



Drainage Report

186. Change
"Roseville" to
"Rolesville"

Leerritt Reserve

**Situated at 1224 Roseville Road
Roseville, North Carolina 27587**

Prepared For

BRD Land & Investment Management, LLC
6433 Bannington Road
Charlotte, NC 28226

Prepared by

American Engineering Associates Southeast
4020 Westchase Blvd., Suite 450
Raleigh, NC 27607

April 14, 2025

Drainage Report

Table of Contents

General	3
Effect at Merritt Reserve's Discharge Points	3
Effect at SCM Outlet Points	4
Structural Stability of Receiving Surface Waters	4
Appendix	5

Merritt Reserve Supplemental

General

This project is located in Roseville, North Carolina just West of the intersection between Roseville Road and Fowler Road, approximately 3200' southeast of Louisburg Road (US 401). The site is currently undeveloped and wooded.

The property for this project is bordered to the east by Rolesville Road, undeveloped wooded land to the south, Harris Creek along the western property line, and an existing subdivision is located to the north. The entire project is located within the Neuse River Basin.

The purpose of the project is to provide a residential subdivision consisting of both single-family homes and townhouses. The proposed subdivision, Merritt Reserve, will have 503 total lots built across 143.097 acres, with space dedicated for two future commercial sites.

The purpose of this report is to provide information pertaining to the proposed subdivision and its drainage network.

Effect at Merritt Reserve's Discharge Points

The chart below indicates drainage areas associated with each discharge point (POI) for this project. An exhibit will be included in the appendix of this report indicating locations of all POI's referenced in this chart. These values include any offsite areas that may be contributing to the overall flow at the POI's. There are currently no existing impervious areas on this site.

POI	Pre-Dev Drainage Area (Acres)	Post-Dev Drainage Area (Acres)
1	37.96	39.10
2	24.05	14.75
3	9.31	3.24
4	17.97	18.21
5	32.09	42.31
6	17.64	22.29
7	13.25	8.86

There are a total of eleven wet ponds proposed to service this subdivision. An exhibit will be included in the appendix of this report indicating locations of all wet ponds being proposed. These ponds are large enough to restrain the post-development flow to or below that of the pre-development flow for the 1-year storm event. Flow calculations are provided in the Appendix of this report. A summary of the flows are shown below:

Storm	Pre-development Flow	Post-development Flow
1 Year	76.54 cfs	63.87 cfs
10 Year	245.16 cfs	300.89 cfs
25 Year	328.59 cfs	436.84 cfs
100 Year	469.74 cfs	666.89 cfs

Effect at SCM Outlet Points

The calculations at the outlet point are shown in the Appendix. The outlet velocity is calculated by using the width of the outlet end of the rip-rap, the slope of the ground at the outlet, Manning's n for rip-rap (0.045) and the flow shown for the ten-year storm. If this produces an erosive velocity, then a plunge pool is considered. The calculations for these are in the Appendix.

The results of the initial calculations show that the outfalls have velocities that may be erosive (greater than 4 fps). Rip-rap shall be used to slow the flow at the outlet to a non-erosive velocity. The design parameters of the rip-rap pads are shown in the appendix.

Structural Stability of Receiving Surface Waters

As the maximum flow is not increased, the stability of the downstream waters should not be affected.

Appendix

USGS Site Map

Soils Map

Pre & Post Drainage Areas Exhibit

Merritt Reserve SCM Sizing Calculations

SCM Hydrographs Calculations

HydraFlow Storm Sewers Calculations & Spreads

Rip-Rap Calculations

Sediment Basin Exhibits & Calculations

Drainage Swale Exhibits & Calculations

Culvert Calculations

187. Provide a drainage area map of the proposed storm drainage network as an appendix.

188. Provide page numbers for each appendix to make it easier to find and jump to different sections.

USGS Site Map



U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

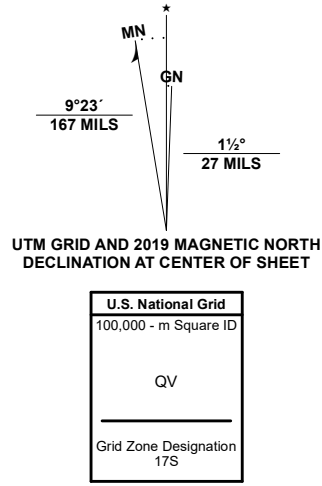


ROLESVILLE QUADRANGLE
NORTH CAROLINA
7.5-MINUTE SERIES



Produced by the United States Geological Survey

North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid/Universal Transverse Mercator, Zone 17S
This map is not a legal document. Boundaries may be
generalized for this map scale. Private lands within government
reservations may not be shown. Obtain permission before
entering private lands.
Imagery.....NAIP, July 2020 - July 2020
Roads.....U.S. Census Bureau, 2016
Names.....GNIS, 1980-2022
Hydrography.....National Hydrography Dataset, 2001 - 2021
Contours.....National Elevation Dataset, 2008
Boundaries.....Multiple sources: see metadata file 2019 - 2021
Wetlands.....FWS National Wetlands Inventory Not Available



QUADRANGLE LOCATION

1	2	3
4	5	6
7	8	9

- 1 Grissom
- 2 Franklin
- 3 Louisville
- 4 Wake Forest
- 5 Burn West
- 6 Raleigh East
- 7 Knightdale
- 8 Zebulon

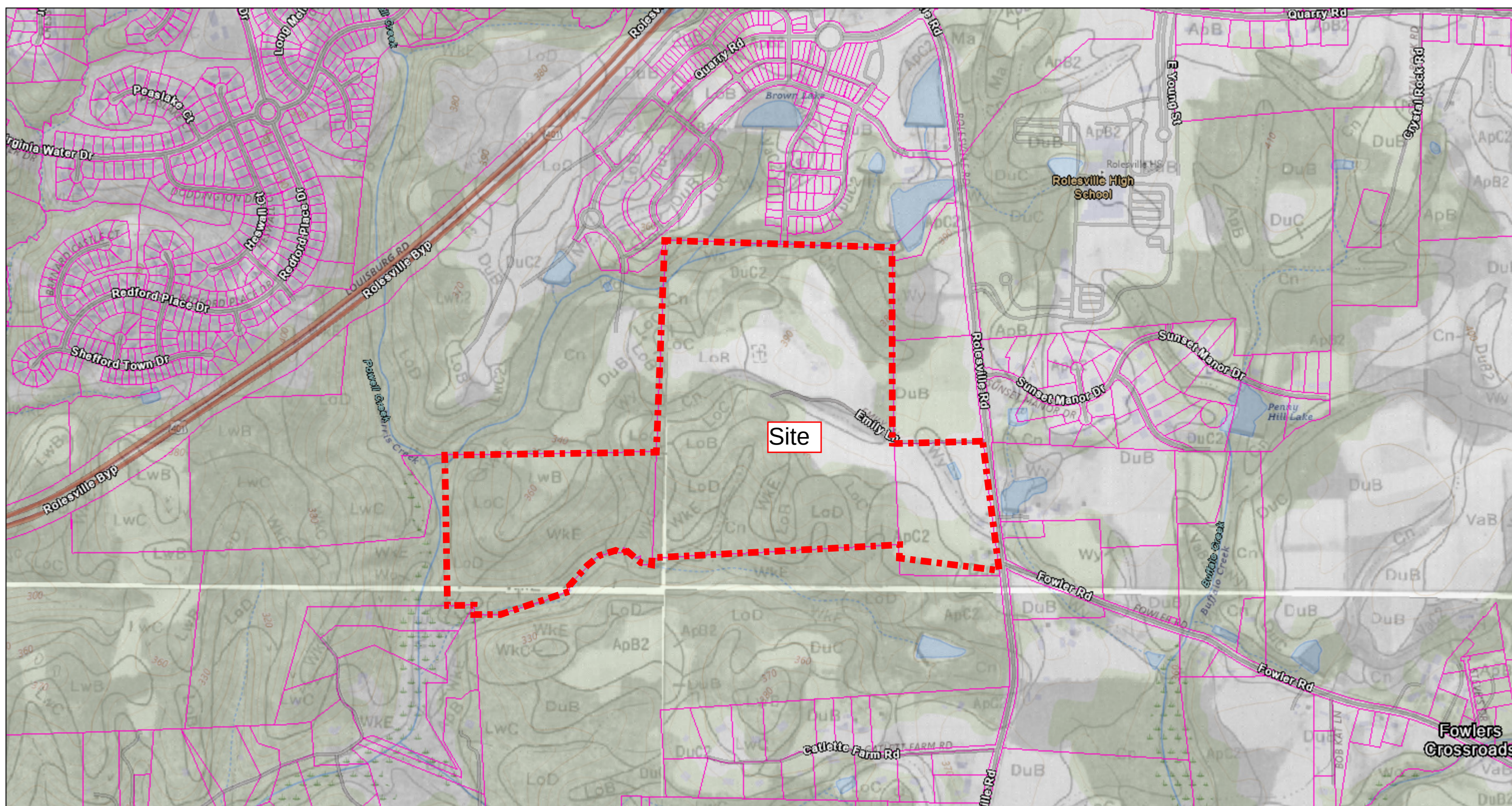
ROAD CLASSIFICATION	
Expressway	Local Connector
Secondary Hwy	Local Road
Ramp	4WD
Interstate Route	US Route
	State Route

ROLESVILLE, NC
2022



Soils Map

ArcGIS Web Map



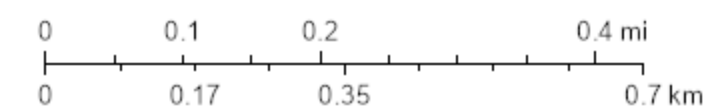
4/7/2025, 2:29:58 AM

North Carolina Parcels (Polygons) - Parcels
Layers

- Red: Band_1
- Green: Band_2
- Blue: Band_3

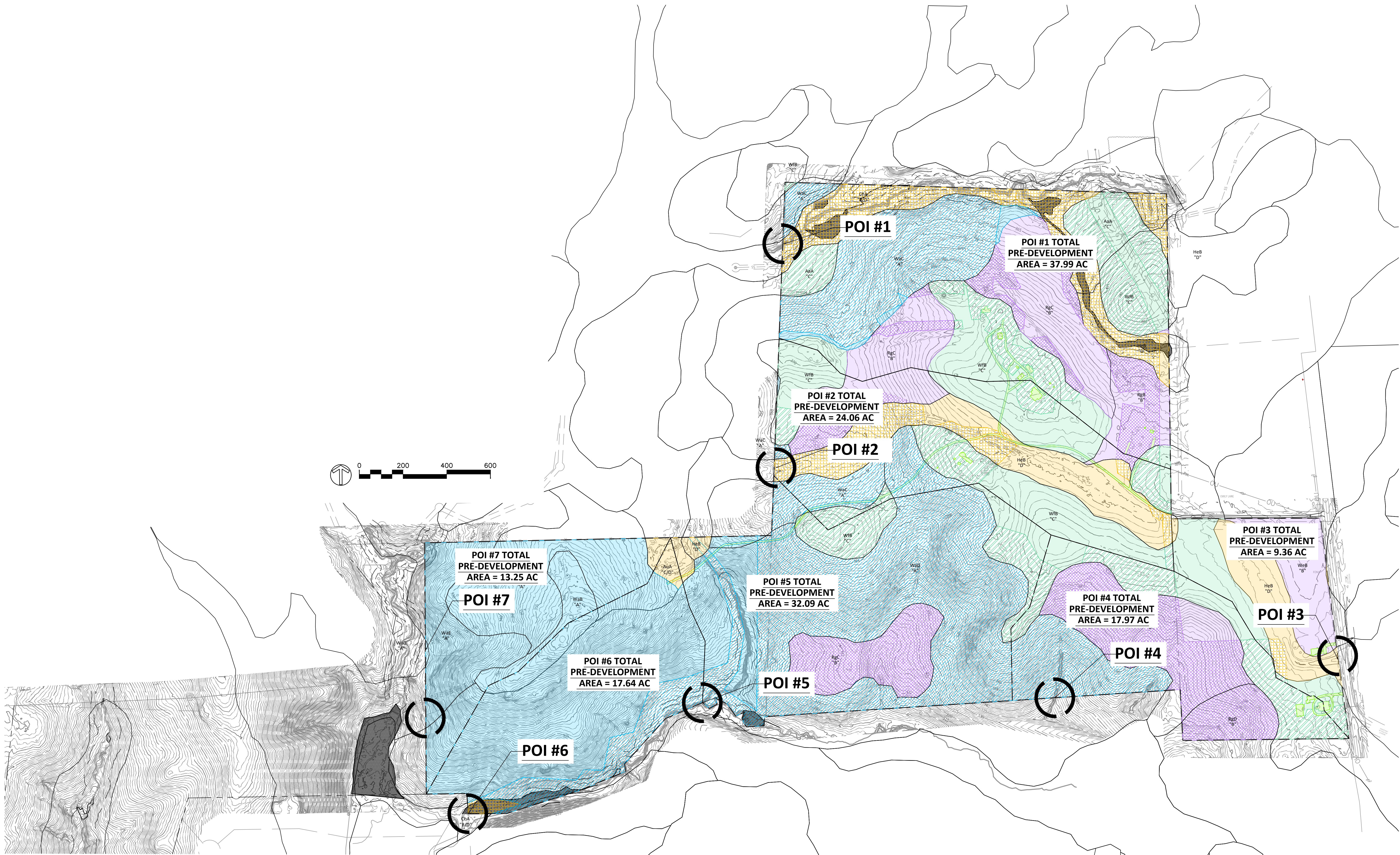
- 255 - 1
- Major River Basins
- NC Counties

1:10,915



Natural Resources Conservation Service (NRCS),
NCDOT Project ATLAS SWEEP group, USGS The
National Map: National Boundaries Dataset, 3DEP
Elevation Program, Geographic Names Information
System, National Hydrography Dataset, National Land

Pre & Post Drainage Areas Exhibit



NOT FOR CONSTRUCTION. THIS PLAN IS PRELIMINARY AND SUBJECT TO CHANGE

PRE DEVELOPMENT DRAINAGE AREA EXHIBIT



RALEIGH NC | CHARLOTTE NC | CHESAPEAKE VA

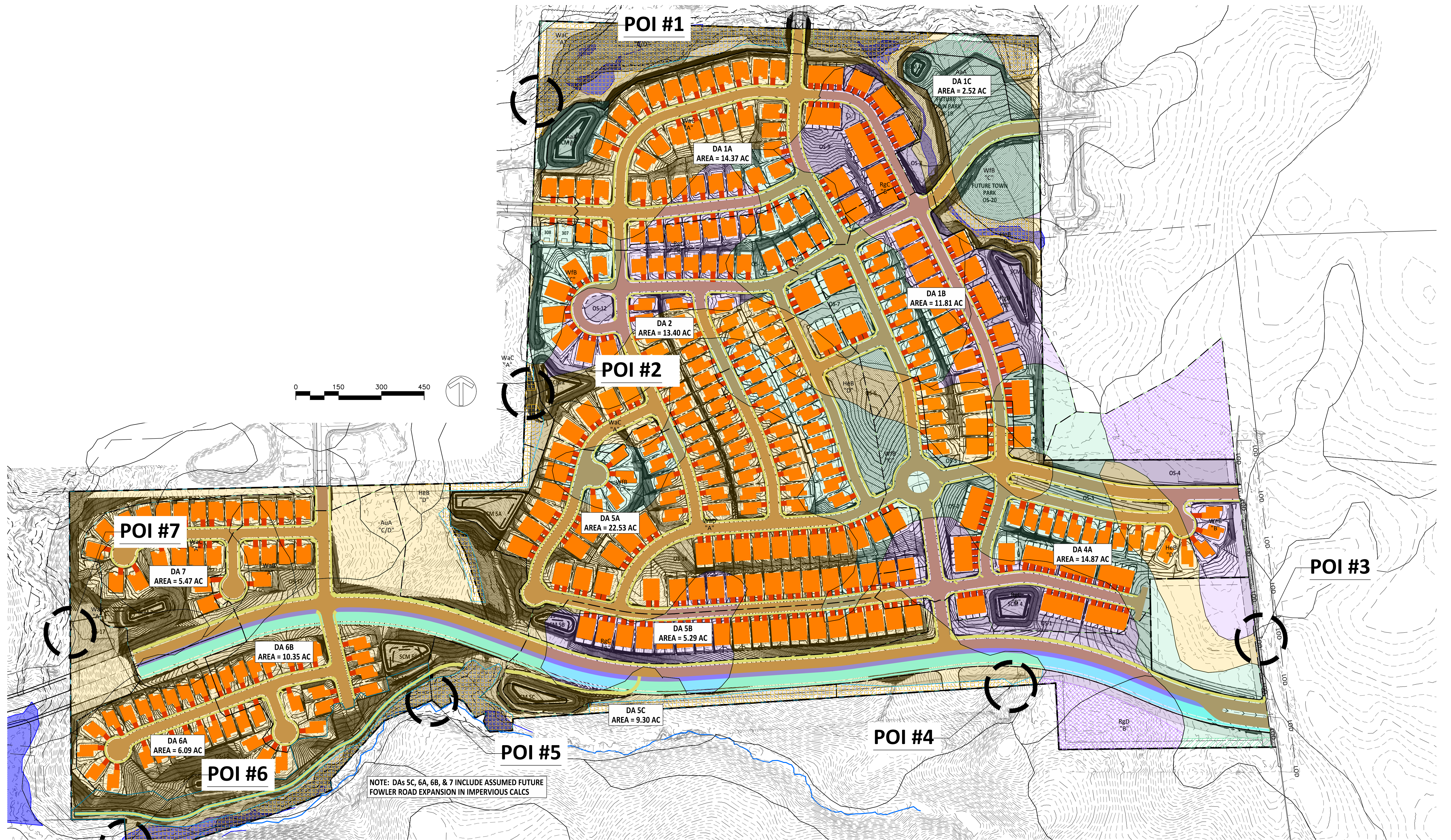
COPYRIGHT ©2025 AMERICAN ENGINEERING
PROJECT # R230004

Z:\Jobs\23-0004 Merrit Property BRD\dwg\Working Dwg\XREF\XRef-Existing Conditions.dwg

2025-04-14

ROLESVILLE, NC | MERRIT PROPERTY

PREPARED FOR
APRIL 14, 2025



NOT FOR CONSTRUCTION. THIS PLAN IS PRELIMINARY AND SUBJECT TO CHANGE

POST DEVELOPMENT DRAINAGE AREA EXHIBIT



RALEIGH NC | CHARLOTTE NC | CHESAPEAKE VA

COPYRIGHT ©2025 AMERICAN ENGINEERING
PROJECT # R230004

Z:\Jobs\23-0004 Merrit Property BRD\Calculations\Storm Analysis\Post Dev PODs.dwg
2025-04-14

ROLESVILLE, NC | MERRIT PROPERTY

PREPARED FOR
APRIL 14, 2025

Merritt Reserve SCM Sizing Calculations

PreDev - POI #1			1653661	S.F.	37.96	Ac
	Land Use	Area, SF	Area, AC	CN	Wtd. CN	
	Pasture (Lightly Grazed) - A Soils	0	0.00	39	0.00	
	Pasture (Lightly Grazed) - B Soils	326337	7.49	61	12.04	
	Pasture (Lightly Grazed) - C Soils	188532	4.33	74	8.44	
	Pasture (Lightly Grazed) - D Soils	34829	0.80	80	1.68	
	Woods/Wetlands-A Soils	0	0.00	36	0.00	
	Woods/WetaInds-B Soils	152346	3.50	60	5.53	
	Woods/Wetlands-C Soils	280637	6.44	73	12.39	
	Woods/WetaInds-D Soils	660142	15.15	79	31.54	
	Open Space - A Soils		0.00	49	0.00	
	Open Space - B Soils		0.00	69	0.00	
	Open Space - C Soils		0.00	79	0.00	
	Open Space - D Soils		0.00	84	0.00	
	Compacted Soil/Roof	10944	0.25	98	0.65	
	Sidewalks		0.00	98	0.00	
	Driveways (in ROW)		0.00	98	0.00	
	Roadway + C&G (not Sidewalks)		0.00	98	0.00	
	Open Water		0.00	98	0.00	
	Total (Check):		37.97	Composite "CN"	72.26	
	Tc (Kirpich):		Length	Elev Delta	Tc=	
	Tc, min.= 60*.000132*L^.77/S^.385		1420	55.31	6.89	Minutes

PostDev DA to SCM #1A		637195	S.F.	14.63	Ac
Land Use	Area, SF	Area, Ac.	"CN"	Wtd'd "CN"	
	Roadways + C&G (not Sidewalks)	90207	2.07	98	13.87
	Roofs (Impervious on lots)	198539	4.56	98	30.54
	Driveways (in ROW)	8500	0.20	98	1.31
	Sidewalks	26392	0.61	98	4.06
	Openspace- A Soils	0	0.00	39	0.00
	Openspace- B Soils	95944	2.20	61	9.18
	Openspace- C Soils	50517	1.16	74	5.87
	Openspace- D Soils	157541	3.62	80	19.78
	Woods/Wetlands-A Soils		0.00	30	0.00
	Woods/Wetlands-B Soils		0.00	55	0.00
	Woods/Wetlands-C Soils		0.00	70	0.00
	Woods/Wetlands-D Soils		0.00	77	0.00
	Lands Taken Up by BMP	9554	0.22	98	1.47
	Open Water (Existing Ponds)		0.00	98	0.00
	Total (Check):		14.63	Composite "CN"	86.08
			Percent Impervious		52.29%
	Tc (Kirpich):		Length	Elev Delta	Tc=
	Tc, min.= 60*.000132*L^1/77/S^1/385		1540	43	8.33
	Percent Impervious			52.29%	Minutes
			Pond Design Depth, ft.:	4.50	
	SA/DA Factor:		1.46	From NCDEQ SA/DA Chart	
	Min.SCM Surface Area:		9306	S.F.	OK
SCM #1A Design Elements:		VPP, c.f.	Perimeter, ft.	Vshelf, c.f.	Abottom, S.f.
Davg = VPP-Vshelf /A shelf bottom		30,511	8190	7,756.00	4,940
(From HydraFlow Attachment)				Design Pond Depth, ft.=	4.50
Treatment Volume Requirement:					
DA to SCM:		14.628	Ac.		
Rv=0.05-.009*(%Impervious)		52.29%			
Total Runoff for 1" Event= S in Ac-Ft:		0.52	inch/inch		
Rv=0.05+.009*(%Impervious)		0.63	S=1"*Rv*Drainage Area/12		
Treatment "S" in Cu. Ft. =		27644.38			
Treatment Volume to Be Stored:		27644.38			
Treatment Volume Provided, Cu.Ft.		27644	Cu. FT		
Volume Achieved at Elev.		348.82	Orifice Dia	2.50	inch Drawdown Pipe
Drawdown Pipe Elev.		346.5	Elev Diff, H., ft.	2.32	
Effective Operating Head (1/3 H)		0.764483263		Q=.62*8.02(H^0.5)*A_sq.ft.	
Hours to Drawdown Treatm't Vol.		51.84	Hrs., (48 Hr Min.)		

Table 1: Piedmont and Mountain SA/DA Table (Adapted from Driscoll, 1986)

Percent Impervious Cover	Permanent Pool Average Depth (ft)					
	3.0	4.0	5.0	6.0	7.0	≥8.0
10%	0.51	0.43	0.37	0.30	0.27	0.25
20%	0.84	0.69	0.61	0.51	0.44	0.40
30%	1.17	0.94	0.84	0.72	0.61	0.56
40%	1.51	1.24	1.09	0.91	0.78	0.71
50%	1.79	1.51	1.31	1.13	0.95	0.87
60%	2.09	1.77	1.49	1.31	1.12	1.03
70%	2.51	2.09	1.80	1.56	1.34	1.17
80%	2.92	2.41	2.07	1.82	1.62	1.40
90%	3.25	2.64	2.31	2.04	1.84	1.59
100%	3.55	2.79	2.52	2.34	2.04	1.75

7.43		4	5
	50%	1.51	1.31
	60%	1.77	1.49
52.29% (interpolation)		1.57	1.35
		1.46	

Open Space Soil Mix Percents			
A soils	0	0	0
B Soils	201101	0.315604	95944.42
C Soils	105885	0.166174	50517.28
D Soils	330209	0.518223	157541.3
		304003	

16843	348	4
		48

Merritt Reserve Supplemental & Supporting Info for Hydrograph Generation

PostDev to SCM #1B

Daniel Huckaby 4/14/2025 SCM #1B

PostDev DA to SCM #1B		504127	S.F.	11.57	Ac
Land Use	Area, SF	Area, Ac.	"CN"	Wtd'd "CN"	
Roadways + C&G (not Sidewalks)	57033	1.31	98	11.09	
Roofs (Impervious on lots) + Assumed 50% of Amenity Area (25,000 SF)	183742	4.22	98	35.72	
Driveways (in ROW)	5700	0.13	98	1.11	
Sidewalks	17813	0.41	98	3.46	
Openspace- A Soils	0	0.00	39	0.00	
Openspace- B Soils	94255	2.16	61	11.40	
Openspace- C Soils	97817	2.25	74	14.36	
Openspace- D Soils	37970	0.87	80	6.03	
Woods/Wetlands-A Soils		0.00	30	0.00	
Woods/Wetlands-B Soils		0.00	55	0.00	
Woods/Wetlands-C Soils		0.00	70	0.00	
Woods/Wetlands-D Soils		0.00	77	0.00	
Lands Taken Up by BMP	9800	0.22	98	1.91	
Open Water (Existing Ponds)		0.00	98	0.00	
Total (Check):		11.57	Composite "CN"	85.07	
		Percent Impervious		54.37%	
Tc (Kirpich):		Length	Elev Delta	Tc=	
Tc, min.= 60*.000132*L^.77/S^.385		1578	22	11.09	Minutes
Percent Impervious			54.37%		
		Pond Design Depth, ft.:	4.50		
SA/DA Factor:			1.51	From NCDEQ SA/DA Chart	
Min.SCM Surface Area:			7593	S.F.	OK
SCM #1B Design Elements:		VPP, c.f.	Perimeter, ft.	Vshelf, c.f.	Abottom, s.f.
Davg = VPP-Vshelf /A shelf bottom		24,503	8169	4,492.00	4,285
(From HydraFlow Attachment)				Design Pond Depth, ft.=	4.50
Treatment Volume Requirement:					
DA to SCM:		11.573	Ac.		
Rv=0.05-.009*(%Impervious)	Composite % Impervious (Above) =	54.37%			
Total Runoff for 1" Event= S in Ac	Rv=0.05+.009*(%Impervious)	0.54	inch/inch		
Treatment "S" in Cu, Ft. =	Total Runoff for 1" Event= S in Ac-Ft:	0.52	S=1"*Rv* Drainage Area/12		
Treatment Volume to Be Stored:	Treatment "S" in Cu, Ft. =	22657.13			
Treatment Volume Provided, Cu,	Treatment Volume to Be Stored:	22657	Cu, FT		
	Volume Achieved at Elev.	377.35	Orifice Dia	2.00	Inch Drawdown Pipe
	Drawdown Pipe Elev.	375.5	Elev Diff, H., ft.	1.8539087	
	Effective Operating Head (1/3 H)	0.611789872	Q=.62*8.02(H*.5)*A,sq.ft.		
	Hours to Drawdown Treatm't Vol.	74.21	Hrs., (48 Hr Min.)		

Table 1: Piedmont and Mountain SA/DA Table (Adapted from Driscoll, 1986)

Percent Impervious Cover	Permanent Pool Average Depth (ft)					
	3.0	4.0	5.0	6.0	7.0	≥8.0
10%	0.51	0.43	0.37	0.30	0.27	0.25
20%	0.84	0.69	0.61	0.51	0.44	0.40
30%	1.17	0.94	0.84	0.72	0.61	0.56
40%	1.51	1.24	1.09	0.91	0.78	0.71
50%	1.79	1.51	1.31	1.13	0.95	0.87
60%	2.09	1.77	1.49	1.31	1.12	1.03
70%	2.51	2.09	1.80	1.56	1.34	1.17
80%	2.92	2.41	2.07	1.82	1.62	1.40
90%	3.25	2.64	2.31	2.04	1.84	1.59
100%	3.55	2.79	2.52	2.34	2.04	1.75

6.07

4 5
50% 1.51 1.31
60% 1.77 1.49

54.37% (interpolation) 1.62 1.39 1.51

Open Space Soil Mix Percents

A soils	0	0	0
B Soils	206558	0.409734	94254.81
C Soils	214364	0.425218	97816.78
D Soils	83210	0.165058	37969.69
		230039	

17661 377

Merritt Reserve Supplemental & Supporting Info for Hydrograph Generation

PostDev to SCM #1C

Daniel Huckaby 4/14/2025 SCM #1C

PostDev DA to SCM #1C		109845	S.F.	2.52	Ac
Land Use	Area, SF	Area, Ac.	"CN"	Wtd'd "CN"	
Roadways + C&G (not Sidewalks)	16545	0.38	98	14.76	
No Future Park Impevious assumed	0	0.00	98	0.00	
Driveways (in ROW)	0	0.00	98	0.00	
Sidewalks	4726	0.11	98	4.22	
Openspace- A Soils	0	0.00	39	0.00	
Openspace- B Soils	0	0.00	61	0.00	
Openspace- C Soils	62918	1.44	74	42.39	
Openspace- D Soils	7456	0.17	80	5.43	
Woods/Wetlands-A Soils		0.00	30	0.00	
Woods/Wetlands-B Soils		0.00	55	0.00	
Woods/Wetlands-C Soils	15000	0.34	70	9.56	
Woods/Wetlands-D Soils		0.00	77	0.00	
Lands Taken Up by BMP	3200	0.07	98	2.85	
Open Water (Existing Ponds)		0.00	98	0.00	
Total (Check):		2.52	Composite "CN"	79.21	
		Percent Impervious		22.28%	
Tc (Kirpich):		Length	Elev Delta	Tc=	
Tc, min.= $60 \cdot 0.00132 \cdot L^{.77} / S^{.385}$		641	25.8	3.69	Minutes
Percent Impervious			22.28%		
		Pond Design Depth, ft.:	4.50		
SA/DA Factor:			0.70	From NCDEQ SA/DA Chart	
Min.SCM Surface Area:			774	S.F.	OK
SCM #1C Design Elements:		VPP, c.f.	Perimeter, ft.	Vshelf, c.f.	Abottom, s.f.
	Davg = $VPP \cdot V_{shelf} / A$ shelf bottom	5,717	2037	1,152.00	885
	(From HydraFlow Attachment)			Design Pond Depth, ft.=	4.50
Treatment Volume Requirement:					
DA to SCM:		2.522	Ac.		
Rv=0.05-.009*(%Impervious)		22.28%			
Total Runoff for 1" Event= S in Ac		Rv=0.05+.009*(%Impervious)	0.25	inch/inch	
Treatment "S" in Cu. Ft. =		Total Runoff for 1" Event= S in Ac-Ft:	0.05	$S=1" \cdot Rv \cdot \text{Drainage Area}/12$	
Treatment Volume to Be Stored:		Treatment "S" in Cu. Ft. =	2293.01		
Treatment Volume Provided, Cu.f		Treatment Volume to Be Stored:	2293	Cu. FT	
		Volume Achieved at Elev.	361.13	Orifice Dia	1.00
		Drawdown Pipe Elev.	360.5	Elev Diff, H., ft.	0.63
		Effective Operating Head (1/3 H)	0.206643091	$Q=.62 \cdot 8.02(H^{.5}) \cdot A_{sq.ft.}$	
		Hours to Drawdown Treatm't Vol.	51.69	Hrs., (48 Hr Min.)	

Table 1: Piedmont and Mountain SA/DA Table (Adapted from Driscoll, 1986)

Percent Impervious Cover	Permanent Pool Average Depth (ft)					
	3.0	4.0	5.0	6.0	7.0	≥8.0
10%	0.51	0.43	0.37	0.30	0.27	0.25
20%	0.84	0.69	0.61	0.51	0.44	0.40
30%	1.17	0.94	0.84	0.72	0.61	0.56
40%	1.51	1.24	1.09	0.91	0.78	0.71
50%	1.79	1.51	1.31	1.13	0.95	0.87
60%	2.09	1.77	1.49	1.31	1.12	1.03
70%	2.51	2.09	1.80	1.56	1.34	1.17
80%	2.92	2.41	2.07	1.82	1.62	1.40
90%	3.25	2.64	2.31	2.04	1.84	1.59
100%	3.55	2.79	2.52	2.34	2.04	1.75

0.49

4 5

20% 0.69 0.61

30% 0.94 0.84

22.28% (interpolation) 0.75 0.66 0.70

Open Space Soil Mix Percents

A soils 0 0 0

B Soils 0 0 0

C Soils 98207 0.894051 62917.92

D Soils 11638 0.105949 7456.075

70374

1762 361

5970 362

Merritt Reserve Supplemental & Supporting Info for Hydrograph Generation

PostDev POI #1 Bypass #1

Daniel Huckaby 4/14/2025 POI #1 Bypass #1

PostDev POI #1 Bypass #1

		118455	S.F.	2.72	Ac
Land Use	Area, SF	Area, Ac.	"CN"	Wtd'd "CN"	
Pasture (Lightly Grazed) - A Soils		0.00	39	0.00	
Pasture (Lightly Grazed) - B Soils		0.00	61	0.00	
Pasture (Lightly Grazed) - C Soils		0.00	74	0.00	
Pasture (Lightly Grazed) - D Soils	25787	0.59	80	17.42	
Woods/Wetlands-A Soils		0.00	36	0.00	
Woods/Wetlands-B Soils		0.00	60	0.00	
Woods/Wetlands-C Soils		0.00	73	0.00	
Woods/Wetlands-D Soils	17909	0.41	79	11.94	
Open Space - A Soils		0.00	49	0.00	
Open Space - B Soils	6613	0.15	69	3.85	
Open Space - C Soils	68146	1.56	79	45.45	
Open Space - D Soils		0.00	84	0.00	
Roadways + C&G (not Sidewalks)		0.00	98	0.00	
Roofs (Impervious on lots)		0.00	98	0.00	
Driveways (in ROW)		0.00	98	0.00	
Sidewalks		0.00	98	0.00	
Open Water (Existing Ponds)		0.00	98	0.00	
Total (Check):		2.72	Composite "CN"	78.66	
		Percent Impervious		0%	
Tc (Kirpich):		Length	Elev Delta	Tc=	
Tc, min.= $60 \cdot .000132 \cdot L^{.77} / S^{.385}$		280	12	1.90	Minutes
Percent Impervious			0.0%		

Merritt Reserve Supplemental & Supporting Info for Hydrograph Generation

PostDev POI #1 Bypass #2

Daniel Huckaby

4/14/2025

POI #1 Bypass #2

PostDev POI #1 Bypass #2

		158414	S.F.	3.64	Ac
Land Use	Area, SF	Area, Ac.	"CN"	Wtd'd "CN"	
Pasture (Lightly Grazed) - A Soils		0.00	39	0.00	
Pasture (Lightly Grazed) - B Soils		0.00	61	0.00	
Pasture (Lightly Grazed) - C Soils	0	0.00	74	0.00	
Pasture (Lightly Grazed) - D Soils		0.00	80	0.00	
Woods/Wetlands-A Soils		0.00	36	0.00	
Woods/Wetlands-B Soils		0.00	60	0.00	
Woods/Wetlands-C Soils	9452	0.22	73	4.36	
Woods/Wetlands-D Soils	52215	1.20	79	26.04	
Open Space - A Soils	0	0.00	49	0.00	
Open Space - B Soils	12260	0.28	69	5.34	
Open Space - C Soils	20183	0.46	79	10.07	
Open Space - D Soils	64304	1.48	84	34.10	
Roadways + C&G (not Sidewalks)		0.00	98	0.00	
Roofs (Impervious on lots)		0.00	98	0.00	
Driveways (in ROW)		0.00	98	0.00	
Sidewalks		0.00	98	0.00	
Open Water (Existing Ponds)		0.00	98	0.00	
Total (Check):		3.64	Composite "CN"	79.90	
		Percent Impervious		0%	
Tc (Kirpich):		Length	Elev Delta	Tc=	
Tc, min.= $60 \cdot .000132 \cdot L^{.77} / S^{.385}$		1147	31.45	6.69	Minutes
Percent Impervious			0.0%		

Merritt Reserve Supplemental & Supporting Info for Hydrograph Generation

PostDev POI #1 Bypass #3

Daniel Huckaby

4/14/2025

POI #1 Bypass #3

PostDev POI #1 Bypass #3

		201173	S.F.	4.62	Ac
Land Use	Area, SF	Area, Ac.	"CN"	Wtd'd "CN"	
Pasture (Lightly Grazed) - A Soils		0.00	39	0.00	
Pasture (Lightly Grazed) - B Soils		0.00	61	0.00	
Pasture (Lightly Grazed) - C Soils		0.00	74	0.00	
Pasture (Lightly Grazed) - D Soils		0.00	80	0.00	
Woods/Wetlands-A Soils	0	0.00	36	0.00	
Woods/Wetlands-B Soils		0.00	60	0.00	
Woods/Wetlands-C Soils	1326	0.03	73	0.48	
Woods/Wetlands-D Soils	141388	3.25	79	55.52	
Open Space - A Soils	0	0.00	49	0.00	
Open Space - B Soils		0.00	69	0.00	
Open Space - C Soils	9941	0.23	79	3.90	
Open Space - D Soils	37210	0.85	84	15.54	
Roadways + C&G (not Sidewalks)	6787	0.16	98	3.31	
Roofs (Impervious on lots)	1664	0.04	98	0.81	
Driveways (in ROW)	400	0.01	98	0.19	
Sidewalks	2457	0.06	98	1.20	
Open Water (Existing Ponds)		0.00	98	0.00	
Total (Check):		4.62	Composite "CN"	80.95	
		Percent Impervious		6%	
Tc (Kirpich):		Length	Elev Delta	Tc=	
Tc, min.= $60 \cdot .000132 \cdot L^{.77} / S^{.385}$		1115	23.5	7.24	Minutes
Percent Impervious			5.6%		

PreDev - POI #2			1047856	S.F.	24.06	Ac
	Land Use	Area, SF	Area, AC	CN	Wtd. CN	
	Pasture (Lightly Grazed) - A Soils	0	0.00	39	0.00	
	Pasture (Lightly Grazed) - B Soils	72145	1.66	61	4.20	
	Pasture (Lightly Grazed) - C Soils	316063	7.26	74	22.32	
	Pasture (Lightly Grazed) - D Soils	168367	3.87	80	12.85	
	Woods/Wetlands-A Soils	0	0.00	36	0.00	
	Woods/WetaInds-B Soils	62836	1.44	60	3.60	
	Woods/Wetlands-C Soils	133633	3.07	73	9.31	
	Woods/WetaInds-D Soils	271015	6.22	79	20.43	
	Open Space - A Soils		0.00	49	0.00	
	Open Space - B Soils		0.00	69	0.00	
	Open Space - C Soils		0.00	79	0.00	
	Open Space - D Soils		0.00	84	0.00	
	Compacted Soil/Roof	22900	0.53	98	2.14	
	Sidewalks		0.00	98	0.00	
	Driveways (in ROW)		0.00	98	0.00	
	Roadway + C&G (not Sidewalks)		0.00	98	0.00	
	Open Water		0.00	98	0.00	
	Total (Check):		24.03	Composite "CN"	74.86	
	Tc (Kirpich):		Length	Elev Delta	Tc=	
	Tc, min.= 60*.000132*L^.77/S^.385		2170	42.54	12.43	Minutes

Merritt Reserve Supplemental & Supporting Info for Hydrograph Generation

PostDev to SCM #2

Daniel Huckaby 4/14/2025 SCM #2

PostDev DA to SCM #2		630898	S.F.	14.48	Ac
Land Use	Area, SF	Area, Ac.	"CN"	Wtd'd "CN"	
Roadways + C&G (not Sidewalks)	69828	1.60	98	10.85	
Roofs (Impervious on lots)	187552	4.31	98	29.13	
Driveways (in ROW)	5600	0.13	98	0.87	
Sidewalks	20585	0.47	98	3.20	
Openspace- A Soils	0	0.00	39	0.00	
Openspace- B Soils	99946	2.29	61	9.66	
Openspace- C Soils	108339	2.49	74	12.71	
Openspace- D Soils	129983	2.98	80	16.48	
Woods/Wetlands-A Soils		0.00	30	0.00	
Woods/Wetlands-B Soils		0.00	55	0.00	
Woods/Wetlands-C Soils		0.00	70	0.00	
Woods/Wetlands-D Soils		0.00	77	0.00	
Lands Taken Up by BMP	9065	0.21	98	1.41	
Open Water (Existing Ponds)		0.00	98	0.00	
Total (Check):		14.48	Composite "CN"	84.31	
		Percent Impervious		46.38%	
Tc (Kirpich):		Length	Elev Delta	Tc=	
Tc, min.= $60 \cdot 0.00132 \cdot L^{.77} / S^{.385}$		1320	40.5	7.14	Minutes
Percent Impervious			46.38%		
		Pond Design Depth, ft.:	4.50		
SA/DA Factor:			1.32	From NCDEQ SA/DA Chart	
Min.SCM Surface Area:			8337	S.F.	OK
SCM #2 Design Elements:		VPP, c.f.	Perimeter, ft.	Vshelf, c.f.	Abottom, s.f.
Davg = $VPP \cdot Vshelf / A$ shelf bottom		21,646	7133	4,050.00	3,811
(From HydraFlow Attachment)				Design Pond Depth, ft.=	4.50
Treatment Volume Requirement:					
DA to SCM:		14.483	Ac.		
$Rv=0.05 \cdot 0.09 \cdot (\% \text{Impervious})$		46.38%			
Total Runoff for 1" Event= S in Ac		$Rv=0.05 \cdot 0.09 \cdot (\% \text{Impervious})$	0.47	inch/inch	
Treatment "S" in Cu. Ft. =		0.56	$S=1 \cdot Rv \cdot \text{Drainage Area}/12$		
Treatment Volume to Be Stored:		24575.99			
Treatment Volume Provided, Cu.ft		24576	Cu. FT		
	Treatment Volume to Be Stored:				
	Volume Achieved at Elev.	353.61	Orifice Dia	2.50	Inch Drawdown Pipe
	Drawdown Pipe Elev.	351.5	Elev Diff, H., ft.	2.11	
	Effective Operating Head (1/3 H)	0.697355523	$Q=.62 \cdot 8.02(H^{.5}) \cdot A_{sq.ft.}$		
	Hours to Drawdown Treatm't Vol.	48.25	Hrs., (48 Hr Min.)		

Table 1: Piedmont and Mountain SA/DA Table (Adapted from Driscoll, 1986)

Percent Impervious Cover	Permanent Pool Average Depth (ft)					
	3.0	4.0	5.0	6.0	7.0	≥8.0
10%	0.51	0.43	0.37	0.30	0.27	0.25
20%	0.84	0.69	0.61	0.51	0.44	0.40
30%	1.17	0.94	0.84	0.72	0.61	0.56
40%	1.51	1.24	1.09	0.91	0.78	0.71
50%	1.79	1.51	1.31	1.13	0.95	0.87
60%	2.09	1.77	1.49	1.31	1.12	1.03
70%	2.51	2.09	1.80	1.56	1.34	1.17
80%	2.92	2.41	2.07	1.82	1.62	1.40
90%	3.25	2.64	2.31	2.04	1.84	1.59
100%	3.55	2.79	2.52	2.34	2.04	1.75

6.51		4	5
	40%	1.24	1.09
	50%	1.51	1.31
	46.38% (interpolation)	1.41	1.23 1.32

Open Space Soil Mix Percents

A soils	0	0	0
B Soils	186407	0.295463	99945.67
C Soils	202062	0.320277	108339.4
D Soils	242429	0.38426	129982.9
		338268	

16288	353
29804	354
8287.99	

Merritt Reserve Supplemental & Supporting Info for Hydrograph Generation

PostDev POI #2 Bypass #1

Daniel Huckaby

4/14/2025

POI #2 Bypass #1

PostDev POI #2 Bypass #1

		20225	S.F.	0.46	Ac
Land Use	Area, SF	Area, Ac.	"CN"	Wtd'd "CN"	
Pasture (Lightly Grazed) - A Soils		0.0	39	0.00	
Pasture (Lightly Grazed) - B Soils		0.0	61	0.00	
Pasture (Lightly Grazed) - C Soils		0.0	74	0.00	
Pasture (Lightly Grazed) - D Soils		0.0	80	0.00	
Woods/Wetlands-A Soils	0	0.0	36	0.00	
Woods/Wetlands-B Soils		0.0	60	0.00	
Woods/Wetlands-C Soils	1071	0.0	73	3.87	
Woods/Wetlands-D Soils	10810	0.2	79	42.22	
Open Space - A Soils	0	0.0	49	0.00	
Open Space - B Soils		0.0	69	0.00	
Open Space - C Soils		0.0	79	0.00	
Open Space - D Soils	8344	0.2	84	34.65	
Roadways + C&G (not Sidewalks)		0.0	98	0.00	
Roofs (Impervious on lots)		0.0	98	0.00	
Driveways (in ROW)		0.0	98	0.00	
Sidewalks		0.0	98	0.00	
Open Water (Existing Ponds)		0.0	98	0.00	
Total (Check):		0.46	Composite "CN"	80.75	
		Percent Impervious		0%	
Tc (Kirpich):		Length	Elev Delta	Tc=	
Tc, min.= $60 * .000132 * L^{.77} / S^{.385}$		190	15.3	1.11	Minutes
Percent Impervious			0.0%		

PreDev - POI #3			405829	S.F.	9.32	Ac
	Land Use	Area, SF	Area, AC	CN	Wtd. CN	
	Pasture (Lightly Grazed) - A Soils		0.00	39	0.00	
	Pasture (Lightly Grazed) - B Soils	139113	3.19	61	20.91	
	Pasture (Lightly Grazed) - C Soils	107458	2.47	74	19.59	
	Pasture (Lightly Grazed) - D Soils	132816	3.05	80	26.18	
	Woods/Wetlands-A Soils		0.00	36	0.00	
	Woods/WetaInds-B Soils		0.00	60	0.00	
	Woods/Wetlands-C Soils	10999	0.25	73	1.98	
	Woods/WetaInds-D Soils	10113	0.23	79	1.97	
	Open Space - A Soils		0.00	49	0.00	
	Open Space - B Soils		0.00	69	0.00	
	Open Space - C Soils		0.00	79	0.00	
	Open Space - D Soils		0.00	84	0.00	
	Compacted Soil/Roof	5330	0.12	98	1.29	
	Sidewalks		0.00	98	0.00	
	Driveways (in ROW)		0.00	98	0.00	
	Roadway + C&G (not Sidewalks)		0.00	98	0.00	
	Open Water		0.00	98	0.00	
	Total (Check):		9.32	Composite "CN"	71.92	
	Tc (Kirpich):		Length	Elev Delta	Tc=	
	Tc, min.= 60*.000132*L^.77/S^.385		1081	5.21	12.48	Minutes

PostDev - POI #3			141123	S.F.	3.24	Ac
	Land Use	Area, SF	Area, AC	CN	Wtd. CN	
	Pasture (Lightly Grazed) - A Soils		0.00	39	0.00	
	Pasture (Lightly Grazed) - B Soils	34600	0.79	61	14.96	
	Pasture (Lightly Grazed) - C Soils	48265	1.11	74	25.31	
	Pasture (Lightly Grazed) - D Soils	58258	1.34	80	33.03	
	Woods/Wetlands-A Soils		0.00	36	0.00	
	Woods/WetaInds-B Soils		0.00	60	0.00	
	Woods/Wetlands-C Soils		0.00	73	0.00	
	Woods/WetaInds-D Soils		0.00	79	0.00	
	Open Space - A Soils		0.00	49	0.00	
	Open Space - B Soils		0.00	69	0.00	
	Open Space - C Soils		0.00	79	0.00	
	Open Space - D Soils		0.00	84	0.00	
	Compacted Soil/Roof		0.00	98	0.00	
	Sidewalks		0.00	98	0.00	
	Driveways (in ROW)		0.00	98	0.00	
	Roadway + C&G (not Sidewalks)		0.00	98	0.00	
	Open Water		0.00	98	0.00	
	Total (Check):		3.24	Composite "CN"	73.29	
			Percent Impervious		0%	
	Tc (Kirpich):		Length	Elev Delta	Tc=	
	Tc, min.= 60*.000132*L^.77/S^.385		496	3.9	5.67	Minutes

PreDev - POI #4			782618	S.F.	17.97	Ac
	Land Use	Area, SF	Area, AC	CN	Wtd. CN	
	Pasture (Lightly Grazed) - A Soils		0.00	39	0.00	
	Pasture (Lightly Grazed) - B Soils	36183	0.83	61	2.82	
	Pasture (Lightly Grazed) - C Soils	57811	1.33	74	5.47	
	Pasture (Lightly Grazed) - D Soils		0.00	80	0.00	
	Woods/Wetlands-A Soils	0	0.00	36	0.00	
	Woods/WetaInds-B Soils	365668	8.39	60	28.03	
	Woods/Wetlands-C Soils	148604	3.41	73	13.86	
	Woods/WetaInds-D Soils	169700	3.90	79	17.13	
	Open Space - A Soils		0.00	49	0.00	
	Open Space - B Soils		0.00	69	0.00	
	Open Space - C Soils		0.00	79	0.00	
	Open Space - D Soils		0.00	84	0.00	
	Compacted Soil/Roof	4652	0.11	98	0.58	
	Sidewalks		0.00	98	0.00	
	Driveways (in ROW)		0.00	98	0.00	
	Roadway + C&G (not Sidewalks)		0.00	98	0.00	
	Open Water		0.00	98	0.00	
	Total (Check):		17.97	Composite "CN"	67.89	
	Tc (Kirpich):		Length	Elev Delta	Tc=	
	Tc, min.= 60*.000132*L^.77/S^.385		760	61.12	3.22	Minutes

Merritt Reserve Supplemental & Supporting Info for Hydrograph Generation

PostDev to SCM #4

Daniel Huckaby 4/14/2025 SCM #4

PostDev DA to SCM #4			642750	S.F.	14.76	Ac
Land Use	Area, SF	Area, Ac.	"CN"	Wtd'd "CN"		
Roadways + C&G (not Sidewalks)	147259	3.38	98	22.45		
Roofs (Impervious on lots)	133858	3.07	98	20.41		
Driveways (in ROW)	8500	0.20	98	1.30		
Sidewalks	39227	0.90	98	5.98		
Openspace- A Soils	0	0.00	39	0.00		
Openspace- B Soils	118328	2.72	61	11.23		
Openspace- C Soils	124419	2.86	74	14.32		
Openspace- D Soils	62651	1.44	80	7.80		
Woods/Wetlands-A Soils		0.00	30	0.00		
Woods/Wetlands-B Soils		0.00	55	0.00		
Woods/Wetlands-C Soils		0.00	70	0.00		
Woods/Wetlands-D Soils		0.00	77	0.00		
Lands Taken Up by BMP	8508	0.20	98	1.30		
Open Water (Existing Ponds)		0.00	98	0.00		
Total (Check):			14.76	Composite "CN"	84.79	
			Percent Impervious		52.49%	
Tc (Kirpich):			Length	Elev Delta	Tc=	
Tc, min.= $60 \cdot 0.00132 \cdot L^{.77} / S^{.385}$			1114	23.9	7.19	Minutes
Percent Impervious				52.49%		
			Pond Design Depth, ft.:	5.50		
SA/DA Factor:				1.26	From NCDEQ SA/DA Chart	
Min.SCM Surface Area:				8129	S.F.	OK
SCM #4 Design Elements:			VPP, c.f.	Perimeter, ft.	Vshelf, c.f.	Abottom, s.f.
Davg = $VPP \cdot Vshelf / A$ shelf bottom			33,183	7439	3,986.75	4,367
(From HydraFlow Attachment)					Design Pond Depth, ft.=	5.50
Treatment Volume Requirement:						
DA to SCM:		14.756	Ac.			
$Rv=0.05 \cdot .009 \cdot (\% \text{Impervious})$		52.49%				
Total Runoff for 1" Event= S in Ac			0.52	inch/inch		
Treatment "S" in Cu. Ft. =			0.64	$S=1 \cdot Rv \cdot \text{Drainage Area}/12$		
Treatment Volume to Be Stored:			27979.53			
Treatment Volume Provided, Cu.ft			27980	Cu. FT		
			364.14	Orifice Dia	2.50	Inch Drawdown Pipe
			361.5	Elev Diff, H., ft.	2.64	
			0.871714699	$Q=.62 \cdot 8.02(H^{.5}) \cdot A_{sq.ft.}$		
			49.14	Hrs., (48 Hr Min.)		

Table 1: Piedmont and Mountain SA/DA Table (Adapted from Driscoll, 1986)

Percent Impervious Cover	Permanent Pool Average Depth (ft)					
	3.0	4.0	5.0	6.0	7.0	≥8.0
10%	0.51	0.43	0.37	0.30	0.27	0.25
20%	0.84	0.69	0.61	0.51	0.44	0.40
30%	1.17	0.94	0.84	0.72	0.61	0.56
40%	1.51	1.24	1.09	0.91	0.78	0.71
50%	1.79	1.51	1.31	1.13	0.95	0.87
60%	2.09	1.77	1.49	1.31	1.12	1.03
70%	2.51	2.09	1.80	1.56	1.34	1.17
80%	2.92	2.41	2.07	1.82	1.62	1.40
90%	3.25	2.64	2.31	2.04	1.84	1.59
100%	3.55	2.79	2.52	2.34	2.04	1.75

7.55		5	6
	50%	1.31	1.13
	60%	1.49	1.31
	52.49% (interpolation)	1.35	1.17
			1.26

Open Space Soil Mix Percents			
A soils	0	0	0
B Soils	249037	0.387455	118328.1
C Soils	261856	0.407399	124419
D Soils	131857	0.205145	62650.9
		305398	

Merritt Reserve Supplemental & Supporting Info for Hydrograph Generation

PostDev POI #4 Bypass #1

Daniel Huckaby

4/14/2025

POI #4 Bypass #1

PostDev POI #4 Bypass #1

		159836	S.F.	3.67	Ac
Land Use	Area, SF	Area, Ac.	"CN"	Wtd'd "CN"	
Pasture (Lightly Grazed) - A Soils		0.0	39	0.00	
Pasture (Lightly Grazed) - B Soils		0.0	61	0.00	
Pasture (Lightly Grazed) - C Soils		0.0	74	0.00	
Pasture (Lightly Grazed) - D Soils		0.0	80	0.00	
Woods/Wetlands-A Soils	0	0.0	36	0.00	
Woods/Wetlands-B Soils	72703	1.7	60	27.29	
Woods/Wetlands-C Soils	10483	0.2	73	4.79	
Woods/Wetlands-D Soils	19734	0.5	79	9.75	
Open Space - A Soils	0	0.0	49	0.00	
Open Space - B Soils	17529	0.4	69	7.57	
Open Space - C Soils	13019	0.3	79	6.43	
Open Space - D Soils	26368	0.6	84	13.86	
Roadways + C&G (not Sidewalks)		0.0	98	0.00	
Roofs (Impervious on lots)		0.0	98	0.00	
Driveways (in ROW)		0.0	98	0.00	
Sidewalks		0.0	98	0.00	
Open Water (Existing Ponds)		0.0	98	0.00	
Total (Check):		3.67	Composite "CN"	69.69	
		Percent Impervious		0%	
Tc (Kirpich):		Length	Elev Delta	Tc=	
Tc, min.= $60 \cdot .000132 \cdot L^{.77} / S^{.385}$		150	18.5	0.78	Minutes
Percent Impervious			0.0%		

PreDev - POI #5			1397336	S.F.	32.08	Ac
	Land Use	Area, SF	Area, AC	CN	Wtd. CN	
	Pasture (Lightly Grazed) - A Soils	0	0.00	39	0.00	
	Pasture (Lightly Grazed) - B Soils		0.00	61	0.00	
	Pasture (Lightly Grazed) - C Soils	32699	0.75	74	1.73	
	Pasture (Lightly Grazed) - D Soils	0	0.00	80	0.00	
	Woods/Wetlands-A Soils	0	0.00	36	0.00	
	Woods/WetaInds-B Soils	185859	4.27	60	7.98	
	Woods/Wetlands-C Soils	116168	2.67	73	6.07	
	Woods/WetaInds-D Soils	1057064	24.27	79	59.76	
	Open Space - A Soils		0.00	49	0.00	
	Open Space - B Soils		0.00	69	0.00	
	Open Space - C Soils		0.00	79	0.00	
	Open Space - D Soils		0.00	84	0.00	
	Compacted Soil/Roof	5546	0.13	98	0.39	
	Sidewalks		0.00	98	0.00	
	Driveways (in ROW)		0.00	98	0.00	
	Roadway + C&G (not Sidewalks)		0.00	98	0.00	
	Open Water		0.00	98	0.00	
	Total (Check):		32.08	Composite "CN"	75.93	
	Tc (Kirpich):		Length	Elev Delta	Tc=	
	Tc, min.= 60*.000132*L^.77/S^.385		2078	113.76	8.10	Minutes

Merritt Reserve Supplemental & Supporting Info for Hydrograph Generation

PostDev to SCM #5A

Daniel Huckaby 4/14/2025 SCM #5A

PostDev DA to SCM #5A				976791	S.F.	22.42	Ac
Land Use	Area, SF	Area, Ac.	"CN"			Wtd'd "CN"	
Roadways + C&G (not Sidewalks)	126734	2.91	98			12.72	
Roofs (Impervious on lots)	305304	7.01	98			30.63	
Driveways (in ROW)	12100	0.28	98			1.21	
Sidewalks	39762	0.91	98			3.99	
Openspace- A Soils	0	0.00	39			0.00	
Openspace- B Soils	24000	0.55	61			1.50	
Openspace- C Soils	140118	3.22	74			10.62	
Openspace- D Soils	310514	7.13	80			25.43	
Woods/Wetlands-A Soils		0.00	30			0.00	
Woods/Wetlands-B Soils		0.00	55			0.00	
Woods/Wetlands-C Soils		0.00	70			0.00	
Woods/Wetlands-D Soils		0.00	77			0.00	
Lands Taken Up by BMP	18259	0.42	98			1.83	
Open Water (Existing Ponds)		0.00	98			0.00	
Total (Check):			22.42	Composite "CN"		87.93	
		Percent Impervious				51.41%	
Tc (Kirpich):		Length		Elev Delta		Tc=	
Tc, min.= 60*.000132*L^.77/S^.385			1996		75.5	9.05	Minutes
Percent Impervious					51.41%		
		Pond Design Depth, ft.:			3.50		
SA/DA Factor:				1.69	From NCDEQ SA/DA Chart		
Min.SCM Surface Area:				16502	S.F.	OK	
SCM #5A Design Elements:							
		VPP, c.f.		Perimeter, ft.		Vshelf, c.f.	Abottom, s.f.
	Davg = VPP-Vshelf /A shelf bottom		43,618	16358		8,654.50	12,757
	(From HydraFlow Attachment)					Design Pond Depth, ft.=	3.50
Treatment Volume Requirement:							
DA to SCM:			22.424	Ac.			
Rv=0.05-.009*(%Impervious)		Composite % Impervious (Above) =		51.41%			
Total Runoff for 1" Event= S in Ac		Rv=0.05+.009*(%Impervious)		0.51	inch/inch		
Treatment "S" in Cu. Ft. =		Total Runoff for 1" Event= S in Ac-Ft:		0.96	S=1"*Rv*Drainage Area/12		
Treatment Volume to Be Stored:		Treatment "S" in Cu. Ft. =		41731.89			
Treatment Volume Provided, Cu.ft		Treatment Volume to Be Stored:		41732	Cu. FT		
		Volume Achieved at Elev.		320.55	Orifice Dia	3.00	Inch Drawdown Pipe
		Drawdown Pipe Elev.		318.5	Elev Diff, H., ft.	2.05	
		Effective Operating Head (1/3 H)		0.677836071		Q=.62*8.02(H^.5)*A,sq.ft.	
		Hours to Drawdown Treatm't Vol.		57.71	Hrs., (48 Hr Min.)		

Table 1: Piedmont and Mountain SA/DA Table (Adapted from Driscoll, 1986)

Percent Impervious Cover	Permanent Pool Average Depth (ft)					
	3.0	4.0	5.0	6.0	7.0	≥8.0
10%	0.51	0.43	0.37	0.30	0.27	0.25
20%	0.84	0.69	0.61	0.51	0.44	0.40
30%	1.17	0.94	0.84	0.72	0.61	0.56
40%	1.51	1.24	1.09	0.91	0.78	0.71
50%	1.79	1.51	1.31	1.13	0.95	0.87
60%	2.09	1.77	1.49	1.31	1.12	1.03
70%	2.51	2.09	1.80	1.56	1.34	1.17
80%	2.92	2.41	2.07	1.82	1.62	1.40
90%	3.25	2.64	2.31	2.04	1.84	1.59
100%	3.55	2.79	2.52	2.34	2.04	1.75

11.11		3	4
	50%	1.79	1.51
	60%	2.09	1.77
	51.41% (interpolation)	1.83	1.55
			1.69

Open Space Soil Mix Percents			
A soils	0	0	0
B Soils	49392	0.050566	24000.04
C Soils	288362	0.295214	140117.8
D Soils	639037	0.654221	310514.1
		474632	

30088 320

Merritt Reserve Supplemental & Supporting Info for Hydrograph Generation

PostDev to SCM #5B

Daniel Huckaby 4/14/2025 SCM #5B

PostDev DA to SCM #5B		227269	S.F.	5.22	Ac
Land Use	Area, SF	Area, Ac.	"CN"	Wtd'd "CN"	
Roadways + C&G (not Sidewalks)	15931	0.37	98	6.87	
Roofs (Impervious on lots)	86158	1.98	98	37.15	
Driveways (in ROW)	3200	0.07	98	1.38	
Sidewalks	5622	0.13	98	2.42	
Openspace- A Soils	0	0.00	39	0.00	
Openspace- B Soils	48605	1.12	61	13.05	
Openspace- C Soils	3055	0.07	74	0.99	
Openspace- D Soils	57897	1.33	80	20.38	
Woods/Wetlands-A Soils		0.00	30	0.00	
Woods/Wetlands-B Soils		0.00	55	0.00	
Woods/Wetlands-C Soils		0.00	70	0.00	
Woods/Wetlands-D Soils		0.00	77	0.00	
Lands Taken Up by BMP	6802	0.16	98	2.93	
Open Water (Existing Ponds)		0.00	98	0.00	
Total (Check):		5.22	Composite "CN"	85.18	
		Percent Impervious		51.79%	
Tc (Kirpich):		Length	Elev Delta	Tc=	
Tc, min.= 60*.000132*L^.77/S^.385		1097	69.5	4.68	Minutes
Percent Impervious			51.79%		
		Pond Design Depth, ft.:	4.50		
SA/DA Factor:			1.45	From NCDEQ SA/DA Chart	
Min.SCM Surface Area:			3294	S.F.	OK
SCM #5B Design Elements:		VPP, c.f.	Perimeter, ft.	Vshelf, c.f.	Abottom, s.f.
		18,092	5780	3,145.75	3,329
				Design Pond Depth, ft.=	4.50
Treatment Volume Requirement:					
DA to SCM:		5.217	Ac.		
Rv=0.05-.009*(%Impervious)	Composite % Impervious (Above) =	51.79%			
Total Runoff for 1" Event= S in Ac	Rv=0.05+.009*(%Impervious)	0.52	inch/inch		
Treatment "S" in Cu, Ft. =	Total Runoff for 1" Event= S in Ac-Ft:	0.22	S=1"*Rv*Drainage Area/12		
Treatment Volume to Be Stored:	Treatment "S" in Cu, Ft. =	9775.43			
Treatment Volume Provided, Cu.		9775	Cu. FT		
	Volume Achieved at Elev.	306.75	Orifice Dia	1.50	Inch Drawdown Pipe
	Drawdown Pipe Elev.	305.5	Elev Diff, H., ft.	1.25	
	Effective Operating Head (1/3 H)	0.41297412	Q=.62*8.02(H^0.5)*A,sq.ft.		
	Hours to Drawdown Treatm't Vol.	69.3	Hrs., (48 Hr Min.)		

Table 1: Piedmont and Mountain SA/DA Table (Adapted from Driscoll, 1986)

Percent Impervious Cover	Permanent Pool Average Depth (ft)					
	3.0	4.0	5.0	6.0	7.0	≥8.0
10%	0.51	0.43	0.37	0.30	0.27	0.25
20%	0.84	0.69	0.61	0.51	0.44	0.40
30%	1.17	0.94	0.84	0.72	0.61	0.56
40%	1.51	1.24	1.09	0.91	0.78	0.71
50%	1.79	1.51	1.31	1.13	0.95	0.87
60%	2.09	1.77	1.49	1.31	1.12	1.03
70%	2.51	2.09	1.80	1.56	1.34	1.17
80%	2.92	2.41	2.07	1.82	1.62	1.40
90%	3.25	2.64	2.31	2.04	1.84	1.59
100%	3.55	2.79	2.52	2.34	2.04	1.75

2.55		4	5
	50%	1.51	1.31
	60%	1.77	1.49
	51.79% (interpolation)	1.56	1.34
			1.45

Open Space Soil Mix Percents

A soils	0	0	0
B Soils	100828	0.44365048	48604.57
C Soils	6337	0.02788326	3054.778
D Soils	120104	0.52846627	57896.65
		109556	

Extra Fowler Road (future construction)
Roadway 82139

Merritt Reserve Supplemental & Supporting Info for Hydrograph Generation
PostDev to SCM #5C

Daniel Huckaby 4/14/2025 SCM #5C

PostDev DA to SCM #5C			394901	S.F.	9.07	Ac
Land Use	Area, SF	Area, Ac.	"CN"	Wtd'd "CN"		
	Roadways + C&G (not Sidewalks)	182994	4.20	98	45.41	
	Roofs (Impervious on lots)		0.00	98	0.00	
	Driveways (in ROW)		0.00	98	0.00	
	Sidewalks	84908	1.95	98	21.07	
	Openspace- A Soils	0	0.00	39	0.00	
	Openspace- B Soils	49932	1.15	61	7.71	
	Openspace- C Soils	14593	0.34	74	2.73	
	Openspace- D Soils	54696	1.26	80	11.08	
	Woods/Wetlands-A Soils		0.00	30	0.00	
	Woods/Wetlands-B Soils		0.00	55	0.00	
	Woods/Wetlands-C Soils		0.00	70	0.00	
	Woods/Wetlands-D Soils		0.00	77	0.00	
	Lands Taken Up by BMP	7735	0.18	98	1.92	
	Open Water (Existing Ponds)		0.00	98	0.00	
	Total (Check):		9.06	Composite "CN"	89.93	
			Percent Impervious		69.80%	
	Tc (Kirpich):		Length	Elev Delta	Tc=	
	Tc, min.= 60*.000132*L^.77/S^.385		2930	97.5	12.78	Minutes
	Percent Impervious			69.80%		
			Pond Design Depth, ft.:	4.50		
	SA/DA Factor:			1.94	From NCDEQ SA/DA Chart	
	Min.SCM Surface Area:			7656	S.F.	OK
SCM #5C Design Elements:			VPP, c.f.	Perimeter, ft.	Vshelf, c.f.	Abottom, s.f.
			18,735	6328	3,515.75	3,187
			(From HydraFlow Attachment)		Design Pond Depth, ft.=	4.50
Treatment Volume Requirement:						
DA to SCM:			9.066	Ac.		
Rv=0.05-.009*(%Impervious)			69.80%			
Total Runoff for 1" Event= S in Ac			Rv=0.05+.009*(%Impervious)	0.68	inch/inch	
Treatment "S" in Cu. Ft. =			0.51	S=1"*Rv*Drainage Area/12		
Treatment Volume to Be Stored:			22318.20			
Treatment Volume Provided, Cu.ft			22318	Cu. FT		
			Volume Achieved at Elev.	293.69	Orifice Dia	2.00
			Drawdown Pipe Elev.	291.5	Elev Diff, H., ft.	2.19
			Effective Operating Head (1/3 H)	0.7227	Q=.62*8.02(H^0.5)*A,sq.ft.	
			Hours to Drawdown Treatm't Vol.	67.3	Hrs., (48 Hr Min.)	

Table 1: Piedmont and Mountain SA/DA Table (Adapted from Driscoll, 1986)

Percent Impervious Cover	Permanent Pool Average Depth (ft)					
	3.0	4.0	5.0	6.0	7.0	≥8.0
10%	0.51	0.43	0.37	0.30	0.27	0.25
20%	0.84	0.69	0.61	0.51	0.44	0.40
30%	1.17	0.94	0.84	0.72	0.61	0.56
40%	1.51	1.24	1.09	0.91	0.78	0.71
50%	1.79	1.51	1.31	1.13	0.95	0.87
60%	2.09	1.77	1.49	1.31	1.12	1.03
70%	2.51	2.09	1.80	1.56	1.34	1.17
80%	2.92	2.41	2.07	1.82	1.62	1.40
90%	3.25	2.64	2.31	2.04	1.84	1.59
100%	3.55	2.79	2.52	2.34	2.04	1.75

6.15		4	5
	60%	1.77	1.49
	70%	2.09	1.8
	69.8% (interpolation)	2.08	1.79
		1.94	

Open Space Soil Mix Percents			
A soils	0	0	0
B Soils	165334	0.418672	49932.5
C Soils	48320	0.12236	14593.12
D Soils	181106	0.458611	54695.8
		119264	

14203
25738

Merritt Reserve Supplemental & Supporting Info for Hydrograph Generation

PostDev POI #5 Bypass #1

Daniel Huckaby

4/14/2025

POI #5 Bypass #1

PostDev POI #5 Bypass #1

		165749	S.F.	3.81	Ac
Land Use	Area, SF	Area, Ac.	"CN"	Wtd'd "CN"	
Pasture (Lightly Grazed) - A Soils		0.00	39	0.00	
Pasture (Lightly Grazed) - B Soils		0.00	61	0.00	
Pasture (Lightly Grazed) - C Soils		0.00	74	0.00	
Pasture (Lightly Grazed) - D Soils		0.00	80	0.00	
Woods/Wetlands-A Soils	0	0.00	36	0.00	
Woods/Wetlands-B Soils		0.00	60	0.00	
Woods/Wetlands-C Soils		0.00	73	0.00	
Woods/Wetlands-D Soils	117411	2.70	79	55.96	
Open Space - A Soils	0	0.00	49	0.00	
Open Space - B Soils		0.00	69	0.00	
Open Space - C Soils		0.00	79	0.00	
Open Space - D Soils	48338	1.11	84	24.50	
Roadways + C&G (not Sidewalks)		0.00	98	0.00	
Roofs (Impervious on lots)		0.00	98	0.00	
Driveways (in ROW)		0.00	98	0.00	
Sidewalks		0.00	98	0.00	
Open Water (Existing Ponds)		0.00	98	0.00	
Total (Check):		3.81	Composite "CN"	80.46	
		Percent Impervious		0%	
Tc (Kirpich):		Length	Elev Delta	Tc=	
Tc, min.= $60 * .000132 * L^{.77} / S^{.385}$		580	52	2.51	Minutes
Percent Impervious			0.0%		

Merritt Reserve Supplemental & Supporting Info for Hydrograph Generation

PostDev POI #5 Bypass #2

Daniel Huckaby 4/14/2025 POI #5 Bypass #2

PostDev POI #5 Bypass #2

		105241	S.F.	2.42	Ac
Land Use	Area, SF	Area, Ac.	"CN"	Wtd'd "CN"	
Pasture (Lightly Grazed) - A Soils		0.00	39	0.00	
Pasture (Lightly Grazed) - B Soils		0.00	61	0.00	
Pasture (Lightly Grazed) - C Soils		0.00	74	0.00	
Pasture (Lightly Grazed) - D Soils		0.00	80	0.00	
Woods/Wetlands-A Soils	0	0.00	36	0.00	
Woods/Wetlands-B Soils		0.00	60	0.00	
Woods/Wetlands-C Soils		0.00	73	0.00	
Woods/Wetlands-D Soils	67168	1.54	79	50.42	
Open Space - A Soils	0	0.00	49	0.00	
Open Space - B Soils		0.00	69	0.00	
Open Space - C Soils		0.00	79	0.00	
Open Space - D Soils	36826	0.85	84	29.39	
Roadways + C&G (not Sidewalks)		0.00	98	0.00	
Roofs (Impervious on lots)		0.00	98	0.00	
Driveways (in ROW)		0.00	98	0.00	
Sidewalks	1247	0.03	98	1.16	
Open Water (Existing Ponds)		0.00	98	0.00	
Total (Check):		2.42	Composite "CN"	80.97	
		Percent Impervious		1%	
Tc (Kirpich):		Length	Elev Delta	Tc=	
Tc, min.= $60 \cdot .000132 \cdot L^{.77} / S^{.385}$		250	38.5	1.06	Minutes
Percent Impervious			1.2%		

PreDev - POI #6			768646	S.F.	17.65	Ac
	Land Use	Area, SF	Area, AC	CN	Wtd. CN	
	Pasture (Lightly Grazed) - A Soils	0	0.00	39	0.00	
	Pasture (Lightly Grazed) - B Soils		0.00	61	0.00	
	Pasture (Lightly Grazed) - C Soils		0.00	74	0.00	
	Pasture (Lightly Grazed) - D Soils	0	0.00	80	0.00	
	Woods/Wetlands-A Soils	0	0.00	36	0.00	
	Woods/WetaInds-B Soils		0.00	60	0.00	
	Woods/Wetlands-C Soils		0.00	73	0.00	
	Woods/WetaInds-D Soils	768068	17.63	79	78.94	
	Open Space - A Soils		0.00	49	0.00	
	Open Space - B Soils		0.00	69	0.00	
	Open Space - C Soils		0.00	79	0.00	
	Open Space - D Soils		0.00	84	0.00	
	Compacted Soil/Roof	578	0.01	98	0.07	
	Sidewalks		0.00	98	0.00	
	Driveways (in ROW)		0.00	98	0.00	
	Roadway + C&G (not Sidewalks)		0.00	98	0.00	
	Open Water		0.00	98	0.00	
	Total (Check):		17.65	Composite "CN"	79.01	
	Tc (Kirpich):		Length	Elev Delta	Tc=	
	Tc, min.= 60*.000132*L^.77/S^.385		1947	74	8.86	Minutes

Merritt Reserve Supplemental & Supporting Info for Hydrograph Generation

PostDev to SCM #6A

Daniel Huckaby 4/14/2025 SCM #6A

PostDev DA to SCM #6A		259337	S.F.	5.95	Ac
Land Use	Area, SF	Area, Ac.	"CN"	Wtd'd "CN"	
Roadways + C&G (not Sidewalks)	27471	0.63	98	10.38	
Roofs (Impervious on lots)	60106	1.38	98	22.71	
Driveways (in ROW)	8500	0.20	98	3.21	
Sidewalks	9300	0.21	98	3.51	
Openspace- A Soils	0	0.00	39	0.00	
Openspace- B Soils	0	0.00	61	0.00	
Openspace- C Soils	0	0.00	74	0.00	
Openspace- D Soils	150528	3.46	80	46.43	
Woods/Wetlands-A Soils		0.00	30	0.00	
Woods/Wetlands-B Soils		0.00	55	0.00	
Woods/Wetlands-C Soils		0.00	70	0.00	
Woods/Wetlands-D Soils		0.00	77	0.00	
Lands Taken Up by BMP	3432	0.08	98	1.30	
Open Water (Existing Ponds)		0.00	98	0.00	
Total (Check):		5.95	Composite "CN"	87.55	
		Percent Impervious		41.96%	
Tc (Kirpich):		Length	Elev Delta	Tc=	
Tc, min.= 60*.000132*L^.77/S^.385		652	37	3.27	Minutes
Percent Impervious			41.96%		
		Pond Design Depth, ft.:	4.50		
SA/DA Factor:			1.21	From NCDEQ SA/DA Chart	
Min.SCM Surface Area:			3146	S.F.	OK
SCM #6A Design Elements:		VPP, c.f.	Perimeter, ft.	Vshelf, c.f.	Abottom, s.f.
Davg = VPP-Vshelf /A shelf bottom		5,809	2537	1,492.00	450
(From HydraFlow Attachment)				Design Pond Depth, ft.=	4.50
Treatment Volume Requirement:					
DA to SCM:		5.954	Ac.		
Rv=0.05-.009*(%Impervious)	Composite % Impervious (Above) =	41.96%			
Total Runoff for 1" Event= S in Ac	Rv=0.05+.009*(%Impervious)	0.43	inch/inch		
Treatment "S" in Cu, Ft. =	Total Runoff for 1" Event= S in Ac-Ft:	0.21	S=1**Rv*Drainage Area/12		
Treatment Volume to Be Stored:	Treatment "S" in Cu, Ft. =	9241.25			
Treatment Volume Provided, Cu.	Treatment Volume to Be Stored:	9241	Cu. FT		
	Volume Achieved at Elev.	278.41	Orifice Dia	1.50	inch Drawdown Pipe
	Drawdown Pipe Elev.	276.5	Elev Diff, H., ft.	1.91	
	Effective Operating Head (1/3 H)	0.62979302	Q=.62*8.02(H^0.5)*A,sq.ft.		
	Hours to Drawdown Treatm't Vol.	53.0	Hrs., (48 Hr Min.)		

Table 1: Piedmont and Mountain SA/DA Table (Adapted from Driscoll, 1986)

Percent Impervious Cover	Permanent Pool Average Depth (ft)					
	3.0	4.0	5.0	6.0	7.0	≥8.0
10%	0.51	0.43	0.37	0.30	0.27	0.25
20%	0.84	0.69	0.61	0.51	0.44	0.40
30%	1.17	0.94	0.84	0.72	0.61	0.56
40%	1.51	1.24	1.09	0.91	0.78	0.71
50%	1.79	1.51	1.31	1.13	0.95	0.87
60%	2.09	1.77	1.49	1.31	1.12	1.03
70%	2.51	2.09	1.80	1.56	1.34	1.17
80%	2.92	2.41	2.07	1.82	1.62	1.40
90%	3.25	2.64	2.31	2.04	1.84	1.59
100%	3.55	2.79	2.52	2.34	2.04	1.75

2.42

4 5

40% 1.24 1.09

50% 1.51 1.31

41.96% (interpolation) 1.29 1.13 1.21

Open Space Soil Mix Percents

A soils	0	0	0
B Soils	0	0	0
C Soils	0	0	0
D Soils	259337	1	150528

150528

6826 278
12739 279

Merritt Reserve Supplemental & Supporting Info for Hydrograph Generation
PostDev to SCM #6B

Daniel Huckaby
4/14/2025
SCM #6B

PostDev DA to SCM #6B			531758	S.F.	12.21	Ac
	Land Use	Area, SF	Area, Ac.	"CN"	Wtd'd "CN"	
	Roadways + C&G (not Sidewalks)	127746	2.93	98	23.54	
	Roofs (Impervious on lots)	74409	1.71	98	13.71	
	Driveways (in ROW)	3300	0.08	98	0.61	
	Sidewalks	45296	1.04	98	8.35	
	Openspace- A Soils	0	0.00	39	0.00	
	Openspace- B Soils	0	0.00	61	0.00	
	Openspace- C Soils	0	0.00	74	0.00	
	Openspace- D Soils	269205	6.18	80	40.50	
	Woods/Wetlands-A Soils		0.00	30	0.00	
	Woods/Wetlands-B Soils		0.00	55	0.00	
	Woods/Wetlands-C Soils		0.00	70	0.00	
	Woods/Wetlands-D Soils		0.00	77	0.00	
	Lands Taken Up by BMP	11802	0.27	98	2.18	
	Open Water (Existing Ponds)		0.00	98	0.00	
	Total (Check):		12.21	Composite "CN"	88.89	
			Percent Impervious		49.37%	
	Tc (Kirpich):		Length	Elev Delta	Tc=	
	Tc, min.= 60*.000132*L^.77/S^.385		1403	66.6	6.32	Minutes
	Percent Impervious			49.37%		
			Pond Design Depth, ft.:	4.50		
	SA/DA Factor:			1.39	From NCDEQ SA/DA Chart	
	Min.SCM Surface Area:			7416	S.F.	OK
SCM #6B Design Elements:			VPP, c.f.	Perimeter, ft.	Vshelf, c.f.	Abottom, s.f.
	Davg = VPP-Vshelf /A shelf bottom		40,947	10489	5,572.75	7,265
	(From HydraFlow Attachment)				Design Pond Depth, ft.=	4.50
Treatment Volume Requirement:						
	DA to SCM:		12.207	Ac.		
Rv=0.05-.009*(%Impervious)	Composite % Impervious (Above) =		49.37%			
Total Runoff for 1" Event= S in Ac	Rv=0.05+.009*(%Impervious)		0.49	inch/inch		
Treatment "S" in Cu. Ft. =	Total Runoff for 1" Event= S in Ac-Ft:		0.50	S=1"*Rv*Drainage Area/12		
Treatment Volume to Be Stored:	Treatment "S" in Cu. Ft. =		21907.13			
Treatment Volume Provided, Cu.f	Treatment Volume to Be Stored:		21907	Cu. FT		
	Volume Achieved at Elev.		290.16	Orifice Dia	2.50	Inch Drawdown Pipe
	Drawdown Pipe Elev.		288.5	Elev Diff, H., ft.	1.66	
	Effective Operating Head (1/3 H)		0.547952681	Q=.62*8.02(H^.5)*A,sq.ft.		
	Hours to Drawdown Treatm't Vol.		48.5	Hrs., (48 Hr Min.)		

Table 1: Piedmont and Mountain SA/DA Table (Adapted from Driscoll, 1986)

Percent Impervious Cover	Permanent Pool Average Depth (ft)					
	3.0	4.0	5.0	6.0	7.0	≥8.0
10%	0.51	0.43	0.37	0.30	0.27	0.25
20%	0.84	0.69	0.61	0.51	0.44	0.40
30%	1.17	0.94	0.84	0.72	0.61	0.56
40%	1.51	1.24	1.09	0.91	0.78	0.71
50%	1.79	1.51	1.31	1.13	0.95	0.87
60%	2.09	1.77	1.49	1.31	1.12	1.03
70%	2.51	2.09	1.80	1.56	1.34	1.17
80%	2.92	2.41	2.07	1.82	1.62	1.40
90%	3.25	2.64	2.31	2.04	1.84	1.59
100%	3.55	2.79	2.52	2.34	2.04	1.75

5.76		4	5
	40%	1.24	1.09
	50%	1.51	1.31
	49.37% (interpolation)	1.49	1.30
			1.39

Open Space Soil Mix Percents			
A soils	0	0	0
B Soils	0	0	0
C Soils	0	0	0
D Soils	531758	1	269205

19669	290
33617	291

Merritt Reserve Supplemental & Supporting Info for Hydrograph Generation

PostDev POI #6 Bypass #1

Daniel Huckaby 4/14/2025 POI #6 Bypass #1

PostDev POI #6 Bypass #1

		190553	S.F.	4.37	Ac
Land Use	Area, SF	Area, Ac.	"CN"	Wtd'd "CN"	
Pasture (Lightly Grazed) - A Soils		0.00	39	0.00	
Pasture (Lightly Grazed) - B Soils		0.00	61	0.00	
Pasture (Lightly Grazed) - C Soils		0.00	74	0.00	
Pasture (Lightly Grazed) - D Soils		0.00	80	0.00	
Woods/Wetlands-A Soils	0	0.00	36	0.00	
Woods/Wetlands-B Soils		0.00	60	0.00	
Woods/Wetlands-C Soils		0.00	73	0.00	
Woods/Wetlands-D Soils	58834	1.35	79	24.39	
Open Space - A Soils	0	0.00	49	0.00	
Open Space - B Soils		0.00	69	0.00	
Open Space - C Soils		0.00	79	0.00	
Open Space - D Soils	117655	2.70	84	51.86	
Roadways + C&G (not Sidewalks)		0.00	98	0.00	
Roofs (Impervious on lots)		0.00	98	0.00	
Driveways (in ROW)		0.00	98	0.00	
Sidewalks	14064	0.32	98	7.23	
Open Water (Existing Ponds)		0.00	98	0.00	
Total (Check):		4.37	Composite "CN"	83.49	
		Percent Impervious		7%	
Tc (Kirpich):		Length	Elev Delta	Tc=	
Tc, min.= $60 \cdot .000132 \cdot L^{.77} / S^{.385}$		260	52.75	0.99	Minutes
Percent Impervious			7.4%		

PreDev - POI #7			577248	S.F.	13.25	Ac
	Land Use	Area, SF	Area, AC	CN	Wtd. CN	
	Pasture (Lightly Grazed) - A Soils	0	0.00	39	0.00	
	Pasture (Lightly Grazed) - B Soils		0.00	61	0.00	
	Pasture (Lightly Grazed) - C Soils		0.00	74	0.00	
	Pasture (Lightly Grazed) - D Soils	0	0.00	80	0.00	
	Woods/Wetlands-A Soils		0.00	36	0.00	
	Woods/WetaInds-B Soils		0.00	60	0.00	
	Woods/Wetlands-C Soils		0.00	73	0.00	
	Woods/WetaInds-D Soils	577248	13.25	79	79.00	
	Open Space - A Soils		0.00	49	0.00	
	Open Space - B Soils		0.00	69	0.00	
	Open Space - C Soils		0.00	79	0.00	
	Open Space - D Soils		0.00	84	0.00	
	Compacted Soil/Roof		0.00	98	0.00	
	Sidewalks		0.00	98	0.00	
	Driveways (in ROW)		0.00	98	0.00	
	Roadway + C&G (not Sidewalks)		0.00	98	0.00	
	Open Water		0.00	98	0.00	
	Total (Check):		13.25	Composite "CN"	79.00	
	Tc (Kirpich):		Length	Elev Delta	Tc=	
	Tc, min.= 60*.000132*L^.77/S^.385		665	67.71	2.65	Minutes

Merritt Reserve Supplemental & Supporting Info for Hydrograph Generation

PostDev to SCM #7

Daniel Huckaby 4/14/2025 SCM #7

PostDev DA to SCM #7		232091	S.F.	5.33	Ac
Land Use	Area, SF	Area, Ac.	"CN"	Wtd'd "CN"	
Roadways + C&G (not Sidewalks)	28157	0.65	98	11.89	
Roofs (Impervious on lots)	57070	1.31	98	24.10	
Driveways (in ROW)	1500	0.03	98	0.63	
Sidewalks	8779	0.20	98	3.71	
Openspace- A Soils	0	0.00	39	0.00	
Openspace- B Soils	0	0.00	61	0.00	
Openspace- C Soils	0	0.00	74	0.00	
Openspace- D Soils	132535	3.04	80	45.68	
Woods/Wetlands-A Soils		0.00	30	0.00	
Woods/Wetlands-B Soils		0.00	55	0.00	
Woods/Wetlands-C Soils		0.00	70	0.00	
Woods/Wetlands-D Soils		0.00	77	0.00	
Lands Taken Up by BMP	4050	0.09	98	1.71	
Open Water (Existing Ponds)		0.00	98	0.00	
Total (Check):		5.33	Composite "CN"	87.72	
Tc (Kirpich):		Length	Elev Delta	Tc=	
Tc, min.= $60 \cdot 0.00132 \cdot L^{0.77} / S^{0.385}$		1794	24	12.44	Minutes
Percent Impervious			42.90%		
SA/DA Factor:			1.24	From NCDEQ SA/DA Chart	
Min.SCM Surface Area:			2868	S.F.	OK
SCM #7 Design Elements:		VPP, c.f.	Perimeter, ft.	Vshelf, c.f.	Abottom, s.f.
Davg = $VPP \cdot Vshelf / A$ shelf bottom		7,894	3117	1,792.75	900
(From HydraFlow Attachment)				Design Pond Depth, ft.=	4.50
Treatment Volume Requirement:					
DA to SCM:		5.328	Ac.		
$Rv=0.05 \cdot 0.009 \cdot (\% \text{Impervious})$		42.90%			
Total Runoff for 1" Event= S in Ac		0.44	inch/inch		
Treatment "S" in Cu. Ft. =		0.19	$S=1 \cdot Rv \cdot \text{Drainage Area}/12$		
Treatment Volume to Be Stored:		8433.75			
Treatment Volume Provided, Cu.ft		8434	Cu. FT		
	Volume Achieved at Elev.	319.09	Orifice Dia	1.50	Inch Drawdown Pipe
	Drawdown Pipe Elev.	317.5	Elev Diff, H., ft.	1.59	
	Effective Operating Head (1/3 H)	0.524851848	$Q=.62 \cdot 8.02(H^{0.5}) \cdot A_{sq.ft.}$		
	Hours to Drawdown Treatm't Vol.	53.0	Hrs., (48 Hr Min.)		

