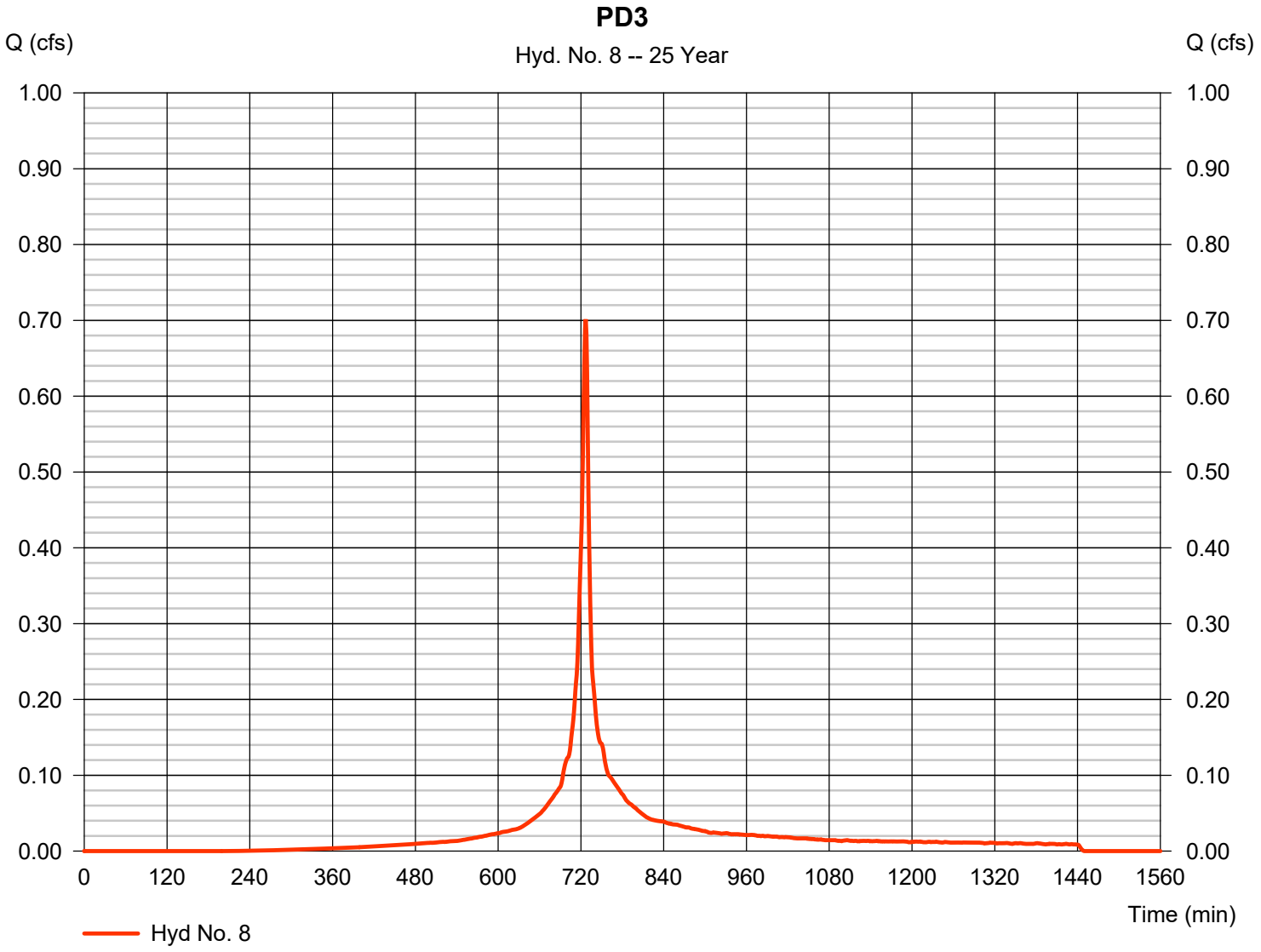
Hydrograph Report

Hyd. No. 8

PD3

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.702 cfs
Storm frequency	=	25 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	2,282 cuft
Drainage area	=	0.130 ac	Curve number	=	87*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(0.050 x 98) + (0.080 x 80)] / 0.130



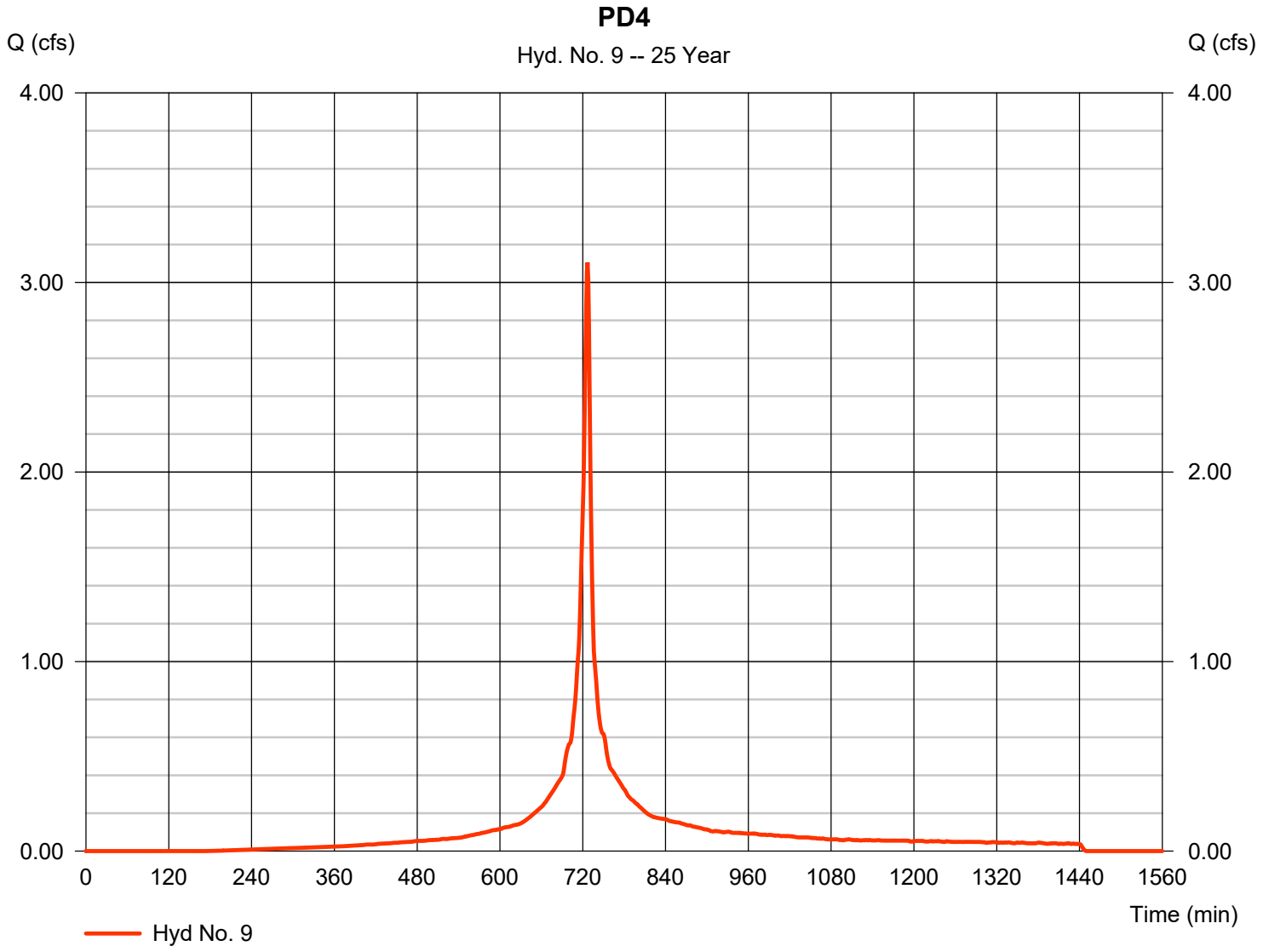
Hydrograph Report

Hyd. No. 9

PD4

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.106 cfs
Storm frequency	=	25 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	10,338 cuft
Drainage area	=	0.550 ac	Curve number	=	90*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	6.18 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cda	Shape factor	=	484

* Composite (Area/CN) = [(0.320 x 98) + (0.230 x 80)] / 0.550



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2026

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	414.48	1	727	1,483,001	------	------	------	EX1
2	SCS Runoff	28.32	1	727	100,088	------	------	------	EX2
3	SCS Runoff	0.807	1	727	2,648	------	------	------	EX3
4	SCS Runoff	3.545	1	727	11,909	------	------	------	EX4
6	SCS Runoff	414.48	1	727	1,483,001	------	------	------	PD1
7	SCS Runoff	28.32	1	727	100,088	------	------	------	PD2
8	SCS Runoff	0.807	1	727	2,648	------	------	------	PD3
9	SCS Runoff	3.545	1	727	11,909	------	------	------	PD4

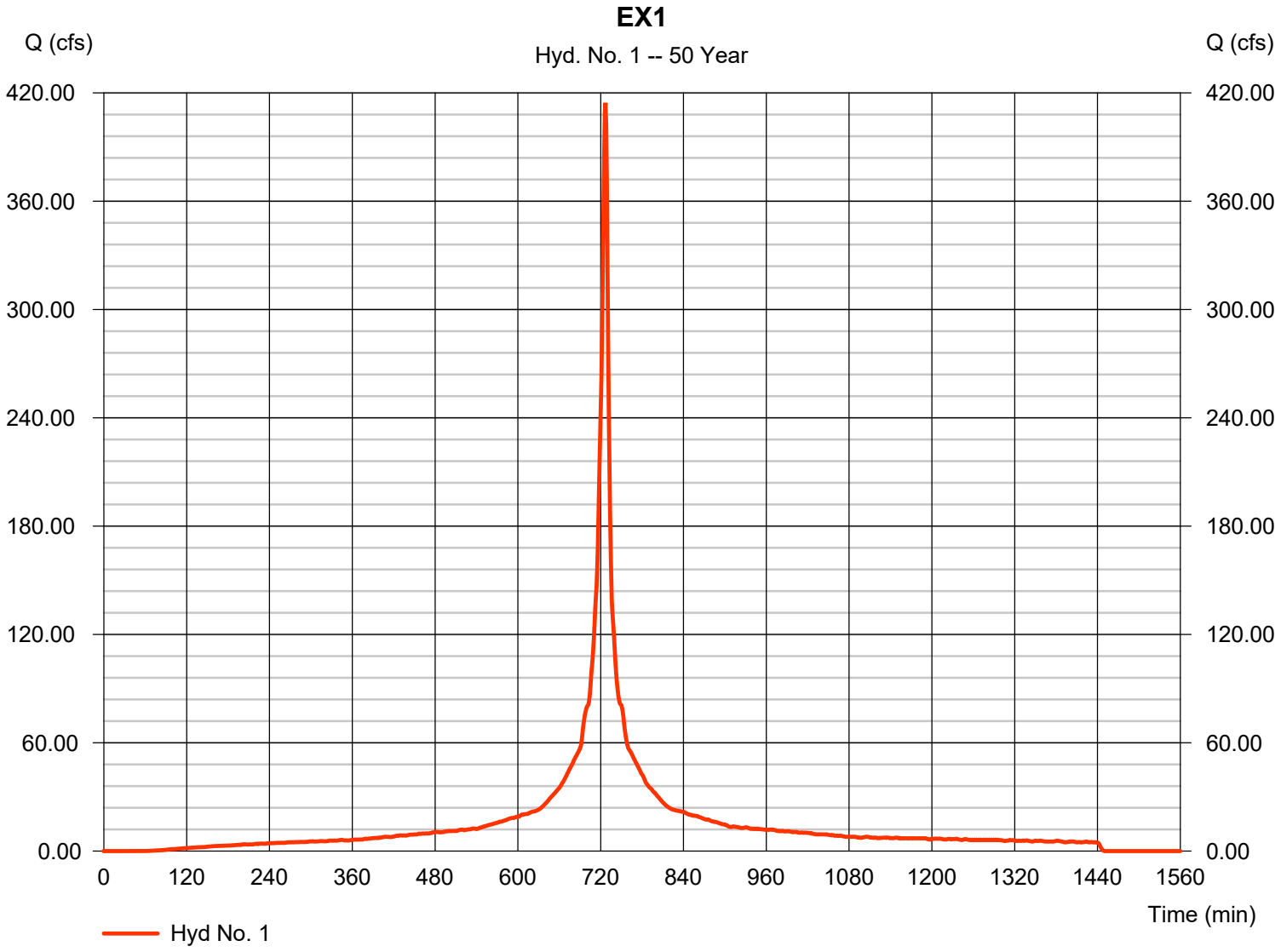
Hydrograph Report

Hyd. No. 1

EX1

Hydrograph type	=	SCS Runoff	Peak discharge	=	414.48 cfs
Storm frequency	=	50 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	1,483,001 cuft
Drainage area	=	61.100 ac	Curve number	=	96*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	6.96 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(55.350 x 98) + (5.750 x 80)] / 61.100



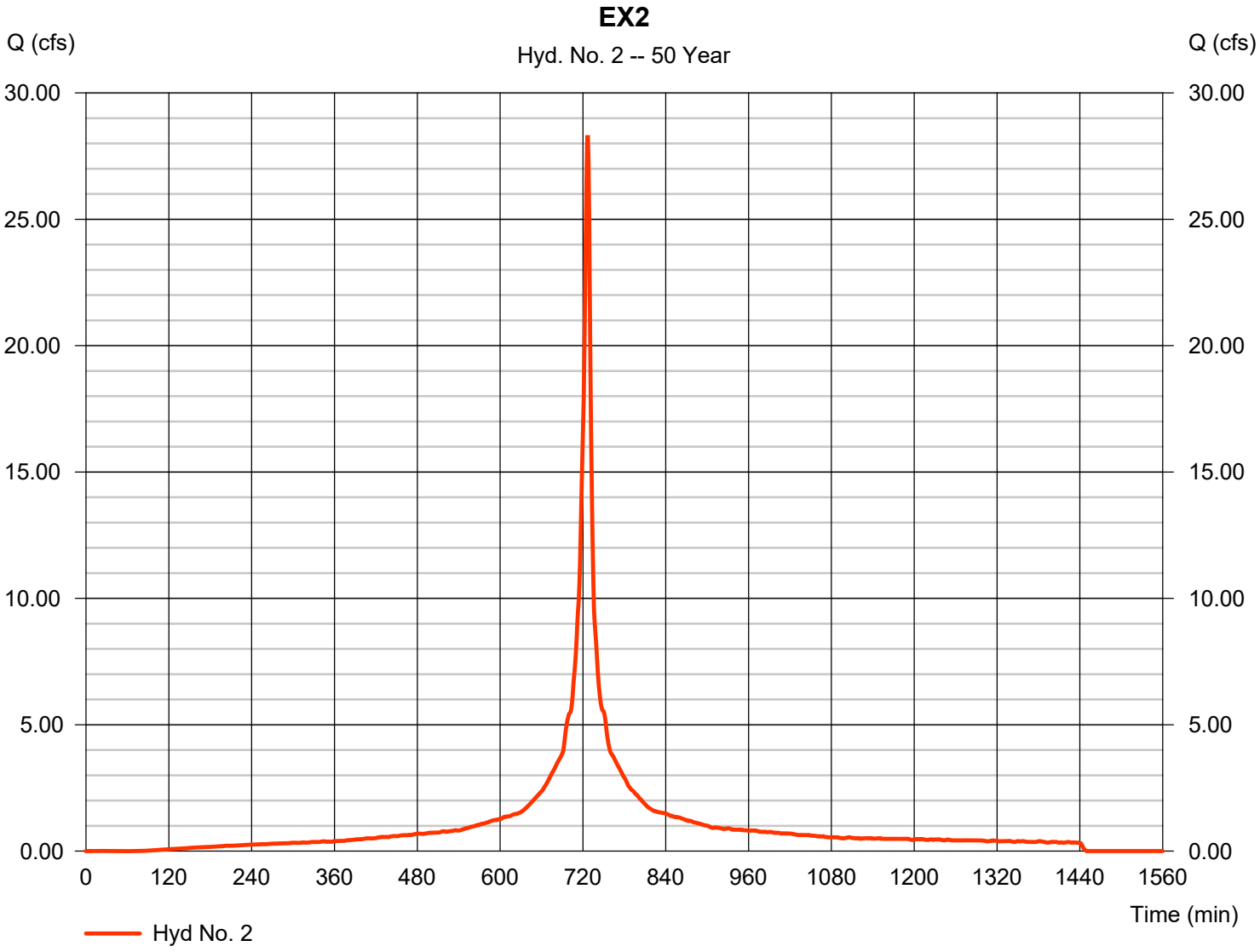
Hydrograph Report

Hyd. No. 2

EX2

Hydrograph type	=	SCS Runoff	Peak discharge	=	28.32 cfs
Storm frequency	=	50 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	100,088 cuft
Drainage area	=	4.200 ac	Curve number	=	95*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	6.96 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(3.450 x 98) + (0.750 x 80)] / 4.200



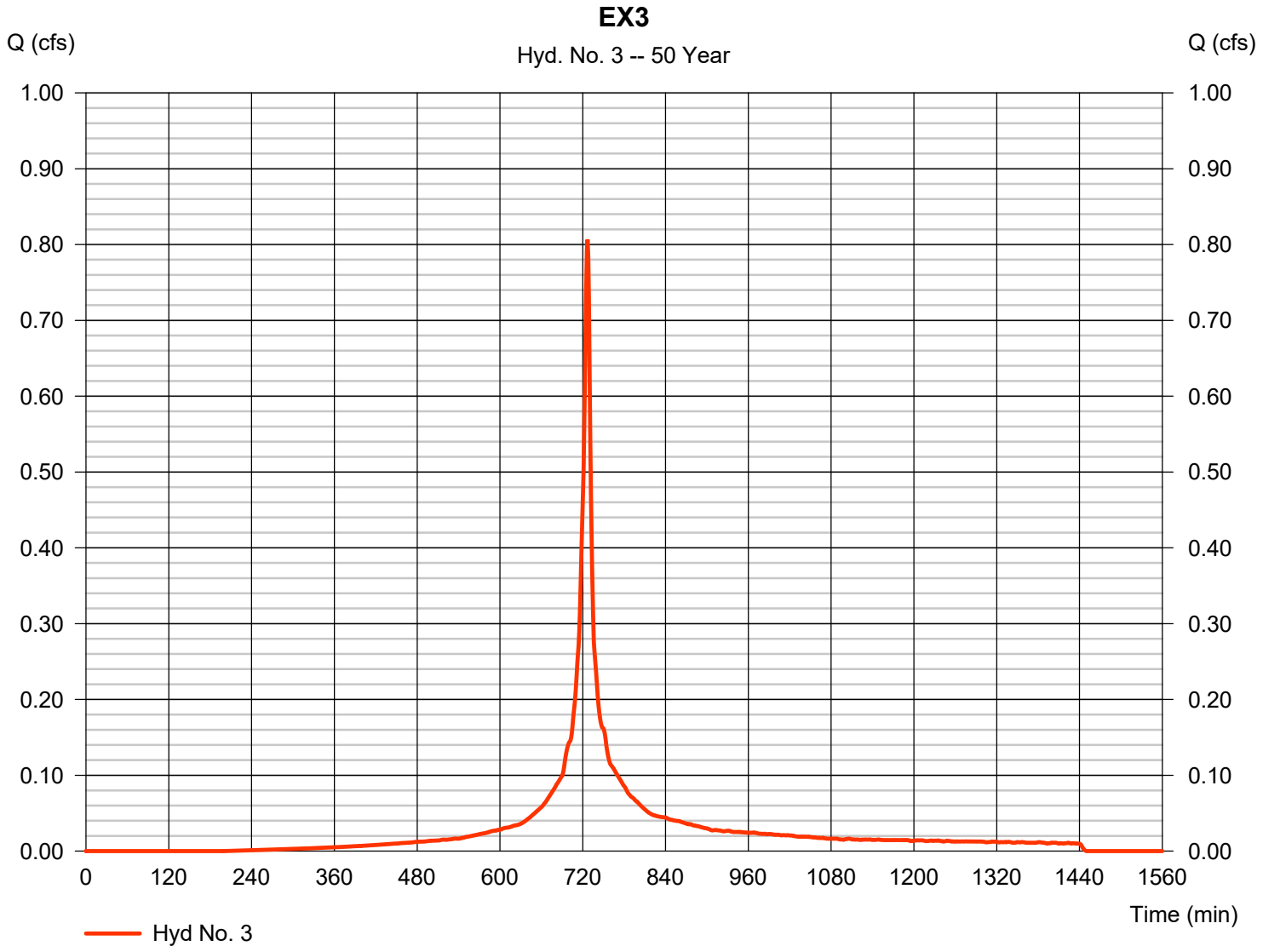
Hydrograph Report

Hyd. No. 3

EX3

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.807 cfs
Storm frequency	=	50 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	2,648 cuft
Drainage area	=	0.130 ac	Curve number	=	87*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	6.96 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(0.050 x 98) + (0.080 x 80)] / 0.130



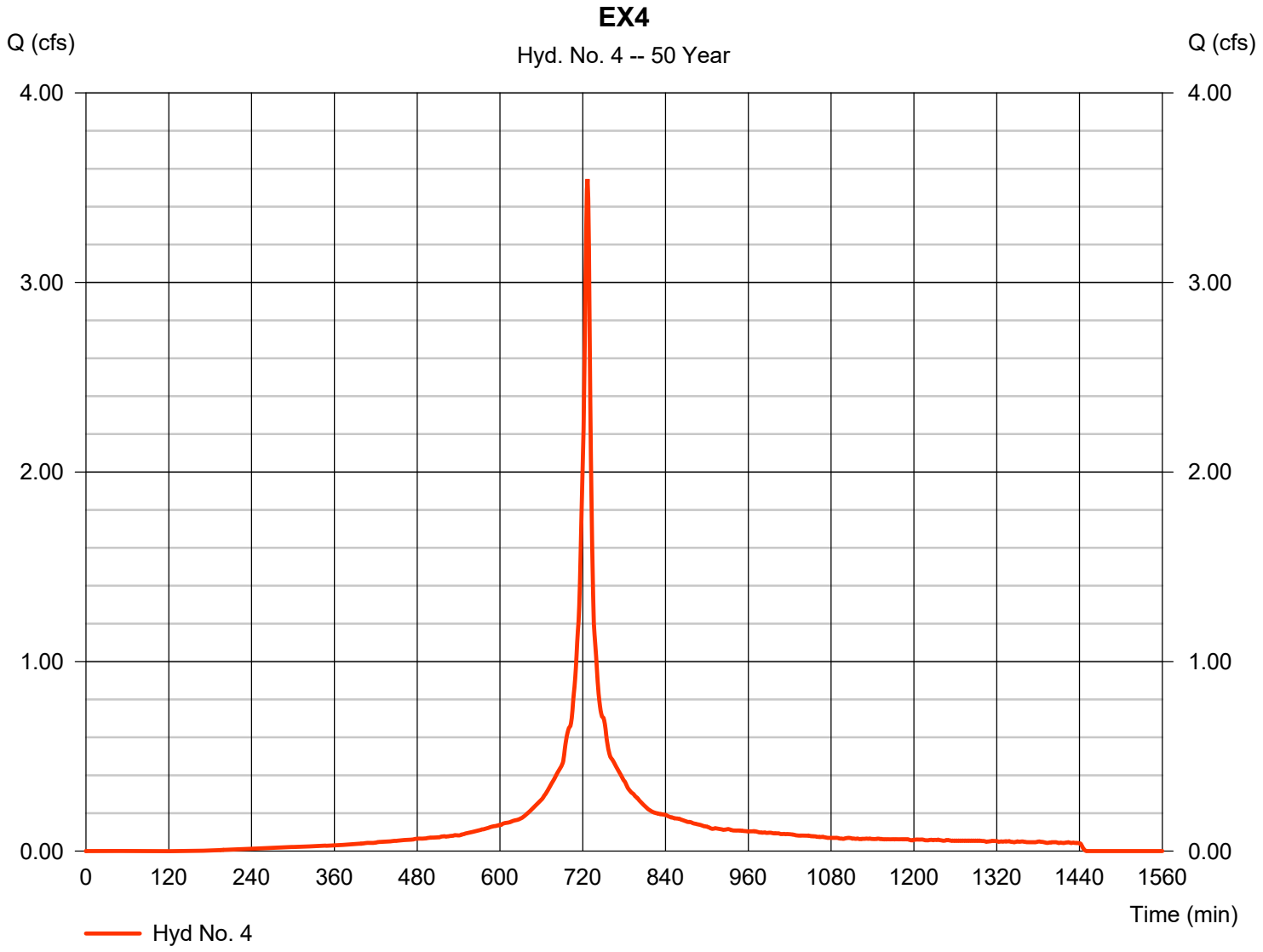
Hydrograph Report

Hyd. No. 4

EX4

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.545 cfs
Storm frequency	=	50 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	11,909 cuft
Drainage area	=	0.550 ac	Curve number	=	90*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	6.96 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(0.320 x 98) + (0.230 x 80)] / 0.550



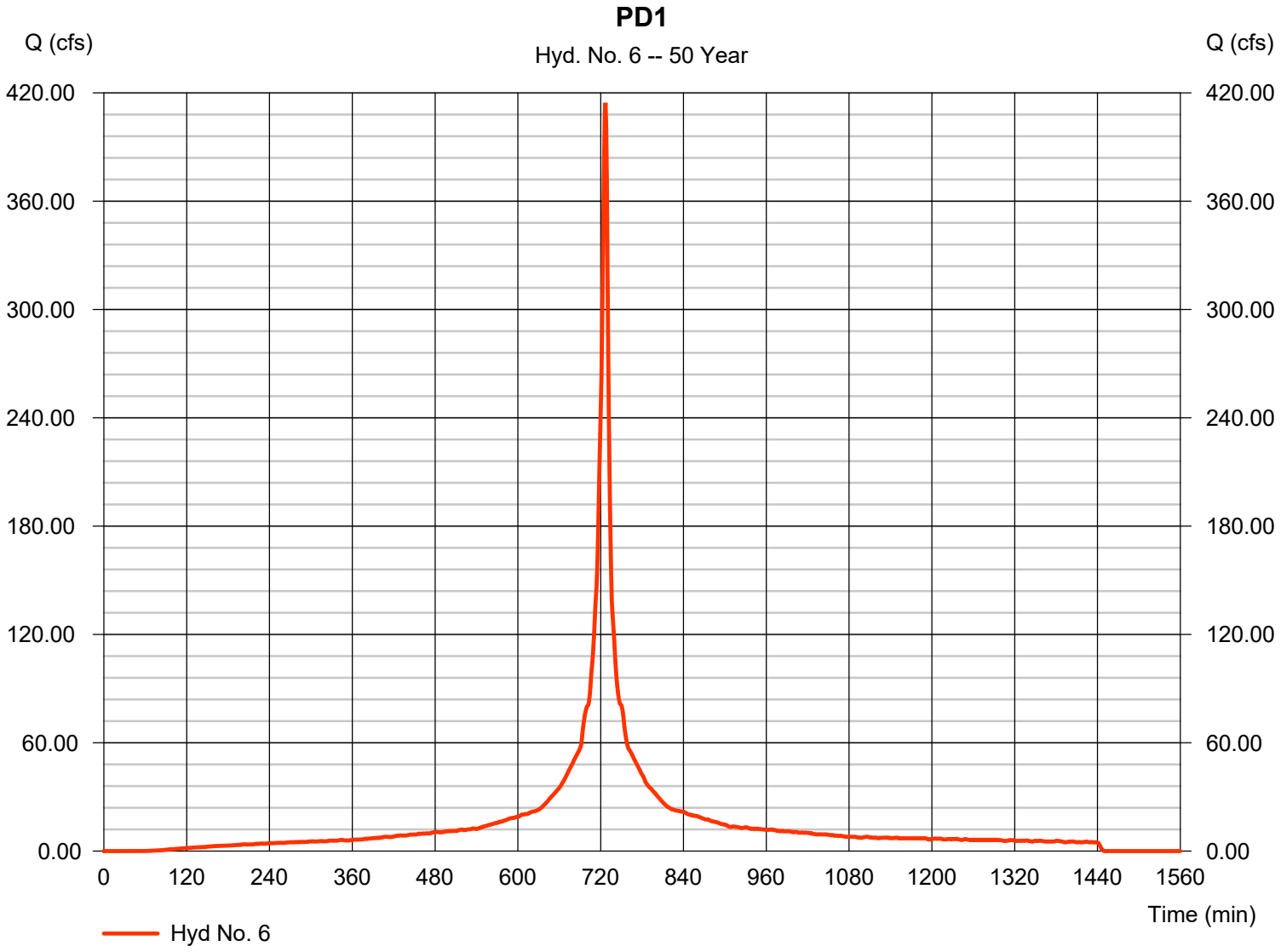
Hydrograph Report

Hyd. No. 6

PD1

Hydrograph type	=	SCS Runoff	Peak discharge	=	414.48 cfs
Storm frequency	=	50 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	1,483,001 cuft
Drainage area	=	61.100 ac	Curve number	=	96*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	6.96 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(54.050 x 98) + (6.800 x 80) + (0.250 x 60)] / 61.100



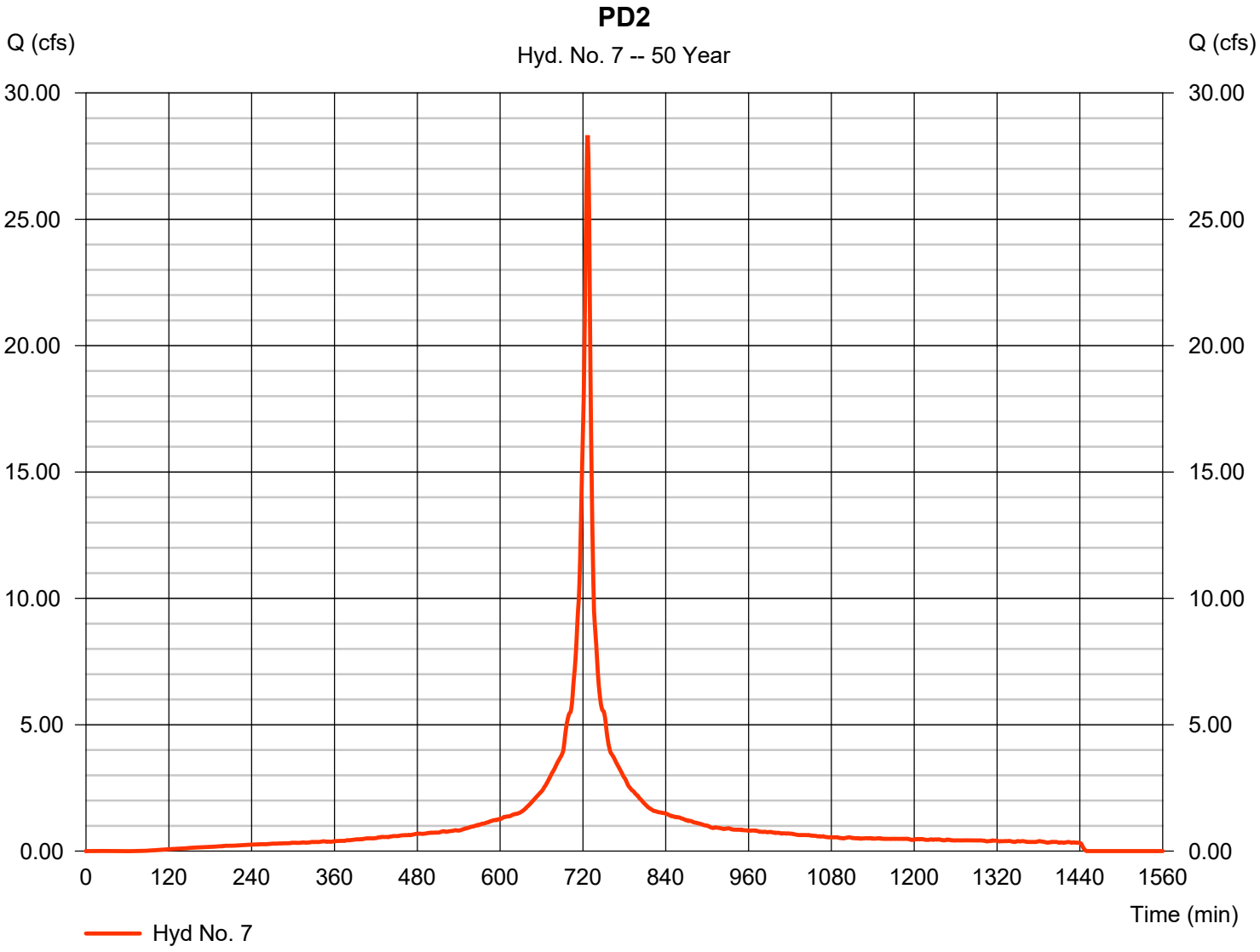
Hydrograph Report

Hyd. No. 7

PD2

Hydrograph type	=	SCS Runoff	Peak discharge	=	28.32 cfs
Storm frequency	=	50 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	100,088 cuft
Drainage area	=	4.200 ac	Curve number	=	95*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	6.96 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(3.450 x 98) + (0.750 x 80)] / 4.200



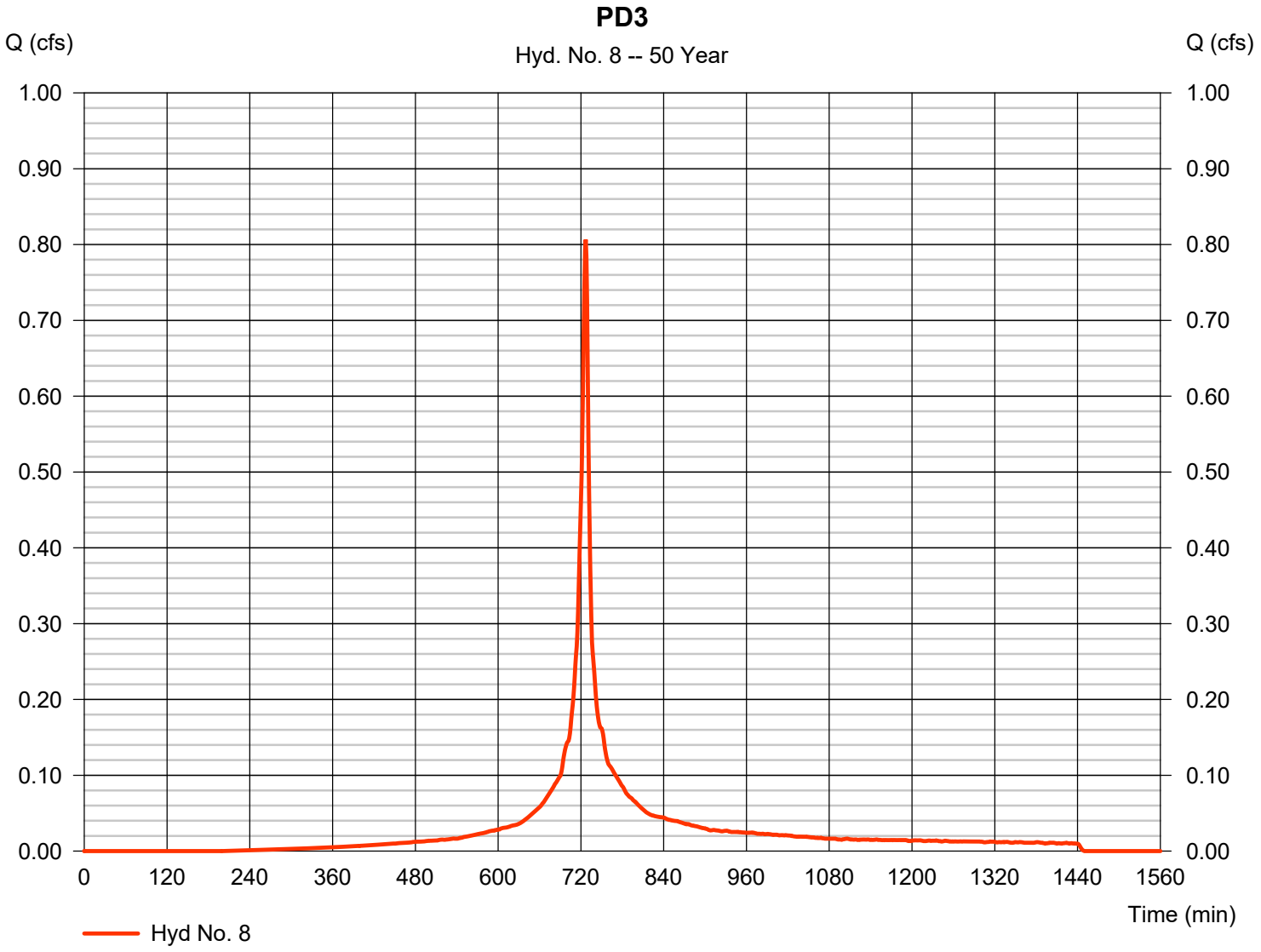
Hydrograph Report

Hyd. No. 8

PD3

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.807 cfs
Storm frequency	=	50 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	2,648 cuft
Drainage area	=	0.130 ac	Curve number	=	87*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	6.96 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(0.050 x 98) + (0.080 x 80)] / 0.130