Table 1: Piedmont and Mountain SA/DA Table (Adapted from Driscoll, 1986)

Percent Impervious Cover	Permanent Pool Average Depth (ft)					
	3.0	4.0	5.0	6.0	7.0	≥8.0
10%	0.51	0.43	0.37	0.30	0.27	0.25
20%	0.84	0.69	0.61	0.51	0.44	0.40
30%	1.17	0.94	0.84	0.72	0.61	0.56
40%	1.51	1.24	1.09	0.91	0.78	0.71
50%	1.79	1.51	1.31	1.13	0.95	0.87
60%	2.09	1.77	1.49	1.31	1.12	1.03
70%	2.51	2.09	1.80	1.56	1.34	1.17
80%	2.92	2.41	2.07	1.82	1.62	1.40
90%	3.25	2.64	2.31	2.04	1.84	1.59
100%	3.55	2.79	2.52	2.34	2.04	1.75

2.19		4	5
	40%	1.24	1.09
	50%	1.51	1.31
	42.9% (interpolation)	1.32	1.15 1.24

Open Space Soil Mix Percents			
A soils	0	0	0
B Soils	0	0	0
C Soils	0	0	0
D Soils	232091	1	132535
		132535	
	7833	319	
	14474	320	

Merritt Reserve Supplemental & Supporting Info for Hydrograph Generation

PostDev POI #7 Bypass #1

Daniel Huckaby 4/14/2025 POI #7 Bypass #1

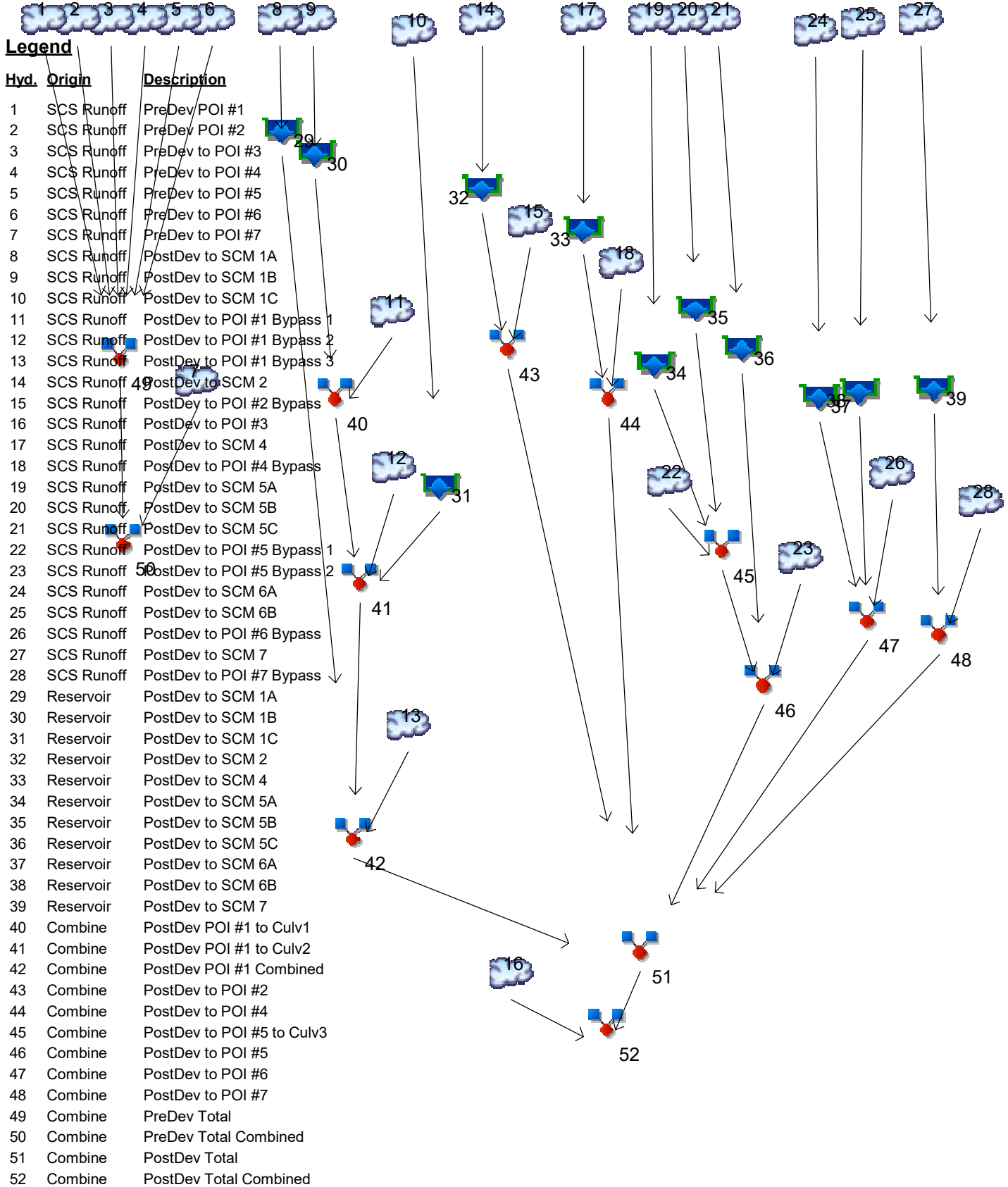
PostDev POI #7 Bypass #1

		158570	S.F.	3.64	Ac
Land Use	Area, SF	Area, Ac.	"CN"	Wtd'd "CN"	
Pasture (Lightly Grazed) - A Soils	0	0.00	39	0.00	
Pasture (Lightly Grazed) - B Soils		0.00	61	0.00	
Pasture (Lightly Grazed) - C Soils		0.00	74	0.00	
Pasture (Lightly Grazed) - D Soils	0	0.00	80	0.00	
Woods/Wetlands-A Soils		0.00	36	0.00	
Woods/Wetlands-B Soils		0.00	60	0.00	
Woods/Wetlands-C Soils		0.00	73	0.00	
Woods/Wetlands-D Soils	52964	1.22	79	26.39	
Open Space - A Soils		0.00	49	0.00	
Open Space - B Soils		0.00	69	0.00	
Open Space - C Soils		0.00	79	0.00	
Open Space - D Soils	101758	2.34	84	53.90	
Roadways + C&G (not Sidewalks)	2993	0.07	98	1.85	
Roofs (Impervious on lots)		0.00	98	0.00	
Driveways (in ROW)		0.00	98	0.00	
Sidewalks	855	0.02	98	0.53	
Open Water (Existing Ponds)		0.00	98	0.00	
Total (Check):		3.64	Composite "CN"	82.67	
		Percent Impervious		2%	
Tc (Kirpich):		Length	Elev Delta	Tc=	
Tc, min.= 60*.000132*L[^].77/S[^].385		280	12	1.90	Minutes
Percent Impervious			2.4%		

SCM Hydrographs Calculations

Watershed Model Schematic

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023



Hydrograph Return Period Recap

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

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	----	15.81	----	----	----	56.08	76.33	93.19	110.86	PreDev POI #1
2	SCS Runoff	----	12.16	----	----	----	38.17	50.89	61.39	72.33	PreDev POI #2
3	SCS Runoff	----	2.300	----	----	----	8.247	11.27	13.80	16.46	PreDev to POI #3
4	SCS Runoff	----	7.033	----	----	----	30.27	42.39	52.60	63.50	PreDev to POI #4
5	SCS Runoff	----	19.43	----	----	----	58.60	77.58	93.21	109.54	PreDev to POI #5
6	SCS Runoff	----	15.71	----	----	----	42.77	55.62	66.11	76.94	PreDev to POI #6
7	SCS Runoff	----	13.17	----	----	----	37.83	49.71	59.44	69.53	PreDev to POI #7
8	SCS Runoff	----	35.80	----	----	----	79.78	99.35	115.05	131.11	PostDev to SCM 1A
9	SCS Runoff	----	23.15	----	----	----	54.68	68.92	80.40	92.15	PostDev to SCM 1B
10	SCS Runoff	----	4.662	----	----	----	12.05	15.53	18.36	21.27	PostDev to SCM 1C
11	SCS Runoff	----	4.952	----	----	----	12.89	16.64	19.69	22.83	PostDev to POI #1 Bypass 1
12	SCS Runoff	----	6.578	----	----	----	16.89	21.71	25.61	29.62	PostDev to POI #1 Bypass 2
13	SCS Runoff	----	8.843	----	----	----	22.14	28.27	33.24	38.34	PostDev to POI #1 Bypass 3
14	SCS Runoff	----	32.68	----	----	----	75.78	95.16	110.73	126.68	PostDev to SCM 2
15	SCS Runoff	----	0.928	----	----	----	2.311	2.951	3.468	4.000	PostDev to POI #2 Bypass
16	SCS Runoff	----	4.255	----	----	----	12.83	17.09	20.62	24.29	PostDev to POI #3
17	SCS Runoff	----	34.13	----	----	----	78.21	97.96	113.83	130.07	PostDev to SCM 4
18	SCS Runoff	----	3.736	----	----	----	12.83	17.35	21.21	25.28	PostDev to POI #4 Bypass
19	SCS Runoff	----	59.45	----	----	----	127.27	157.19	181.14	205.60	PostDev to SCM 5A
20	SCS Runoff	----	12.81	----	----	----	29.17	36.48	42.35	48.36	PostDev to SCM 5B
21	SCS Runoff	----	23.69	----	----	----	49.01	60.12	69.00	78.07	PostDev to SCM 5C
22	SCS Runoff	----	7.612	----	----	----	19.03	24.33	28.62	33.02	PostDev to POI #5 Bypass 1
23	SCS Runoff	----	4.957	----	----	----	12.26	15.63	18.35	21.15	PostDev to POI #5 Bypass 2
24	SCS Runoff	----	16.55	----	----	----	35.40	43.71	50.36	57.15	PostDev to SCM 6A
25	SCS Runoff	----	35.55	----	----	----	74.28	91.27	104.87	118.76	PostDev to SCM 6B
26	SCS Runoff	----	10.08	----	----	----	23.65	29.77	34.69	39.73	PostDev to POI #6 Bypass
27	SCS Runoff	----	12.89	----	----	----	27.74	34.30	39.55	44.91	PostDev to SCM 7
28	SCS Runoff	----	8.086	----	----	----	19.30	24.39	28.49	32.70	PostDev to POI #7 Bypass
29	Reservoir	8	1.555	----	----	----	46.20	52.98	56.86	64.30	PostDev to SCM 1A
30	Reservoir	9	1.095	----	----	----	17.28	19.13	21.66	39.61	PostDev to SCM 1B
31	Reservoir	10	0.038	----	----	----	3.380	11.40	14.64	16.87	PostDev to SCM 1C
32	Reservoir	14	2.702	----	----	----	30.65	36.21	50.95	73.82	PostDev to SCM 2
33	Reservoir	17	1.441	----	----	----	35.55	69.53	94.41	106.10	PostDev to SCM 4
34	Reservoir	19	0.538	----	----	----	11.45	43.07	54.23	73.52	PostDev to SCM 5A
Proj. file: Merritt Reserve Hydrographs.gpw									Saturday, 04 / 12 / 2025		

Hydrograph Return Period Recap

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
35	Reservoir	20	0.156	-----	-----	-----	6.822	16.10	17.63	18.74	PostDev to SCM 5B
36	Reservoir	21	3.094	-----	-----	-----	18.08	19.65	24.26	38.50	PostDev to SCM 5C
37	Reservoir	24	3.310	-----	-----	-----	16.78	18.03	18.95	20.75	PostDev to SCM 6A
38	Reservoir	25	2.903	-----	-----	-----	23.74	25.45	42.81	67.55	PostDev to SCM 6B
39	Reservoir	27	2.382	-----	-----	-----	22.20	23.51	24.24	24.87	PostDev to SCM 7
40	Combine	11, 30,	5.062	-----	-----	-----	21.87	32.03	36.36	42.61	PostDev POI #1 to Culv1
41	Combine	12, 31, 40	11.60	-----	-----	-----	40.33	62.36	76.23	86.01	PostDev POI #1 to Culv2
42	Combine	13, 29, 41	20.63	-----	-----	-----	103.34	140.08	160.58	178.77	PostDev POI #1 Combined
43	Combine	15, 32,	2.770	-----	-----	-----	31.05	36.71	51.52	74.88	PostDev to POI #2
44	Combine	18, 33,	3.972	-----	-----	-----	37.92	76.36	105.21	124.28	PostDev to POI #4
45	Combine	22, 34, 35,	8.014	-----	-----	-----	24.37	59.99	83.26	97.38	PostDev to POI #5 to Culv3
46	Combine	23, 36, 45	13.11	-----	-----	-----	49.88	81.65	111.34	137.10	PostDev to POI #5
47	Combine	26, 37, 38,	12.67	-----	-----	-----	61.91	70.71	78.66	113.51	PostDev to POI #6
48	Combine	28, 39,	8.161	-----	-----	-----	34.93	45.71	50.43	55.29	PostDev to POI #7
49	Combine	1, 2, 3, 4, 5, 6,	68.08	-----	-----	-----	219.71	294.99	357.35	422.44	PreDev Total
50	Combine	7, 49	76.54	-----	-----	-----	245.16	328.59	397.67	469.74	PreDev Total Combined
51	Combine	42, 43, 44, 46, 47, 48,	59.61	-----	-----	-----	290.56	423.27	530.75	647.91	PostDev Total
52	Combine	16, 51	63.87	-----	-----	-----	300.89	436.84	546.98	666.89	PostDev Total Combined
Proj. file: Merritt Reserve Hydrographs.gpw									Saturday, 04 / 12 / 2025		

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

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	15.81	2	744	99,160	-----	-----	-----	PreDev POI #1
2	SCS Runoff	12.16	2	744	75,992	-----	-----	-----	PreDev POI #2
3	SCS Runoff	2.300	2	774	24,648	-----	-----	-----	PreDev to POI #3
4	SCS Runoff	7.033	2	734	36,249	-----	-----	-----	PreDev to POI #4
5	SCS Runoff	19.43	2	740	108,426	-----	-----	-----	PreDev to POI #5
6	SCS Runoff	15.71	2	734	70,485	-----	-----	-----	PreDev to POI #6
7	SCS Runoff	13.17	2	728	47,742	-----	-----	-----	PreDev to POI #7
8	SCS Runoff	35.80	2	718	81,954	-----	-----	-----	PostDev to SCM 1A
9	SCS Runoff	23.15	2	720	60,129	-----	-----	-----	PostDev to SCM 1B
10	SCS Runoff	4.662	2	718	9,323	-----	-----	-----	PostDev to SCM 1C
11	SCS Runoff	4.952	2	718	9,903	-----	-----	-----	PostDev to POI #1 Bypass 1
12	SCS Runoff	6.578	2	720	15,064	-----	-----	-----	PostDev to POI #1 Bypass 2
13	SCS Runoff	8.843	2	720	20,239	-----	-----	-----	PostDev to POI #1 Bypass 3
14	SCS Runoff	32.68	2	718	74,770	-----	-----	-----	PostDev to SCM 2
15	SCS Runoff	0.928	2	718	1,860	-----	-----	-----	PostDev to POI #2 Bypass
16	SCS Runoff	4.255	2	718	8,623	-----	-----	-----	PostDev to POI #3
17	SCS Runoff	34.13	2	718	78,080	-----	-----	-----	PostDev to SCM 4
18	SCS Runoff	3.736	2	718	7,808	-----	-----	-----	PostDev to POI #4 Bypass
19	SCS Runoff	59.45	2	718	136,622	-----	-----	-----	PostDev to SCM 5A
20	SCS Runoff	12.81	2	716	25,888	-----	-----	-----	PostDev to SCM 5B
21	SCS Runoff	23.69	2	720	61,888	-----	-----	-----	PostDev to SCM 5C
22	SCS Runoff	7.612	2	718	15,250	-----	-----	-----	PostDev to POI #5 Bypass 1
23	SCS Runoff	4.957	2	718	9,939	-----	-----	-----	PostDev to POI #5 Bypass 2
24	SCS Runoff	16.55	2	716	33,678	-----	-----	-----	PostDev to SCM 6A
25	SCS Runoff	35.55	2	716	72,701	-----	-----	-----	PostDev to SCM 6B
26	SCS Runoff	10.08	2	716	20,345	-----	-----	-----	PostDev to POI #6 Bypass
27	SCS Runoff	12.89	2	720	33,495	-----	-----	-----	PostDev to SCM 7
28	SCS Runoff	8.086	2	718	16,289	-----	-----	-----	PostDev to POI #7 Bypass
29	Reservoir	1.555	2	818	81,385	8	350.19	48,035	PostDev to SCM 1A
30	Reservoir	1.095	2	832	58,248	9	378.22	35,208	PostDev to SCM 1B
31	Reservoir	0.038	2	1442	8,482	10	362.67	7,717	PostDev to SCM 1C
32	Reservoir	2.702	2	758	63,690	14	354.59	38,992	PostDev to SCM 2
33	Reservoir	1.441	2	826	77,633	17	365.49	45,710	PostDev to SCM 4
34	Reservoir	0.538	2	1442	119,932	19	323.81	113,126	PostDev to SCM 5A
Merritt Reserve Hydrographs.gpw					Return Period: 1 Year			Saturday, 04 / 12 / 2025	

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

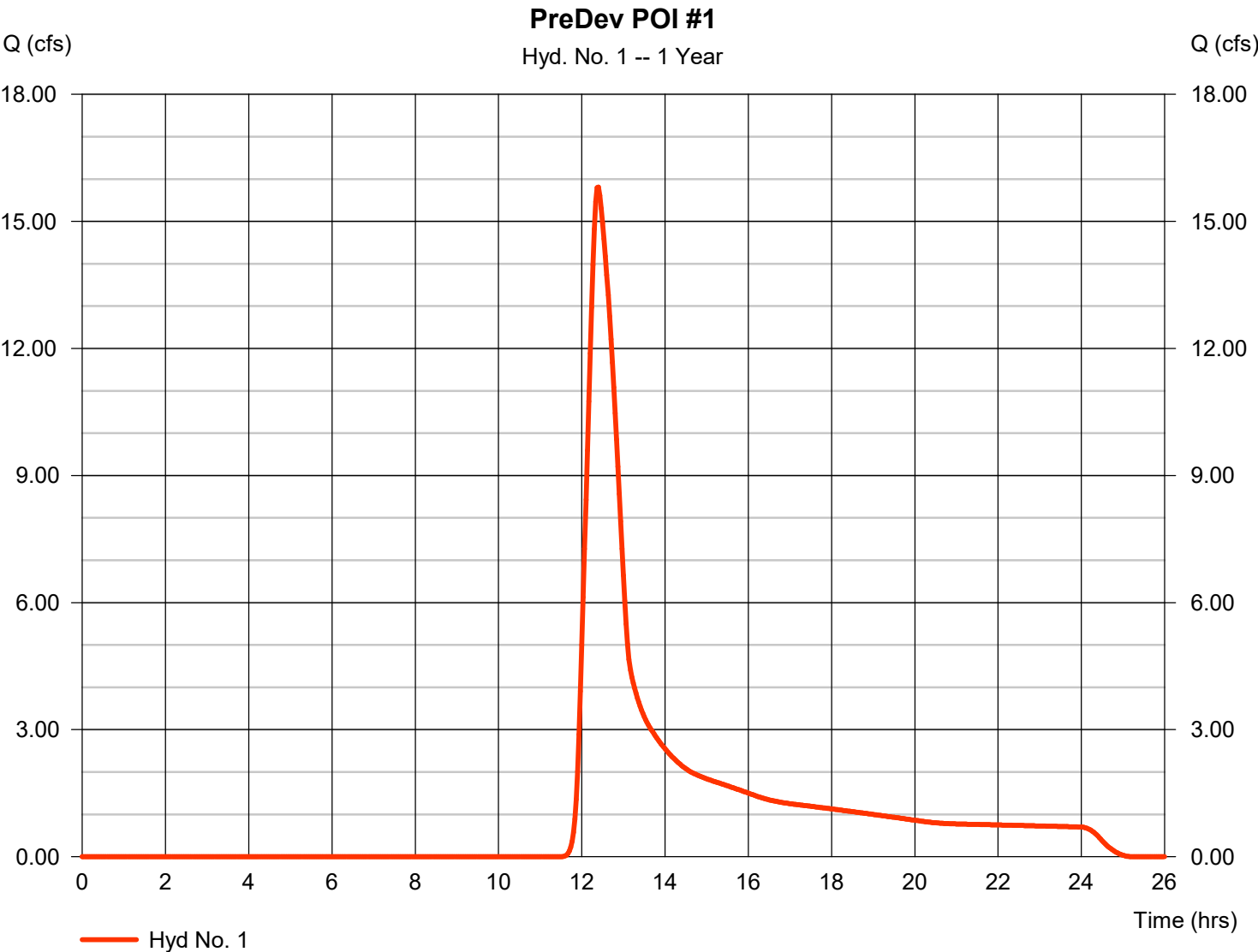
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
35	Reservoir	0.156	2	1188	22,331	20	308.04	20,804	PostDev to SCM 5B
36	Reservoir	3.094	2	746	61,151	21	294.53	32,714	PostDev to SCM 5C
37	Reservoir	3.310	2	726	33,583	24	279.42	15,671	PostDev to SCM 6A
38	Reservoir	2.903	2	748	71,712	25	291.42	39,744	PostDev to SCM 6B
39	Reservoir	2.382	2	738	33,346	27	320.22	16,196	PostDev to SCM 7
40	Combine	5.062	2	718	68,151	11, 30,	-----	-----	PostDev POI #1 to Culv1
41	Combine	11.60	2	718	91,697	12, 31, 40	-----	-----	PostDev POI #1 to Culv2
42	Combine	20.63	2	718	193,321	13, 29, 41	-----	-----	PostDev POI #1 Combined
43	Combine	2.770	2	756	65,550	15, 32,	-----	-----	PostDev to POI #2
44	Combine	3.972	2	718	85,441	18, 33,	-----	-----	PostDev to POI #4
45	Combine	8.014	2	718	157,514	22, 34, 35,	-----	-----	PostDev to POI #5 to Culv3
46	Combine	13.11	2	718	228,604	23, 36, 45	-----	-----	PostDev to POI #5
47	Combine	12.67	2	718	125,641	26, 37, 38,	-----	-----	PostDev to POI #6
48	Combine	8.161	2	718	49,636	28, 39,	-----	-----	PostDev to POI #7
49	Combine	68.08	2	740	414,960	1, 2, 3, 4, 5, 6,	-----	-----	PreDev Total
50	Combine	76.54	2	738	462,702	7, 49	-----	-----	PreDev Total Combined
51	Combine	59.61	2	718	748,193	42, 43, 44, 46, 47, 48,	-----	-----	PostDev Total
52	Combine	63.87	2	718	756,816	16, 51	-----	-----	PostDev Total Combined
Merritt Reserve Hydrographs.gpw					Return Period: 1 Year			Saturday, 04 / 12 / 2025	

Hydrograph Report

Hyd. No. 1

PreDev POI #1

Hydrograph type	= SCS Runoff	Peak discharge	= 15.81 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.40 hrs
Time interval	= 2 min	Hyd. volume	= 99,160 cuft
Drainage area	= 37.960 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 46.50 min
Total precip.	= 2.86 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

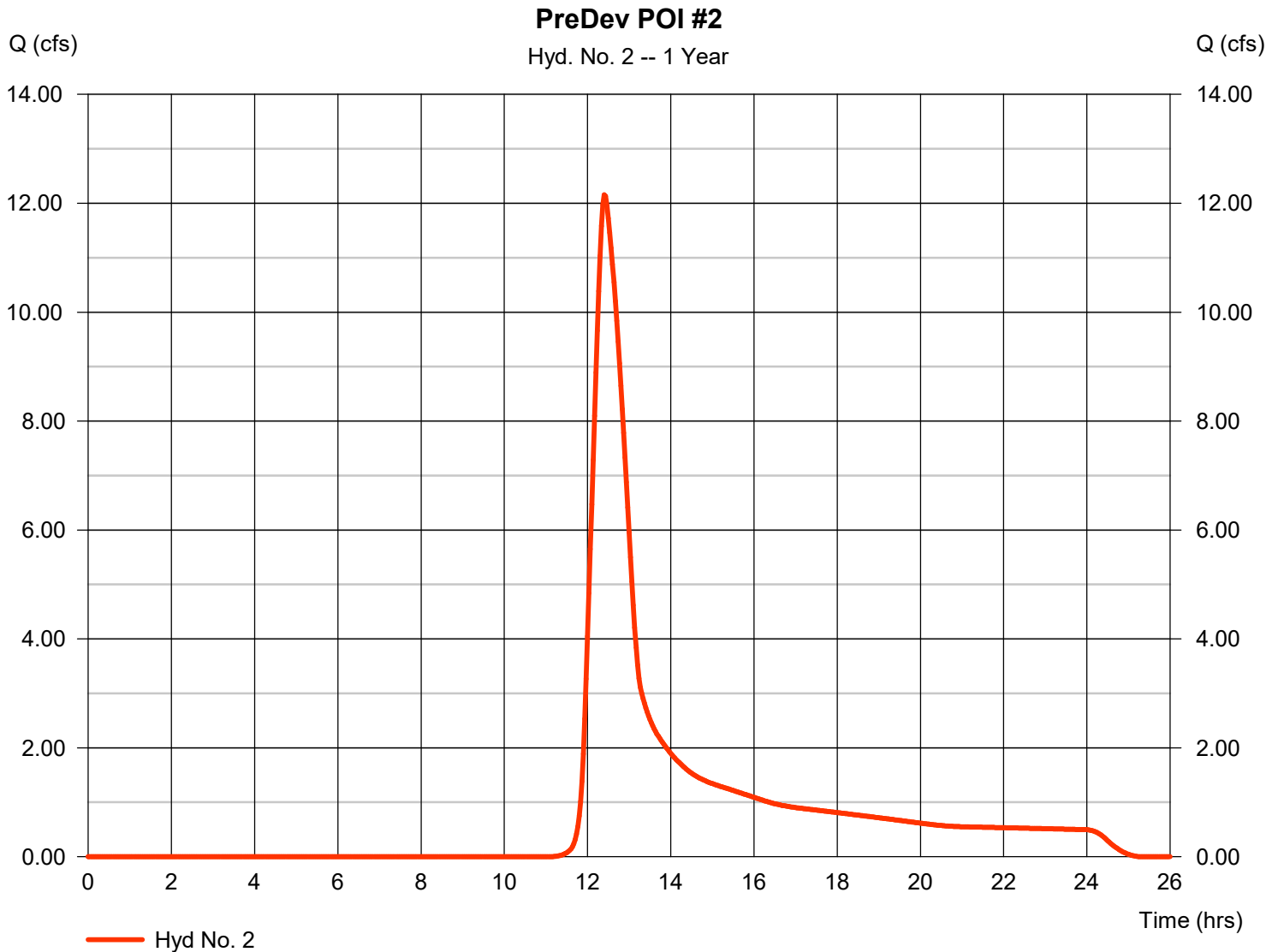
Saturday, 04 / 12 / 2025

Hyd. No. 2

PreDev POI #2

Hydrograph type = SCS Runoff
 Storm frequency = 1 yrs
 Time interval = 2 min
 Drainage area = 24.050 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 2.86 in
 Storm duration = 24 hrs

Peak discharge = 12.16 cfs
 Time to peak = 12.40 hrs
 Hyd. volume = 75,992 cuft
 Curve number = 75
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 48.70 min
 Distribution = Type II
 Shape factor = 484

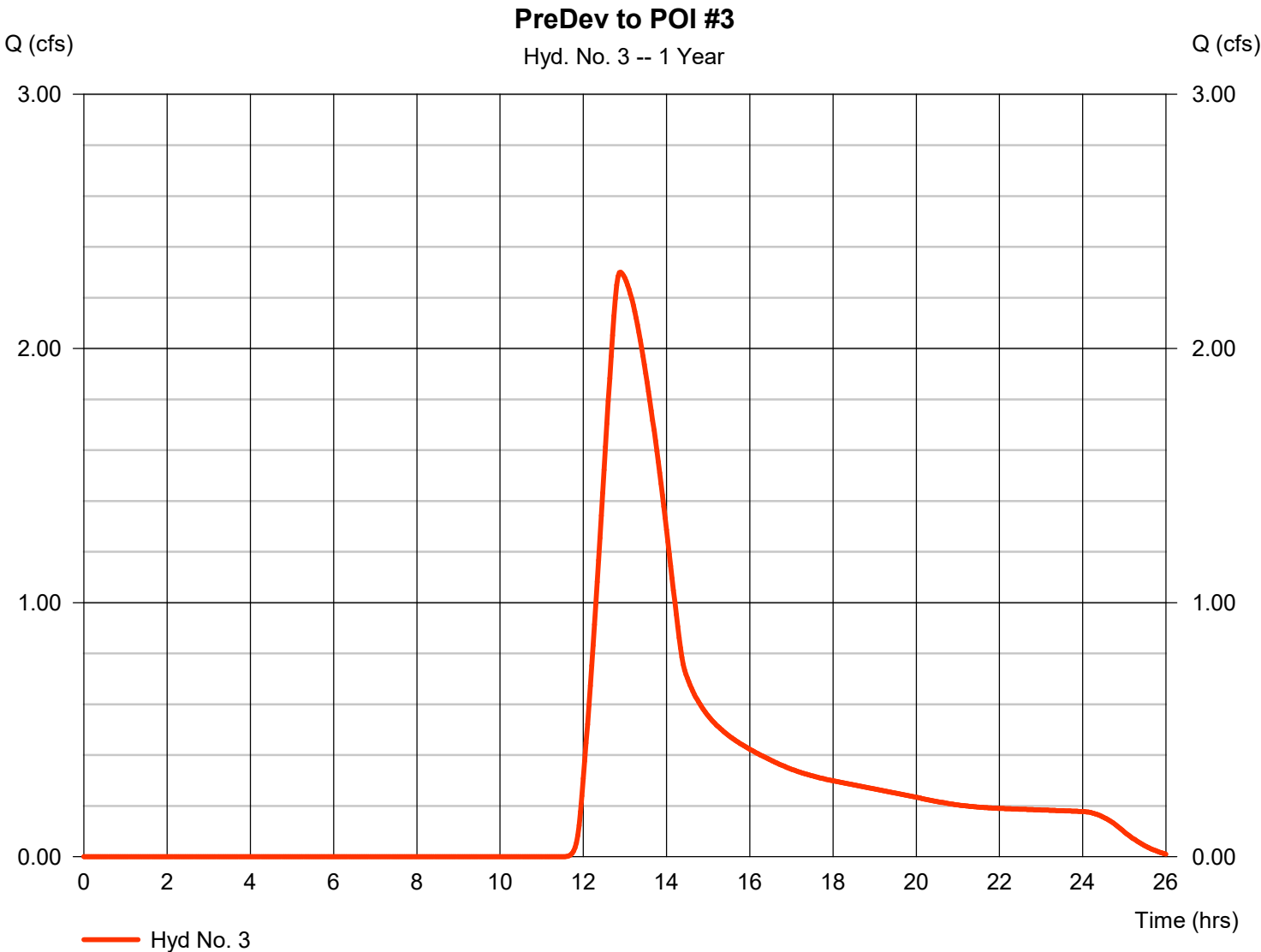


Hydrograph Report

Hyd. No. 3

PreDev to POI #3

Hydrograph type	= SCS Runoff	Peak discharge	= 2.300 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.90 hrs
Time interval	= 2 min	Hyd. volume	= 24,648 cuft
Drainage area	= 9.310 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 92.00 min
Total precip.	= 2.86 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

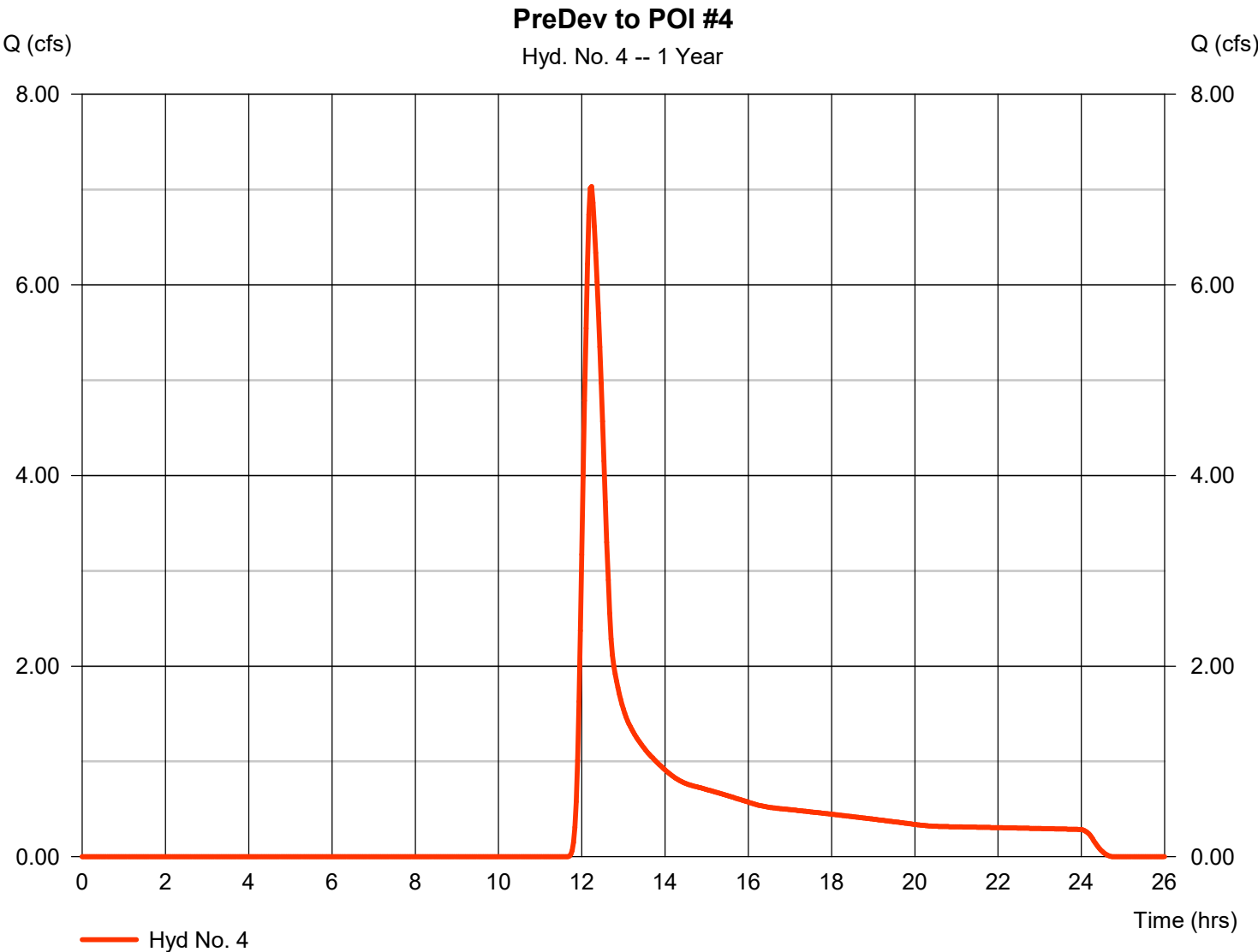


Hydrograph Report

Hyd. No. 4

PreDev to POI #4

Hydrograph type	= SCS Runoff	Peak discharge	= 7.033 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.23 hrs
Time interval	= 2 min	Hyd. volume	= 36,249 cuft
Drainage area	= 17.970 ac	Curve number	= 68
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 28.80 min
Total precip.	= 2.86 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

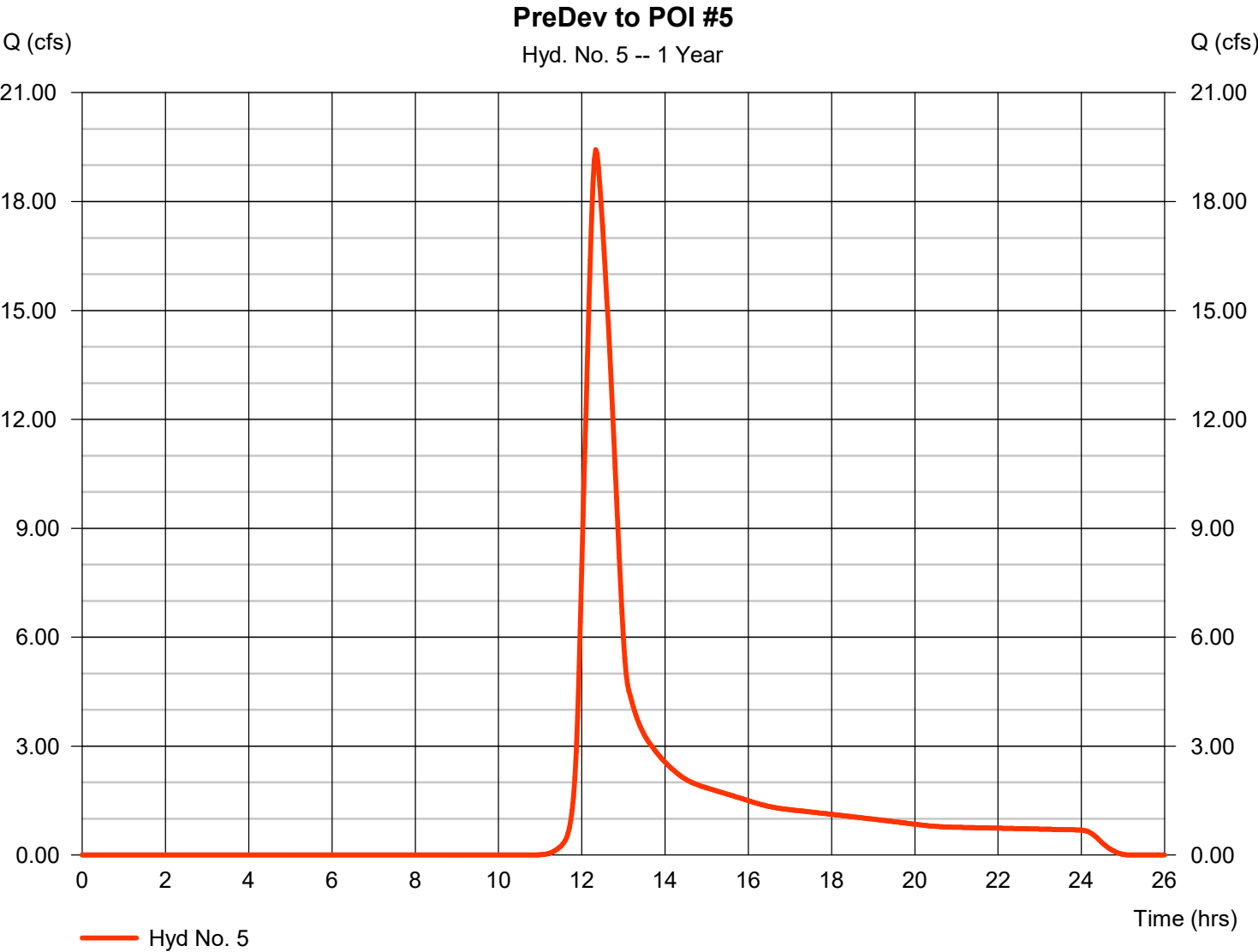


Hydrograph Report

Hyd. No. 5

PreDev to POI #5

Hydrograph type	= SCS Runoff	Peak discharge	= 19.43 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.33 hrs
Time interval	= 2 min	Hyd. volume	= 108,426 cuft
Drainage area	= 32.090 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 43.30 min
Total precip.	= 2.86 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

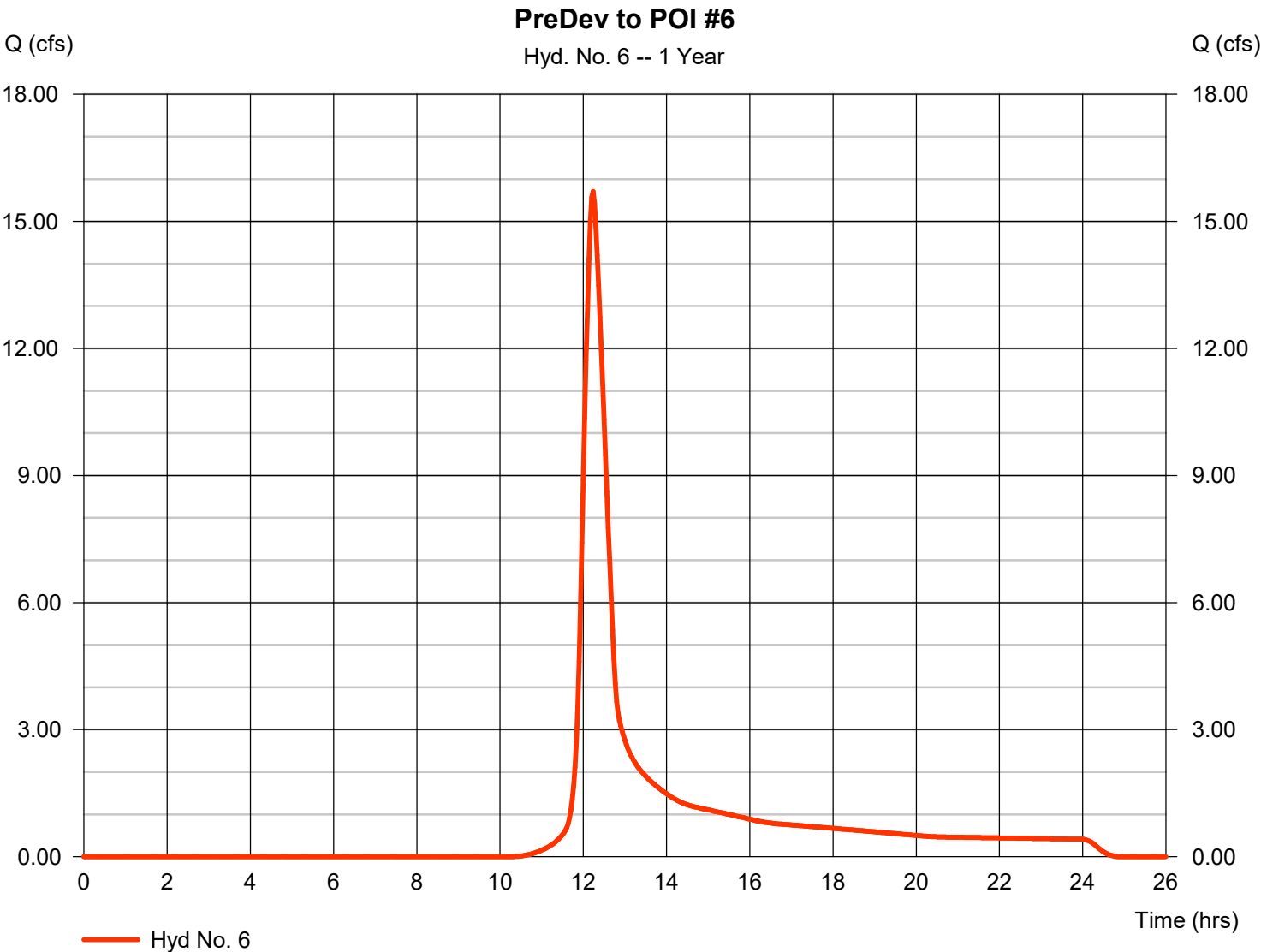


Hydrograph Report

Hyd. No. 6

PreDev to POI #6

Hydrograph type	=	SCS Runoff	Peak discharge	=	15.71 cfs
Storm frequency	=	1 yrs	Time to peak	=	12.23 hrs
Time interval	=	2 min	Hyd. volume	=	70,485 cuft
Drainage area	=	17.640 ac	Curve number	=	79
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	32.90 min
Total precip.	=	2.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

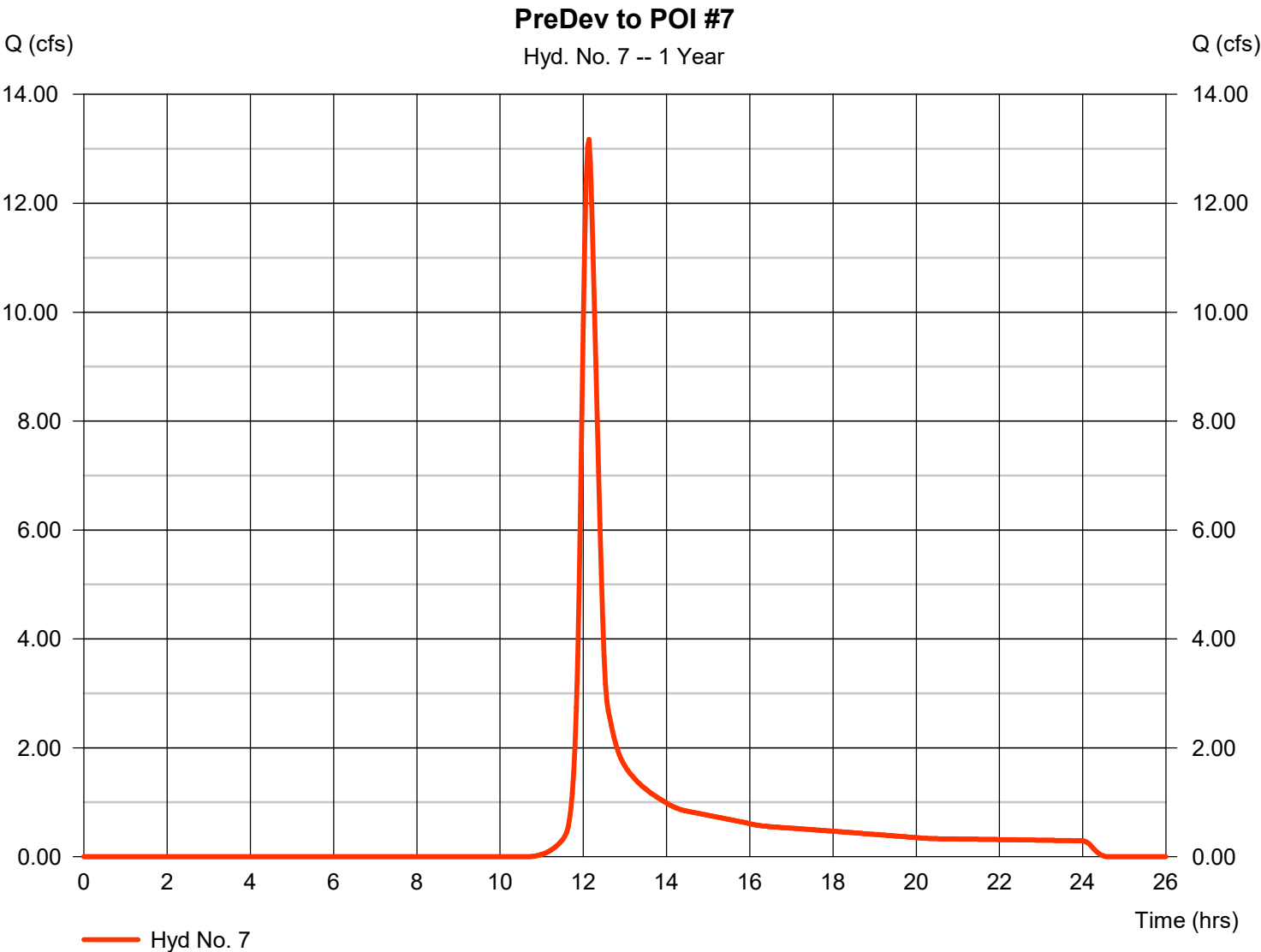


Hydrograph Report

Hyd. No. 7

PreDev to POI #7

Hydrograph type	= SCS Runoff	Peak discharge	= 13.17 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 47,742 cuft
Drainage area	= 13.250 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 22.00 min
Total precip.	= 2.86 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

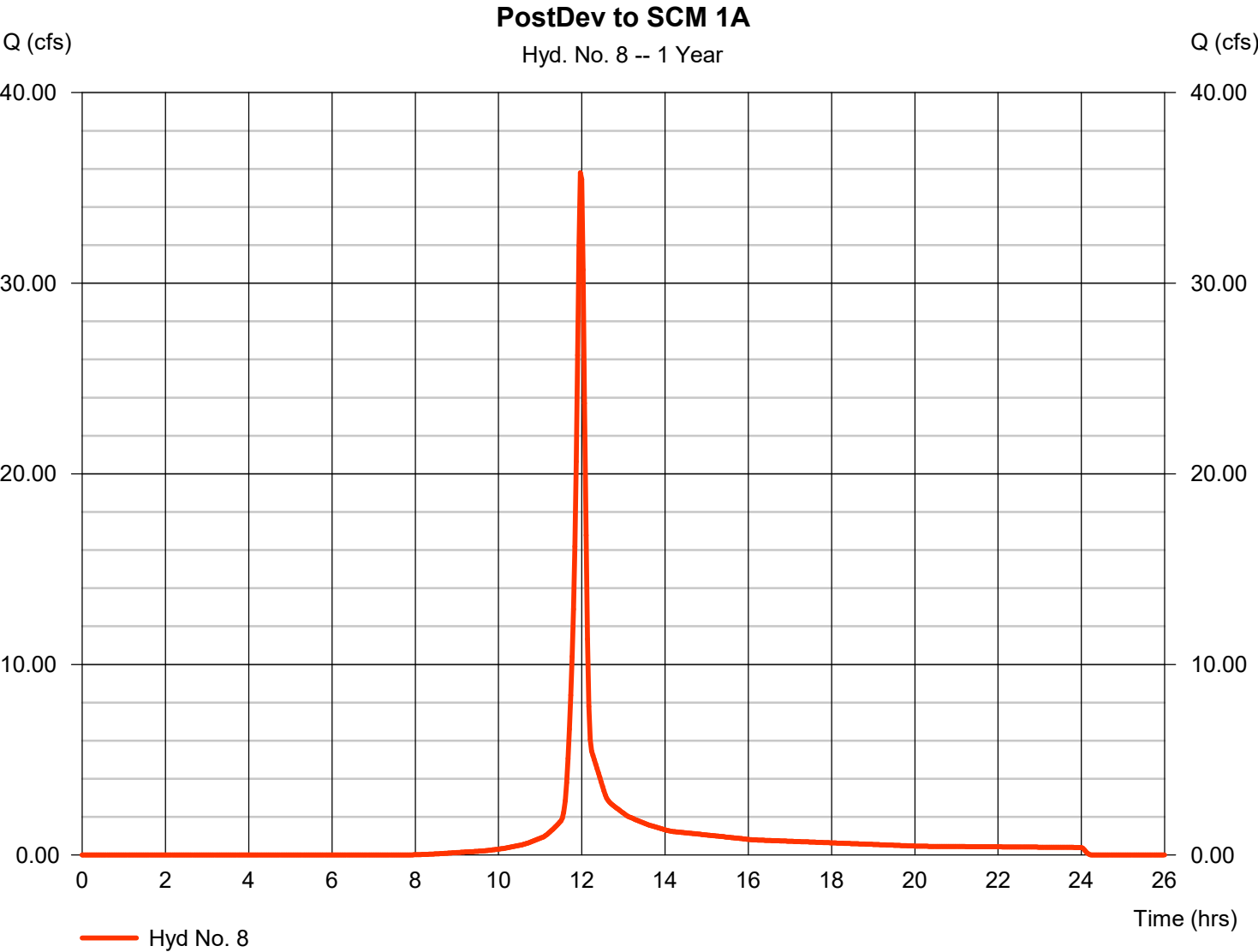


Hydrograph Report

Hyd. No. 8

PostDev to SCM 1A

Hydrograph type	= SCS Runoff	Peak discharge	= 35.80 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 81,954 cuft
Drainage area	= 14.630 ac	Curve number	= 86
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 8.30 min
Total precip.	= 2.86 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

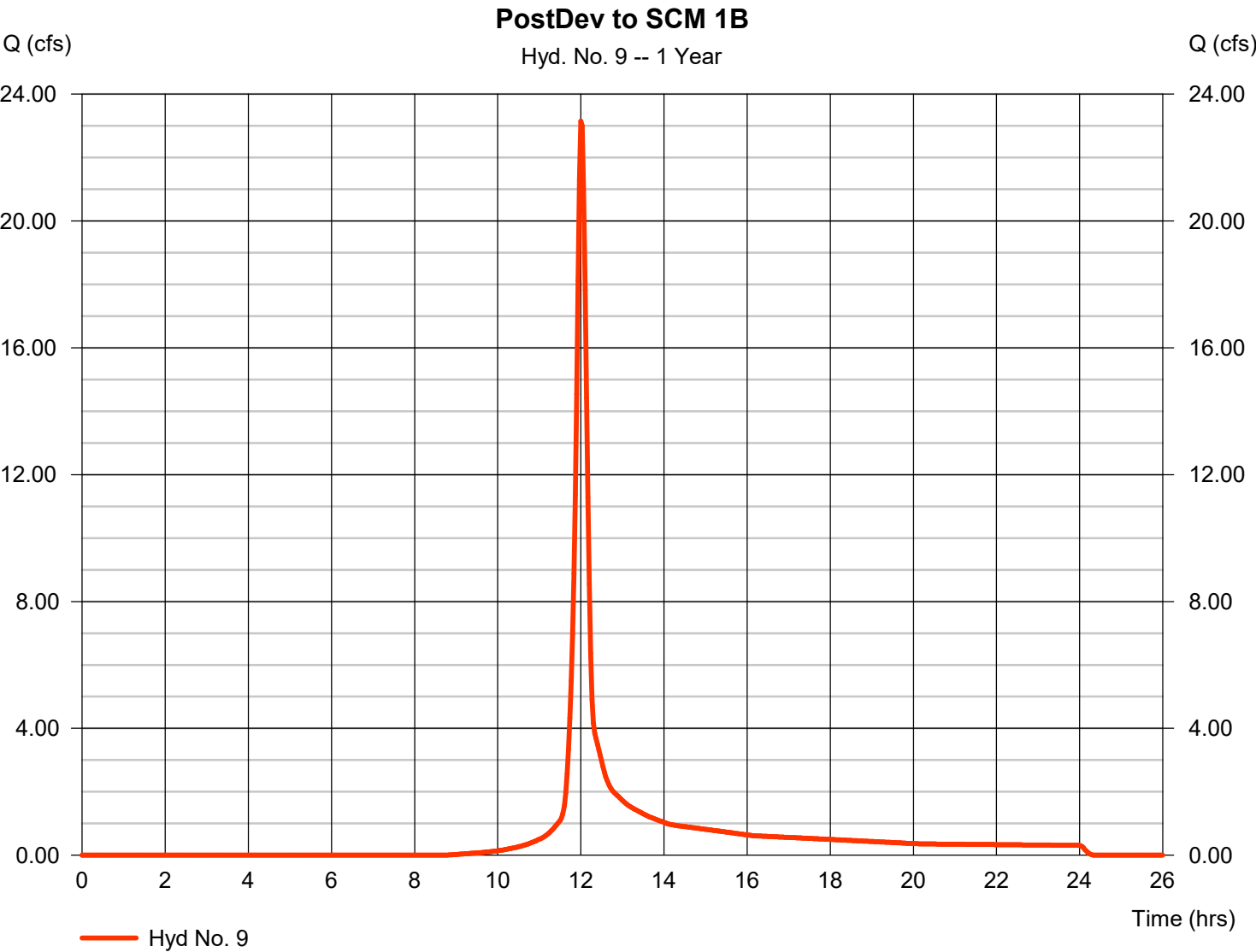


Hydrograph Report

Hyd. No. 9

PostDev to SCM 1B

Hydrograph type	= SCS Runoff	Peak discharge	= 23.15 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 60,129 cuft
Drainage area	= 11.570 ac	Curve number	= 83.8
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.10 min
Total precip.	= 2.86 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

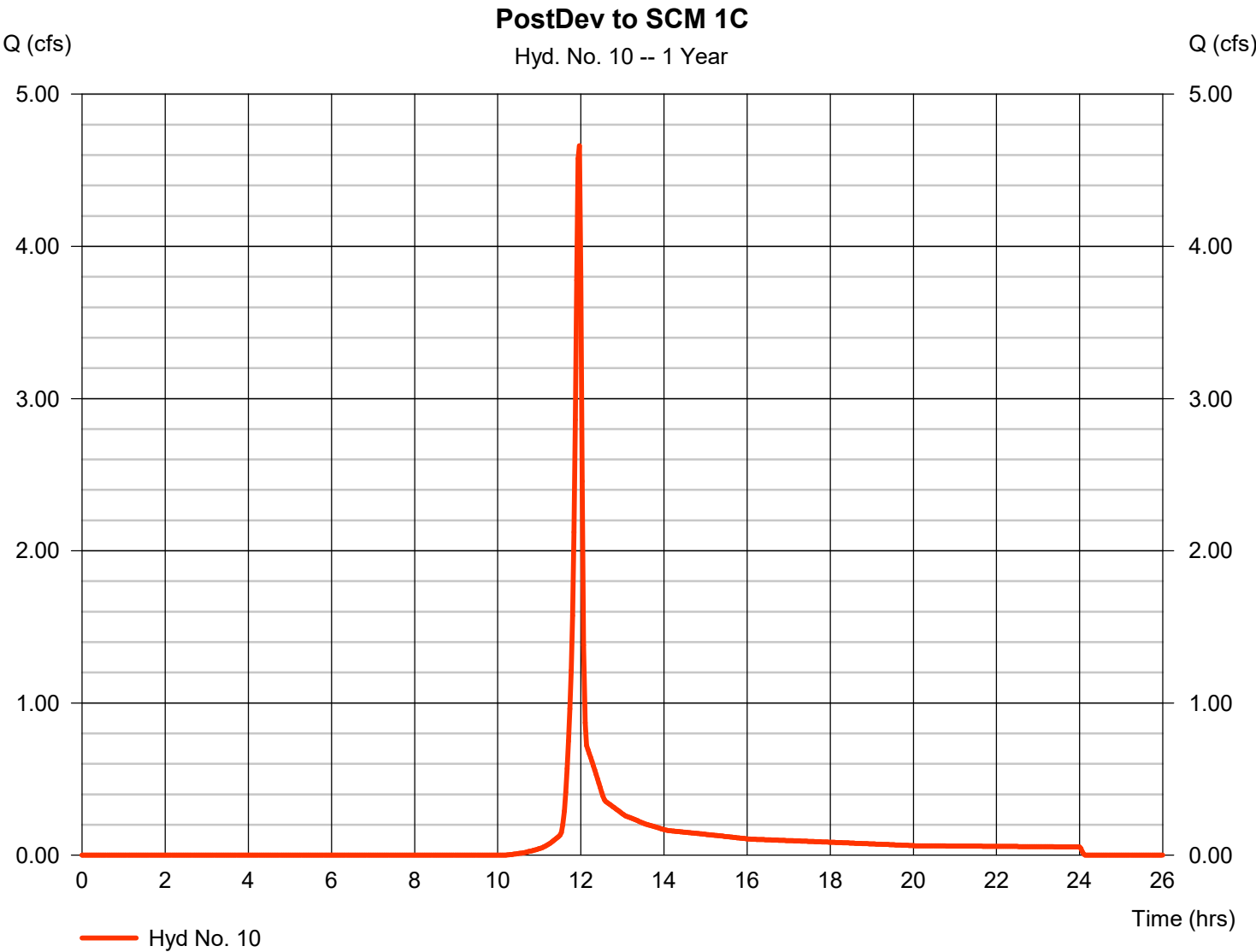
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 10

PostDev to SCM 1C

Hydrograph type	= SCS Runoff	Peak discharge	= 4.662 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 9,323 cuft
Drainage area	= 2.520 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.86 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

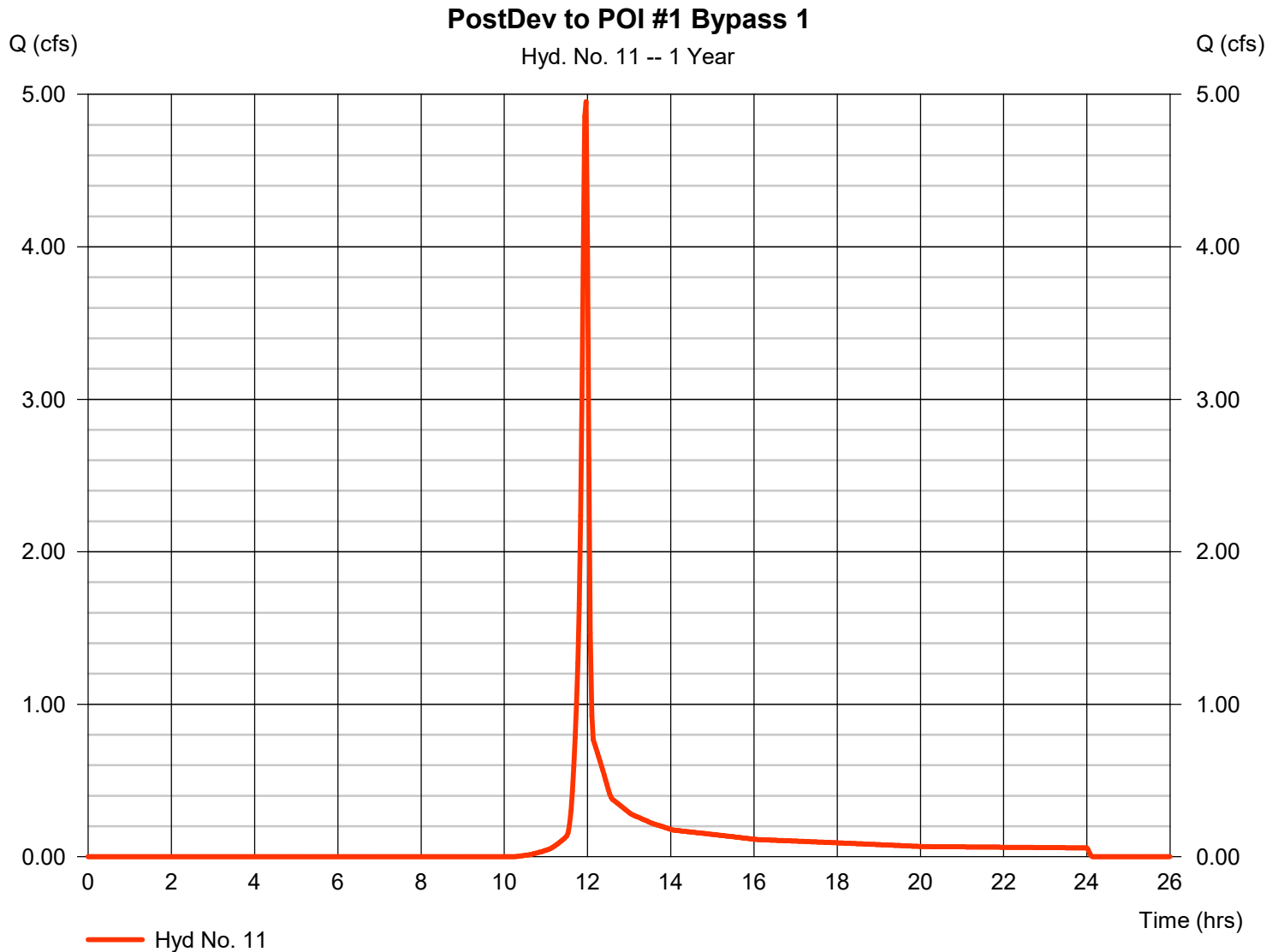
Saturday, 04 / 12 / 2025

Hyd. No. 11

PostDev to POI #1 Bypass 1

Hydrograph type = SCS Runoff
 Storm frequency = 1 yrs
 Time interval = 2 min
 Drainage area = 2.720 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 2.86 in
 Storm duration = 24 hrs

Peak discharge = 4.952 cfs
 Time to peak = 11.97 hrs
 Hyd. volume = 9,903 cuft
 Curve number = 78.7
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 5.00 min
 Distribution = Type II
 Shape factor = 484

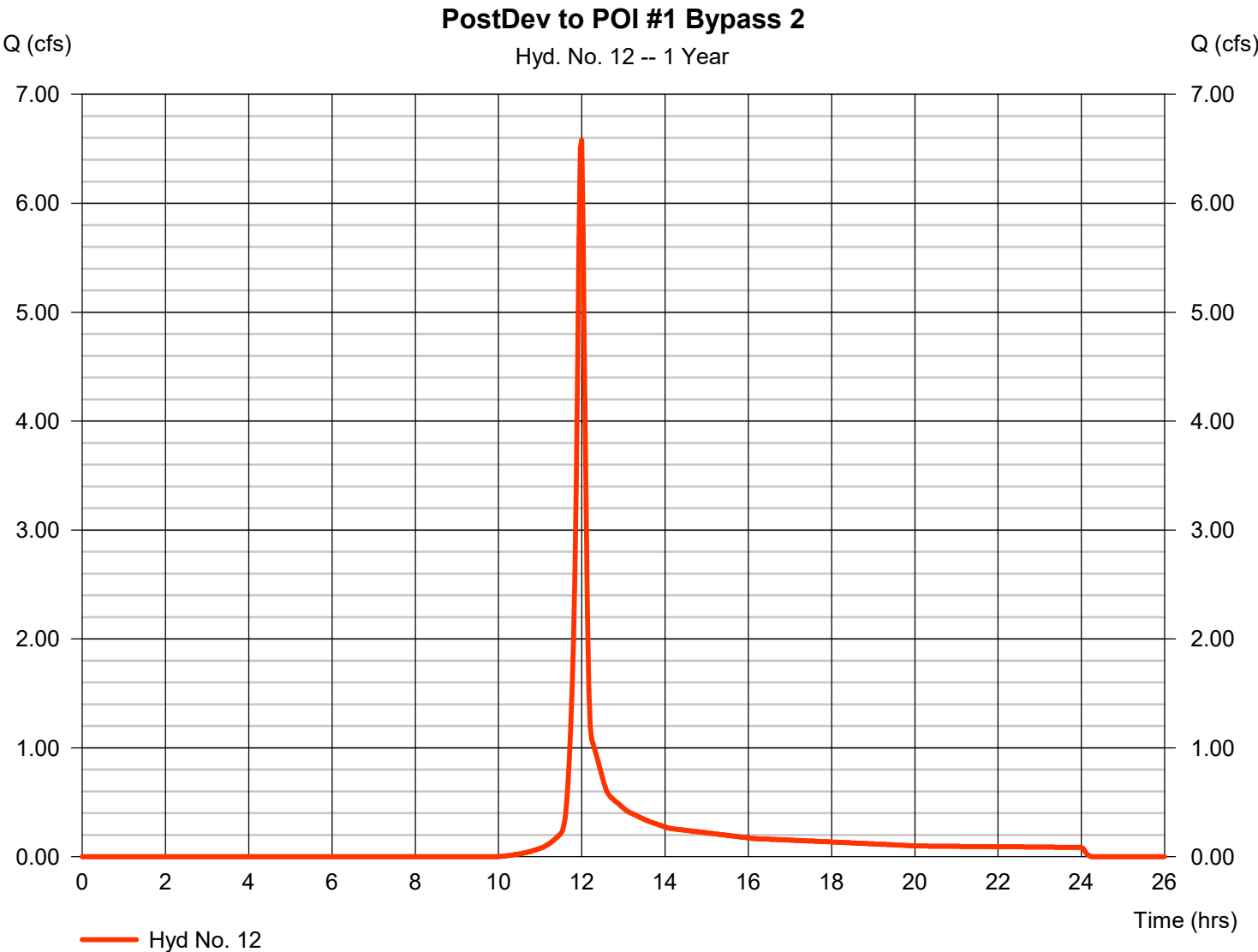


Hydrograph Report

Hyd. No. 12

PostDev to POI #1 Bypass 2

Hydrograph type	=	SCS Runoff	Peak discharge	=	6.578 cfs
Storm frequency	=	1 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	15,064 cuft
Drainage area	=	3.640 ac	Curve number	=	79.9
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.70 min
Total precip.	=	2.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

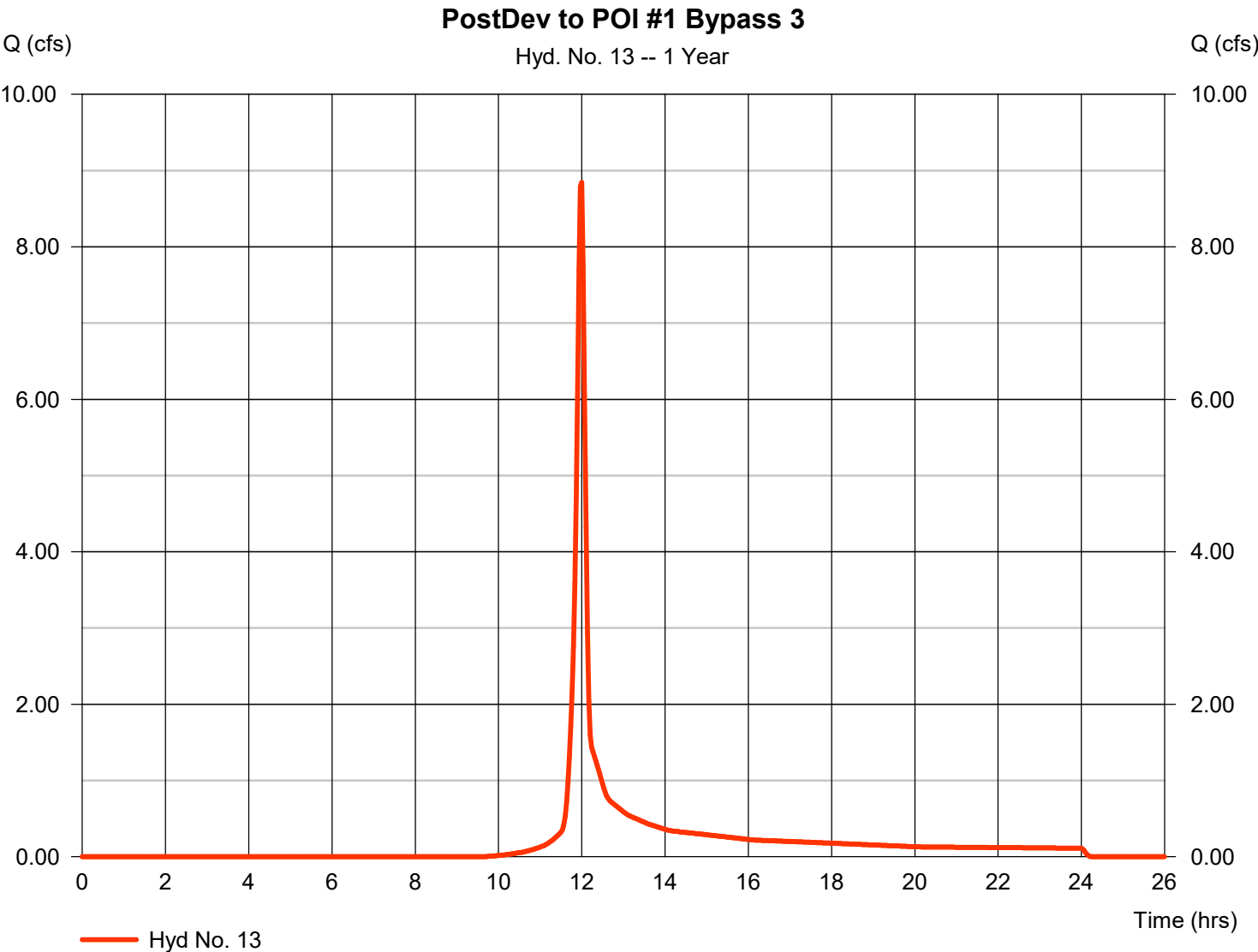


Hydrograph Report

Hyd. No. 13

PostDev to POI #1 Bypass 3

Hydrograph type	=	SCS Runoff	Peak discharge	=	8.843 cfs
Storm frequency	=	1 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	20,239 cuft
Drainage area	=	4.620 ac	Curve number	=	81
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	7.20 min
Total precip.	=	2.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

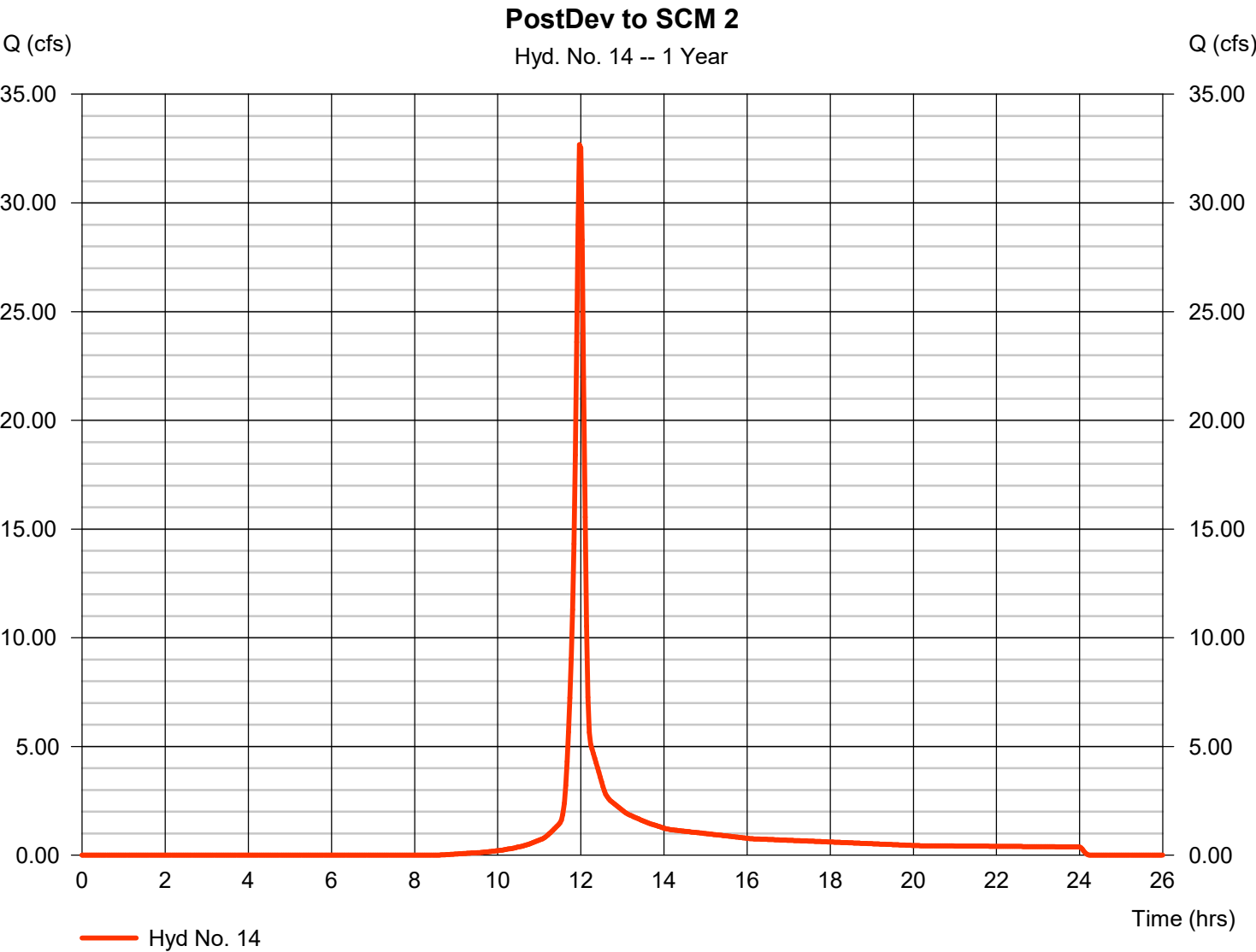


Hydrograph Report

Hyd. No. 14

PostDev to SCM 2

Hydrograph type	= SCS Runoff	Peak discharge	= 32.68 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 74,770 cuft
Drainage area	= 14.480 ac	Curve number	= 84.3
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.10 min
Total precip.	= 2.86 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

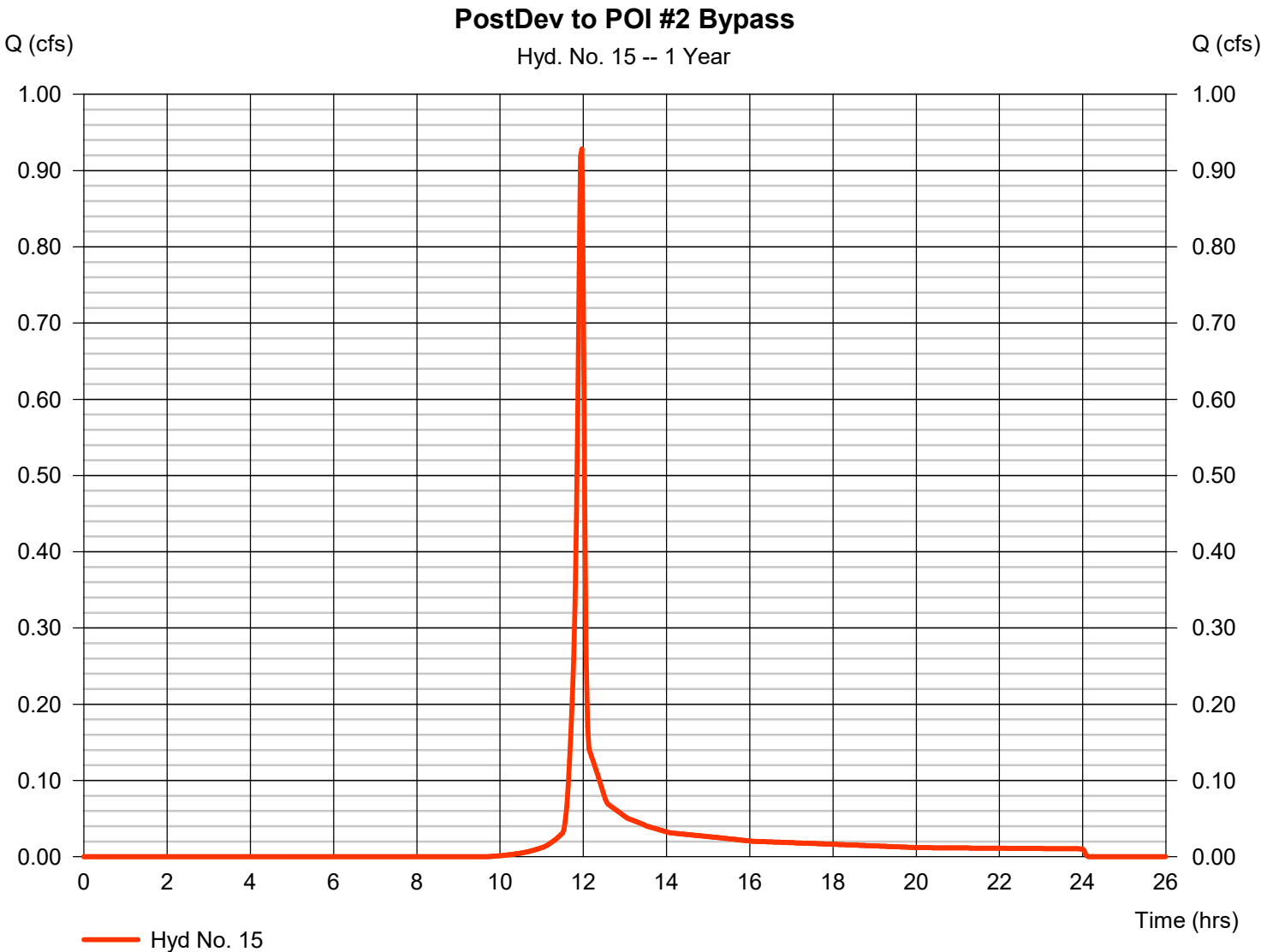
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 15

PostDev to POI #2 Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.928 cfs
Storm frequency	=	1 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	1,860 cuft
Drainage area	=	0.460 ac	Curve number	=	80.7
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	2.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

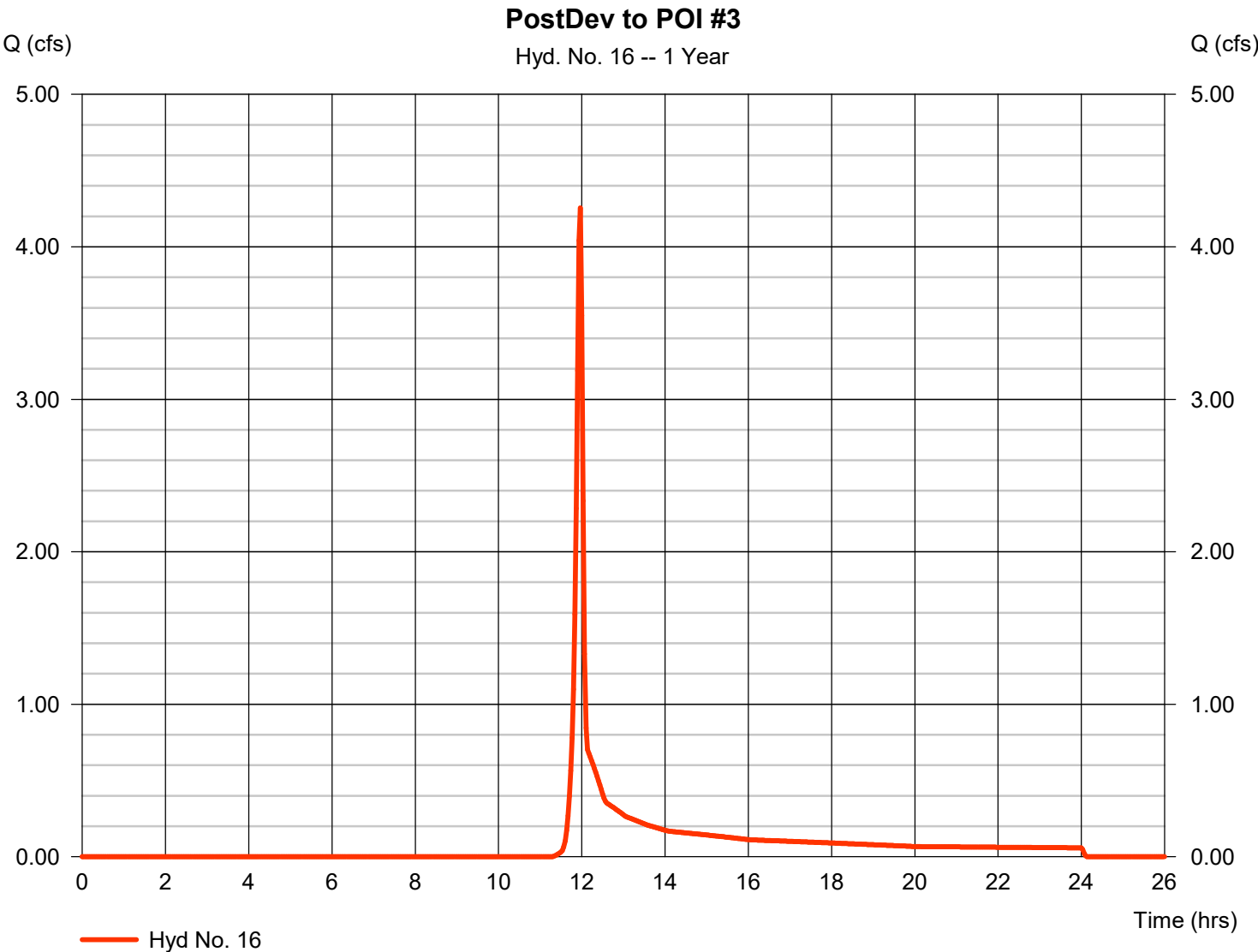
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 16

PostDev to POI #3

Hydrograph type	= SCS Runoff	Peak discharge	= 4.255 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 8,623 cuft
Drainage area	= 3.240 ac	Curve number	= 73.2
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.70 min
Total precip.	= 2.86 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

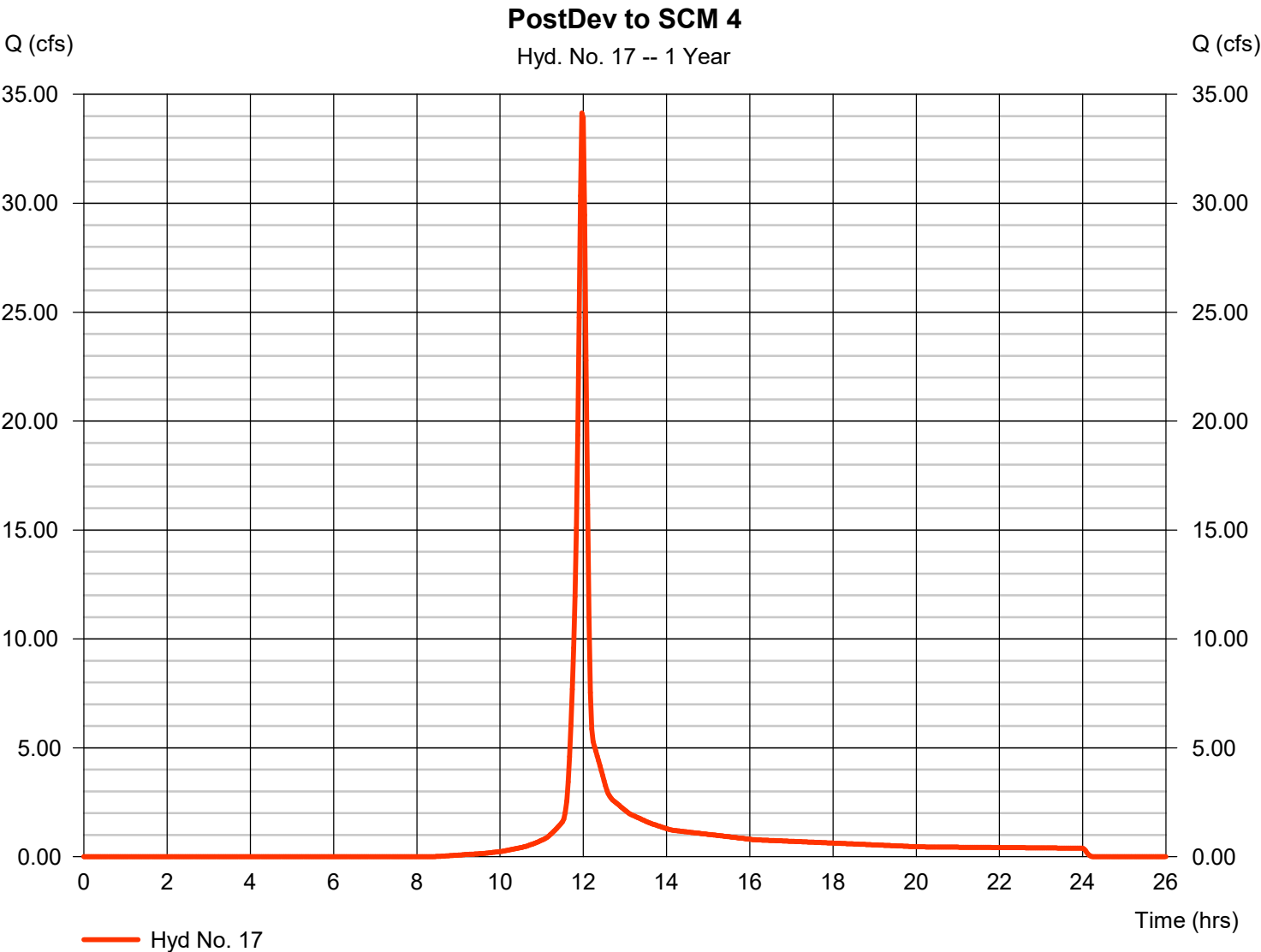
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 17

PostDev to SCM 4

Hydrograph type	= SCS Runoff	Peak discharge	= 34.13 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 78,080 cuft
Drainage area	= 14.760 ac	Curve number	= 84.8
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.20 min
Total precip.	= 2.86 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

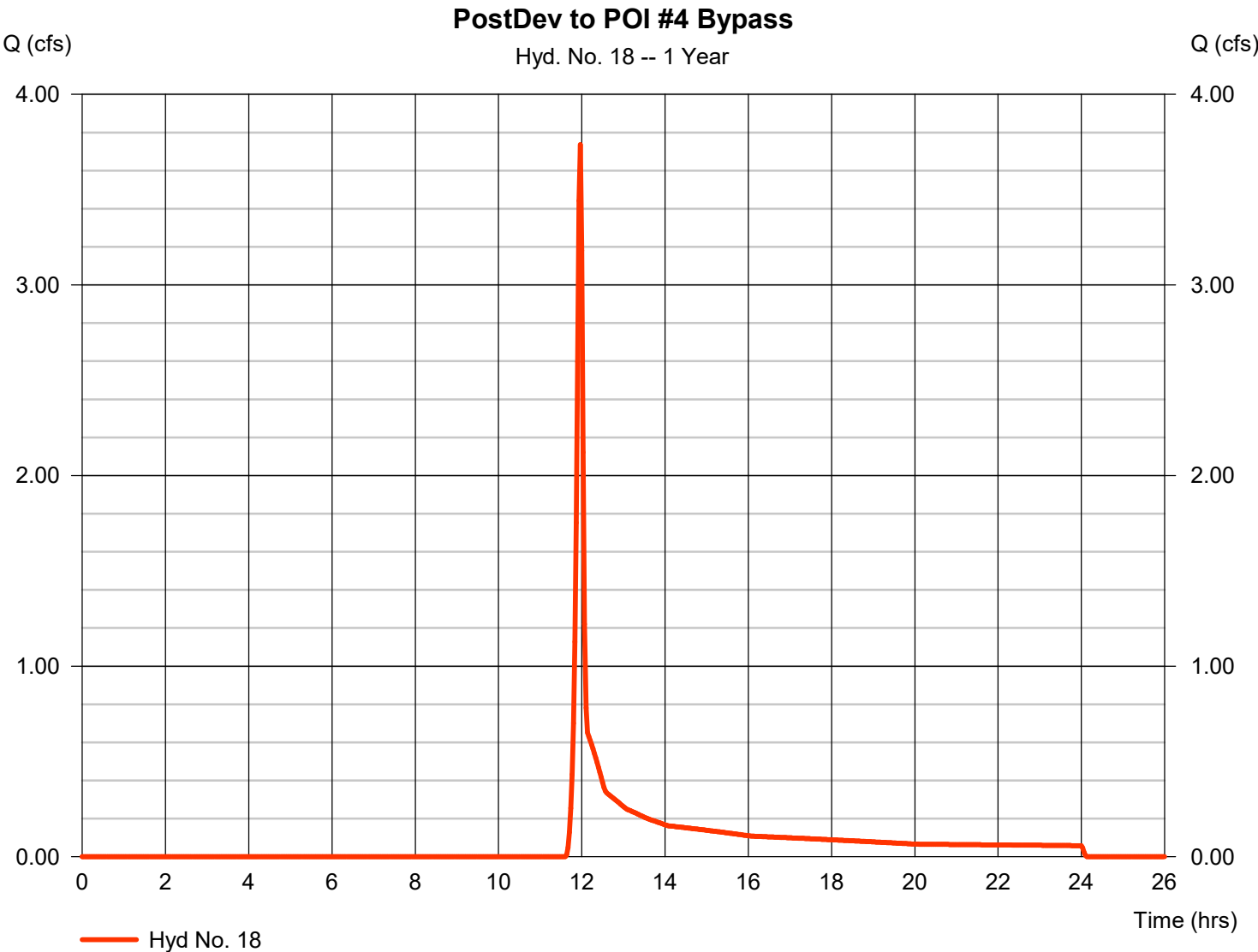
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 18

PostDev to POI #4 Bypass

Hydrograph type	= SCS Runoff	Peak discharge	= 3.736 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 7,808 cuft
Drainage area	= 3.670 ac	Curve number	= 69.7
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.86 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

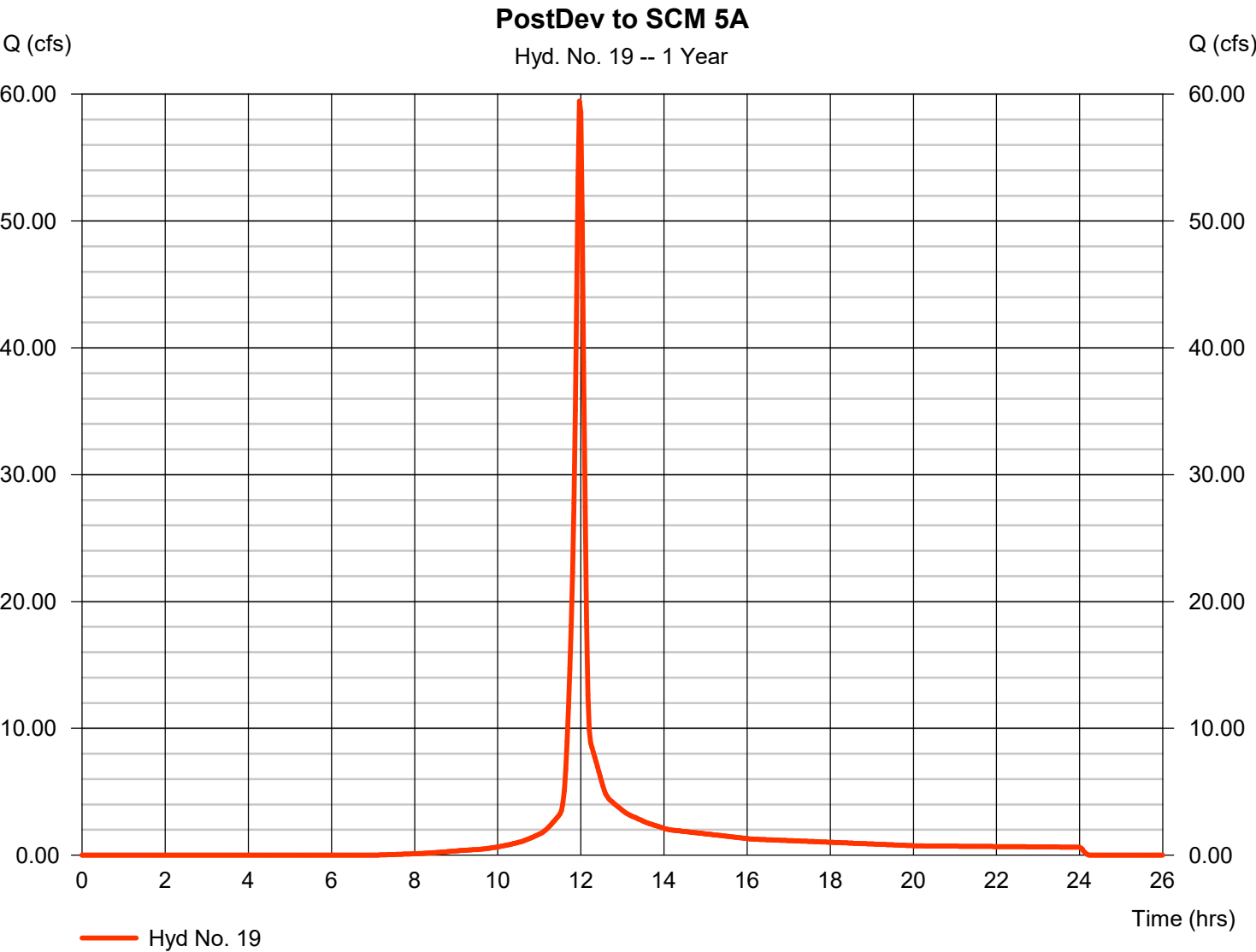


Hydrograph Report

Hyd. No. 19

PostDev to SCM 5A

Hydrograph type	= SCS Runoff	Peak discharge	= 59.45 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 136,622 cuft
Drainage area	= 22.420 ac	Curve number	= 87.8
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 9.10 min
Total precip.	= 2.86 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

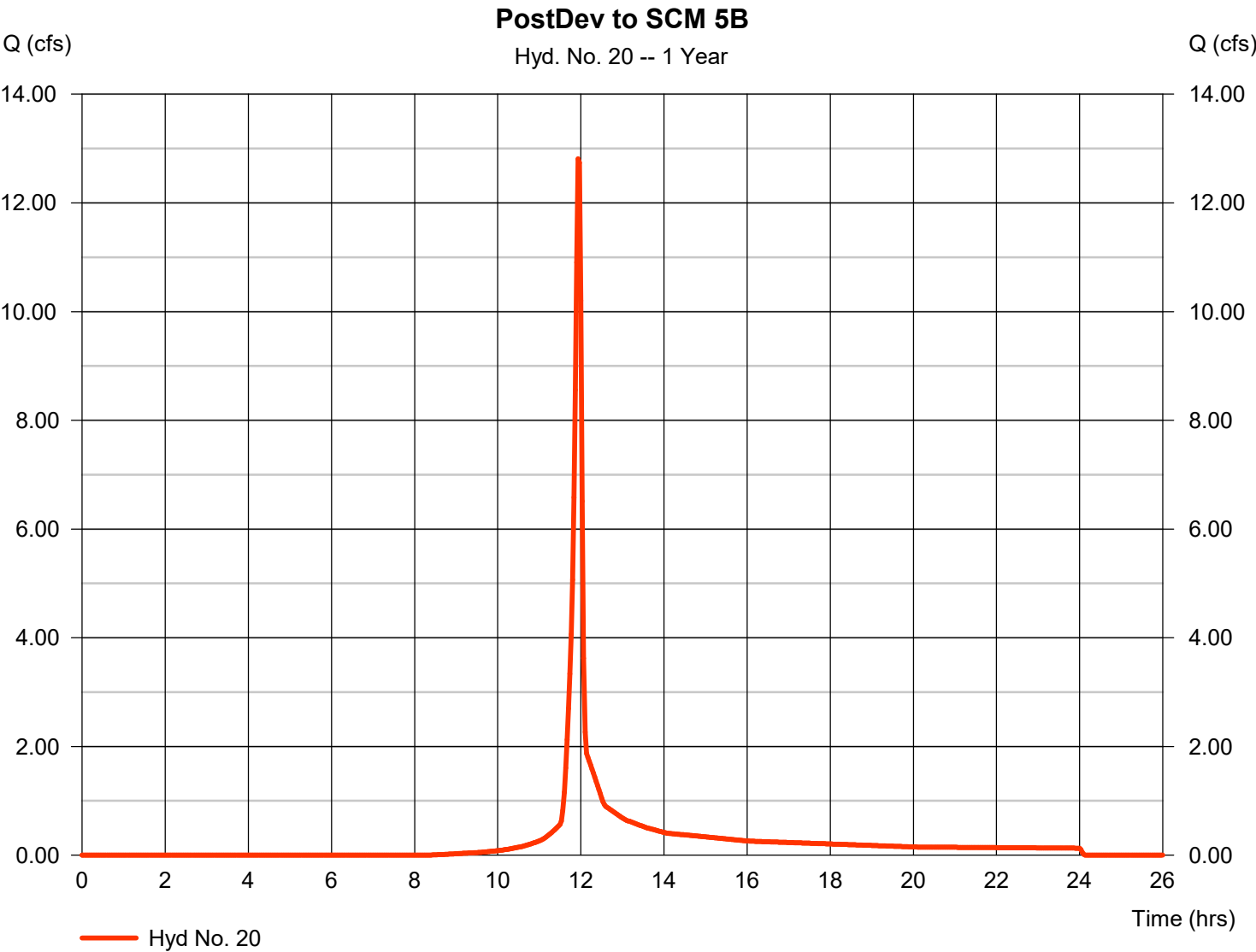


Hydrograph Report

Hyd. No. 20

PostDev to SCM 5B

Hydrograph type	= SCS Runoff	Peak discharge	= 12.81 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 25,888 cuft
Drainage area	= 5.220 ac	Curve number	= 84.8
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.86 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

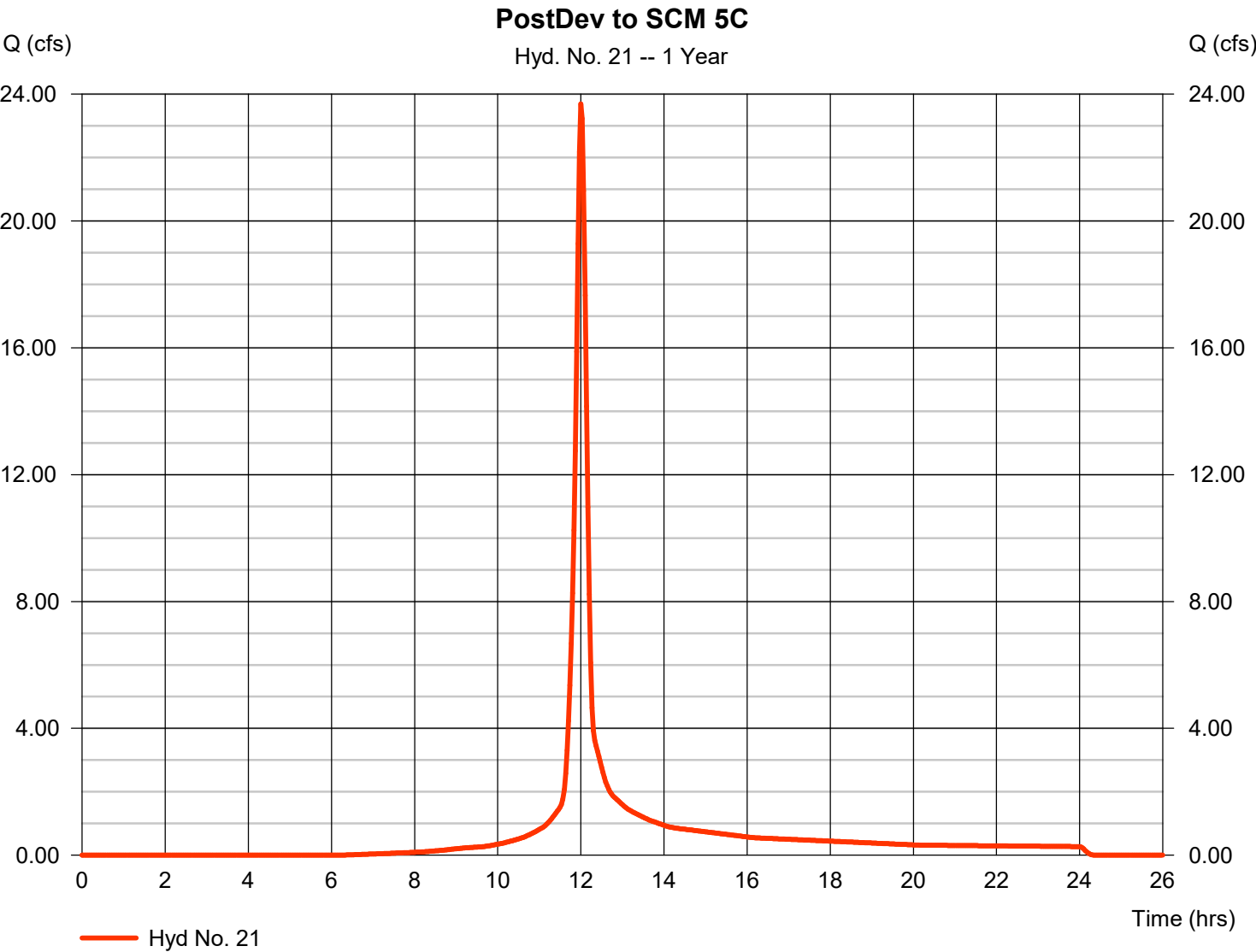


Hydrograph Report

Hyd. No. 21

PostDev to SCM 5C

Hydrograph type	= SCS Runoff	Peak discharge	= 23.69 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 61,888 cuft
Drainage area	= 9.070 ac	Curve number	= 89.6
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 12.80 min
Total precip.	= 2.86 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

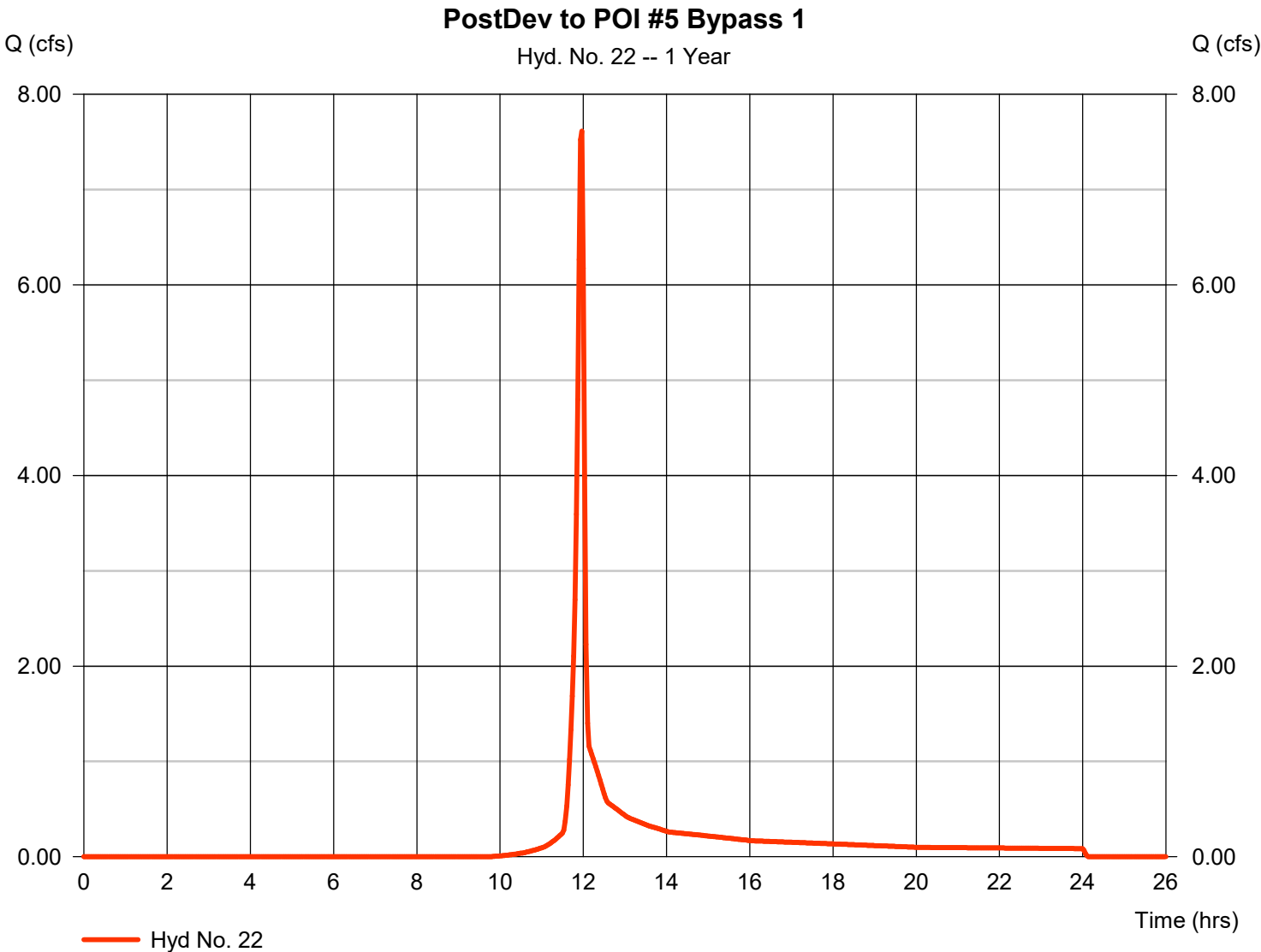
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 22

PostDev to POI #5 Bypass 1

Hydrograph type	=	SCS Runoff	Peak discharge	=	7.612 cfs
Storm frequency	=	1 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	15,250 cuft
Drainage area	=	3.810 ac	Curve number	=	80.5
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	2.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

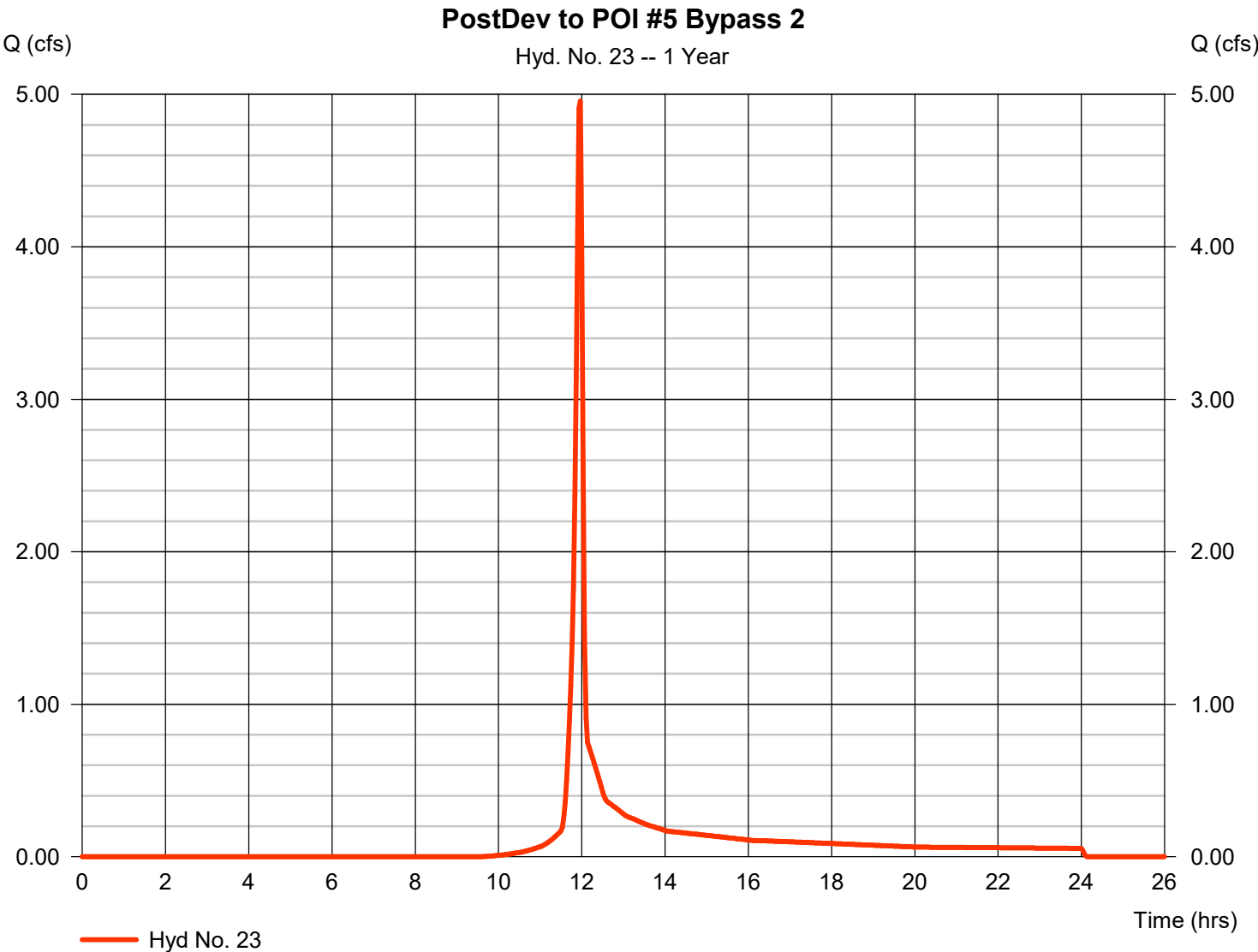


Hydrograph Report

Hyd. No. 23

PostDev to POI #5 Bypass 2

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.957 cfs
Storm frequency	=	1 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	9,939 cuft
Drainage area	=	2.420 ac	Curve number	=	81
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	2.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

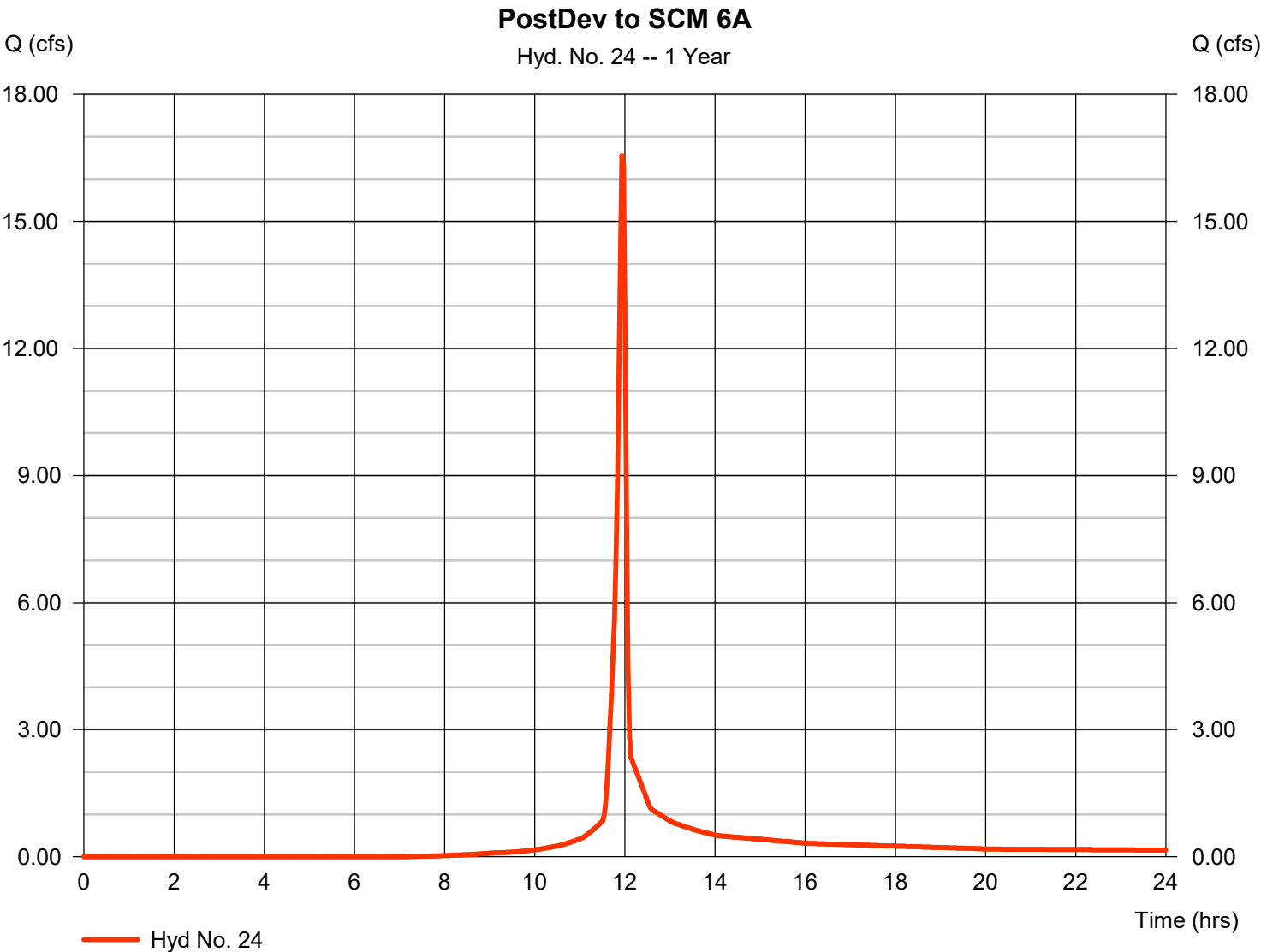
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 24

PostDev to SCM 6A

Hydrograph type	= SCS Runoff	Peak discharge	= 16.55 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 33,678 cuft
Drainage area	= 5.950 ac	Curve number	= 87.6
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.86 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

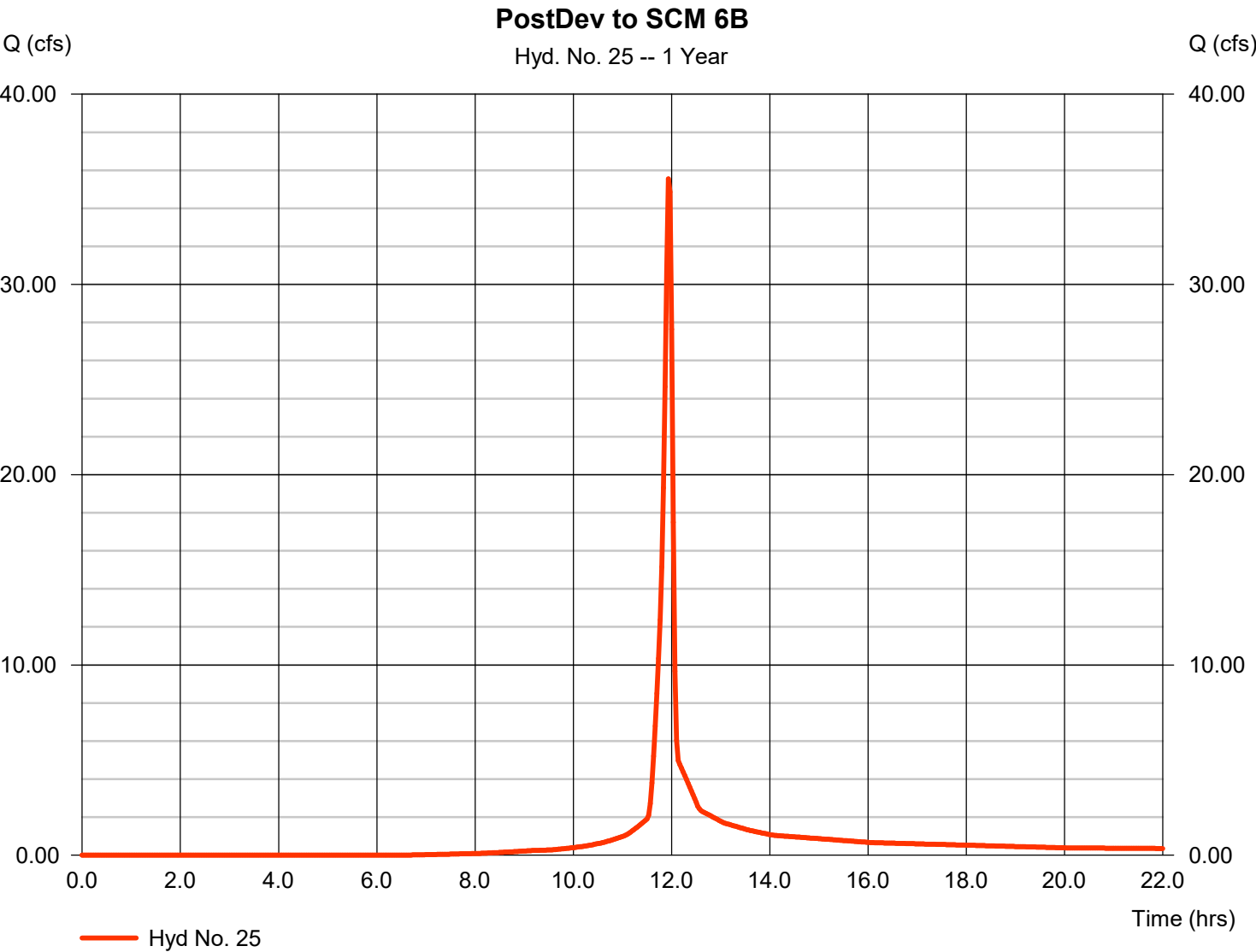


Hydrograph Report

Hyd. No. 25

PostDev to SCM 6B

Hydrograph type	= SCS Runoff	Peak discharge	= 35.55 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 72,701 cuft
Drainage area	= 12.210 ac	Curve number	= 88.7
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.30 min
Total precip.	= 2.86 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

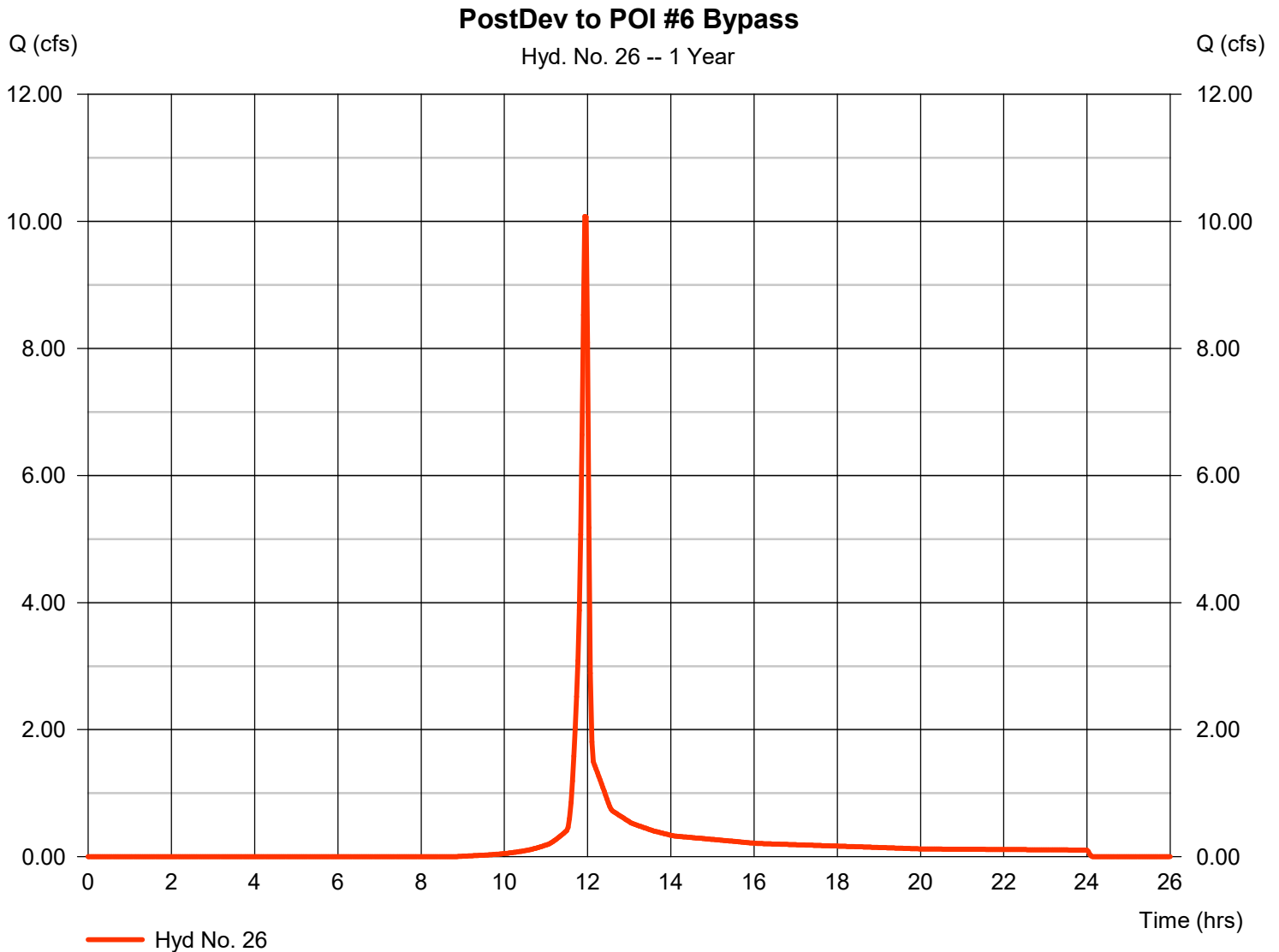
Saturday, 04 / 12 / 2025

Hyd. No. 26

PostDev to POI #6 Bypass

Hydrograph type = SCS Runoff
 Storm frequency = 1 yrs
 Time interval = 2 min
 Drainage area = 4.370 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 2.86 in
 Storm duration = 24 hrs

Peak discharge = 10.08 cfs
 Time to peak = 11.93 hrs
 Hyd. volume = 20,345 cuft
 Curve number = 83.5
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 5.00 min
 Distribution = Type II
 Shape factor = 484

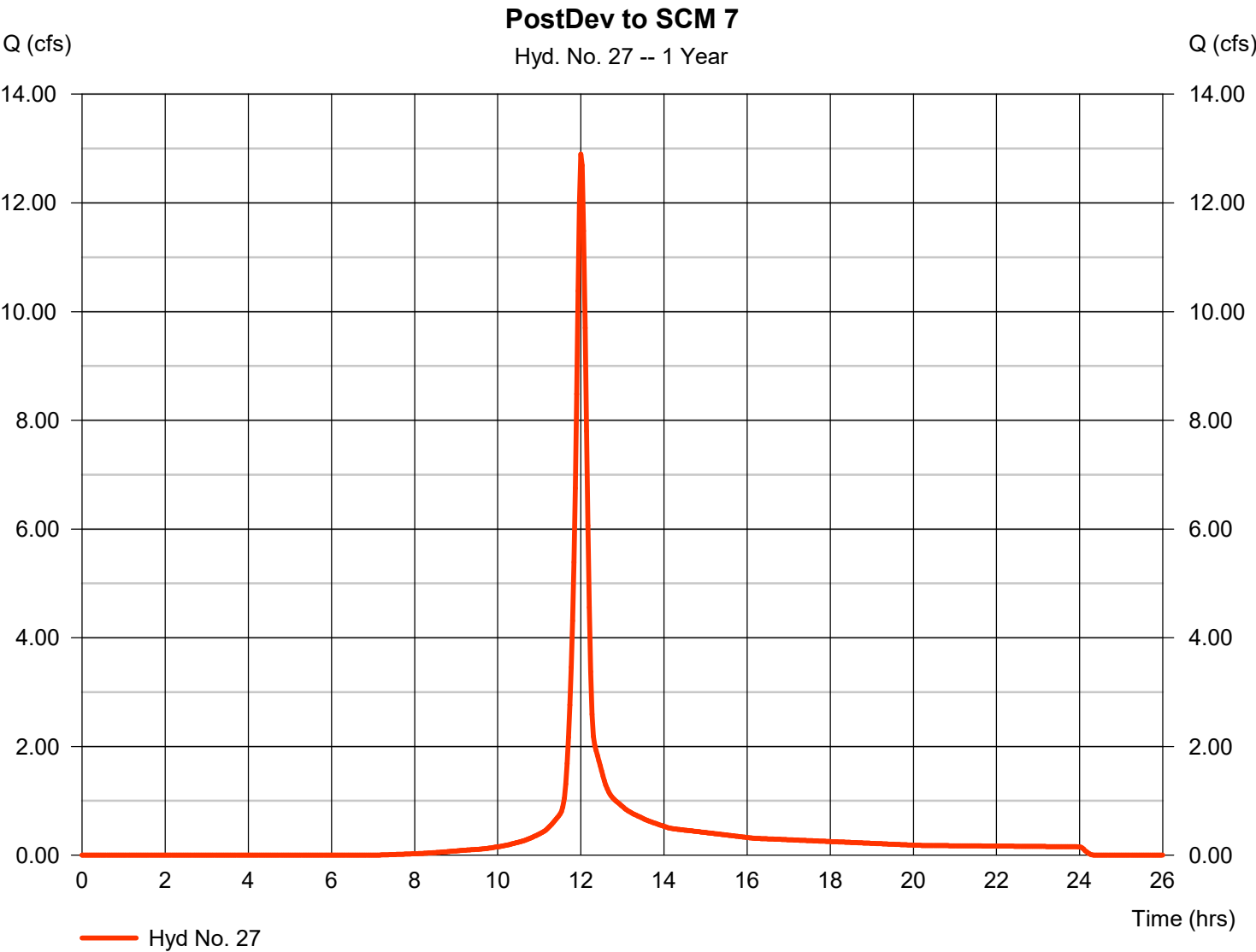


Hydrograph Report

Hyd. No. 27

PostDev to SCM 7

Hydrograph type	= SCS Runoff	Peak discharge	= 12.89 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 33,495 cuft
Drainage area	= 5.330 ac	Curve number	= 87.8
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 12.40 min
Total precip.	= 2.86 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

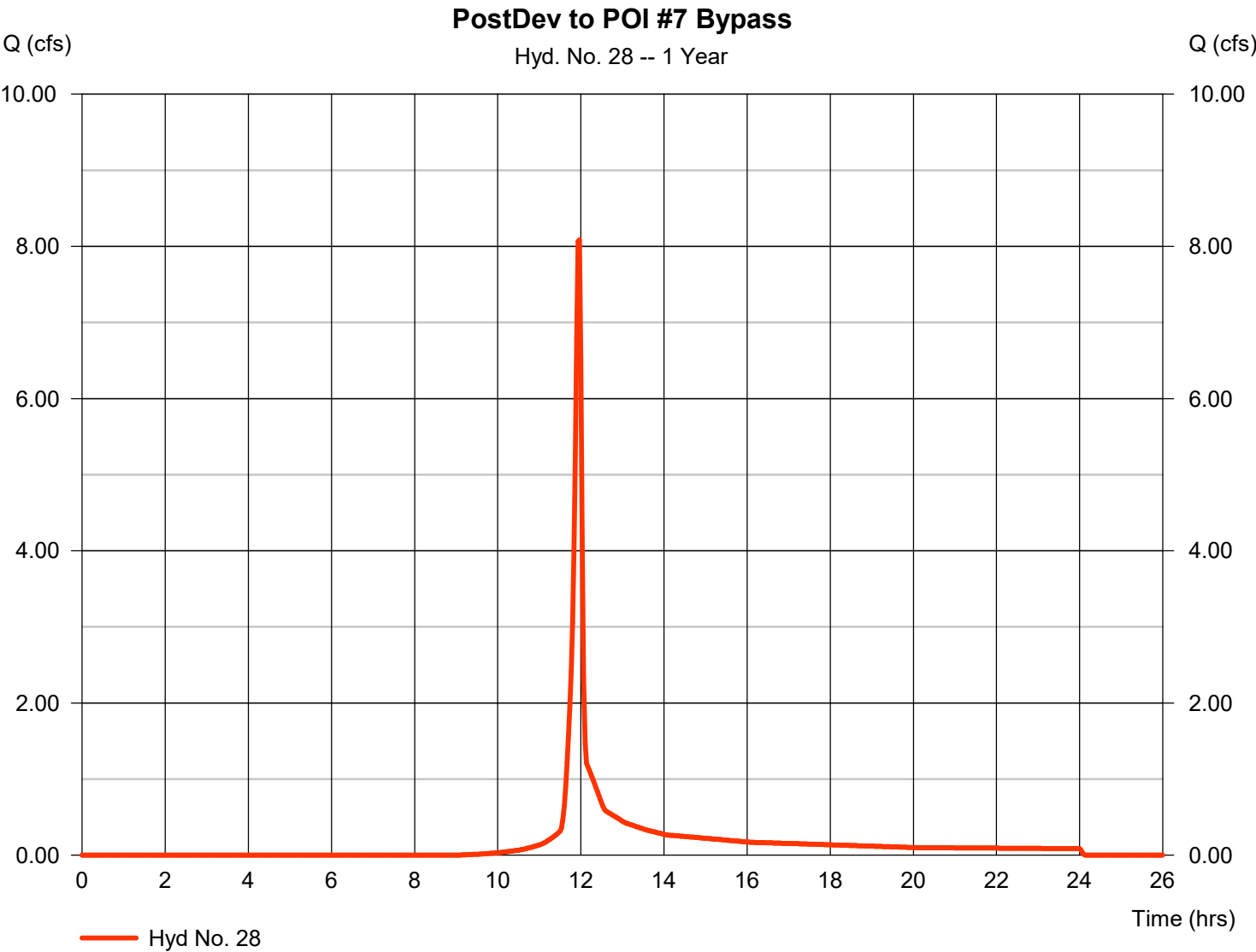


Hydrograph Report

Hyd. No. 28

PostDev to POI #7 Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	8.086 cfs
Storm frequency	=	1 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	16,289 cuft
Drainage area	=	3.640 ac	Curve number	=	82.7
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	2.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



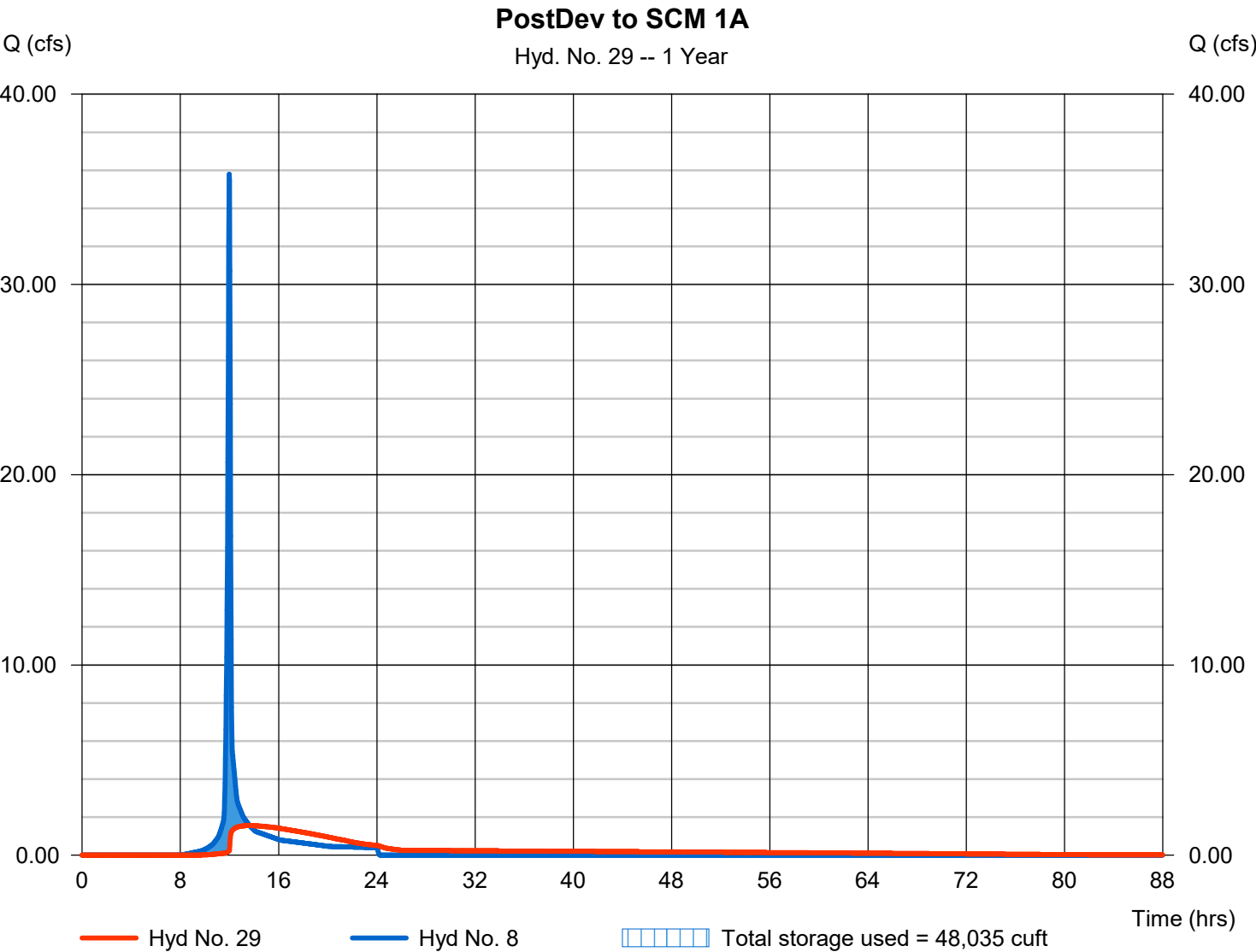
Hydrograph Report

Hyd. No. 29

PostDev to SCM 1A

Hydrograph type	= Reservoir	Peak discharge	= 1.555 cfs
Storm frequency	= 1 yrs	Time to peak	= 13.63 hrs
Time interval	= 2 min	Hyd. volume	= 81,385 cuft
Inflow hyd. No.	= 8 - PostDev to SCM 1A	Max. Elevation	= 350.19 ft
Reservoir name	= SCM 1A	Max. Storage	= 48,035 cuft

Storage Indication method used.



Pond No. 1 - SCM 1A

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 346.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	346.50	9,554	0	0
0.50	347.00	10,981	5,129	5,129
1.50	348.00	12,465	11,714	16,843
2.50	349.00	14,006	13,227	30,070
3.50	350.00	15,603	14,796	44,866
4.50	351.00	17,257	16,421	61,287
5.50	352.00	18,968	18,104	79,391
6.50	353.00	20,735	19,843	99,234
7.50	354.00	22,558	21,638	120,872
8.50	355.00	24,439	23,490	144,362

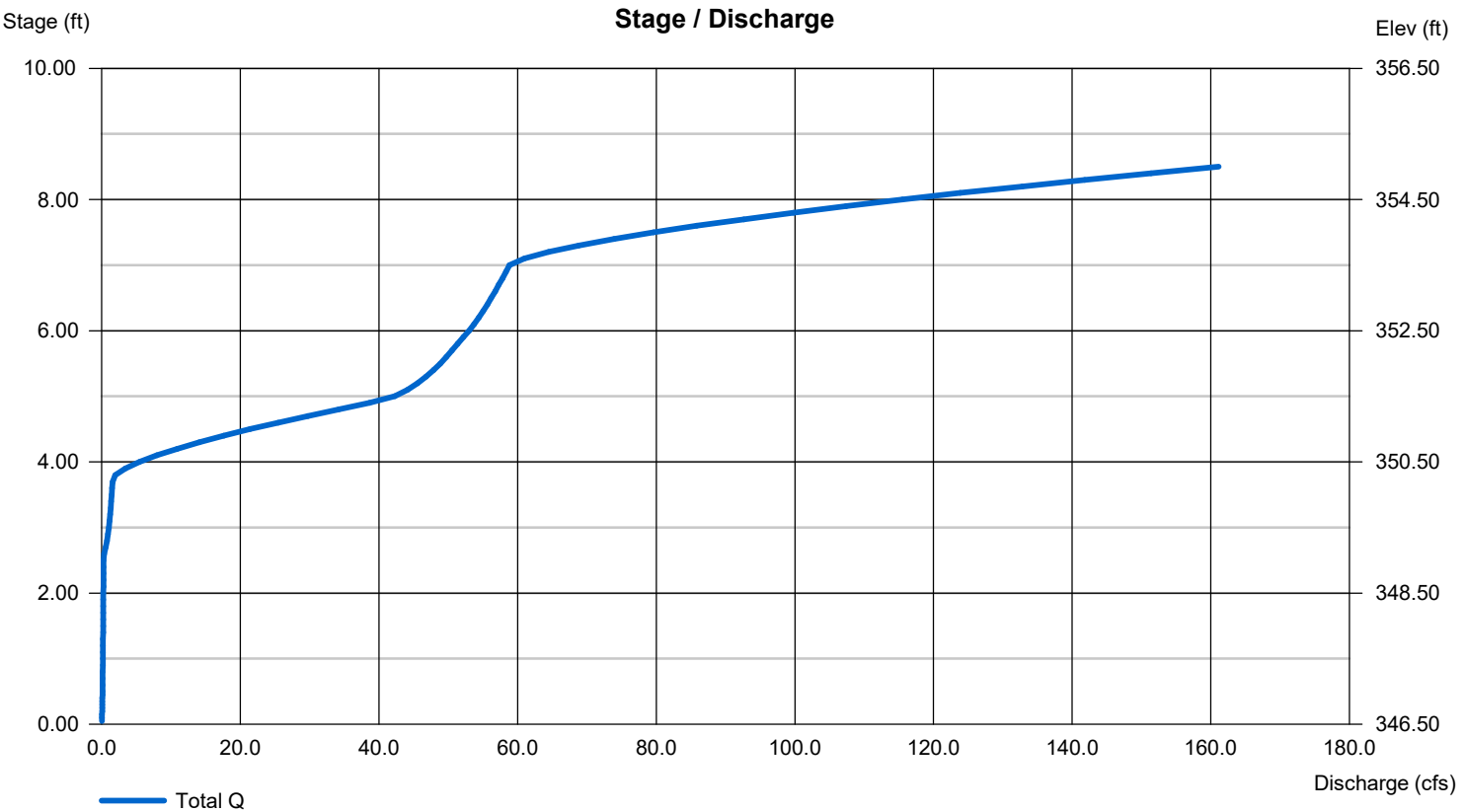
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 30.00	2.50	3.00	0.00
Span (in)	= 30.00	2.50	12.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 346.00	346.50	349.00	0.00
Length (ft)	= 90.00	0.00	0.00	0.00
Slope (%)	= 1.10	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 11.00	20.00	9.00	0.00
Crest El. (ft)	= 352.25	353.50	350.25	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= 1	Broad	Rect	---
Multi-Stage	= Yes	No	Yes	No
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

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



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

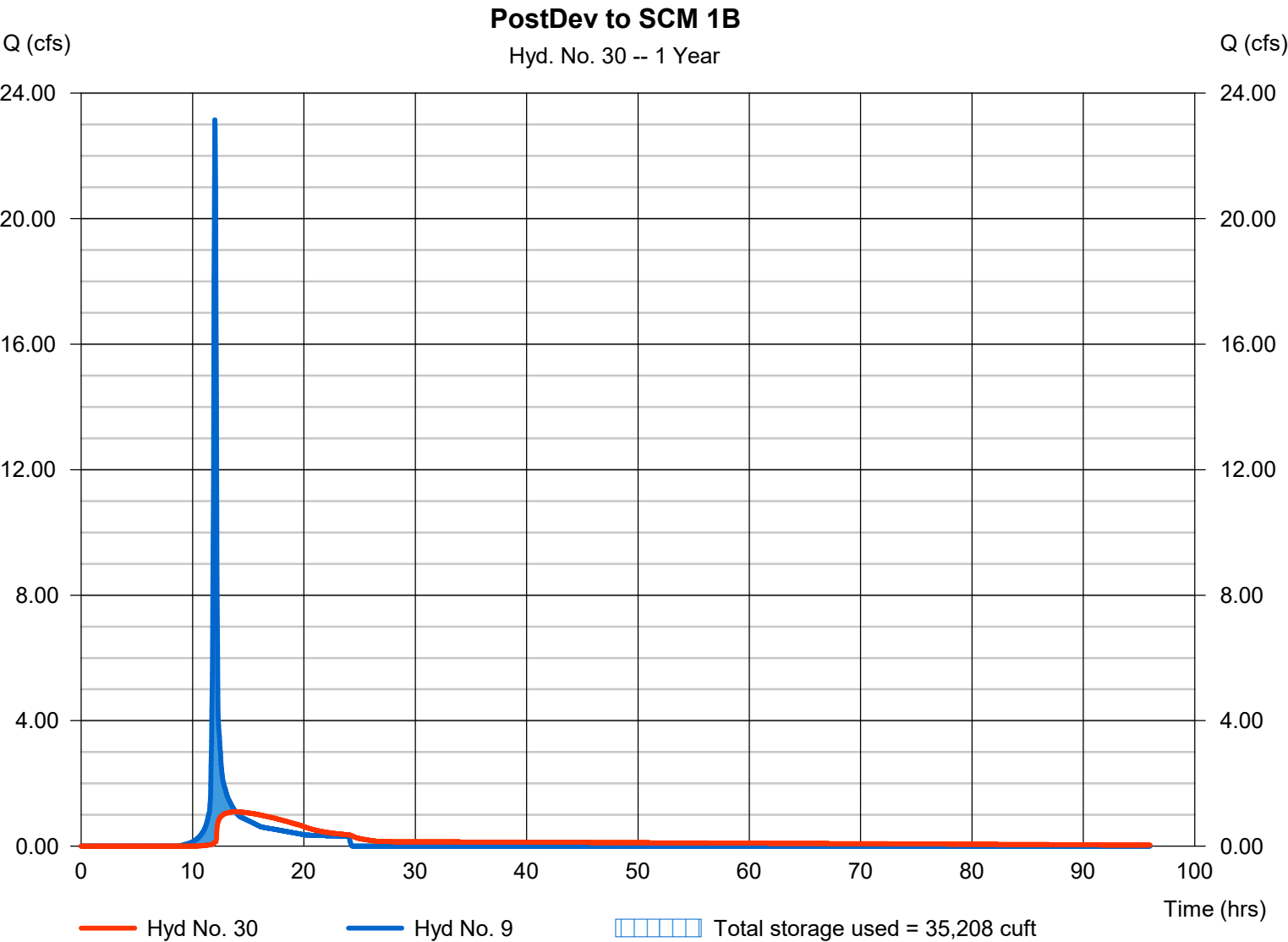
Saturday, 04 / 12 / 2025

Hyd. No. 30

PostDev to SCM 1B

Hydrograph type	= Reservoir	Peak discharge	= 1.095 cfs
Storm frequency	= 1 yrs	Time to peak	= 13.87 hrs
Time interval	= 2 min	Hyd. volume	= 58,248 cuft
Inflow hyd. No.	= 9 - PostDev to SCM 1B	Max. Elevation	= 378.22 ft
Reservoir name	= SCM 1B	Max. Storage	= 35,208 cuft

Storage Indication method used.



Pond No. 2 - SCM 1B

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 375.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	375.50	9,800	0	0
0.50	376.00	11,485	5,315	5,315
1.50	377.00	13,229	12,345	17,661
2.50	378.00	15,028	14,118	31,778
3.50	379.00	16,884	15,945	47,724
4.50	380.00	18,797	17,830	65,554
5.50	381.00	20,766	19,771	85,325
6.50	382.00	22,792	21,769	107,094
7.50	383.00	24,875	23,824	130,918

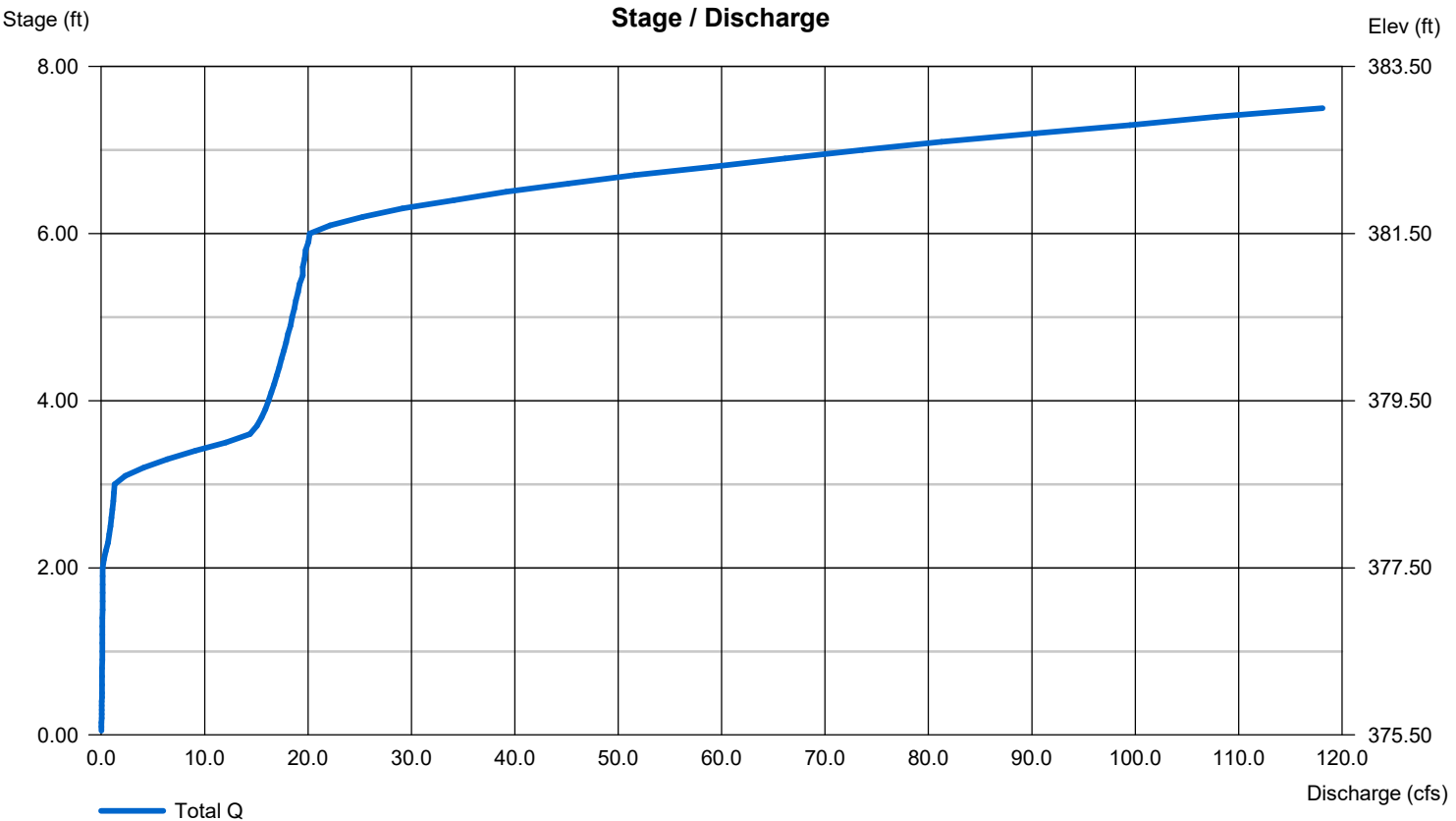
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	2.00	3.00	0.00
Span (in)	= 18.00	2.00	12.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 375.00	375.50	377.50	0.00
Length (ft)	= 55.00	0.00	0.00	0.00
Slope (%)	= 1.80	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 15.00	20.00	9.00	0.00
Crest El. (ft)	= 380.00	381.50	378.50	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= 1	Broad	Rect	---
Multi-Stage	= Yes	No	Yes	No
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

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



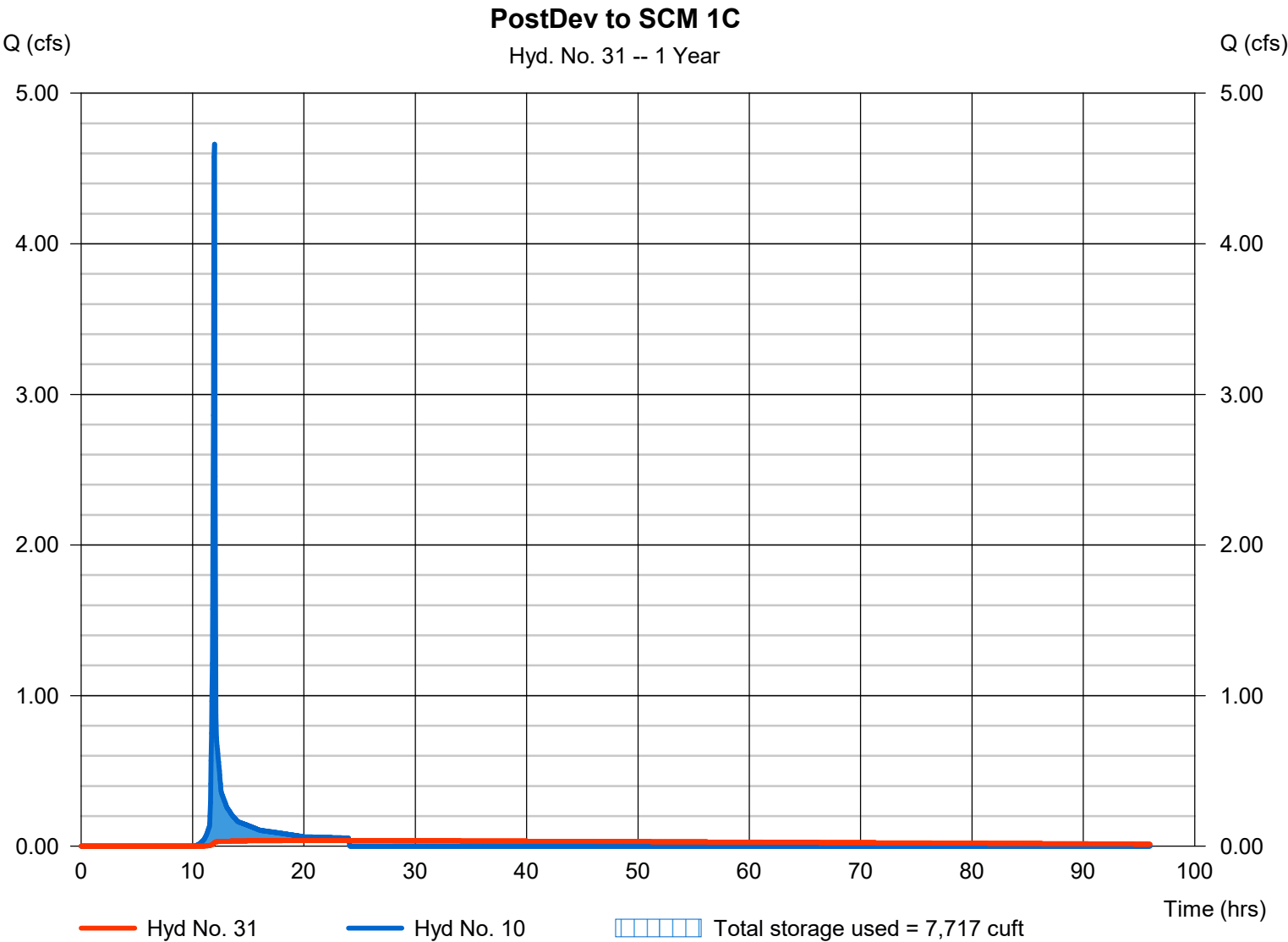
Hydrograph Report

Hyd. No. 31

PostDev to SCM 1C

Hydrograph type	= Reservoir	Peak discharge	= 0.038 cfs
Storm frequency	= 1 yrs	Time to peak	= 24.03 hrs
Time interval	= 2 min	Hyd. volume	= 8,482 cuft
Inflow hyd. No.	= 10 - PostDev to SCM 1C	Max. Elevation	= 362.67 ft
Reservoir name	= SCM 1C	Max. Storage	= 7,717 cuft

Storage Indication method used.



Pond No. 3 - SCM 1C

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 360.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	360.50	2,572	0	0
0.50	361.00	3,165	1,432	1,432
1.50	362.00	3,813	3,484	4,915
2.50	363.00	4,518	4,160	9,075
3.50	364.00	5,280	4,894	13,969
4.50	365.00	6,099	5,684	19,653
5.50	366.00	6,974	6,531	26,184

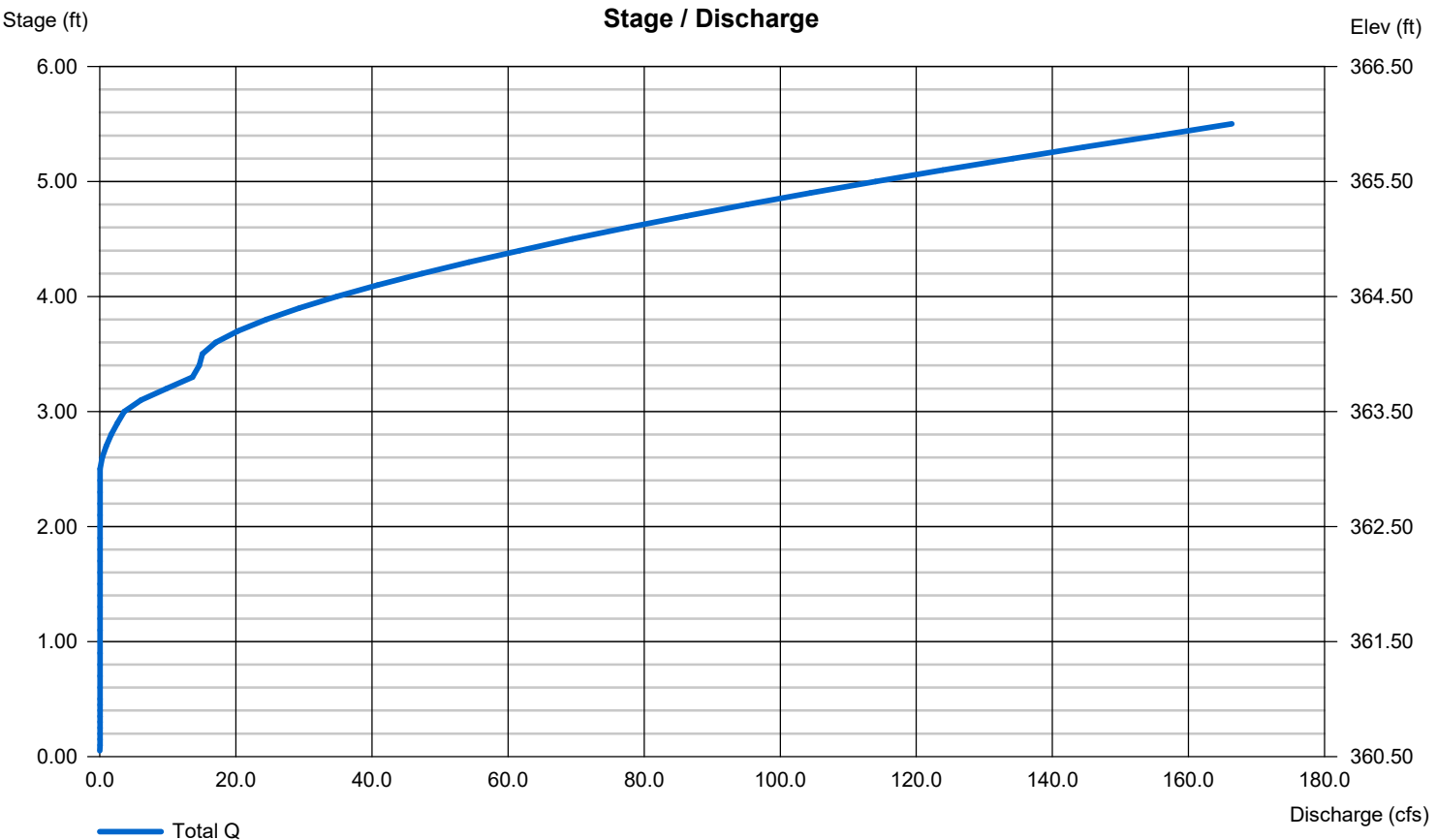
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	1.00	0.00	0.00
Span (in)	= 18.00	1.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 360.00	360.50	0.00	0.00
Length (ft)	= 46.00	0.00	0.00	0.00
Slope (%)	= 1.10	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 13.00	20.00	3.00	0.00
Crest El. (ft)	= 363.50	364.00	363.00	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= 1	Broad	Rect	---
Multi-Stage	= Yes	No	Yes	No
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

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



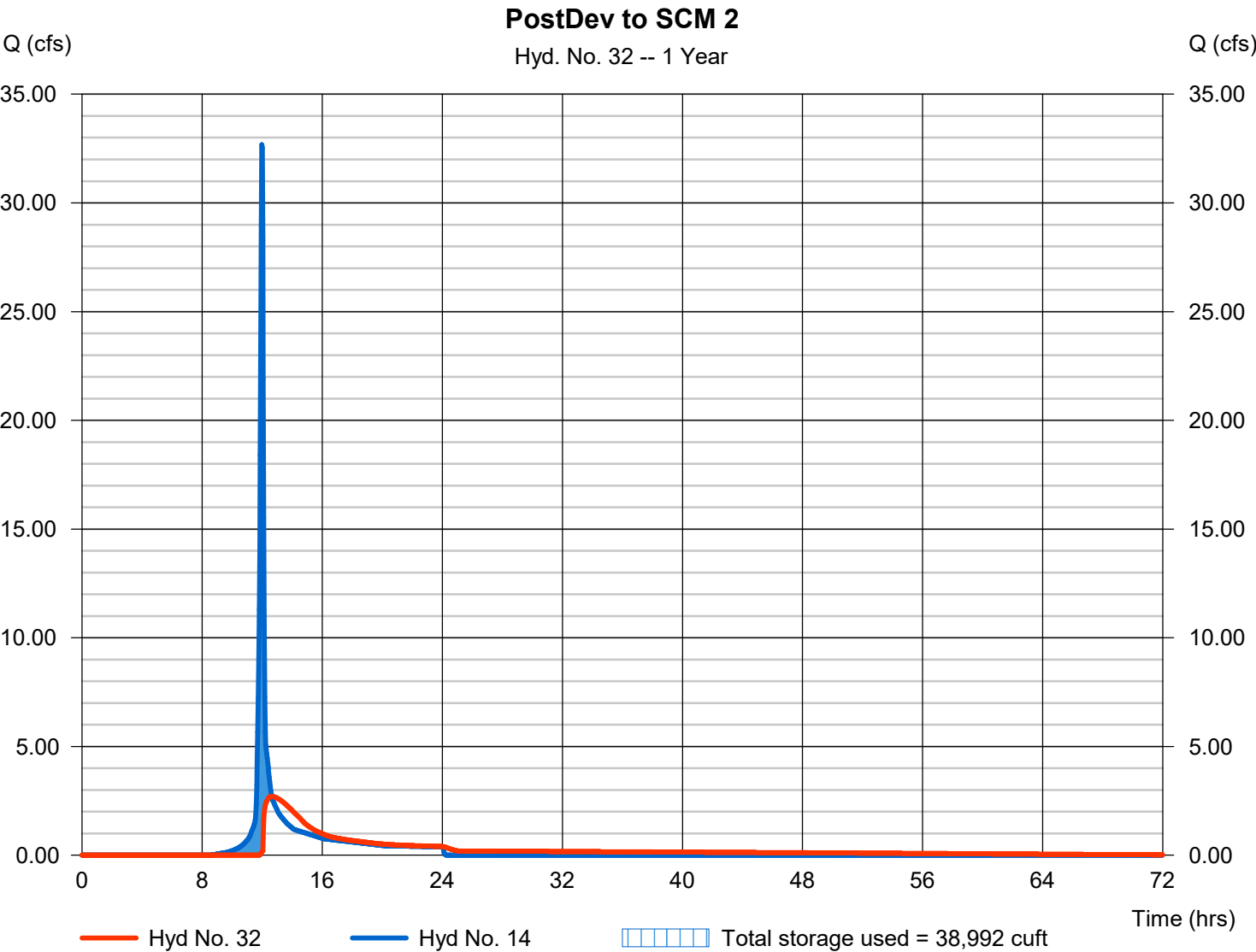
Hydrograph Report

Hyd. No. 32

PostDev to SCM 2

Hydrograph type	= Reservoir	Peak discharge	= 2.702 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.63 hrs
Time interval	= 2 min	Hyd. volume	= 63,690 cuft
Inflow hyd. No.	= 14 - PostDev to SCM 2	Max. Elevation	= 354.59 ft
Reservoir name	= SCM 2	Max. Storage	= 38,992 cuft

Storage Indication method used.



Pond No. 4 - SCM 2

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 351.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	351.50	9,065	0	0
0.50	352.00	10,745	4,946	4,946
1.50	353.00	12,501	11,611	16,557
2.50	354.00	14,313	13,395	29,952
3.50	355.00	16,182	15,236	45,189
4.50	356.00	18,107	17,134	62,322
5.50	357.00	20,089	19,088	81,410
6.50	358.00	22,128	21,098	102,508
7.50	359.00	24,223	23,165	125,674
8.50	360.00	26,374	25,288	150,962

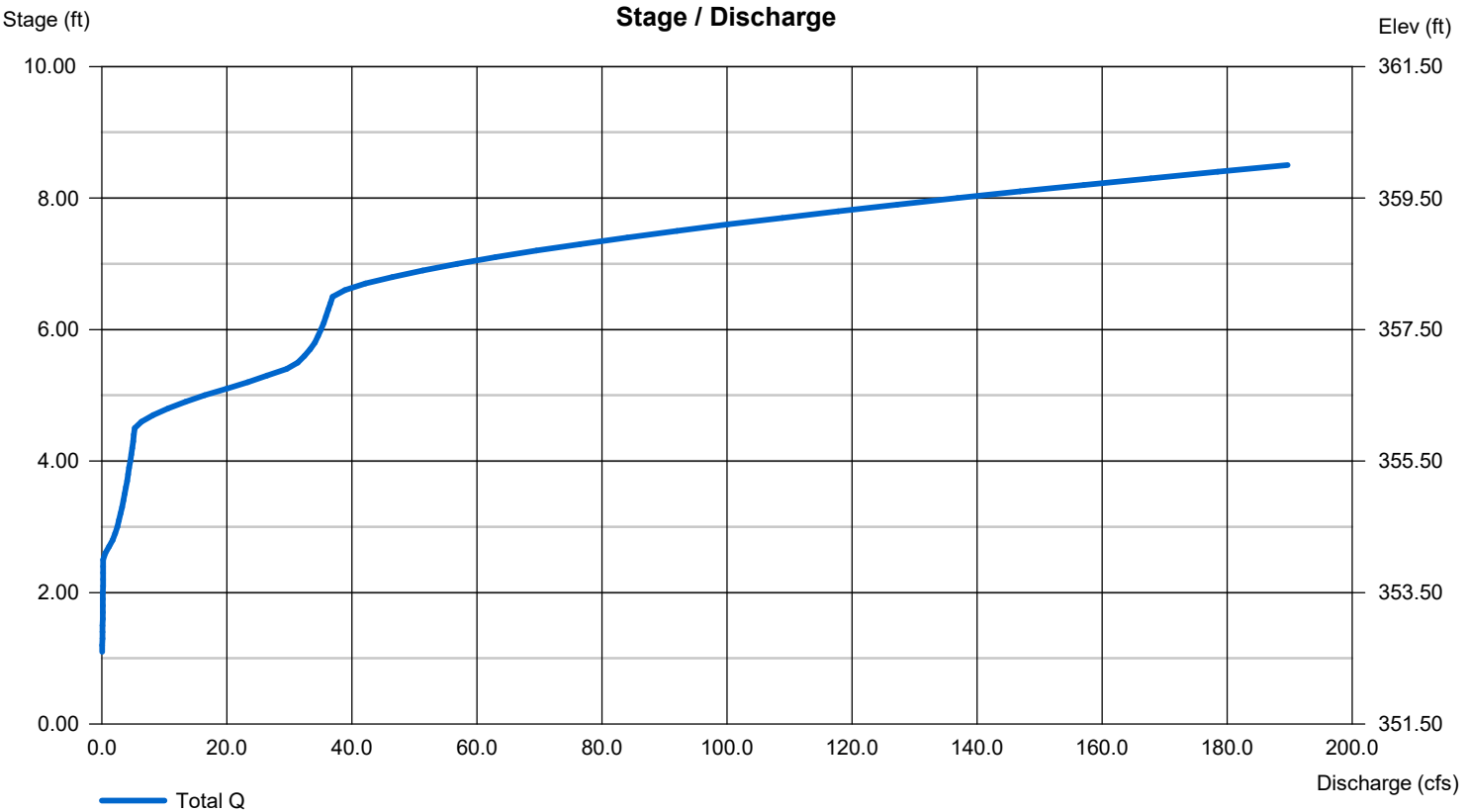
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 24.00	2.50	3.00	0.00
Span (in)	= 24.00	2.50	12.00	0.00
No. Barrels	= 1	1	3	0
Invert El. (ft)	= 351.00	352.50	354.00	0.00
Length (ft)	= 60.00	0.00	0.00	0.00
Slope (%)	= 1.50	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 11.00	20.00	9.00	0.00
Crest El. (ft)	= 357.00	358.00	356.00	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= 1	Broad	Rect	---
Multi-Stage	= Yes	No	Yes	No
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

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



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

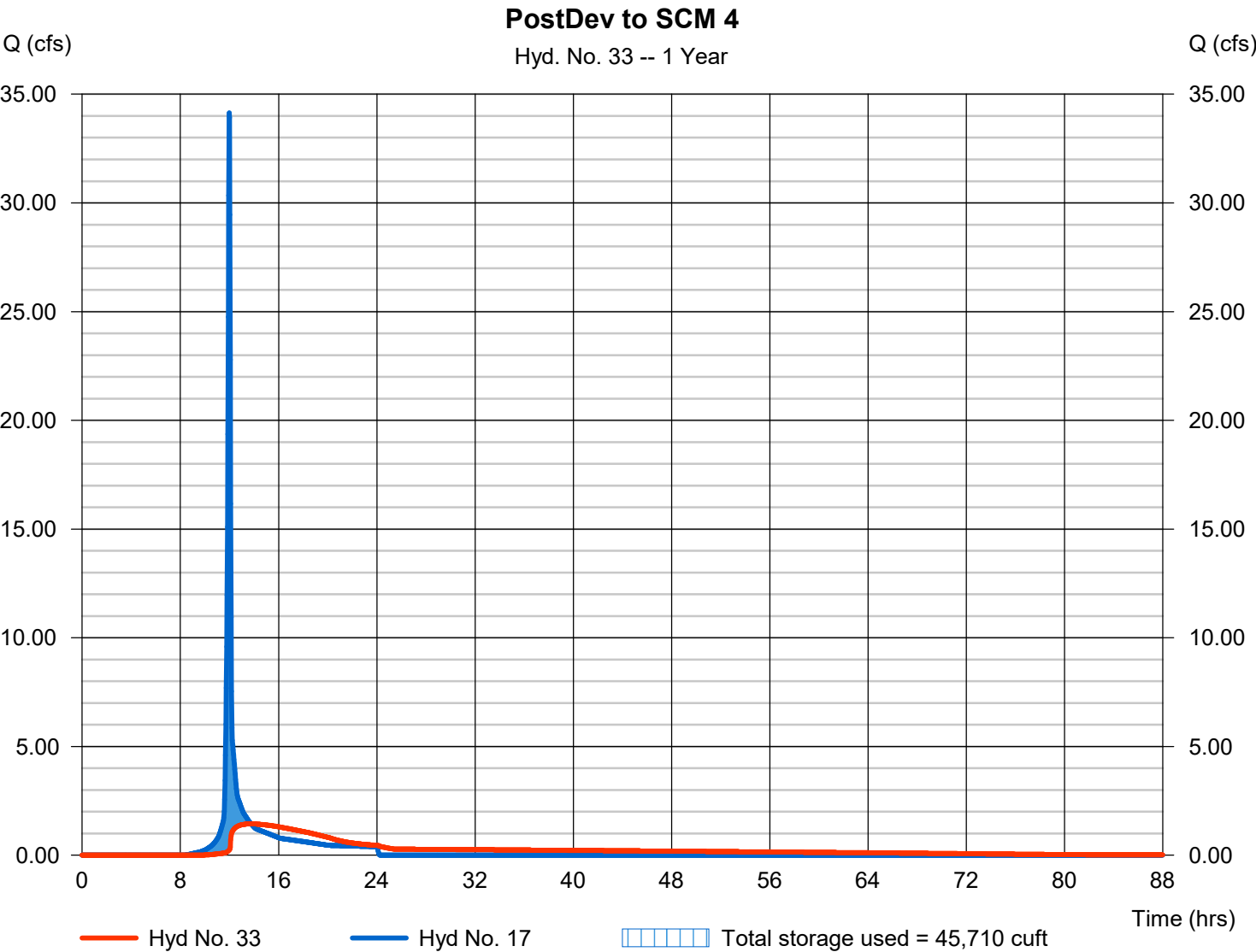
Saturday, 04 / 12 / 2025

Hyd. No. 33

PostDev to SCM 4

Hydrograph type	= Reservoir	Peak discharge	= 1.441 cfs
Storm frequency	= 1 yrs	Time to peak	= 13.77 hrs
Time interval	= 2 min	Hyd. volume	= 77,633 cuft
Inflow hyd. No.	= 17 - PostDev to SCM 4	Max. Elevation	= 365.49 ft
Reservoir name	= SCM 4	Max. Storage	= 45,710 cuft

Storage Indication method used.



Pond No. 5 - SCM 4

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 361.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	361.50	8,508	0	0
0.50	362.00	9,635	4,532	4,532
1.50	363.00	10,817	10,219	14,752
2.50	364.00	12,057	11,430	26,182
3.50	365.00	13,352	12,698	38,880
4.50	366.00	14,705	14,022	52,901
5.50	367.00	16,114	15,403	68,304
6.50	368.00	17,579	16,840	85,143
7.50	369.00	19,101	18,333	103,476
8.50	370.00	20,680	19,883	123,360

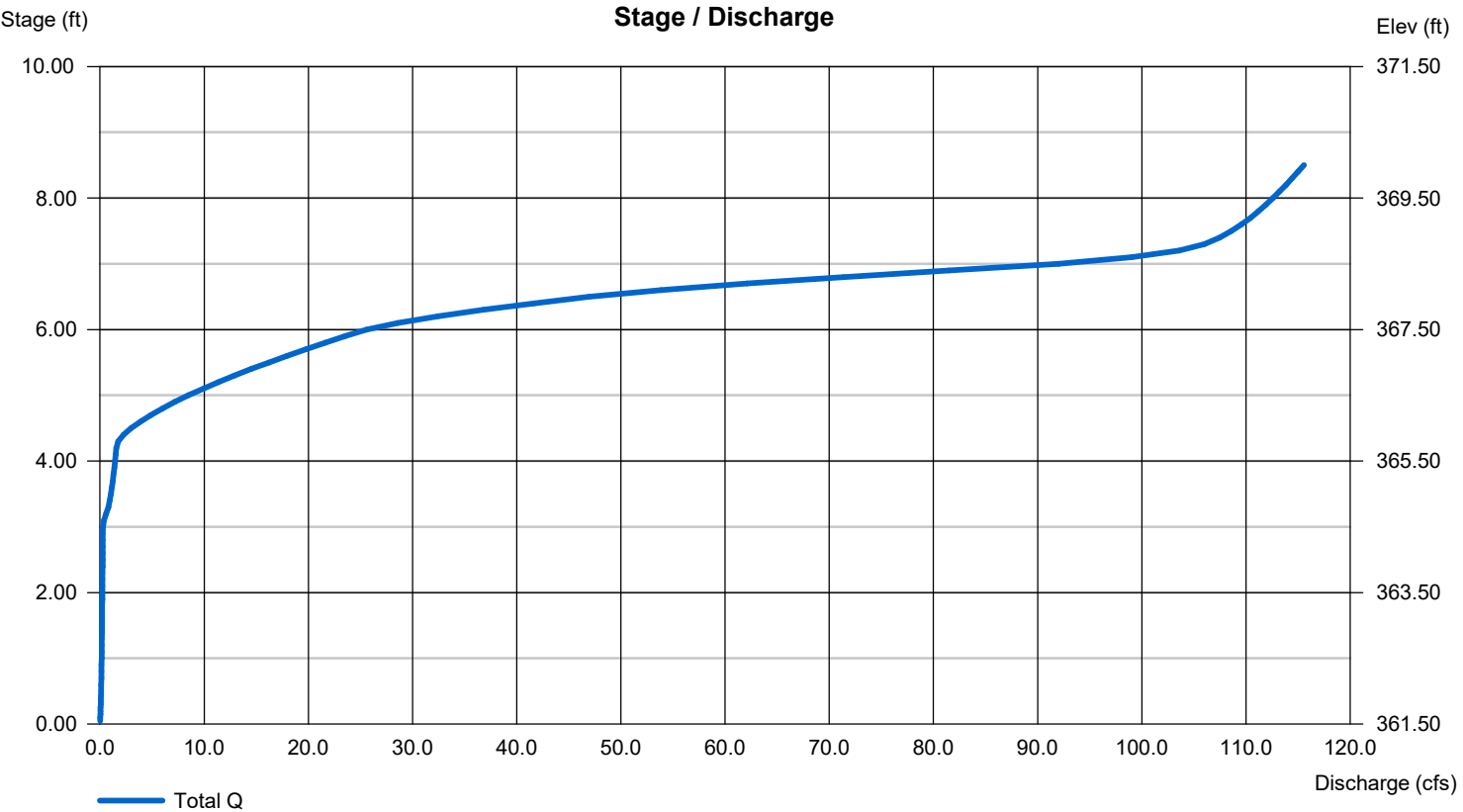
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 36.00	2.50	3.00	0.00
Span (in)	= 36.00	2.50	12.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 356.00	361.50	364.50	0.00
Length (ft)	= 187.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 12.00	9.00	3.00	0.00
Crest El. (ft)	= 368.00	367.50	365.75	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	Rect	Rect	---
Multi-Stage	= Yes	Yes	Yes	No
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

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



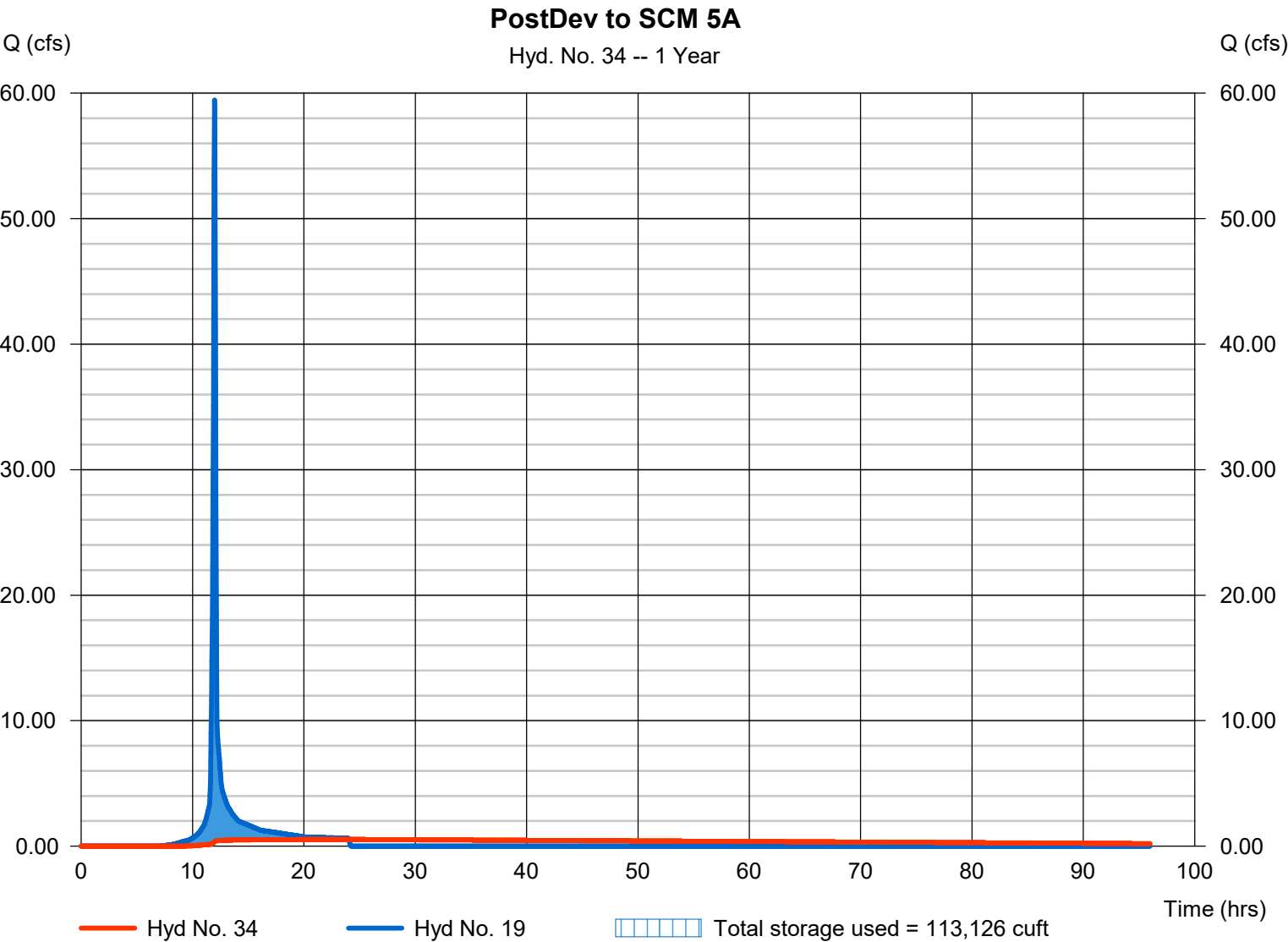
Hydrograph Report

Hyd. No. 34

PostDev to SCM 5A

Hydrograph type	= Reservoir	Peak discharge	= 0.538 cfs
Storm frequency	= 1 yrs	Time to peak	= 24.03 hrs
Time interval	= 2 min	Hyd. volume	= 119,932 cuft
Inflow hyd. No.	= 19 - PostDev to SCM 5A	Max. Elevation	= 323.81 ft
Reservoir name	= SCM 5A	Max. Storage	= 113,126 cuft

Storage Indication method used.



Pond No. 6 - SCM 5A

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 318.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	318.50	18,260	0	0
0.50	319.00	20,209	9,612	9,612
1.50	320.00	20,748	20,476	30,088
2.50	321.00	21,289	21,016	51,104
3.50	322.00	21,829	21,556	72,660
4.50	323.00	22,369	22,096	94,756
5.50	324.00	22,910	22,637	117,393
6.50	325.00	23,451	23,178	140,571
7.50	326.00	23,992	23,719	164,289
8.50	327.00	24,533	24,260	188,549
9.50	328.00	25,075	24,801	213,350
10.50	329.00	25,617	25,343	238,693
11.50	330.00	26,158	25,885	264,577
12.50	331.00	26,700	26,426	291,003

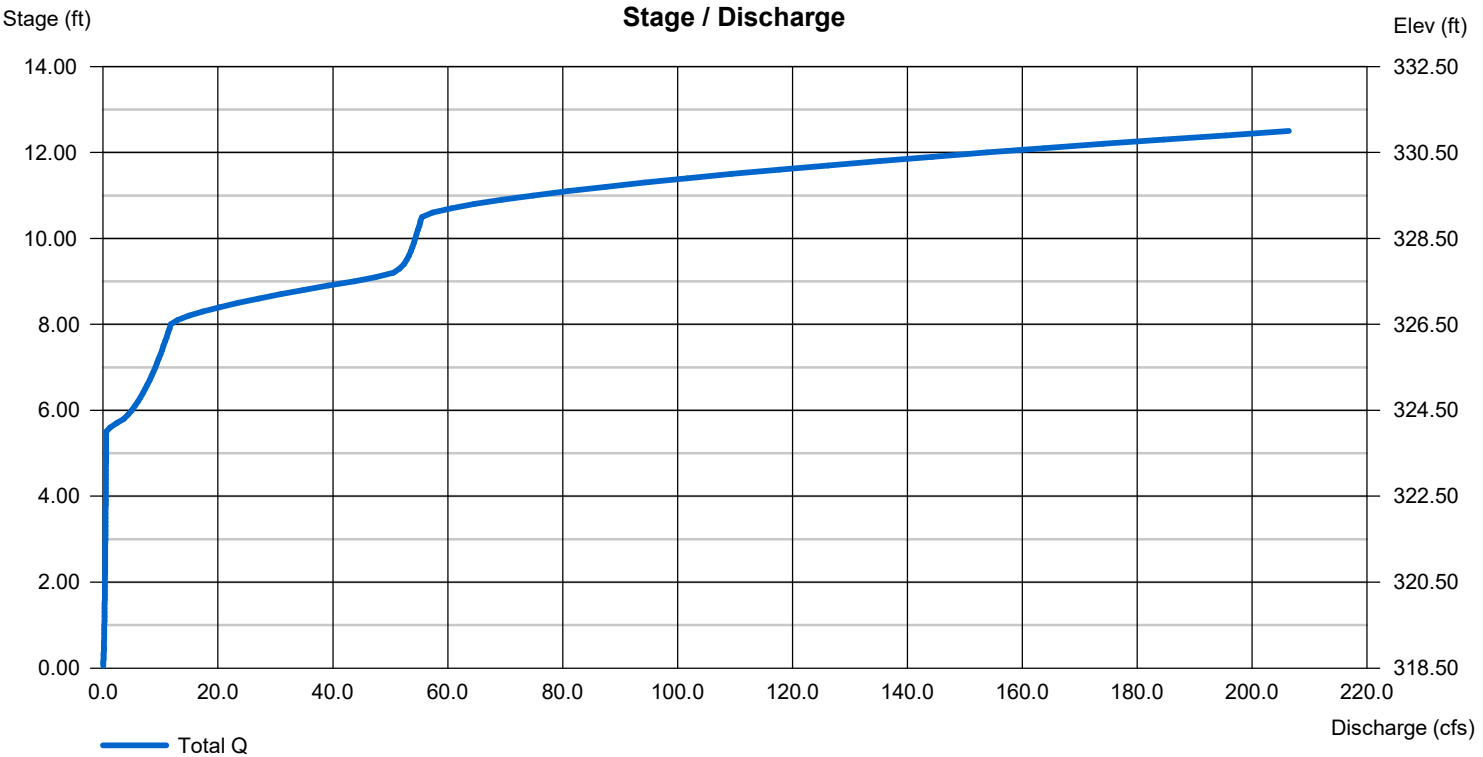
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 24.00	3.00	3.00	0.00
Span (in)	= 24.00	3.00	24.00	0.00
No. Barrels	= 1	1	3	0
Invert El. (ft)	= 314.50	318.50	324.00	0.00
Length (ft)	= 102.00	0.00	0.00	0.00
Slope (%)	= 1.50	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 15.00	20.00	9.00	0.00
Crest El. (ft)	= 327.50	329.00	326.50	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= 1	Broad	Rect	---
Multi-Stage	= Yes	No	Yes	No
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

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



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

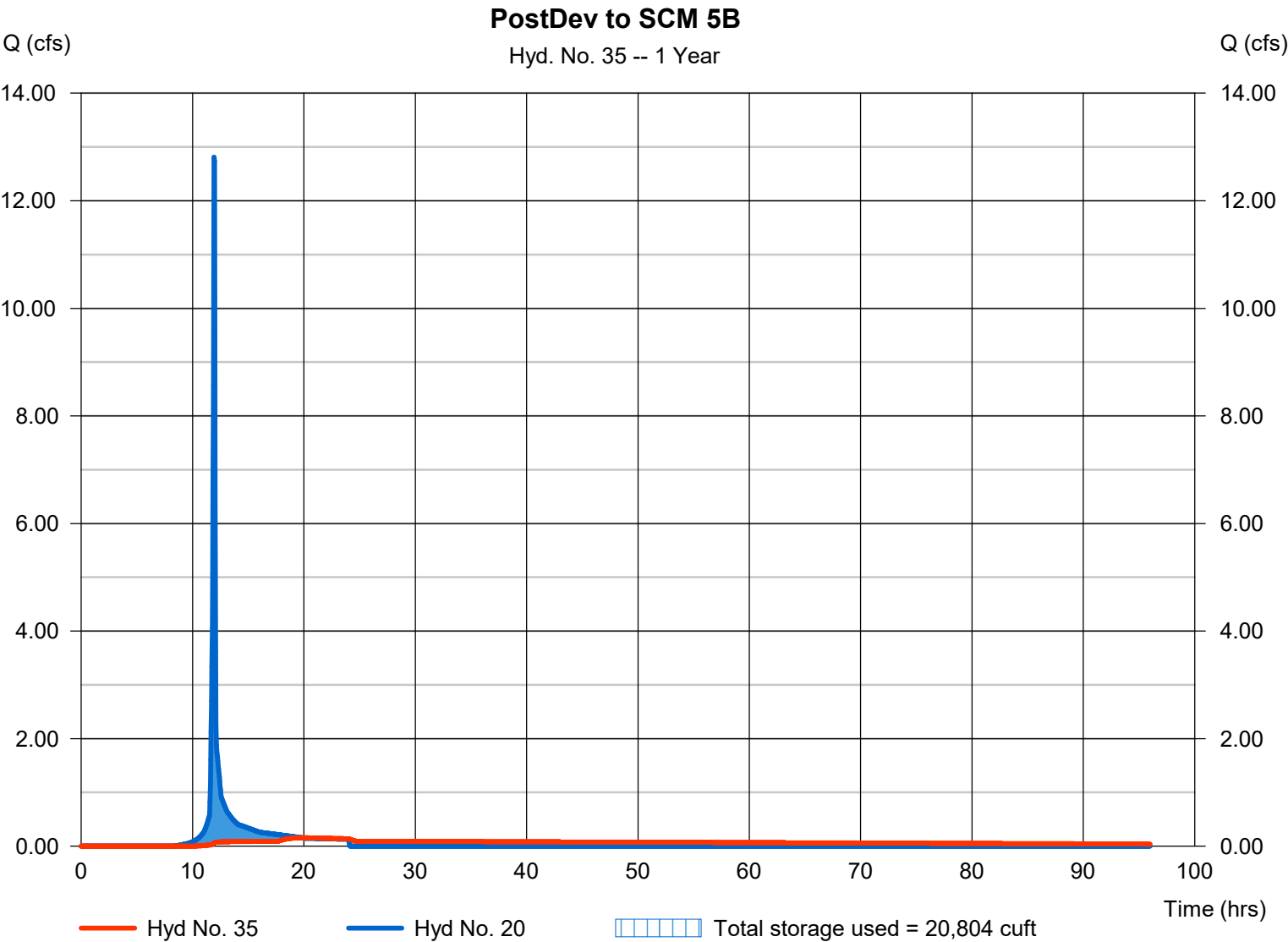
Saturday, 04 / 12 / 2025

Hyd. No. 35

PostDev to SCM 5B

Hydrograph type	= Reservoir	Peak discharge	= 0.156 cfs
Storm frequency	= 1 yrs	Time to peak	= 19.80 hrs
Time interval	= 2 min	Hyd. volume	= 22,331 cuft
Inflow hyd. No.	= 20 - PostDev to SCM 5B	Max. Elevation	= 308.04 ft
Reservoir name	= SCM 5B	Max. Storage	= 20,804 cuft

Storage Indication method used.