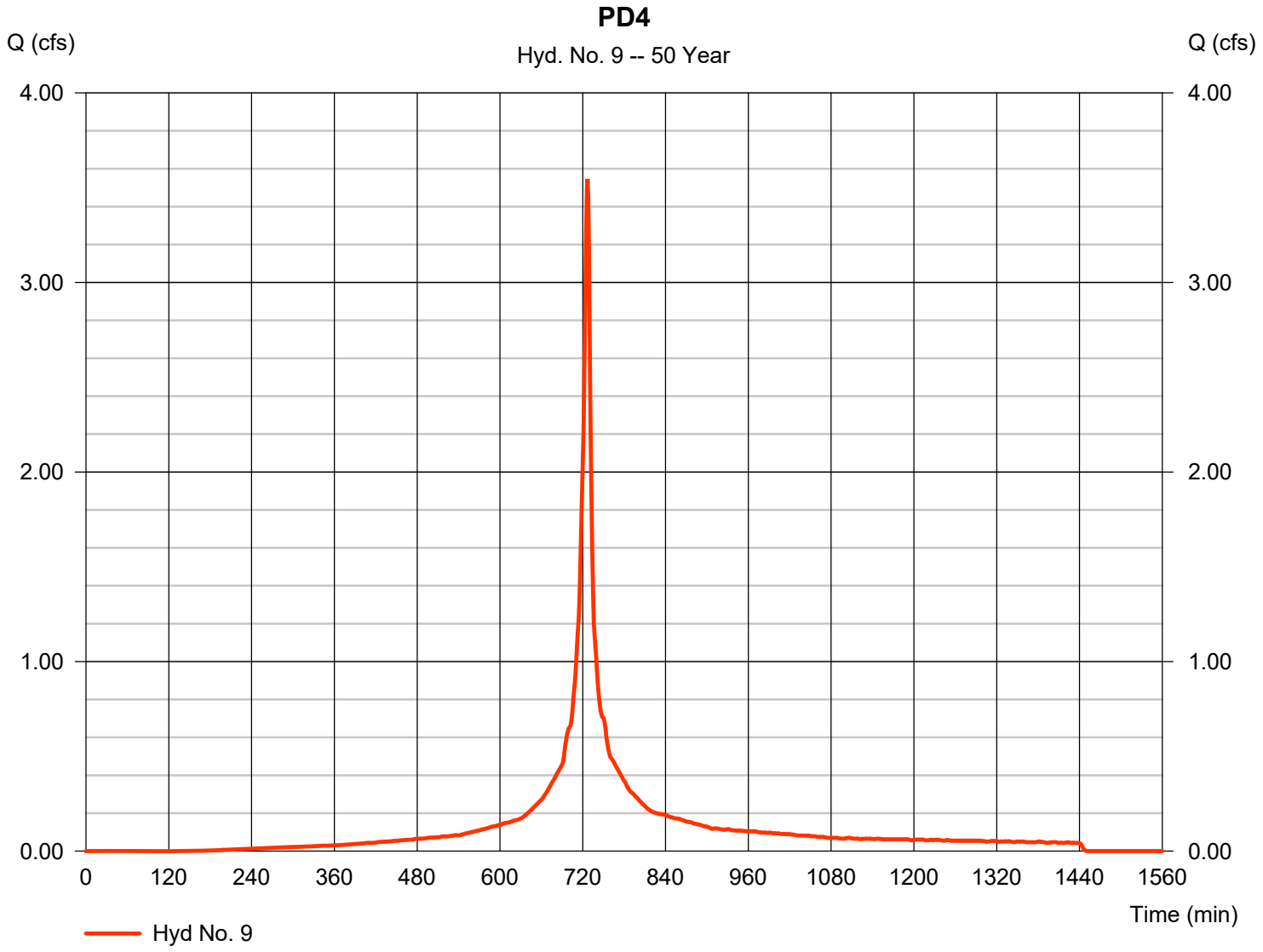
Hydrograph Report

Hyd. No. 9

PD4

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.545 cfs
Storm frequency	=	50 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	11,909 cuft
Drainage area	=	0.550 ac	Curve number	=	90*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	6.96 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(0.320 x 98) + (0.230 x 80)] / 0.550



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2026

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	464.88	1	727	1,672,285	------	------	------	EX1
2	SCS Runoff	31.80	1	727	113,078	------	------	------	EX2
3	SCS Runoff	0.918	1	727	3,039	------	------	------	EX3
4	SCS Runoff	4.011	1	727	13,586	------	------	------	EX4
6	SCS Runoff	464.88	1	727	1,672,285	------	------	------	PD1
7	SCS Runoff	31.80	1	727	113,078	------	------	------	PD2
8	SCS Runoff	0.918	1	727	3,039	------	------	------	PD3
9	SCS Runoff	4.011	1	727	13,586	------	------	------	PD4

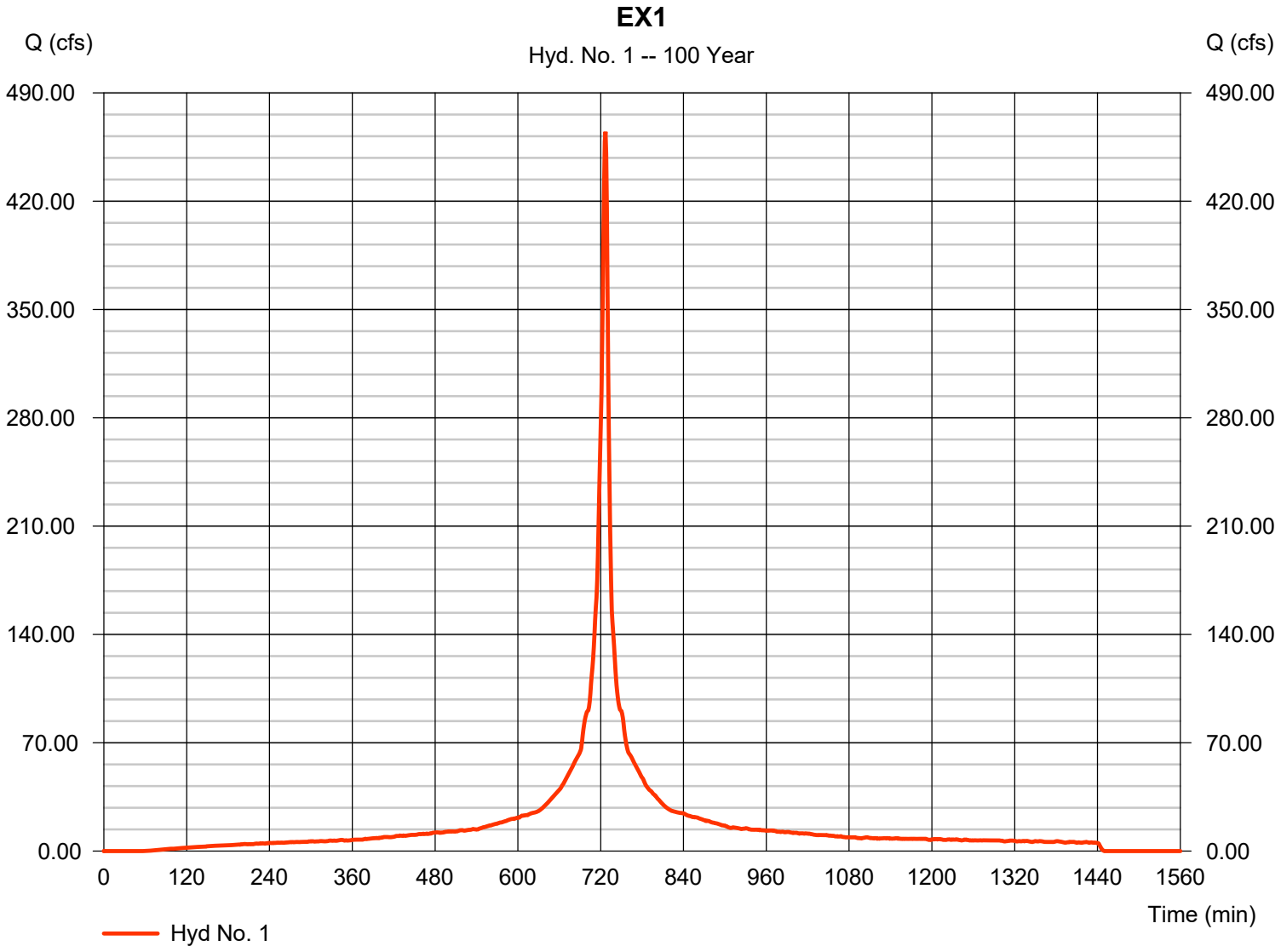
Hydrograph Report

Hyd. No. 1

EX1

Hydrograph type	=	SCS Runoff	Peak discharge	=	464.88 cfs
Storm frequency	=	100 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	1,672,285 cuft
Drainage area	=	61.100 ac	Curve number	=	96*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	7.79 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(55.350 x 98) + (5.750 x 80)] / 61.100



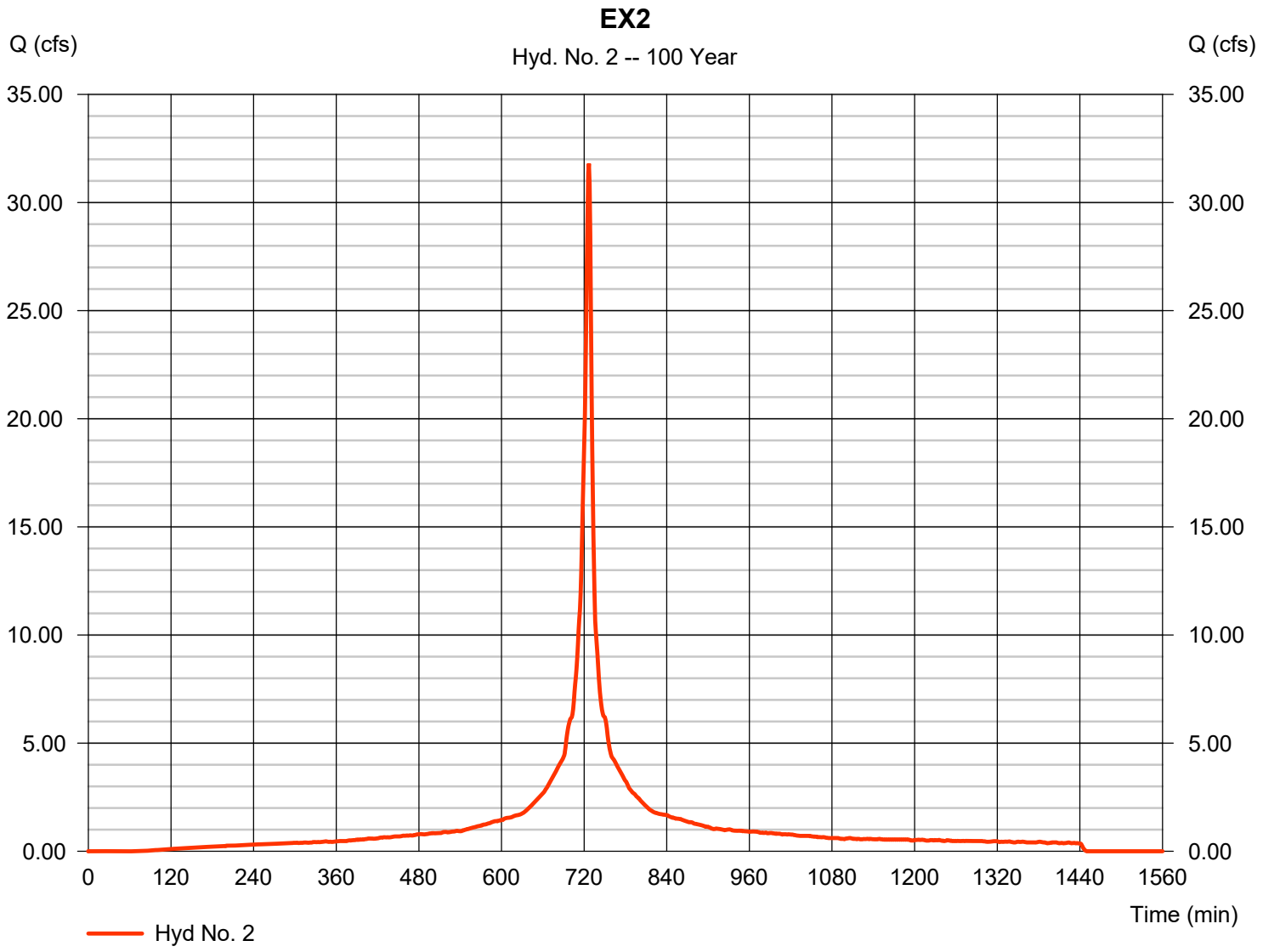
Hydrograph Report

Hyd. No. 2

EX2

Hydrograph type	=	SCS Runoff	Peak discharge	=	31.80 cfs
Storm frequency	=	100 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	113,078 cuft
Drainage area	=	4.200 ac	Curve number	=	95*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	7.79 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(3.450 x 98) + (0.750 x 80)] / 4.200



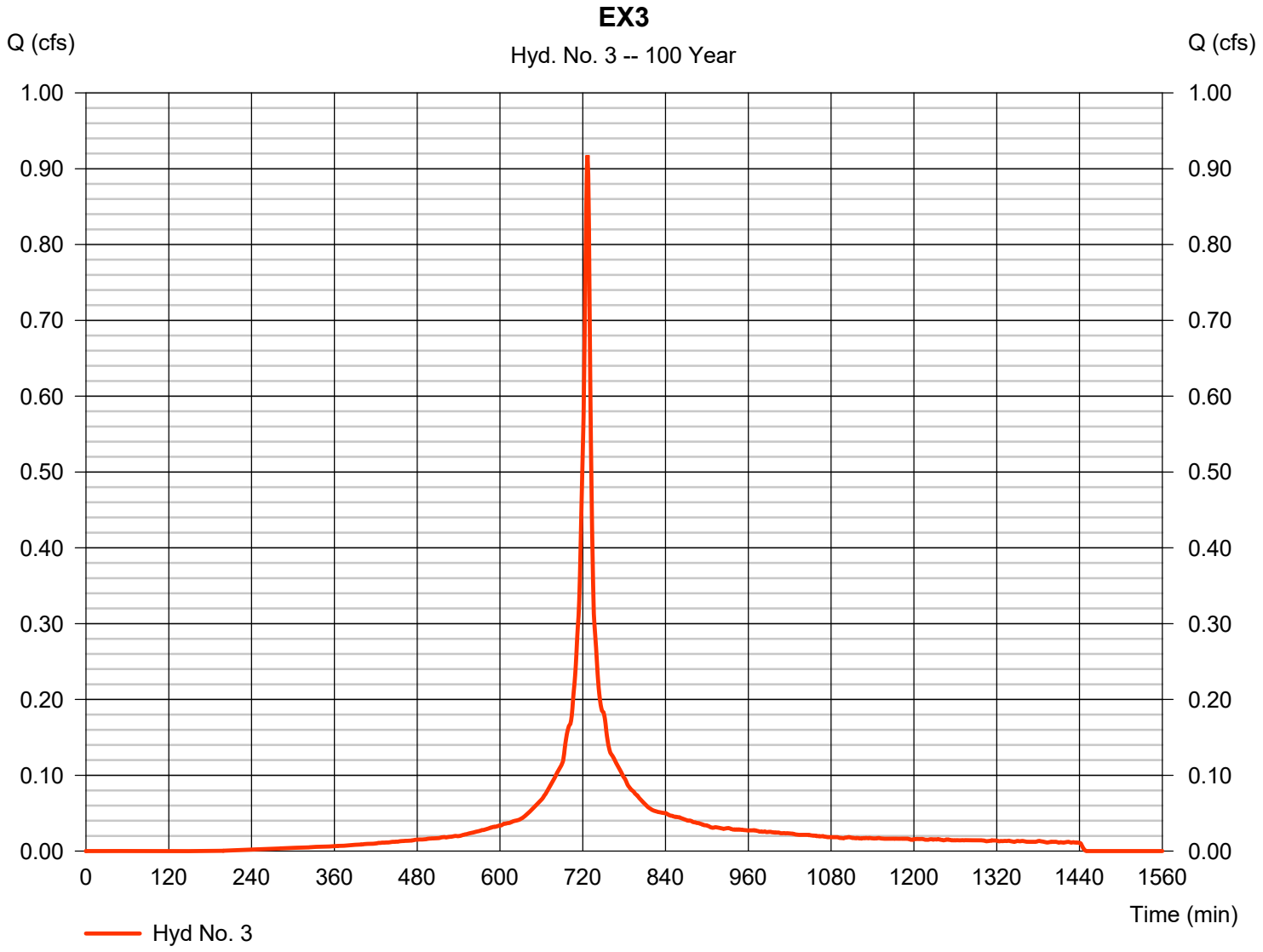
Hydrograph Report

Hyd. No. 3

EX3

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.918 cfs
Storm frequency	=	100 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	3,039 cuft
Drainage area	=	0.130 ac	Curve number	=	87*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	7.79 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(0.050 x 98) + (0.080 x 80)] / 0.130



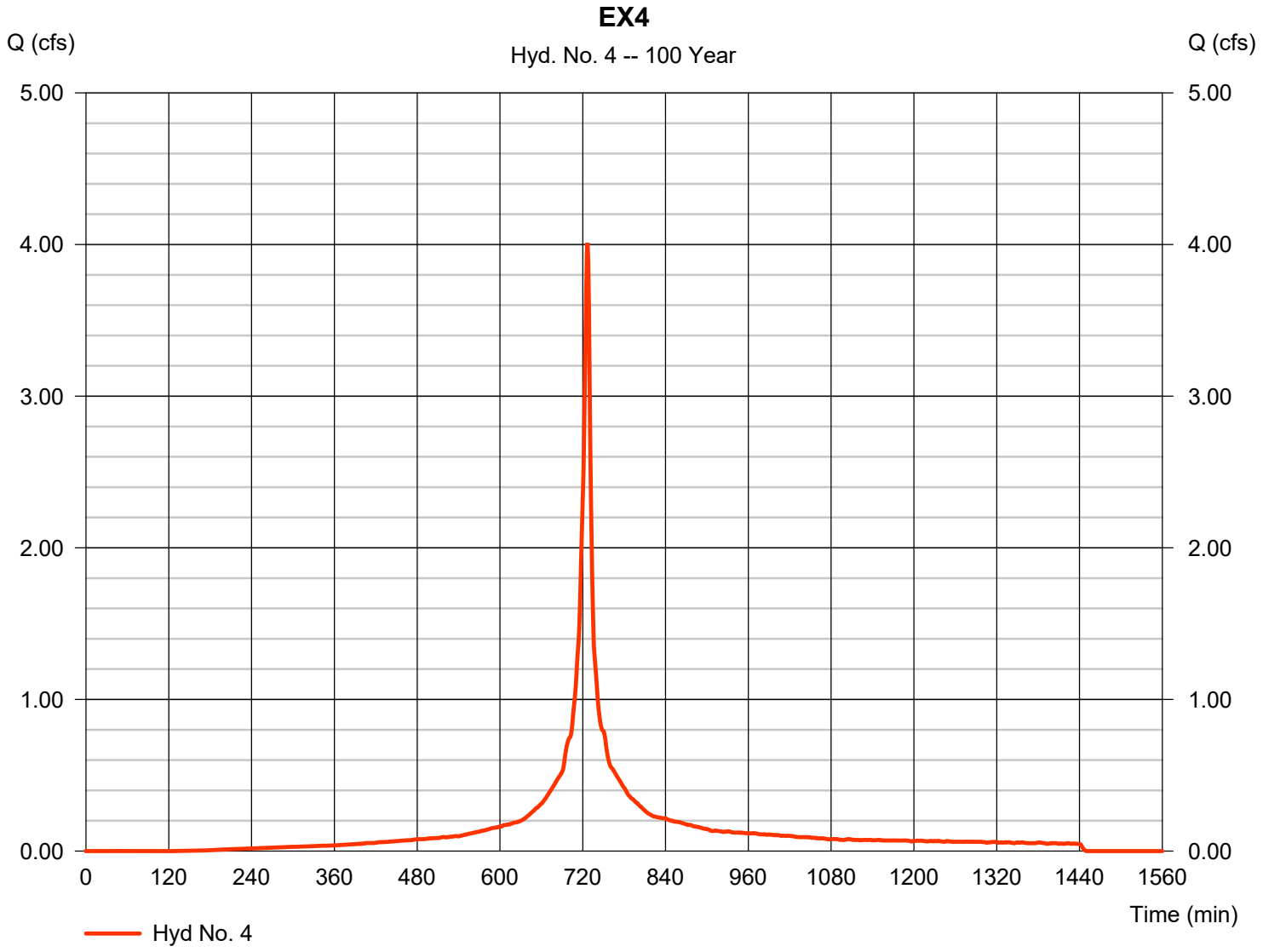
Hydrograph Report

Hyd. No. 4

EX4

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.011 cfs
Storm frequency	=	100 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	13,586 cuft
Drainage area	=	0.550 ac	Curve number	=	90*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	7.79 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cda	Shape factor	=	484