Pond No. 7 - SCM 5B

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 305.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	305.50	6,802	0	0
0.50	306.00	7,881	3,667	3,667
1.50	307.00	8,382	8,129	11,796
2.50	308.00	8,901	8,639	20,436
3.50	309.00	9,438	9,167	29,603
4.50	310.00	9,991	9,712	39,315
5.50	311.00	10,562	10,274	49,589
6.50	312.00	11,051	10,805	60,394

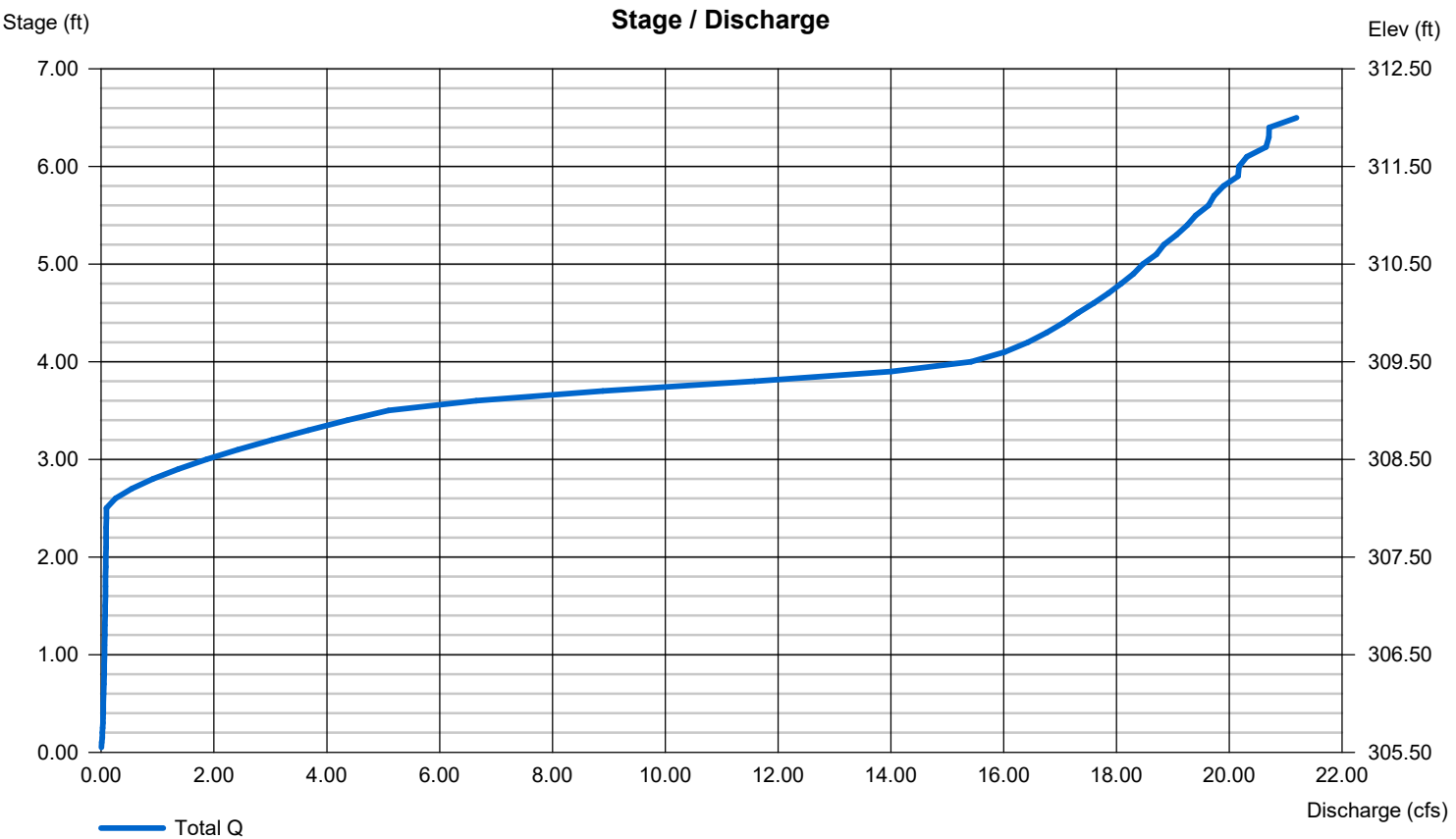
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	1.50	0.00	0.00
Span (in)	= 18.00	1.50	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 305.00	305.50	0.00	0.00
Length (ft)	= 110.00	0.00	0.00	0.00
Slope (%)	= 3.34	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 16.00	7.50	1.50	0.00
Crest El. (ft)	= 310.00	309.00	308.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	Rect	Rect	---
Multi-Stage	= Yes	Yes	Yes	No
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

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



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

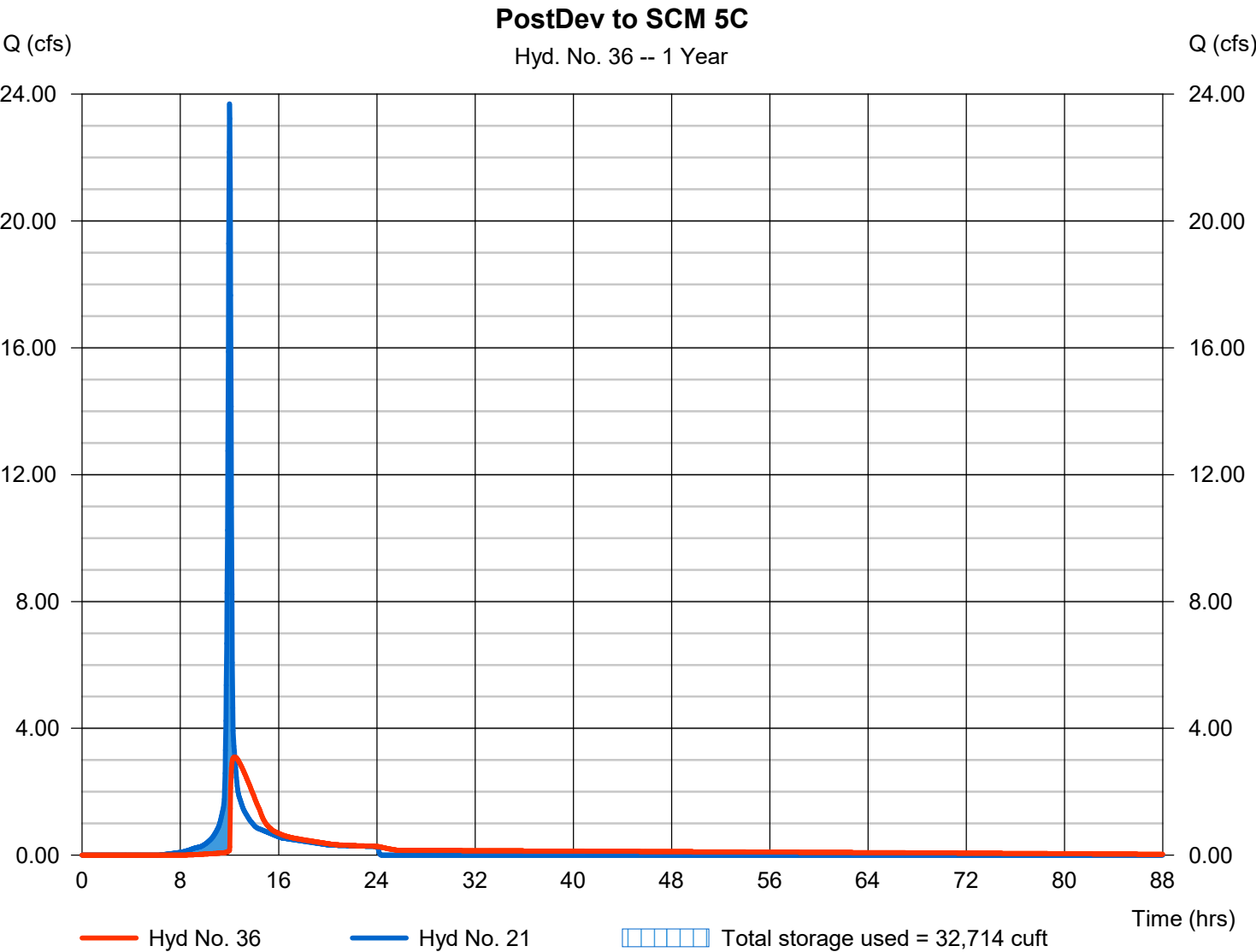
Saturday, 04 / 12 / 2025

Hyd. No. 36

PostDev to SCM 5C

Hydrograph type	= Reservoir	Peak discharge	= 3.094 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.43 hrs
Time interval	= 2 min	Hyd. volume	= 61,151 cuft
Inflow hyd. No.	= 21 - PostDev to SCM 5C	Max. Elevation	= 294.53 ft
Reservoir name	= SCM 5C	Max. Storage	= 32,714 cuft

Storage Indication method used.



Pond No. 8 - SCM 5C

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 291.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	291.50	7,735	0	0
0.50	292.00	9,214	4,231	4,231
1.50	293.00	10,750	9,971	14,203
2.50	294.00	12,342	11,536	25,738
3.50	295.00	13,991	13,157	38,895
4.50	296.00	15,696	14,834	53,729
5.50	297.00	17,458	16,568	70,296
6.50	298.00	19,276	18,358	88,654
7.50	299.00	21,151	20,204	108,858

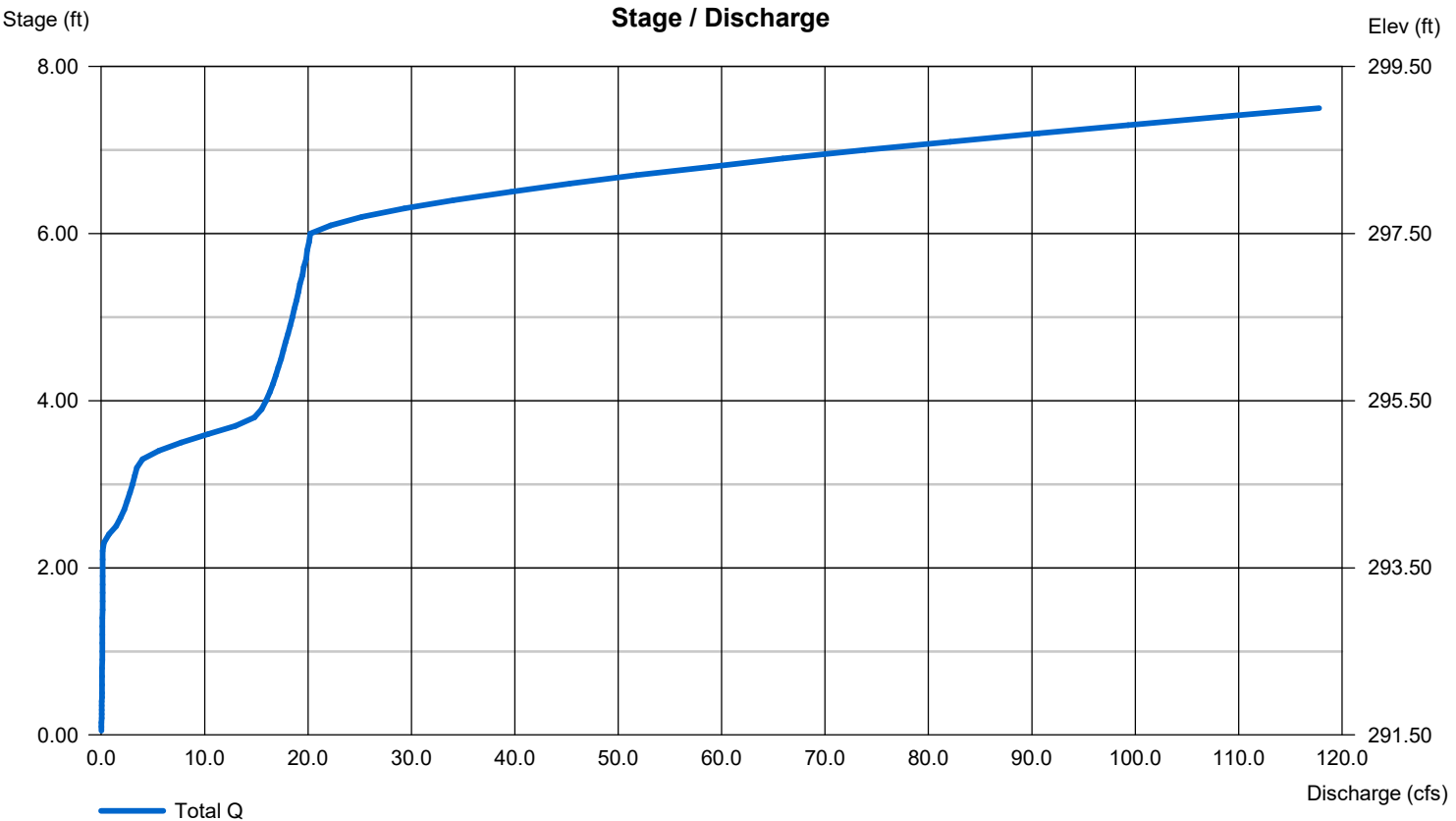
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	2.00	3.00	0.00
Span (in)	= 18.00	2.00	12.00	0.00
No. Barrels	= 1	1	3	0
Invert El. (ft)	= 291.00	291.50	293.75	0.00
Length (ft)	= 83.00	0.00	0.00	0.00
Slope (%)	= 1.70	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 11.00	20.00	9.00	0.00
Crest El. (ft)	= 296.25	297.50	294.75	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= 1	Broad	Rect	---
Multi-Stage	= Yes	No	Yes	No
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

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



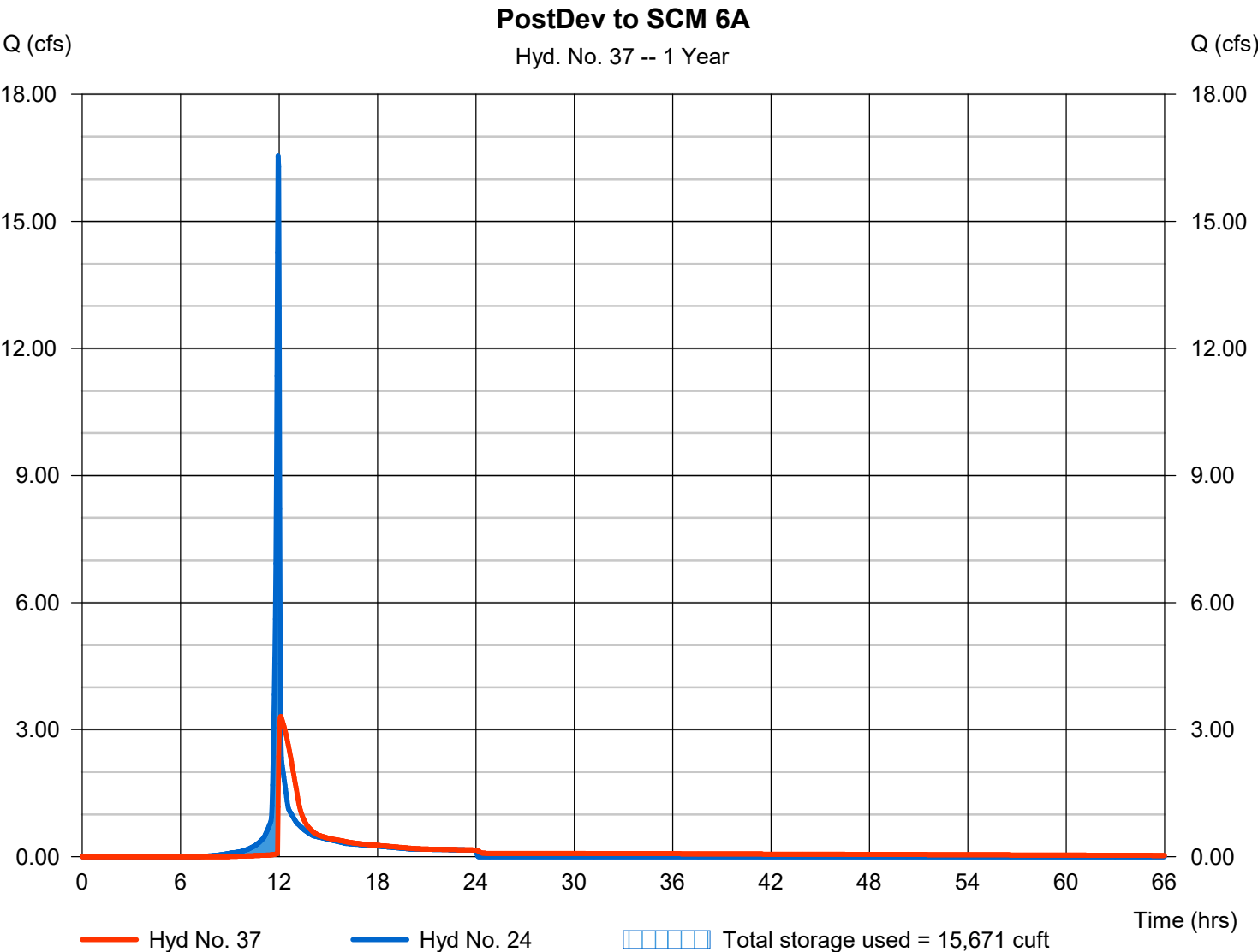
Hydrograph Report

Hyd. No. 37

PostDev to SCM 6A

Hydrograph type	= Reservoir	Peak discharge	= 3.310 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 33,583 cuft
Inflow hyd. No.	= 24 - PostDev to SCM 6A	Max. Elevation	= 279.42 ft
Reservoir name	= SCM 6A	Max. Storage	= 15,671 cuft

Storage Indication method used.



Pond No. 9 - SCM 6A

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 276.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	276.50	3,432	0	0
0.50	277.00	4,383	1,949	1,949
1.50	278.00	5,390	4,877	6,826
2.50	279.00	6,454	5,913	12,739
3.50	280.00	7,575	7,006	19,746
4.50	281.00	8,752	8,156	27,901
5.50	282.00	9,986	9,361	37,263
6.50	283.00	11,277	10,624	47,887
7.50	284.00	12,624	11,943	59,830

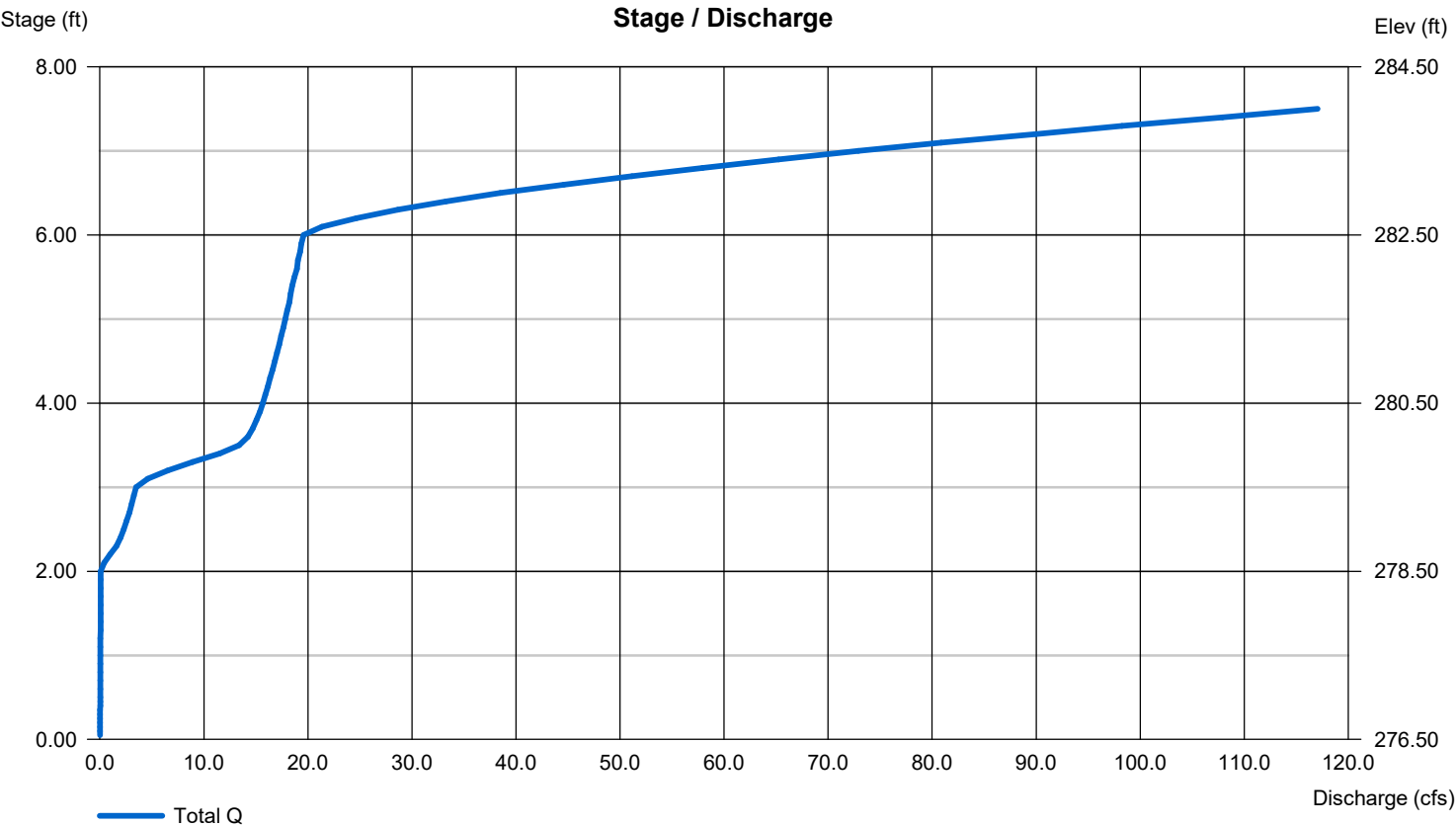
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	1.50	3.00	0.00
Span (in)	= 18.00	1.50	12.00	0.00
No. Barrels	= 1	1	3	0
Invert El. (ft)	= 276.00	276.50	278.50	0.00
Length (ft)	= 82.00	0.00	0.00	0.00
Slope (%)	= 0.90	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 11.00	20.00	9.00	0.00
Crest El. (ft)	= 281.00	282.50	279.50	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= 1	Broad	Rect	---
Multi-Stage	= Yes	No	Yes	No
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

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



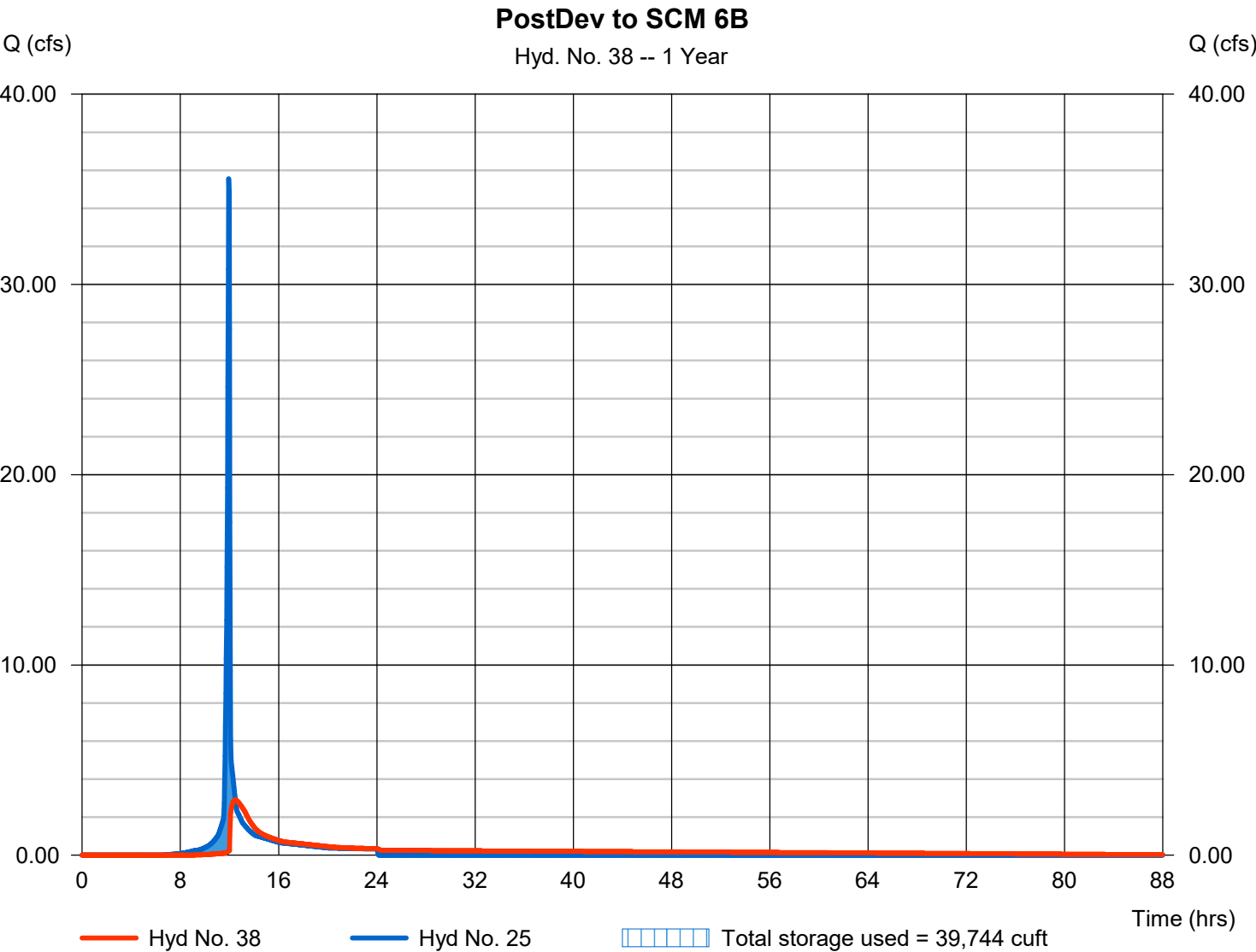
Hydrograph Report

Hyd. No. 38

PostDev to SCM 6B

Hydrograph type	= Reservoir	Peak discharge	= 2.903 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.47 hrs
Time interval	= 2 min	Hyd. volume	= 71,712 cuft
Inflow hyd. No.	= 25 - PostDev to SCM 6B	Max. Elevation	= 291.42 ft
Reservoir name	= SCM 6B	Max. Storage	= 39,744 cuft

Storage Indication method used.



Pond No. 10 - SCM 6B

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 288.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	288.50	11,802	0	0
0.50	289.00	13,172	6,240	6,240
1.50	290.00	13,686	13,427	19,667
2.50	291.00	14,205	13,943	33,610
3.50	292.00	14,728	14,464	48,074
4.50	293.00	15,255	14,989	63,063
5.50	294.00	15,785	15,518	78,581
6.50	295.00	16,318	16,049	94,630
7.50	296.00	16,856	16,585	111,215
8.50	297.00	17,398	17,125	128,339

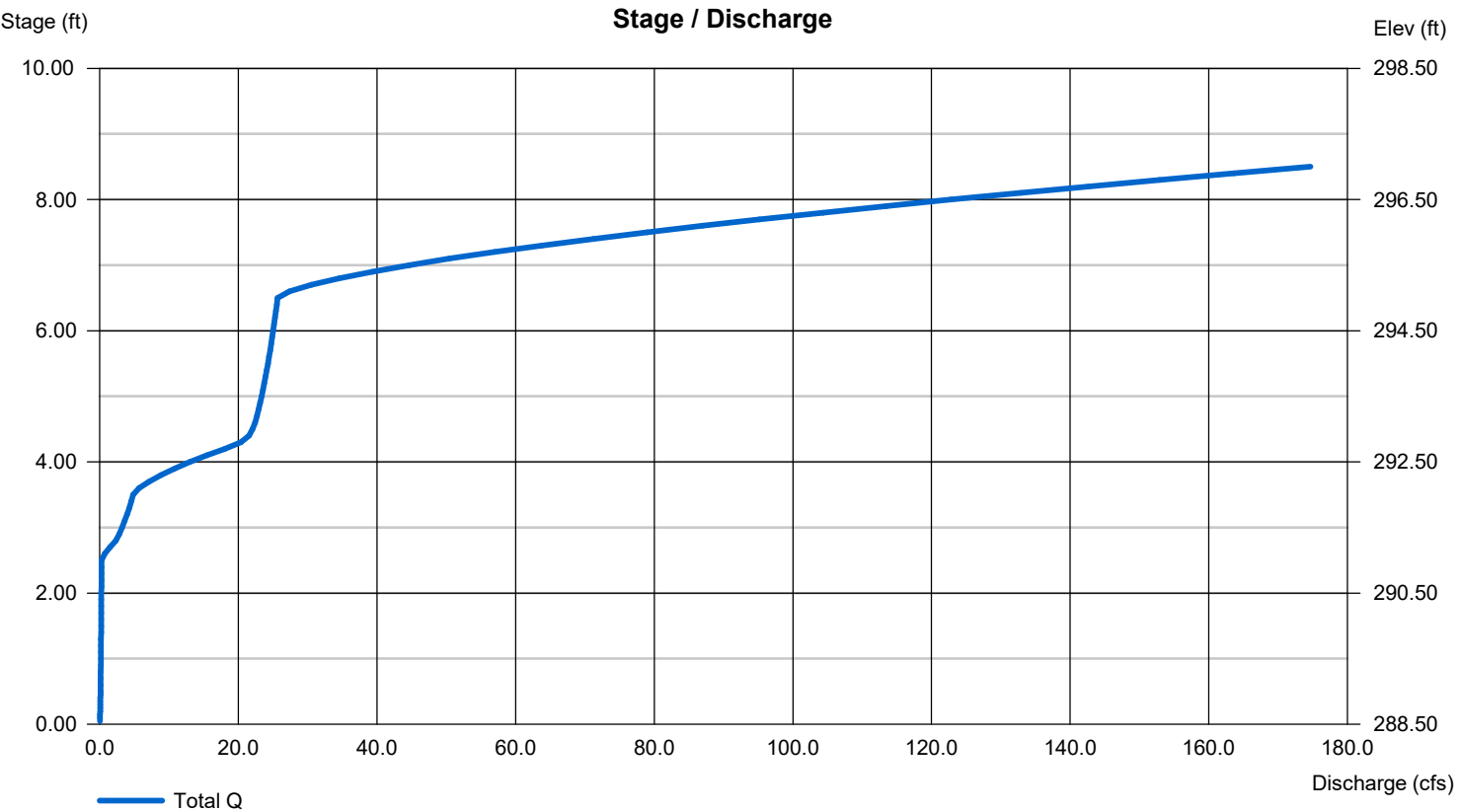
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	2.50	3.00	0.00
Span (in)	= 18.00	2.50	24.00	0.00
No. Barrels	= 1	1	2	0
Invert El. (ft)	= 284.00	288.50	291.00	0.00
Length (ft)	= 84.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 14.00	20.00	6.00	Inactive
Crest El. (ft)	= 293.75	295.00	292.00	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= 1	Broad	Rect	Rect
Multi-Stage	= Yes	No	Yes	Yes
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

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



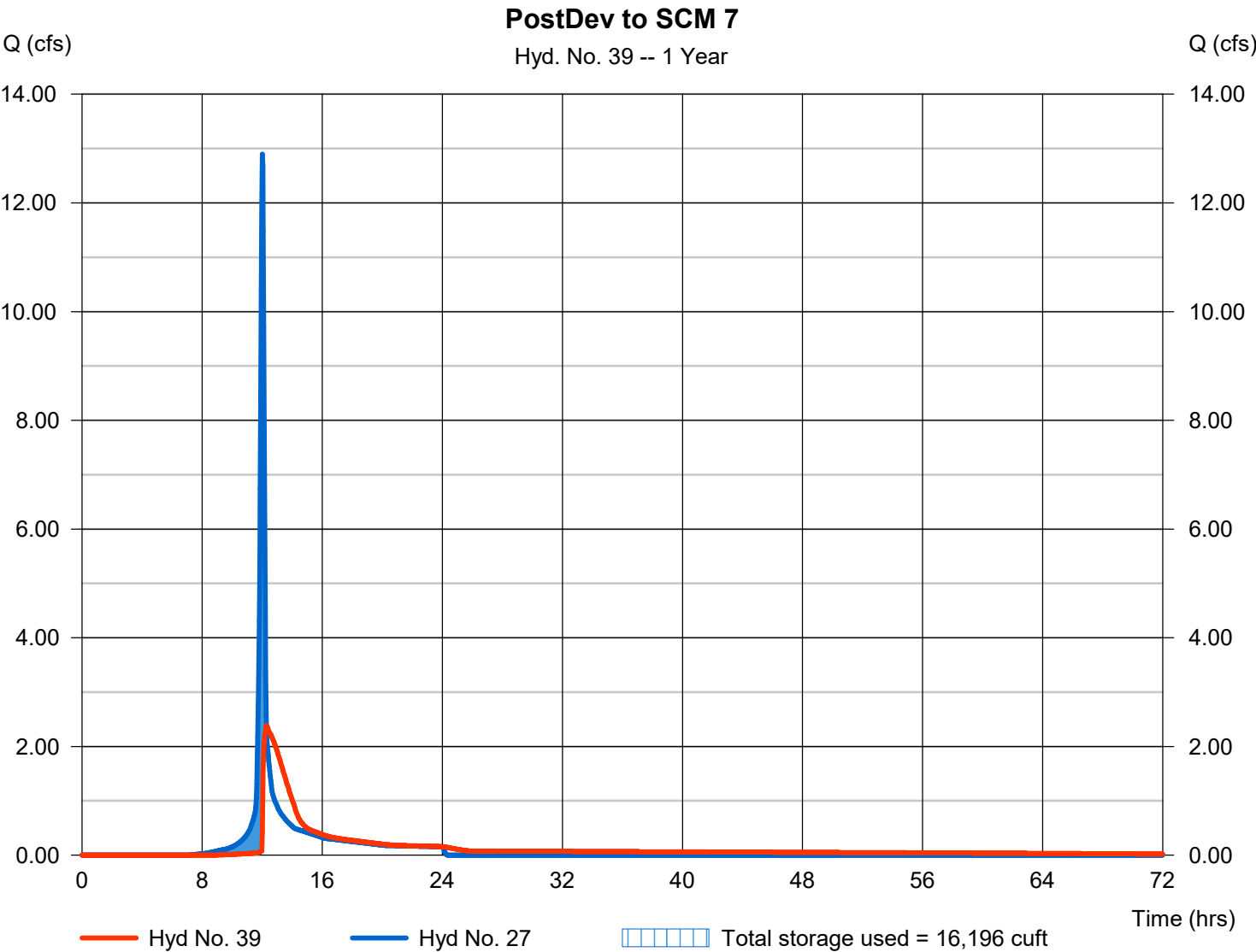
Hydrograph Report

Hyd. No. 39

PostDev to SCM 7

Hydrograph type	= Reservoir	Peak discharge	= 2.382 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.30 hrs
Time interval	= 2 min	Hyd. volume	= 33,346 cuft
Inflow hyd. No.	= 27 - PostDev to SCM 7	Max. Elevation	= 320.22 ft
Reservoir name	= SCM 7	Max. Storage	= 16,196 cuft

Storage Indication method used.



Pond No. 11 - SCM 7

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 317.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	317.50	4,050	0	0
0.50	318.00	5,047	2,269	2,269
1.50	319.00	6,097	5,563	7,833
2.50	320.00	7,203	6,642	14,474
3.50	321.00	8,366	7,776	22,251
4.50	322.00	9,586	8,968	31,219
5.50	323.00	10,861	10,216	41,435
6.50	324.00	12,194	11,520	52,955

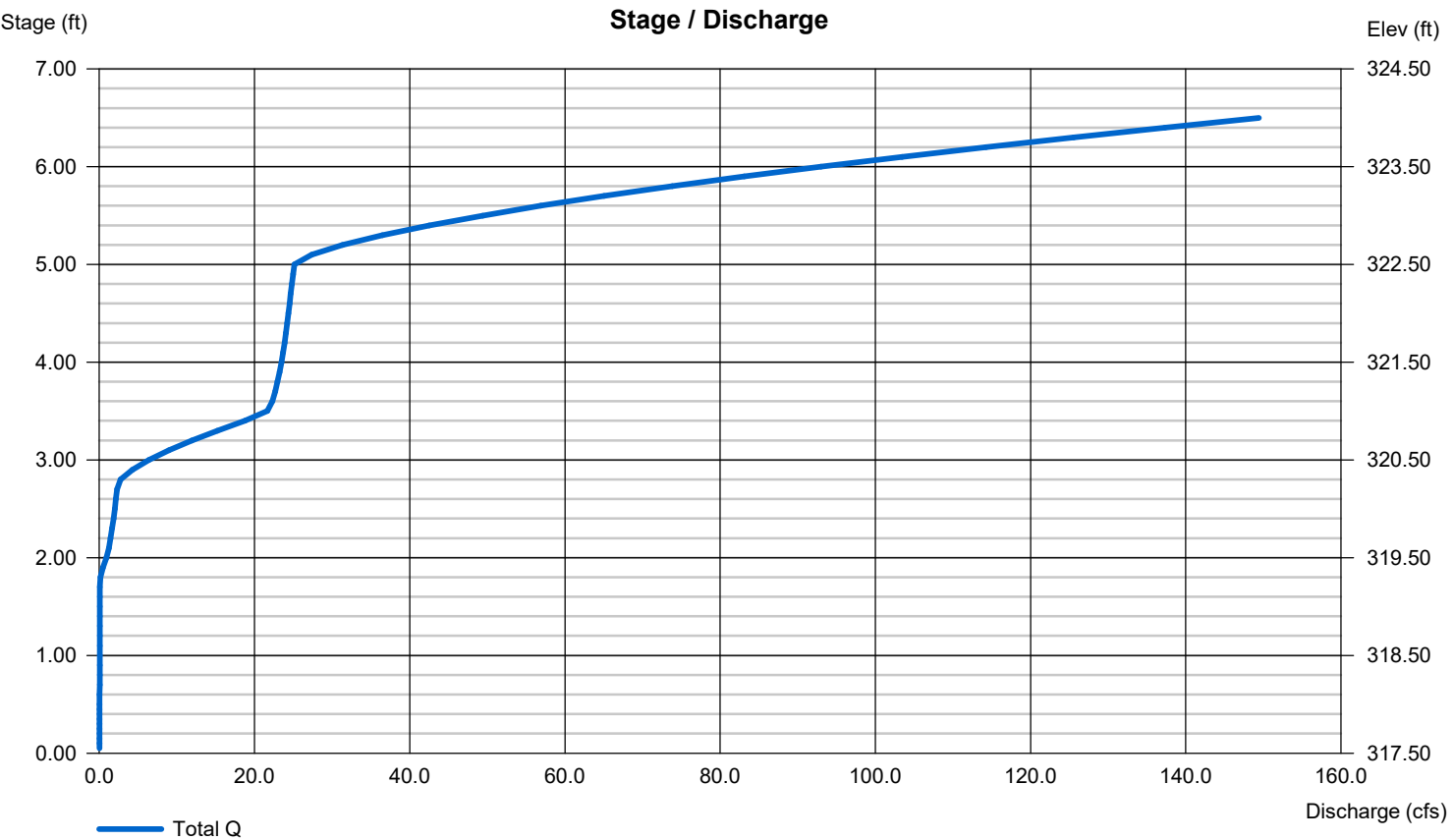
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	1.50	3.00	0.00
Span (in)	= 18.00	1.50	24.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 313.00	317.50	319.25	0.00
Length (ft)	= 78.00	0.00	0.00	0.00
Slope (%)	= 3.20	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 7.00	20.00	9.00	0.00
Crest El. (ft)	= 321.25	322.50	320.25	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	Rect	Rect	---
Multi-Stage	= Yes	No	Yes	No
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

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

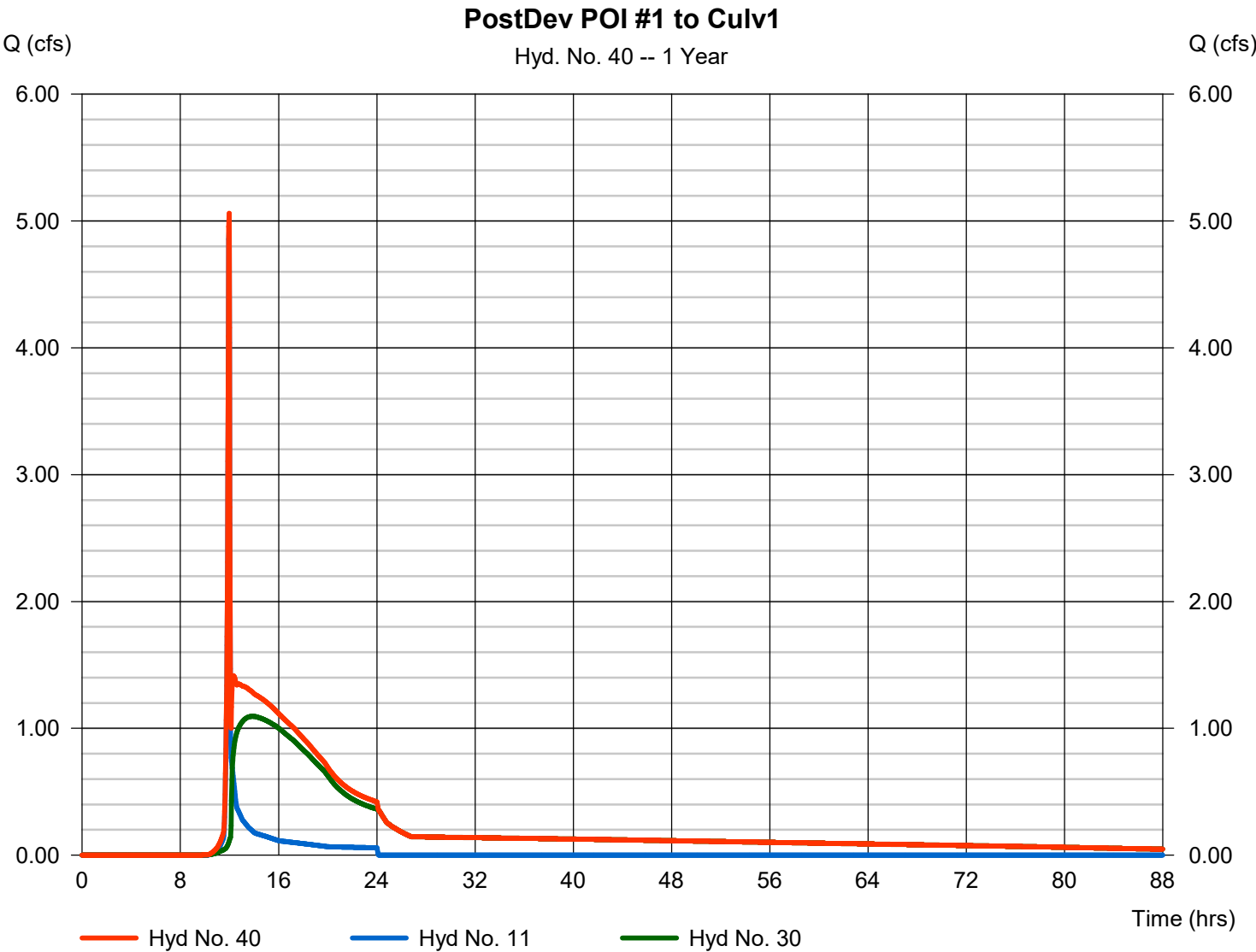


Hydrograph Report

Hyd. No. 40

PostDev POI #1 to Culv1

Hydrograph type	= Combine	Peak discharge	= 5.062 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 68,151 cuft
Inflow hyds.	= 11, 30	Contrib. drain. area	= 2.720 ac

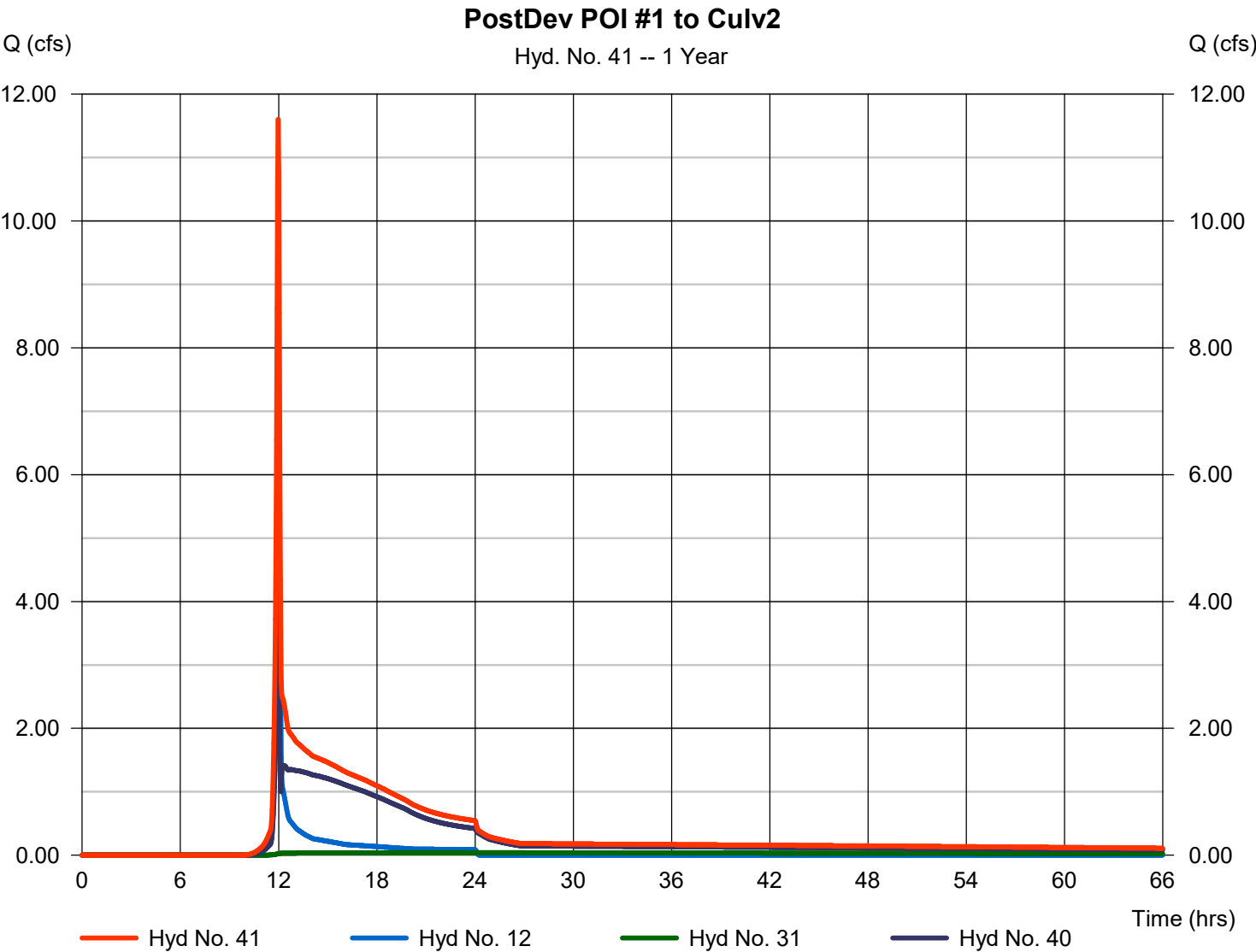


Hydrograph Report

Hyd. No. 41

PostDev POI #1 to Culv2

Hydrograph type	= Combine	Peak discharge	= 11.60 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 91,697 cuft
Inflow hyds.	= 12, 31, 40	Contrib. drain. area	= 3.640 ac

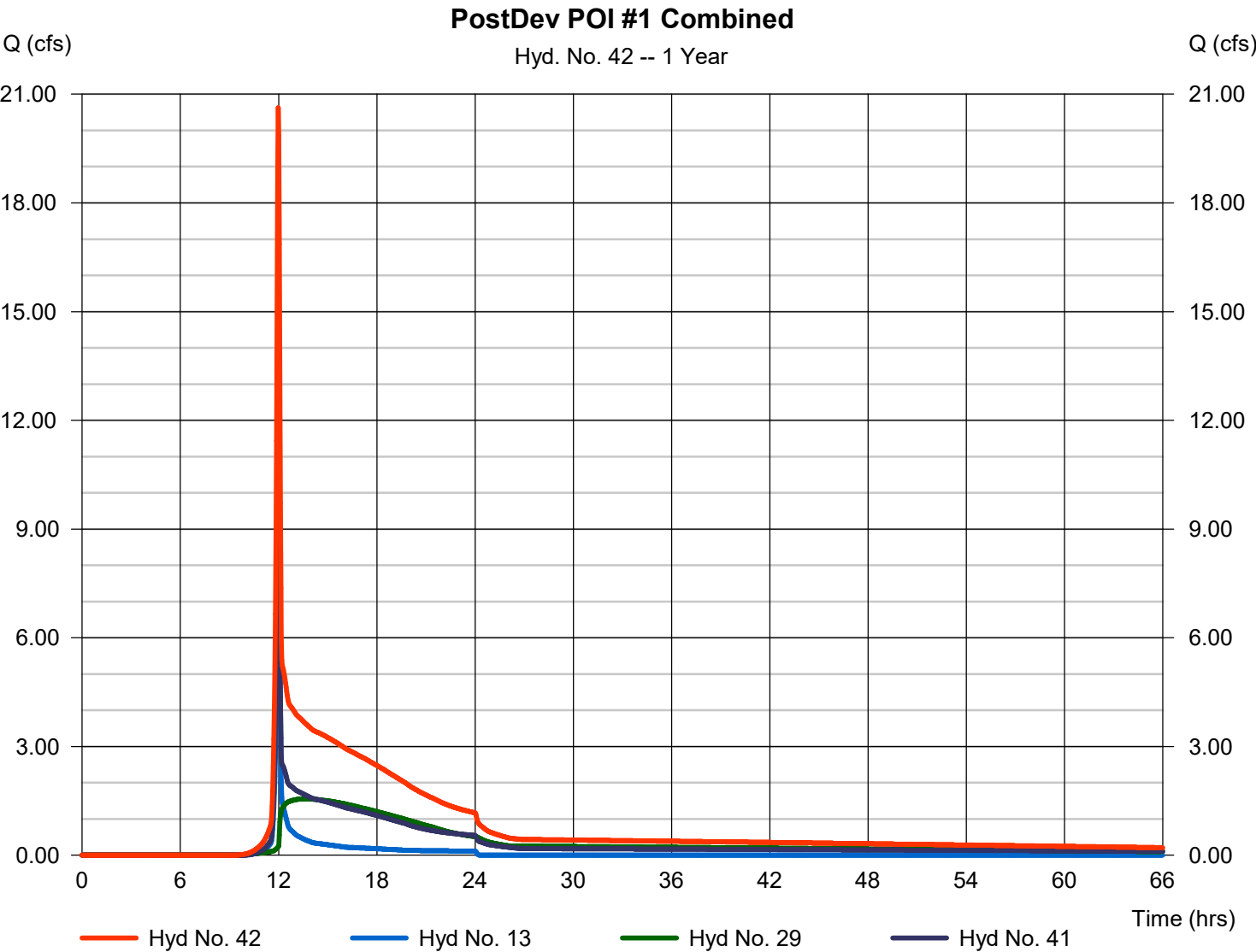


Hydrograph Report

Hyd. No. 42

PostDev POI #1 Combined

Hydrograph type	= Combine	Peak discharge	= 20.63 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 193,321 cuft
Inflow hyds.	= 13, 29, 41	Contrib. drain. area	= 4.620 ac

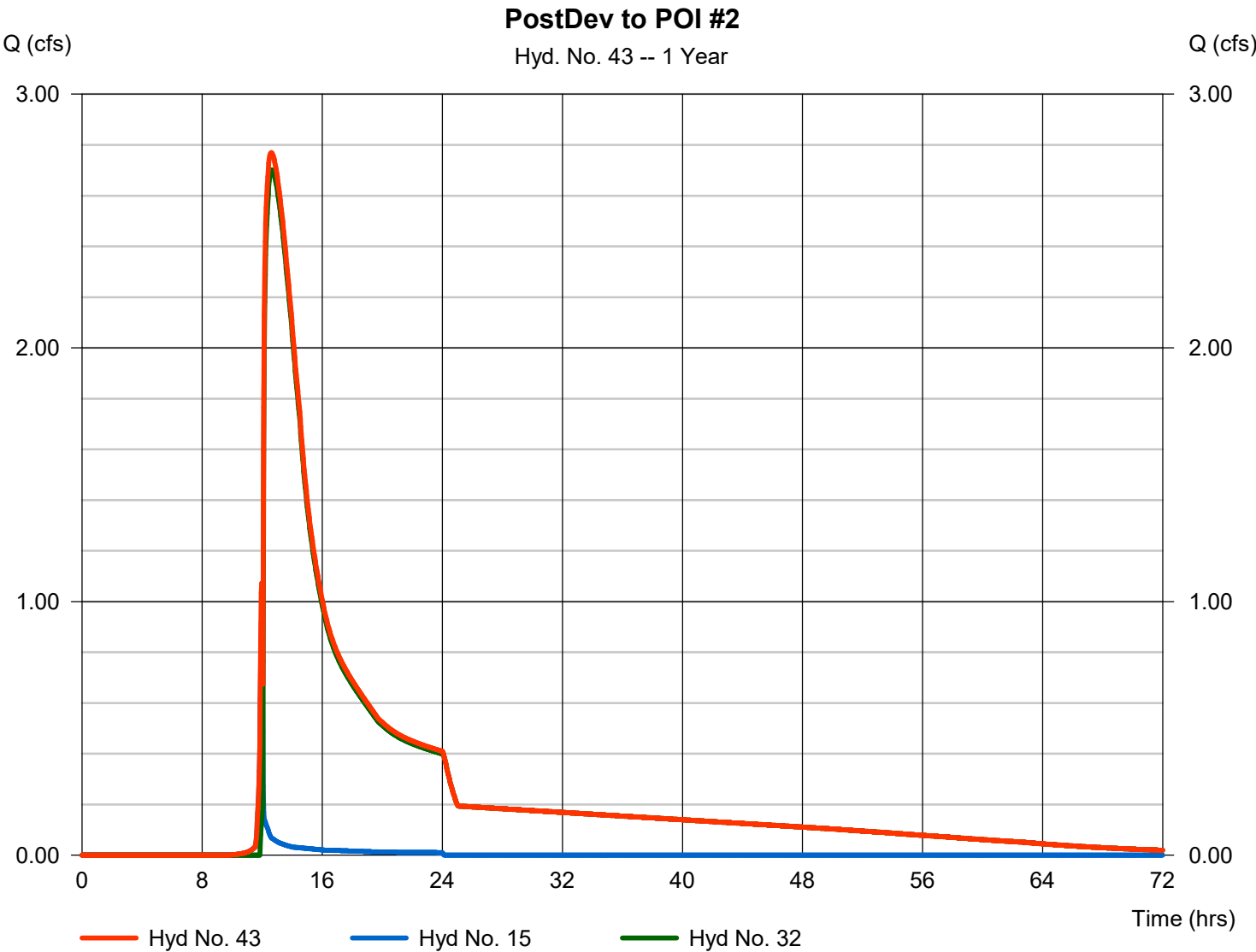


Hydrograph Report

Hyd. No. 43

PostDev to POI #2

Hydrograph type	= Combine	Peak discharge	= 2.770 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.60 hrs
Time interval	= 2 min	Hyd. volume	= 65,550 cuft
Inflow hyds.	= 15, 32	Contrib. drain. area	= 0.460 ac

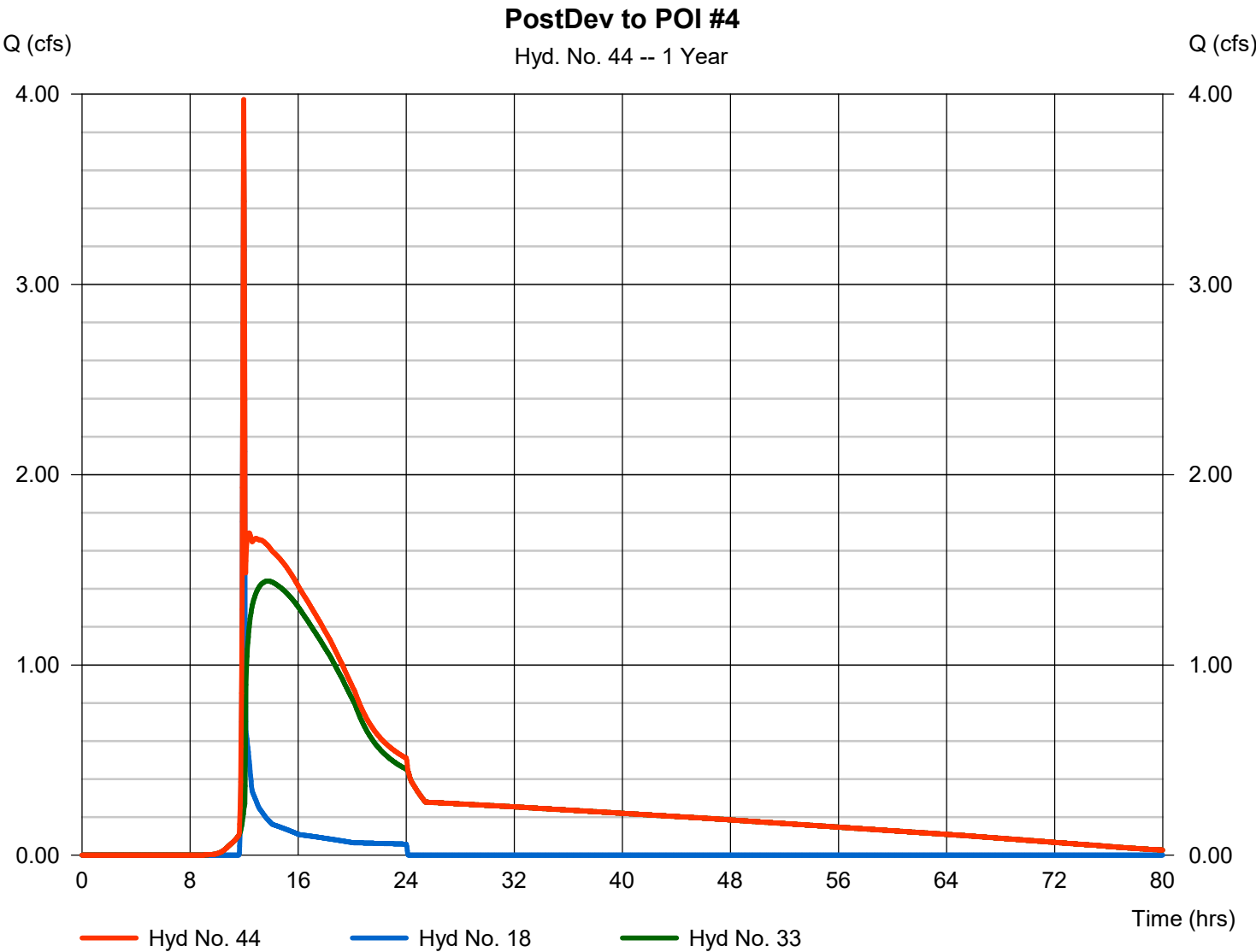


Hydrograph Report

Hyd. No. 44

PostDev to POI #4

Hydrograph type	= Combine	Peak discharge	= 3.972 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 85,441 cuft
Inflow hyds.	= 18, 33	Contrib. drain. area	= 3.670 ac



Hydrograph Report

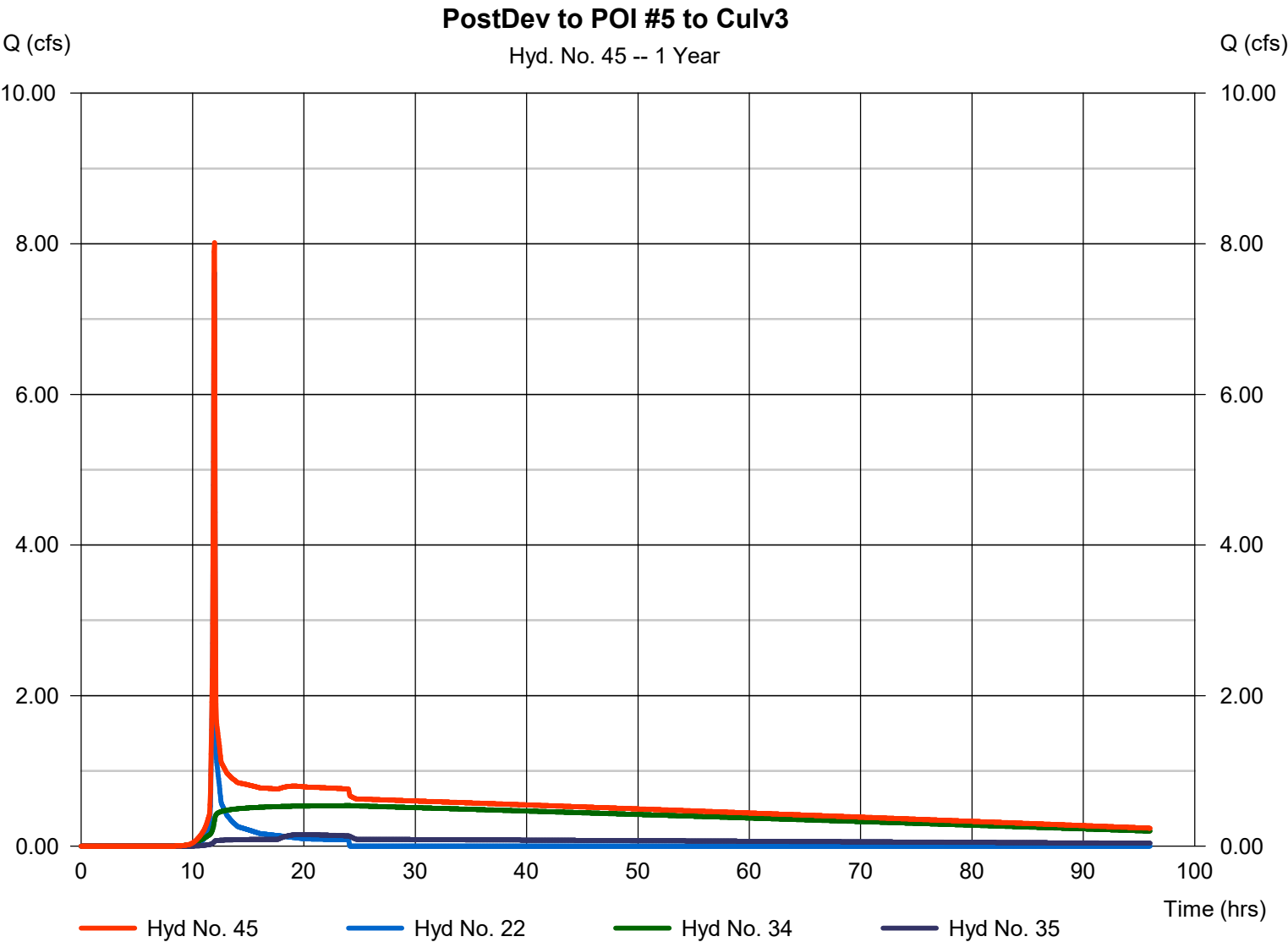
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 45

PostDev to POI #5 to Culv3

Hydrograph type	= Combine	Peak discharge	= 8.014 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 157,514 cuft
Inflow hyds.	= 22, 34, 35	Contrib. drain. area	= 3.810 ac



Hydrograph Report

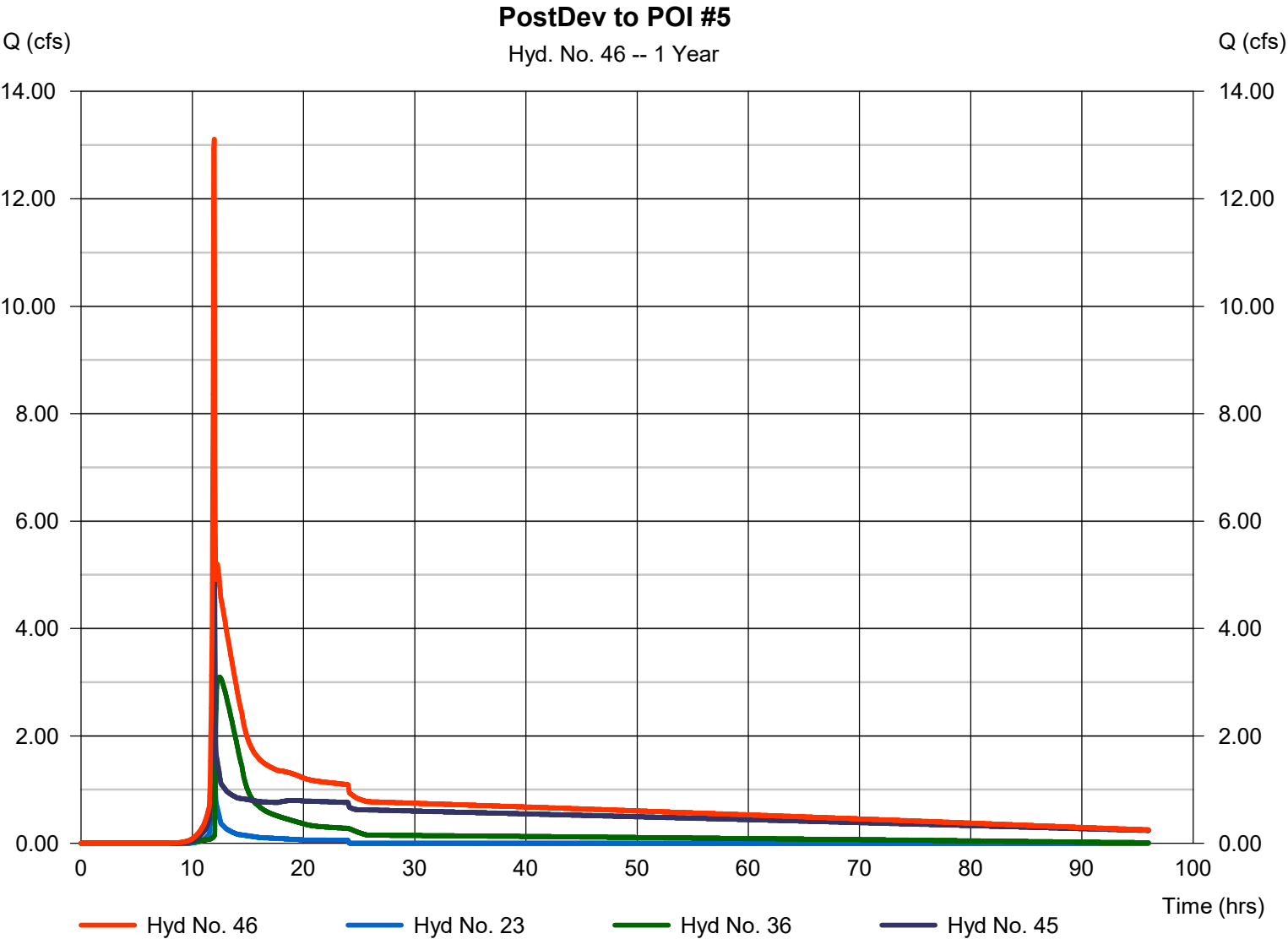
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 46

PostDev to POI #5

Hydrograph type	= Combine	Peak discharge	= 13.11 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 228,604 cuft
Inflow hyds.	= 23, 36, 45	Contrib. drain. area	= 2.420 ac

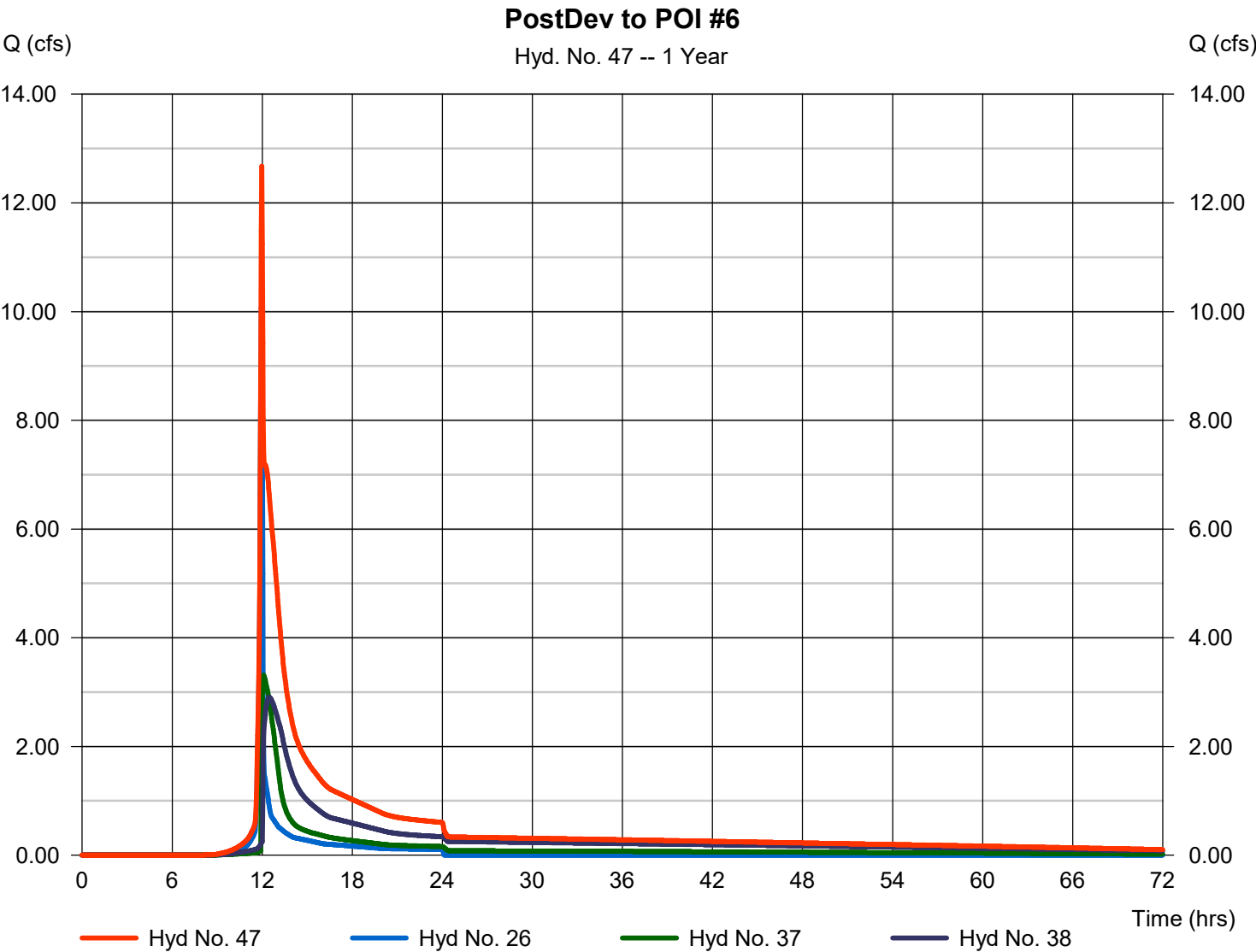


Hydrograph Report

Hyd. No. 47

PostDev to POI #6

Hydrograph type	= Combine	Peak discharge	= 12.67 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 125,641 cuft
Inflow hyds.	= 26, 37, 38	Contrib. drain. area	= 4.370 ac

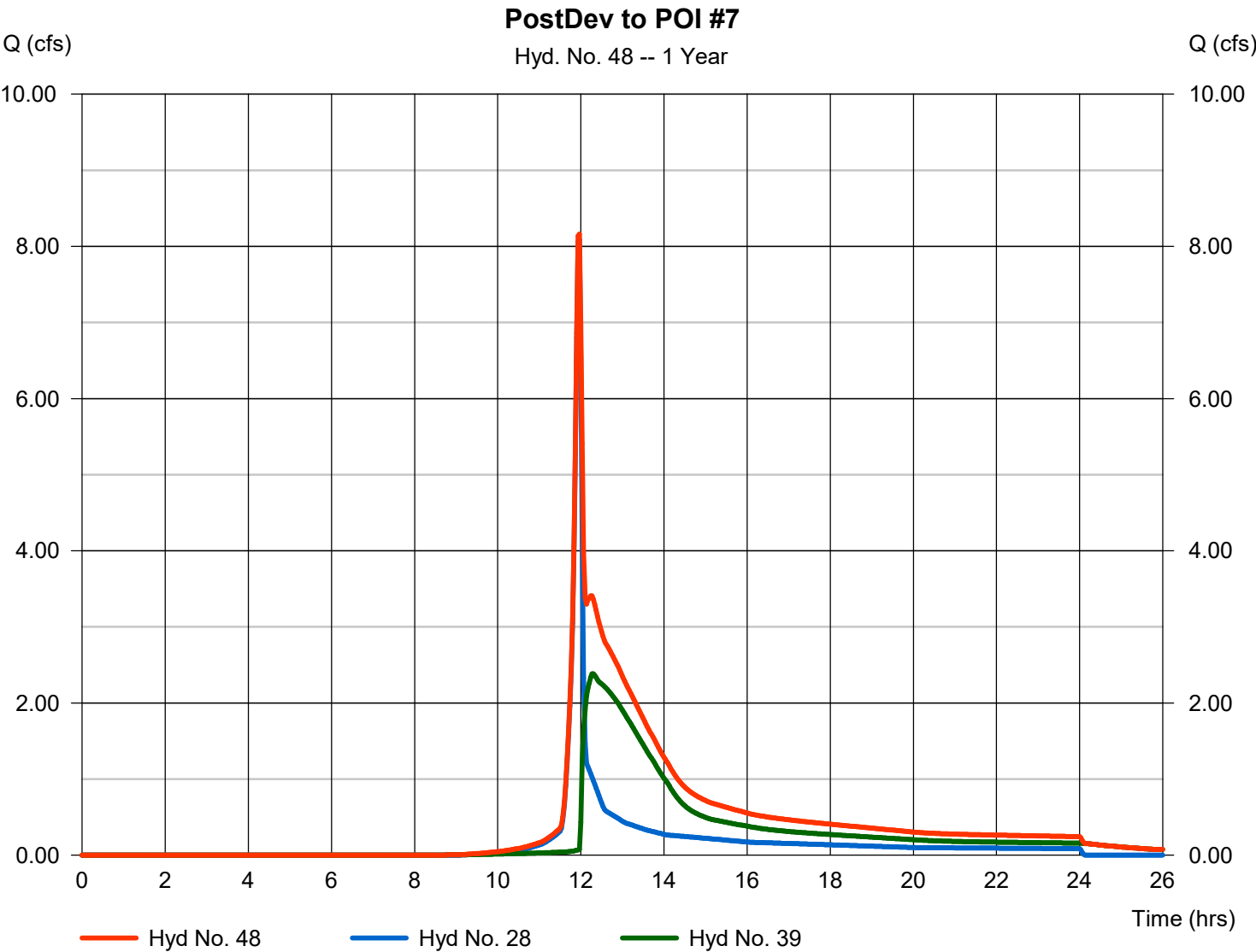


Hydrograph Report

Hyd. No. 48

PostDev to POI #7

Hydrograph type	= Combine	Peak discharge	= 8.161 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 49,636 cuft
Inflow hyds.	= 28, 39	Contrib. drain. area	= 3.640 ac



Hydrograph Report

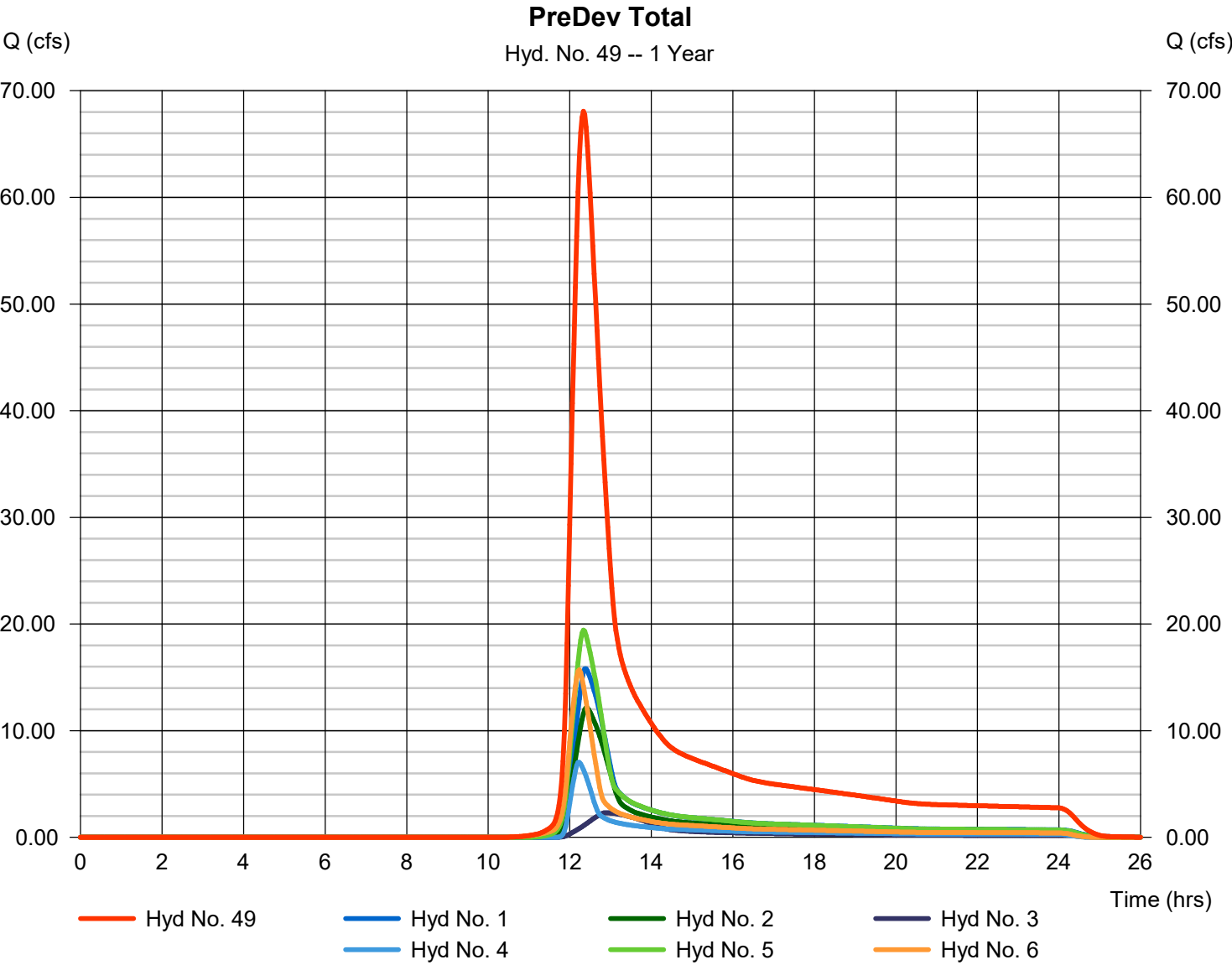
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 49

PreDev Total

Hydrograph type	= Combine	Peak discharge	= 68.08 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.33 hrs
Time interval	= 2 min	Hyd. volume	= 414,960 cuft
Inflow hyds.	= 1, 2, 3, 4, 5, 6	Contrib. drain. area	= 139.020 ac

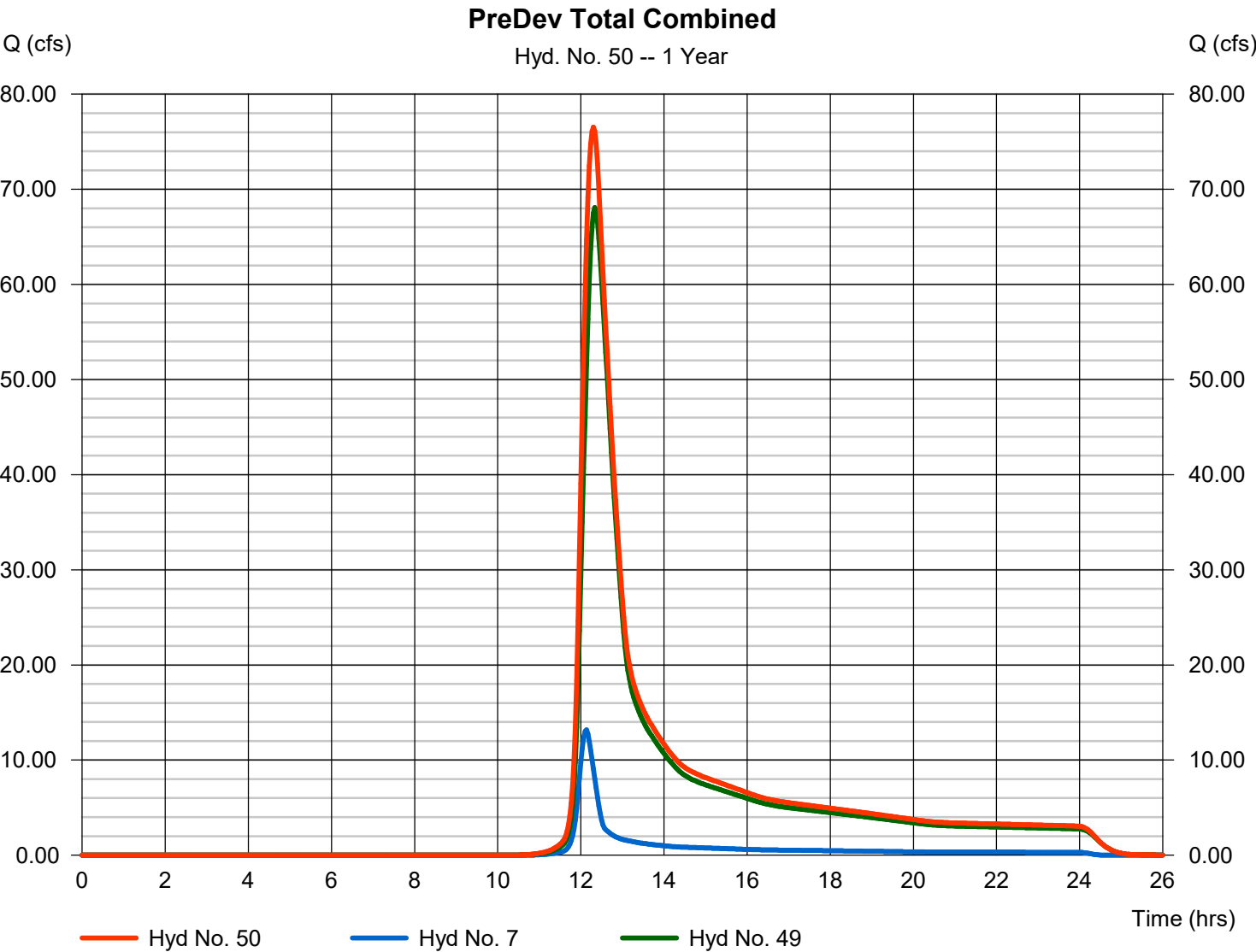


Hydrograph Report

Hyd. No. 50

PreDev Total Combined

Hydrograph type	= Combine	Peak discharge	= 76.54 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.30 hrs
Time interval	= 2 min	Hyd. volume	= 462,702 cuft
Inflow hyds.	= 7, 49	Contrib. drain. area	= 13.250 ac

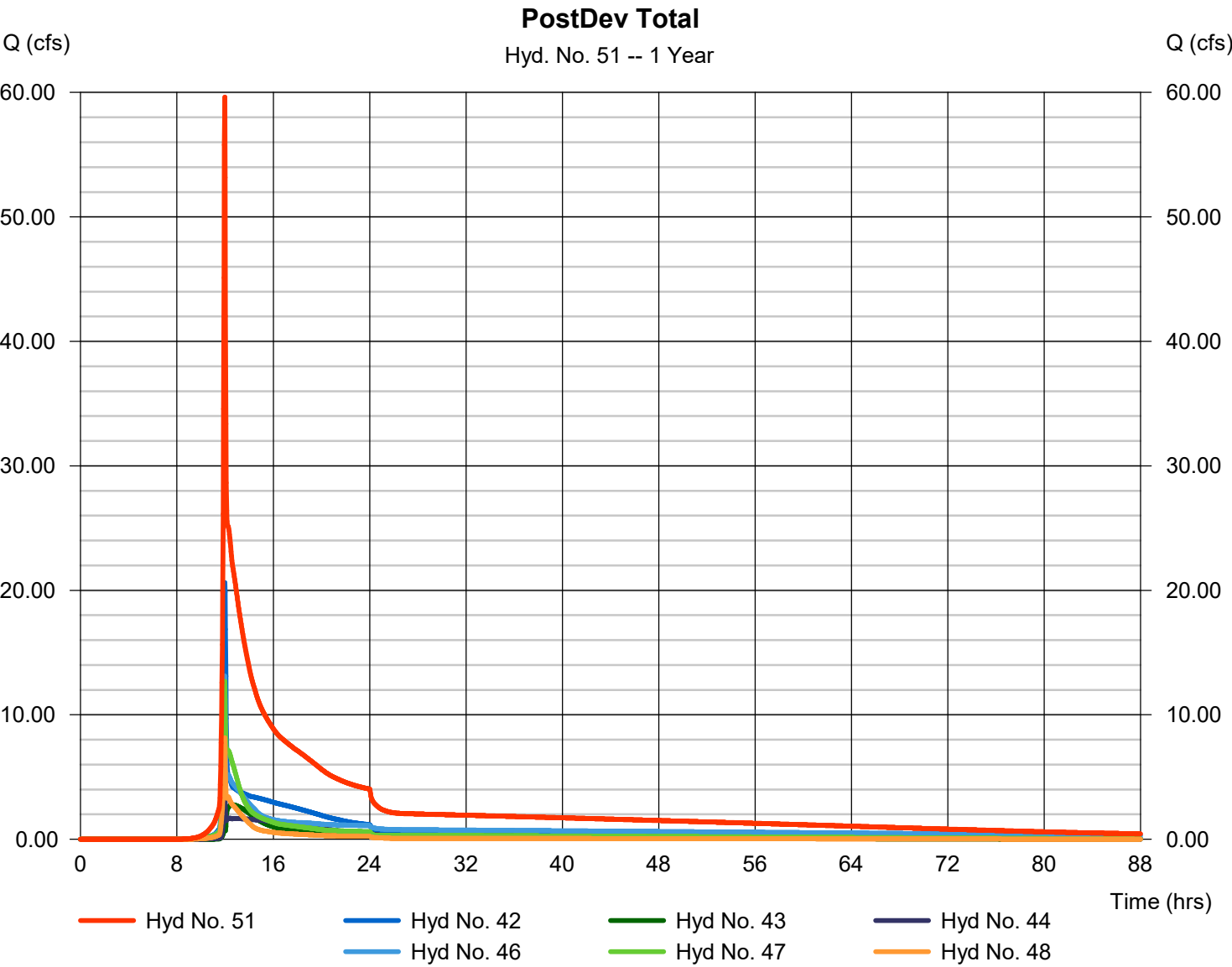


Hydrograph Report

Hyd. No. 51

PostDev Total

Hydrograph type	= Combine	Peak discharge	= 59.61 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 748,193 cuft
Inflow hyds.	= 42, 43, 44, 46, 47, 48	Contrib. drain. area	= 0.000 ac

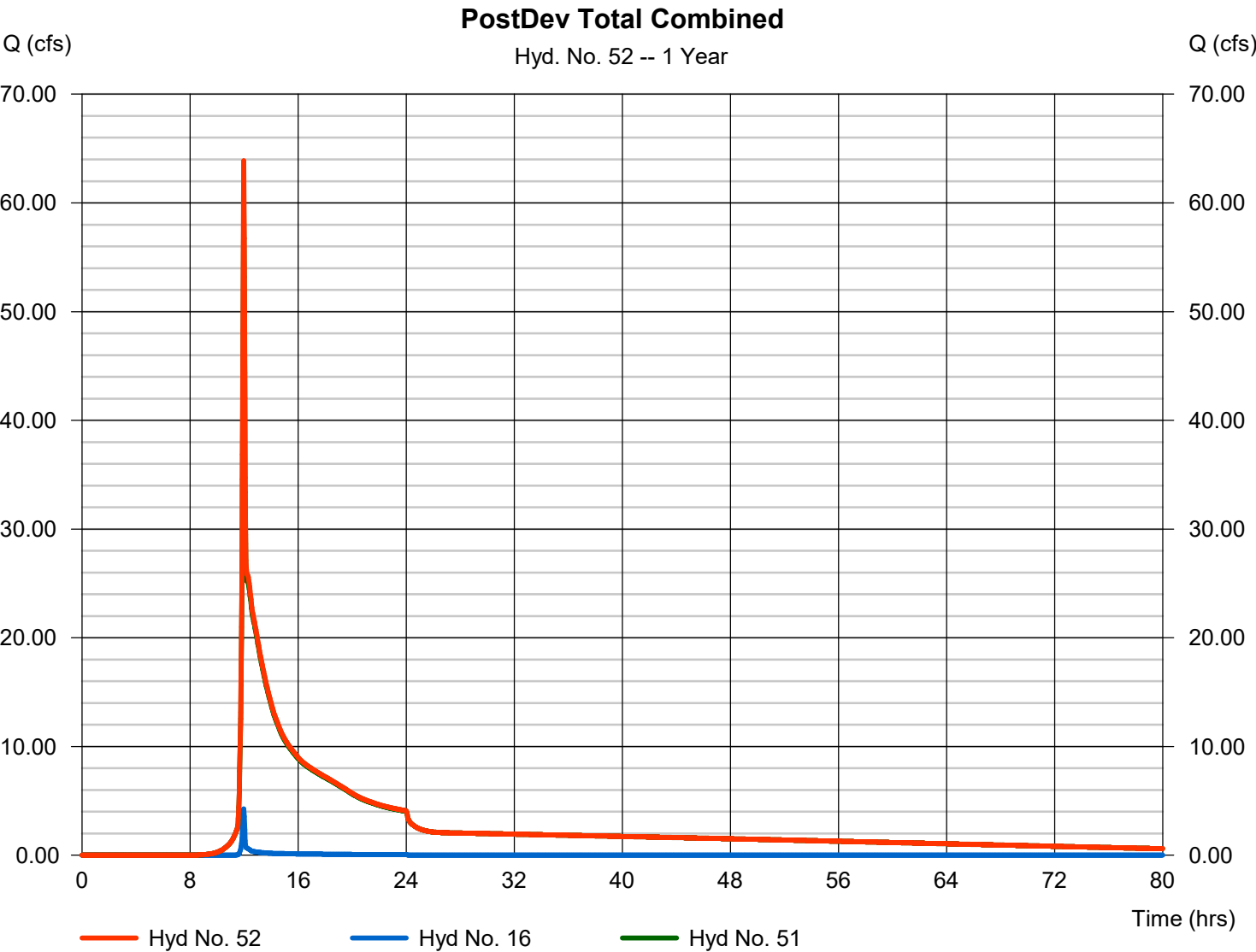


Hydrograph Report

Hyd. No. 52

PostDev Total Combined

Hydrograph type	= Combine	Peak discharge	= 63.87 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 756,816 cuft
Inflow hyds.	= 16, 51	Contrib. drain. area	= 3.240 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

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	56.08	2	742	306,475	-----	-----	-----	PreDev POI #1
2	SCS Runoff	38.17	2	744	218,081	-----	-----	-----	PreDev POI #2
3	SCS Runoff	8.247	2	770	76,181	-----	-----	-----	PreDev to POI #3
4	SCS Runoff	30.27	2	732	125,401	-----	-----	-----	PreDev to POI #4
5	SCS Runoff	58.60	2	740	304,018	-----	-----	-----	PreDev to POI #5
6	SCS Runoff	42.77	2	732	184,994	-----	-----	-----	PreDev to POI #6
7	SCS Runoff	37.83	2	726	130,873	-----	-----	-----	PreDev to POI #7
8	SCS Runoff	79.78	2	718	187,098	-----	-----	-----	PostDev to SCM 1A
9	SCS Runoff	54.68	2	720	143,182	-----	-----	-----	PostDev to SCM 1B
10	SCS Runoff	12.05	2	716	24,470	-----	-----	-----	PostDev to SCM 1C
11	SCS Runoff	12.89	2	716	26,159	-----	-----	-----	PostDev to POI #1 Bypass 1
12	SCS Runoff	16.89	2	718	38,794	-----	-----	-----	PostDev to POI #1 Bypass 2
13	SCS Runoff	22.14	2	718	50,956	-----	-----	-----	PostDev to POI #1 Bypass 3
14	SCS Runoff	75.78	2	718	176,330	-----	-----	-----	PostDev to SCM 2
15	SCS Runoff	2.311	2	716	4,712	-----	-----	-----	PostDev to POI #2 Bypass
16	SCS Runoff	12.83	2	718	25,850	-----	-----	-----	PostDev to POI #3
17	SCS Runoff	78.21	2	718	182,372	-----	-----	-----	PostDev to SCM 4
18	SCS Runoff	12.83	2	718	25,689	-----	-----	-----	PostDev to POI #4 Bypass
19	SCS Runoff	127.27	2	718	301,564	-----	-----	-----	PostDev to SCM 5A
20	SCS Runoff	29.17	2	716	60,466	-----	-----	-----	PostDev to SCM 5B
21	SCS Runoff	49.01	2	720	132,149	-----	-----	-----	PostDev to SCM 5C
22	SCS Runoff	19.03	2	716	38,790	-----	-----	-----	PostDev to POI #5 Bypass 1
23	SCS Runoff	12.26	2	716	25,023	-----	-----	-----	PostDev to POI #5 Bypass 2
24	SCS Runoff	35.40	2	716	74,615	-----	-----	-----	PostDev to SCM 6A
25	SCS Runoff	74.28	2	716	157,824	-----	-----	-----	PostDev to SCM 6B
26	SCS Runoff	23.65	2	716	48,731	-----	-----	-----	PostDev to POI #6 Bypass
27	SCS Runoff	27.74	2	720	73,932	-----	-----	-----	PostDev to SCM 7
28	SCS Runoff	19.30	2	716	39,635	-----	-----	-----	PostDev to POI #7 Bypass
29	Reservoir	46.20	2	724	186,477	8	351.75	74,899	PostDev to SCM 1A
30	Reservoir	17.28	2	732	141,052	9	379.93	64,345	PostDev to SCM 1B
31	Reservoir	3.380	2	724	23,081	10	363.48	11,427	PostDev to SCM 1C
32	Reservoir	30.65	2	726	165,238	14	356.96	80,707	PostDev to SCM 2
33	Reservoir	35.55	2	726	181,888	17	367.77	81,298	PostDev to SCM 4
34	Reservoir	11.45	2	750	282,664	19	326.36	172,966	PostDev to SCM 5A
Merritt Reserve Hydrographs.gpw					Return Period: 10 Year			Saturday, 04 / 12 / 2025	

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
35	Reservoir	6.822	2	724	56,768	20	309.11	30,649	PostDev to SCM 5B
36	Reservoir	18.08	2	732	131,394	21	296.31	58,855	PostDev to SCM 5C
37	Reservoir	16.78	2	722	74,518	24	280.98	27,741	PostDev to SCM 6A
38	Reservoir	23.74	2	724	156,809	25	293.72	74,194	PostDev to SCM 6B
39	Reservoir	22.20	2	726	73,781	27	321.09	23,017	PostDev to SCM 7
40	Combine	21.87	2	720	167,211	11, 30,	-----	-----	PostDev POI #1 to Culv1
41	Combine	40.33	2	720	229,087	12, 31, 40	-----	-----	PostDev POI #1 to Culv2
42	Combine	103.34	2	720	466,519	13, 29, 41	-----	-----	PostDev POI #1 Combined
43	Combine	31.05	2	726	169,950	15, 32,	-----	-----	PostDev to POI #2
44	Combine	37.92	2	726	207,577	18, 33,	-----	-----	PostDev to POI #4
45	Combine	24.37	2	720	378,221	22, 34, 35,	-----	-----	PostDev to POI #5 to Culv3
46	Combine	49.88	2	720	534,637	23, 36, 45	-----	-----	PostDev to POI #5
47	Combine	61.91	2	718	280,058	26, 37, 38,	-----	-----	PostDev to POI #6
48	Combine	34.93	2	720	113,416	28, 39,	-----	-----	PostDev to POI #7
49	Combine	219.71	2	738	1,215,150	1, 2, 3, 4, 5, 6,	-----	-----	PreDev Total
50	Combine	245.16	2	736	1,346,024	7, 49	-----	-----	PreDev Total Combined
51	Combine	290.56	2	720	1,772,157	42, 43, 44, 46, 47, 48,	-----	-----	PostDev Total
52	Combine	300.89	2	720	1,798,007	16, 51	-----	-----	PostDev Total Combined
Merritt Reserve Hydrographs.gpw					Return Period: 10 Year			Saturday, 04 / 12 / 2025	

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

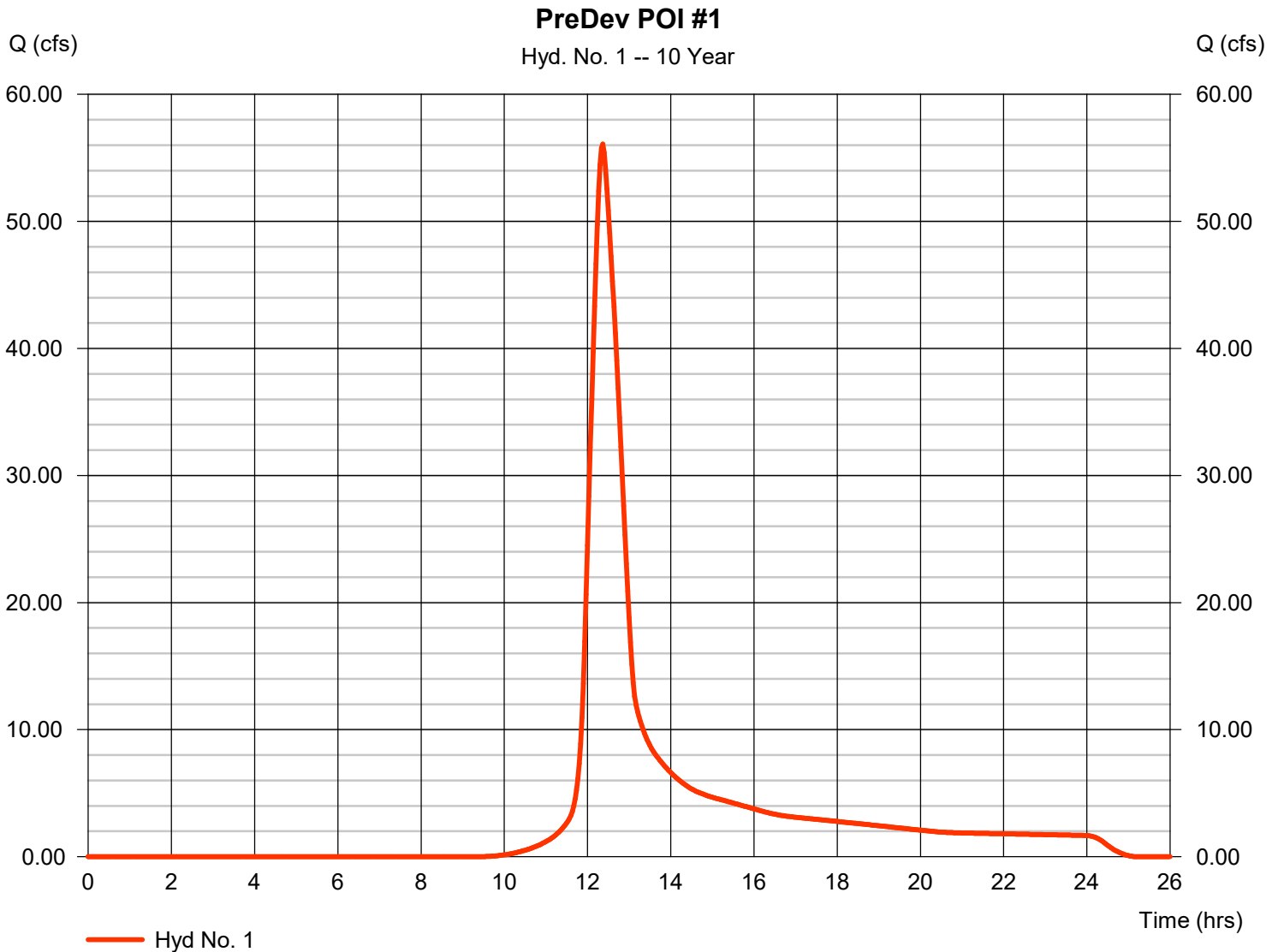
Saturday, 04 / 12 / 2025

Hyd. No. 1

PreDev POI #1

Hydrograph type = SCS Runoff
 Storm frequency = 10 yrs
 Time interval = 2 min
 Drainage area = 37.960 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 5.06 in
 Storm duration = 24 hrs

Peak discharge = 56.08 cfs
 Time to peak = 12.37 hrs
 Hyd. volume = 306,475 cuft
 Curve number = 72
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 46.50 min
 Distribution = Type II
 Shape factor = 484



Hydrograph Report

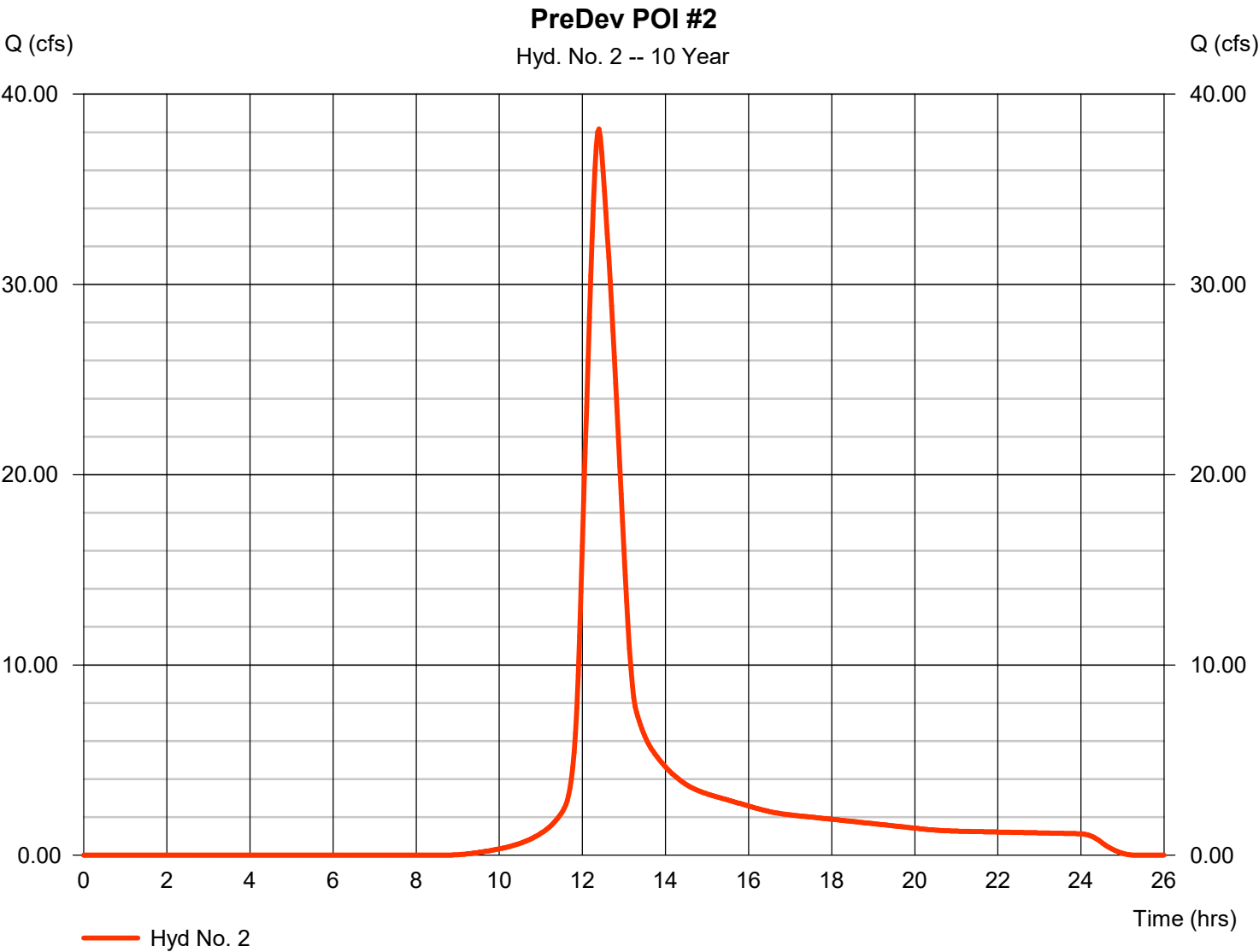
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 2

PreDev POI #2

Hydrograph type	= SCS Runoff	Peak discharge	= 38.17 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.40 hrs
Time interval	= 2 min	Hyd. volume	= 218,081 cuft
Drainage area	= 24.050 ac	Curve number	= 75
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 48.70 min
Total precip.	= 5.06 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

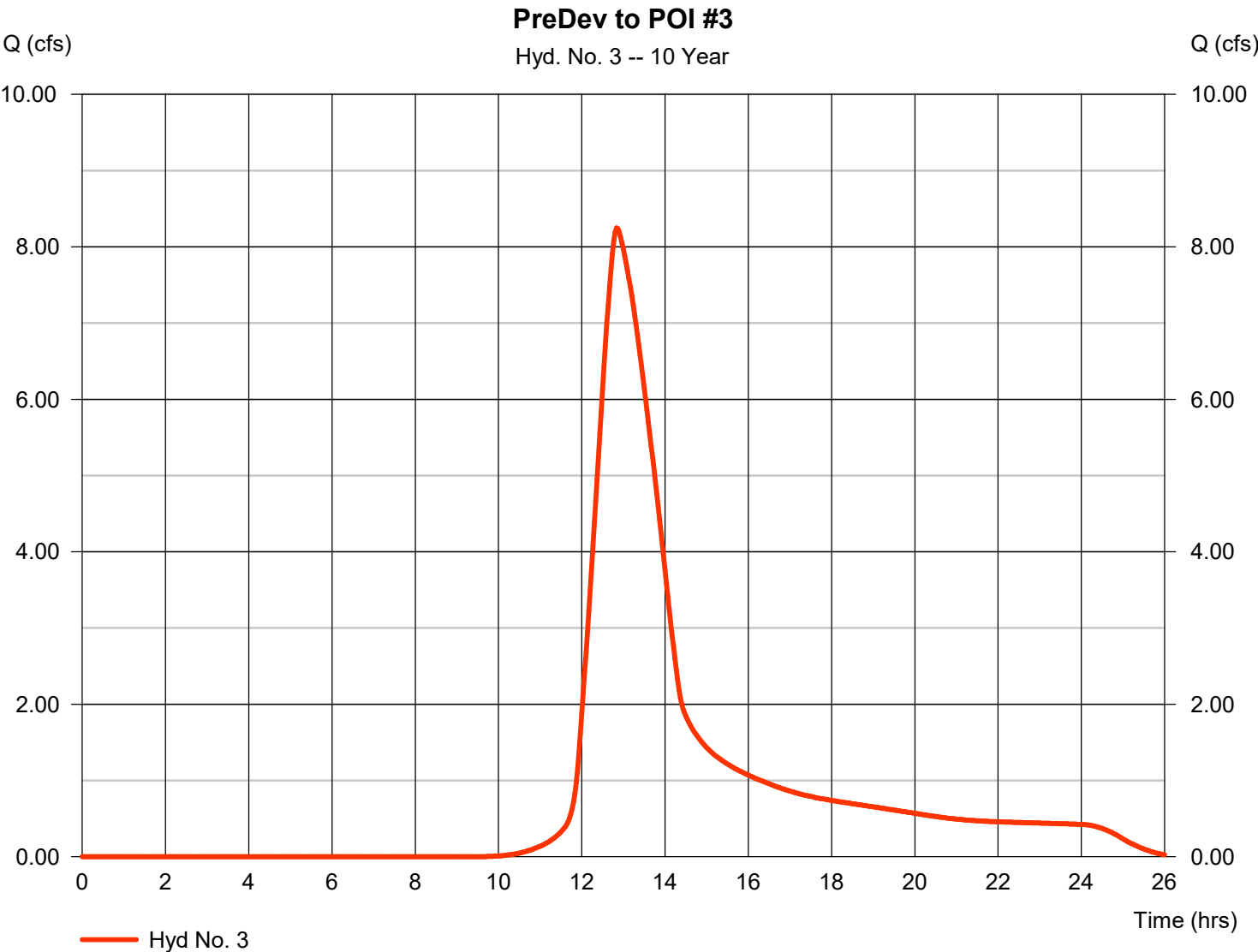


Hydrograph Report

Hyd. No. 3

PreDev to POI #3

Hydrograph type	= SCS Runoff	Peak discharge	= 8.247 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.83 hrs
Time interval	= 2 min	Hyd. volume	= 76,181 cuft
Drainage area	= 9.310 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 92.00 min
Total precip.	= 5.06 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

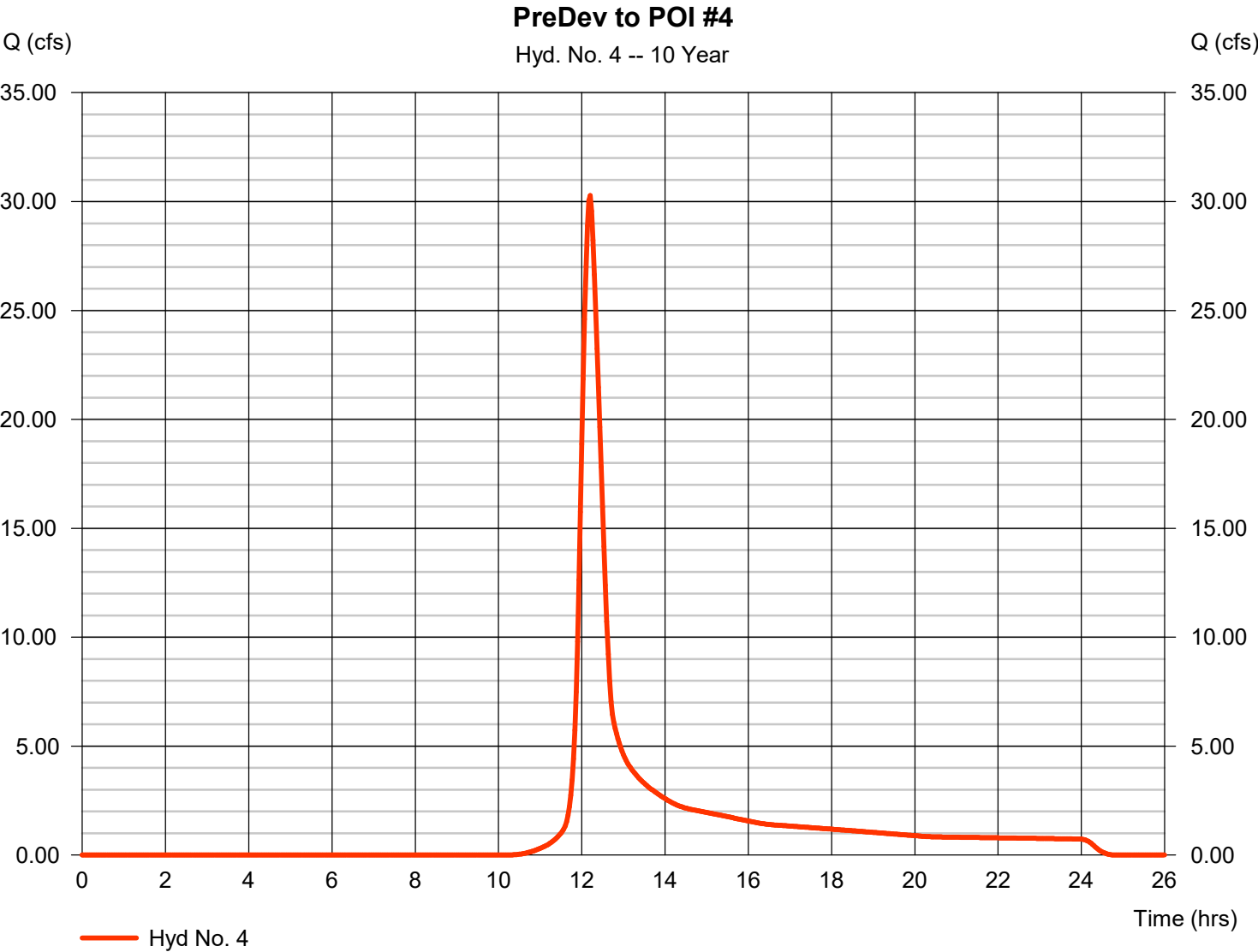


Hydrograph Report

Hyd. No. 4

PreDev to POI #4

Hydrograph type	= SCS Runoff	Peak discharge	= 30.27 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 125,401 cuft
Drainage area	= 17.970 ac	Curve number	= 68
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 28.80 min
Total precip.	= 5.06 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

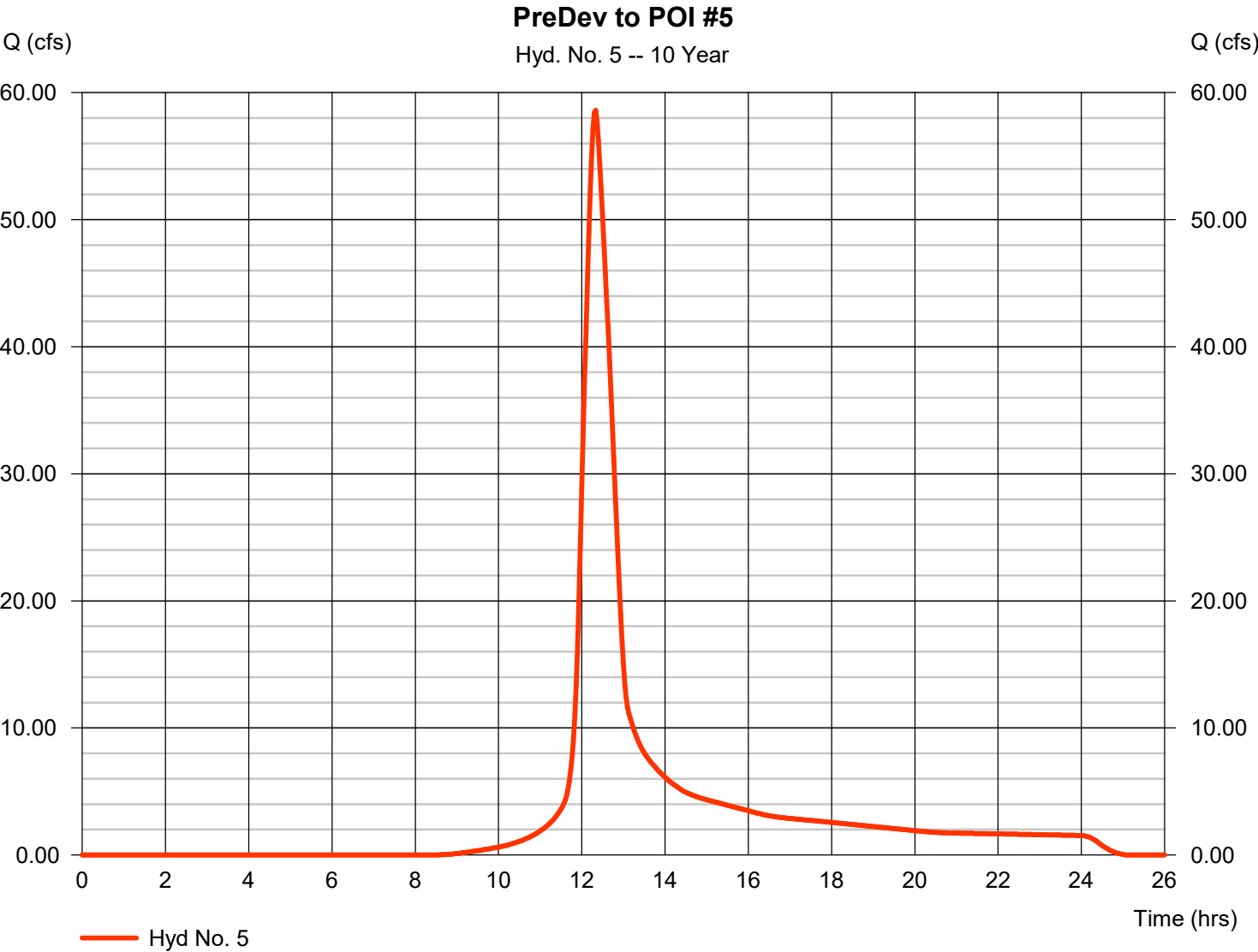
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 5

PreDev to POI #5

Hydrograph type	= SCS Runoff	Peak discharge	= 58.60 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.33 hrs
Time interval	= 2 min	Hyd. volume	= 304,018 cuft
Drainage area	= 32.090 ac	Curve number	= 76
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 43.30 min
Total precip.	= 5.06 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

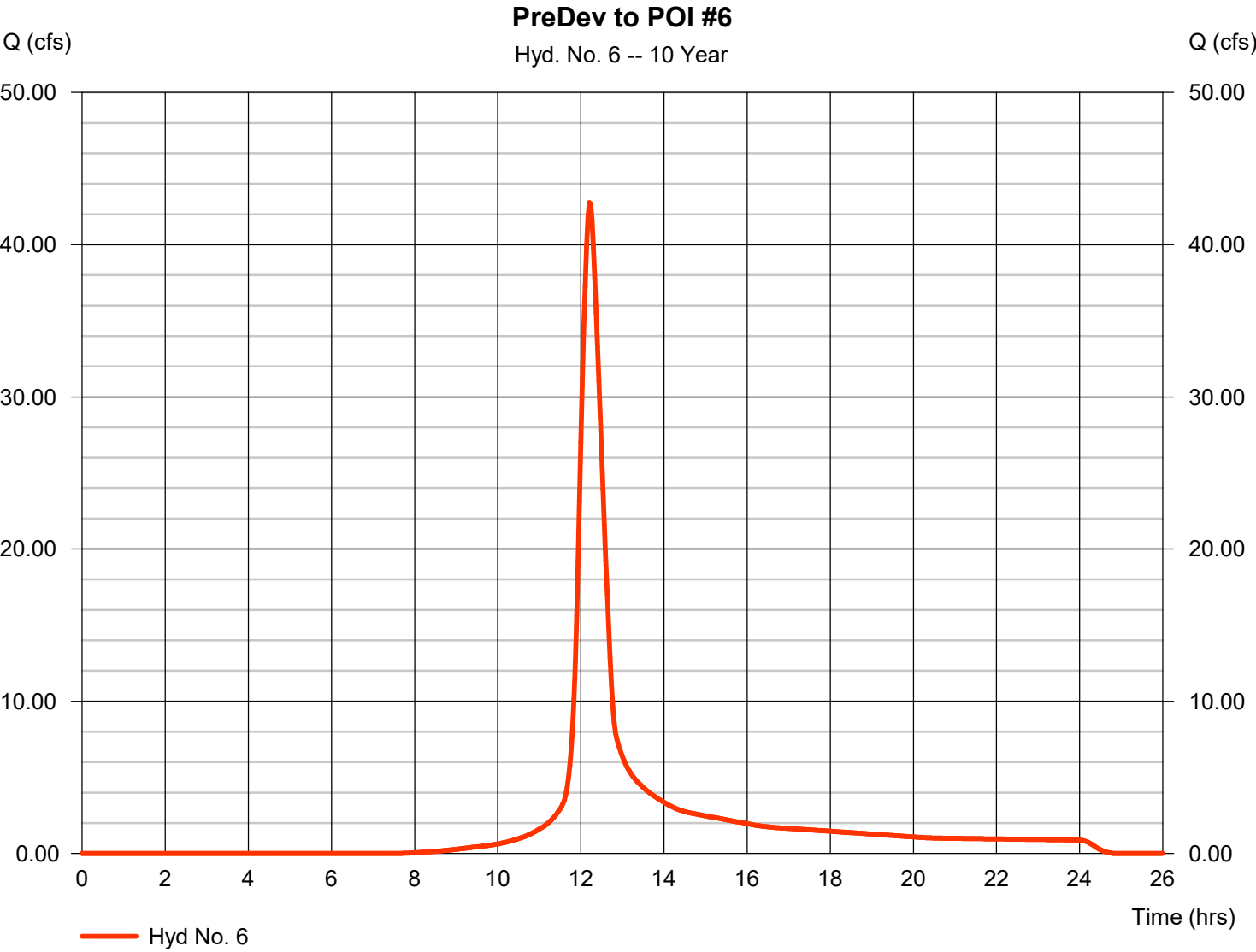


Hydrograph Report

Hyd. No. 6

PreDev to POI #6

Hydrograph type	= SCS Runoff	Peak discharge	= 42.77 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 184,994 cuft
Drainage area	= 17.640 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 32.90 min
Total precip.	= 5.06 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

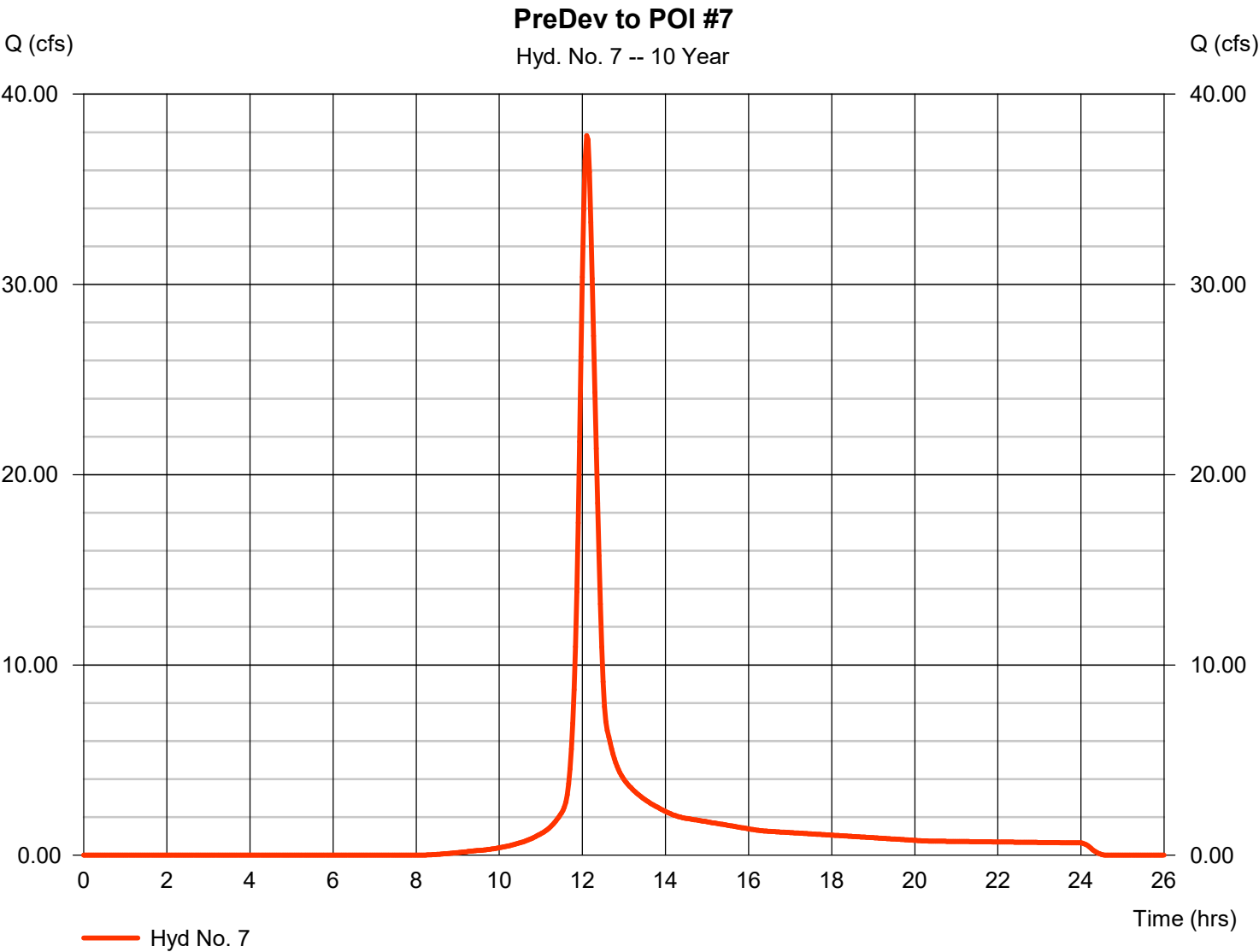
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 7

PreDev to POI #7

Hydrograph type	=	SCS Runoff	Peak discharge	=	37.83 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.10 hrs
Time interval	=	2 min	Hyd. volume	=	130,873 cuft
Drainage area	=	13.250 ac	Curve number	=	77
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	22.00 min
Total precip.	=	5.06 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

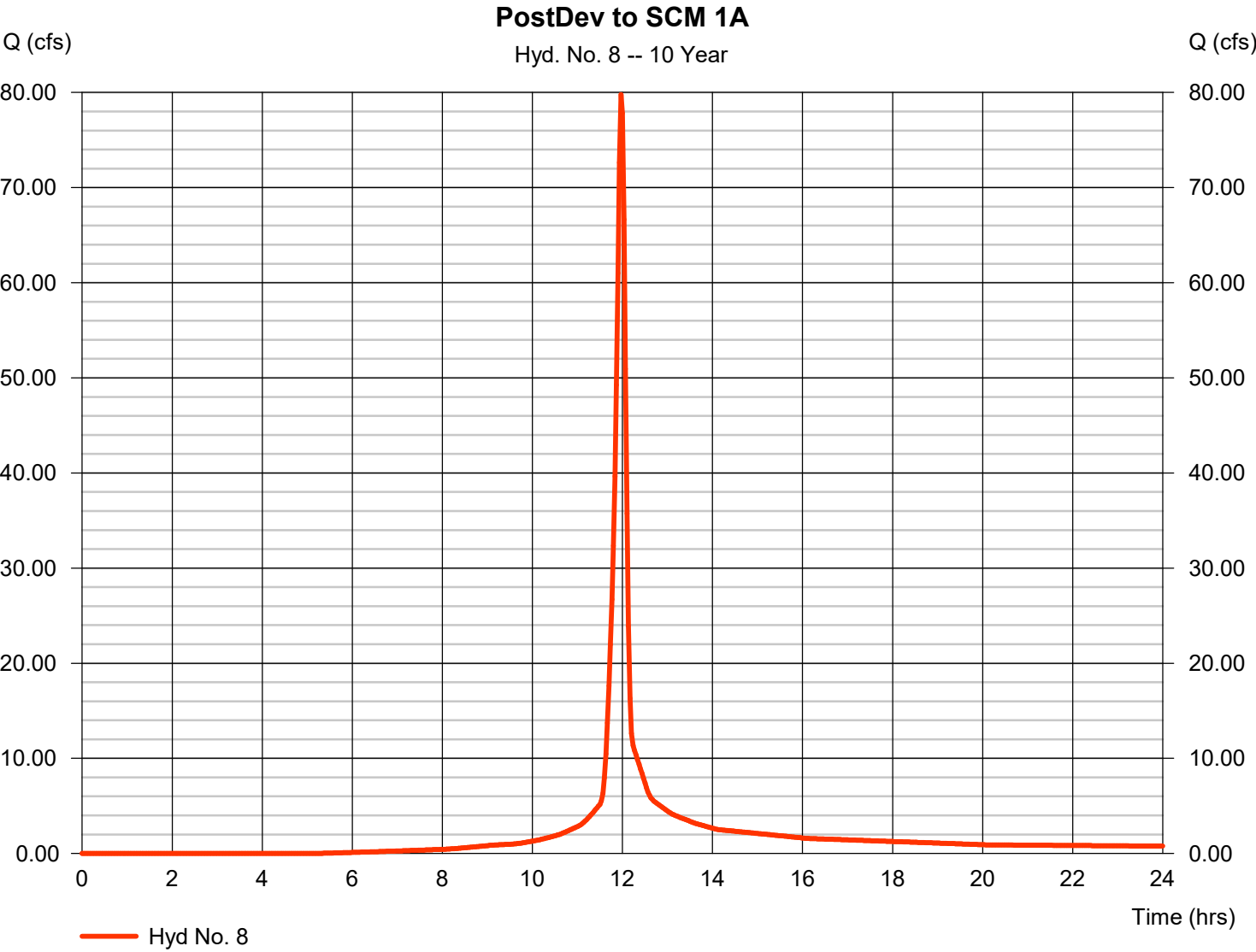


Hydrograph Report

Hyd. No. 8

PostDev to SCM 1A

Hydrograph type	= SCS Runoff	Peak discharge	= 79.78 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 187,098 cuft
Drainage area	= 14.630 ac	Curve number	= 86
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 8.30 min
Total precip.	= 5.06 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

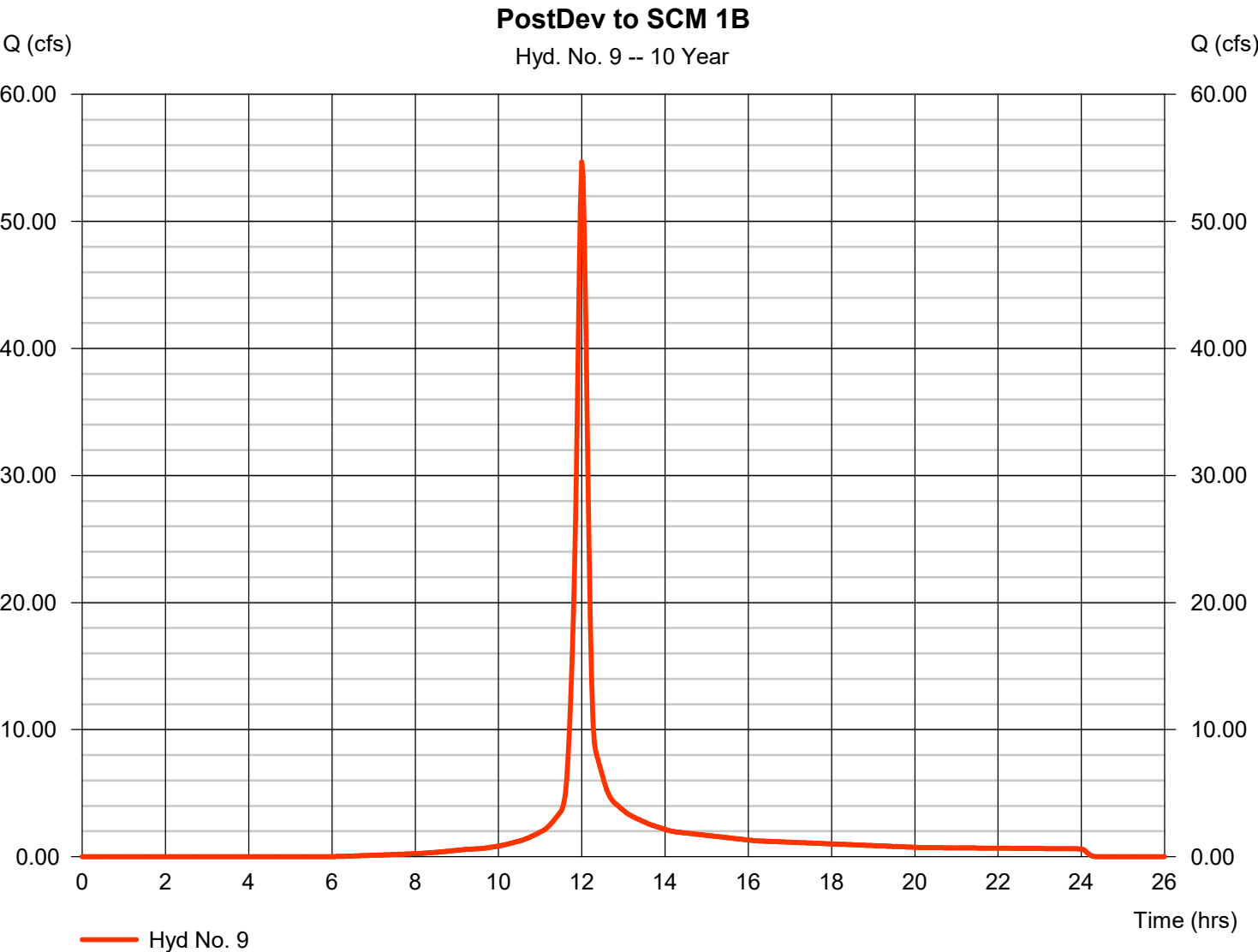
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 9

PostDev to SCM 1B

Hydrograph type	= SCS Runoff	Peak discharge	= 54.68 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 143,182 cuft
Drainage area	= 11.570 ac	Curve number	= 83.8
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.10 min
Total precip.	= 5.06 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

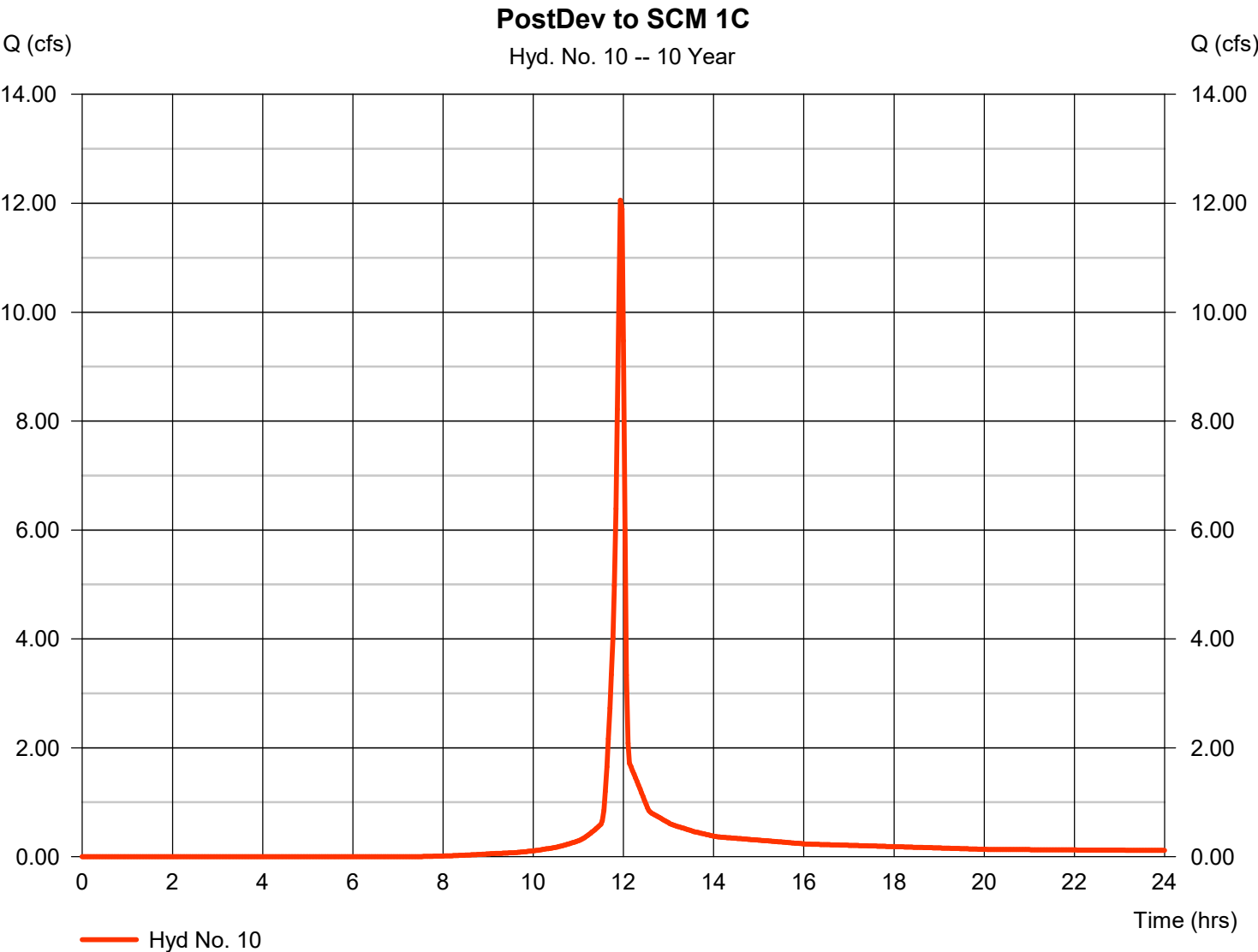
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 10

PostDev to SCM 1C

Hydrograph type	= SCS Runoff	Peak discharge	= 12.05 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 24,470 cuft
Drainage area	= 2.520 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.06 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

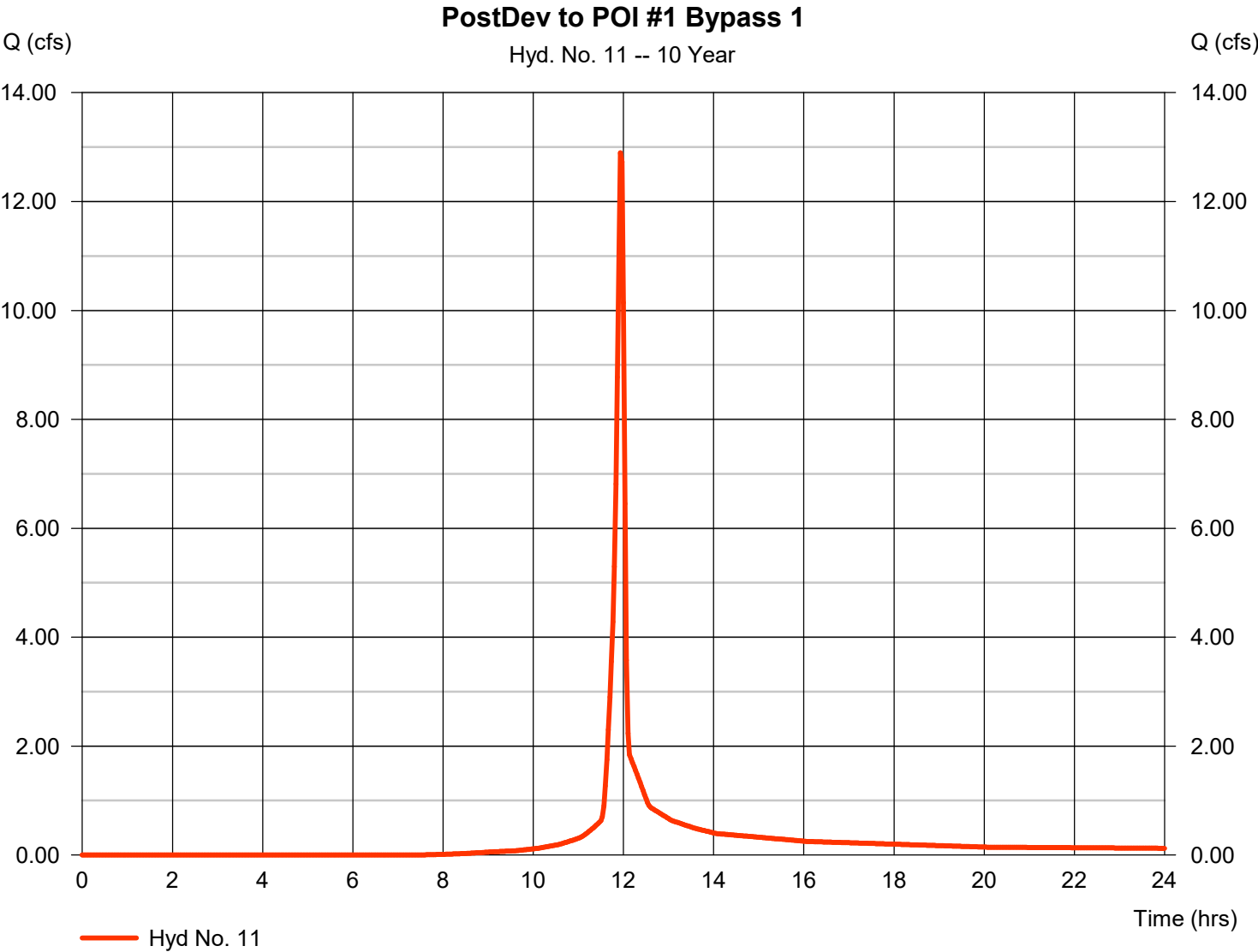
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 11

PostDev to POI #1 Bypass 1

Hydrograph type	=	SCS Runoff	Peak discharge	=	12.89 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	26,159 cuft
Drainage area	=	2.720 ac	Curve number	=	78.7
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.06 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

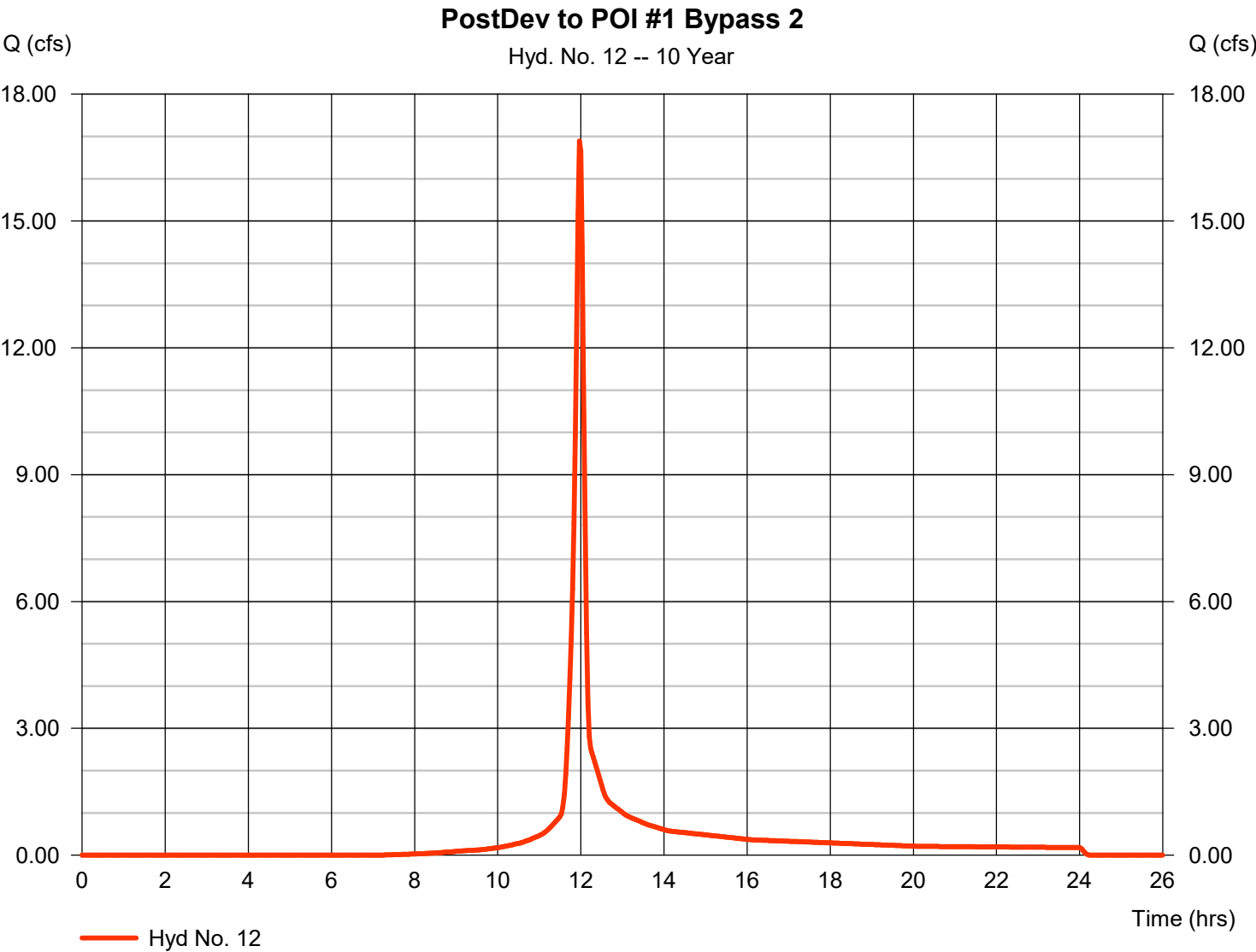


Hydrograph Report

Hyd. No. 12

PostDev to POI #1 Bypass 2

Hydrograph type	=	SCS Runoff	Peak discharge	=	16.89 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	38,794 cuft
Drainage area	=	3.640 ac	Curve number	=	79.9
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.70 min
Total precip.	=	5.06 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

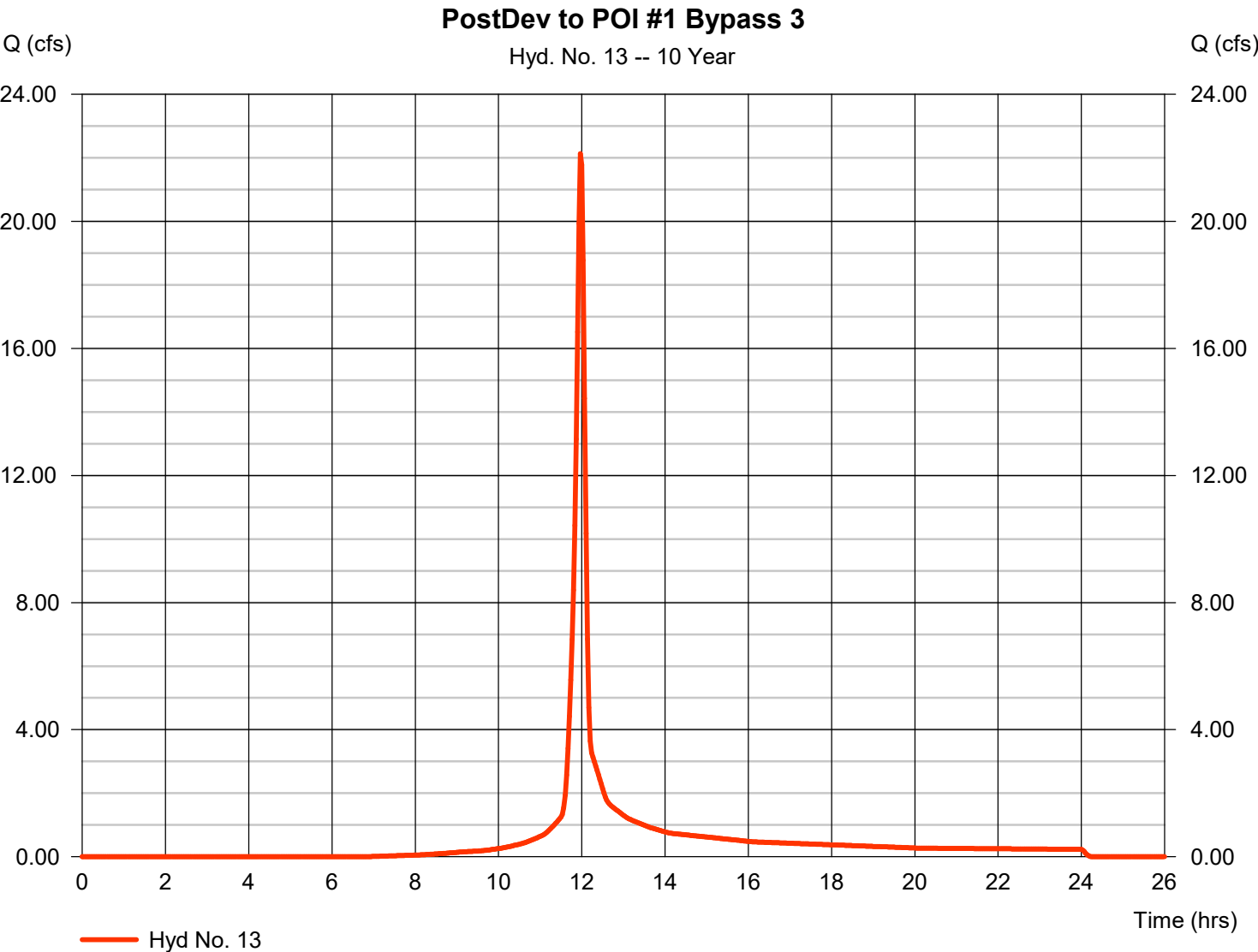


Hydrograph Report

Hyd. No. 13

PostDev to POI #1 Bypass 3

Hydrograph type	=	SCS Runoff	Peak discharge	=	22.14 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	50,956 cuft
Drainage area	=	4.620 ac	Curve number	=	81
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	7.20 min
Total precip.	=	5.06 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

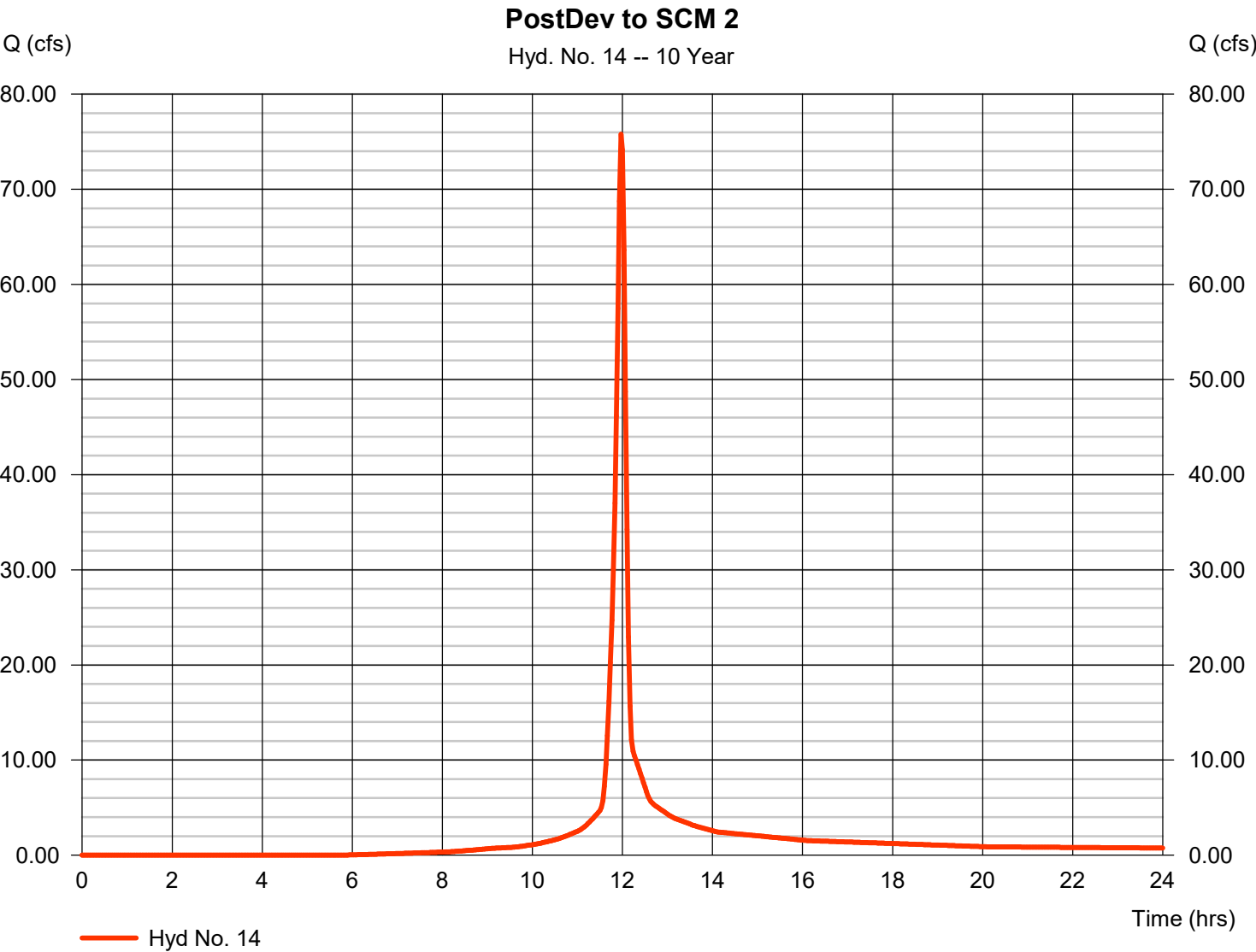


Hydrograph Report

Hyd. No. 14

PostDev to SCM 2

Hydrograph type	= SCS Runoff	Peak discharge	= 75.78 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 176,330 cuft
Drainage area	= 14.480 ac	Curve number	= 84.3
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.10 min
Total precip.	= 5.06 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

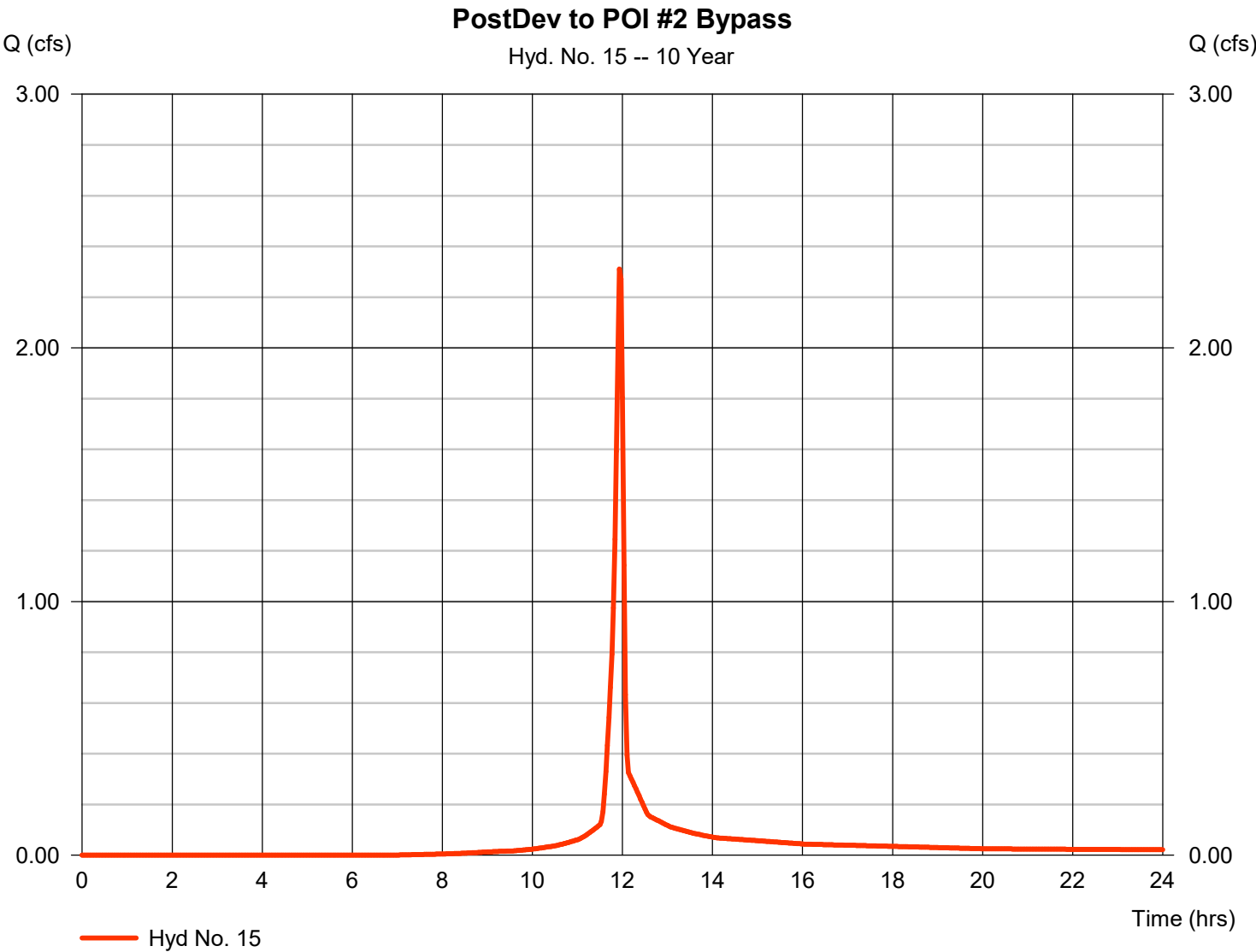


Hydrograph Report

Hyd. No. 15

PostDev to POI #2 Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.311 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	4,712 cuft
Drainage area	=	0.460 ac	Curve number	=	80.7
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.06 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

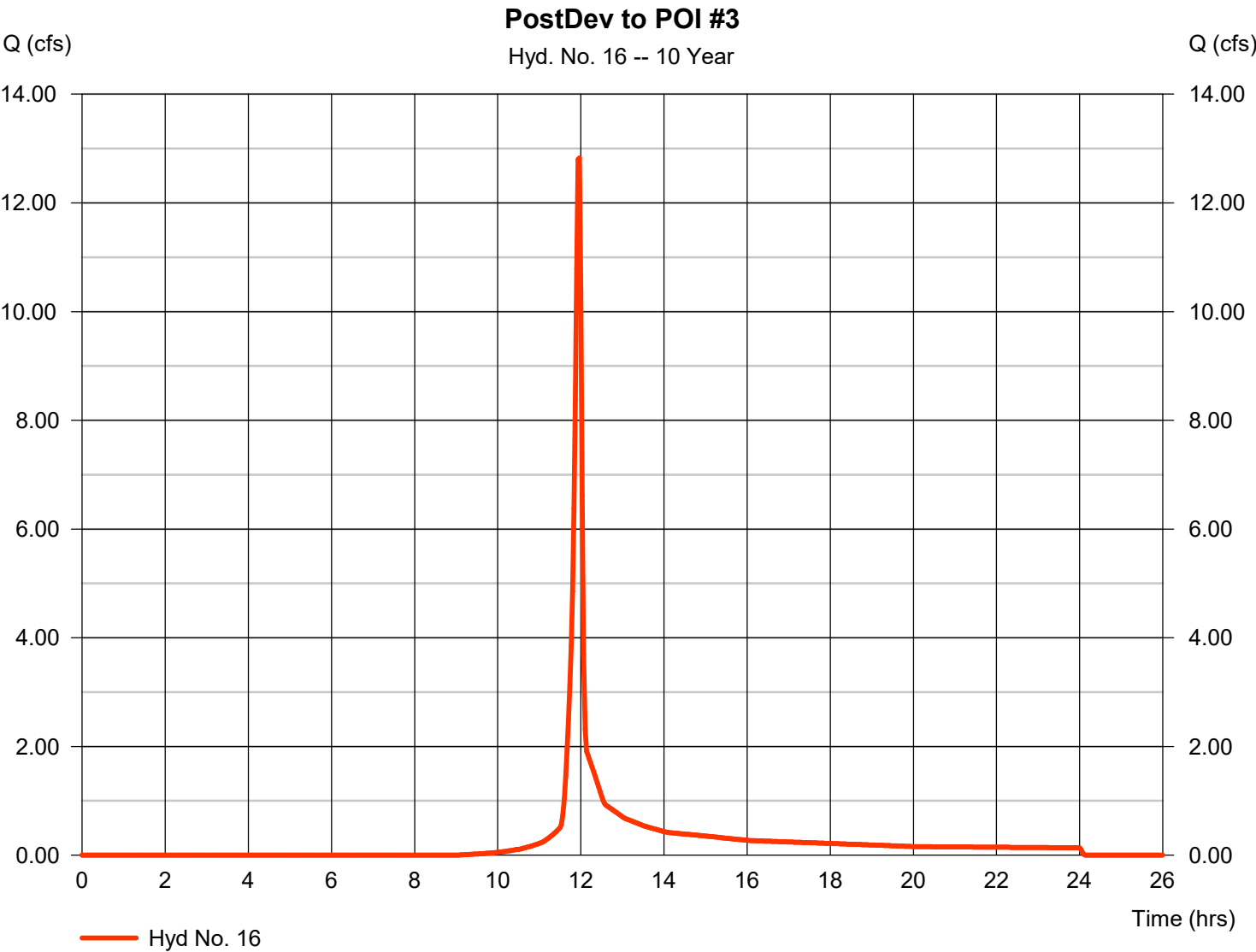


Hydrograph Report

Hyd. No. 16

PostDev to POI #3

Hydrograph type	= SCS Runoff	Peak discharge	= 12.83 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 25,850 cuft
Drainage area	= 3.240 ac	Curve number	= 73.2
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.70 min
Total precip.	= 5.06 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

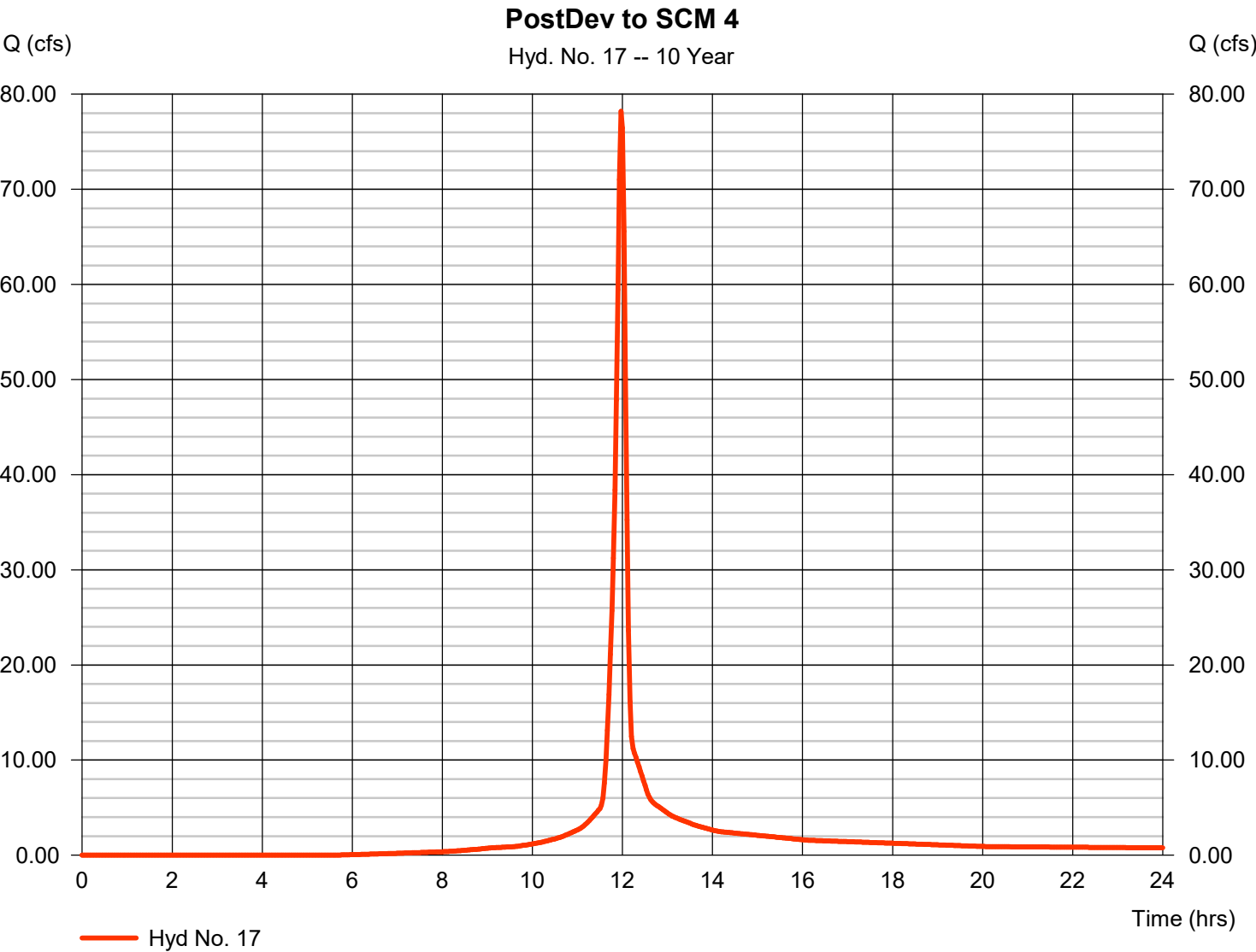


Hydrograph Report

Hyd. No. 17

PostDev to SCM 4

Hydrograph type	= SCS Runoff	Peak discharge	= 78.21 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 182,372 cuft
Drainage area	= 14.760 ac	Curve number	= 84.8
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.20 min
Total precip.	= 5.06 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

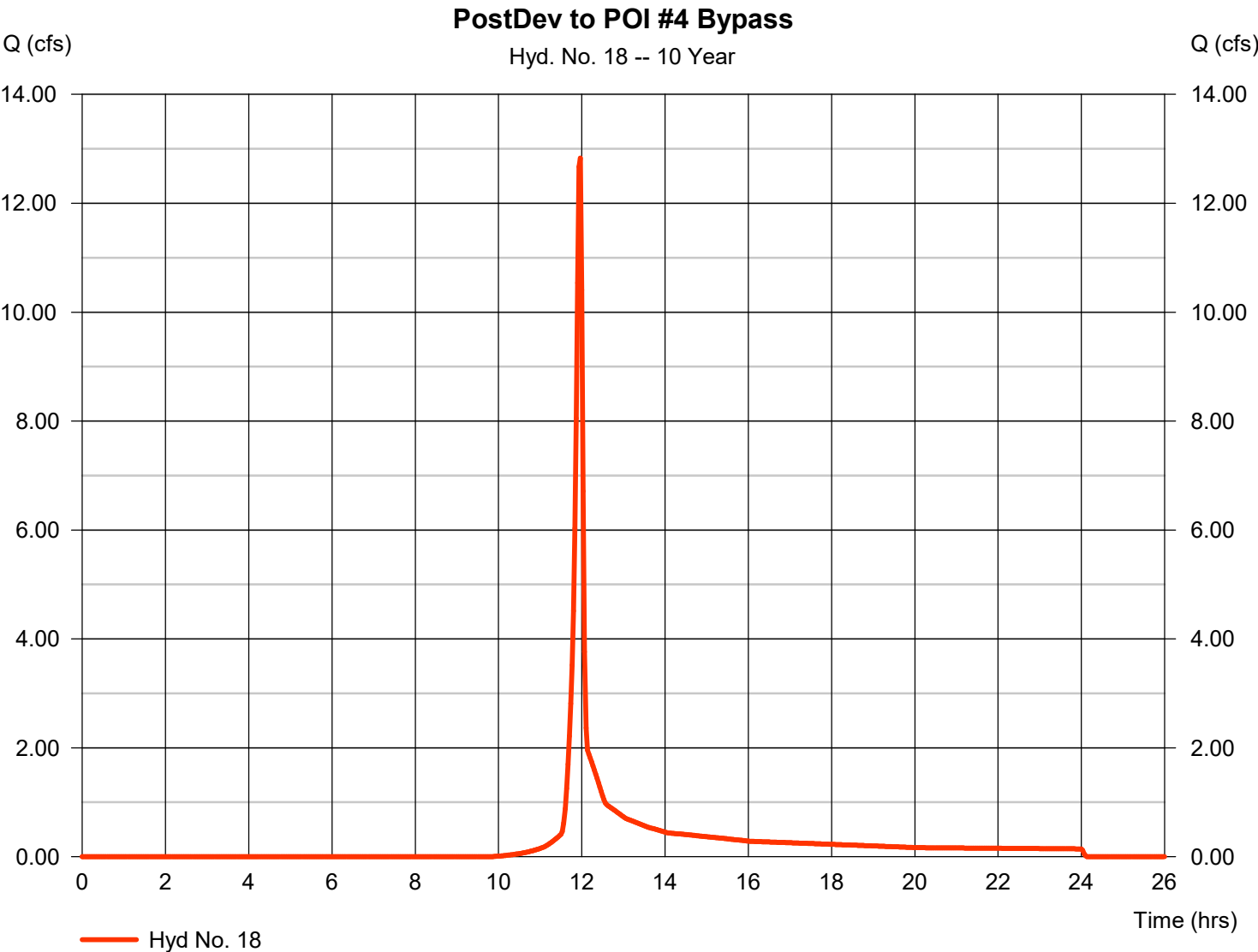


Hydrograph Report

Hyd. No. 18

PostDev to POI #4 Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	12.83 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	25,689 cuft
Drainage area	=	3.670 ac	Curve number	=	69.7
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.06 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

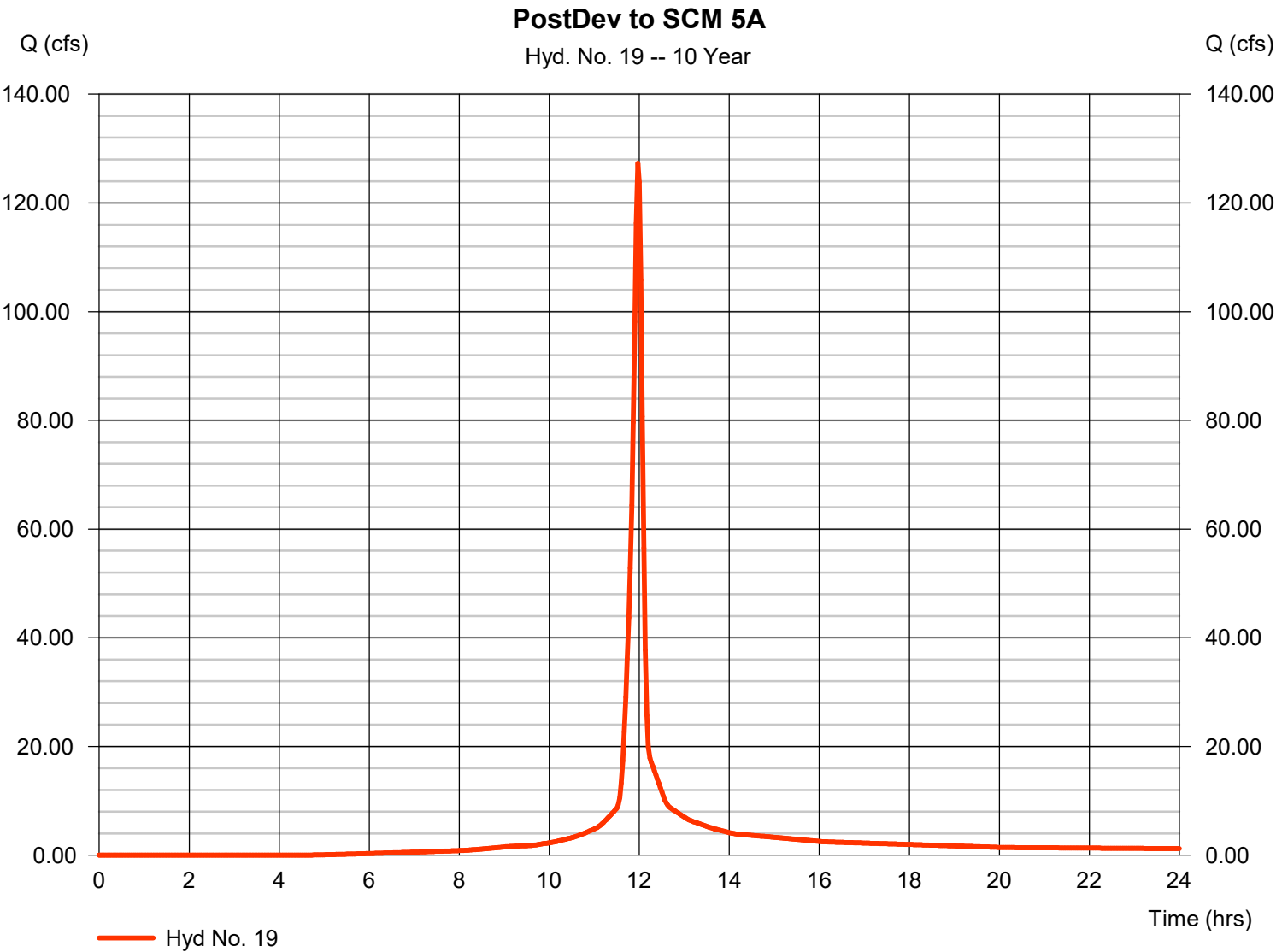


Hydrograph Report

Hyd. No. 19

PostDev to SCM 5A

Hydrograph type	=	SCS Runoff	Peak discharge	=	127.27 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	301,564 cuft
Drainage area	=	22.420 ac	Curve number	=	87.8
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	9.10 min
Total precip.	=	5.06 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

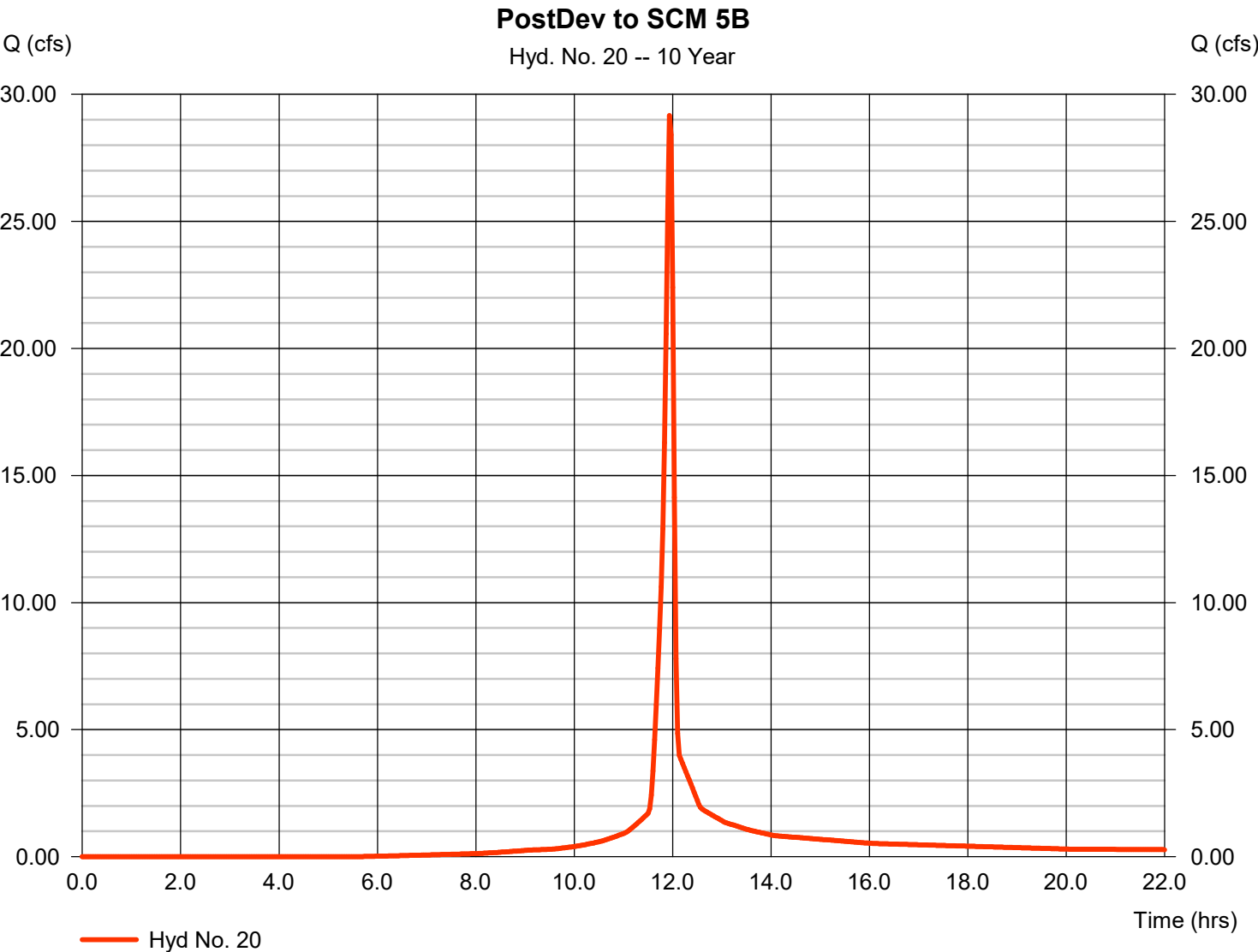


Hydrograph Report

Hyd. No. 20

PostDev to SCM 5B

Hydrograph type	=	SCS Runoff	Peak discharge	=	29.17 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	60,466 cuft
Drainage area	=	5.220 ac	Curve number	=	84.8
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.06 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

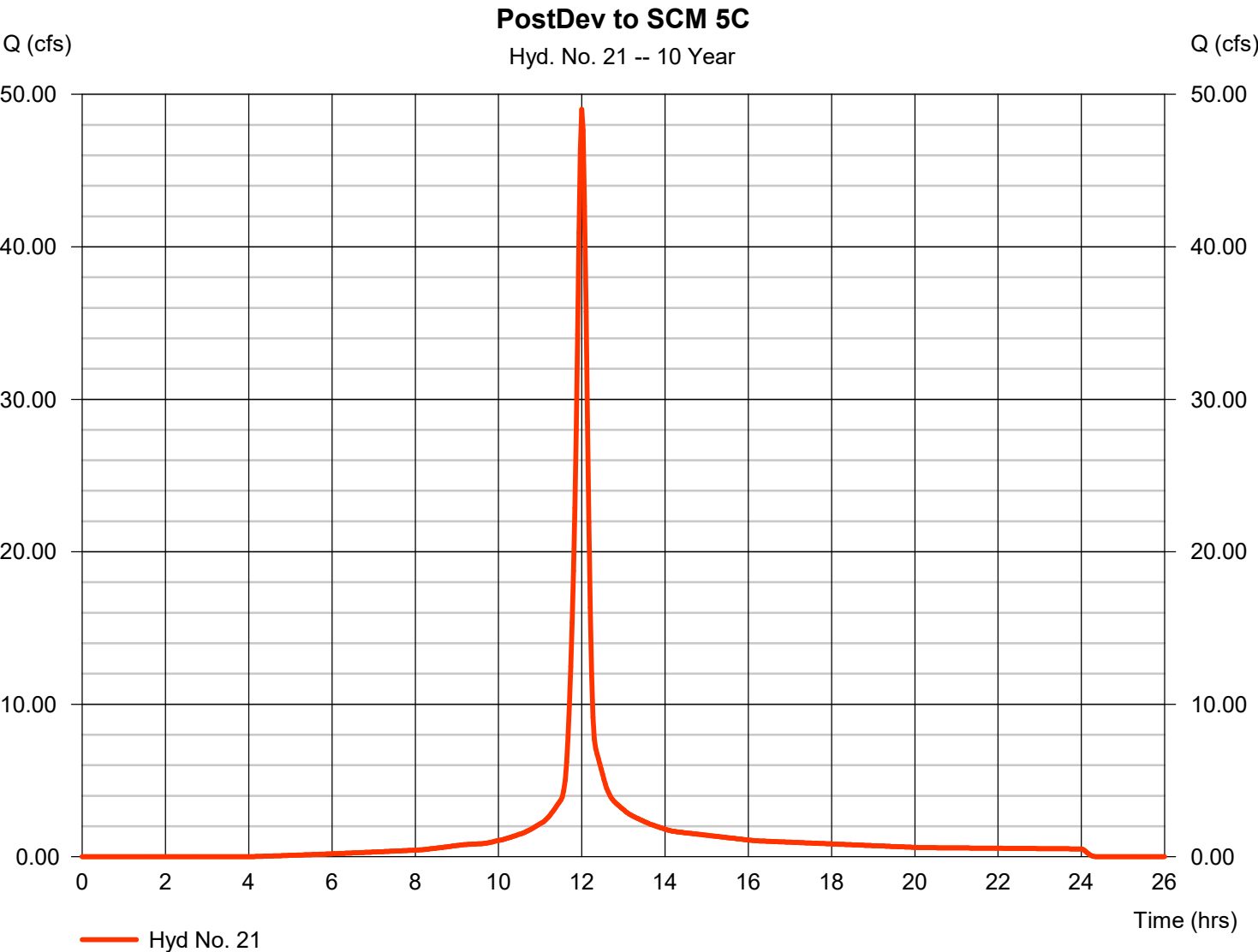


Hydrograph Report

Hyd. No. 21

PostDev to SCM 5C

Hydrograph type	= SCS Runoff	Peak discharge	= 49.01 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 132,149 cuft
Drainage area	= 9.070 ac	Curve number	= 89.6
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 12.80 min
Total precip.	= 5.06 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

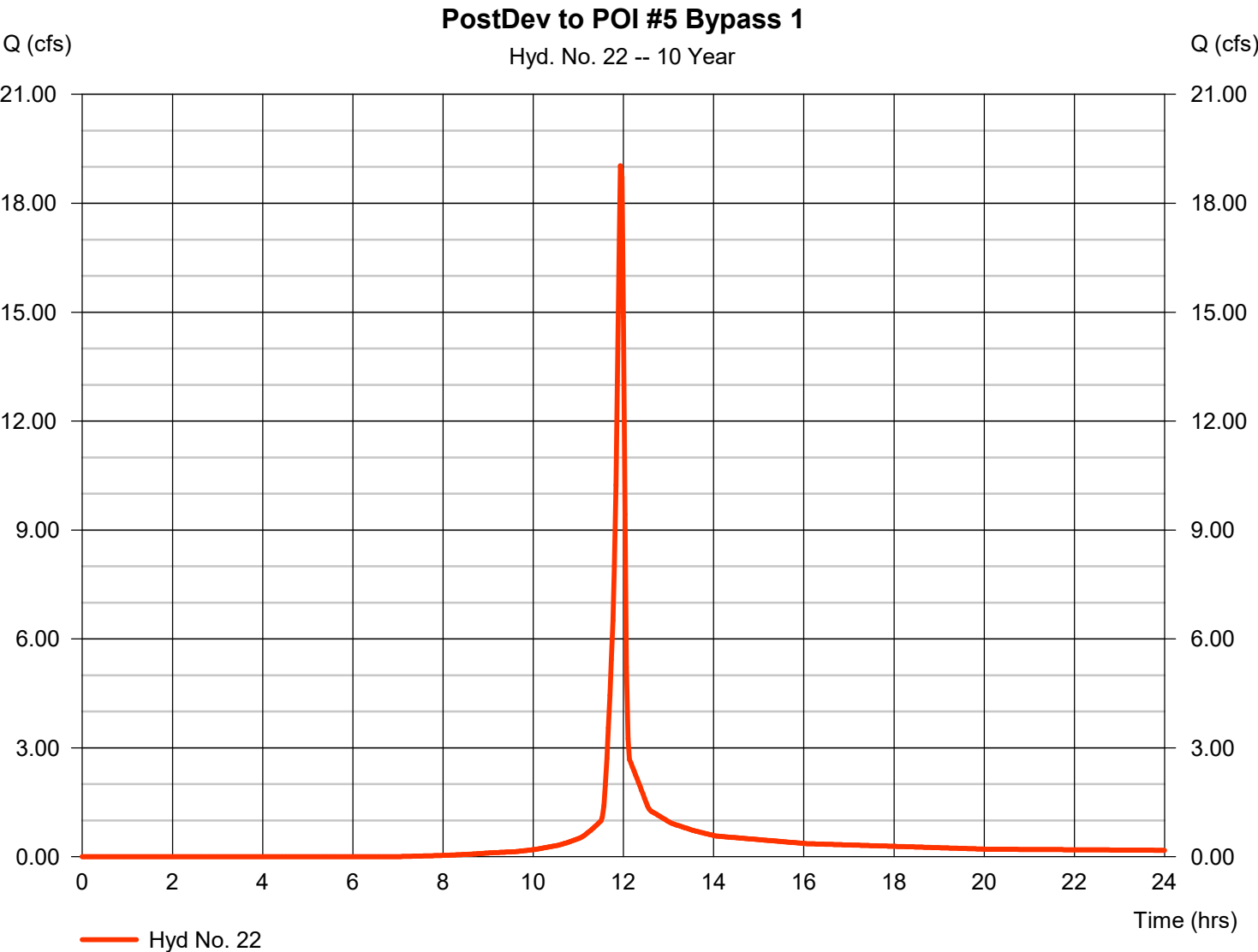
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 22

PostDev to POI #5 Bypass 1

Hydrograph type	=	SCS Runoff	Peak discharge	=	19.03 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	38,790 cuft
Drainage area	=	3.810 ac	Curve number	=	80.5
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.06 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

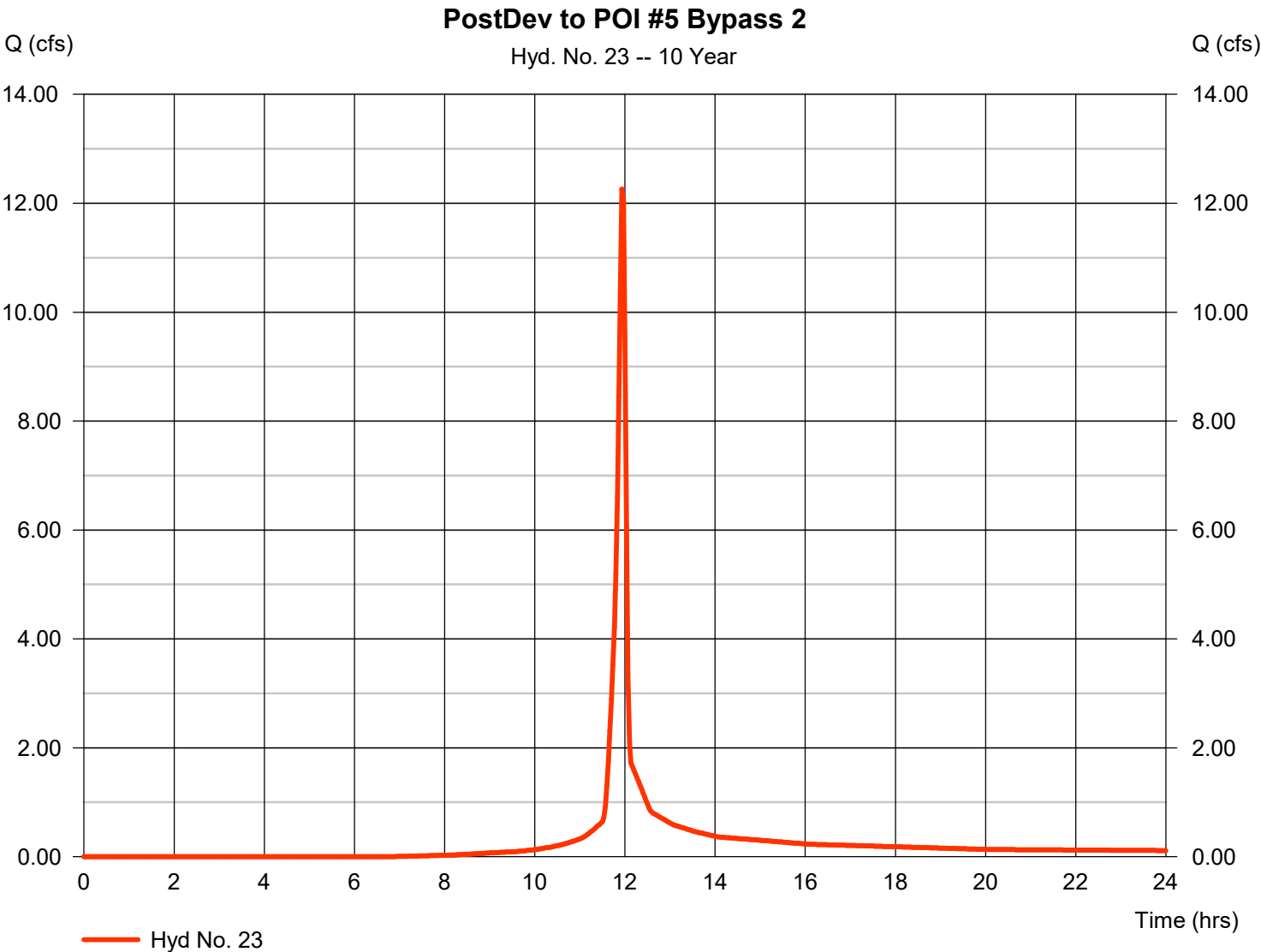
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 23

PostDev to POI #5 Bypass 2

Hydrograph type	= SCS Runoff	Peak discharge	= 12.26 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 25,023 cuft
Drainage area	= 2.420 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.06 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

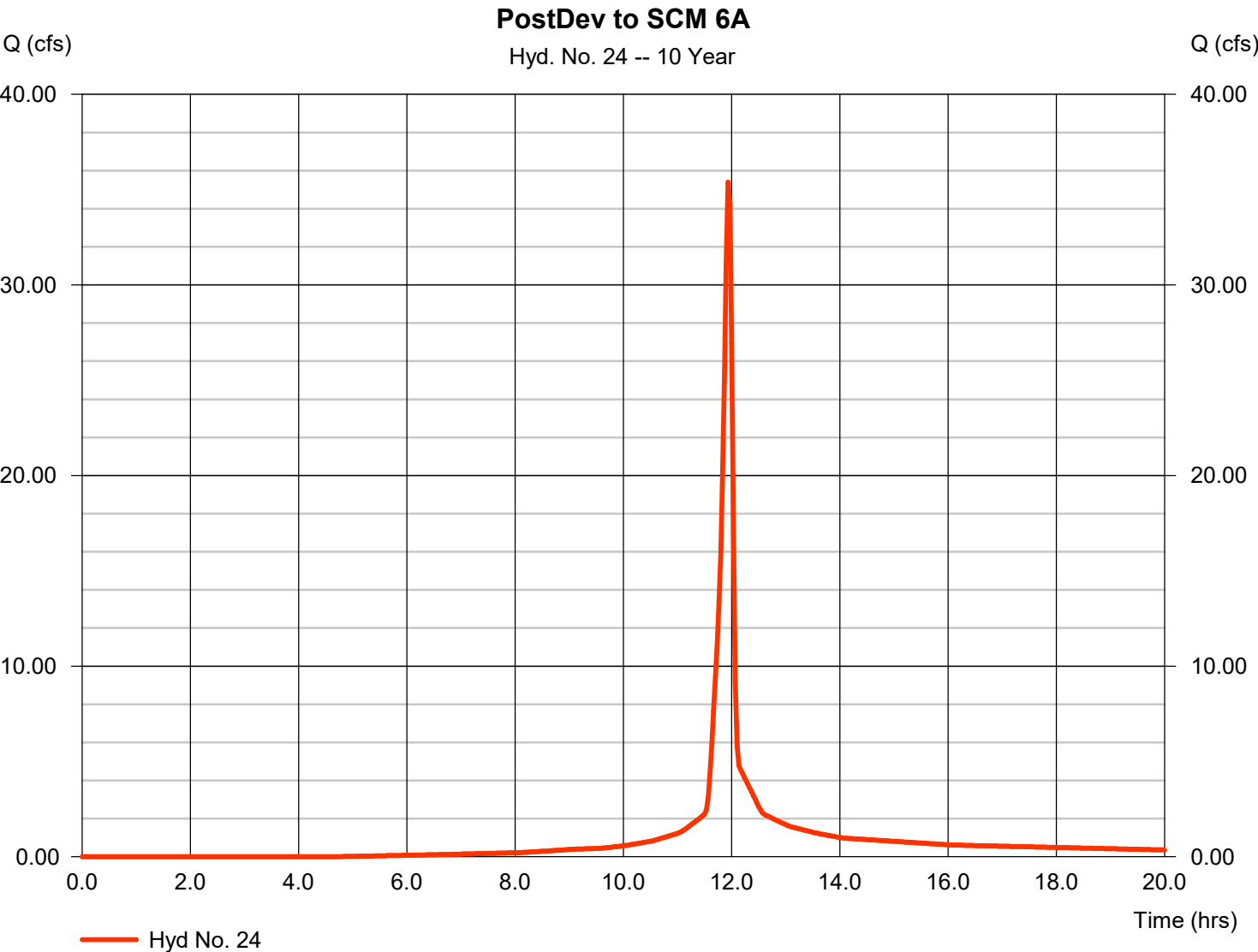


Hydrograph Report

Hyd. No. 24

PostDev to SCM 6A

Hydrograph type	= SCS Runoff	Peak discharge	= 35.40 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 74,615 cuft
Drainage area	= 5.950 ac	Curve number	= 87.6
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.06 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