* Composite (Area/CN) = [(0.320 x 98) + (0.230 x 80)] / 0.550



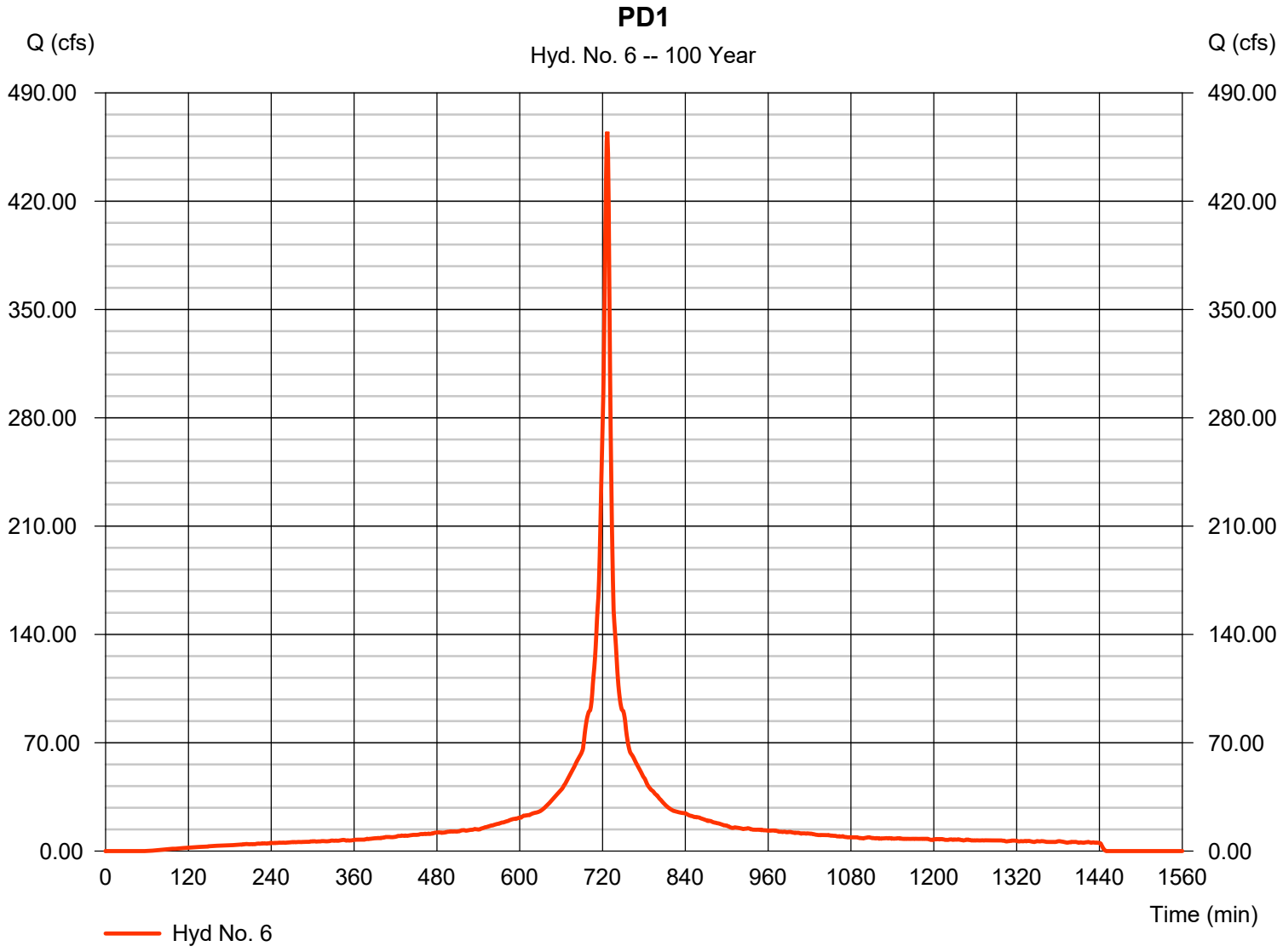
Hydrograph Report

Hyd. No. 6

PD1

Hydrograph type	=	SCS Runoff	Peak discharge	=	464.88 cfs
Storm frequency	=	100 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	1,672,285 cuft
Drainage area	=	61.100 ac	Curve number	=	96*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	7.79 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(54.050 x 98) + (6.800 x 80) + (0.250 x 60)] / 61.100



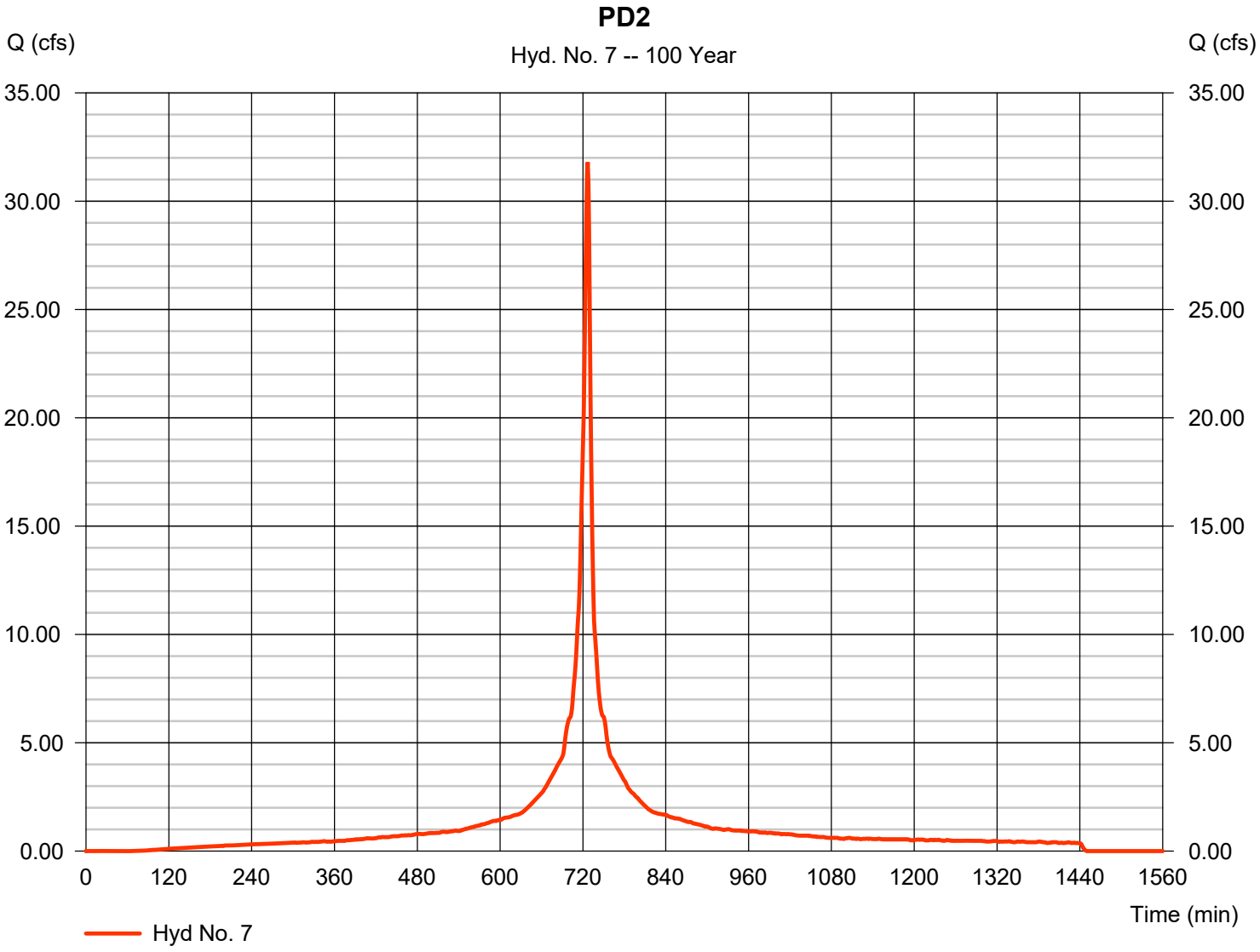
Hydrograph Report

Hyd. No. 7

PD2

Hydrograph type	=	SCS Runoff	Peak discharge	=	31.80 cfs
Storm frequency	=	100 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	113,078 cuft
Drainage area	=	4.200 ac	Curve number	=	95*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	7.79 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(3.450 x 98) + (0.750 x 80)] / 4.200



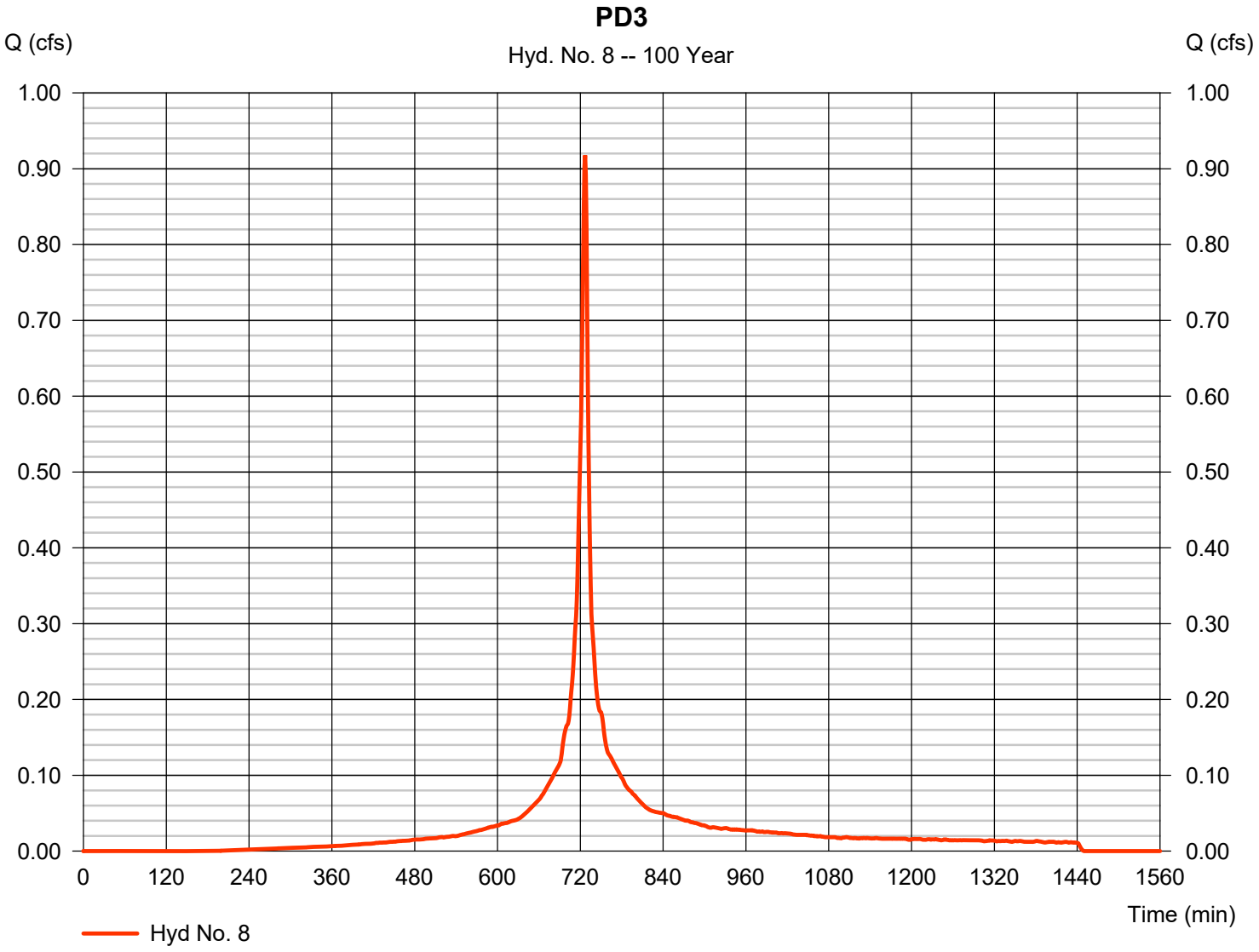
Hydrograph Report

Hyd. No. 8

PD3

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.918 cfs
Storm frequency	=	100 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	3,039 cuft
Drainage area	=	0.130 ac	Curve number	=	87*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	7.79 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cds	Shape factor	=	484

* Composite (Area/CN) = [(0.050 x 98) + (0.080 x 80)] / 0.130



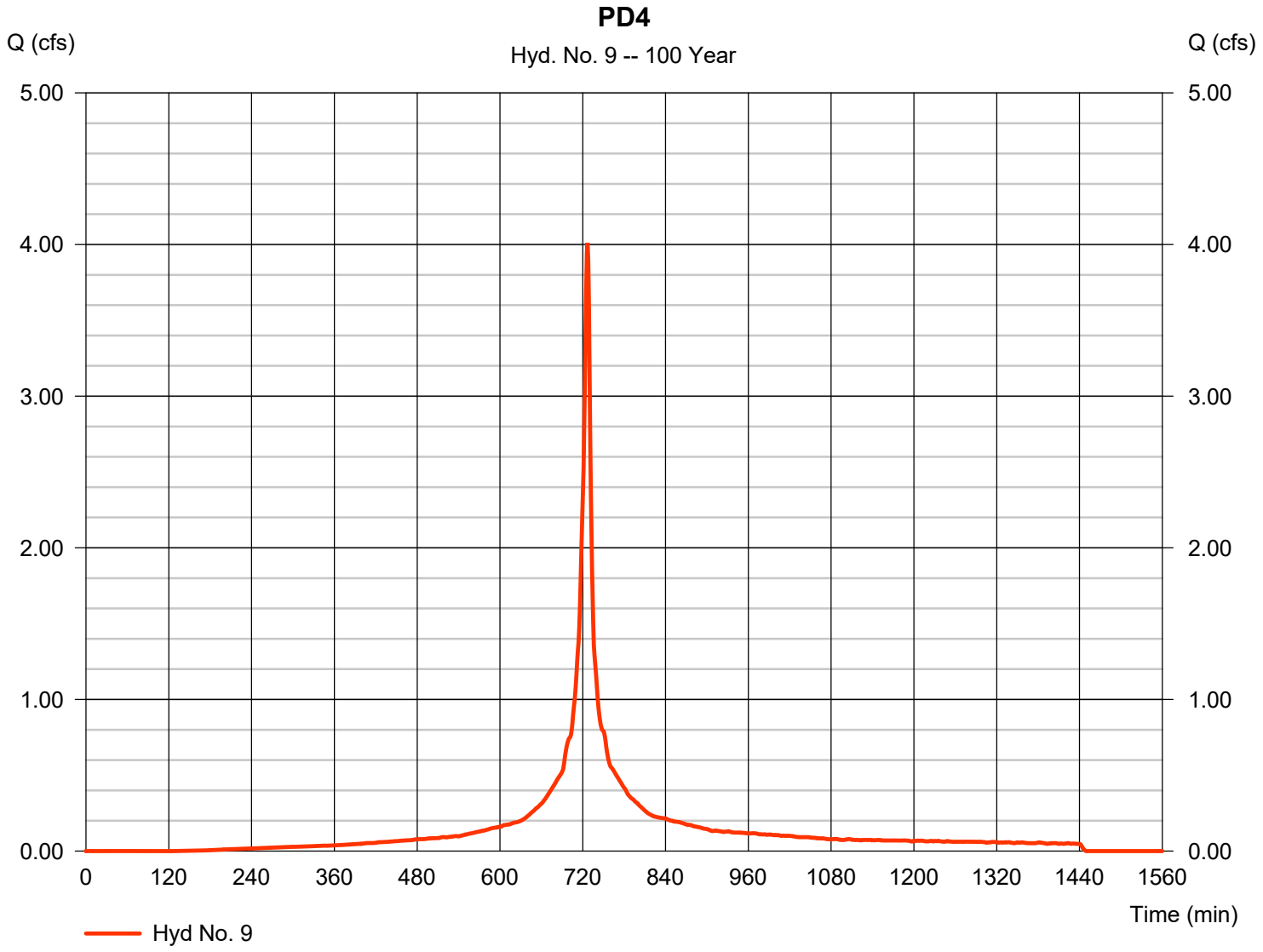
Hydrograph Report

Hyd. No. 9

PD4

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.011 cfs
Storm frequency	=	100 yrs	Time to peak	=	727 min
Time interval	=	1 min	Hyd. volume	=	13,586 cuft
Drainage area	=	0.550 ac	Curve number	=	90*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	7.79 in	Distribution	=	Custom
Storm duration	=	M:\NOAA Type D Distribution 1 hr.cda	Shape factor	=	484

* Composite (Area/CN) = [(0.320 x 98) + (0.230 x 80)] / 0.550



APPENDIX A

Calculation Support Information

NOAA Atlas 14, Volume 10, Version 3
Location name: Waterford, Connecticut, USA*
Latitude: 41.3742°, Longitude: -72.1444°
Elevation: 163 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