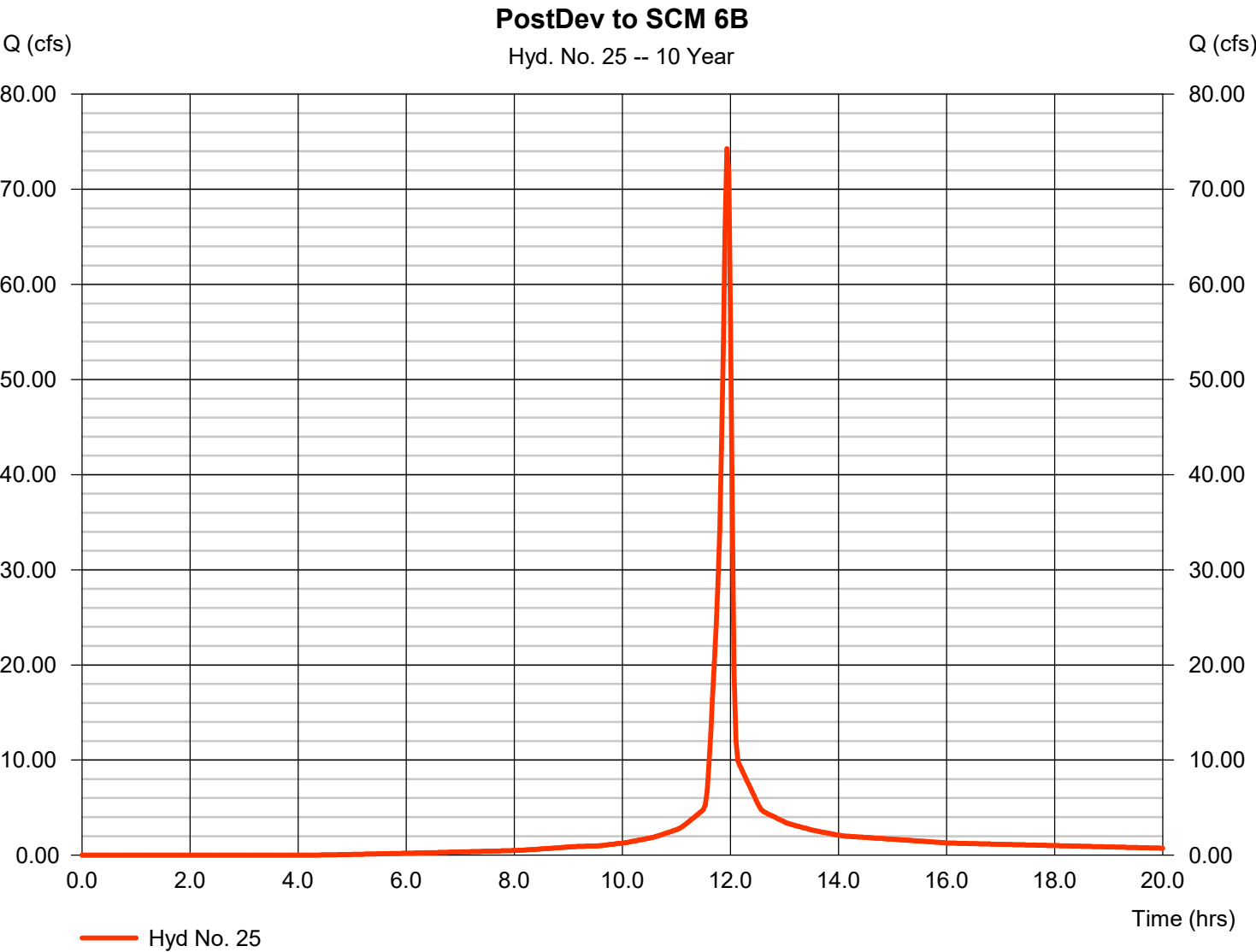


Hydrograph Report

Hyd. No. 25

PostDev to SCM 6B

Hydrograph type	= SCS Runoff	Peak discharge	= 74.28 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 157,824 cuft
Drainage area	= 12.210 ac	Curve number	= 88.7
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.30 min
Total precip.	= 5.06 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

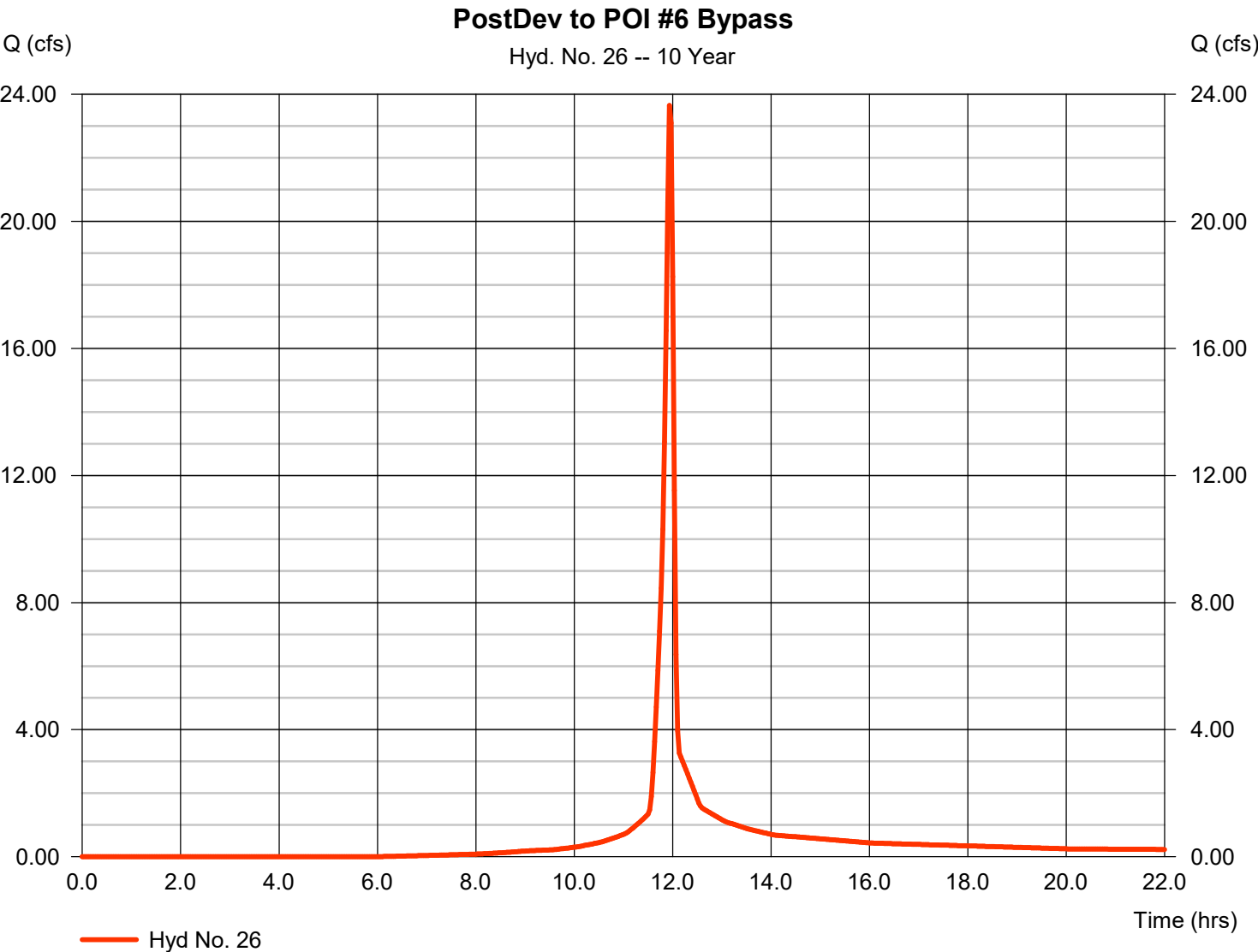


Hydrograph Report

Hyd. No. 26

PostDev to POI #6 Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	23.65 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	48,731 cuft
Drainage area	=	4.370 ac	Curve number	=	83.5
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.06 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

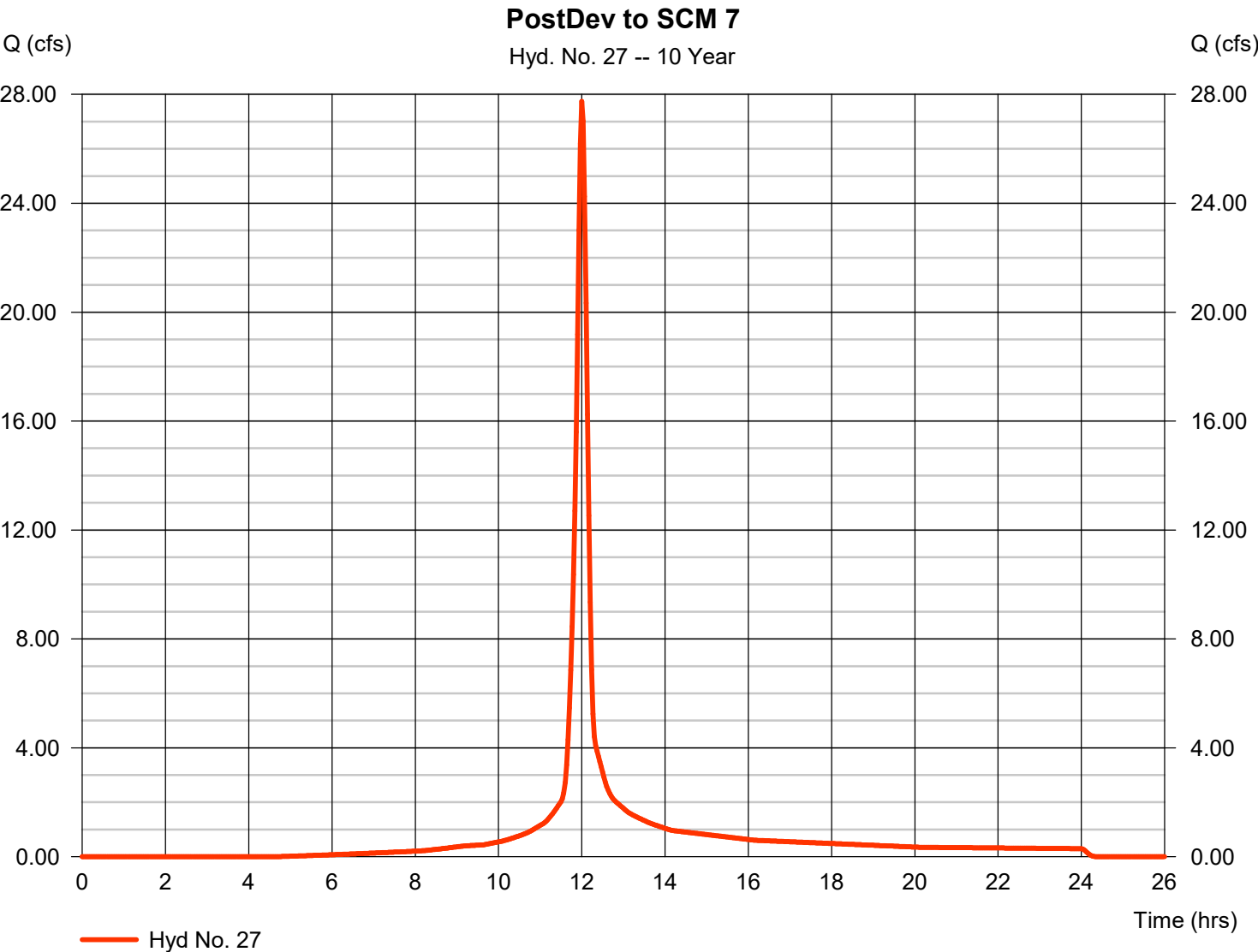
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 27

PostDev to SCM 7

Hydrograph type	= SCS Runoff	Peak discharge	= 27.74 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 73,932 cuft
Drainage area	= 5.330 ac	Curve number	= 87.8
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 12.40 min
Total precip.	= 5.06 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

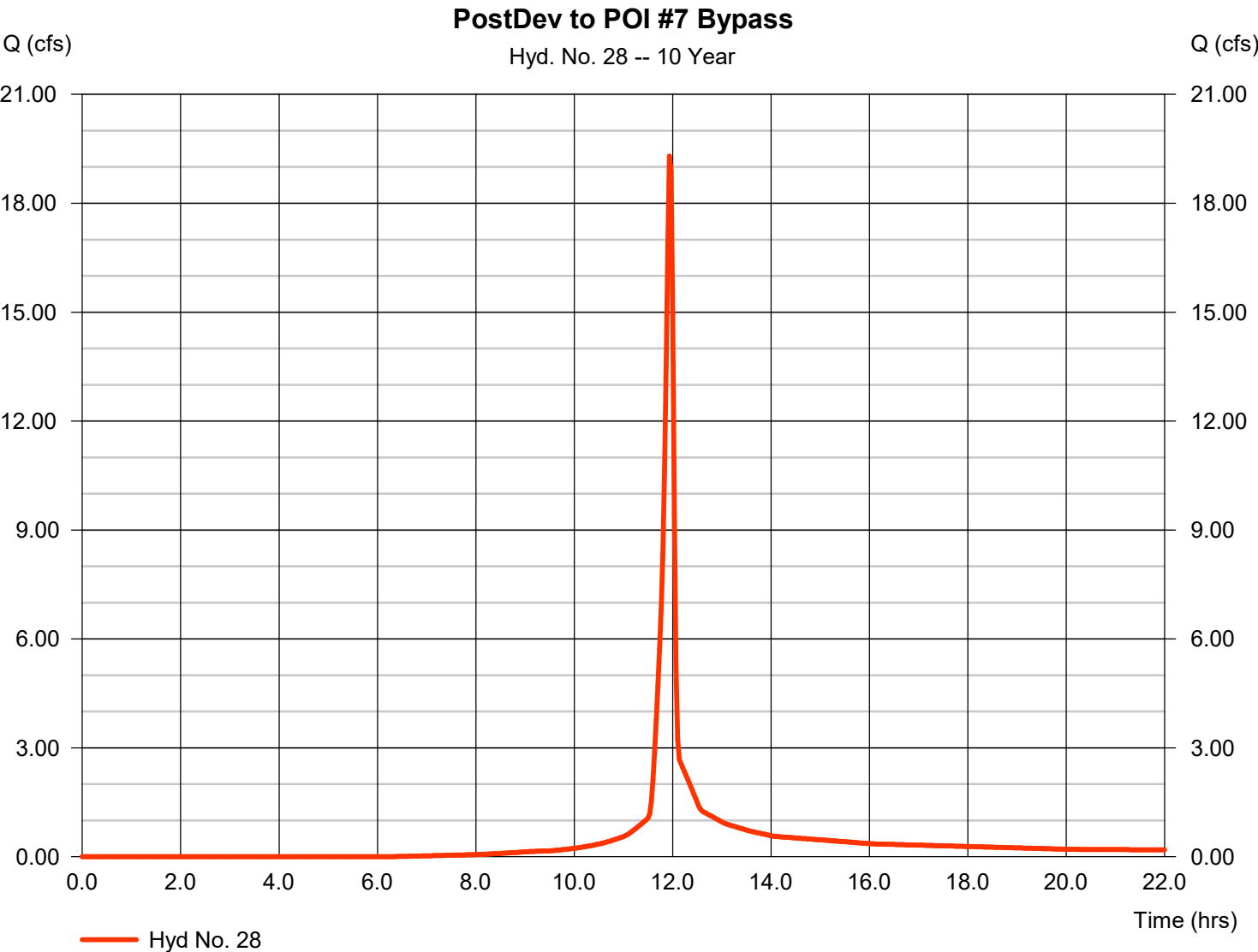


Hydrograph Report

Hyd. No. 28

PostDev to POI #7 Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	19.30 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	39,635 cuft
Drainage area	=	3.640 ac	Curve number	=	82.7
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.06 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

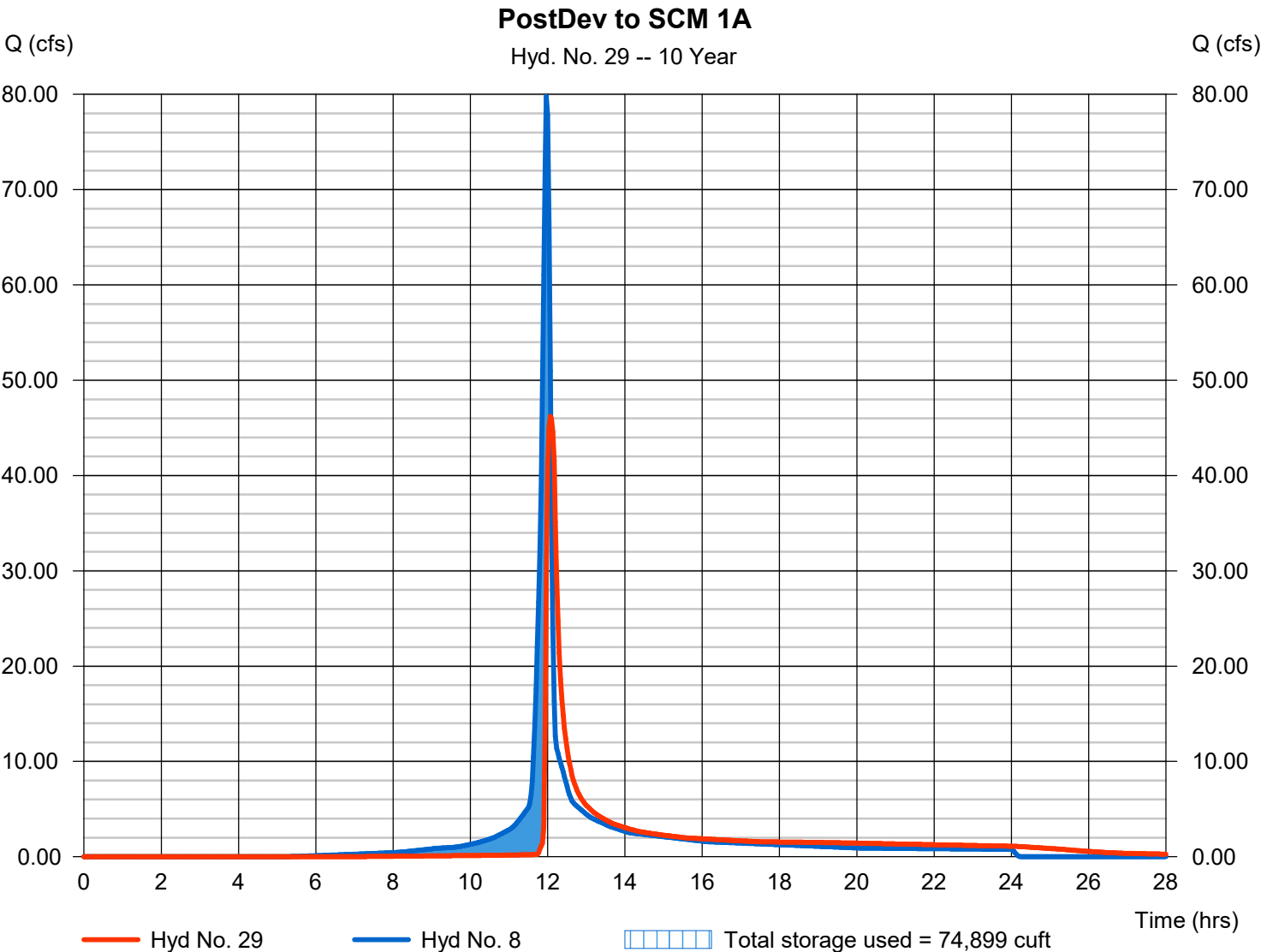
Saturday, 04 / 12 / 2025

Hyd. No. 29

PostDev to SCM 1A

Hydrograph type	= Reservoir	Peak discharge	= 46.20 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 186,477 cuft
Inflow hyd. No.	= 8 - PostDev to SCM 1A	Max. Elevation	= 351.75 ft
Reservoir name	= SCM 1A	Max. Storage	= 74,899 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

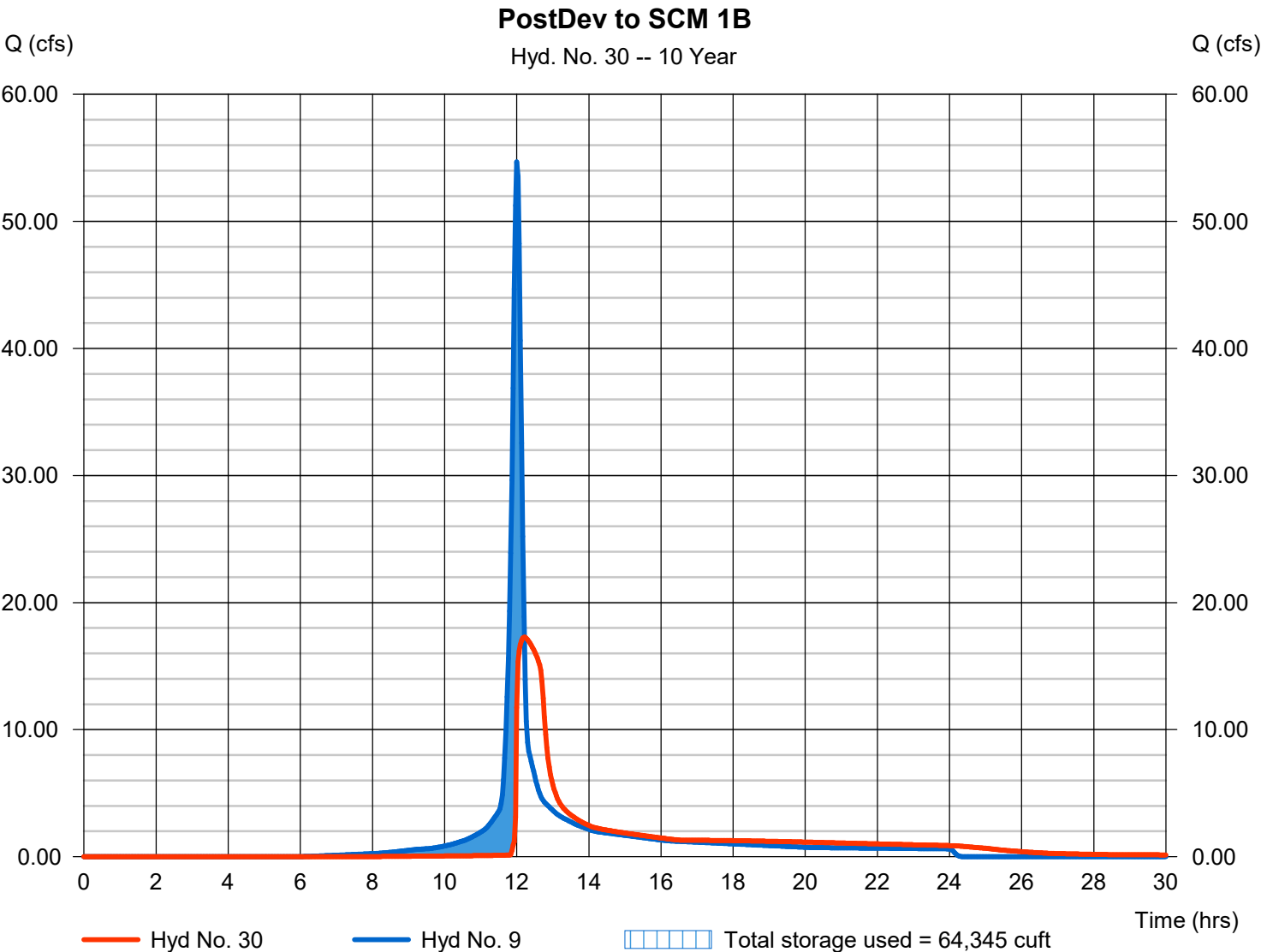
Saturday, 04 / 12 / 2025

Hyd. No. 30

PostDev to SCM 1B

Hydrograph type	= Reservoir	Peak discharge	= 17.28 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 141,052 cuft
Inflow hyd. No.	= 9 - PostDev to SCM 1B	Max. Elevation	= 379.93 ft
Reservoir name	= SCM 1B	Max. Storage	= 64,345 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

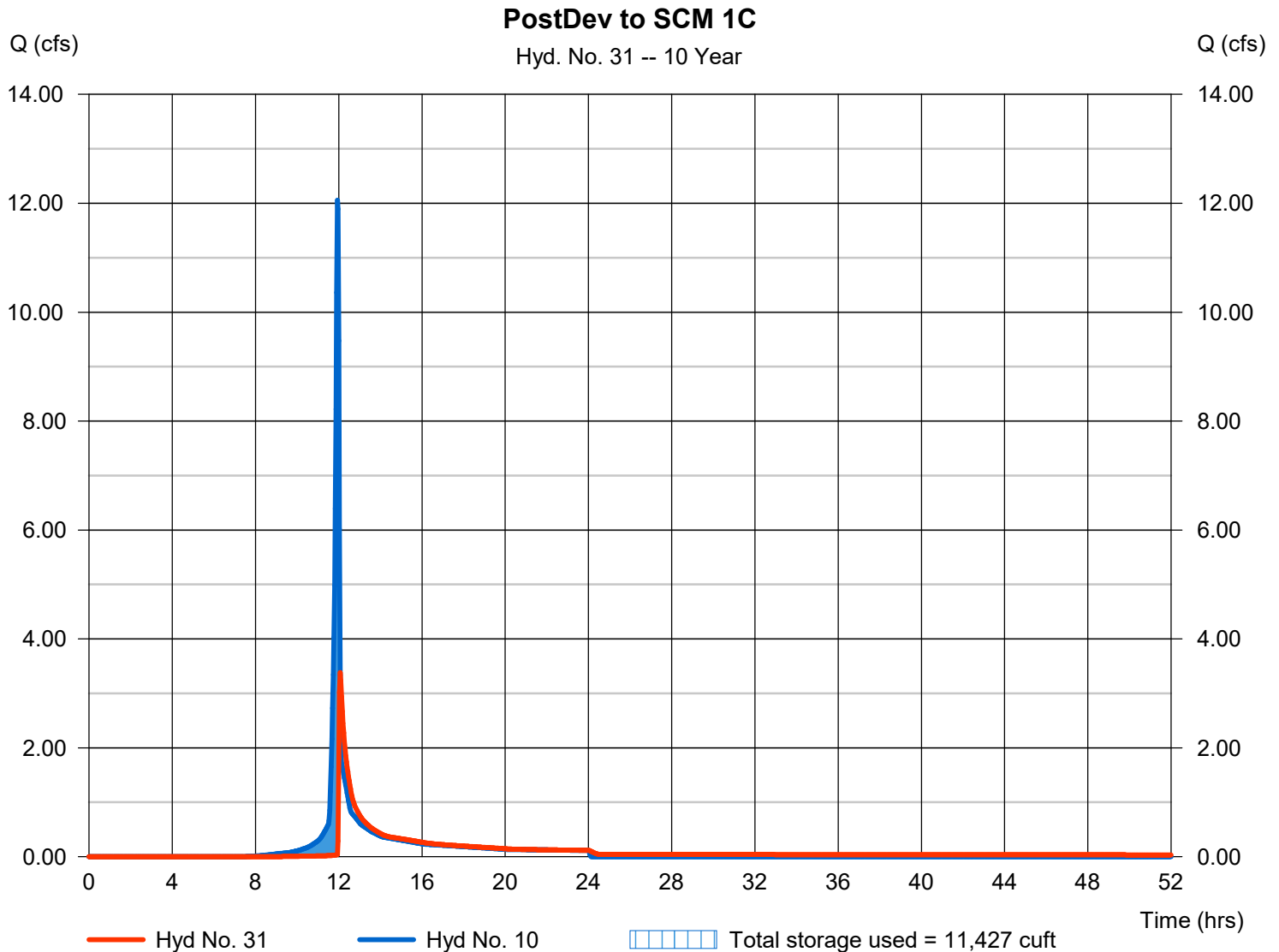
Saturday, 04 / 12 / 2025

Hyd. No. 31

PostDev to SCM 1C

Hydrograph type	= Reservoir	Peak discharge	= 3.380 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 23,081 cuft
Inflow hyd. No.	= 10 - PostDev to SCM 1C	Max. Elevation	= 363.48 ft
Reservoir name	= SCM 1C	Max. Storage	= 11,427 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

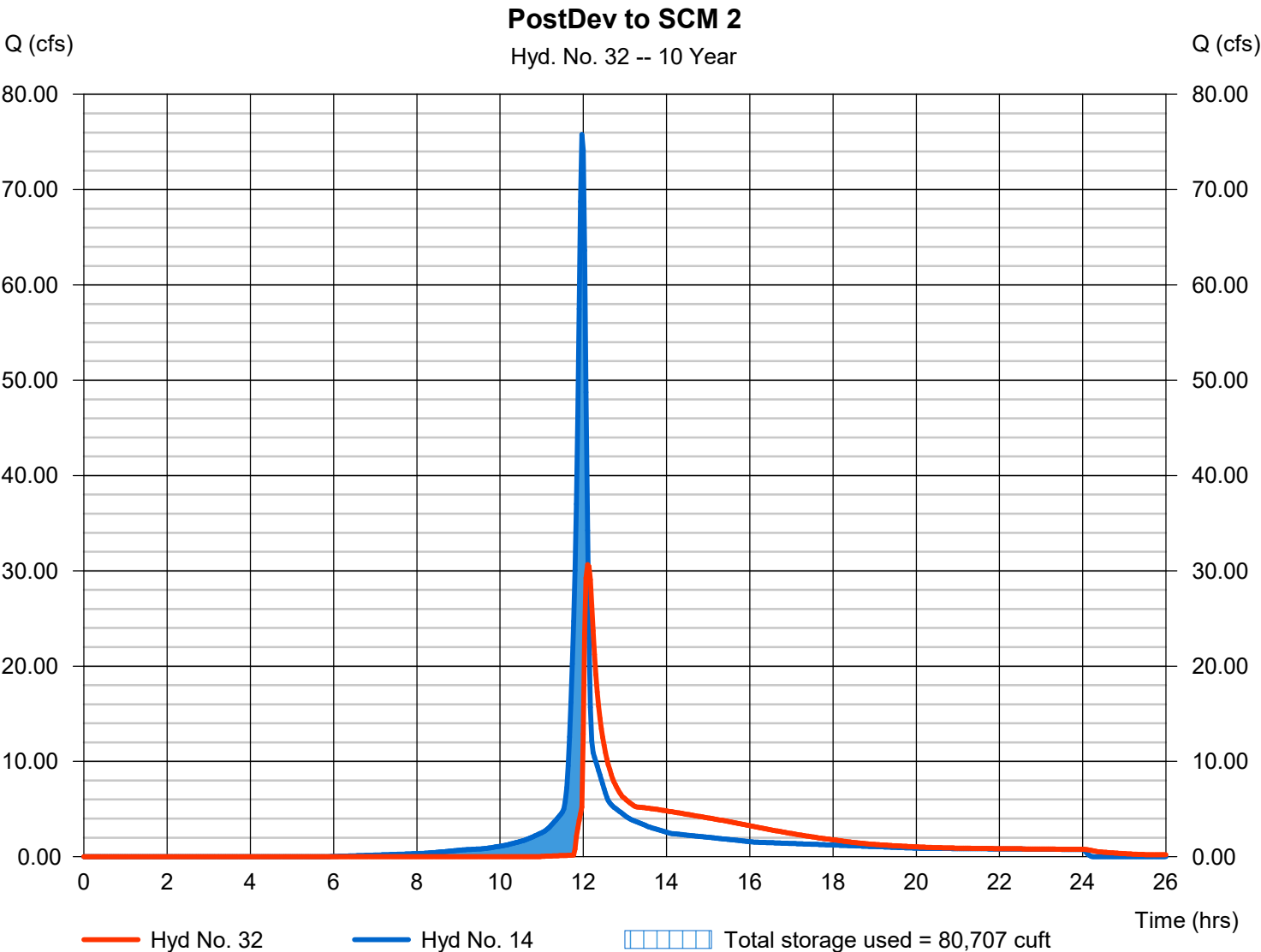
Saturday, 04 / 12 / 2025

Hyd. No. 32

PostDev to SCM 2

Hydrograph type	= Reservoir	Peak discharge	= 30.65 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 165,238 cuft
Inflow hyd. No.	= 14 - PostDev to SCM 2	Max. Elevation	= 356.96 ft
Reservoir name	= SCM 2	Max. Storage	= 80,707 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

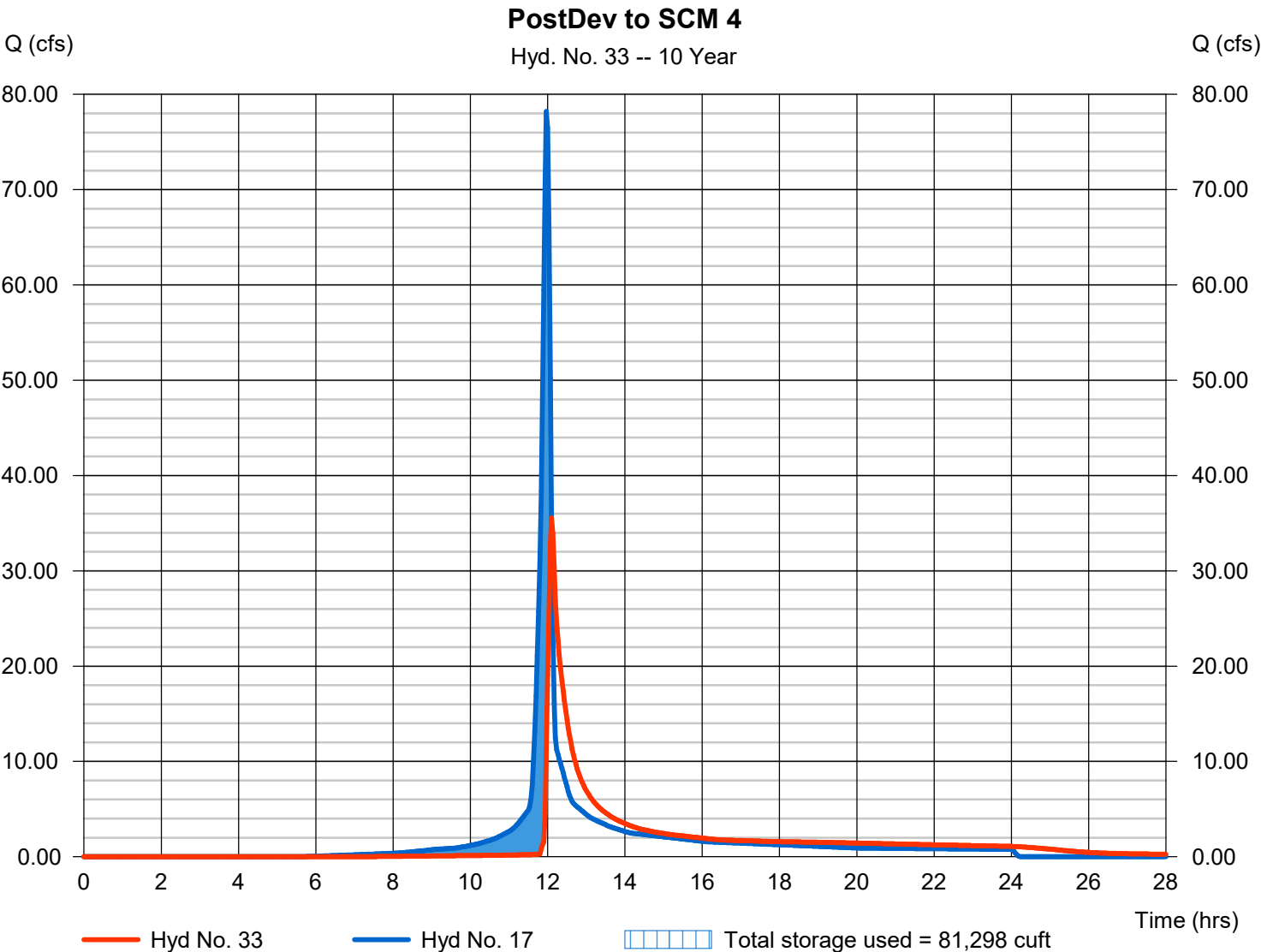
Saturday, 04 / 12 / 2025

Hyd. No. 33

PostDev to SCM 4

Hydrograph type	= Reservoir	Peak discharge	= 35.55 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 181,888 cuft
Inflow hyd. No.	= 17 - PostDev to SCM 4	Max. Elevation	= 367.77 ft
Reservoir name	= SCM 4	Max. Storage	= 81,298 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

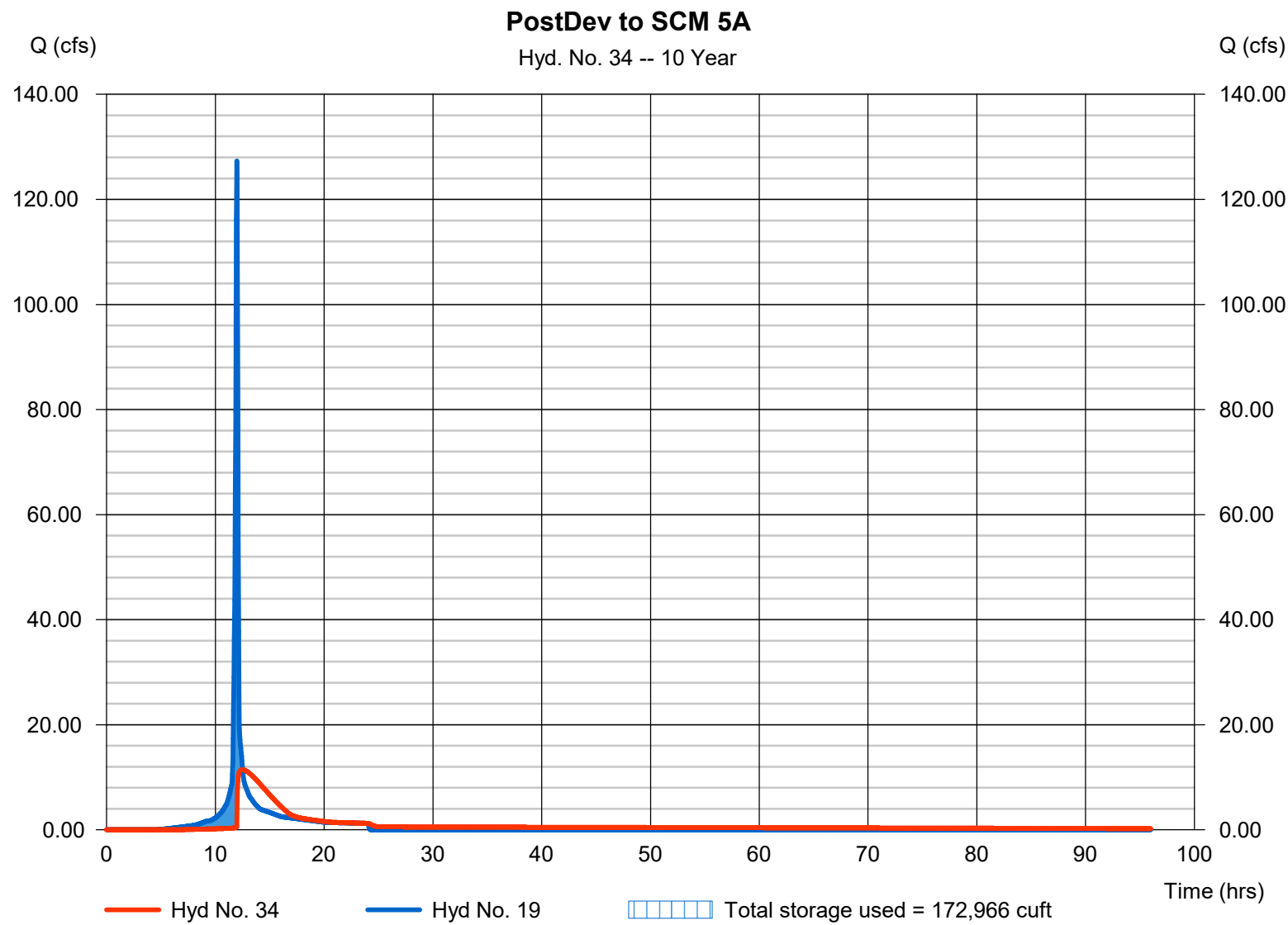
Saturday, 04 / 12 / 2025

Hyd. No. 34

PostDev to SCM 5A

Hydrograph type	= Reservoir	Peak discharge	= 11.45 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.50 hrs
Time interval	= 2 min	Hyd. volume	= 282,664 cuft
Inflow hyd. No.	= 19 - PostDev to SCM 5A	Max. Elevation	= 326.36 ft
Reservoir name	= SCM 5A	Max. Storage	= 172,966 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

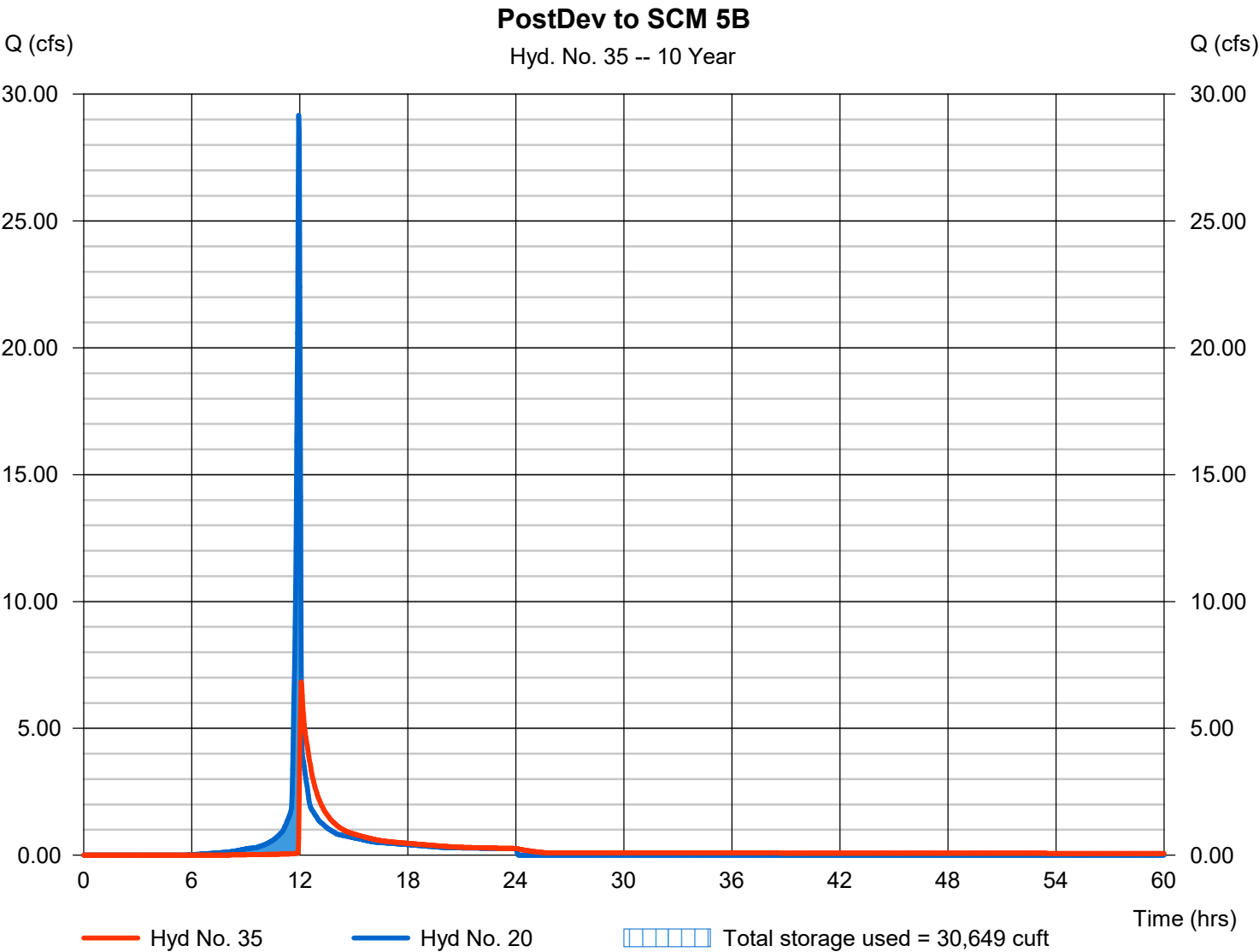
Saturday, 04 / 12 / 2025

Hyd. No. 35

PostDev to SCM 5B

Hydrograph type	= Reservoir	Peak discharge	= 6.822 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 56,768 cuft
Inflow hyd. No.	= 20 - PostDev to SCM 5B	Max. Elevation	= 309.11 ft
Reservoir name	= SCM 5B	Max. Storage	= 30,649 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

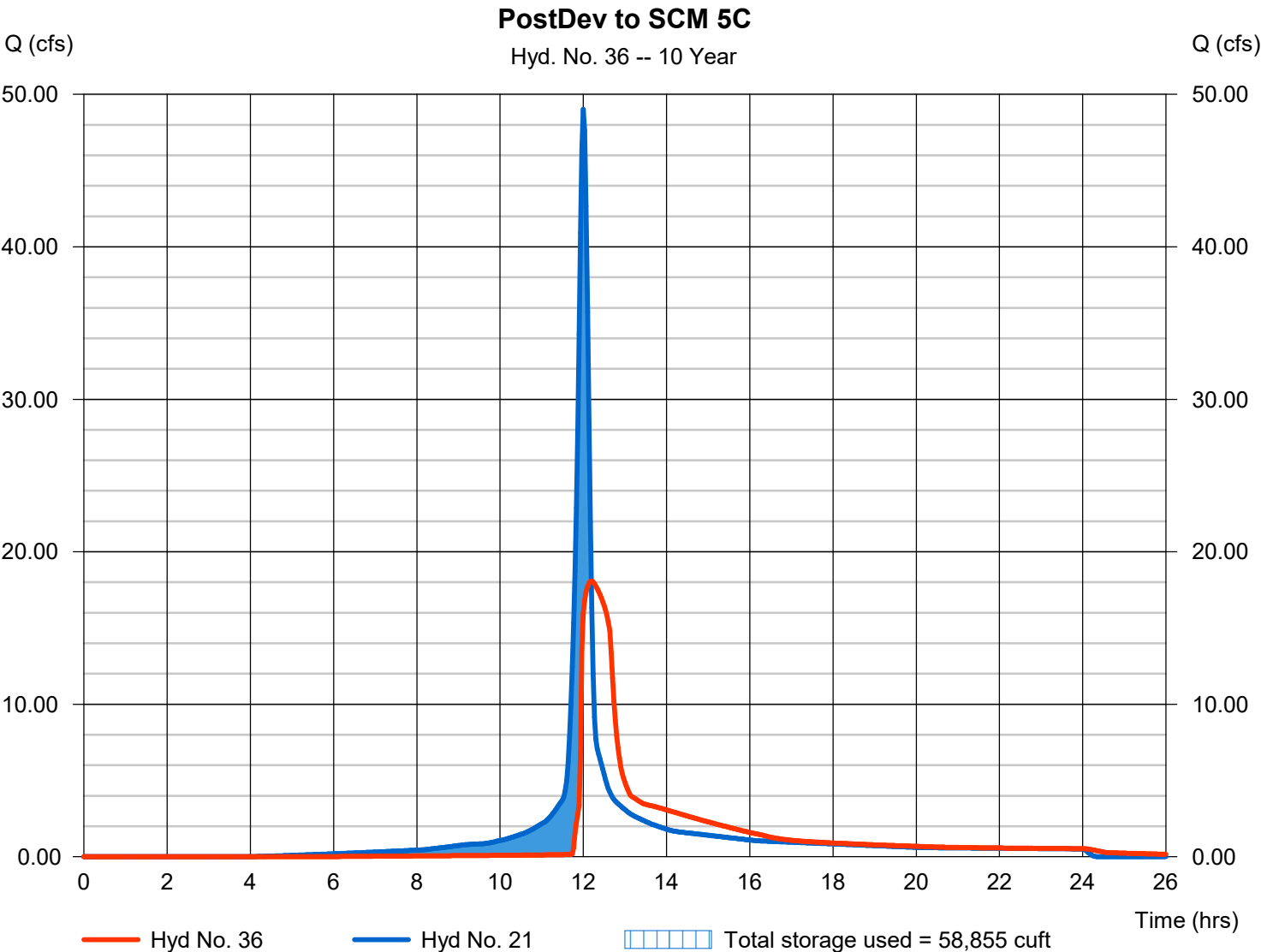
Saturday, 04 / 12 / 2025

Hyd. No. 36

PostDev to SCM 5C

Hydrograph type	= Reservoir	Peak discharge	= 18.08 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 131,394 cuft
Inflow hyd. No.	= 21 - PostDev to SCM 5C	Max. Elevation	= 296.31 ft
Reservoir name	= SCM 5C	Max. Storage	= 58,855 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

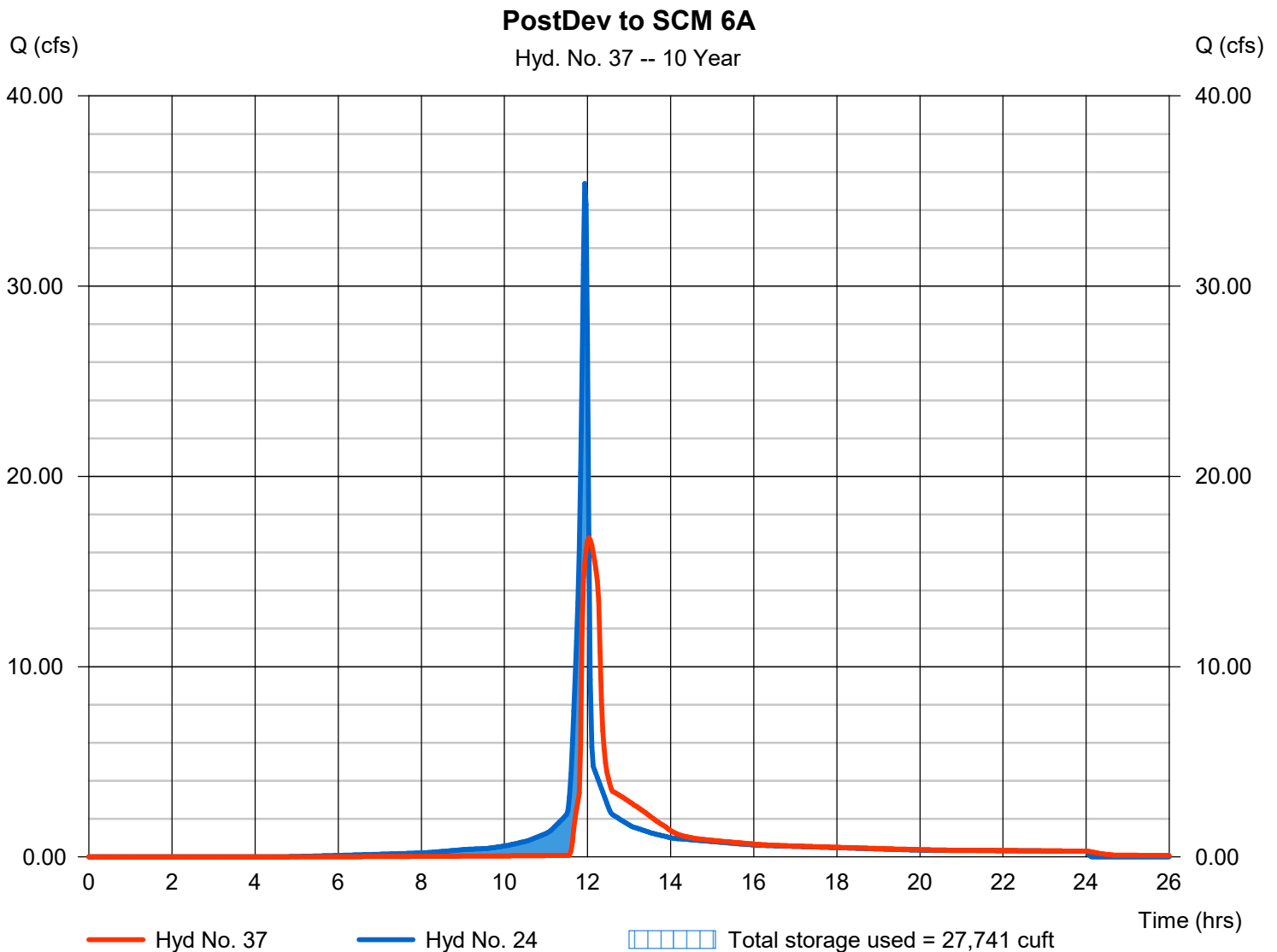
Saturday, 04 / 12 / 2025

Hyd. No. 37

PostDev to SCM 6A

Hydrograph type	= Reservoir	Peak discharge	= 16.78 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.03 hrs
Time interval	= 2 min	Hyd. volume	= 74,518 cuft
Inflow hyd. No.	= 24 - PostDev to SCM 6A	Max. Elevation	= 280.98 ft
Reservoir name	= SCM 6A	Max. Storage	= 27,741 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

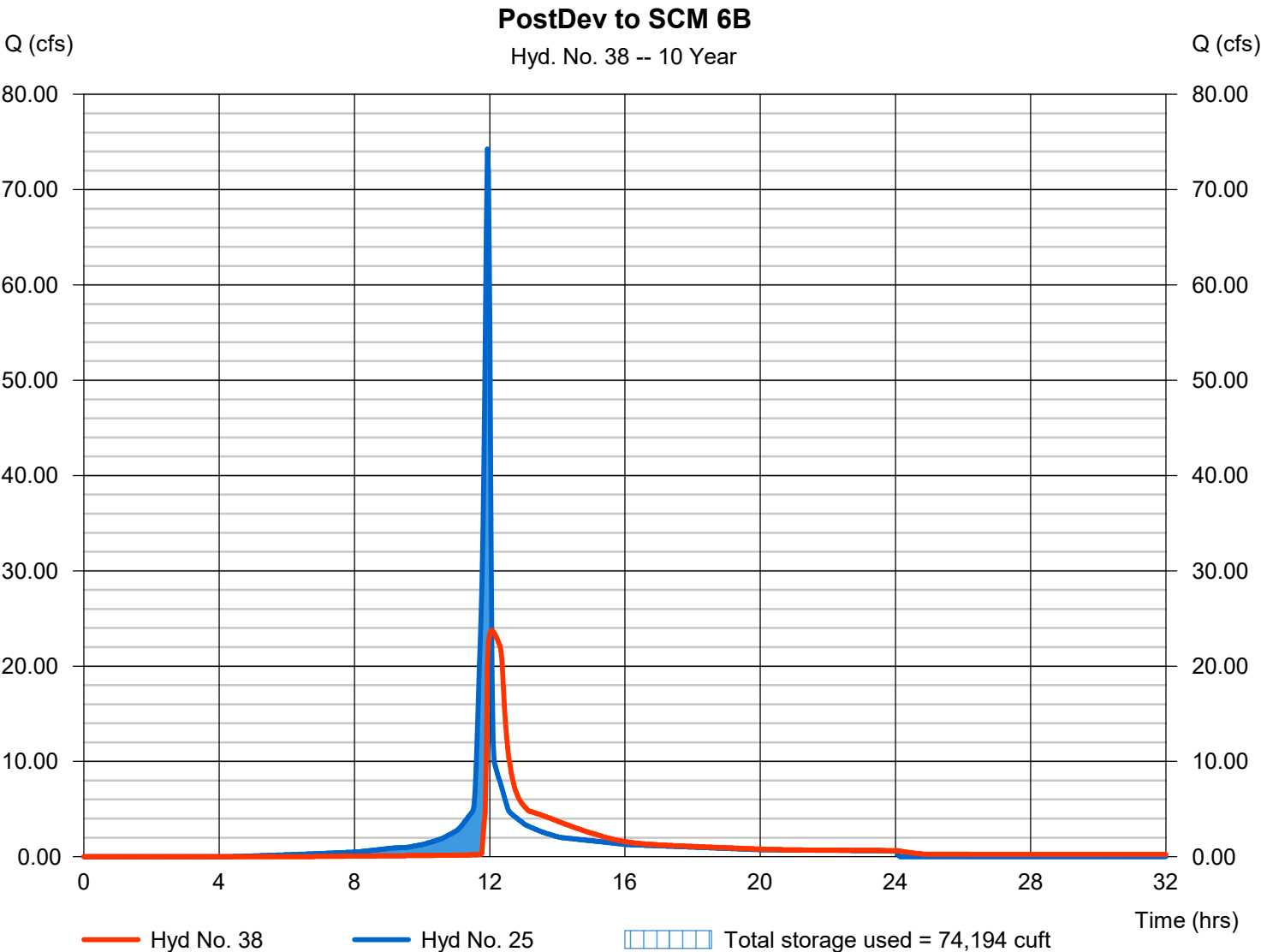
Saturday, 04 / 12 / 2025

Hyd. No. 38

PostDev to SCM 6B

Hydrograph type	= Reservoir	Peak discharge	= 23.74 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 156,809 cuft
Inflow hyd. No.	= 25 - PostDev to SCM 6B	Max. Elevation	= 293.72 ft
Reservoir name	= SCM 6B	Max. Storage	= 74,194 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

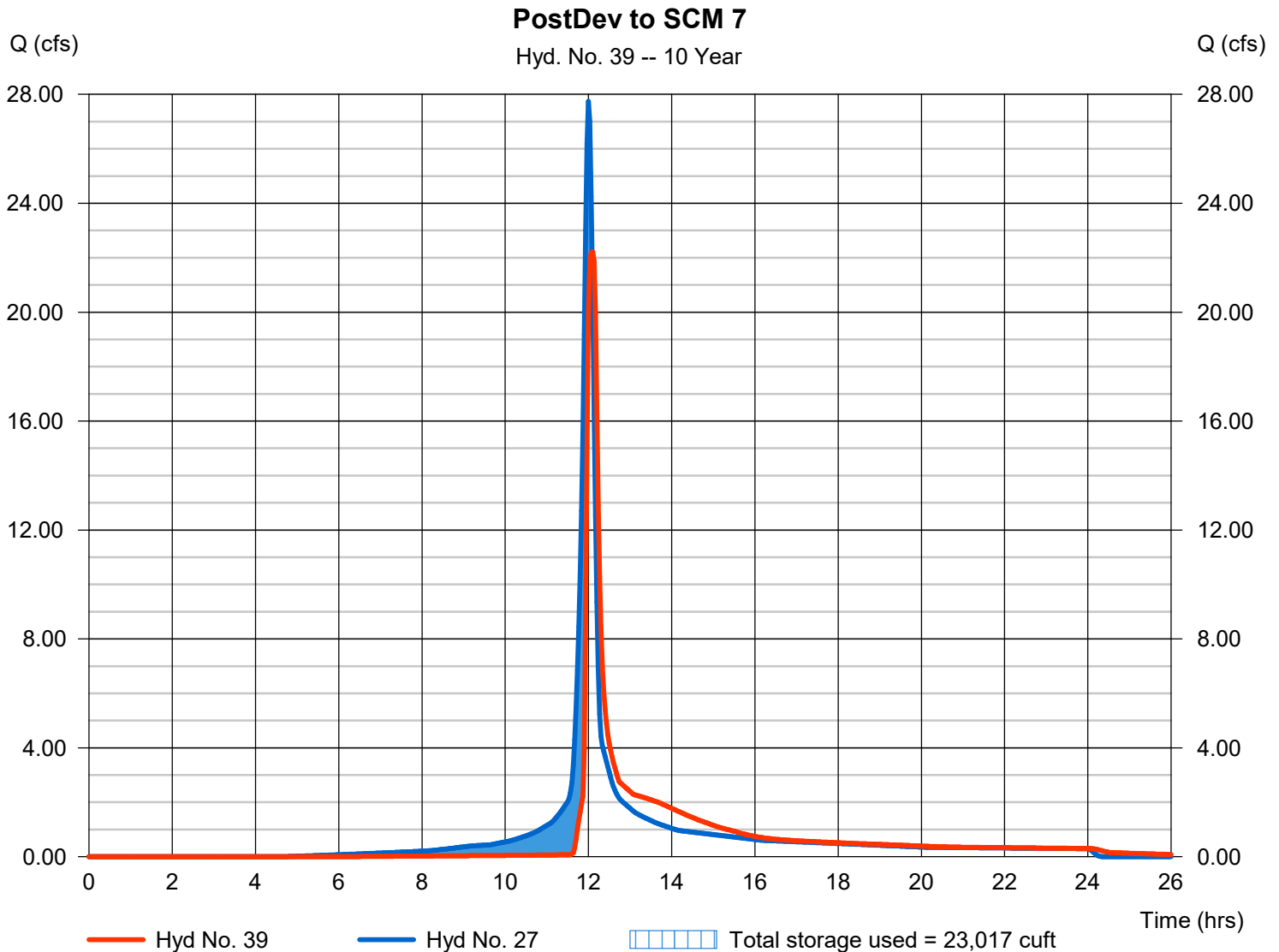
Saturday, 04 / 12 / 2025

Hyd. No. 39

PostDev to SCM 7

Hydrograph type	= Reservoir	Peak discharge	= 22.20 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 73,781 cuft
Inflow hyd. No.	= 27 - PostDev to SCM 7	Max. Elevation	= 321.09 ft
Reservoir name	= SCM 7	Max. Storage	= 23,017 cuft

Storage Indication method used.



Hydrograph Report

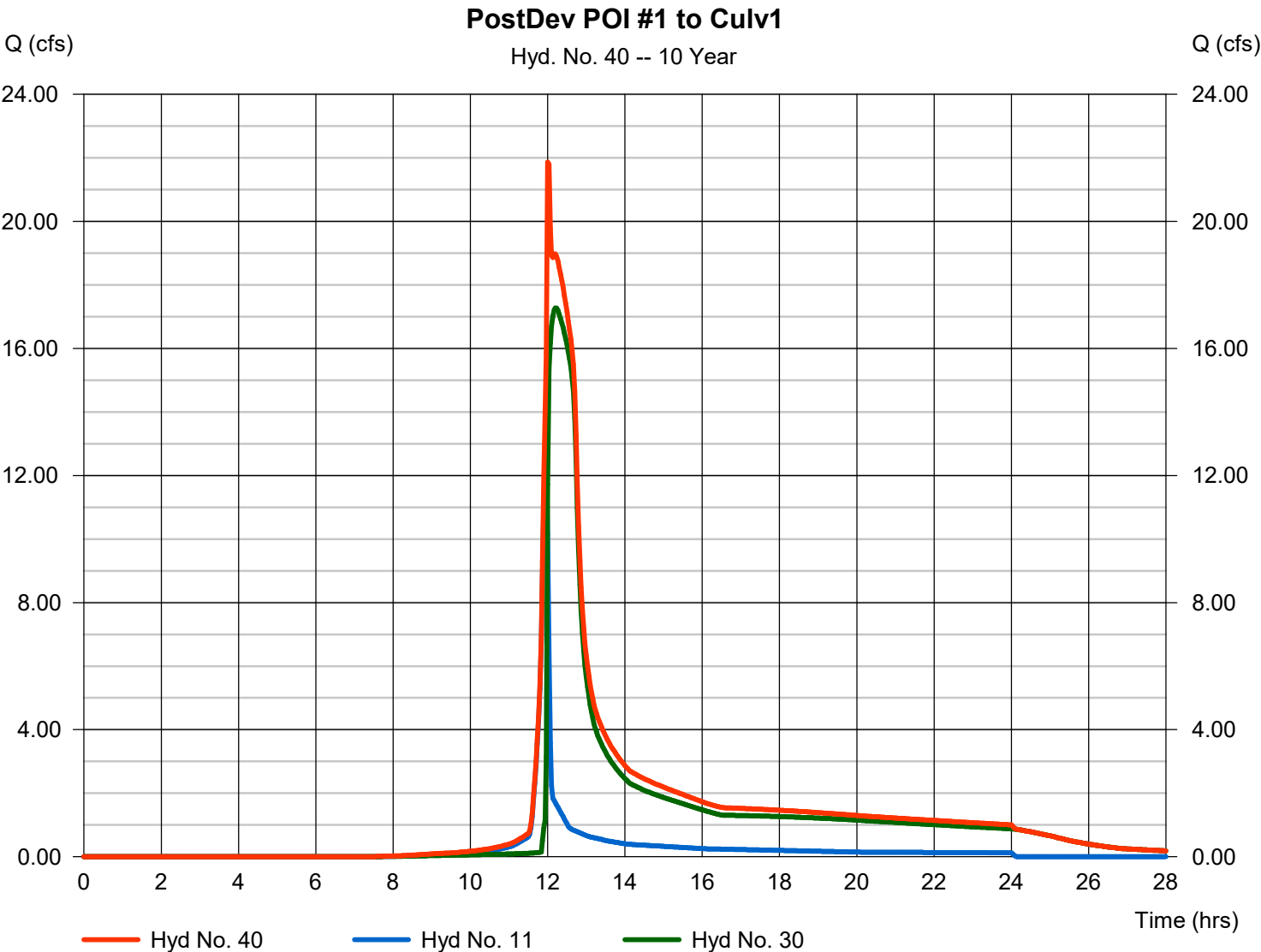
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 40

PostDev POI #1 to Culv1

Hydrograph type	= Combine	Peak discharge	= 21.87 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 167,211 cuft
Inflow hyds.	= 11, 30	Contrib. drain. area	= 2.720 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

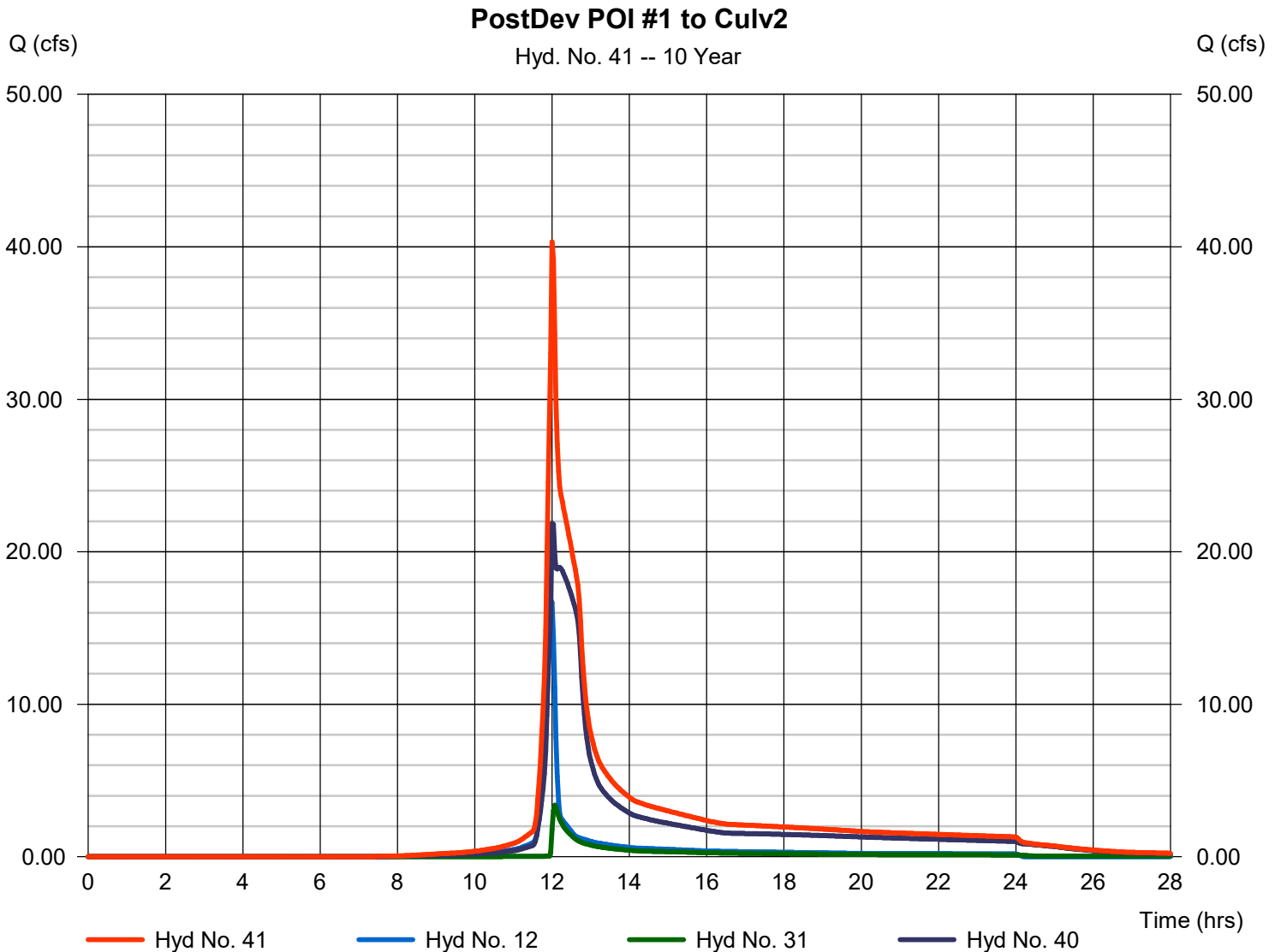
Saturday, 04 / 12 / 2025

Hyd. No. 41

PostDev POI #1 to Culv2

Hydrograph type = Combine
Storm frequency = 10 yrs
Time interval = 2 min
Inflow hyds. = 12, 31, 40

Peak discharge = 40.33 cfs
Time to peak = 12.00 hrs
Hyd. volume = 229,087 cuft
Contrib. drain. area = 3.640 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

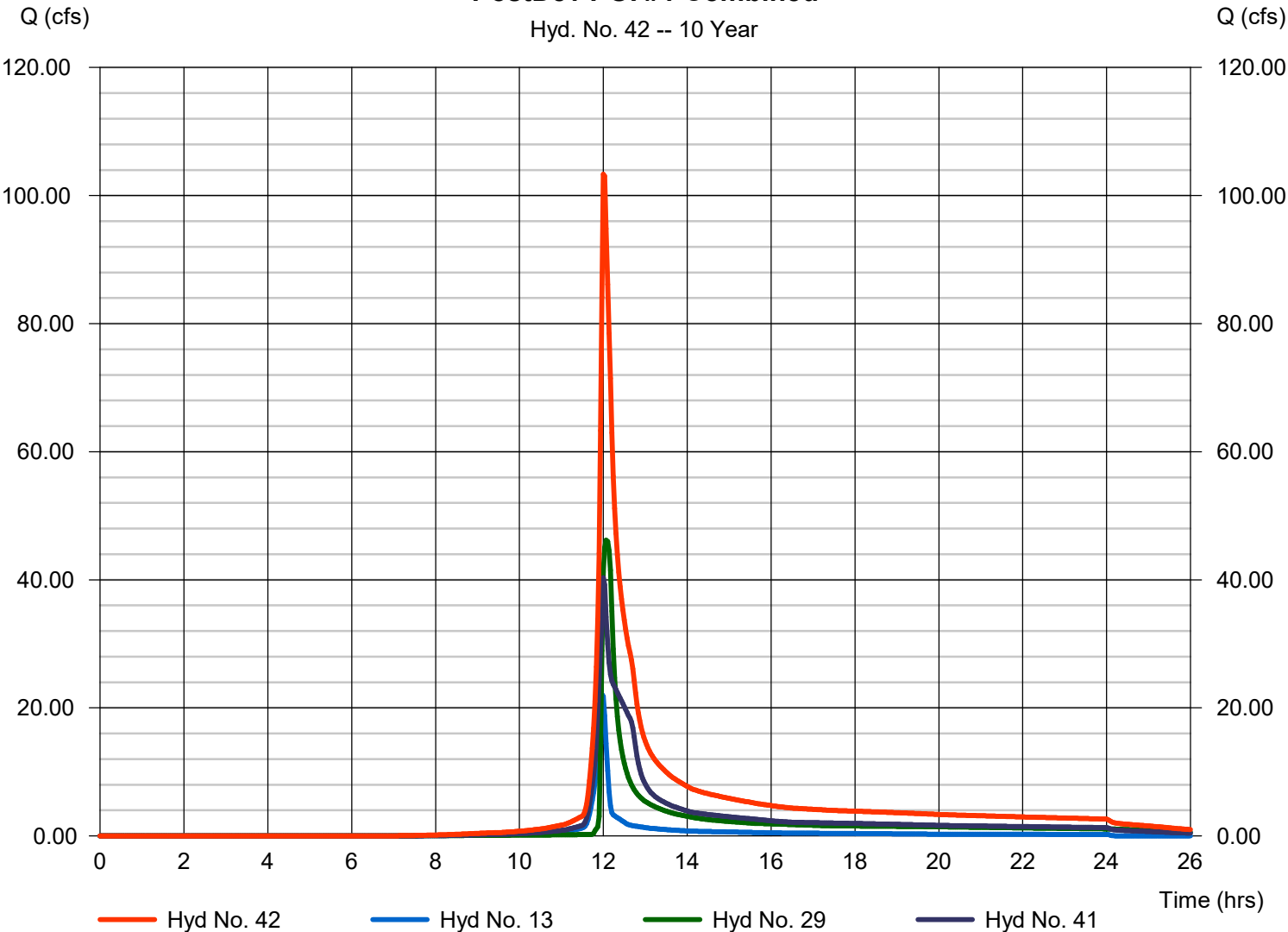
Hyd. No. 42

PostDev POI #1 Combined

Hydrograph type	= Combine	Peak discharge	= 103.34 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 466,519 cuft
Inflow hyds.	= 13, 29, 41	Contrib. drain. area	= 4.620 ac

PostDev POI #1 Combined

Hyd. No. 42 -- 10 Year



Hydrograph Report

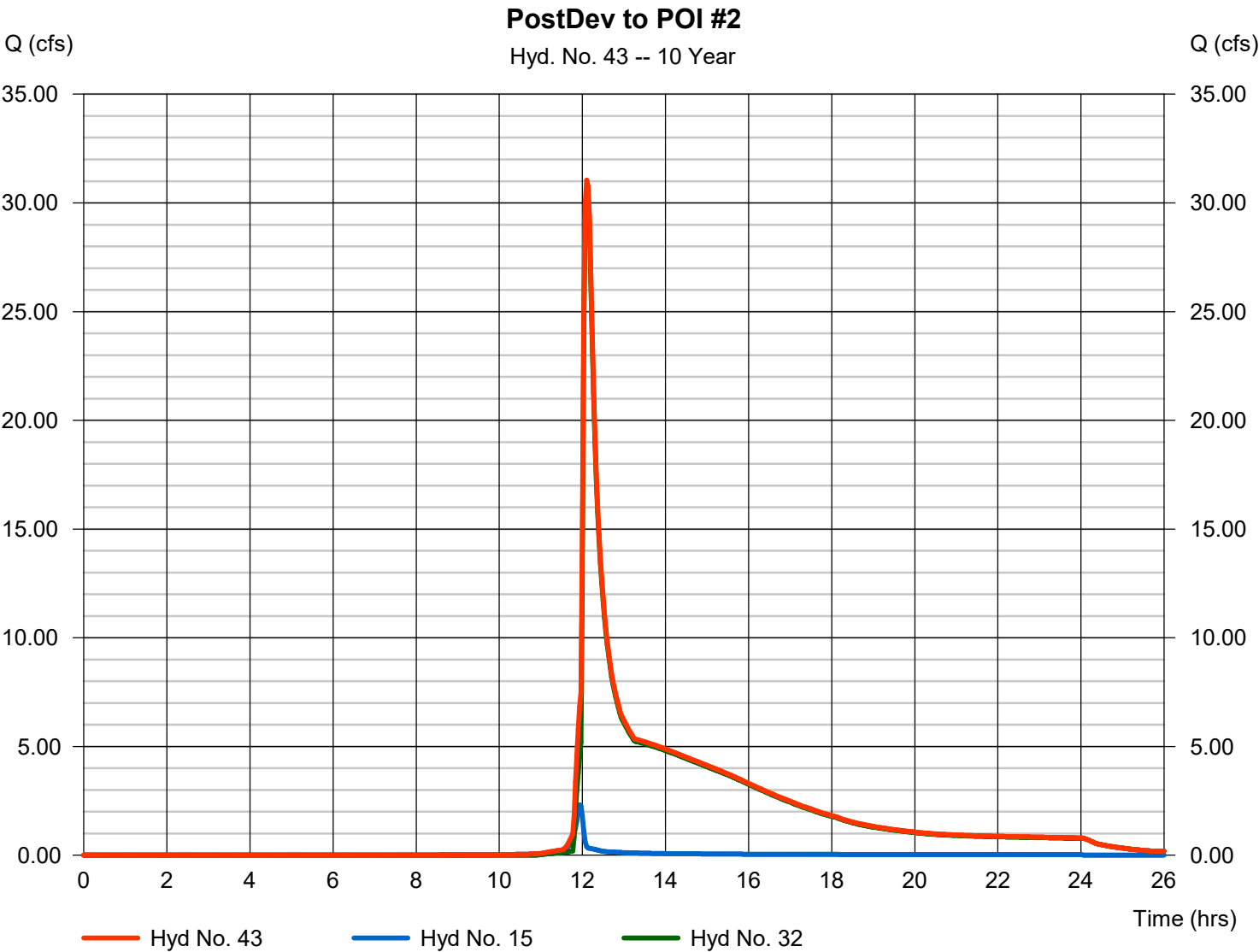
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 43

PostDev to POI #2

Hydrograph type	= Combine	Peak discharge	= 31.05 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 169,950 cuft
Inflow hyds.	= 15, 32	Contrib. drain. area	= 0.460 ac



Hydrograph Report

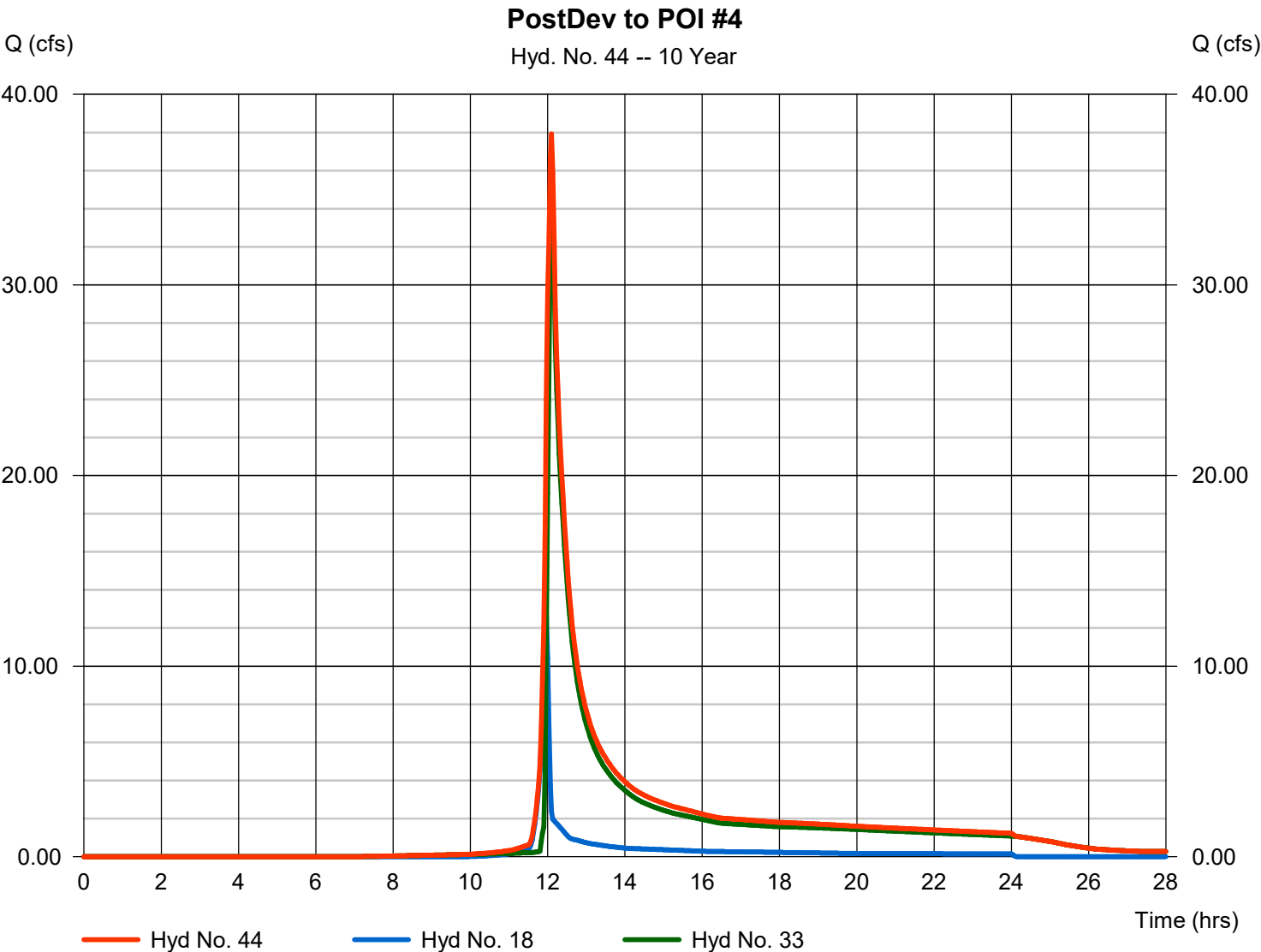
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 44

PostDev to POI #4

Hydrograph type	= Combine	Peak discharge	= 37.92 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 207,577 cuft
Inflow hyds.	= 18, 33	Contrib. drain. area	= 3.670 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

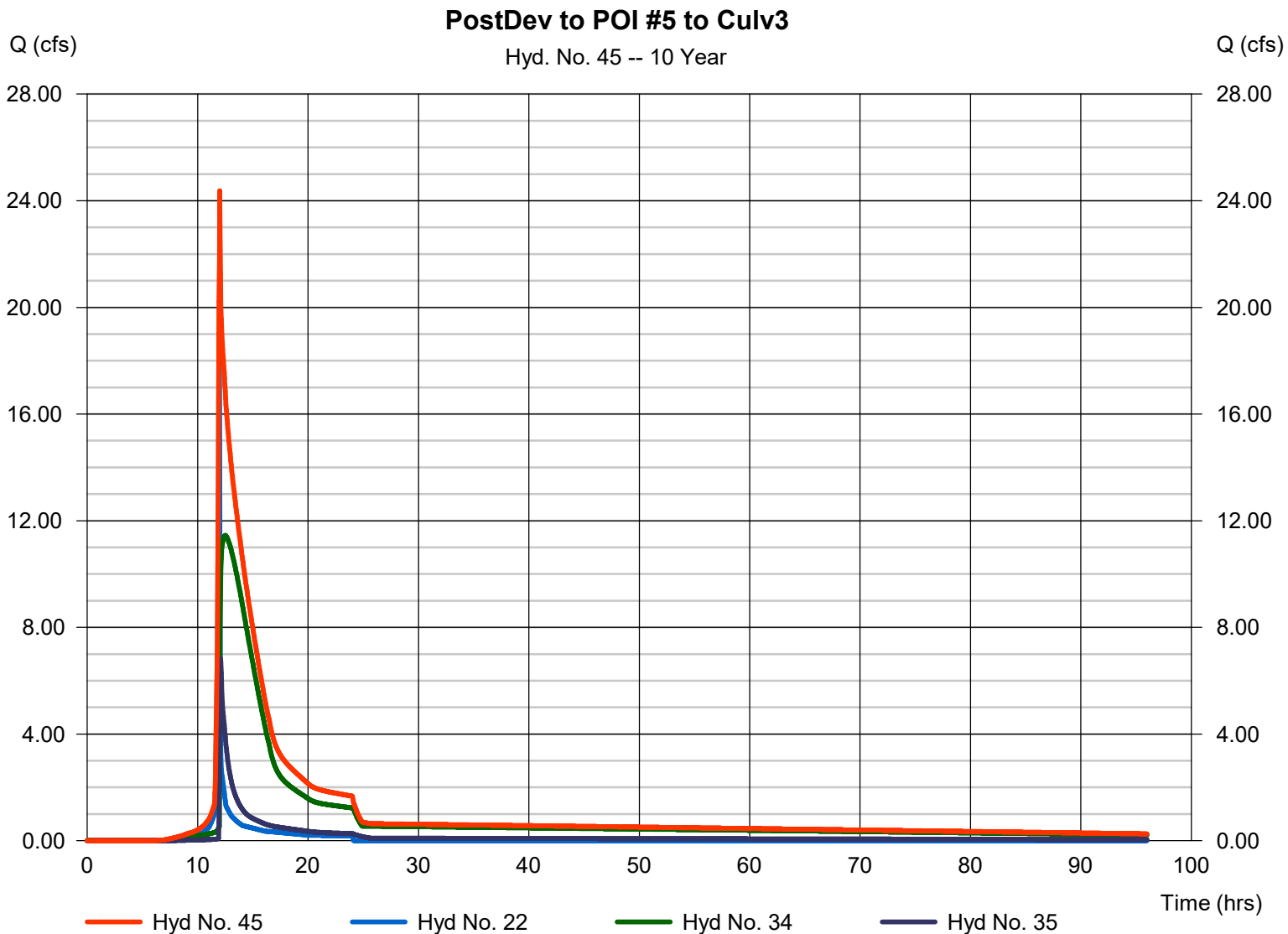
Saturday, 04 / 12 / 2025

Hyd. No. 45

PostDev to POI #5 to Culv3

Hydrograph type = Combine
Storm frequency = 10 yrs
Time interval = 2 min
Inflow hyds. = 22, 34, 35

Peak discharge = 24.37 cfs
Time to peak = 12.00 hrs
Hyd. volume = 378,221 cuft
Contrib. drain. area = 3.810 ac



Hydrograph Report

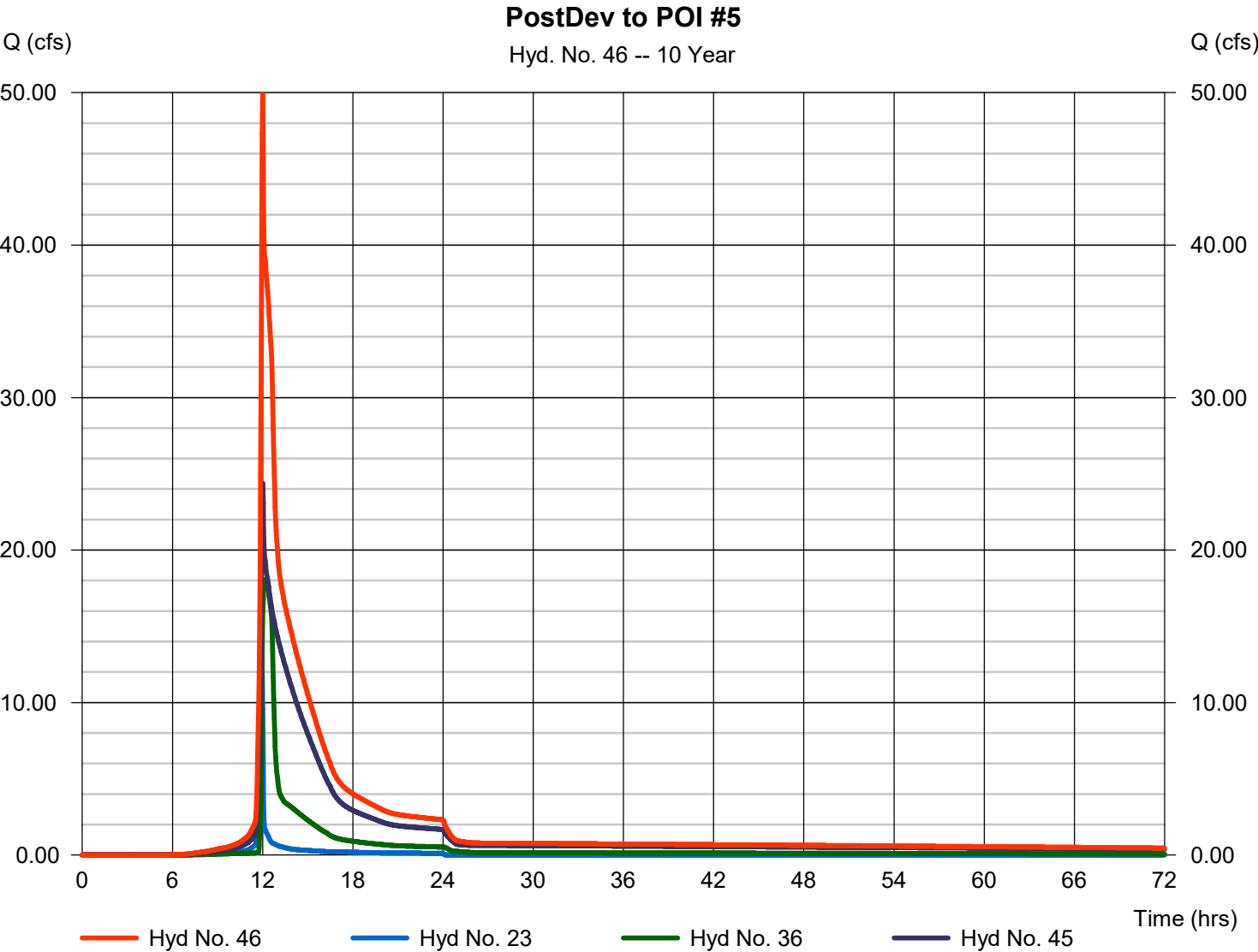
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 46

PostDev to POI #5

Hydrograph type	= Combine	Peak discharge	= 49.88 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 534,637 cuft
Inflow hyds.	= 23, 36, 45	Contrib. drain. area	= 2.420 ac



Hydrograph Report

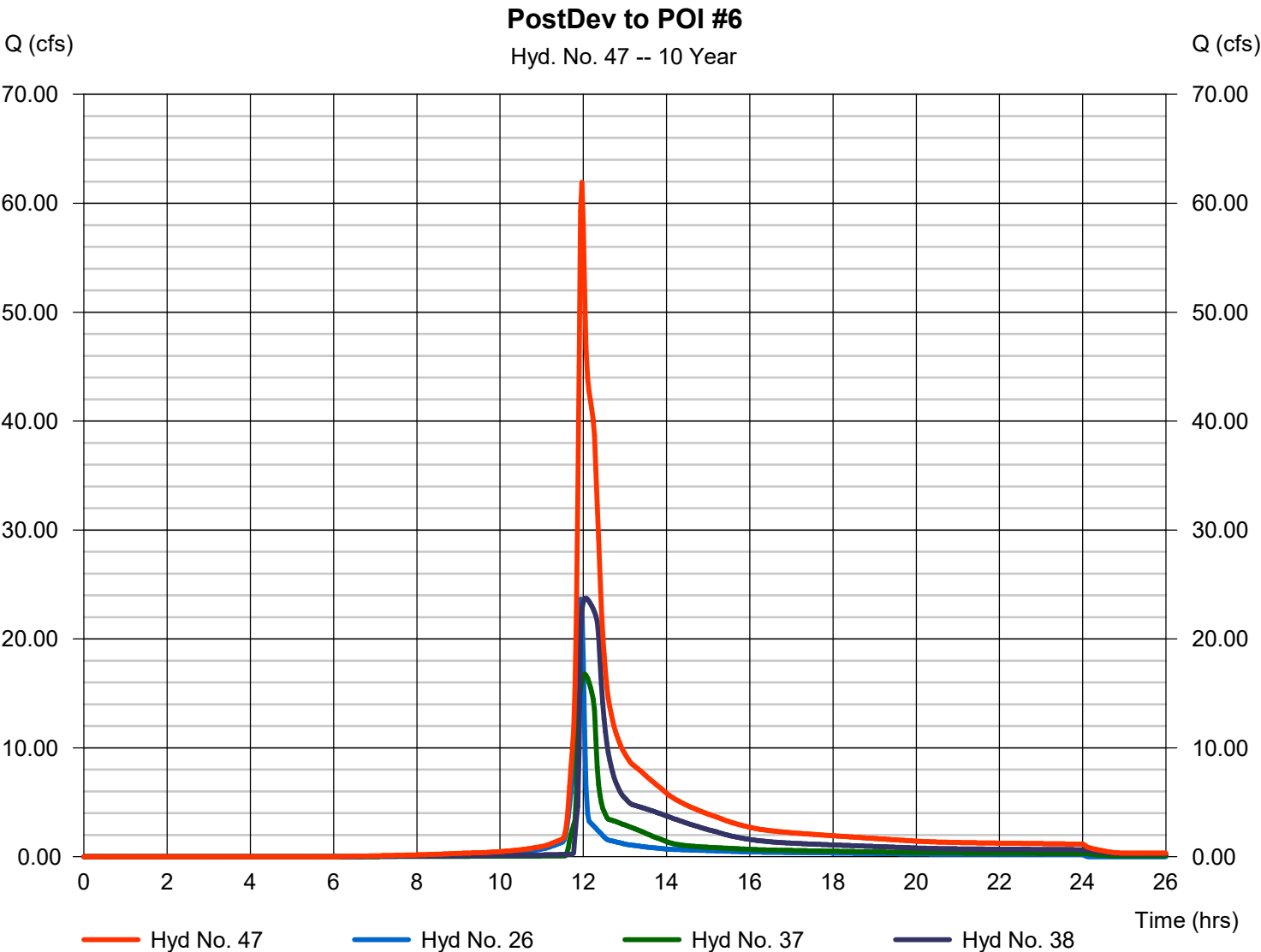
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 47

PostDev to POI #6

Hydrograph type	= Combine	Peak discharge	= 61.91 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 280,058 cuft
Inflow hyds.	= 26, 37, 38	Contrib. drain. area	= 4.370 ac



Hydrograph Report

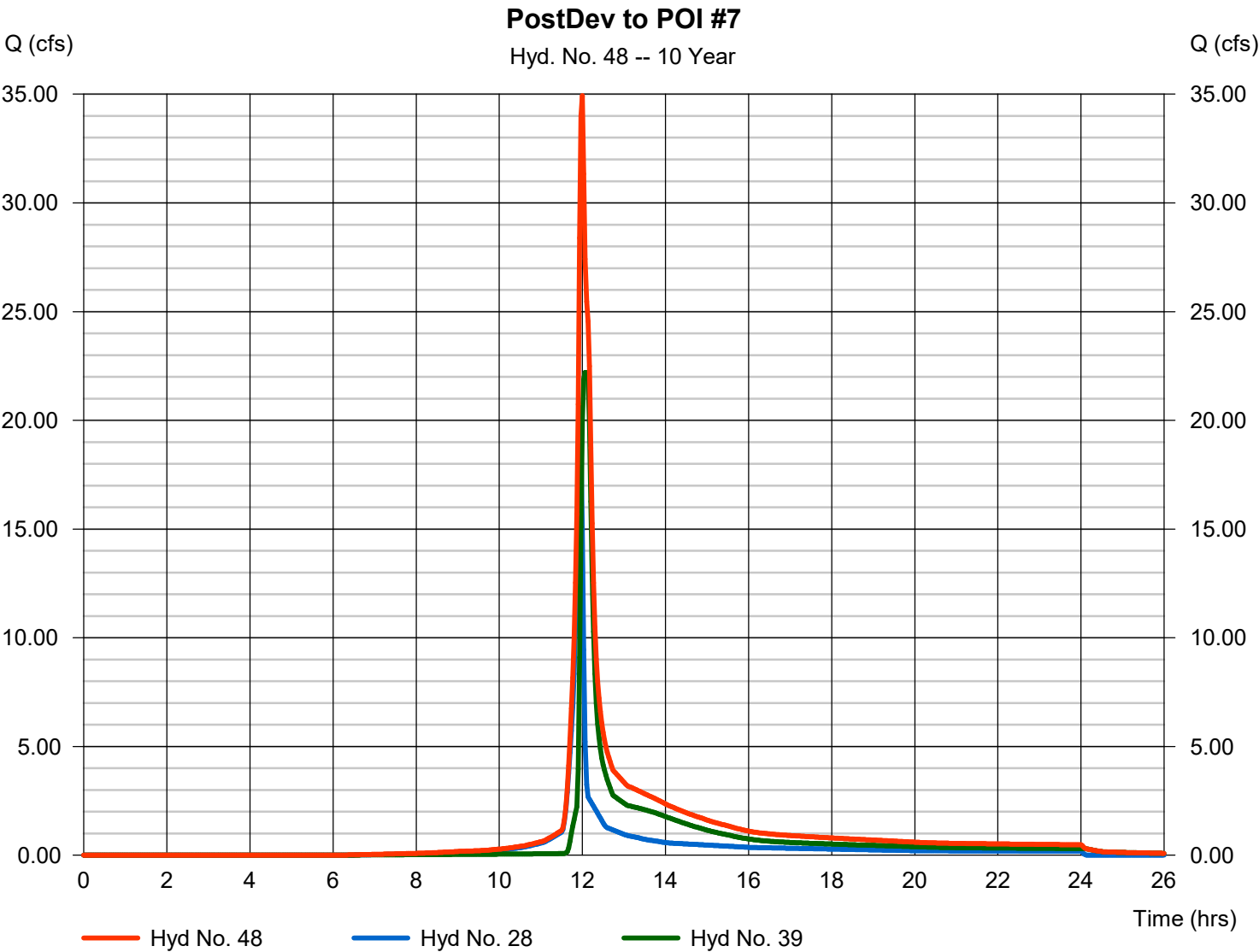
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 48

PostDev to POI #7

Hydrograph type	= Combine	Peak discharge	= 34.93 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 113,416 cuft
Inflow hyds.	= 28, 39	Contrib. drain. area	= 3.640 ac

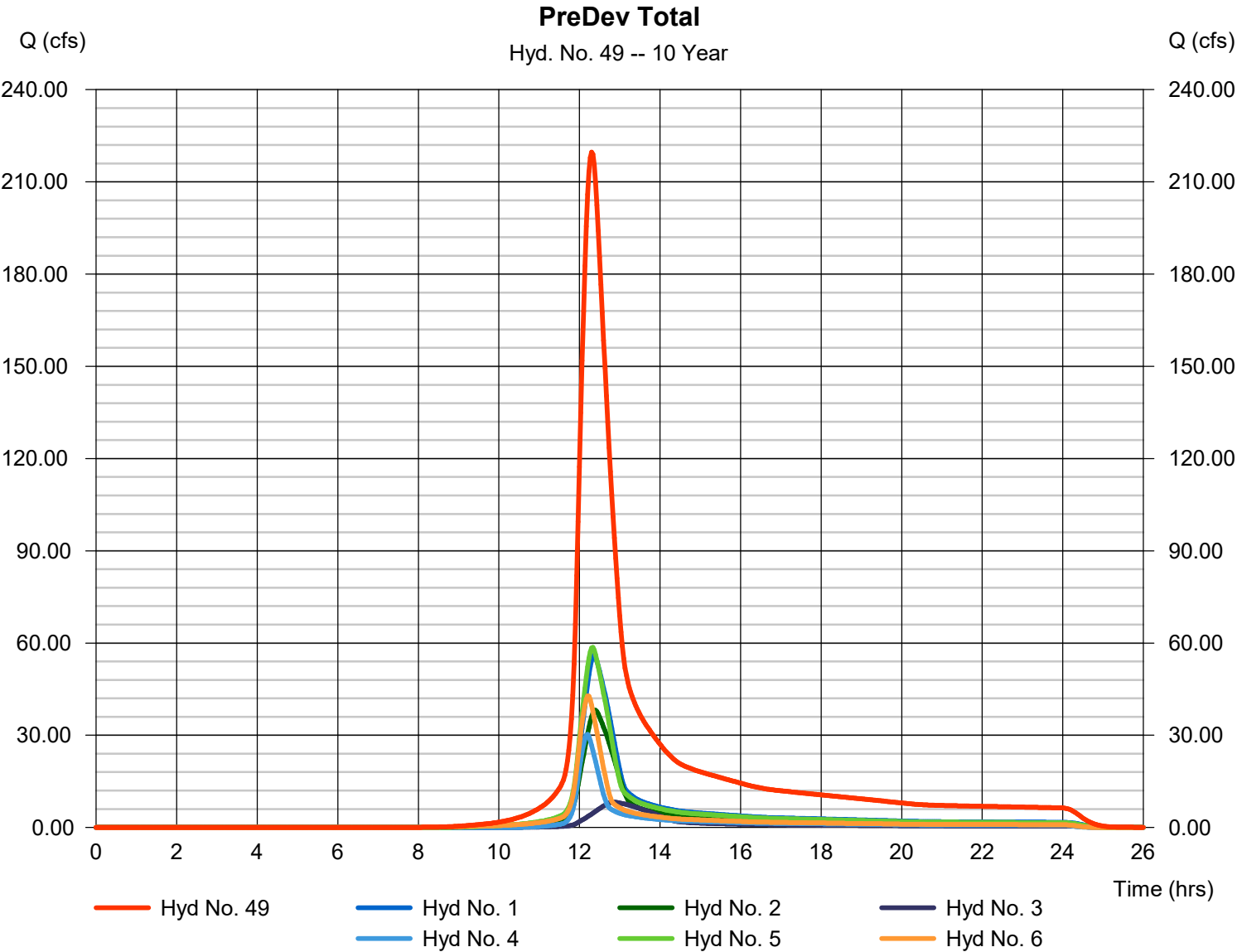


Hydrograph Report

Hyd. No. 49

PreDev Total

Hydrograph type	= Combine	Peak discharge	= 219.71 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.30 hrs
Time interval	= 2 min	Hyd. volume	= 1,215,150 cuft
Inflow hyds.	= 1, 2, 3, 4, 5, 6	Contrib. drain. area	= 139.020 ac



Hydrograph Report

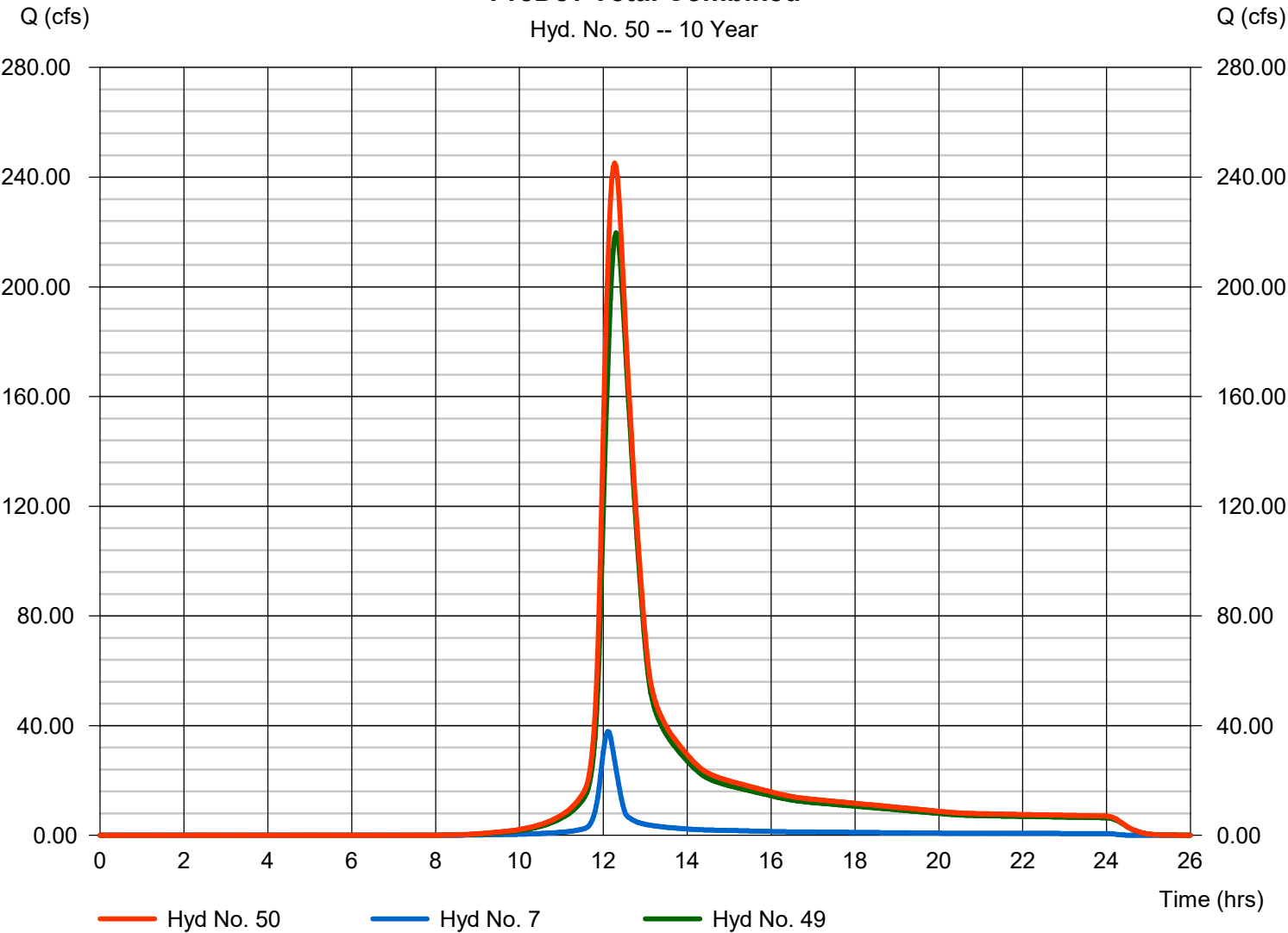
Hyd. No. 50

PreDev Total Combined

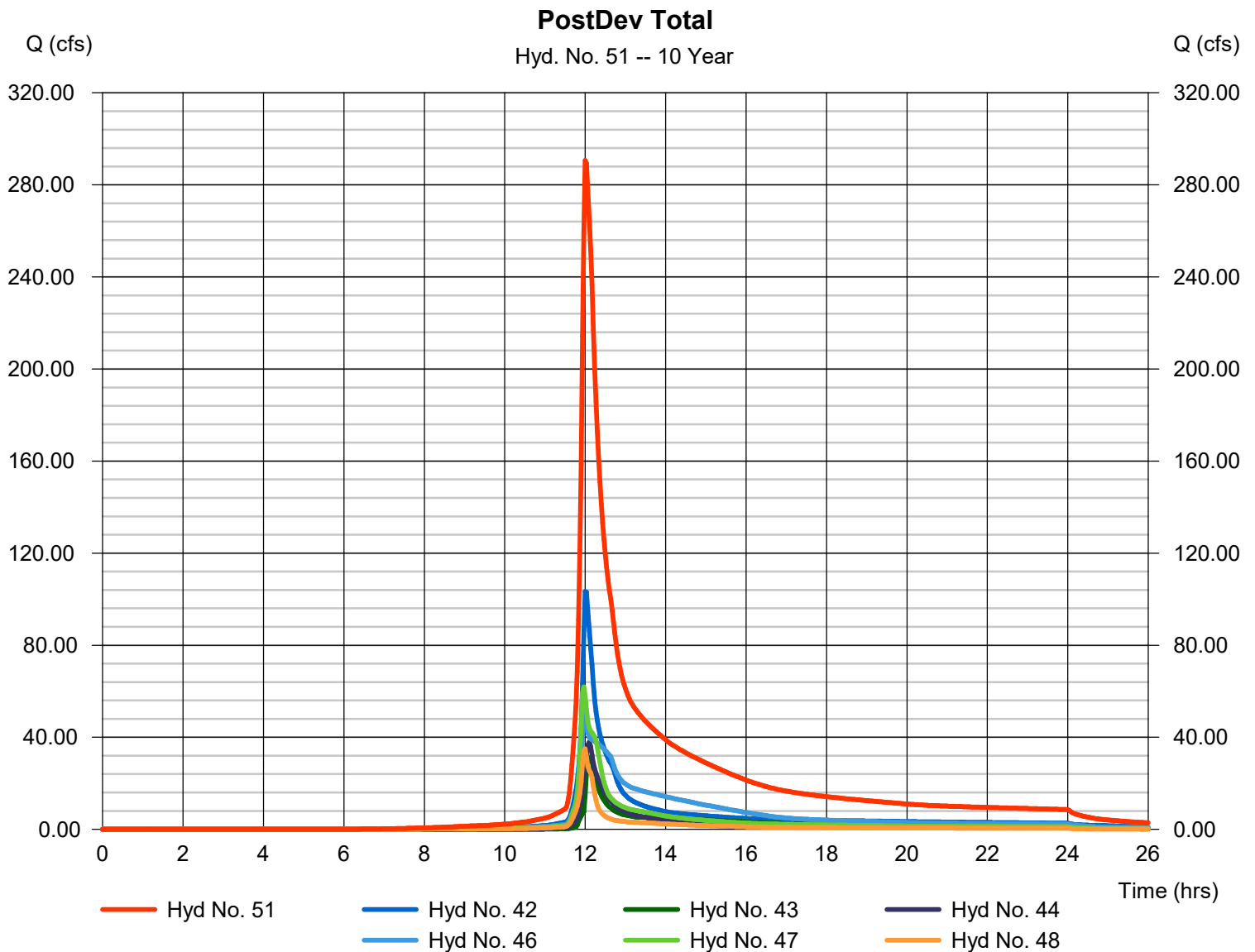
Hydrograph type	= Combine	Peak discharge	= 245.16 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.27 hrs
Time interval	= 2 min	Hyd. volume	= 1,346,024 cuft
Inflow hyds.	= 7, 49	Contrib. drain. area	= 13.250 ac

PreDev Total Combined

Hyd. No. 50 -- 10 Year



Hydrograph type	= Combine	Peak discharge	= 290.56 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 1,772,157 cuft
Inflow hyds.	= 42, 43, 44, 46, 47, 48	Contrib. drain. area	= 0.000 ac



Hydrograph Report

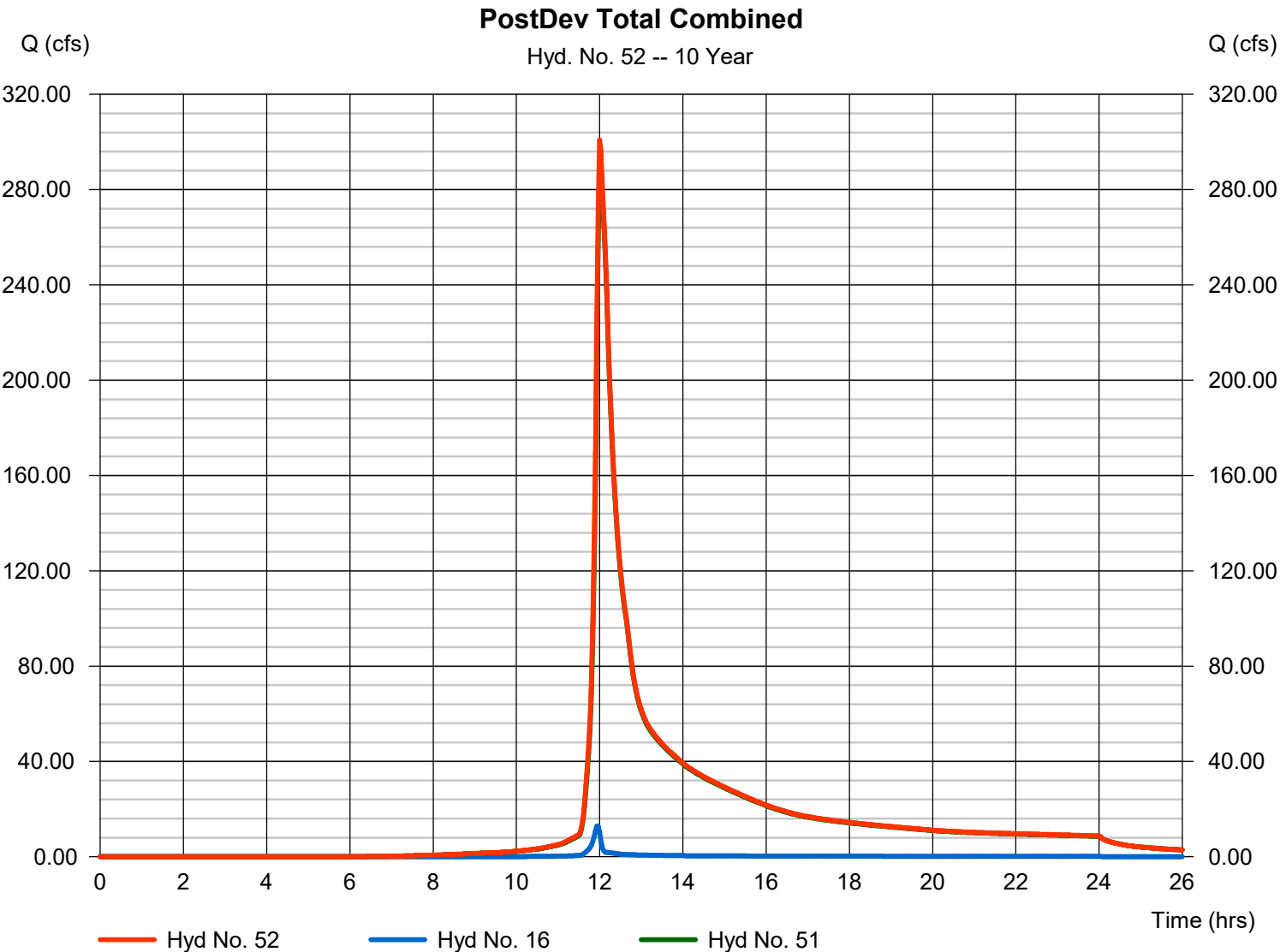
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 52

PostDev Total Combined

Hydrograph type	= Combine	Peak discharge	= 300.89 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 1,798,007 cuft
Inflow hyds.	= 16, 51	Contrib. drain. area	= 3.240 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

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	76.33	2	742	412,121	-----	-----	-----	PreDev POI #1
2	SCS Runoff	50.89	2	744	288,761	-----	-----	-----	PreDev POI #2
3	SCS Runoff	11.27	2	770	102,442	-----	-----	-----	PreDev to POI #3
4	SCS Runoff	42.39	2	732	172,464	-----	-----	-----	PreDev to POI #4
5	SCS Runoff	77.58	2	740	400,571	-----	-----	-----	PreDev to POI #5
6	SCS Runoff	55.62	2	732	240,302	-----	-----	-----	PreDev to POI #6
7	SCS Runoff	49.71	2	726	171,606	-----	-----	-----	PreDev to POI #7
8	SCS Runoff	99.35	2	718	235,685	-----	-----	-----	PostDev to SCM 1A
9	SCS Runoff	68.92	2	720	182,058	-----	-----	-----	PostDev to SCM 1B
10	SCS Runoff	15.53	2	716	31,786	-----	-----	-----	PostDev to SCM 1C
11	SCS Runoff	16.64	2	716	34,027	-----	-----	-----	PostDev to POI #1 Bypass 1
12	SCS Runoff	21.71	2	718	50,185	-----	-----	-----	PostDev to POI #1 Bypass 2
13	SCS Runoff	28.27	2	718	65,591	-----	-----	-----	PostDev to POI #1 Bypass 3
14	SCS Runoff	95.16	2	718	223,725	-----	-----	-----	PostDev to SCM 2
15	SCS Runoff	2.951	2	716	6,074	-----	-----	-----	PostDev to POI #2 Bypass
16	SCS Runoff	17.09	2	716	34,542	-----	-----	-----	PostDev to POI #3
17	SCS Runoff	97.96	2	718	230,898	-----	-----	-----	PostDev to SCM 4
18	SCS Runoff	17.35	2	718	34,983	-----	-----	-----	PostDev to POI #4 Bypass
19	SCS Runoff	157.19	2	718	377,049	-----	-----	-----	PostDev to SCM 5A
20	SCS Runoff	36.48	2	716	76,555	-----	-----	-----	PostDev to SCM 5B
21	SCS Runoff	60.12	2	720	164,018	-----	-----	-----	PostDev to SCM 5C
22	SCS Runoff	24.33	2	716	50,043	-----	-----	-----	PostDev to POI #5 Bypass 1
23	SCS Runoff	15.63	2	716	32,210	-----	-----	-----	PostDev to POI #5 Bypass 2
24	SCS Runoff	43.71	2	716	93,369	-----	-----	-----	PostDev to SCM 6A
25	SCS Runoff	91.27	2	716	196,604	-----	-----	-----	PostDev to SCM 6B
26	SCS Runoff	29.77	2	716	62,042	-----	-----	-----	PostDev to POI #6 Bypass
27	SCS Runoff	34.30	2	720	92,439	-----	-----	-----	PostDev to SCM 7
28	SCS Runoff	24.39	2	716	50,637	-----	-----	-----	PostDev to POI #7 Bypass
29	Reservoir	52.98	2	726	235,046	8	352.50	89,260	PostDev to SCM 1A
30	Reservoir	19.13	2	734	179,837	9	380.87	82,669	PostDev to SCM 1B
31	Reservoir	11.40	2	720	30,391	10	363.74	12,710	PostDev to SCM 1C
32	Reservoir	36.21	2	726	212,630	14	357.80	98,369	PostDev to SCM 2
33	Reservoir	69.53	2	724	230,401	17	368.28	90,276	PostDev to SCM 4
34	Reservoir	43.07	2	728	358,068	19	327.49	200,608	PostDev to SCM 5A
Merritt Reserve Hydrographs.gpw					Return Period: 25 Year			Saturday, 04 / 12 / 2025	

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
35	Reservoir	16.10	2	722	72,833	20	309.62	35,616	PostDev to SCM 5B
36	Reservoir	19.65	2	732	163,258	21	297.13	72,616	PostDev to SCM 5C
37	Reservoir	18.03	2	722	93,271	24	281.61	33,589	PostDev to SCM 6A
38	Reservoir	25.45	2	724	195,582	25	294.82	91,707	PostDev to SCM 6B
39	Reservoir	23.51	2	726	92,286	27	321.51	26,819	PostDev to SCM 7
40	Combine	32.03	2	718	213,865	11, 30,	-----	-----	PostDev POI #1 to Culv1
41	Combine	62.36	2	720	294,442	12, 31, 40	-----	-----	PostDev POI #1 to Culv2
42	Combine	140.08	2	720	595,079	13, 29, 41	-----	-----	PostDev POI #1 Combined
43	Combine	36.71	2	726	218,704	15, 32,	-----	-----	PostDev to POI #2
44	Combine	76.36	2	722	265,384	18, 33,	-----	-----	PostDev to POI #4
45	Combine	59.99	2	728	480,944	22, 34, 35,	-----	-----	PostDev to POI #5 to Culv3
46	Combine	81.65	2	728	676,412	23, 36, 45	-----	-----	PostDev to POI #5
47	Combine	70.71	2	718	350,895	26, 37, 38,	-----	-----	PostDev to POI #6
48	Combine	45.71	2	718	142,923	28, 39,	-----	-----	PostDev to POI #7
49	Combine	294.99	2	738	1,616,660	1, 2, 3, 4, 5, 6,	-----	-----	PreDev Total
50	Combine	328.59	2	736	1,788,268	7, 49	-----	-----	PreDev Total Combined
51	Combine	423.27	2	720	2,249,397	42, 43, 44, 46, 47, 48,	-----	-----	PostDev Total
52	Combine	436.84	2	720	2,283,940	16, 51	-----	-----	PostDev Total Combined
Merritt Reserve Hydrographs.gpw					Return Period: 25 Year			Saturday, 04 / 12 / 2025	

Hydrograph Report

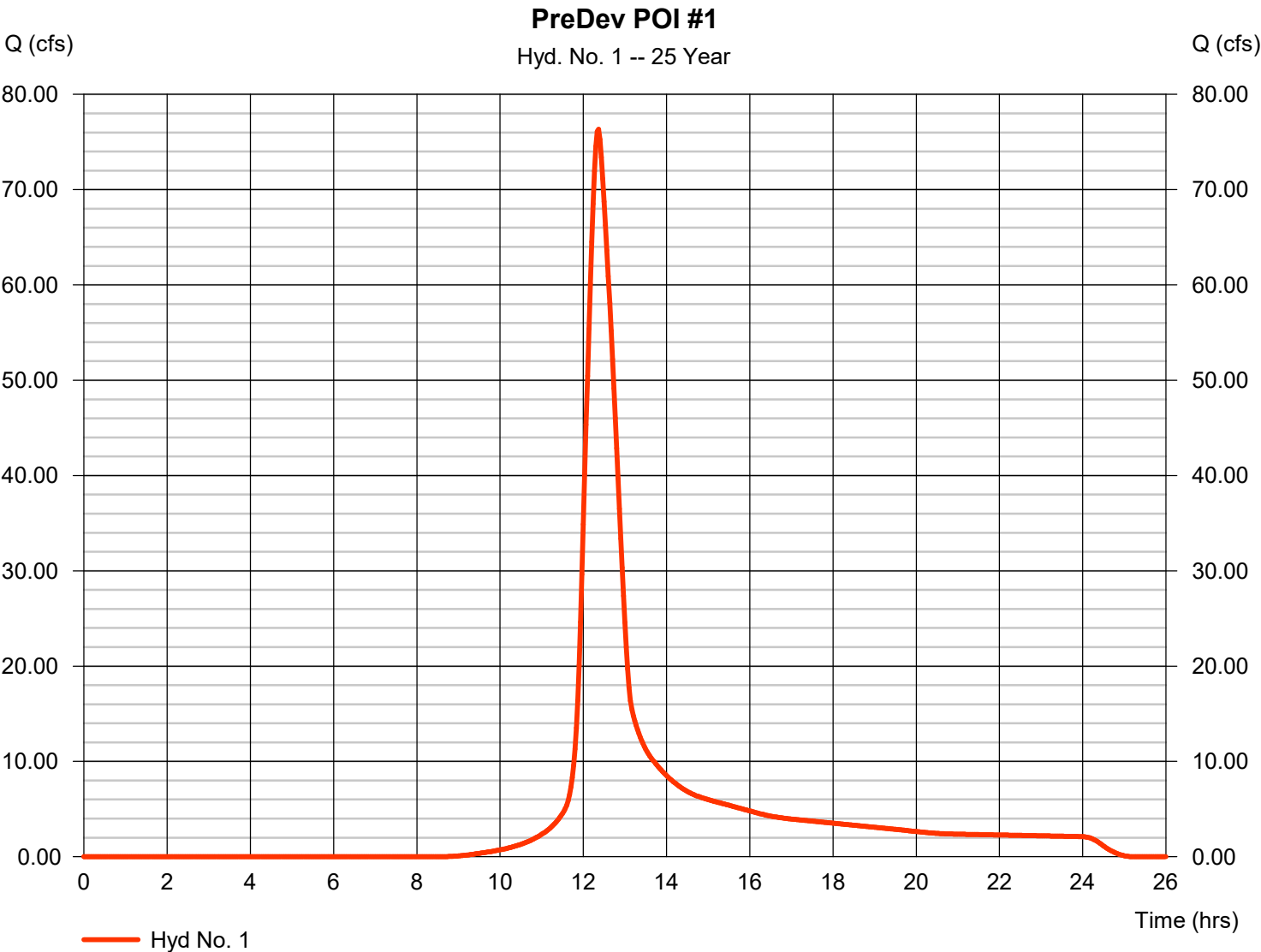
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 1

PreDev POI #1

Hydrograph type	= SCS Runoff	Peak discharge	= 76.33 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.37 hrs
Time interval	= 2 min	Hyd. volume	= 412,121 cuft
Drainage area	= 37.960 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 46.50 min
Total precip.	= 6.03 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

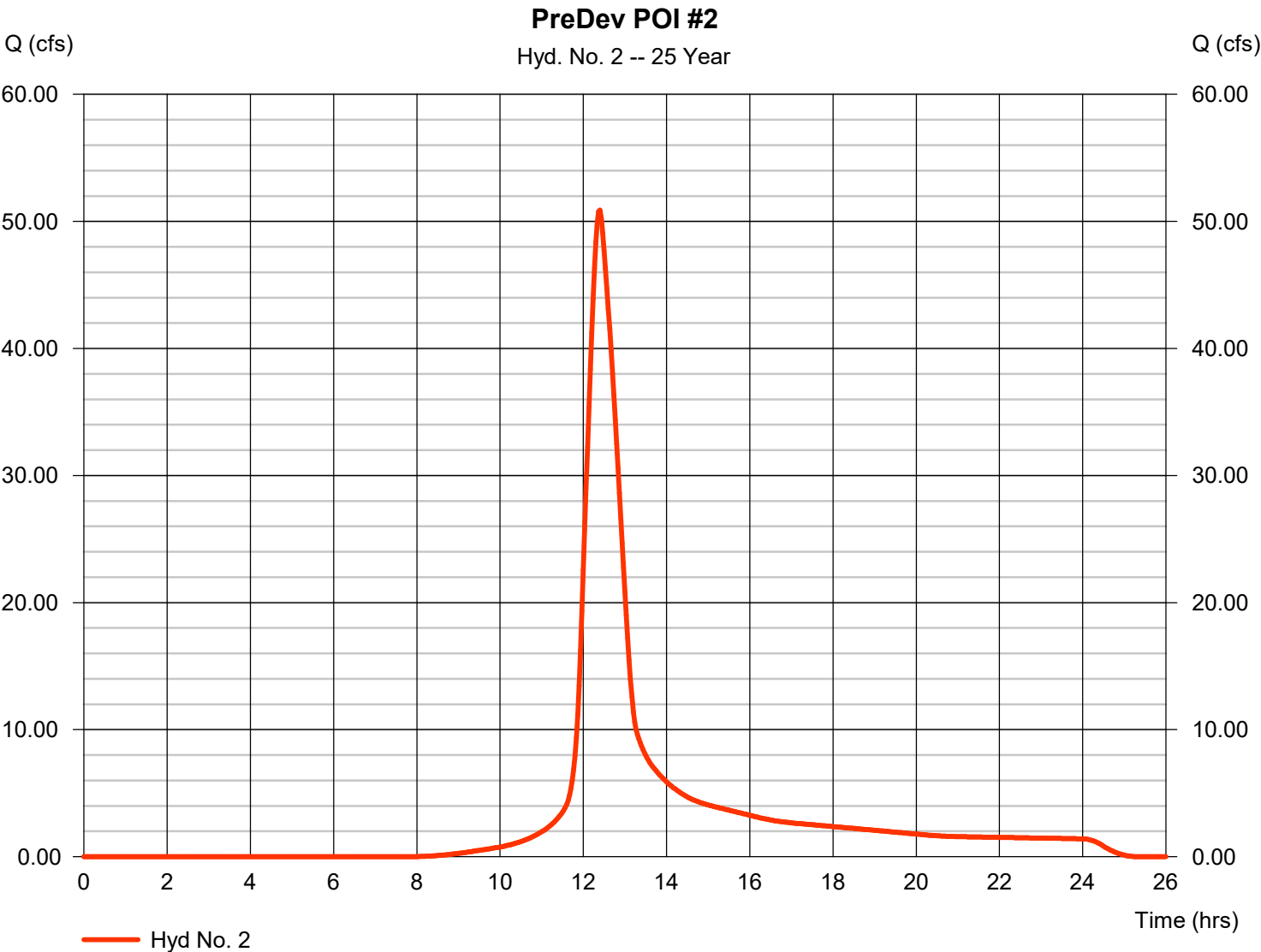
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 2

PreDev POI #2

Hydrograph type	= SCS Runoff	Peak discharge	= 50.89 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.40 hrs
Time interval	= 2 min	Hyd. volume	= 288,761 cuft
Drainage area	= 24.050 ac	Curve number	= 75
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 48.70 min
Total precip.	= 6.03 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

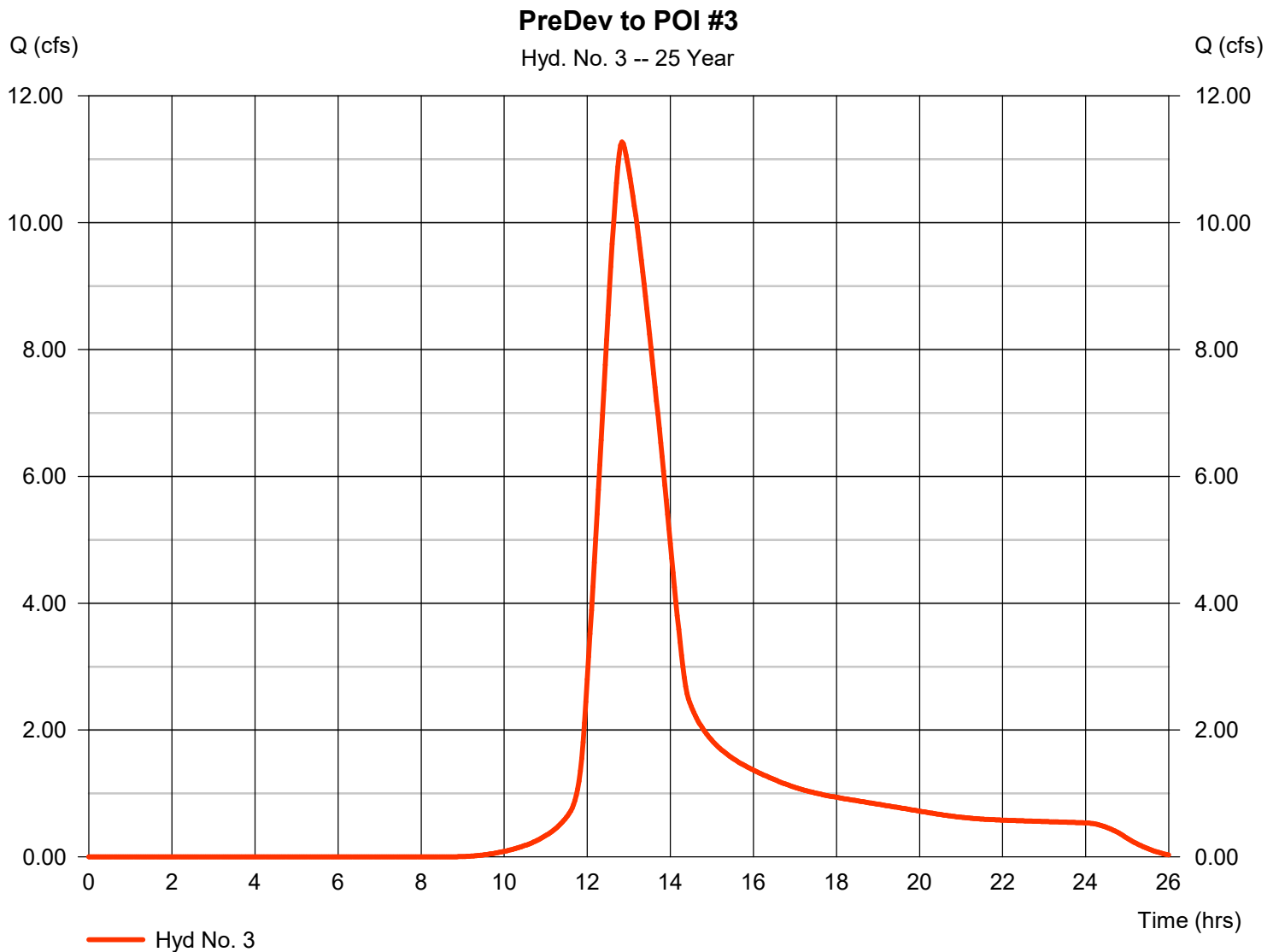
Saturday, 04 / 12 / 2025

Hyd. No. 3

PreDev to POI #3

Hydrograph type = SCS Runoff
 Storm frequency = 25 yrs
 Time interval = 2 min
 Drainage area = 9.310 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 6.03 in
 Storm duration = 24 hrs

Peak discharge = 11.27 cfs
 Time to peak = 12.83 hrs
 Hyd. volume = 102,442 cuft
 Curve number = 72
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 92.00 min
 Distribution = Type II
 Shape factor = 484



Hydrograph Report

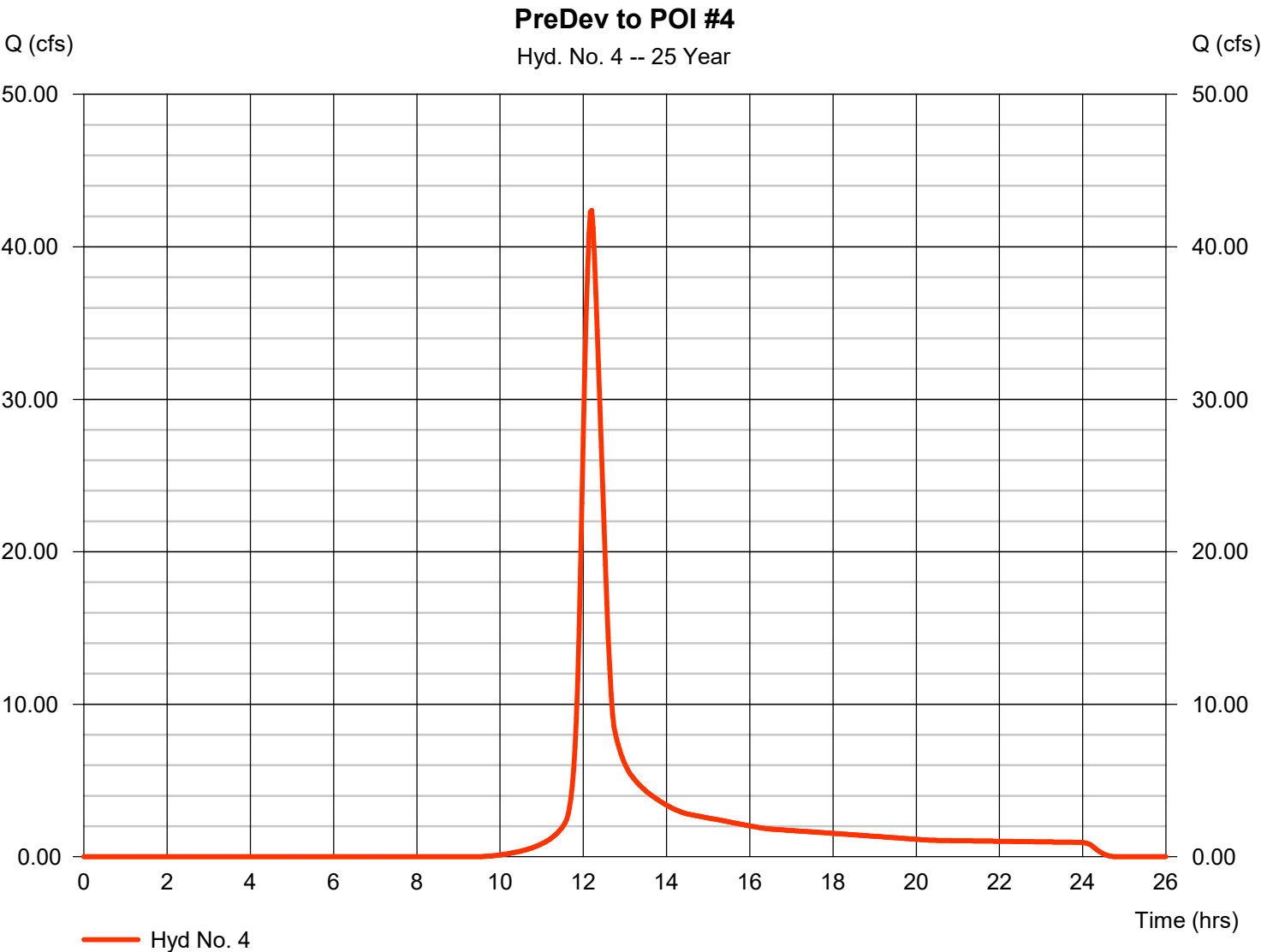
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 4

PreDev to POI #4

Hydrograph type	= SCS Runoff	Peak discharge	= 42.39 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 172,464 cuft
Drainage area	= 17.970 ac	Curve number	= 68
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 28.80 min
Total precip.	= 6.03 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

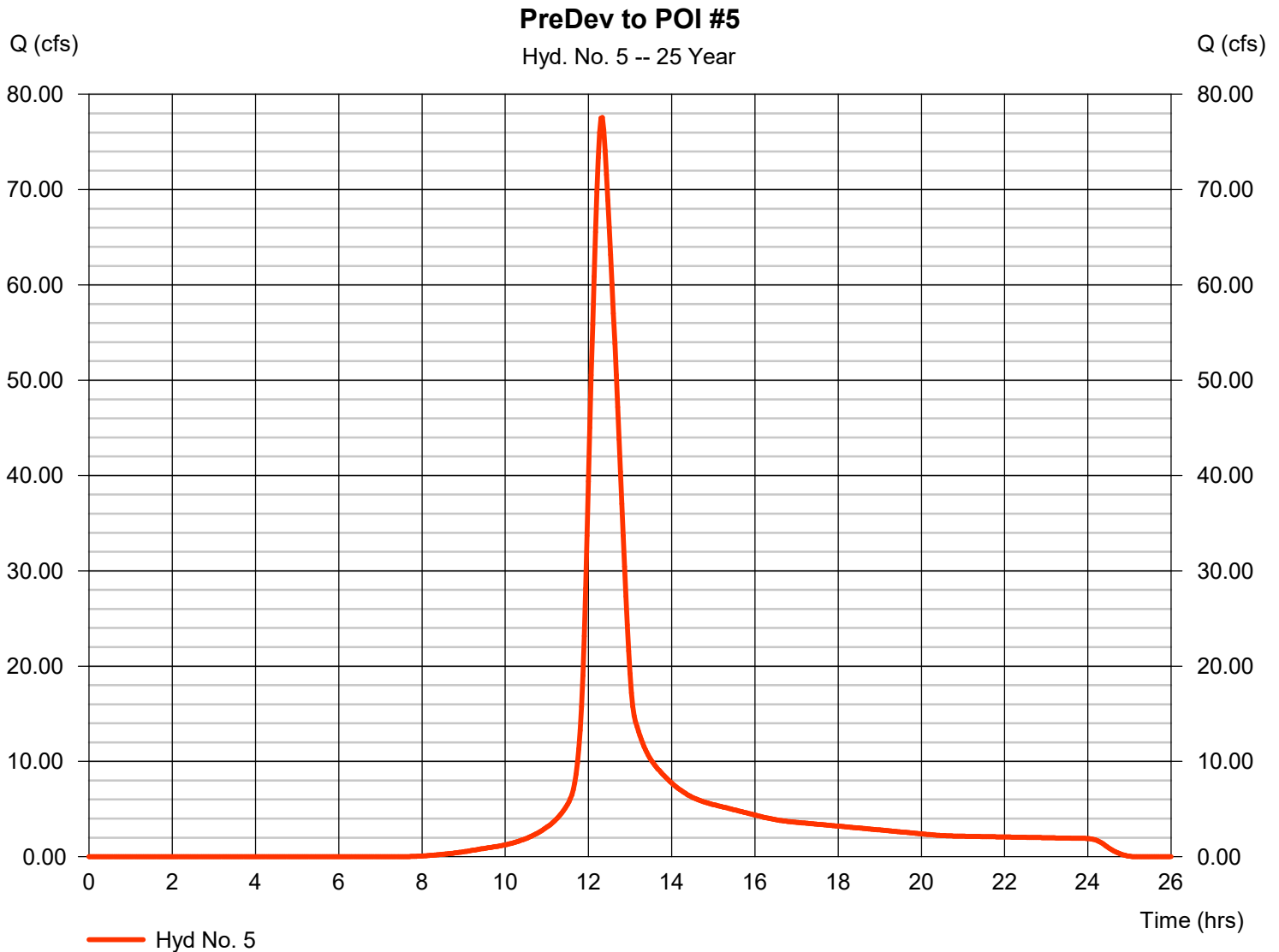
Saturday, 04 / 12 / 2025

Hyd. No. 5

PreDev to POI #5

Hydrograph type = SCS Runoff
Storm frequency = 25 yrs
Time interval = 2 min
Drainage area = 32.090 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.03 in
Storm duration = 24 hrs

Peak discharge = 77.58 cfs
Time to peak = 12.33 hrs
Hyd. volume = 400,571 cuft
Curve number = 76
Hydraulic length = 0 ft
Time of conc. (Tc) = 43.30 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

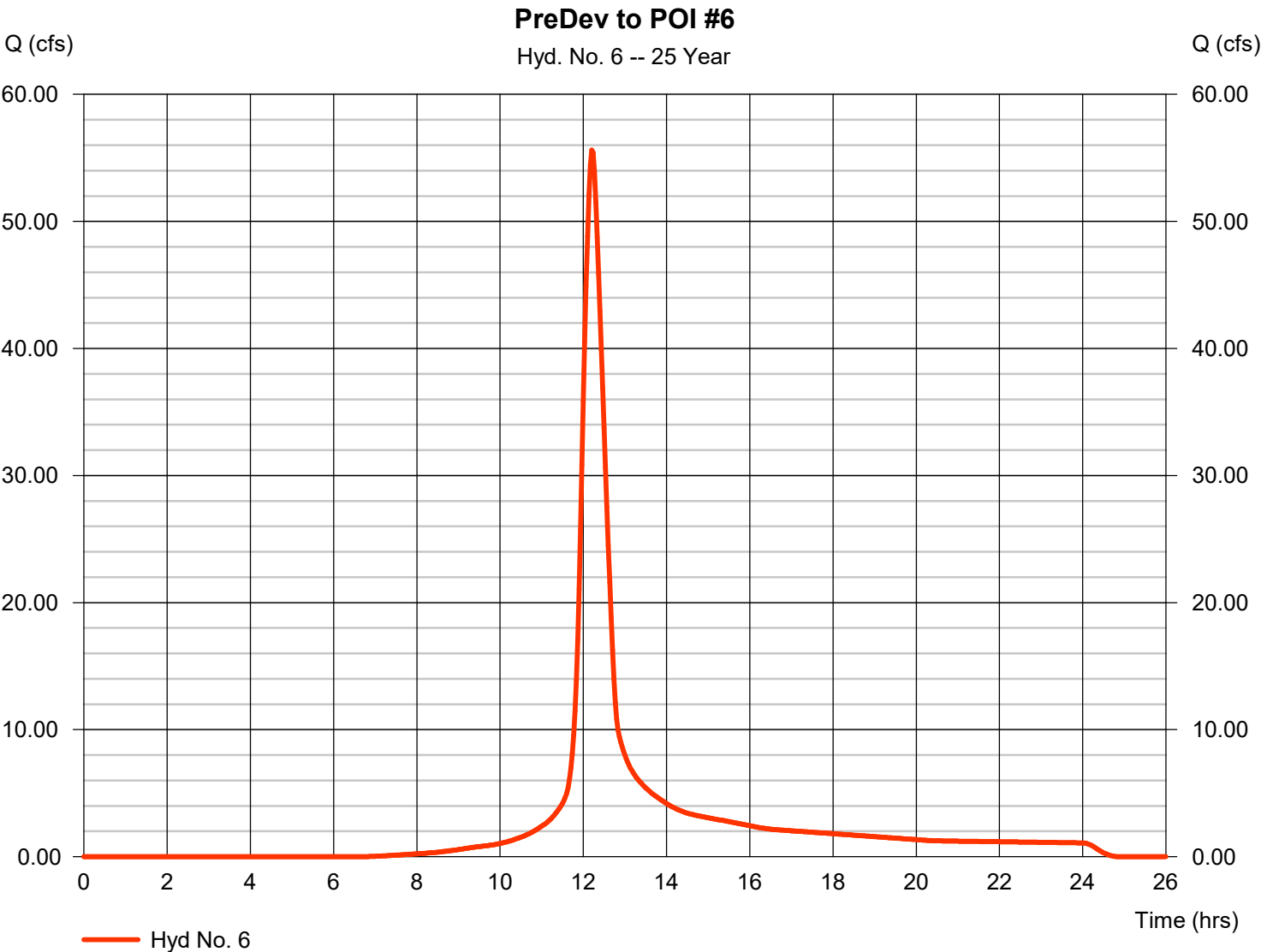
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 6

PreDev to POI #6

Hydrograph type	= SCS Runoff	Peak discharge	= 55.62 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 240,302 cuft
Drainage area	= 17.640 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 32.90 min
Total precip.	= 6.03 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

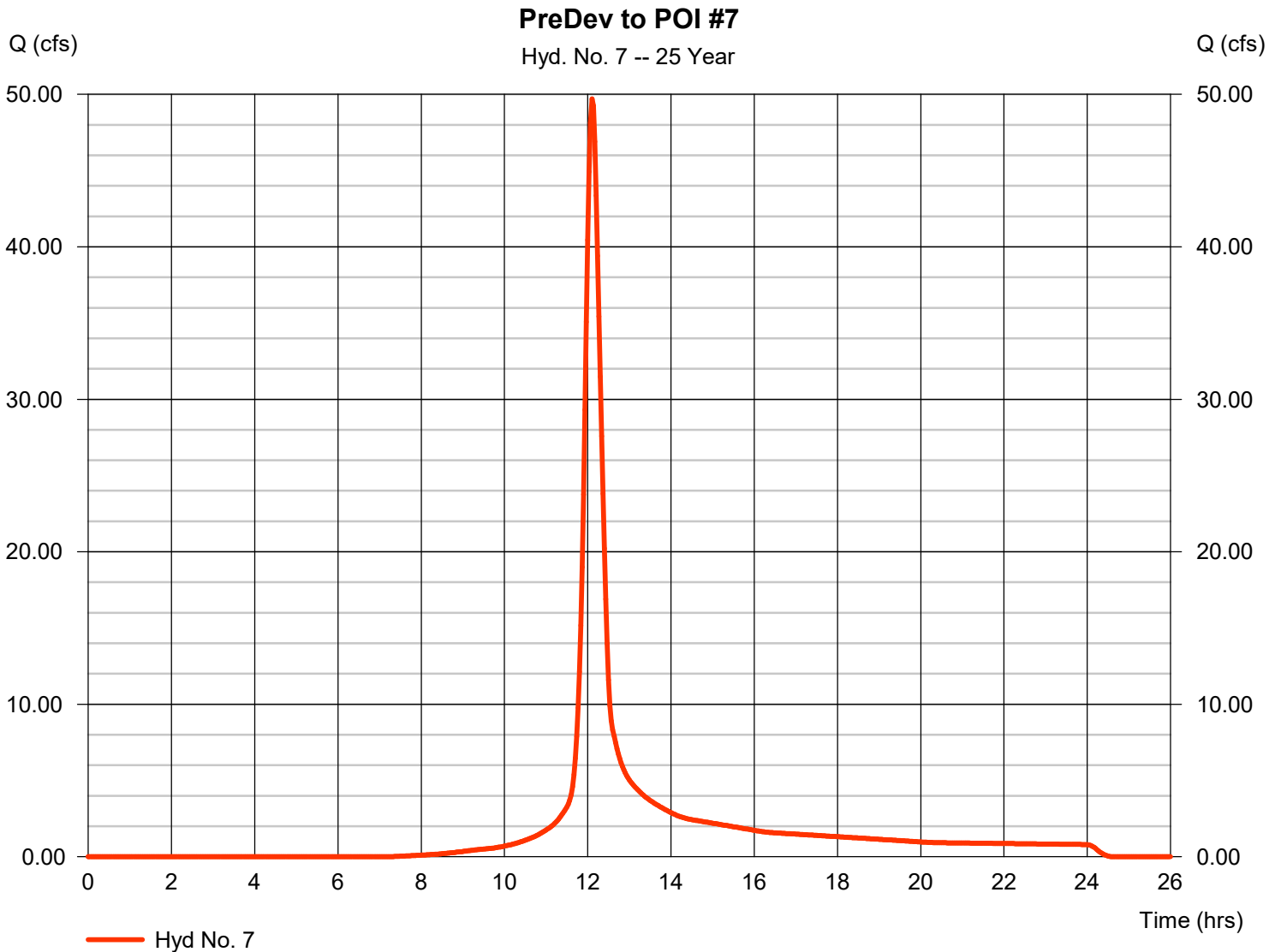
Saturday, 04 / 12 / 2025

Hyd. No. 7

PreDev to POI #7

Hydrograph type = SCS Runoff
 Storm frequency = 25 yrs
 Time interval = 2 min
 Drainage area = 13.250 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 6.03 in
 Storm duration = 24 hrs

Peak discharge = 49.71 cfs
 Time to peak = 12.10 hrs
 Hyd. volume = 171,606 cuft
 Curve number = 77
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 22.00 min
 Distribution = Type II
 Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

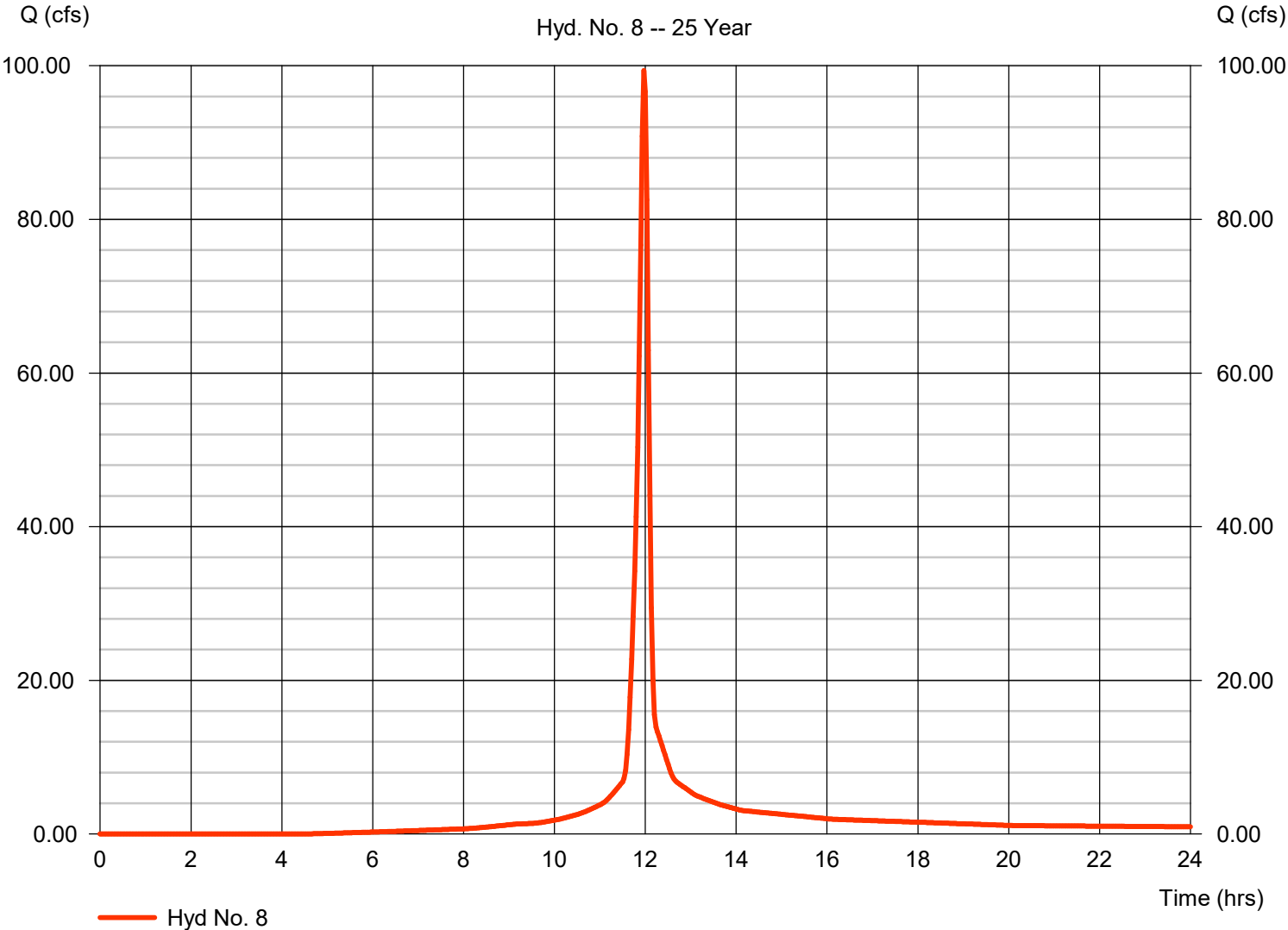
Hyd. No. 8

PostDev to SCM 1A

Hydrograph type	= SCS Runoff	Peak discharge	= 99.35 cfs
Storm frequency	= 25 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 235,685 cuft
Drainage area	= 14.630 ac	Curve number	= 86
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 8.30 min
Total precip.	= 6.03 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

PostDev to SCM 1A

Hyd. No. 8 -- 25 Year



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

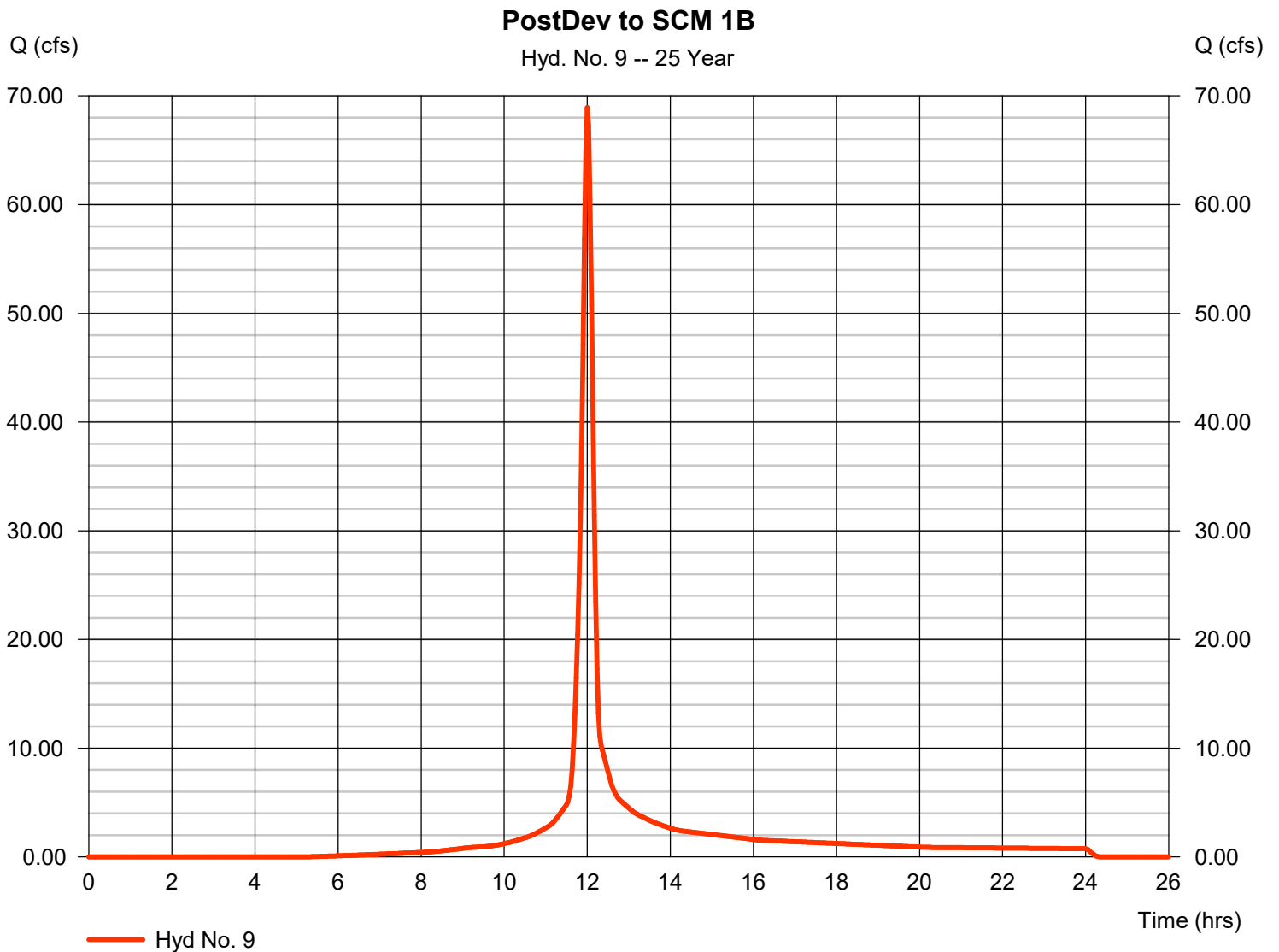
Saturday, 04 / 12 / 2025

Hyd. No. 9

PostDev to SCM 1B

Hydrograph type = SCS Runoff
 Storm frequency = 25 yrs
 Time interval = 2 min
 Drainage area = 11.570 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 6.03 in
 Storm duration = 24 hrs

Peak discharge = 68.92 cfs
 Time to peak = 12.00 hrs
 Hyd. volume = 182,058 cuft
 Curve number = 83.8
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 11.10 min
 Distribution = Type II
 Shape factor = 484



Hydrograph Report

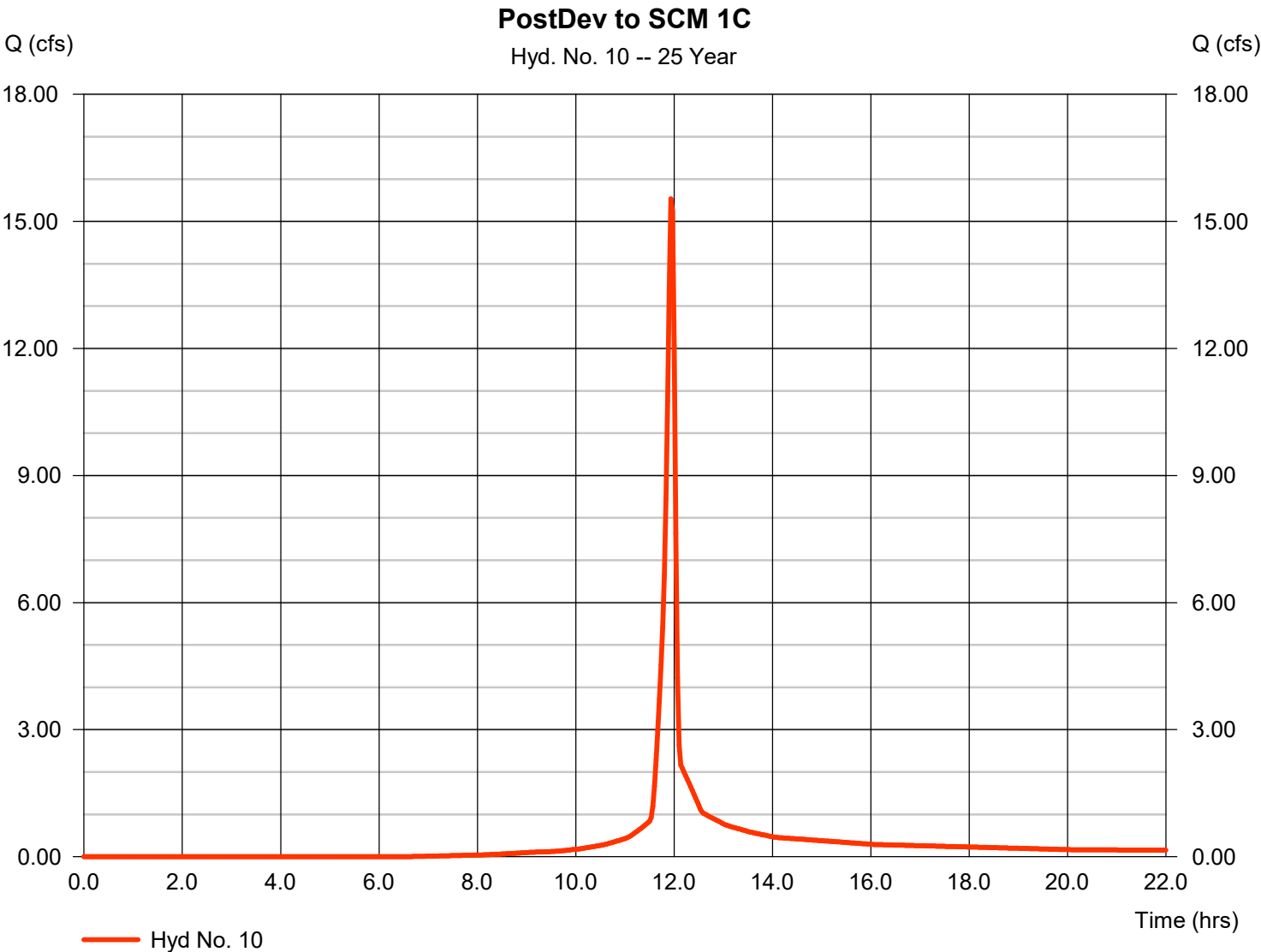
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 10

PostDev to SCM 1C

Hydrograph type	= SCS Runoff	Peak discharge	= 15.53 cfs
Storm frequency	= 25 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 31,786 cuft
Drainage area	= 2.520 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.03 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

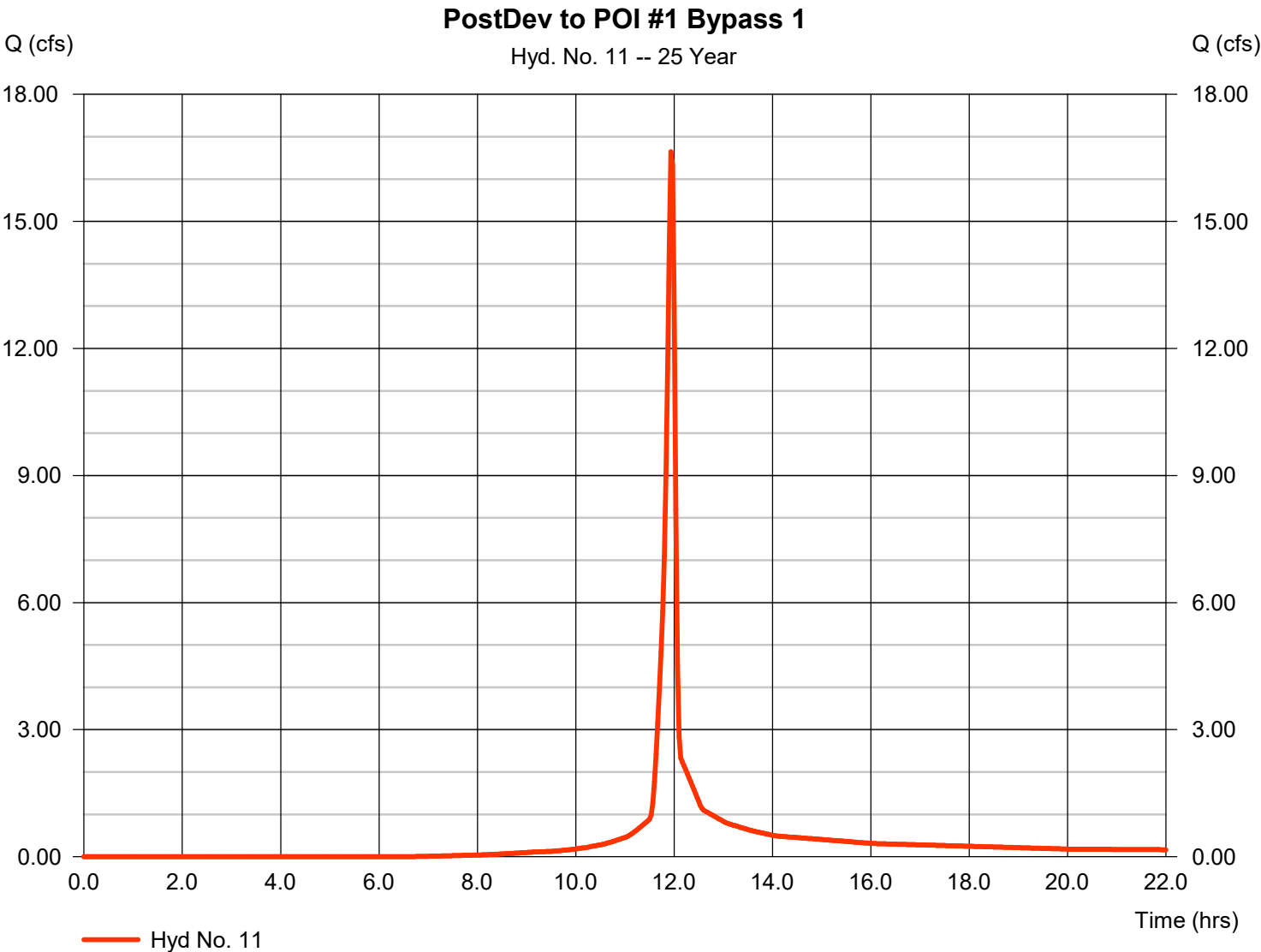
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 11

PostDev to POI #1 Bypass 1

Hydrograph type	= SCS Runoff	Peak discharge	= 16.64 cfs
Storm frequency	= 25 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 34,027 cuft
Drainage area	= 2.720 ac	Curve number	= 78.7
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.03 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

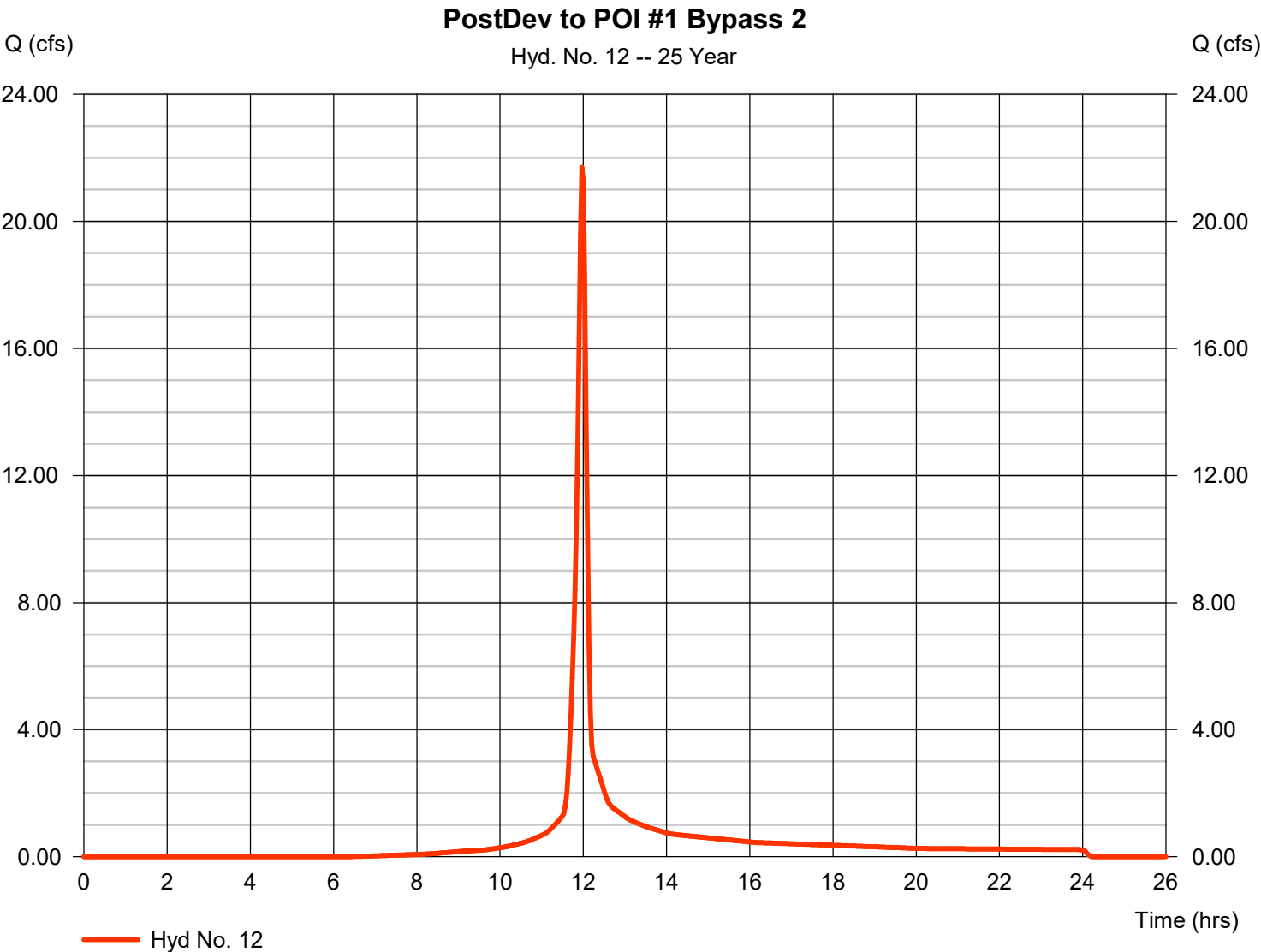
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 12

PostDev to POI #1 Bypass 2

Hydrograph type	= SCS Runoff	Peak discharge	= 21.71 cfs
Storm frequency	= 25 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 50,185 cuft
Drainage area	= 3.640 ac	Curve number	= 79.9
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.70 min
Total precip.	= 6.03 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

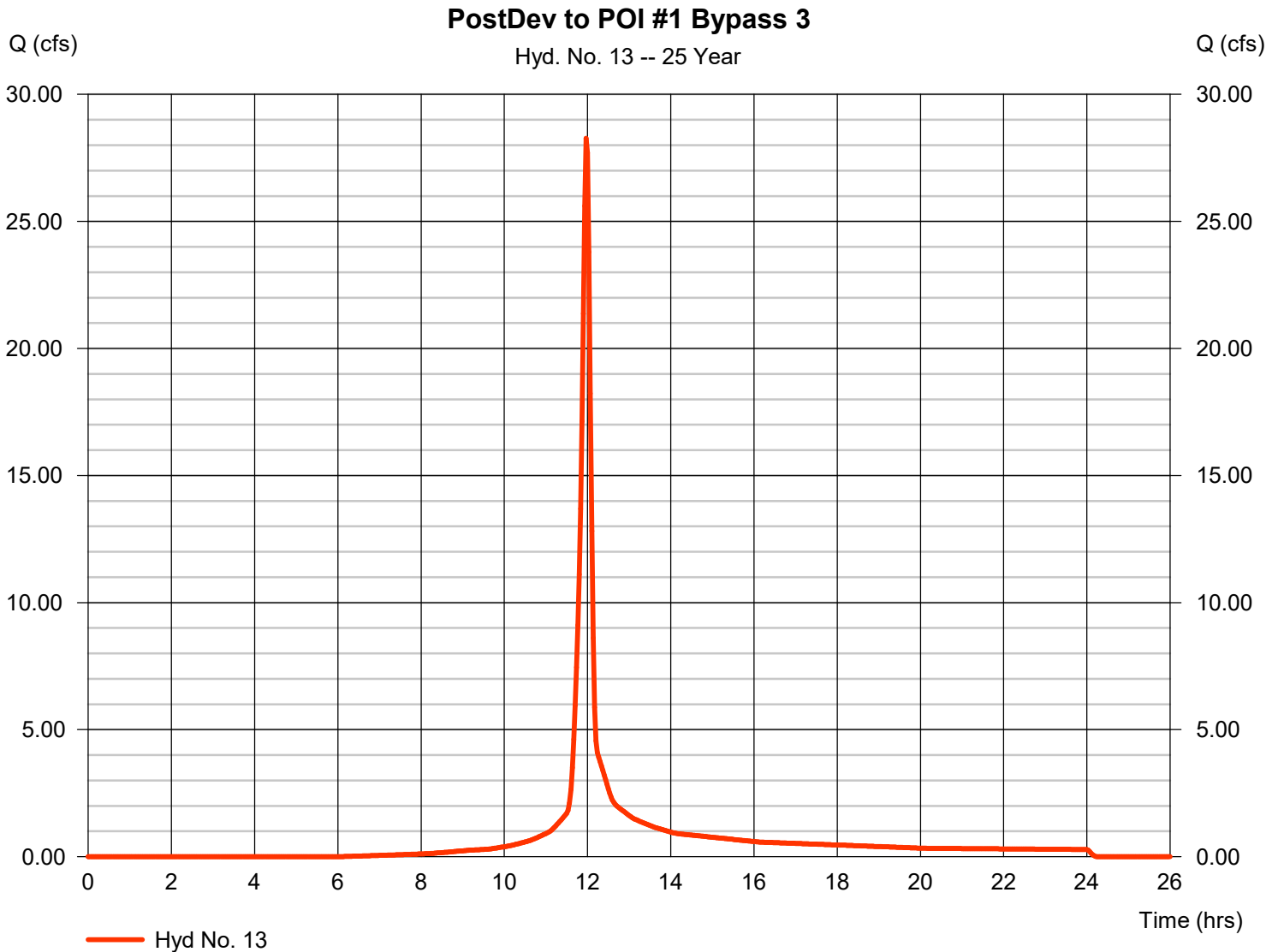
Saturday, 04 / 12 / 2025

Hyd. No. 13

PostDev to POI #1 Bypass 3

Hydrograph type = SCS Runoff
Storm frequency = 25 yrs
Time interval = 2 min
Drainage area = 4.620 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.03 in
Storm duration = 24 hrs

Peak discharge = 28.27 cfs
Time to peak = 11.97 hrs
Hyd. volume = 65,591 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 7.20 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

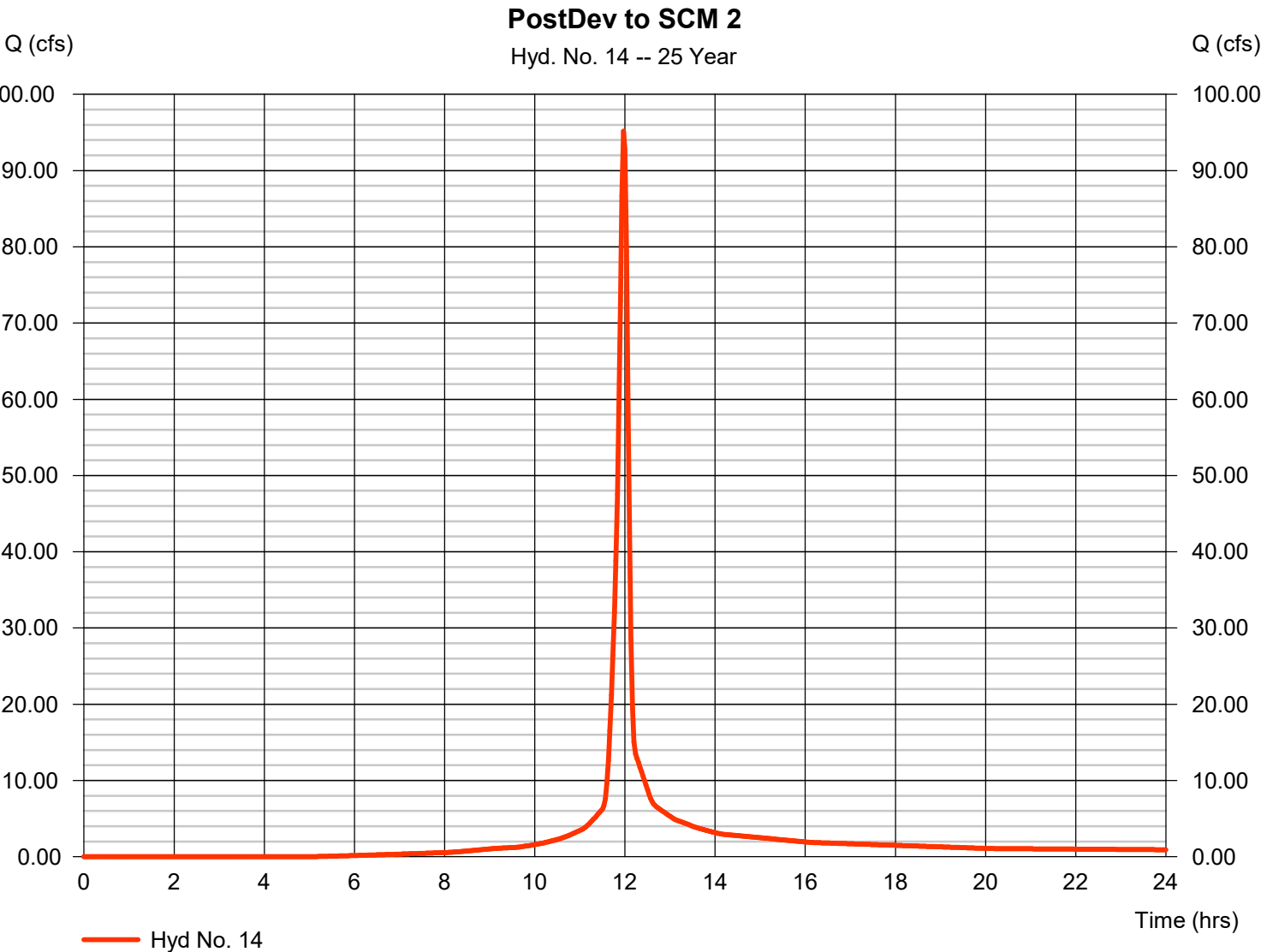
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 14

PostDev to SCM 2

Hydrograph type	= SCS Runoff	Peak discharge	= 95.16 cfs
Storm frequency	= 25 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 223,725 cuft
Drainage area	= 14.480 ac	Curve number	= 84.3
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.10 min
Total precip.	= 6.03 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

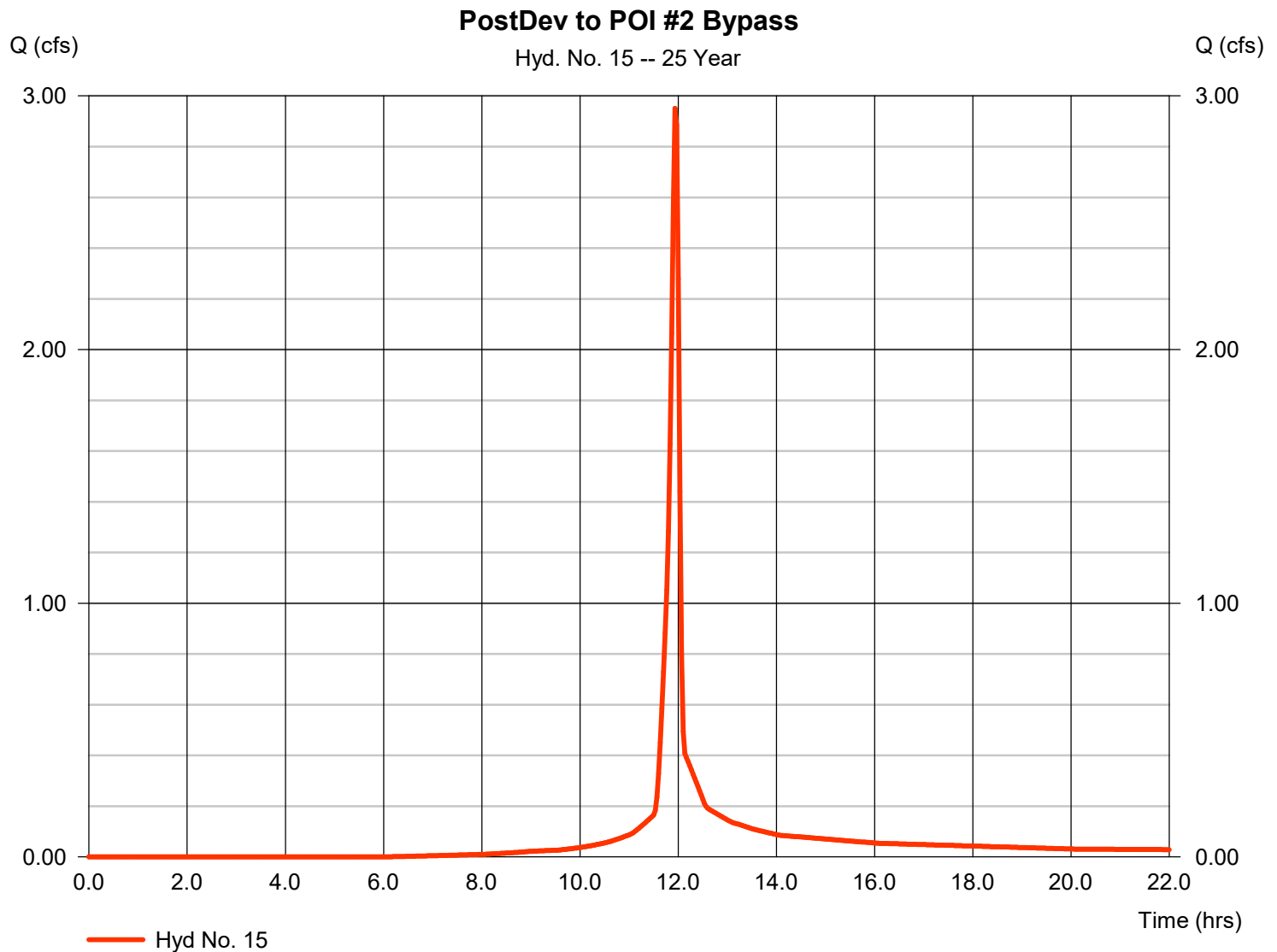
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 15

PostDev to POI #2 Bypass

Hydrograph type	= SCS Runoff	Peak discharge	= 2.951 cfs
Storm frequency	= 25 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 6,074 cuft
Drainage area	= 0.460 ac	Curve number	= 80.7
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.03 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

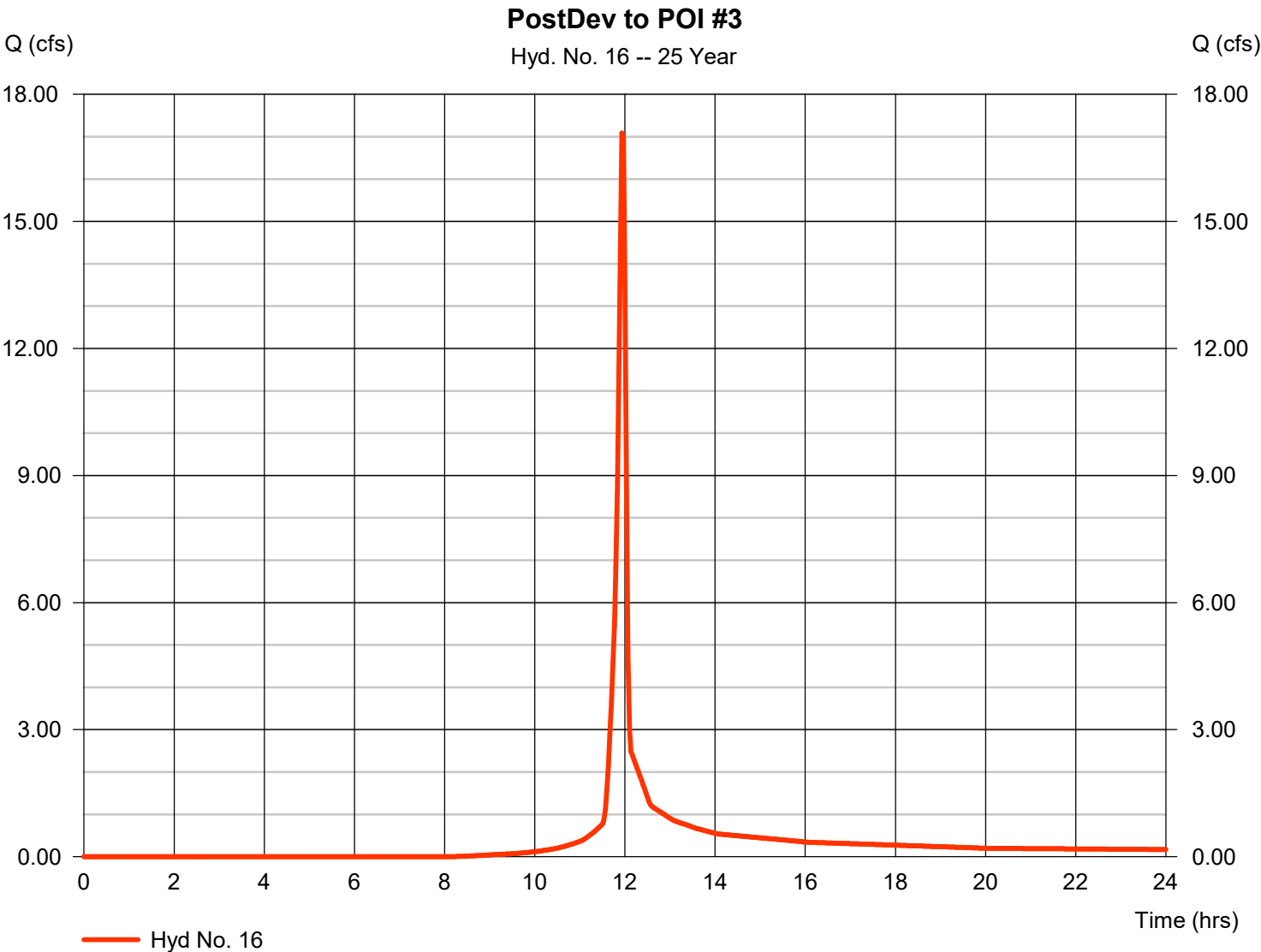
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 16

PostDev to POI #3

Hydrograph type	=	SCS Runoff	Peak discharge	=	17.09 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	34,542 cuft
Drainage area	=	3.240 ac	Curve number	=	73.2
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.70 min
Total precip.	=	6.03 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