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

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

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.338 (0.262-0.425)	0.404 (0.313-0.509)	0.512 (0.395-0.646)	0.602 (0.462-0.764)	0.725 (0.540-0.953)	0.817 (0.598-1.09)	0.915 (0.651-1.26)	1.03 (0.691-1.44)	1.19 (0.771-1.71)	1.33 (0.840-1.94)
10-min	0.478 (0.371-0.602)	0.572 (0.443-0.721)	0.725 (0.560-0.916)	0.852 (0.654-1.08)	1.03 (0.765-1.35)	1.16 (0.847-1.55)	1.30 (0.922-1.79)	1.46 (0.979-2.03)	1.69 (1.09-2.42)	1.88 (1.19-2.75)
15-min	0.563 (0.437-0.708)	0.673 (0.522-0.848)	0.853 (0.659-1.08)	1.00 (0.770-1.27)	1.21 (0.900-1.59)	1.36 (0.996-1.82)	1.52 (1.08-2.11)	1.71 (1.15-2.39)	1.98 (1.29-2.85)	2.21 (1.40-3.23)
30-min	0.798 (0.619-1.00)	0.953 (0.739-1.20)	1.21 (0.933-1.52)	1.42 (1.09-1.80)	1.71 (1.27-2.25)	1.92 (1.41-2.58)	2.16 (1.53-2.98)	2.42 (1.63-3.38)	2.80 (1.82-4.03)	3.12 (1.98-4.56)
60-min	1.03 (0.802-1.30)	1.23 (0.956-1.56)	1.56 (1.21-1.97)	1.83 (1.41-2.33)	2.21 (1.64-2.90)	2.49 (1.82-3.33)	2.78 (1.98-3.84)	3.12 (2.10-4.37)	3.62 (2.34-5.20)	4.03 (2.55-5.88)
2-hr	1.36 (1.06-1.70)	1.62 (1.27-2.03)	2.05 (1.60-2.57)	2.41 (1.87-3.03)	2.90 (2.18-3.79)	3.27 (2.41-4.34)	3.66 (2.62-5.02)	4.11 (2.78-5.70)	4.78 (3.11-6.80)	5.34 (3.39-7.71)
3-hr	1.58 (1.24-1.96)	1.88 (1.48-2.34)	2.38 (1.87-2.97)	2.79 (2.18-3.50)	3.36 (2.54-4.36)	3.79 (2.81-5.00)	4.24 (3.06-5.78)	4.77 (3.24-6.56)	5.54 (3.62-7.84)	6.19 (3.95-8.90)
6-hr	2.00 (1.59-2.46)	2.38 (1.89-2.94)	3.01 (2.38-3.71)	3.52 (2.77-4.37)	4.24 (3.23-5.44)	4.77 (3.56-6.23)	5.33 (3.87-7.20)	5.99 (4.09-8.16)	6.95 (4.57-9.74)	7.76 (4.97-11.0)
12-hr	2.47 (1.98-3.02)	2.94 (2.36-3.58)	3.70 (2.96-4.52)	4.33 (3.44-5.32)	5.19 (3.99-6.61)	5.84 (4.40-7.57)	6.53 (4.77-8.72)	7.33 (5.04-9.89)	8.49 (5.61-11.8)	9.46 (6.09-13.3)
24-hr	2.89 (2.34-3.49)	3.45 (2.80-4.18)	4.37 (3.53-5.30)	5.13 (4.12-6.25)	6.18 (4.79-7.80)	6.96 (5.28-8.94)	7.79 (5.74-10.3)	8.77 (6.06-11.7)	10.2 (6.78-14.0)	11.4 (7.39-15.9)
2-day	3.22 (2.64-3.86)	3.89 (3.18-4.66)	4.98 (4.06-5.99)	5.88 (4.77-7.10)	7.13 (5.59-8.94)	8.05 (6.18-10.3)	9.05 (6.74-11.9)	10.2 (7.13-13.6)	12.1 (8.04-16.4)	13.6 (8.84-18.7)
3-day	3.49 (2.88-4.16)	4.21 (3.46-5.02)	5.38 (4.42-6.44)	6.36 (5.18-7.64)	7.70 (6.06-9.60)	8.69 (6.70-11.0)	9.77 (7.31-12.8)	11.1 (7.72-14.5)	13.0 (8.71-17.6)	14.7 (9.58-20.1)
4-day	3.74 (3.10-4.44)	4.49 (3.72-5.34)	5.72 (4.72-6.82)	6.74 (5.52-8.06)	8.14 (6.44-10.1)	9.18 (7.10-11.6)	10.3 (7.73-13.4)	11.7 (8.16-15.3)	13.7 (9.18-18.4)	15.4 (10.1-21.0)
7-day	4.45 (3.72-5.25)	5.27 (4.39-6.22)	6.60 (5.48-7.80)	7.70 (6.36-9.14)	9.22 (7.34-11.3)	10.3 (8.05-12.9)	11.6 (8.70-14.9)	13.0 (9.15-16.9)	15.1 (10.2-20.1)	16.9 (11.1-22.8)
10-day	5.16 (4.33-6.05)	6.01 (5.04-7.06)	7.39 (6.18-8.71)	8.54 (7.09-10.1)	10.1 (8.10-12.4)	11.3 (8.83-14.0)	12.6 (9.48-16.1)	14.0 (9.91-18.1)	16.1 (10.9-21.3)	17.9 (11.8-24.0)
20-day	7.32 (6.21-8.52)	8.23 (6.98-9.58)	9.72 (8.20-11.3)	10.9 (9.18-12.8)	12.6 (10.2-15.2)	13.9 (10.9-17.0)	15.3 (11.5-19.1)	16.6 (11.9-21.2)	18.5 (12.6-24.2)	20.0 (13.2-26.6)
30-day	9.13 (7.79-10.6)	10.1 (8.59-11.7)	11.6 (9.88-13.5)	12.9 (10.9-15.0)	14.7 (11.9-17.5)	16.1 (12.6-19.4)	17.4 (13.1-21.5)	18.8 (13.4-23.8)	20.5 (14.0-26.6)	21.7 (14.4-28.6)
45-day	11.4 (9.76-13.1)	12.4 (10.6-14.2)	14.0 (12.0-16.2)	15.4 (13.1-17.8)	17.3 (14.0-20.4)	18.8 (14.8-22.4)	20.2 (15.2-24.6)	21.4 (15.5-27.0)	23.0 (15.8-29.6)	24.0 (16.0-31.5)
60-day	13.2 (11.4-15.2)	14.3 (12.3-16.4)	16.0 (13.8-18.4)	17.5 (14.9-20.2)	19.4 (15.9-22.9)	21.0 (16.7-25.0)	22.5 (17.0-27.2)	23.8 (17.2-29.7)	25.2 (17.4-32.4)	26.1 (17.5-34.1)

[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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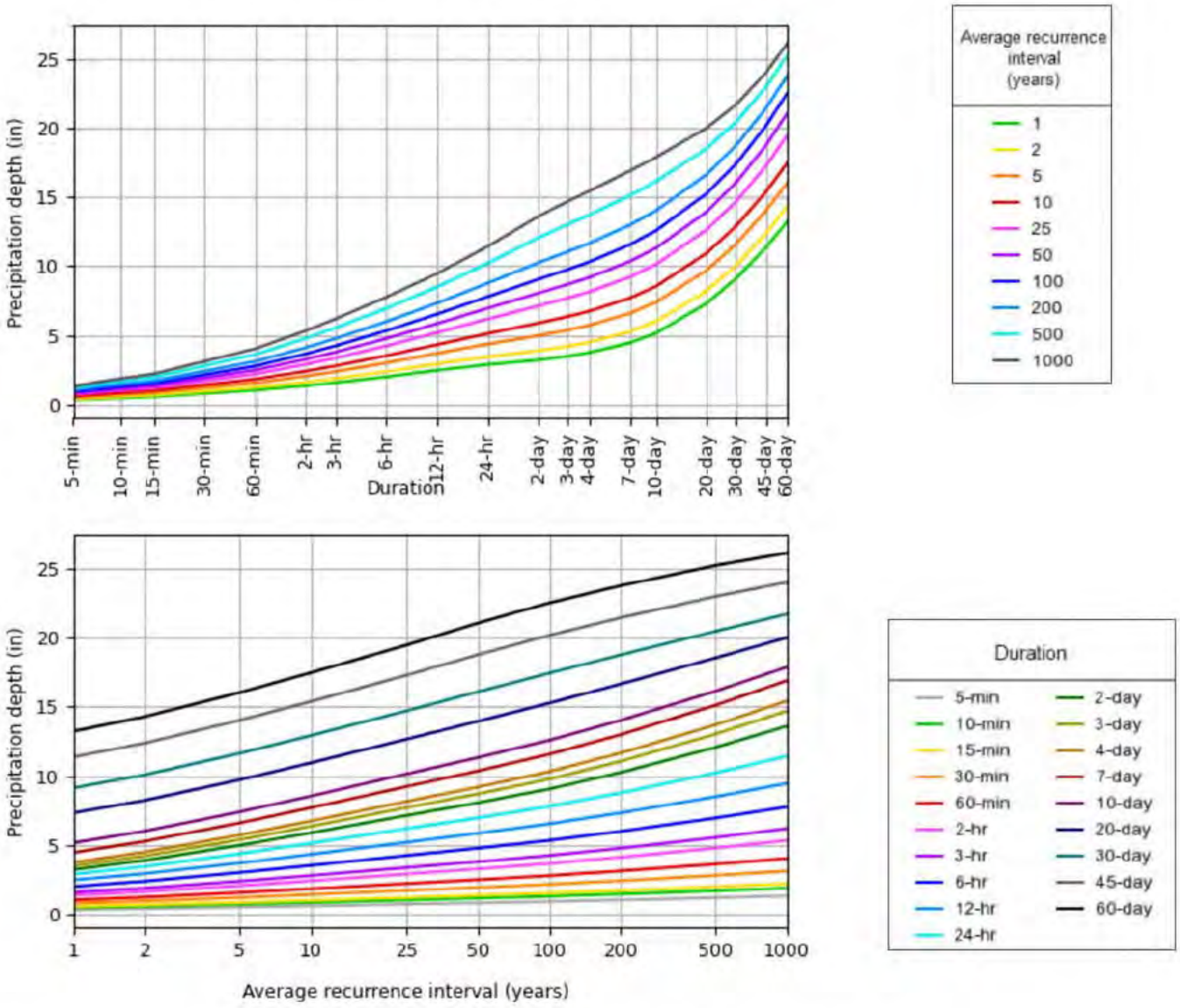
PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 41.3742°, Longitude: -72.1444°



NOAA Atlas 14, Volume 10, Version 3

Created (GMT): Tue Jan 13 19:26:20 2026

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Maps & aerials

Small scale terrain

NOAA Atlas 14, Volume 10, Version 3
Location name: Waterford, Connecticut, USA*
Latitude: 41.3742°, Longitude: -72.1444°
Elevation: 163 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

PF_tabular | PF_graphical | Maps_&_aerials

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 (3.14-5.10)	4.85 (3.76-6.11)	6.14 (4.74-7.75)	7.22 (5.54-9.17)	8.70 (6.48-11.4)	9.80 (7.18-13.1)	11.0 (7.81-15.2)	12.3 (8.29-17.2)	14.3 (9.25-20.5)	15.9 (10.1-23.3)
10-min	2.87 (2.23-3.61)	3.43 (2.66-4.33)	4.35 (3.36-5.50)	5.11 (3.92-6.49)	6.16 (4.59-8.11)	6.95 (5.08-9.31)	7.78 (5.53-10.7)	8.73 (5.87-12.2)	10.1 (6.55-14.5)	11.3 (7.14-16.5)
15-min	2.25 (1.75-2.83)	2.69 (2.09-3.39)	3.41 (2.64-4.31)	4.01 (3.08-5.09)	4.83 (3.60-6.36)	5.45 (3.98-7.30)	6.10 (4.34-8.42)	6.85 (4.61-9.57)	7.94 (5.14-11.4)	8.85 (5.60-12.9)
30-min	1.60 (1.24-2.01)	1.91 (1.48-2.40)	2.41 (1.87-3.05)	2.84 (2.18-3.60)	3.42 (2.55-4.49)	3.85 (2.81-5.15)	4.31 (3.06-5.95)	4.84 (3.25-6.76)	5.60 (3.63-8.05)	6.24 (3.95-9.11)
60-min	1.03 (0.802-1.30)	1.23 (0.956-1.56)	1.56 (1.21-1.97)	1.83 (1.41-2.33)	2.21 (1.64-2.90)	2.49 (1.82-3.33)	2.78 (1.98-3.84)	3.12 (2.10-4.37)	3.62 (2.34-5.20)	4.03 (2.55-5.88)
2-hr	0.679 (0.532-0.847)	0.811 (0.634-1.01)	1.03 (0.800-1.28)	1.20 (0.934-1.52)	1.45 (1.09-1.89)	1.64 (1.20-2.17)	1.83 (1.31-2.51)	2.06 (1.39-2.85)	2.39 (1.56-3.40)	2.67 (1.70-3.86)
3-hr	0.525 (0.413-0.652)	0.626 (0.493-0.778)	0.792 (0.621-0.988)	0.930 (0.725-1.16)	1.12 (0.846-1.45)	1.26 (0.934-1.66)	1.41 (1.02-1.92)	1.59 (1.08-2.18)	1.84 (1.20-2.61)	2.06 (1.31-2.96)
6-hr	0.334 (0.265-0.411)	0.397 (0.316-0.490)	0.502 (0.397-0.620)	0.588 (0.463-0.729)	0.707 (0.539-0.909)	0.796 (0.594-1.04)	0.890 (0.645-1.20)	0.999 (0.683-1.36)	1.16 (0.762-1.63)	1.30 (0.830-1.84)
12-hr	0.205 (0.164-0.250)	0.243 (0.195-0.297)	0.306 (0.245-0.375)	0.359 (0.285-0.441)	0.431 (0.331-0.548)	0.485 (0.364-0.628)	0.542 (0.395-0.724)	0.608 (0.418-0.820)	0.704 (0.465-0.976)	0.785 (0.505-1.10)
24-hr	0.120 (0.097-0.145)	0.143 (0.116-0.173)	0.181 (0.146-0.220)	0.213 (0.171-0.260)	0.257 (0.199-0.324)	0.289 (0.220-0.372)	0.324 (0.239-0.430)	0.365 (0.252-0.488)	0.425 (0.282-0.583)	0.476 (0.307-0.662)
2-day	0.067 (0.055-0.080)	0.080 (0.066-0.097)	0.103 (0.084-0.124)	0.122 (0.099-0.147)	0.148 (0.116-0.186)	0.167 (0.128-0.214)	0.188 (0.140-0.248)	0.213 (0.148-0.282)	0.251 (0.167-0.341)	0.283 (0.184-0.390)
3-day	0.048 (0.039-0.057)	0.058 (0.048-0.069)	0.074 (0.061-0.089)	0.088 (0.071-0.106)	0.106 (0.084-0.133)	0.120 (0.093-0.153)	0.135 (0.101-0.177)	0.153 (0.107-0.202)	0.180 (0.120-0.244)	0.204 (0.133-0.279)
4-day	0.038 (0.032-0.046)	0.046 (0.038-0.055)	0.059 (0.049-0.071)	0.070 (0.057-0.084)	0.084 (0.067-0.105)	0.095 (0.074-0.120)	0.107 (0.080-0.140)	0.121 (0.085-0.158)	0.142 (0.095-0.191)	0.160 (0.104-0.219)
7-day	0.026 (0.022-0.031)	0.031 (0.026-0.036)	0.039 (0.032-0.046)	0.045 (0.037-0.054)	0.054 (0.043-0.067)	0.061 (0.047-0.077)	0.068 (0.051-0.088)	0.077 (0.054-0.100)	0.089 (0.060-0.119)	0.100 (0.065-0.135)
10-day	0.021 (0.018-0.025)	0.025 (0.020-0.029)	0.030 (0.025-0.036)	0.035 (0.029-0.042)	0.042 (0.033-0.051)	0.047 (0.036-0.058)	0.052 (0.039-0.066)	0.058 (0.041-0.075)	0.067 (0.045-0.088)	0.074 (0.048-0.100)
20-day	0.015 (0.012-0.017)	0.017 (0.014-0.019)	0.020 (0.017-0.023)	0.022 (0.019-0.026)	0.026 (0.021-0.031)	0.029 (0.022-0.035)	0.031 (0.023-0.039)	0.034 (0.024-0.044)	0.038 (0.026-0.050)	0.041 (0.027-0.055)
30-day	0.012 (0.010-0.014)	0.013 (0.011-0.016)	0.016 (0.013-0.018)	0.017 (0.015-0.020)	0.020 (0.016-0.024)	0.022 (0.017-0.026)	0.024 (0.018-0.029)	0.026 (0.018-0.032)	0.028 (0.019-0.036)	0.030 (0.019-0.039)
45-day	0.010 (0.009-0.012)	0.011 (0.009-0.013)	0.012 (0.011-0.014)	0.014 (0.012-0.016)	0.015 (0.012-0.018)	0.017 (0.013-0.020)	0.018 (0.014-0.022)	0.019 (0.014-0.024)	0.021 (0.014-0.027)	0.022 (0.014-0.029)
60-day	0.009 (0.007-0.010)	0.009 (0.008-0.011)	0.011 (0.009-0.012)	0.012 (0.010-0.013)	0.013 (0.011-0.015)	0.014 (0.011-0.017)	0.015 (0.011-0.018)	0.016 (0.011-0.020)	0.017 (0.012-0.022)	0.018 (0.012-0.023)

[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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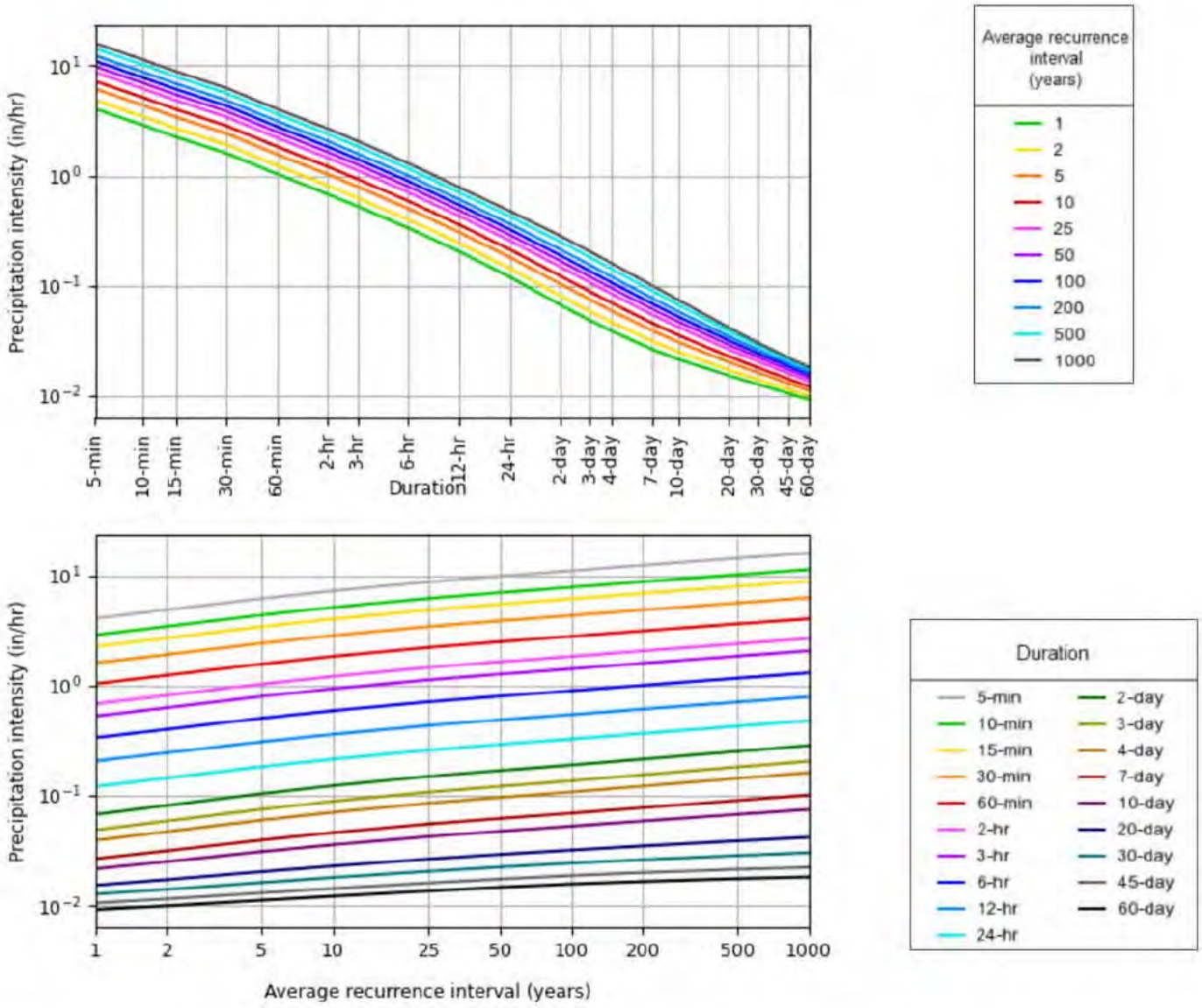
PF graphical

PDS-based intensity-duration-frequency (IDF) curves
Latitude: 41.3742°, Longitude: -72.1444°



NOAA Atlas 14, Volume 10, Version 3

Created (GMT): Tue Jan 13 19:28:27 2026

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Maps & aerials

Small scale terrain

Large scale terrain

Large scale map

Large scale aerial

Back to Top

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

Table 2-2a Runoff curve numbers for urban areas [1/]

Cover description		Curve numbers for hydrologic soil group			
Cover type and hydrologic condition	Average percent impervious area [2/]	A	B	C	D
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.) [3/]:					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) [4/]		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Developing urban areas					
Newly graded areas (pervious areas only, no vegetation) [5/]		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in table 2-2c).					

1 Average runoff condition, and $I_a = 0.2S$.

2 The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.

3 CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

4 Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.

5 Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

APPENDIX B

Soil Resource Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for State of Connecticut, Eastern Part

Crystal Mall Waterford, CT

December 8, 2025

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

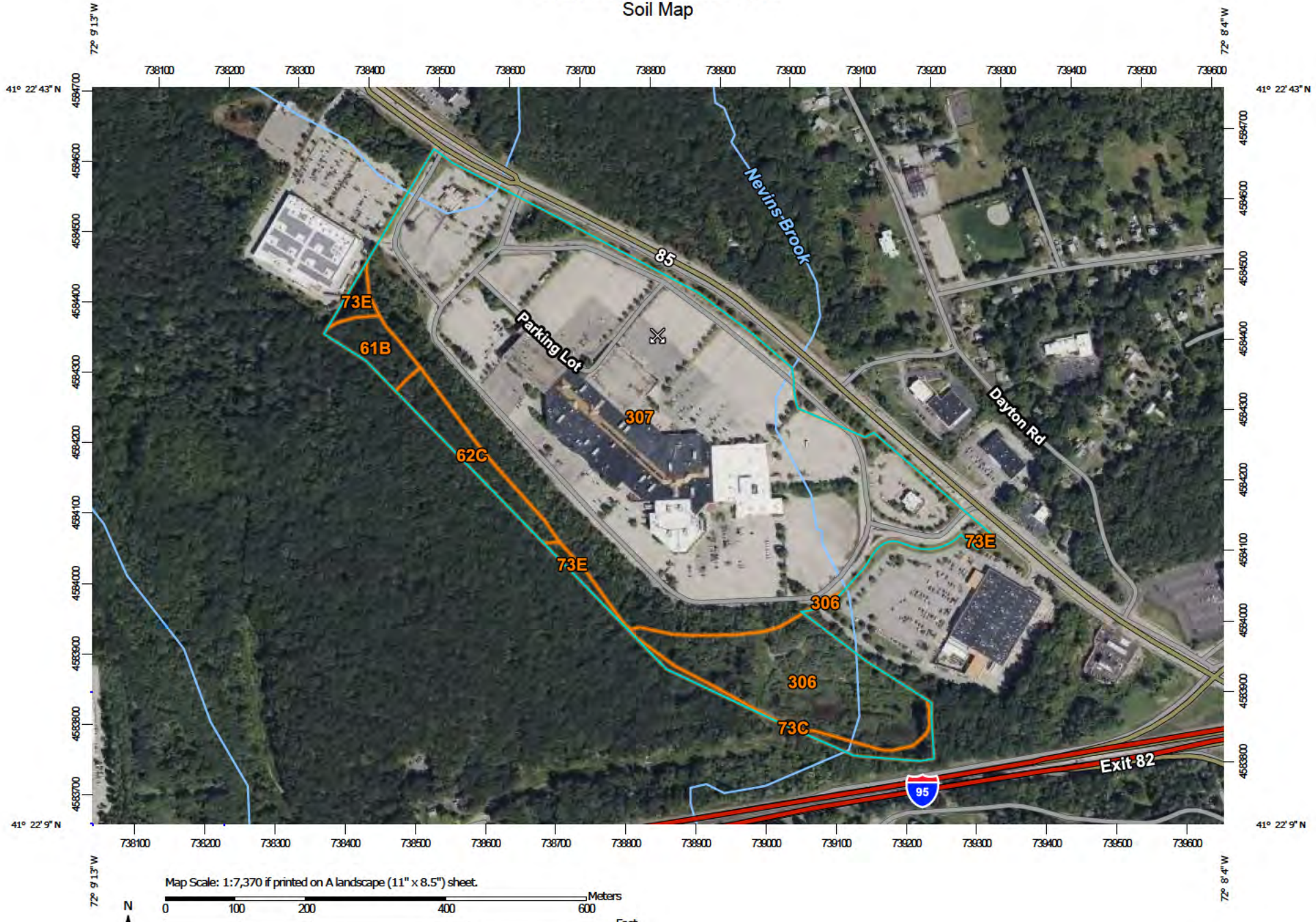
alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut, Eastern Part
Survey Area Data: Version 6, Sep 16, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 14, 2022—Oct 6, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
61B	Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony	1.7	1.9%
62C	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony	2.4	2.8%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	1.2	1.3%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	1.1	1.3%
306	Udorthents-Urban land complex	10.1	11.5%
307	Urban land	71.7	81.3%
Totals for Area of Interest		**88.2**	**100.0%**

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

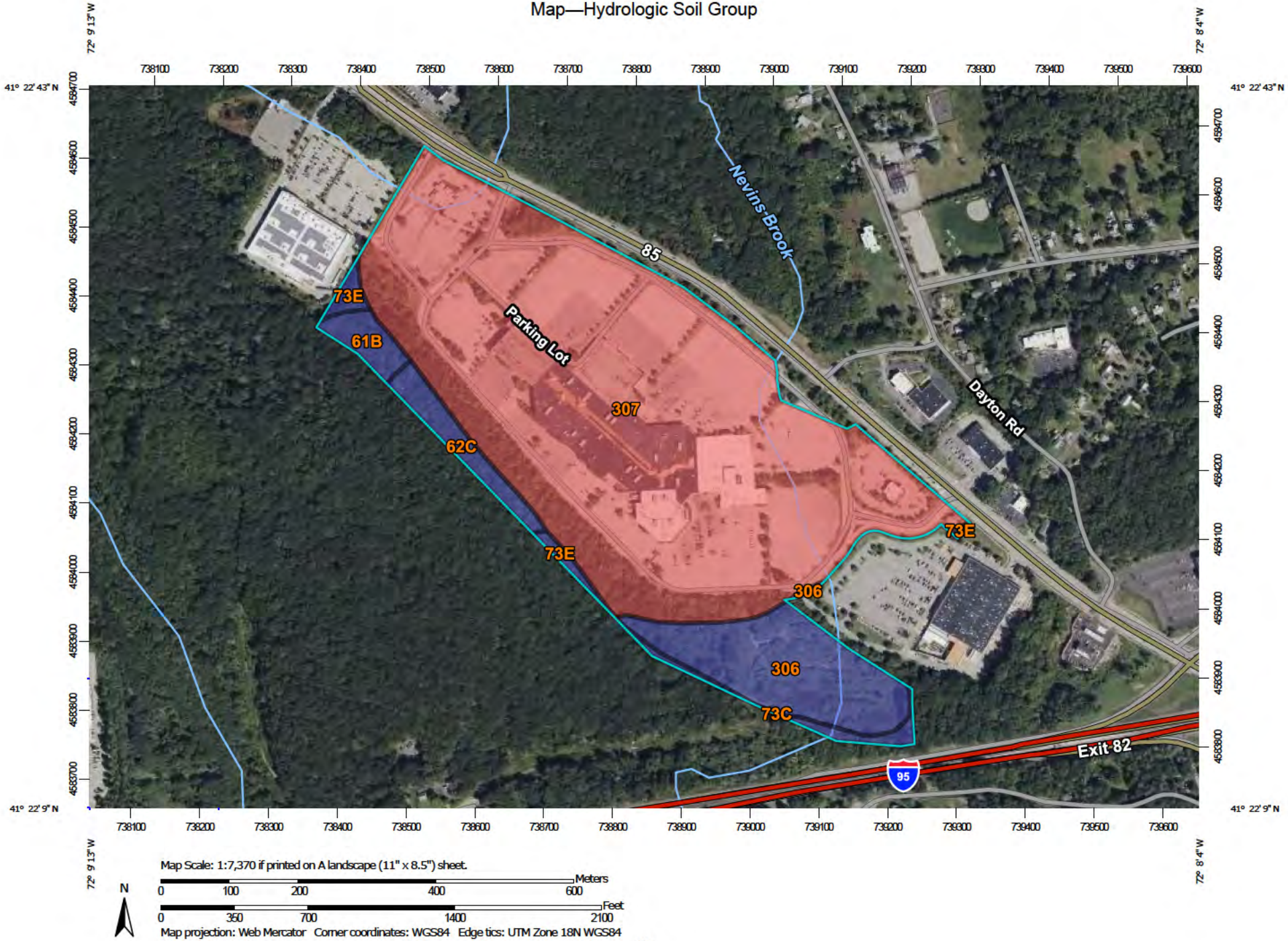
Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Custom Soil Resource Report
Map—Hydrologic Soil Group



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

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Survey Area Data: Version 6, Sep 16, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

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The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
61B	Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony	B	1.7	1.9%
62C	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony	B	2.4	2.8%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	B	1.2	1.3%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	B	1.1	1.3%
306	Udorthents-Urban land complex	B	10.1	11.5%
307	Urban land	D	71.7	81.3%
Totals for Area of Interest			**88.2**	**100.0%**

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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APPENDIX C

Stormwater Sample Lab Reports

PHOENIX
Environmental Laboratories, Inc.

Wednesday, December 10, 2025

Attn: Kyle Haubert
CLA Engineers, Inc.
317 Main Street
Norwich, CT 06360

Project ID: CLA 8165
SDG ID: GCU86796
Sample ID#s: CU86796, CU86796

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

December 10, 2025

SDG I.D.: GCU86796

Project ID: CLA 8165

Client Id	Lab Id	Matrix	Col Date
CM BASIN	CU86796	STORM WATER	12/03/25 12:40
CM BASIN	CU86796	STORM WATER	12/03/25 12:40

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

Analysis Report

December 10, 2025

FOR: Attn: Kyle Haubert
CLA Engineers, Inc.
317 Main Street
Norwich, CT 06360

Sample Information		Custody Information		Date	Time
Matrix:	STORM WATER	Collected by:		12/03/25	12:40
Location Code:	CLA-ENG	Received by:	SR1	12/03/25	15:27
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCU86796
Phoenix ID: CU86796

Project ID: CLA 8165
Client ID: CM BASIN

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Cadmium	< 0.001	0.001	mg/L	1	12/08/25	TH	E200.7
Copper	< 0.005	0.005	mg/L	1	12/08/25	TH	E200.7
Lead	0.002	0.001	mg/L	1	12/08/25	TH	E200.7
Zinc	0.016	0.004	mg/L	1	12/08/25	TH	E200.7
Escherichia Coli	2490	10	MPN/100 mls	10	12/03/25 19:25	IH/EH1	SM9223B-16
B.O.D./5 day	< 4.0	4.0	mg/L	2	12/03/25 15:27	EK/EH1	SM 5210B-16
B.O.D./5 day End Incubation					12/08/25 12:20	EK/EH1	SM 5210B-16
Chlorine Residual	< 0.02	0.02	mg/L	1	12/03/25 23:13	KL1	SM4500Cl-G-00
Conductivity	136	5.00	umhos/cm	1	12/04/25	KG/KDB	SM2510B-11
MBAS	< 0.05	0.05	mg/L	1	12/03/25 19:44	KL1	SM5540 C-11
Ammonia as Nitrogen	0.13	0.05	mg/L	1	12/06/25	KDB	E350.1
Nitrite-N	< 0.010	0.010	mg/L	1	12/03/25 22:13	TRF	E353.2
Nitrate-N	0.07	0.02	mg/L	1	12/03/25 22:13	TRF	E353.2
pH	6.10	1.00	pH Units	1	12/04/25 09:22	KG/KDB	SM4500-H B-11
Nitrogen Tot Kjeldahl	0.63	0.10	mg/L	1	12/06/25	KDB	E351.1
Total Nitrogen	0.70	0.10	mg/L	1	12/06/25	KDB	E351.1/E300.0-11
Turbidity	1.2	0.20	NTU	1	12/03/25 19:07	KG	SM2130B-11
Total Metals Digestion	Completed				12/06/25	AG	E200.7

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

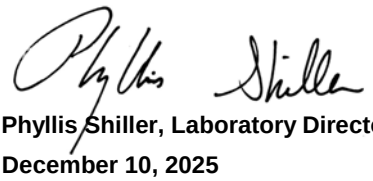
Comments:

The regulatory hold time for Chlorine is immediately. This Chlorine was performed in the laboratory and may be considered outside of hold-time.

The LAS standard used for the MBAS analysis has a molecular weight of 326.5 g/mol.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
December 10, 2025
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

QA/QC Report

December 10, 2025

QA/QC Data

SDG I.D.: GCU86796

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 817500 (mg/L), QC Sample No: CU86849 (CU86796)													
ICP Metals - Aqueous													
Cadmium	BRL	0.001	<0.001	<0.001	NC	99.7	102	2.3	98.4	97.9	0.5	80 - 120	20
Copper	BRL	0.005	<0.005	<0.005	NC	98.9	101	2.1	102	101	1.0	80 - 120	20
Lead	BRL	0.001	<0.001	<0.001	NC	100	102	2.0	101	101	0.0	80 - 120	20
Zinc	BRL	0.004	0.004	0.004	NC	97.1	99.3	2.2	98.3	97.8	0.5	80 - 120	20

Comment:

Additional Criteria: LCS acceptance range is 80-120% for aqueous and for soils the acceptance range is set by vendor limits. MS acceptance range 75-125%.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

QA/QC Report

December 10, 2025

QA/QC Data

SDG I.D.: GCU86796

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 817000 (mg/L), QC Sample No: CU86096 (CU86796)													
MBAS	BRL	0.05	<0.05	<0.05	NC	91.1			80.8			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 817013 (NTU), QC Sample No: CU86320 (CU86796)													
Turbidity	BRL	0.20	7.3	7.3	0	96.0						85 - 115	20
QA/QC Batch 817155 (umhos/cm), QC Sample No: CU86462 (CU86796)													
Conductivity	BRL	5.00	890	896	0.70	96.1						85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 817145 (pH), QC Sample No: CU86462 (CU86796)													
pH			7.06	6.98	1.10	96.3						85 - 115	20
QA/QC Batch 816970 (mg/L), QC Sample No: CU86836 (CU86796)													
B.O.D./5 day	BRL	2.0	27	32	16.9	128			108			70 - 130	20
B.O.D./5 day GGA BOD						97.8						85 - 115	20
QA/QC Batch 817066 (mg/L), QC Sample No: CU86553 (CU86796)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	104			97.8			90 - 110	20
Nitrite-N	BRL	0.01	<0.010	<0.01	NC	96.4			102			90 - 110	20
QA/QC Batch 817375 (mg/L), QC Sample No: CU86544 (CU86796)													
Ammonia as Nitrogen	BRL	0.05	0.15	0.18	NC	95.6			98.0			90 - 110	20
Nitrogen Tot Kjeldahl	BRL	0.10	1.28	1.35	5.30	95.6			101			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
QA/QC Batch 816972 (mg/L), QC Sample No: CU86140 (CU86796)													
Chlorine Residual	BRL	0.02	<0.02	<0.02	NC	85.5							

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference
(ISO) - Isotope Dilution

Phyllis Shiller, Laboratory Director
December 10, 2025

Wednesday, December 10, 2025

Criteria: None

State: CT

Sample Criteria Exceedances Report

GCU86796 - CLA-ENG

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

December 10, 2025 SDG I.D.: GCU86796

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Temp 4.4 °C Coolant: Cooler: IPK ☒ ICE ☐ Yes ☒ No ☐ No ☐

Pg of

PHOENIX Environmental Laboratories, Inc.

CT/MA/RI CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
Phone:
Email(s): khaubert@claengineers.com
brusse@claengineers.com

Customer: CLA Engineers
Address: 317 Main St
Norwich CT
06360

Project: CLA #3165
Report to (name): Kyle Haubert
Invoice to: Kyle Haubert
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Sampler's Signature: RCLusse Date: 12/3/25

Client Sample - Information - Identification

Matrix Code:
DW=Drinking Water GW=Ground Water SW=Surface Water STW = Storm Water
WW=Waste Water RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid
W=Wipe OIL=Oil B=Bulk L=Liquid X = Other _____ (Must be defined)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	*MS/MSD (May be billable at analysis unit rate)	Arsenic	Barium	Chromium	Conductance	Sulfate	Dissolved Metals	MBAS	N	TKN	pH	BOD	Turbidity	GL Amber ( ) oz [ ] H_3PO_4 [ ] $NAHSO_4$ [ ] NH_4Cl	Soil VOA Vials [ ] methanol [ ] H_2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] HCl [ ] Na_2SO_3	GL Amber 1000ml [ ] As is [ ] HCl [ ] KPh SO_4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H_2SO_4 [ ] 250ml [ ] 500ml	PL HNO_3 [ ] 250ml [ ] 500ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle plain
86796	CM Bush	aq	12/3/25	12:40	X	X	X	X	X	X	X	X	X	X	X								1	3	2	2			1	
	Bottles 1 amber H2SO4																													
	1 sea bacteria																													
	3x500 HDPE																													
	2x250 H2SO4																													
	2x250 HNO3																													

Relinquished by:	Accepted by:	Date:	Time:
	Kevin	12-3	7:10
RCLES	Emily S	12/3/25	1527

Comments, Special Requirements or Regulations:

Turnaround Time:
☐ 1 Day* ☐ Standard
☐ 2 Days* ☐ Other
☐ 3 Days*
☐ 4 Days*
☐ 5 Days*

*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

* SURCHARGES MAY APPLY

RI
☐ RES DEC
☐ I/C DEC
☐ GA Leachability
☐ GB Leachability
☐ GA -GW Objectives
☐ GB -GW Objectives
☐ Other

CT
☐ RCP Cert
☐ GWPC
☐ SWPC
☐ GA PMC
☐ GB PMC
☐ SWPC
RES ☐ DEC ☐ VC
I/C ☐ DEC ☐ VC

MA
☐ MCP Certification
☐ GW-1 ☐ RCS-1 / RCGW-1
☐ GW-2 ☐ RCS-2 / RCGW-2
☐ GW-3 ☐ S-1 Calc.
☐ S-1
☐ S-2 ☐ _____
☐ S-3
☐ SW Protection

State where samples were collected:

Data Format
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist*
☐ Full Data Package*
☐ Phoenix Std
☐ MAT-212 Form

* SURCHARGE APPLIES

GLU86796

Sam Runyon

From: Sam Runyon
Sent: Wednesday, December 3, 2025 3:58 PM
To: [redacted]
Subject: cla 8165 proj. - more info. needed
Attachments: 20251203155531.pdf

Importance: High

Good afternoon,

For the attached chain, would you be able to let me know what kind of water the sample is (waste, ground, drinking, etc.), what bacteria analysis you need, and which dissolved metals you need?

Thank you,

Samantha Runyon (she/her)
Client Services
Phoenix Environmental Laboratories
587 East Middle Tpke.
Manchester, CT 06040
[redacted]

GCW8679G

Sam Runyon

From: [redacted]
Sent: Thursday, December 4, 2025 8:22 AM
To: Sam Runyon; Kyle Haubert
Subject: RE: cla 8165 proj. - more info. needed

Hi Sam,

It is stormwater.
We need e coli and total bacteria
As opposed to dissolved metals, please do total metals – Zinc lead copper and cadmium

Thanks!

Bob Russo
860 227 4895

From: Sam Runyon[redacted]
Sent: Wednesday, December 3, 2025 3:58 PM
To: Kyle Haubert[redacted] Bob Russo[redacted]
Subject: cla 8165 proj. - more info. needed
Importance: High

Caution: This is an external email. Please take care when clicking links or opening attachments.

Good afternoon,

For the attached chain, would you be able to let me know what kind of water the sample is (waste, ground, drinking, etc.), what bacteria analysis you need, and which dissolved metals you need?

Thank you,

Samantha Runyon (she/her)
Client Services
Phoenix Environmental Laboratories
587 East Middle Tpke.
Manchester, CT 06040
[redacted]

PHOENIX
Environmental Laboratories, Inc.

Monday, December 29, 2025

Attn: Kyle Haubert
CLA Engineers, Inc.
317 Main Street
Norwich, CT 06360

Project ID: CLA 8185
SDG ID: GCU99833
Sample ID#s: CU99833

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

December 29, 2025

SDG I.D.: GCU99833

Project ID: CLA 8185

Client Id	Lab Id	Matrix	Col Date
CM BASIN 12/19/25	CU99833	STORM WATER	12/19/25 11:45

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

Analysis Report

December 29, 2025

FOR: Attn: Kyle Haubert
CLA Engineers, Inc.
317 Main Street
Norwich, CT 06360

Sample Information		Custody Information		Date	Time
Matrix:	STORM WATER	Collected by:		12/19/25	11:45
Location Code:	CLA-ENG	Received by:	SR1	12/19/25	13:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCU99833
Phoenix ID: CU99833

Project ID: CLA 8185
Client ID: CM BASIN 12/19/25

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Cadmium	< 0.001	0.001	mg/L	1	12/23/25	TH	E200.7
Copper	< 0.005	0.005	mg/L	1	12/23/25	TH	E200.7
Lead	0.002	0.001	mg/L	1	12/23/25	TH	E200.7
Zinc	0.046	0.004	mg/L	1	12/23/25	TH	E200.7
Escherichia Coli	197	10	MPN/100 mls	10	12/19/25 17:05	HS/HS	SM9223B-16
B.O.D./5 day	5.2	4.0	mg/L	2	12/19/25 14:05	EK/HS	SM 5210B-16
B.O.D./5 day End Incubation					12/24/25 08:46	EK/HS	SM 5210B-16
Chlorine Residual	< 0.02	0.02	mg/L	1	12/19/25 18:13	KL1	SM4500Cl-G-00
Conductivity	750	5.00	umhos/cm	1	12/20/25	KG/KDB	SM2510B-11
MBAS	< 0.10	0.10	mg/L	2	12/20/25 01:07	KL1	SM5540 C-11
Ammonia as Nitrogen	0.38	0.10	mg/L	2	12/26/25	KDB	E350.1
Nitrite-N	0.012	0.010	mg/L	1	12/19/25 21:10	TRF	E353.2
Nitrate-N	0.15	0.02	mg/L	1	12/19/25 21:10	TRF	E353.2
pH	6.26	1.00	pH Units	1	12/20/25 02:15	KG/KDB	SM4500-H B-11
Nitrogen Tot Kjeldahl	0.98	0.20	mg/L	2	12/26/25	KDB	E351.1
Total Nitrogen	1.14	0.10	mg/L	1	12/26/25	KDB	E351.1/E300.0-11
Phosphorus, as P	0.077	0.010	mg/L	1	12/23/25	JR	SM4500PE-21
Turbidity	1.2	0.200	NTU	1	12/20/25 02:15	KG/KDB	SM2130B-11
Total Metals Digestion	Completed				12/22/25	P	E200.7

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

The regulatory hold time for Chlorine is immediately. This Chlorine was performed in the laboratory and may be considered outside of hold-time.

The LAS standard used for the MBAS analysis has a molecular weight of 326.5 g/mol.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
December 29, 2025
Reviewed and Released by: Alejandro Paredes, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

QA/QC Report

December 29, 2025

QA/QC Data

SDG I.D.: GCU99833

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 820069 (mg/L), QC Sample No: CU99517 (CU99833)													
ICP Metals - Aqueous													
Cadmium	BRL	0.001	<0.001	<0.001	NC	97.6	96.7	0.9	95.1			80 - 120	20
Copper	BRL	0.005	<0.005	<0.005	NC	101	100	1.0	100			80 - 120	20
Lead	BRL	0.001	<0.001	0.001	NC	97.7	95.9	1.9	96.0			80 - 120	20
Zinc	BRL	0.004	0.026	0.026	0	96.2	95.1	1.2	94.9			80 - 120	20

Comment:

Additional Criteria: LCS acceptance range is 80-120% for aqueous and for soils the acceptance range is set by vendor limits. MS acceptance range 75-125%.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

QA/QC Report

December 29, 2025

QA/QC Data

SDG I.D.: GCU99833

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 819824 (NTU), QC Sample No: CU98451 (CU99833)													
Turbidity	BRL	0.20	0.60	0.60	NC	95.5						85 - 115	20
QA/QC Batch 819821 (mg/L), QC Sample No: CU99608 (CU99833)													
MBAS	BRL	0.05	<0.10	<0.10	NC	88.5			91.0			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 820149 (mg/L), QC Sample No: CU99640 (CU99833)													
Phosphorus, as P	BRL	0.01	12.5	12.4	0.80	105			110			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 819885 (umhos/cm), QC Sample No: CU99833 (CU99833)													
Conductivity	BRL	5.00	750	753	0.40	92.7						85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 819877 (pH), QC Sample No: CU99833 (CU99833)													
pH			6.26	6.34	1.30	98.5						85 - 115	20
QA/QC Batch 819737 (mg/L), QC Sample No: CU99962 (CU99833)													
B.O.D./5 day	BRL	2.0	4.8	4.9	NC	102			111			70 - 130	20
B.O.D./5 day GGA BOD						88.5						85 - 115	20
QA/QC Batch 819883 (NTU), QC Sample No: CV00198 (CU99833)													
Turbidity	BRL	0.200	<0.200	<0.200	NC	96.3						85 - 115	20
QA/QC Batch 819833 (mg/L), QC Sample No: CU99604 (CU99833)													
Nitrate-N	BRL	0.02	0.25	0.25	0	103			98.5			90 - 110	20
Nitrite-N	BRL	0.01	<0.010	<0.01	NC	94.8			100			90 - 110	20
QA/QC Batch 820235 (mg/L), QC Sample No: CV00802 (CU99833)													
Ammonia as Nitrogen	BRL	0.05	<0.05	<0.05	NC	104			99.0			90 - 110	20
Nitrogen Tot Kjeldahl	BRL	0.10	0.28	0.15	NC	92.9			103			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
QA/QC Batch 819783 (mg/L), QC Sample No: CU99574 (CU99833)													
Chlorine Residual	BRL	0.02	<0.02	<0.02	NC	108							

QA/QC Data

SDG I.D.: GCU99833

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD	-	Relative Percent Difference
LCS	-	Laboratory Control Sample
LCSD	-	Laboratory Control Sample Duplicate
MS	-	Matrix Spike
MS Dup	-	Matrix Spike Duplicate
NC	-	No Criteria
Intf	-	Interference
(ISO)	-	Isotope Dilution

Phyllis Shiller, Laboratory Director
December 29, 2025

Monday, December 29, 2025

Criteria: None

State: CT

Sample Criteria Exceedances Report

GCU99833 - CLA-ENG

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

Analysis Comments

December 29, 2025 SDG I.D.: GCU99833

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Temp 2.0 °C Coolant: IPK ☐ ICE ☑ Cooler: Yes ☒ No ☐ No ☐

CT/MA/RI CHAIN OF CUSTODY RECORD

PHOENIX Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Pg of

Data Delivery/Contact Options:
Phone: 860 886 1966
Email(s): khaubert@claengineers.com
brusso@claengineers.com

Customer: CLA Engineers
Address: 317 Main St
Norwich CT

Project: CLA 8185
Report to (name): Kyle Haubert
Invoice to: Kyle Haubert
Quote #

Project P.O.:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature ______ Date: ______

Matrix Code:
DW=Drinking Water GW=Ground Water SW=Surface Water STW = Storm Water
WW=Waste Water RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid
W=Wipe OIL=Oil B=Bulk L=Liquid X = Other ______ (Must be defined)

Analysis Request: MS/MSD (May be billable at analysis unit rate); Ammonia; Bacteria; Chlorine; Conductance; Surfactants MBA; DE metals; Phosphorus; N; TDT & TKN; pH; BOD; Turbidity

Bottle columns: GL Amber ( )oz [ ] H_3PO_4 [ ] NaHSO4 [ ] NH4Cl; Soil VOA Vials [ ] methanol [ ] H_2O; GL Soil container ( )oz; GL Soil container ( )oz; 40 ml VOA Vial [ ] As is [ ] HCl [ ] Na2SO3; GL Amber 1000ml [ ] As is [ ] HCL [ ] H_2SO_4; PL As is [ ] 250ml [ ] 500ml [X] 1000ml; PL H_2SO_4 [X] 250ml [ ] 500ml; PL HNO_3 [X] 250ml [ ] 1000ml; PL NaOH 250ml; Bacteria Bottle w/thio; Bacteria Bottle as is

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	PL As is	PL H_2SO_4	PL HNO_3	Bacteria Bottle w/thio
99833	CM Basin 12/19/25	aq (Stormwater)	12/19/25	11:45	2	2	2	Y

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	12/19	13:10

Comments, Special Requirements or Regulations:

Turnaround Time:
☐ 1 Day* ☐ Standard
☐ 2 Days* ☐ Other ______
☐ 3 Days*
☐ 4 Days*
☐ 5 Days*

* SURCHARGES MAY APPLY

RI
☐ RES DEC
☐ I/C DEC
☐ GA Leachability
☐ GB Leachability
☐ GA-GW Objectives
☐ GB-GW Objectives
☐ Other

CT
☐ RCP Cert
☐ GWPC
☐ SWPC
☐ GA PMC
☐ GB PMC
☐ SWPC
RES☐ DEC☐ VC
I/C ☐ DEC ☐ VC

MA
☐ MCP Certification
☐ GW-1 ☐ RCS-1 / RCGW-1
☐ GW-2 ☐ RCS-2 / RCGW-2
☐ GW-3 ☐ S-1 Calc.
☐ S-1
☐ S-2 ☐ ______
☐ S-3
☐ SW Protection

State where samples were collected: ______

Data Format
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist*
☐ Full Data Package*
☐ Phoenix Std
☐ MAT-212 Form

* SURCHARGE APPLIES

*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

GCU99833

Sam Runyon

From: Sam Runyon
Sent: Friday, December 19, 2025 1:49 PM
To: Kyle Haubert; Bob Russo
Subject: Total Metals needed
Attachments: 20251219134655.pdf

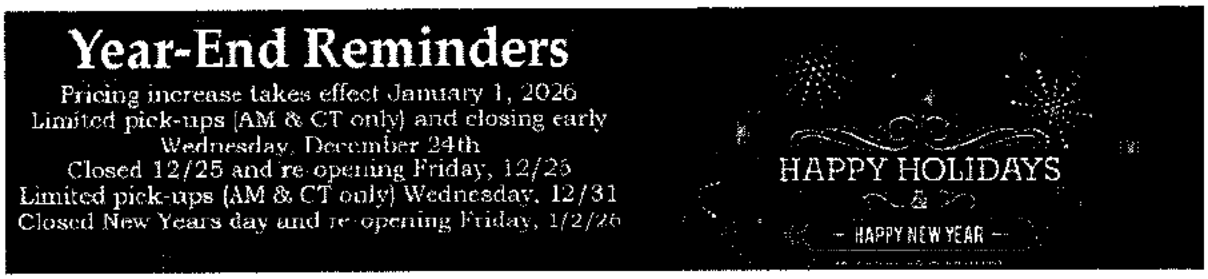
Importance: High

Good afternoon,

For the attached chain, which total metals did you need?

Thank you,

Samantha Runyon (she/her)
Client Services
Phoenix Environmental Laboratories
587 East Middle Tpke.
Manchester, CT 06040
[redacted]



GCU 99833

Sam Runyon

From: Bob Russo <brusso@claengineers.com>
Sent: Monday, December 22, 2025 8:41 AM
To: Sam Runyon; Kyle Haubert
Subject: RE: Total Metals needed

Zinc, lead copper and cadmium.

Thanks!

From: Sam Runyon <samr@phoenixlabs.com>
Sent: Friday, December 19, 2025 1:50 PM
To: Kyle Haubert [redacted] Bob Russo [redacted]
Subject: Total Metals needed
Importance: High

Caution: This is an external email. Please take care when clicking links or opening attachments.

Good afternoon,

For the attached chain, which total metals did you need?

Thank you,

Samantha Runyon (she/her)
Client Services
Phoenix Environmental Laboratories
587 East Middle Tpke.
Manchester, CT 06040
[redacted]

APPENDIX D

Hydrodynamic Separator Information & Sizing

CASCADE separator®

The Cascade Separator®

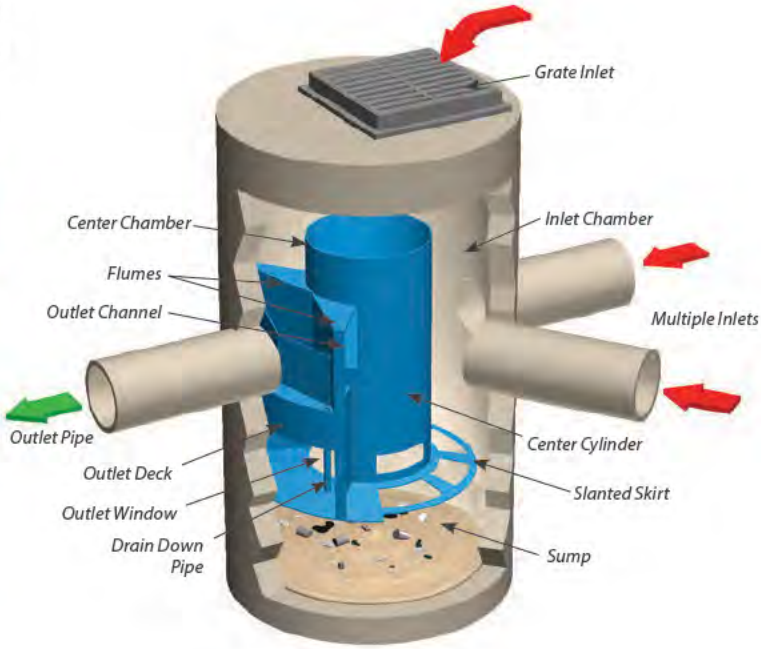
Advanced Sediment Capture Technology

The **Cascade Separator®** is the newest innovation in stormwater treatment from Contech. The Cascade Separator was developed by Contech's stormwater experts using advanced modeling tools and Contech's industry leading stormwater laboratory.

This innovative hydrodynamic separator excels at sediment capture and retention while also removing hydrocarbons, trash, and debris from stormwater runoff. What makes the Cascade Separator unique is the use of opposing vortices that enhance particle settling and a unique skirt design that allows for sediment transport into the sump while reducing turbulence an resuspension of previously captured material. These two factors all the Cascade Separator to treat high flow rates in a small footprint, resulting in an efficient and economical solution for any site.

FEATURE	BENEFIT
Unique skirt design & opposing vortices	Superior TSS removal; reduced system size and costs
Inlet area accepts wide range of inlet pipe angles	Design and installation flexibility
Accepts multiple inlet pipes*	Eliminates the need for separate junction structure
Grate inlet option*	Eliminates the need for a separate grate inlet structure
Internal bypass	Eliminates the need for a separate bypass structure
Clear access to sump and stored pollutants	Fast, easy maintenance

** NJDEP testing based on Cascade Separator with one inlet pipe and no grate inlet*



CASCADE MAINTENANCE

Cascade provides unobstructed access to stored pollutants, making it easy to maintain using a vacuum truck, with no requirement to enter the unit.

The Cascade Separator has received New Jersey Department of Environmental Protection (NJDEP) Certification*

CONTECH®
ENGINEERED SOLUTIONS

Cascade Separator® Inspection and Maintenance Guide

CASCADE
separator®

Maintenance

The Cascade Separator® system should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects sediment and debris will depend upon on-site activities and site pollutant characteristics. For example, unstable soils or heavy winter sanding will cause the sediment storage sump to fill more quickly but regular sweeping of paved surfaces will slow accumulation.

Inspection

Inspection is the key to effective maintenance and is easily performed. Pollutant transport and deposition may vary from year to year and regular inspections will help ensure that the system is cleaned out at the appropriate time. At a minimum, inspections should be performed twice per year (i.e. spring and fall). However, more frequent inspections may be necessary in climates where winter sanding operations may lead to rapid accumulations, or in equipment wash-down areas. Installations should also be inspected more frequently where excessive amounts of trash are expected.

A visual inspection should ascertain that the system components are in working order and that there are no blockages or obstructions in the inlet chamber, flumes or outlet channel. The inspection should also quantify the accumulation of hydrocarbons, trash and sediment in the system. Measuring pollutant accumulation can be done with a calibrated dipstick, tape measure or other measuring instrument. If absorbent material is used for enhanced removal of hydrocarbons, the level of discoloration of the sorbent material should also be identified during inspection. It is useful and often required as part of an operating permit to keep a record of each inspection. A simple form for doing so is provided in this Inspection and Maintenance Guide.

Access to the Cascade Separator unit is typically achieved through one manhole access cover. The opening allows for inspection and cleanout of the center chamber (cylinder) and sediment storage sump, as well as inspection of the inlet chamber and slanted skirt. For large units, multiple manhole covers allow access to the chambers and sump.

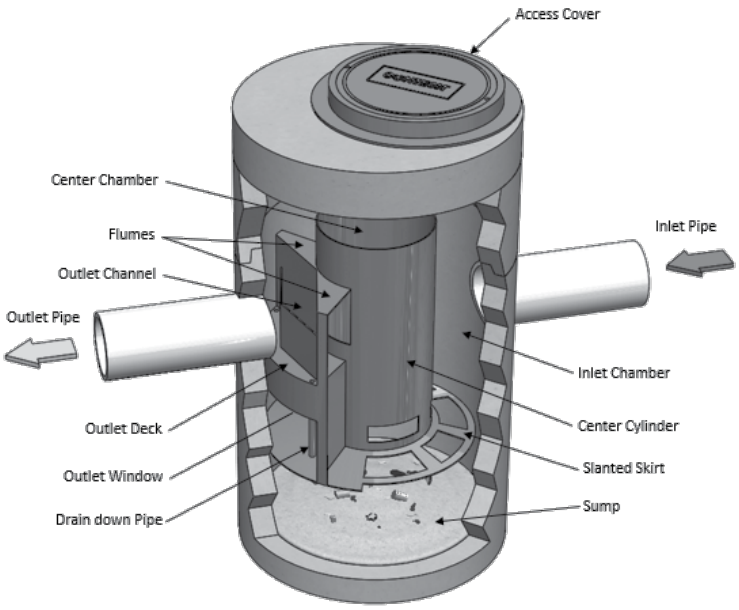
The Cascade Separator system should be cleaned before the level of sediment in the sump reaches the maximum sediment depth and/or when an appreciable level of hydrocarbons and trash has accumulated. If sorbent material is used, it must be replaced when significant discoloration has occurred. Performance may be impacted when maximum sediment storage capacity is exceeded. Contech recommends maintaining the system when sediment level reaches 50% of maximum storage volume. The level of sediment is easily determined by measuring the distance from the system outlet invert (standing water level) to the top of the sediment pile. To avoid underestimating the level of sediment in the chamber, the measuring device must be lowered to the top of the sediment pile carefully. Finer, silty particles at the top of the pile typically offer less resistance to the end of the rod than larger particles toward the bottom of the pile. Once this measurement is recorded, it should be compared to the chart in this document to determine if the height of the sediment pile off the bottom of the sump floor exceeds 50% of the maximum sediment storage.

Cleaning

Cleaning of a Cascade Separator system should be done during dry weather conditions when no flow is entering the system. The use of a vacuum truck is generally the most effective and convenient method of removing pollutants from the system. Simply remove the manhole cover and insert the vacuum tube down through the center chamber and into the sump. The system should be completely drained down and the sump fully evacuated of sediment. The areas outside the center chamber and the slanted skirt should also be washed off if pollutant build-up exists in these areas.

In installations where the risk of petroleum spills is small, liquid contaminants may not accumulate as quickly as sediment. However, the system should be cleaned out immediately in the event of an oil or gasoline spill. Motor oil and other hydrocarbons that accumulate on a more routine basis should be removed when an appreciable layer has been captured. To remove these pollutants, it may be preferable to use absorbent pads since they are usually less expensive to dispose than the oil/water emulsion that may be created by vacuuming the oily layer. Trash and debris can be netted out to separate it from the other pollutants. Then the system should be power washed to ensure it is free of trash and debris.

Manhole covers should be securely seated following cleaning activities to prevent leakage of runoff into the system from above and to ensure proper safety precautions. Confined space entry procedures need to be followed if physical access is required. Disposal of all material removed from the Cascade Separator system must be done in accordance with local regulations. In many locations, disposal of evacuated sediments may be handled in the same manner as disposal of sediments removed from catch basins or deep sump manholes. Check your local regulations for specific requirements on disposal. If any components are damaged, replacement parts can be ordered from the manufacturer.



Cascade Separator® Maintenance Indicators and Sediment Storage Capacities

Model Number	Diameter		Distance from Water Surface to Top of Sediment Pile		Sediment Storage Capacity	
	ft	m	ft	m	y^3	m^3
CS-3	3	0.9	1.5	0.5	0.4	0.3
CS-4	4	1.2	2.5	0.8	0.7	0.5
CS-5	5	1.3	3	0.9	1.1	0.8
CS-6	6	1.8	3.5	1	1.6	1.2
CS-8	8	2.4	4.8	1.4	2.8	2.1
CS-10	10	3.0	6.2	1.9	4.4	3.3
CS-12	12	3.6	7.5	2.3	6.3	4.8

Note: The information in the chart is for standard units. Units may have been designed with non-standard sediment storage depth.

A Cascade Separator unit can be easily cleaned in less than 30 minutes.

A vacuum truck excavates pollutants from the systems.

Cascade Separator® Inspection & Maintenance Log

Cascade Model:			Location:		
Date	Depth Below Invert to Top of Sediment[1]	Floatable Layer Thickness[2]	Describe Maintenance Performed	Maintenance Personnel	Comments

1. The depth to sediment is determined by taking a measurement from the manhole outlet invert (standing water level) to the top of the sediment pile. Once this measurement is recorded, it should be compared to the chart in the maintenance guide to determine if the height of the sediment pile off the bottom of the sump floor exceeds 50% of the maximum sediment storage. Note: to avoid underestimating the volume of sediment in the chamber, the measuring device must be carefully lowered to the top of the sediment pile.
2. For optimum performance, the system should be cleaned out when the floating hydrocarbon layer accumulates to an appreciable thickness. In the event of an oil spill, the system should be cleaned immediately.

SUPPORT

- Drawings and specifications are available at www.ContechES.com.
- Site-specific design support is available from our engineers.

Contech Engineered Solutions LLC provides site solutions for the civil engineering industry. Contech's portfolio includes bridges, drainage, sanitary sewer, stormwater, and earth stabilization products. For information, visit www.ContechES.com or call 800.338.1122

CONTECH® ENGINEERED SOLUTIONS
800-925-5240
www.ContechES.com

TABLE 2 - PERFORMANCE MATRIX FOR CTDOT QUALIFIED HYDRODYNAMIC SEPARATORS

Max WQF (cfs)	Product Model											
	Barracuda MAX	*Cascade*	*CDS*	*Concentrator*	*Downstream Defender*	*DVS*	*First Defense*	*HydroDome*	*HydroStorm*	*SAFL*	*SciCloneX*	*Xcelerator*
0.1	Barracuda MAX S3(3)	CS-3(3)	CDS-3(3)	AS-2(2.5)	4ft(4)	DVS-36(3)	3ft(3)	HD3(3)	HS3(3)	60x36	SCX-3(3)	XC-2(2.5)
0.2	Barracuda MAX S3(3)	CS-3(3)	CDS-3(3)	AS-2(2.5)	4ft(4)	DVS-36(3)	3ft(3)	HD3(3)	HS3(3)	60x36	SCX-3(3)	XC-2(2.5)
0.3	Barracuda MAX S3(3)	CS-3(3)	CDS-3(3)	AS-2(2.5)	4ft(4)	DVS-36(3)	3ft(3)	HD3(3)	HS3(3)	72x36	SCX-3(3)	XC-2(2.5)
0.4	Barracuda MAX S3(3)	CS-3(3)	CDS-3(3)	AS-3(3.5)	4ft(4)	DVS-36(3)	3ft(3)	HD3(3)	HS3(3)	84x46	SCX-3(3)	XC-2(2.5)
0.5	Barracuda MAX S3(3)	CS-3(3)	CDS-3(3)	AS-3(3.5)	4ft(4)	DVS-36(3)	3ft(3)	HD3(3)	HS3(3)	84x46	SCX-3(3)	XC-2(2.5)
0.6	Barracuda MAX S3(3)	CS-3(3)	CDS-4(4)	AS-3(3.5)	4ft(4)	DVS-48(4)	3ft(3)	HD3(3)	HS4(4)	96x46	SCX-3(3)	XC-3(3.5)
0.7	Barracuda MAX S3(3)	CS-3(3)	CDS-4(4)	AS-3(3.5)	4ft(4)	DVS-48(4)	3ft(3)	HD3(3)	HS4(4)	108x46	SCX-3(3)	XC-3(3.5)
0.8	Barracuda MAX S3(3)	CS-3(3)	CDS-4(4)	AS-4(4.5)	4ft(4)	DVS-48(4)	3ft(3)	HD3(3)	HS4(4)	108x46	SCX-3(3)	XC-3(3.5)
0.9	Barracuda MAX S4(4)	CS-3(3)	CDS-4(4)	AS-4(4.5)	4ft(4)	DVS-48(4)	3ft(3)	HD4(4)	HS5(5)	120x57	SCX-3(3)	XC-3(3.5)
1.0	Barracuda MAX S4(4)	CS-3(3)	CDS-5(5)	AS-4(4.5)	4ft(4)	DVS-48(4)	3ft(3)	HD4(4)	HS5(5)	120x57	SCX-3(3)	XC-3(3.5)
1.1	Barracuda MAX S4(4)	CS-4(4)	CDS-5(5)	AS-4(4.5)	4ft(4)	DVS-60(5)	4ft(4)	HD4(4)	HS5(5)		SCX-4(4)	XC-3(3.5)
1.2	Barracuda MAX S4(4)	CS-4(4)	CDS-5(5)	AS-5(5)	6ft(6)	DVS-60(5)	4ft(4)	HD4(4)	HS5(5)		SCX-4(4)	XC-4(4.5)
1.3	Barracuda MAX S4(4)	CS-4(4)	CDS-5(5)	AS-5(5)	6ft(6)	DVS-60(5)	4ft(4)	HD4(4)	HS5(5)		SCX-4(4)	XC-4(4.5)
HDS-4 1.4	Barracuda MAX S4(4)	CS-4(4)	CDS-5(5)	AS-5(5)	6ft(6)	DVS-60(5)	4ft(4)	HD4(4)	HS6(6)		SCX-4(4)	XC-4(4.5)
1.5	Barracuda MAX S4(4)	CS-4(4)	CDS-5(5)	AS-6(6)	6ft(6)	DVS-60(5)	4ft(4)	HD4(4)	HS6(6)		SCX-4(4)	XC-4(4.5)
1.6	Barracuda MAX S5(5)	CS-4(4)	CDS-6(6)	AS-6(6)	6ft(6)	DVS-72(6)	4ft(4)	HD5(5)	HS6(6)		SCX-4(4)	XC-4(4.5)
1.7	Barracuda MAX S5(5)	CS-4(4)	CDS-6(6)	AS-6(6)	6ft(6)	DVS-72(6)	4ft(4)	HD5(5)	HS6(6)		SCX-4(4)	XC-4(4.5)
1.8	Barracuda MAX S5(5)	CS-4(4)	CDS-6(6)	AS-6(6)	6ft(6)	DVS-72(6)	4ft(4)	HD5(5)	HS6(6)		SCX-4(4)	XC-4(4.5)

TABLE 2 - PERFORMANCE MATRIX FOR CTDOT QUALIFIED HYDRODYNAMIC SEPARATORS (continued)

Max WQF (cfs)	Product Model											
	Barracuda MAX	*Cascade*	*CDS*	*Concentrator*	*Downstream Defender*	*DVS*	*First Defense*	*HydroDome*	*HydroStorm*	*SAFL*	*SciCloneX*	*Xcelerator*
1.9	Barracuda MAX S5(5)	CS-5(5)	CDS-6(6)	AS-6(6)	6ft(6)	DVS-72(6)	5ft(5)	HD5(5)	HS6(6)		SCX-5(5)	XC-5(5.5)
2.0	Barracuda MAX S5(5)	CS-5(5)	CDS-6(6)	AS-6(6)	6ft(6)	DVS-72(6)	5ft(5)	HD5(5)	HS7(7)		SCX-5(5)	XC-5(5.5)
2.1	Barracuda MAX S5(5)	CS-5(5)	CDS-6(6)	AS-6(6)	6ft(6)	DVS-72(6)	5ft(5)	HD5(5)	HS7(7)		SCX-5(5)	XC-5(5.5)
2.2	Barracuda MAX S5(5)	CS-5(5)	CDS-7(7)	AS-7(7)	6ft(6)	DVS-72(6)	5ft(5)	HD5(5)	HS7(7)		SCX-5(5)	XC-5(5.5)
2.3	Barracuda MAX S5(5)	CS-5(5)	CDS-7(7)	AS-7(7)	6ft(6)	DVS-84(7)	5ft(5)	HD5(5)	HS7(7)		SCX-5(5)	XC-5(5.5)
2.4	Barracuda MAX S6(6)	CS-5(5)	CDS-7(7)	AS-7(7)	6ft(6)	DVS-84(7)	5ft(5)	HD6(6)	HS7(7)		SCX-5(5)	XC-5(5.5)
2.5	Barracuda MAX S6(6)	CS-5(5)	CDS-7(7)	AS-7(7)	6ft(6)	DVS-84(7)	5ft(5))	HD6(6)	HS7(7)		SCX-5(5)	XC-5(5.5)
2.6	Barracuda MAX S6(6)	CS-5(5)	CDS-7(7)	AS-7(7)	8ft(8)	DVS-84(7)	5ft(5)	HD6(6)	HS7(7)		SCX-5(5)	XC-5(5.5)
2.7	Barracuda MAX S6(6)	CS-5(5)	CDS-7(7)	AS-7(7)	8ft(8)	DVS-84(7)	5ft(5)	HD6(6)	HS8(8)		SCX-5(5)	XC-5(5.5)
2.8	Barracuda MAX S6(6)	CS-5(5)	CDS-7(7)	AS-7(7)	8ft(8)	DVS-84(7)	5ft(5)	HD6(6)	HS8(8)		SCX-5(5)	XC-6(6.5)
2.9	Barracuda MAX S6(6)	CS-6(6)	CDS-8(8)	AS-8(8)	8ft(8)	DVS-84(7)	6ft(6)	HD6(6)	HS8(8)		SCX-6(6)	XC-6(6.5)
HDS-2 HDS-3 3.0	Barracuda MAX S6(6)	CS-6(6)	CDS-8(8)	AS-8(8)	8ft(8)	DVS-84(7)	6ft(6)	HD6(6)	HS8(8)		SCX-6(6)	XC-6(6.5)
3.1	Barracuda MAX S6(6)	CS-6(6)	CDS-8(8)	AS-8(8)	8ft(8)	DVS-96(8)	6ft(6)	HD6(6)	HS8(8)		SCX-6(6)	XC-6(6.5)
3.2	Barracuda MAX S6(6)	CS-6(6)	CDS-8(8)	AS-8(8)	8ft(8)	DVS-96(8)	6ft(6)	HD6(6)	HS8(8)		SCX-6(6)	XC-6(6.5)
3.3	Barracuda MAX S6(6)	CS-6(6)	CDS-8(8)	AS-8(8)	8ft(8)	DVS-96(8)	6ft(6)	HD6(6)	HS8(8)		SCX-6(6)	XC-6(6.5)
3.4	Barracuda MAX S6(6)	CS-6(6)	CDS-8(8)	AS-8(8)	8ft(8)	DVS-96(8)	6ft(6)	HD6(6)	HS8(8)		SCX-6(6)	XC-6(6.5)
3.5	Barracuda MAX S8(8)	CS-6(6)	CDS-8(8)	AS-8(8)	8ft(8)	DVS-96(8)	6ft(6)	HD7(7)	HS8(8)		SCX-6(6)	XC-6(6.5)
3.6	Barracuda MAX S8(8)	CS-6(6)	CDS-8(8)	AS-8(8)	8ft(8)	DVS-96(8)	6ft(6)	HD7(7)	HS9(9)		SCX-6(6)	XC-6(6.5)

TABLE 2 - PERFORMANCE MATRIX FOR CTDOT QUALIFIED HYDRODYNAMIC SEPARATORS (continued)

Max WQF (cfs)	Product Model											
	Barracuda MAX	*Cascade*	*CDS*	*Concentrator*	*Downstream Defender*	*DVS*	*First Defense*	*HydroDome*	*HydroStorm*	*SAFL*	*SciCloneX*	*Xcelerator*
3.7	Barracuda MAX S8(8)	CS-6(6)	CDS-8(8)	AS-8(8)	8ft(8)	DVS-96(8)	6ft(6)	HD7(7)	HS9(9)		SCX-6(6)	XC-6(6.5)
3.8	Barracuda MAX S8(8)	CS-6(6)	CDS-10(10)	AS-9(9)	8ft(8)	DVS-96(8)	6ft(6)	HD7(7)	HS9(9)		SCX-6(6)	XC-6(6.5)
3.9	Barracuda MAX S8(8)	CS-6(6)	CDS-10(10)	AS-9(9)	8ft(8)	DVS-96(8)	6ft(6)	HD7(7)	HS9(9)		SCX-6(6)	XC-7(7.5)
4.0	Barracuda MAX S8(8)	CS-6(6)	CDS-10(10)	AS-9(9)	8ft(8)	DVS-96(8)	6ft(6)	HD7(7)	HS9(9)		SCX-6(6)	XC-7(7.5)
4.1	Barracuda MAX S8(8)	CS-8(8)	CDS-10(10)	AS-9(9)	8ft(8)	DVS-120(10)	7ft(7)	HD7(7)	HS9(9)		SCX-7(7)	XC-7(7.5)
4.2	Barracuda MAX S8(8)	CS-8(8)	CDS-10(10)	AS-9(9)	8ft(8)	DVS-120(10)	7ft(7)	HD7(7)	HS9(9)		SCX-7(7)	XC-7(7.5)
4.3	Barracuda MAX S8(8)	CS-8(8)	CDS-10(10)	AS-9(9)	8ft(8)	DVS-120(10)	7ft(7)	HD7(7)	HS9(9)		SCX-7(7)	XC-7(7.5)
4.4	Barracuda MAX S8(8)	CS-8(8)	CDS-10(10)	AS-9(9)	8ft(8)	DVS-120(10)	7ft(7)	HD7(7)	HS9(9)		SCX-7(7)	XC-7(7.5)
4.5	Barracuda MAX S8(8)	CS-8(8)	CDS-10(10)	AS-9(9)	10ft(10)	DVS-120(10)	7ft(7)	HD7(7)	HS10(10)		SCX-7(7)	XC-7(7.5)
4.6	Barracuda MAX S8(8)	CS-8(8)	CDS-10(10)	AS-9(9)	10ft(10)	DVS-120(10)	7ft(7)	HD7(7)	HS10(10)		SCX-7(7)	XC-7(7.5)
4.7	Barracuda MAX S8(8)	CS-8(8)	CDS-10(10)	AS-9(9)	10ft(10)	DVS-120(10)	7ft(7)	HD8(8)	HS10(10)		SCX-7(7)	XC-7(7.5)
4.8	Barracuda MAX S8(8)	CS-8(8)	CDS-10(10)	AS-10(10)	10ft(10)	DVS-120(10)	7ft(7)	HD8(8)	HS10(10)		SCX-7(7)	XC-7(7.5)
4.9	Barracuda MAX S8(8)	CS-8(8)	CDS-10(10)	AS-10(10)	10ft(10)	DVS-120(10)	7ft(7)	HD8(8)	HS10(10)		SCX-7(7)	XC-7(7.5)
5.0	Barracuda MAX S8(8)	CS-8(8)	CDS-10(10)	AS-10(10)	10ft(10)	DVS-120(10)	7ft(7)	HD8(8)	HS10(10)		SCX-7(7)	XC-7(7.5)
5.1	Barracuda MAX S8(8)	CS-8(8)	CDS-10(10)	AS-10(10)	10ft(10)	DVS-120(10)	7ft(7)	HD8(8)	HS10(10)		SCX-7(7)	XC-7(7.5)
5.2	Barracuda MAX S8(8)	CS-8(8)	CDS-10(10)	AS-10(10)	10ft(10)	DVS-120(10)	7ft(7)	HD8(8)	HS10(10)		SCX-7(7)	XC-8(8.5)
5.3	Barracuda MAX S8(8)	CS-8(8)	CDS-10(10)	AS-10(10)	10ft(10)	DVS-120(10)	7ft(7)	HD8(8)	HS10(10)		SCX-7(7)	XC-8(8.5)
5.4	Barracuda MAX S8(8)	CS-8(8)	CDS-10(10)	AS-10(10)	10ft(10)	DVS-120(10)	7ft(7)	HD8(8)	HS10(10)		SCX-7(7)	XC-8(8.5)

HDS-1