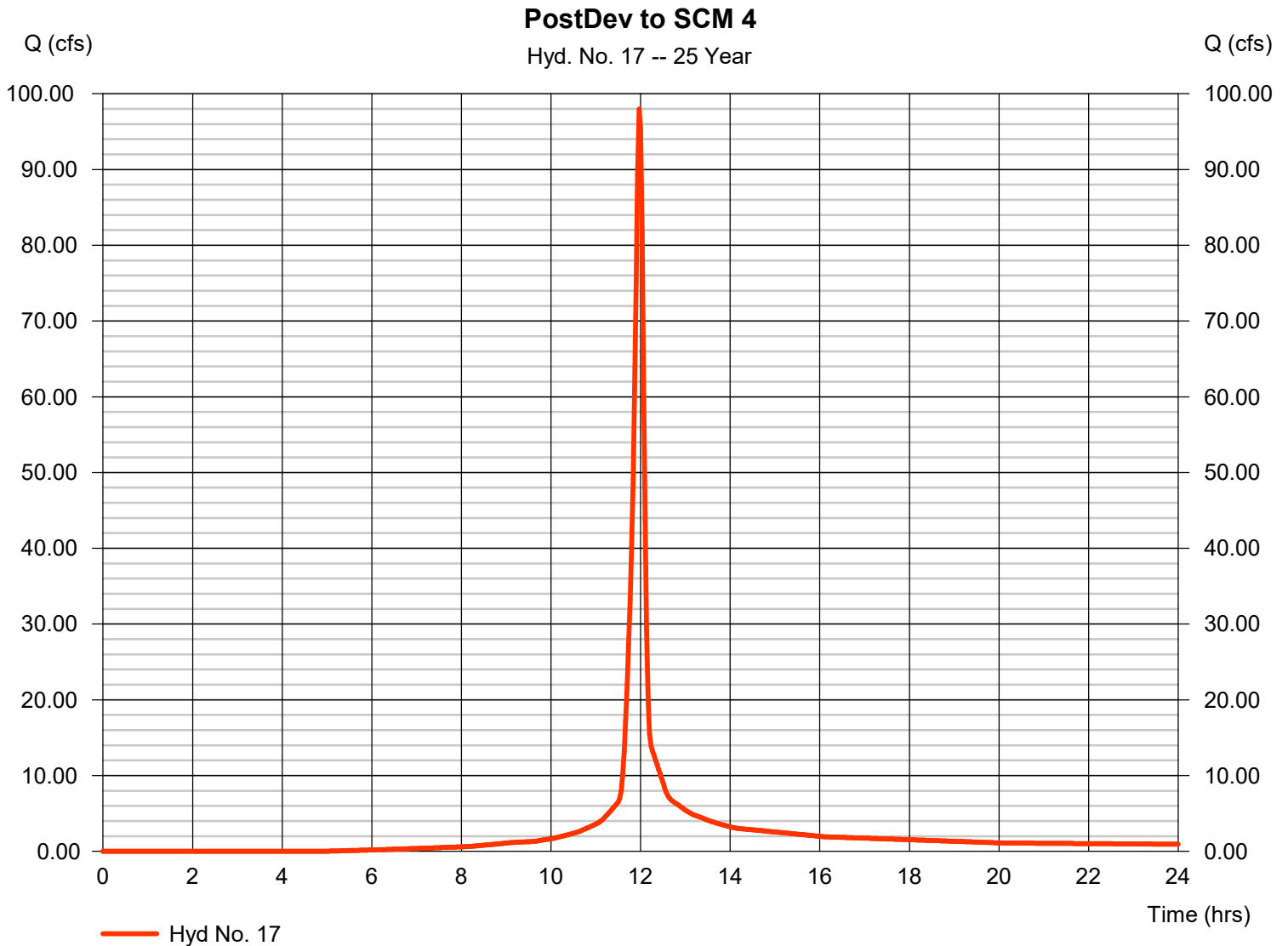
Saturday, 04 / 12 / 2025

Hyd. No. 17

PostDev to SCM 4

Hydrograph type = SCS Runoff
Storm frequency = 25 yrs
Time interval = 2 min
Drainage area = 14.760 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.03 in
Storm duration = 24 hrs

Peak discharge = 97.96 cfs
Time to peak = 11.97 hrs
Hyd. volume = 230,898 cuft
Curve number = 84.8
Hydraulic length = 0 ft
Time of conc. (Tc) = 7.20 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

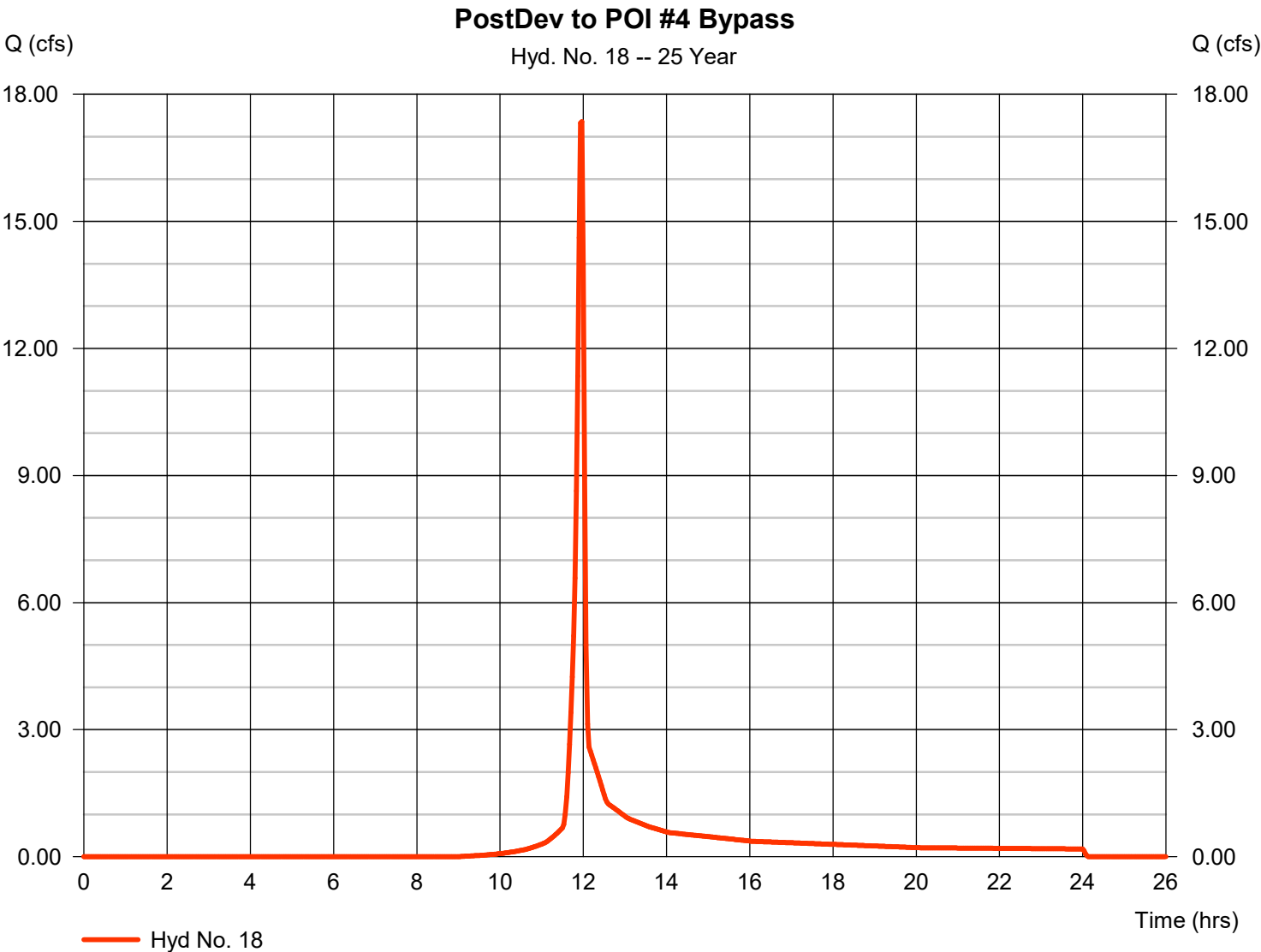
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 18

PostDev to POI #4 Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	17.35 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	34,983 cuft
Drainage area	=	3.670 ac	Curve number	=	69.7
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.03 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

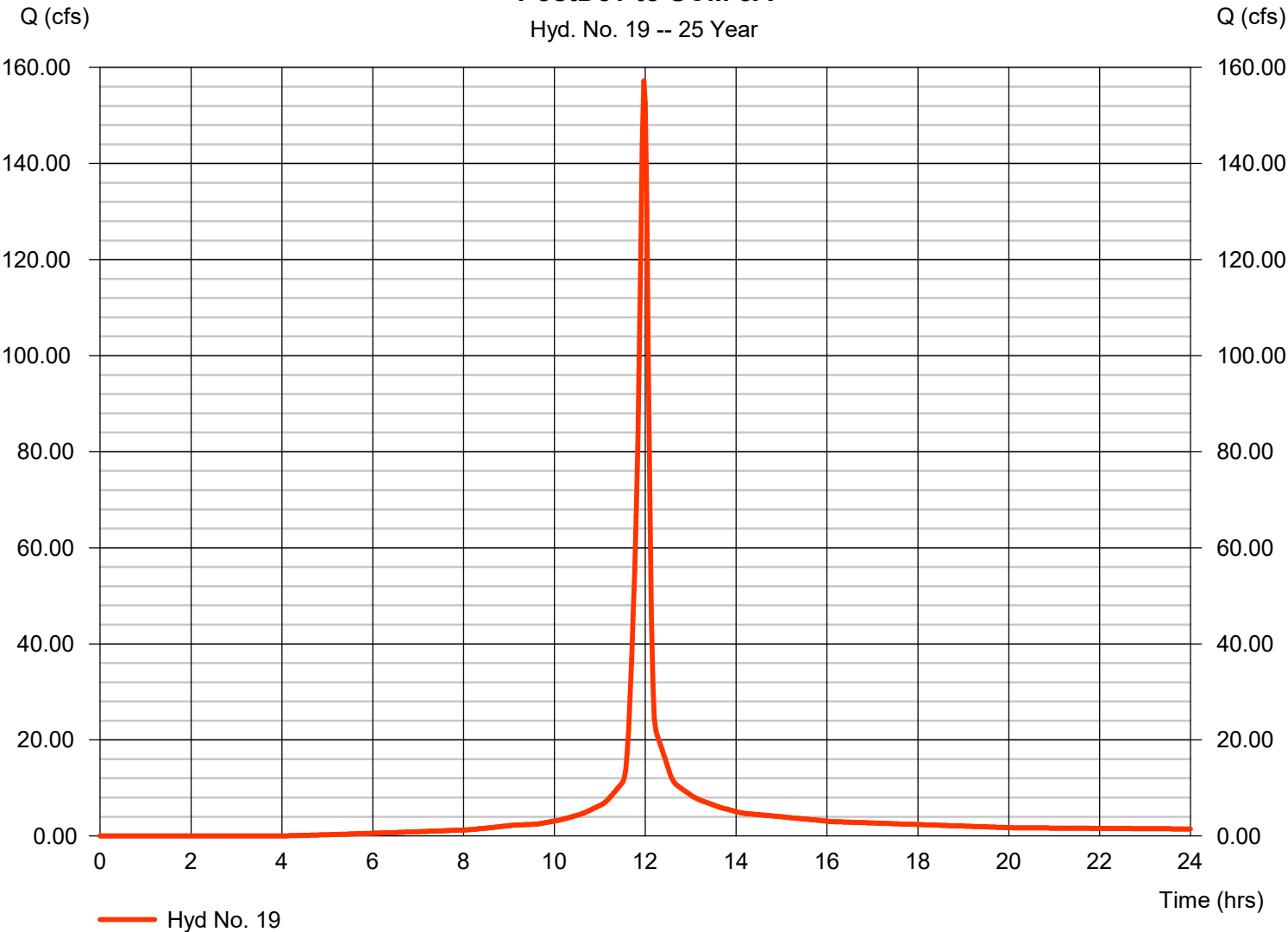
Hyd. No. 19

PostDev to SCM 5A

Hydrograph type	=	SCS Runoff	Peak discharge	=	157.19 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	377,049 cuft
Drainage area	=	22.420 ac	Curve number	=	87.8
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	9.10 min
Total precip.	=	6.03 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

PostDev to SCM 5A

Hyd. No. 19 -- 25 Year



Hydrograph Report

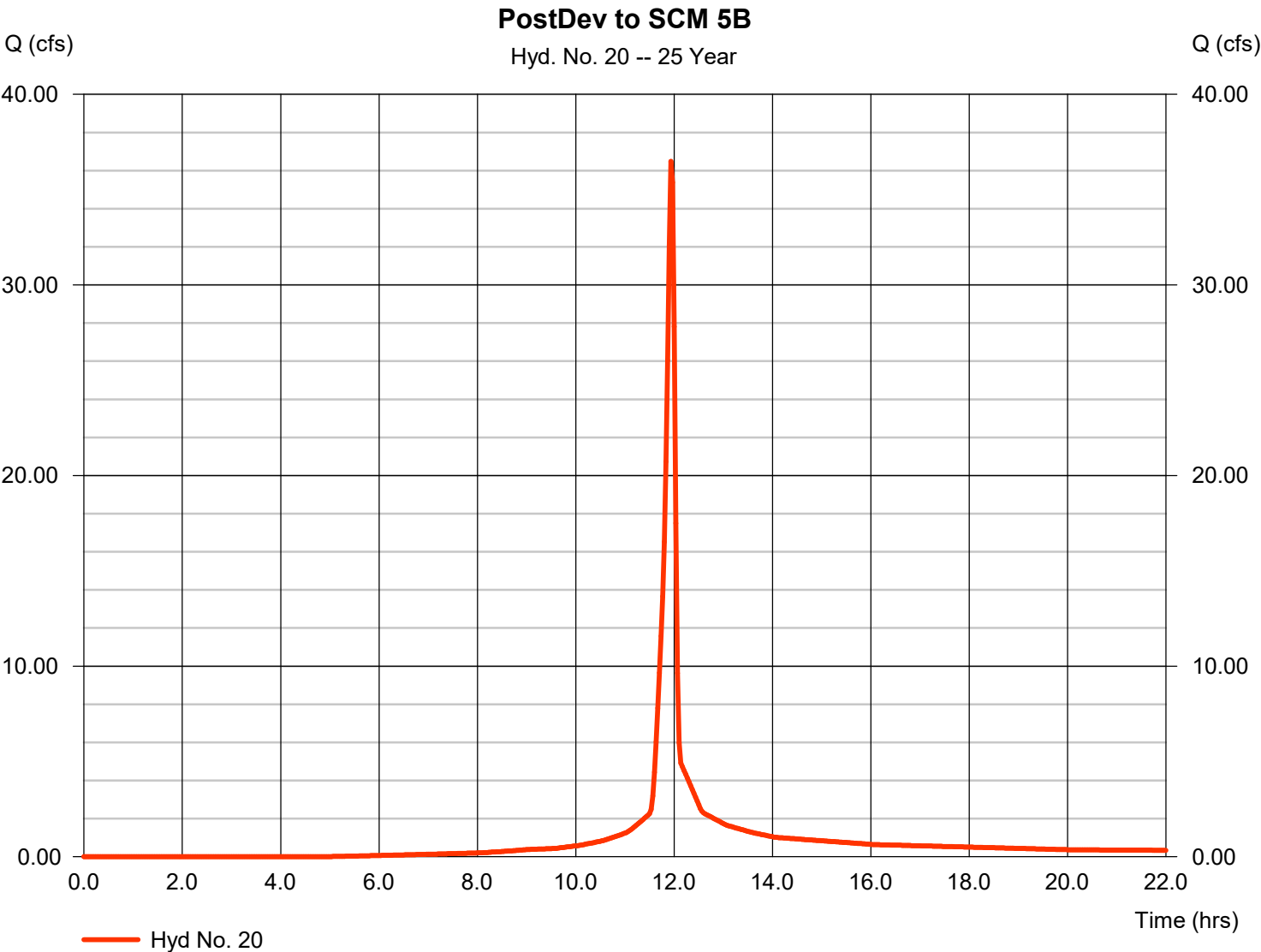
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 20

PostDev to SCM 5B

Hydrograph type	=	SCS Runoff	Peak discharge	=	36.48 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	76,555 cuft
Drainage area	=	5.220 ac	Curve number	=	84.8
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.03 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

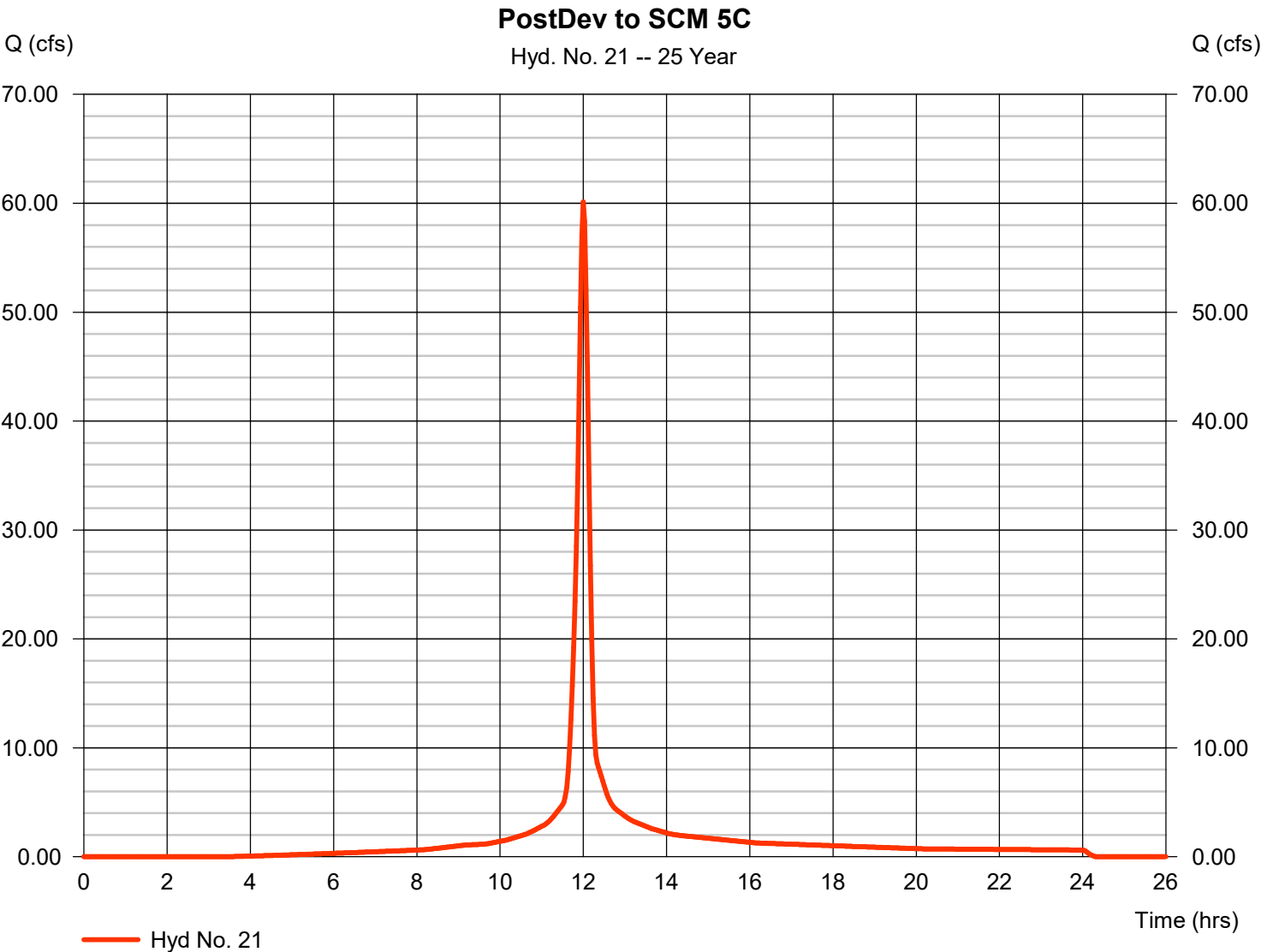
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 21

PostDev to SCM 5C

Hydrograph type	= SCS Runoff	Peak discharge	= 60.12 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 164,018 cuft
Drainage area	= 9.070 ac	Curve number	= 89.6
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 12.80 min
Total precip.	= 6.03 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

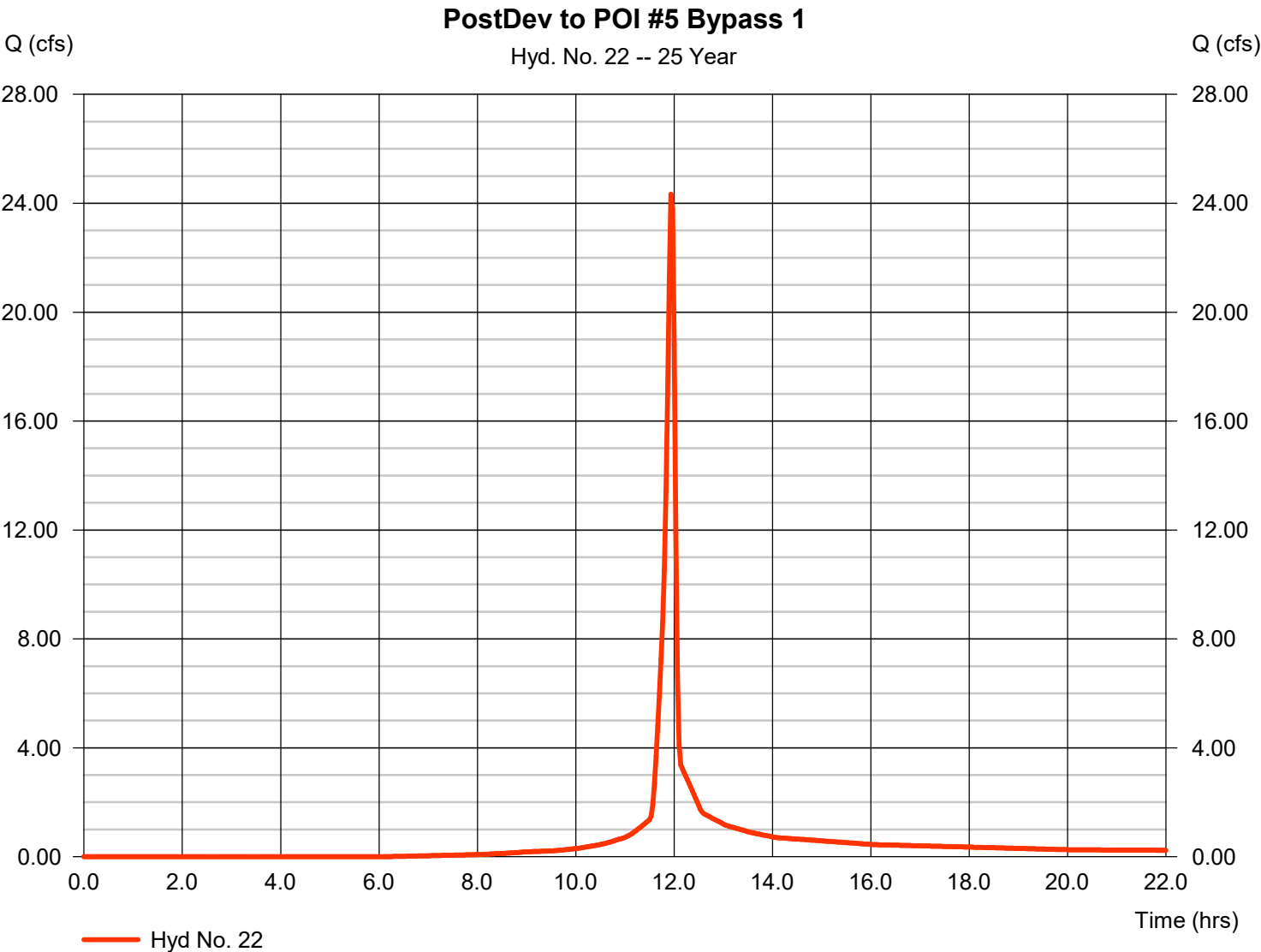
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 22

PostDev to POI #5 Bypass 1

Hydrograph type	=	SCS Runoff	Peak discharge	=	24.33 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	50,043 cuft
Drainage area	=	3.810 ac	Curve number	=	80.5
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.03 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

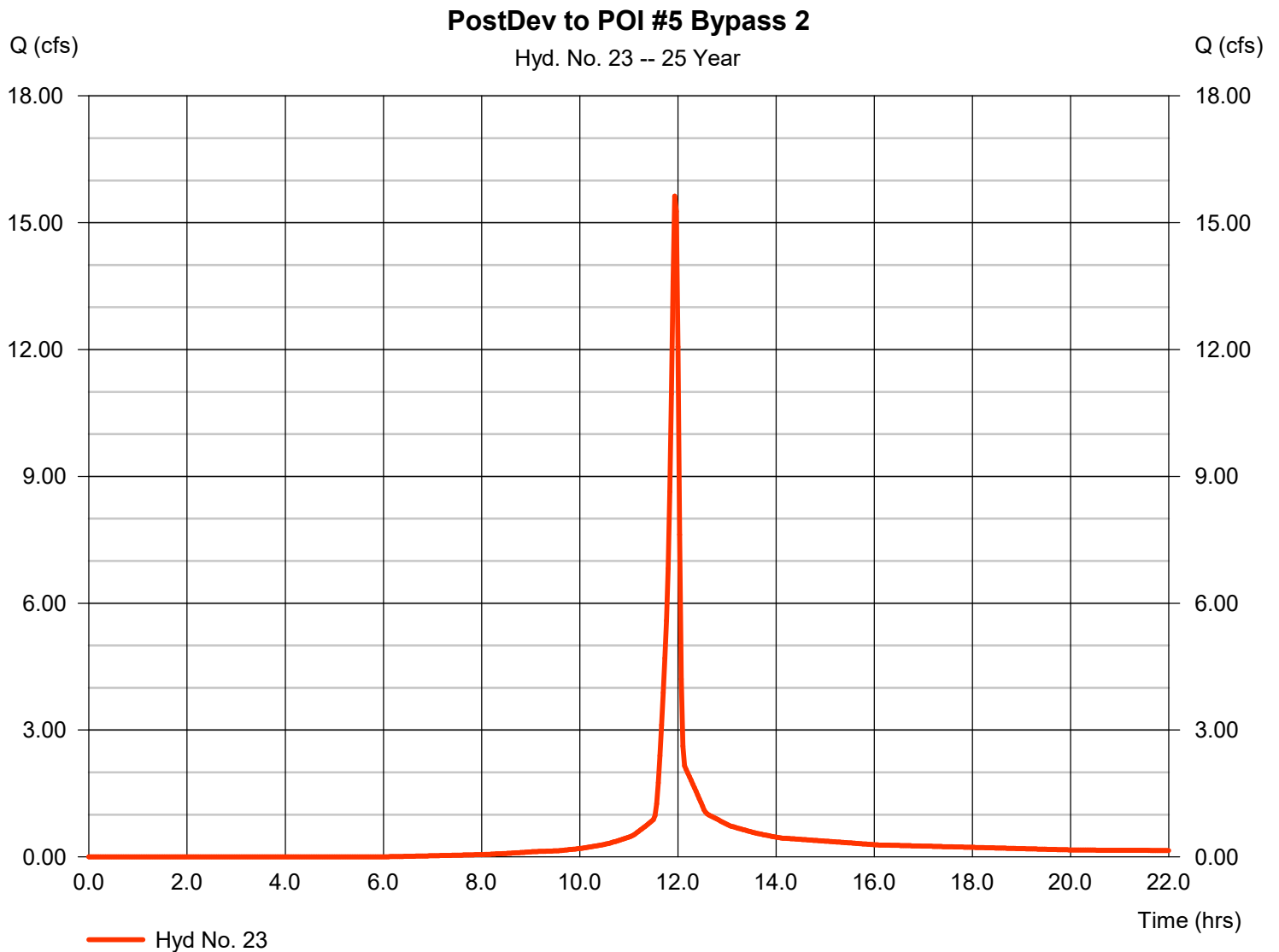
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 23

PostDev to POI #5 Bypass 2

Hydrograph type	= SCS Runoff	Peak discharge	= 15.63 cfs
Storm frequency	= 25 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 32,210 cuft
Drainage area	= 2.420 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.03 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

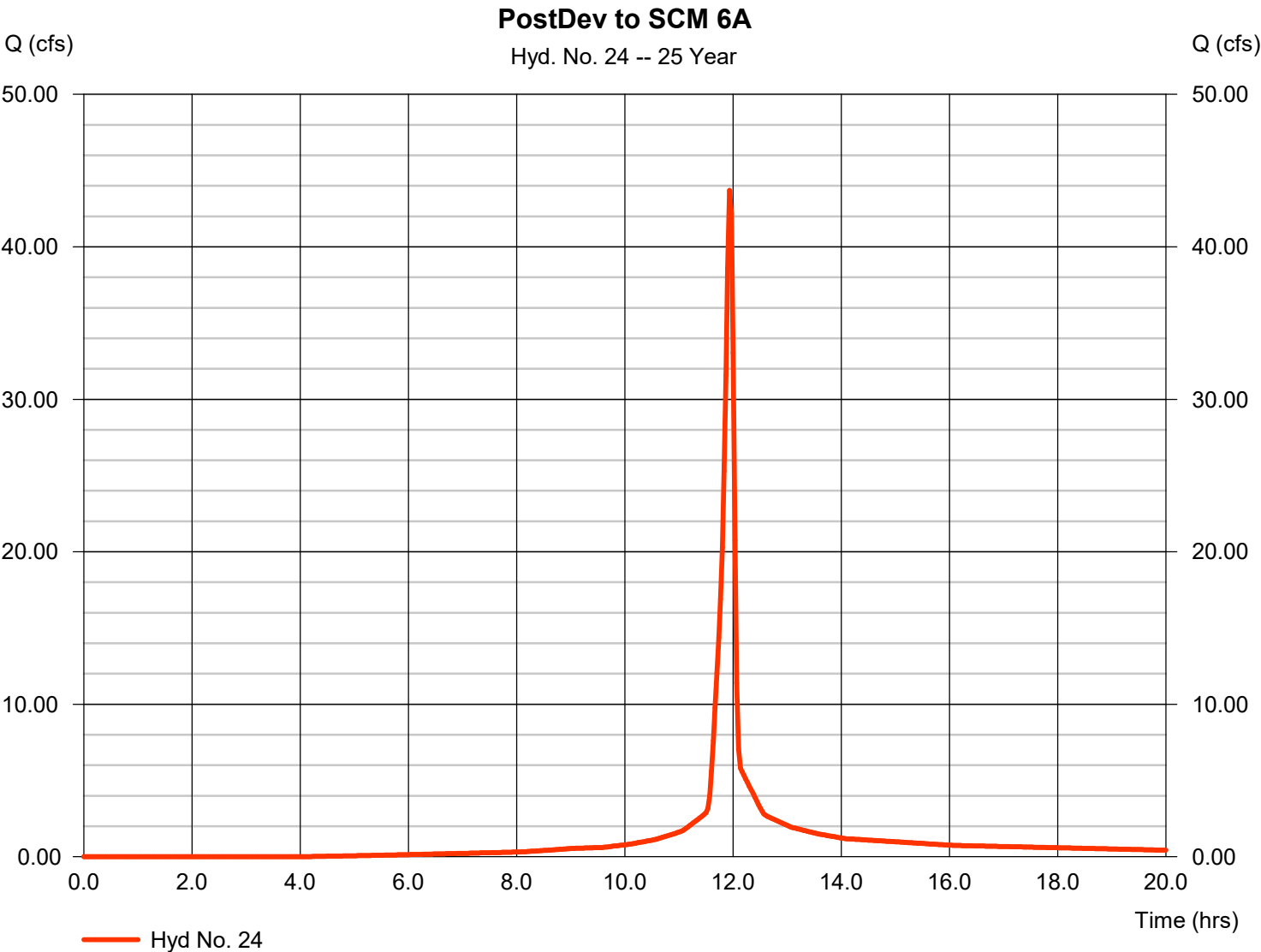
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 24

PostDev to SCM 6A

Hydrograph type	= SCS Runoff	Peak discharge	= 43.71 cfs
Storm frequency	= 25 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 93,369 cuft
Drainage area	= 5.950 ac	Curve number	= 87.6
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.03 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

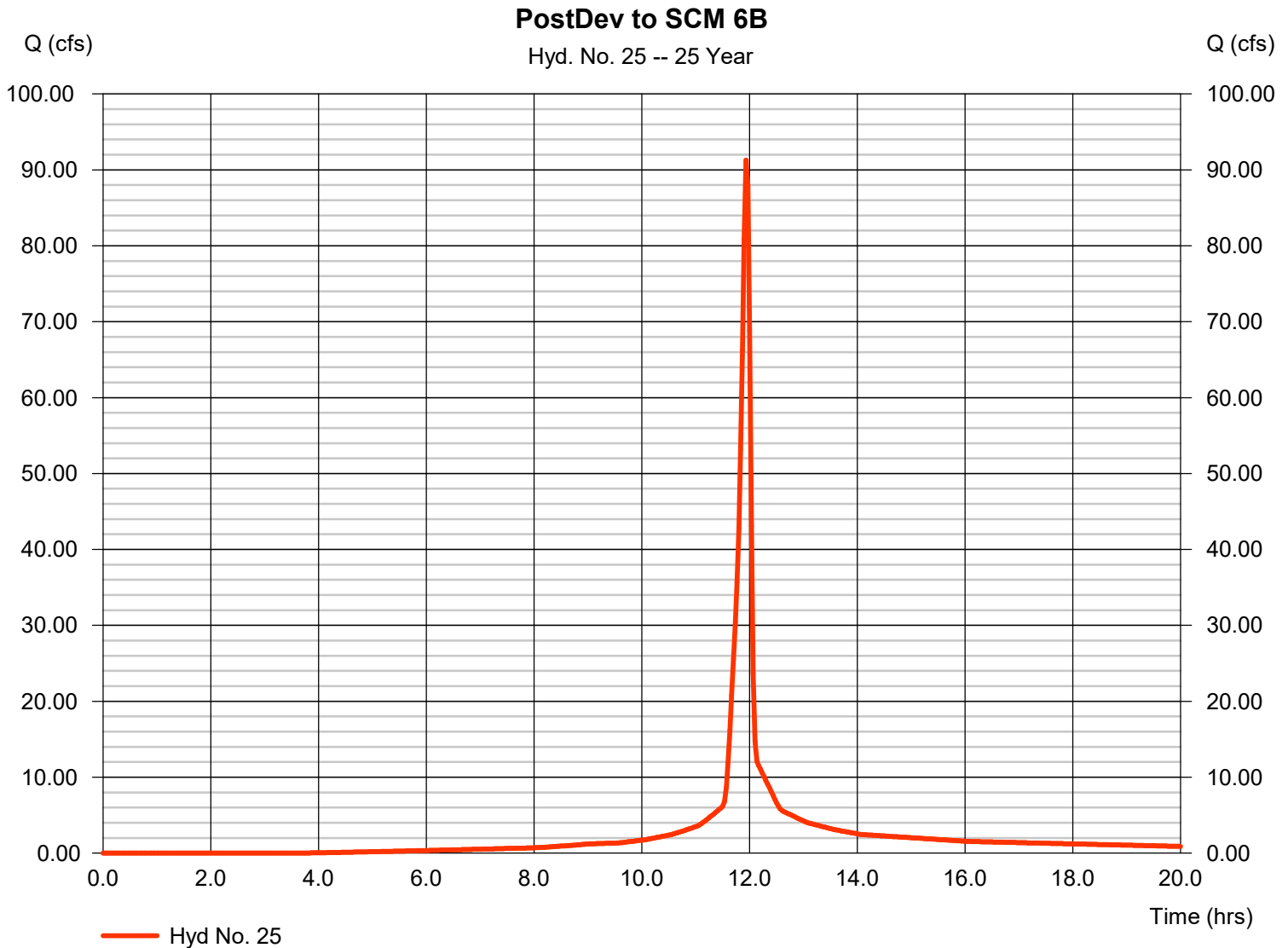
Saturday, 04 / 12 / 2025

Hyd. No. 25

PostDev to SCM 6B

Hydrograph type = SCS Runoff
Storm frequency = 25 yrs
Time interval = 2 min
Drainage area = 12.210 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.03 in
Storm duration = 24 hrs

Peak discharge = 91.27 cfs
Time to peak = 11.93 hrs
Hyd. volume = 196,604 cuft
Curve number = 88.7
Hydraulic length = 0 ft
Time of conc. (Tc) = 6.30 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

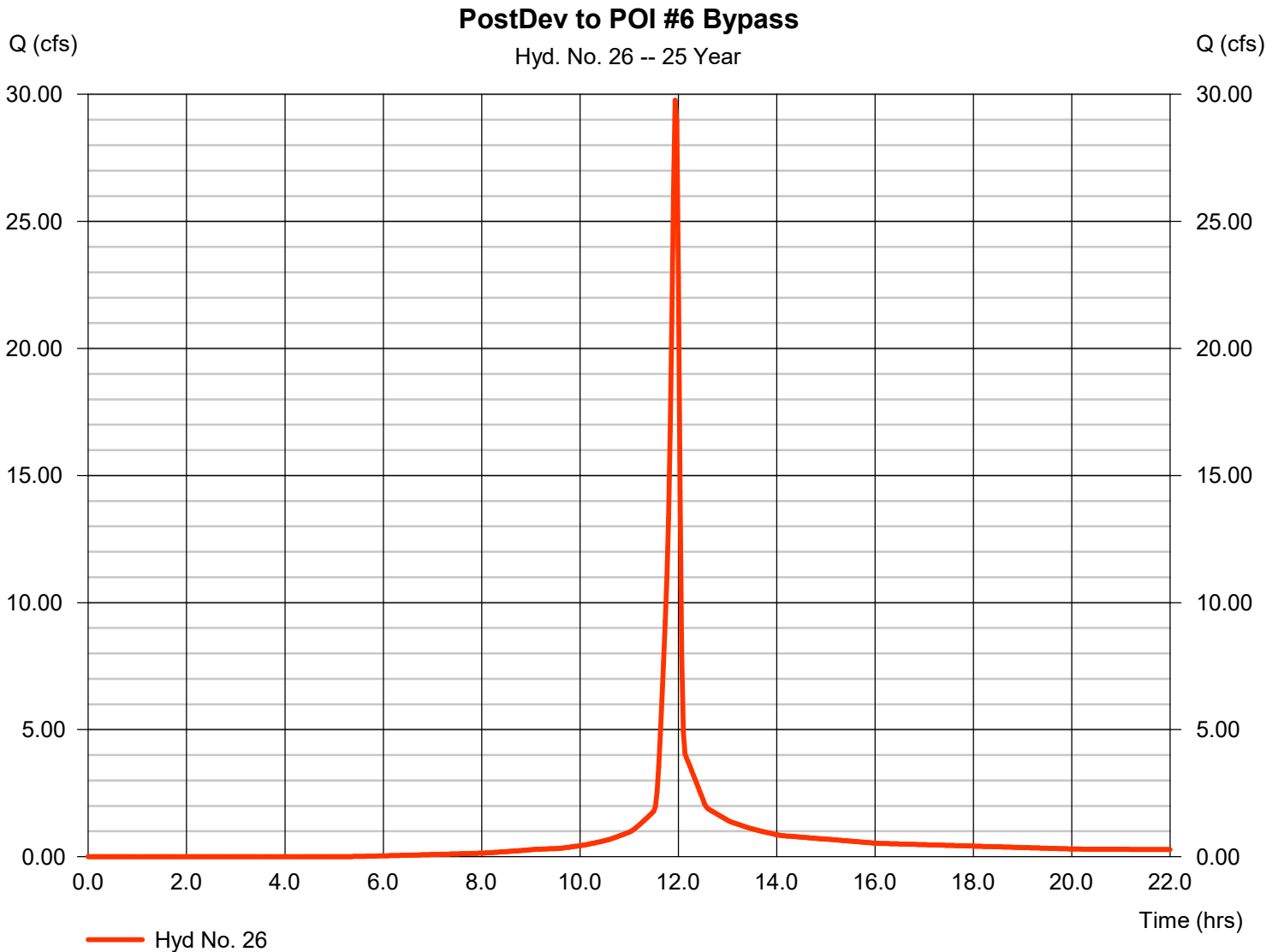
Saturday, 04 / 12 / 2025

Hyd. No. 26

PostDev to POI #6 Bypass

Hydrograph type = SCS Runoff
Storm frequency = 25 yrs
Time interval = 2 min
Drainage area = 4.370 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.03 in
Storm duration = 24 hrs

Peak discharge = 29.77 cfs
Time to peak = 11.93 hrs
Hyd. volume = 62,042 cuft
Curve number = 83.5
Hydraulic length = 0 ft
Time of conc. (Tc) = 5.00 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

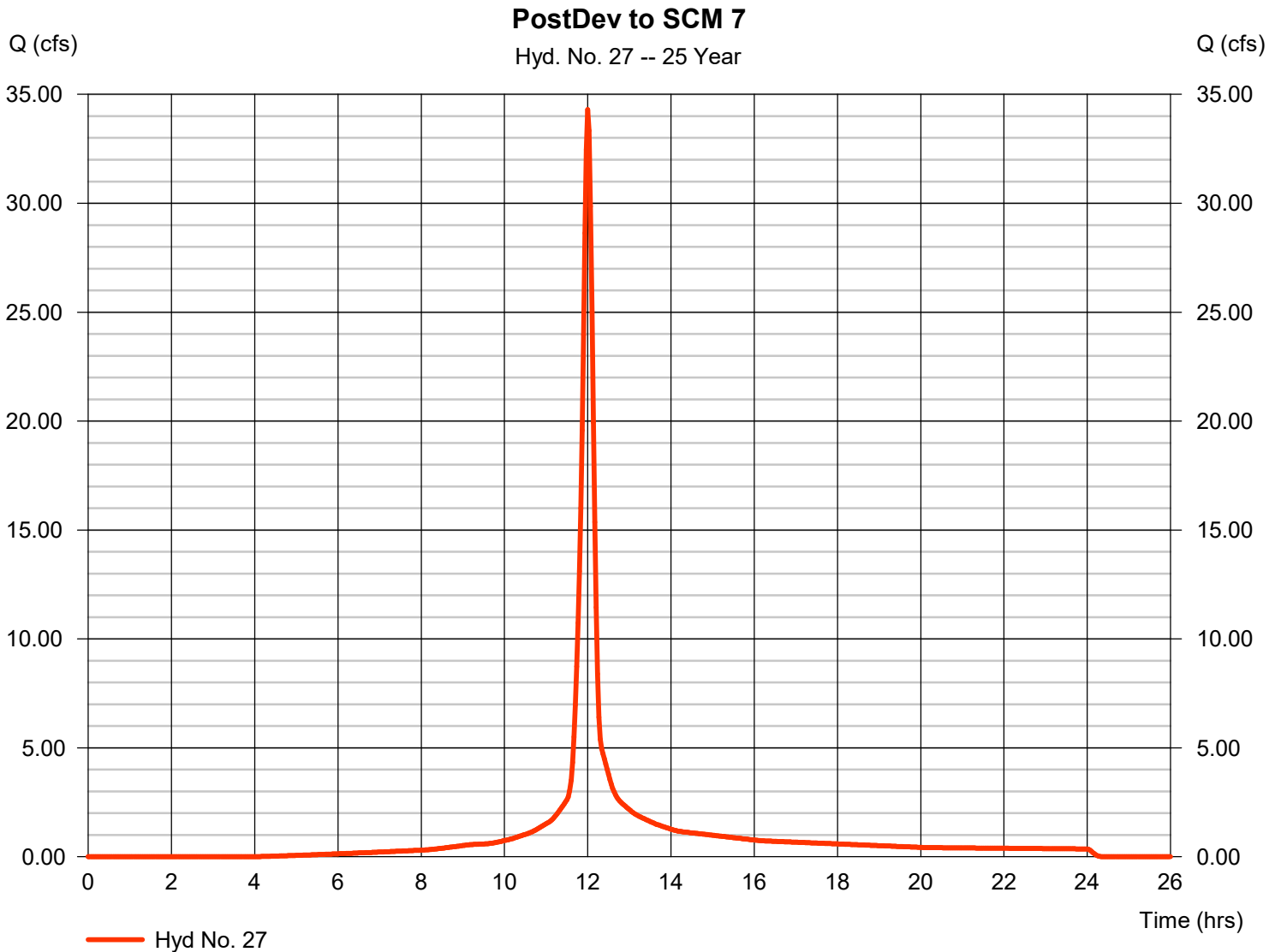
Saturday, 04 / 12 / 2025

Hyd. No. 27

PostDev to SCM 7

Hydrograph type = SCS Runoff
Storm frequency = 25 yrs
Time interval = 2 min
Drainage area = 5.330 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.03 in
Storm duration = 24 hrs

Peak discharge = 34.30 cfs
Time to peak = 12.00 hrs
Hyd. volume = 92,439 cuft
Curve number = 87.8
Hydraulic length = 0 ft
Time of conc. (Tc) = 12.40 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

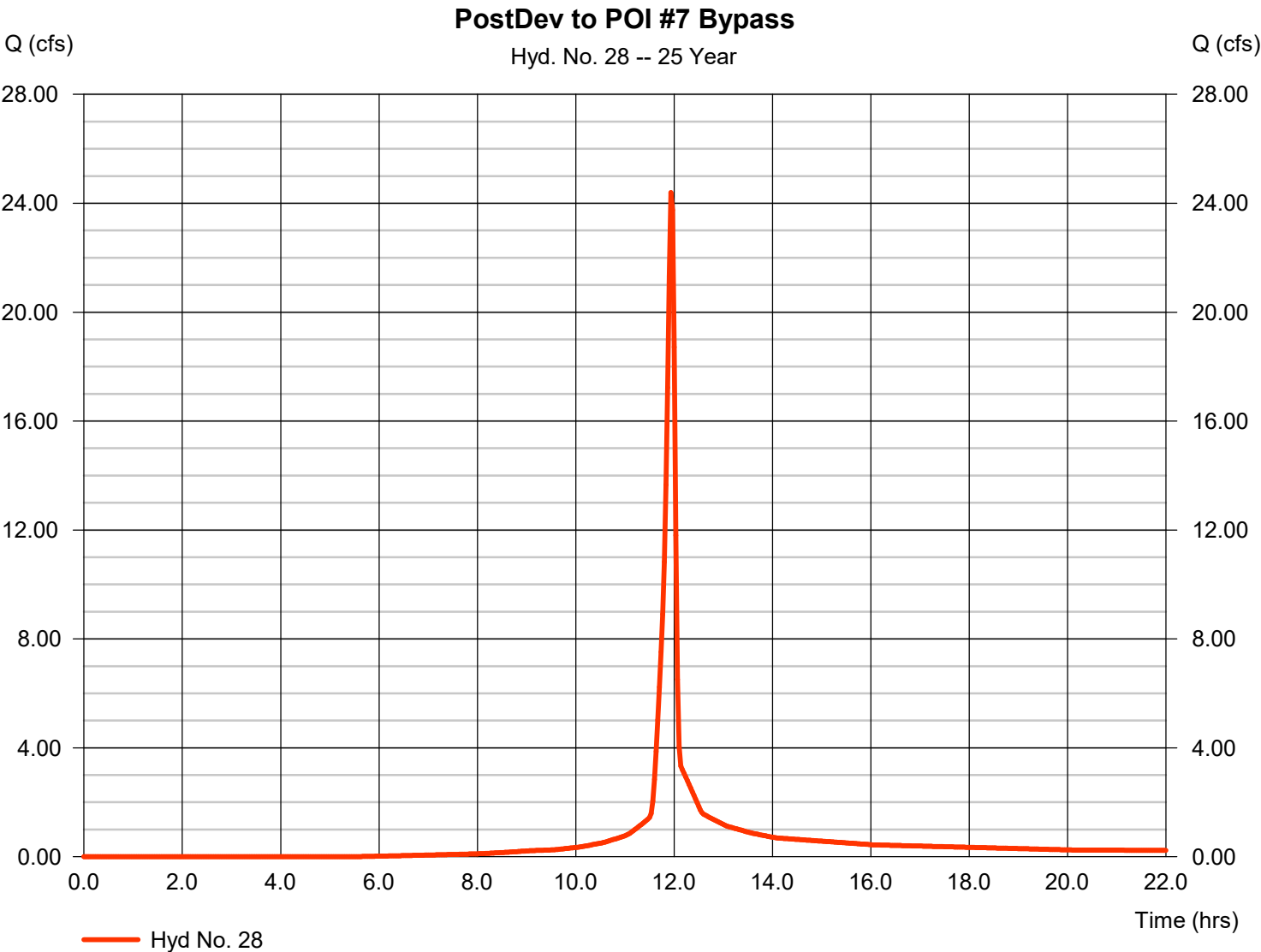
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 28

PostDev to POI #7 Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	24.39 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	50,637 cuft
Drainage area	=	3.640 ac	Curve number	=	82.7
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.03 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

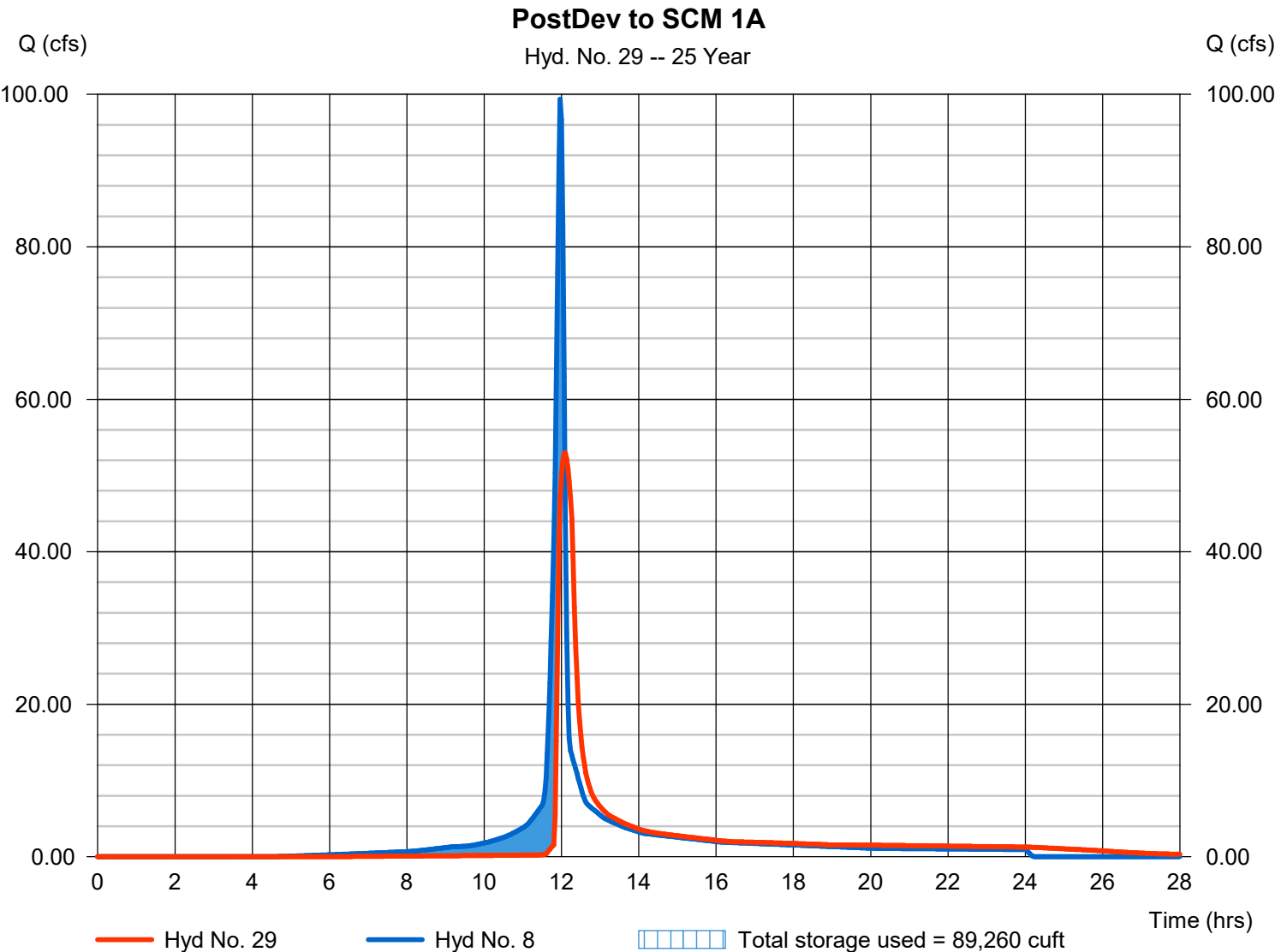
Saturday, 04 / 12 / 2025

Hyd. No. 29

PostDev to SCM 1A

Hydrograph type	= Reservoir	Peak discharge	= 52.98 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 235,046 cuft
Inflow hyd. No.	= 8 - PostDev to SCM 1A	Max. Elevation	= 352.50 ft
Reservoir name	= SCM 1A	Max. Storage	= 89,260 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

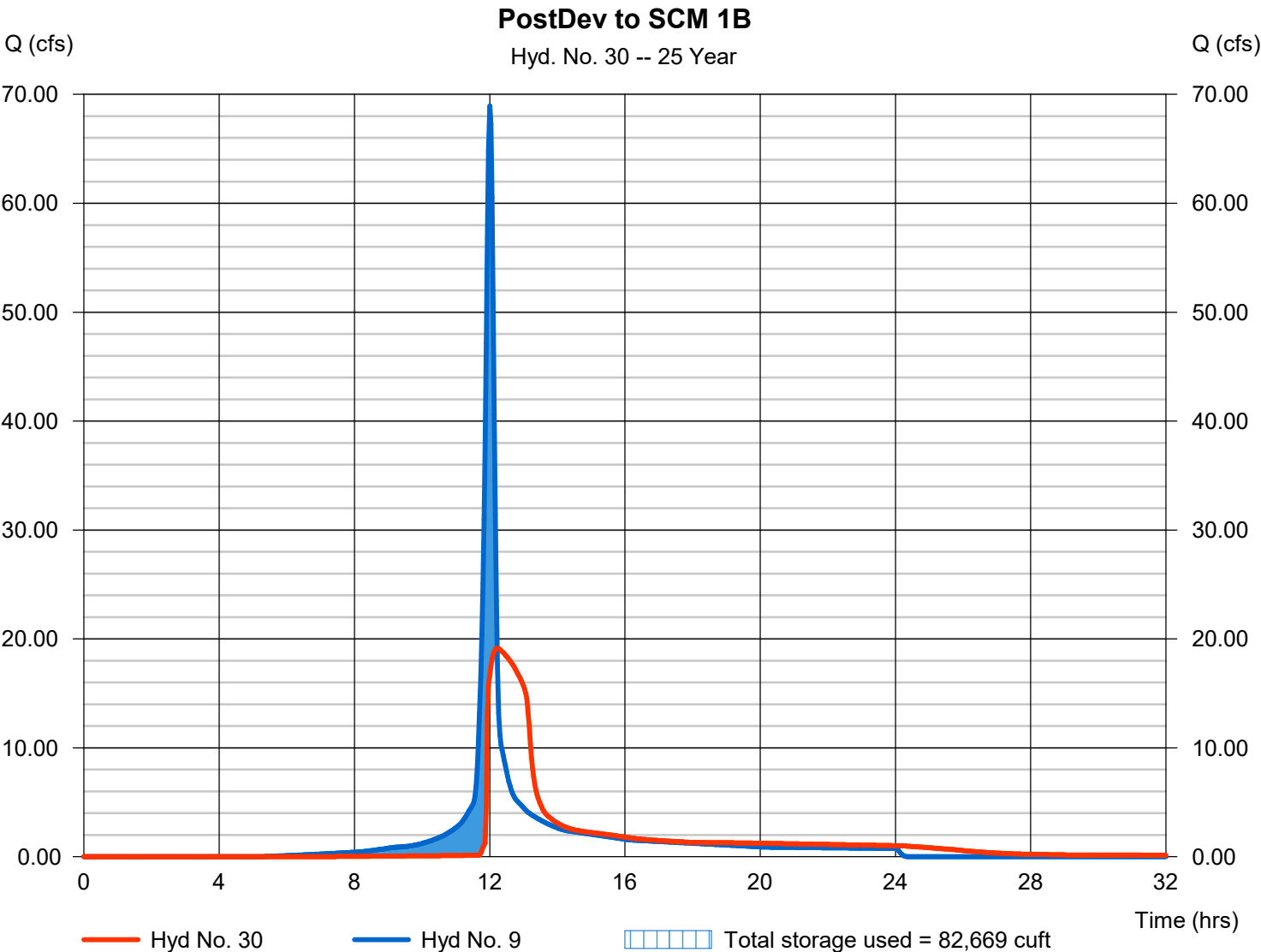
Saturday, 04 / 12 / 2025

Hyd. No. 30

PostDev to SCM 1B

Hydrograph type	= Reservoir	Peak discharge	= 19.13 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.23 hrs
Time interval	= 2 min	Hyd. volume	= 179,837 cuft
Inflow hyd. No.	= 9 - PostDev to SCM 1B	Max. Elevation	= 380.87 ft
Reservoir name	= SCM 1B	Max. Storage	= 82,669 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

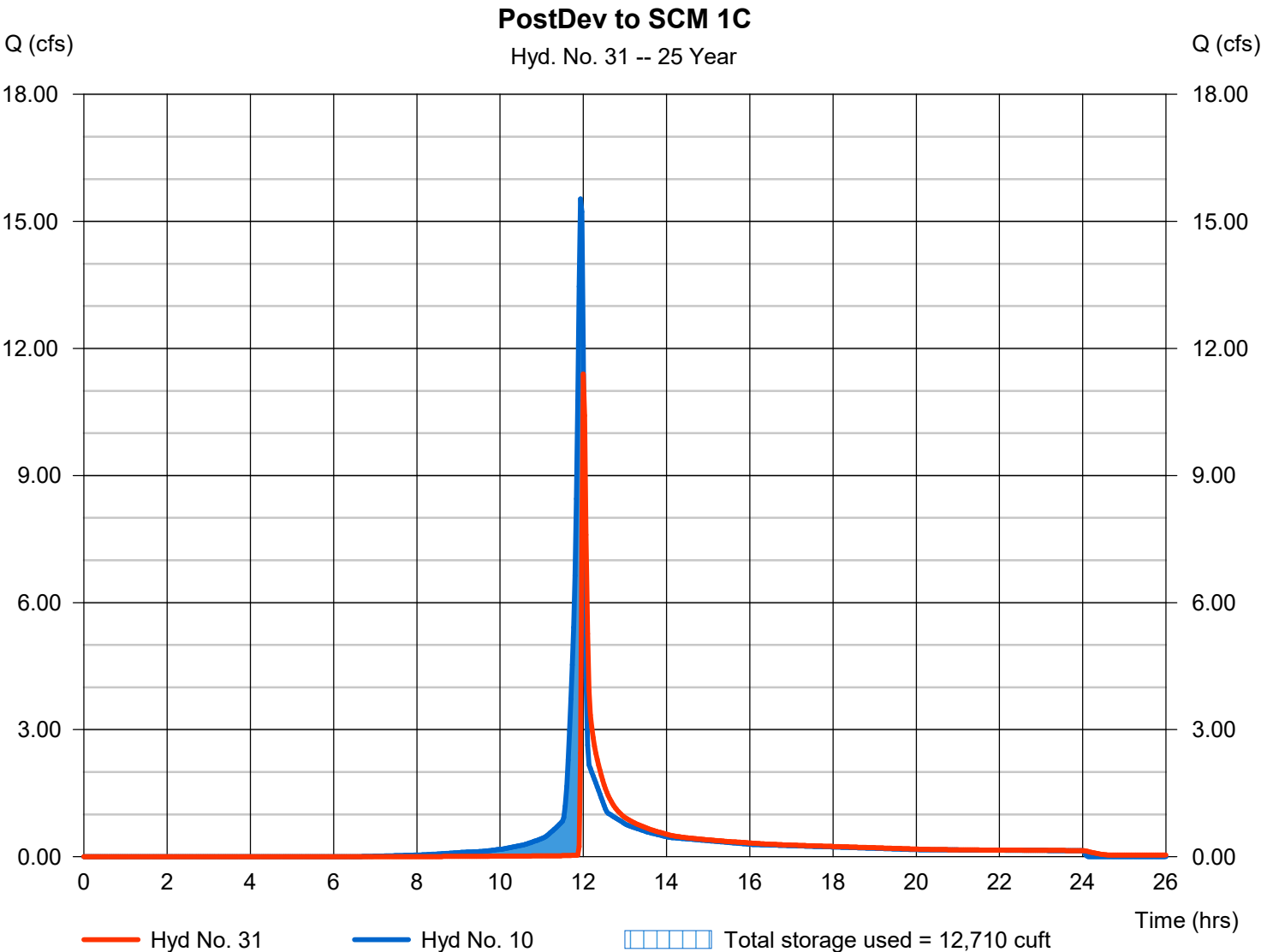
Saturday, 04 / 12 / 2025

Hyd. No. 31

PostDev to SCM 1C

Hydrograph type	= Reservoir	Peak discharge	= 11.40 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 30,391 cuft
Inflow hyd. No.	= 10 - PostDev to SCM 1C	Max. Elevation	= 363.74 ft
Reservoir name	= SCM 1C	Max. Storage	= 12,710 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

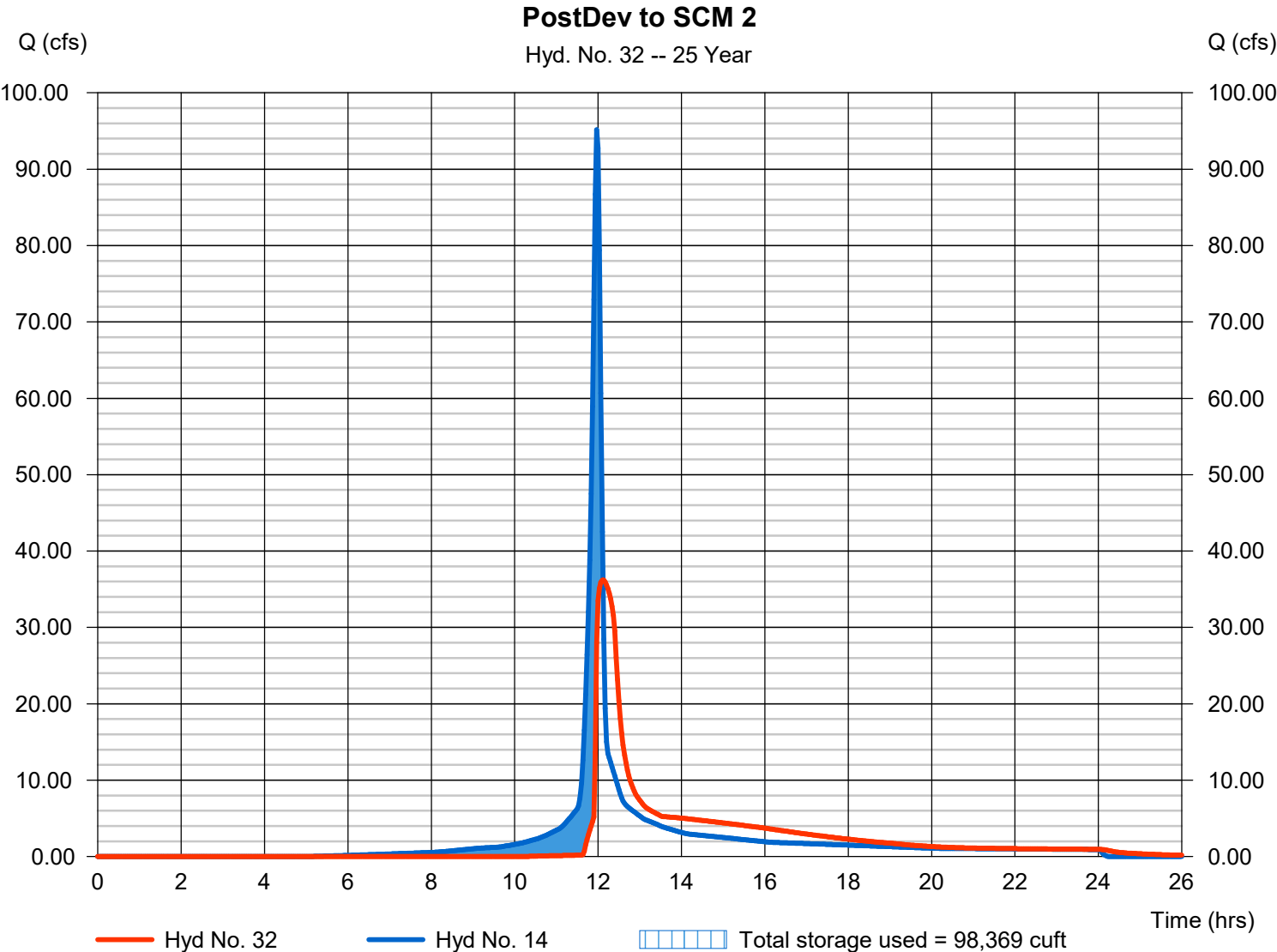
Saturday, 04 / 12 / 2025

Hyd. No. 32

PostDev to SCM 2

Hydrograph type	= Reservoir	Peak discharge	= 36.21 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 212,630 cuft
Inflow hyd. No.	= 14 - PostDev to SCM 2	Max. Elevation	= 357.80 ft
Reservoir name	= SCM 2	Max. Storage	= 98,369 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

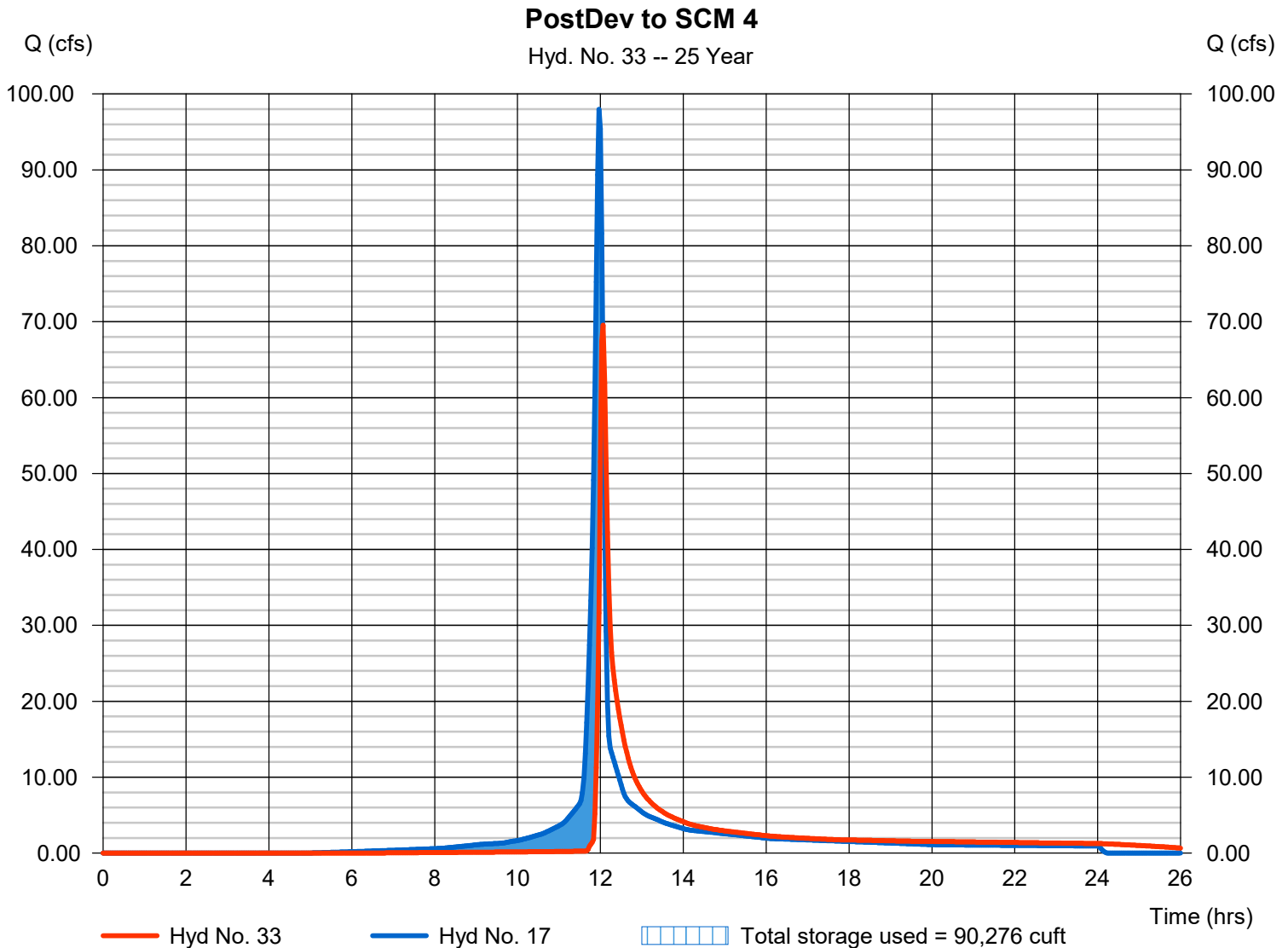
Saturday, 04 / 12 / 2025

Hyd. No. 33

PostDev to SCM 4

Hydrograph type	= Reservoir	Peak discharge	= 69.53 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 230,401 cuft
Inflow hyd. No.	= 17 - PostDev to SCM 4	Max. Elevation	= 368.28 ft
Reservoir name	= SCM 4	Max. Storage	= 90,276 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

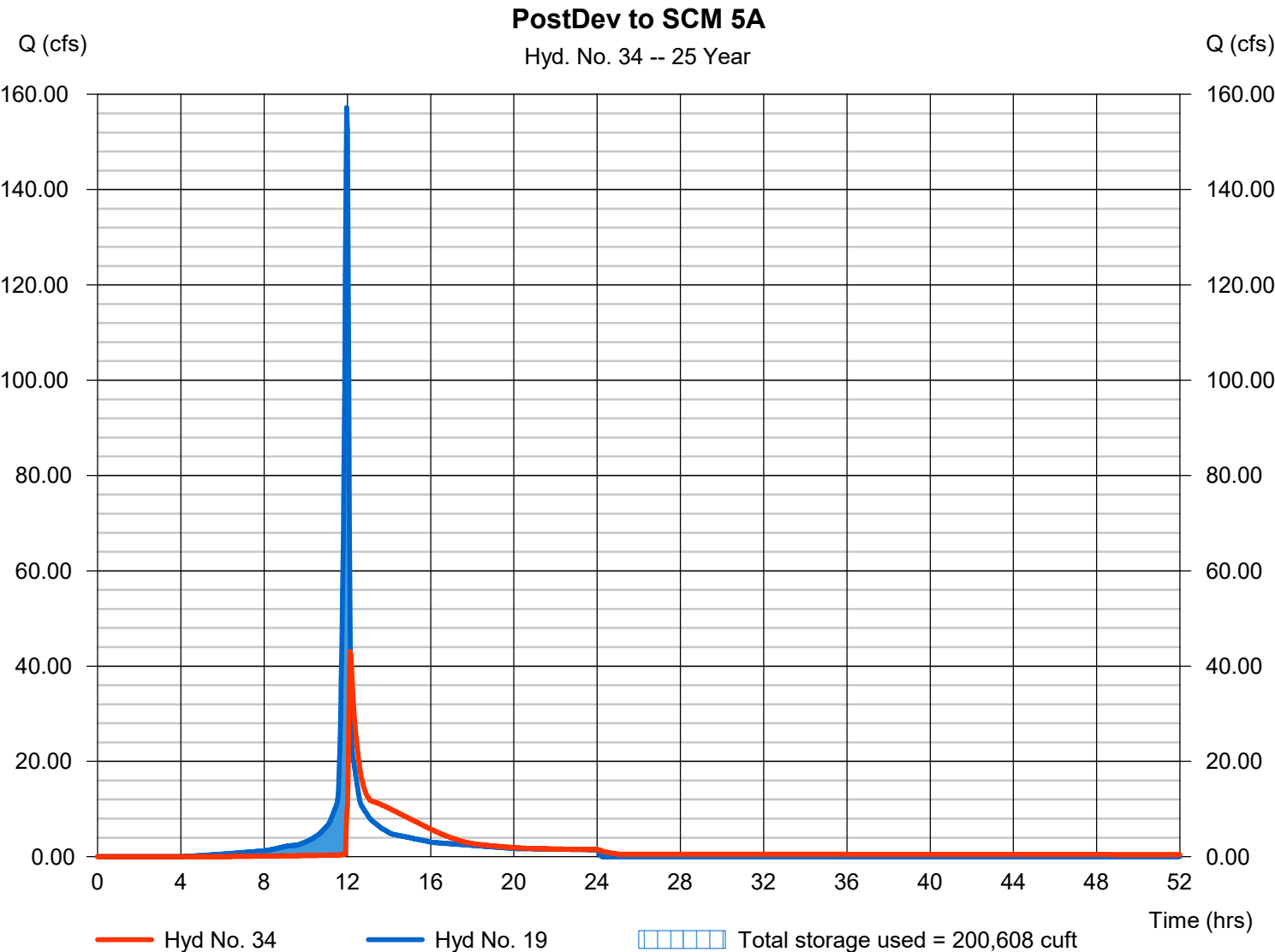
Saturday, 04 / 12 / 2025

Hyd. No. 34

PostDev to SCM 5A

Hydrograph type	= Reservoir	Peak discharge	= 43.07 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 358,068 cuft
Inflow hyd. No.	= 19 - PostDev to SCM 5A	Max. Elevation	= 327.49 ft
Reservoir name	= SCM 5A	Max. Storage	= 200,608 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

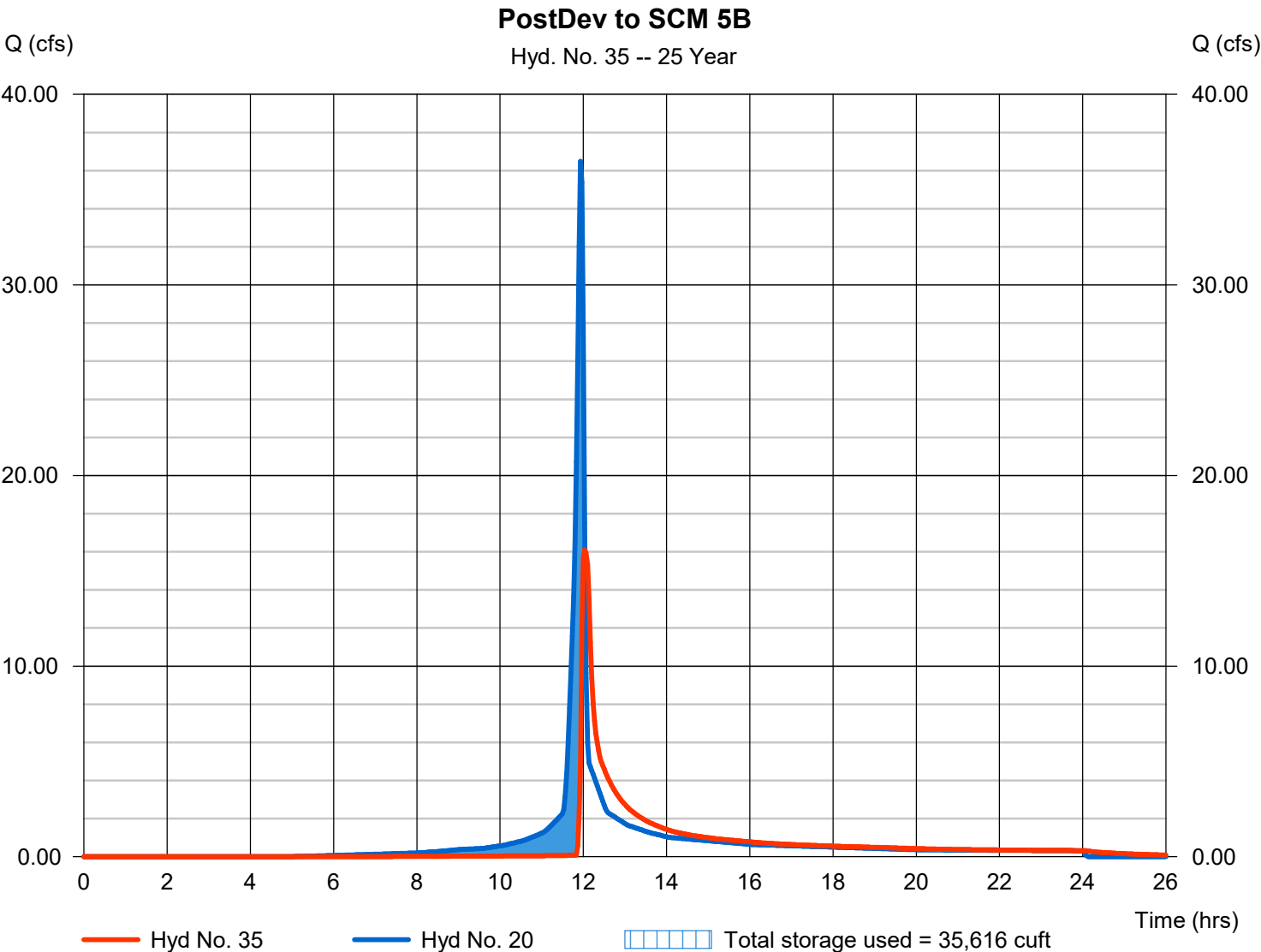
Saturday, 04 / 12 / 2025

Hyd. No. 35

PostDev to SCM 5B

Hydrograph type	= Reservoir	Peak discharge	= 16.10 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.03 hrs
Time interval	= 2 min	Hyd. volume	= 72,833 cuft
Inflow hyd. No.	= 20 - PostDev to SCM 5B	Max. Elevation	= 309.62 ft
Reservoir name	= SCM 5B	Max. Storage	= 35,616 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

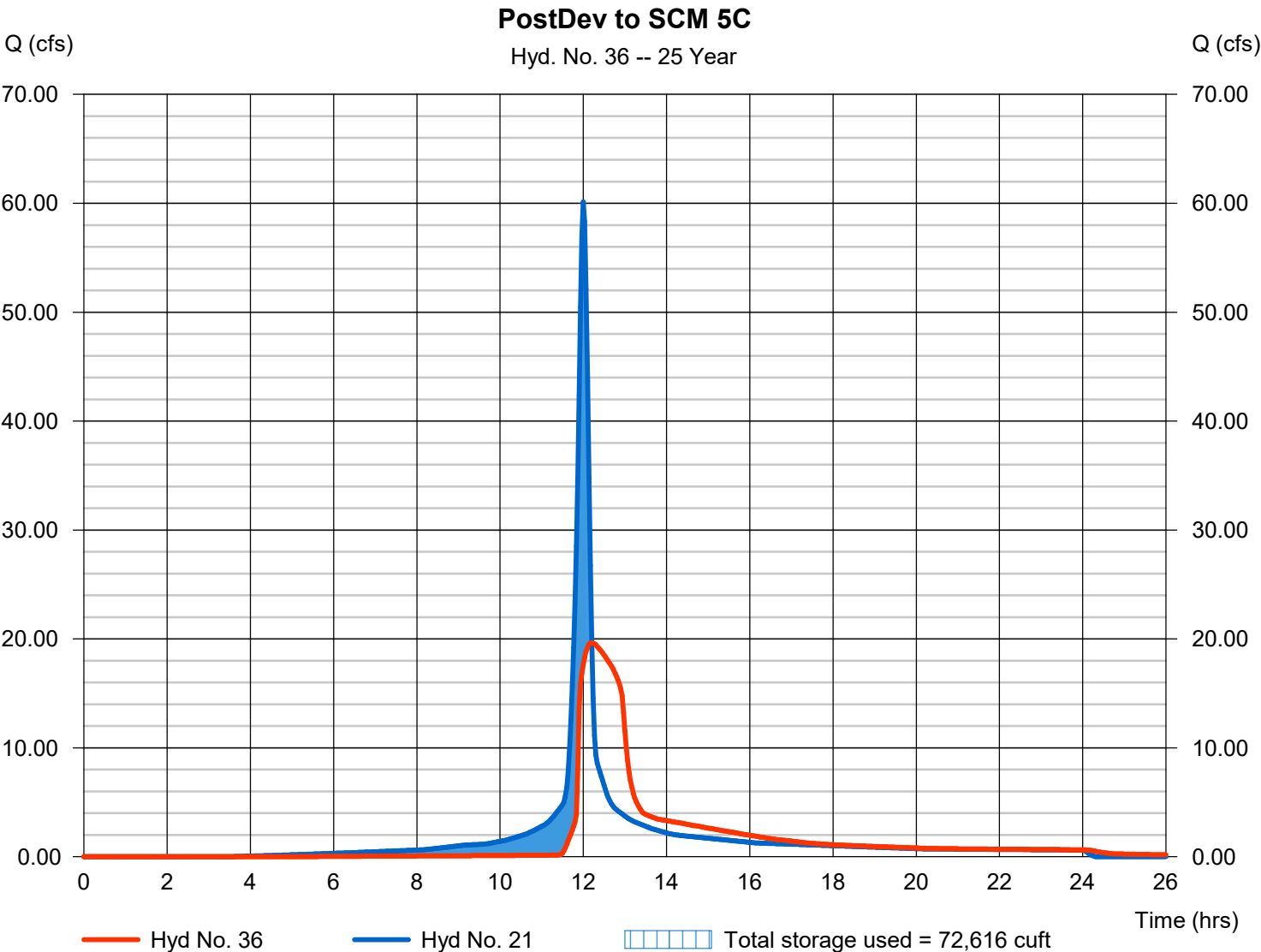
Saturday, 04 / 12 / 2025

Hyd. No. 36

PostDev to SCM 5C

Hydrograph type	= Reservoir	Peak discharge	= 19.65 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 163,258 cuft
Inflow hyd. No.	= 21 - PostDev to SCM 5C	Max. Elevation	= 297.13 ft
Reservoir name	= SCM 5C	Max. Storage	= 72,616 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

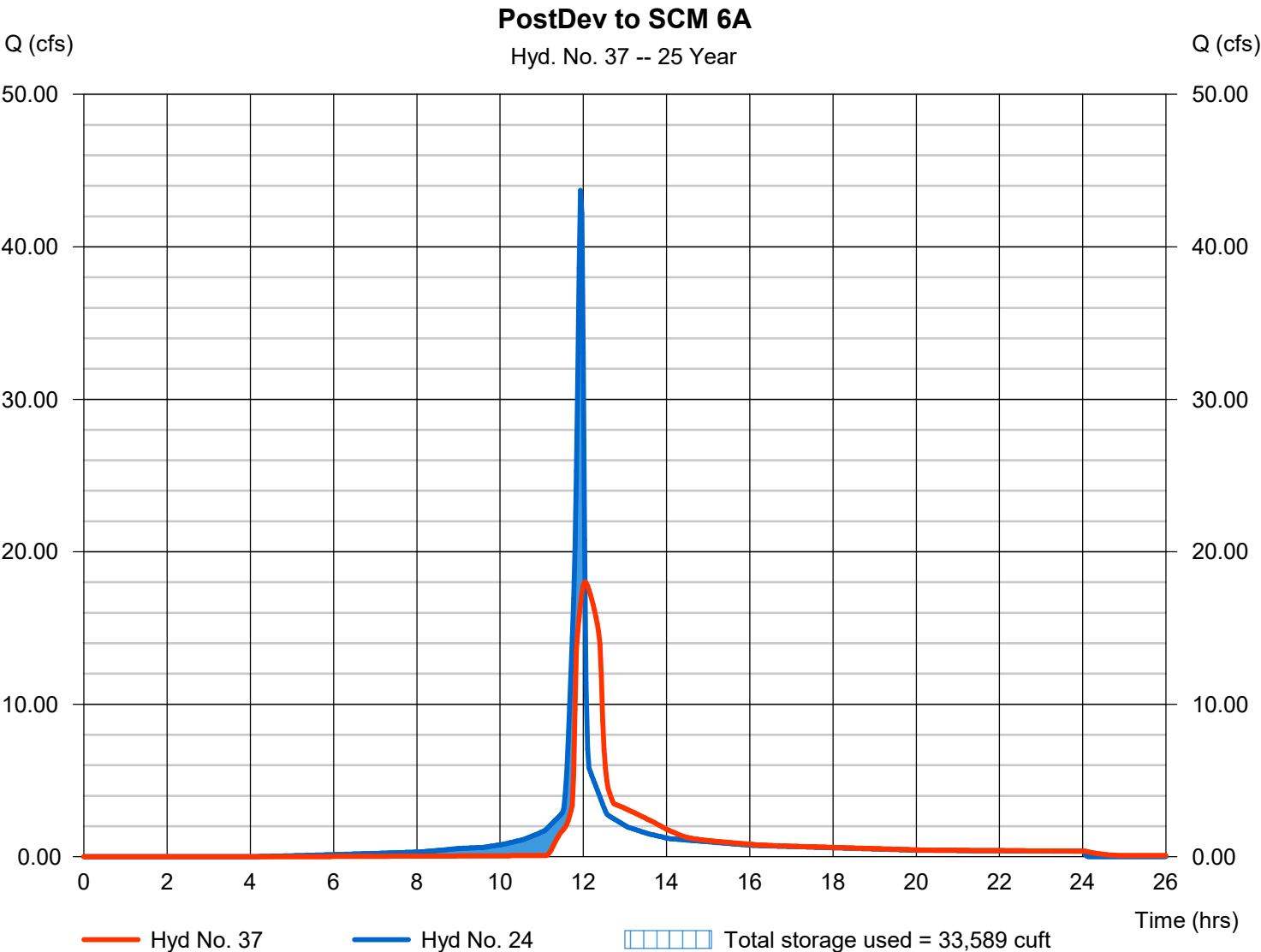
Saturday, 04 / 12 / 2025

Hyd. No. 37

PostDev to SCM 6A

Hydrograph type	= Reservoir	Peak discharge	= 18.03 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.03 hrs
Time interval	= 2 min	Hyd. volume	= 93,271 cuft
Inflow hyd. No.	= 24 - PostDev to SCM 6A	Max. Elevation	= 281.61 ft
Reservoir name	= SCM 6A	Max. Storage	= 33,589 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

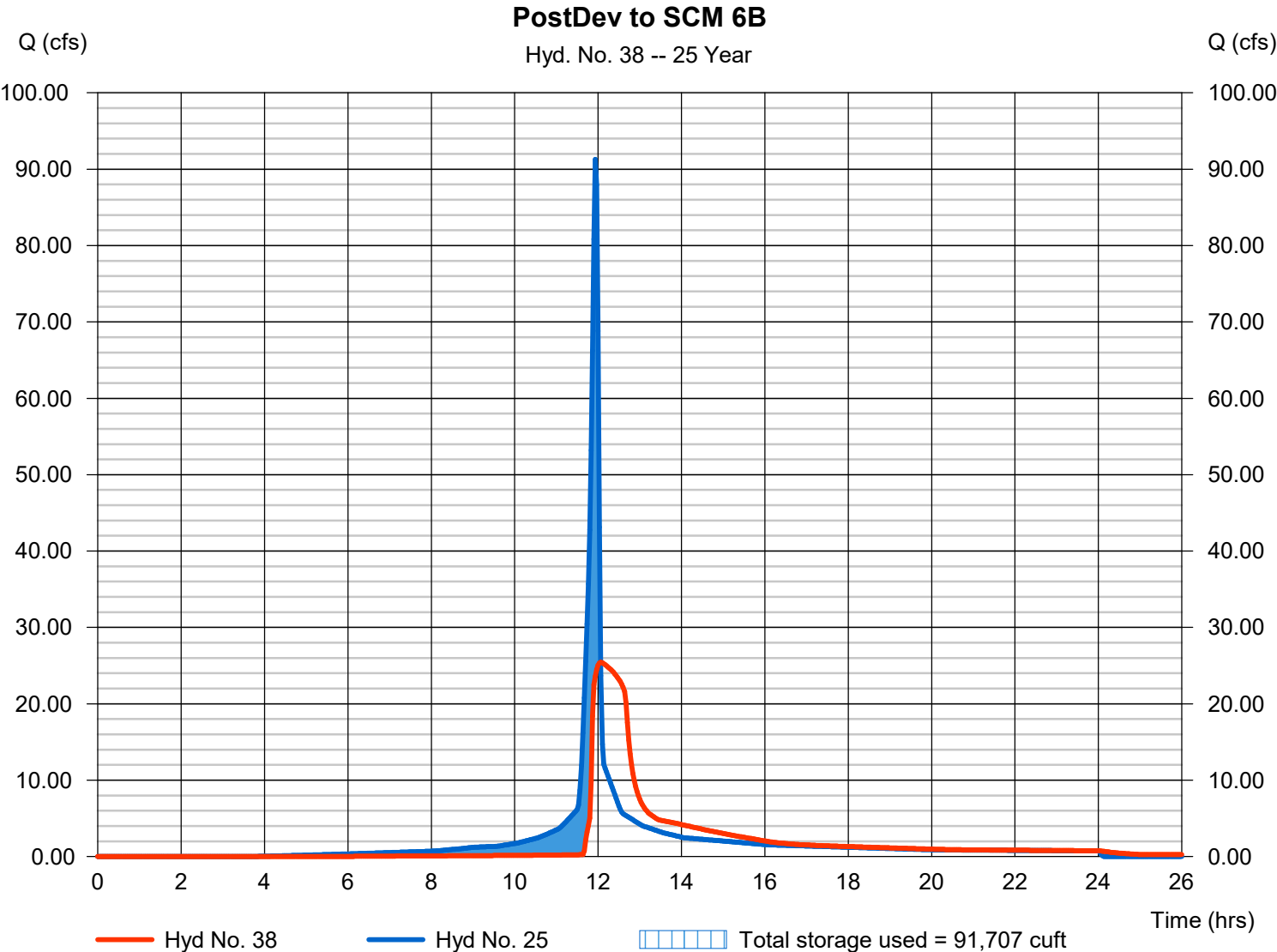
Saturday, 04 / 12 / 2025

Hyd. No. 38

PostDev to SCM 6B

Hydrograph type	= Reservoir	Peak discharge	= 25.45 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 195,582 cuft
Inflow hyd. No.	= 25 - PostDev to SCM 6B	Max. Elevation	= 294.82 ft
Reservoir name	= SCM 6B	Max. Storage	= 91,707 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

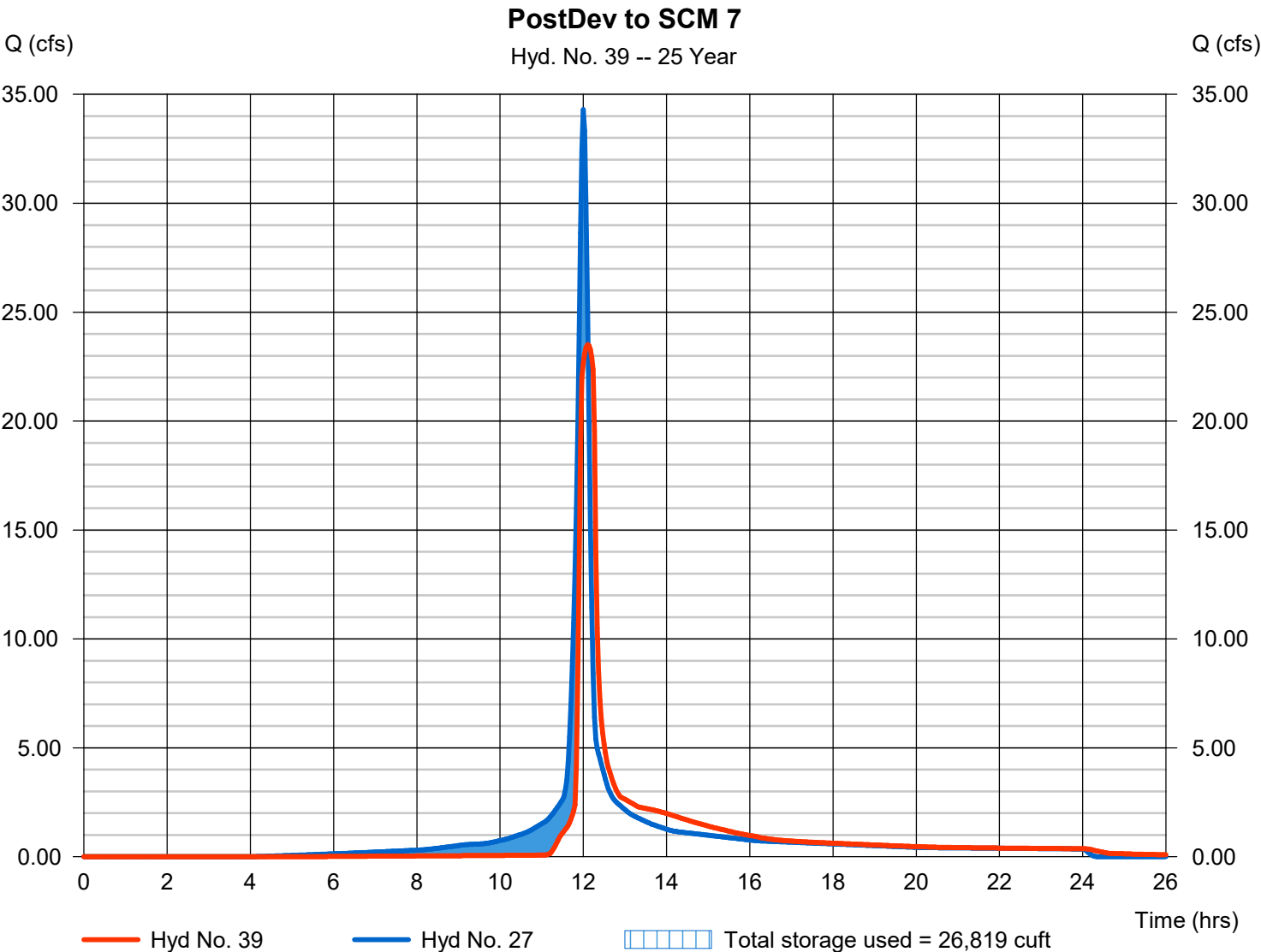
Saturday, 04 / 12 / 2025

Hyd. No. 39

PostDev to SCM 7

Hydrograph type	= Reservoir	Peak discharge	= 23.51 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 92,286 cuft
Inflow hyd. No.	= 27 - PostDev to SCM 7	Max. Elevation	= 321.51 ft
Reservoir name	= SCM 7	Max. Storage	= 26,819 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

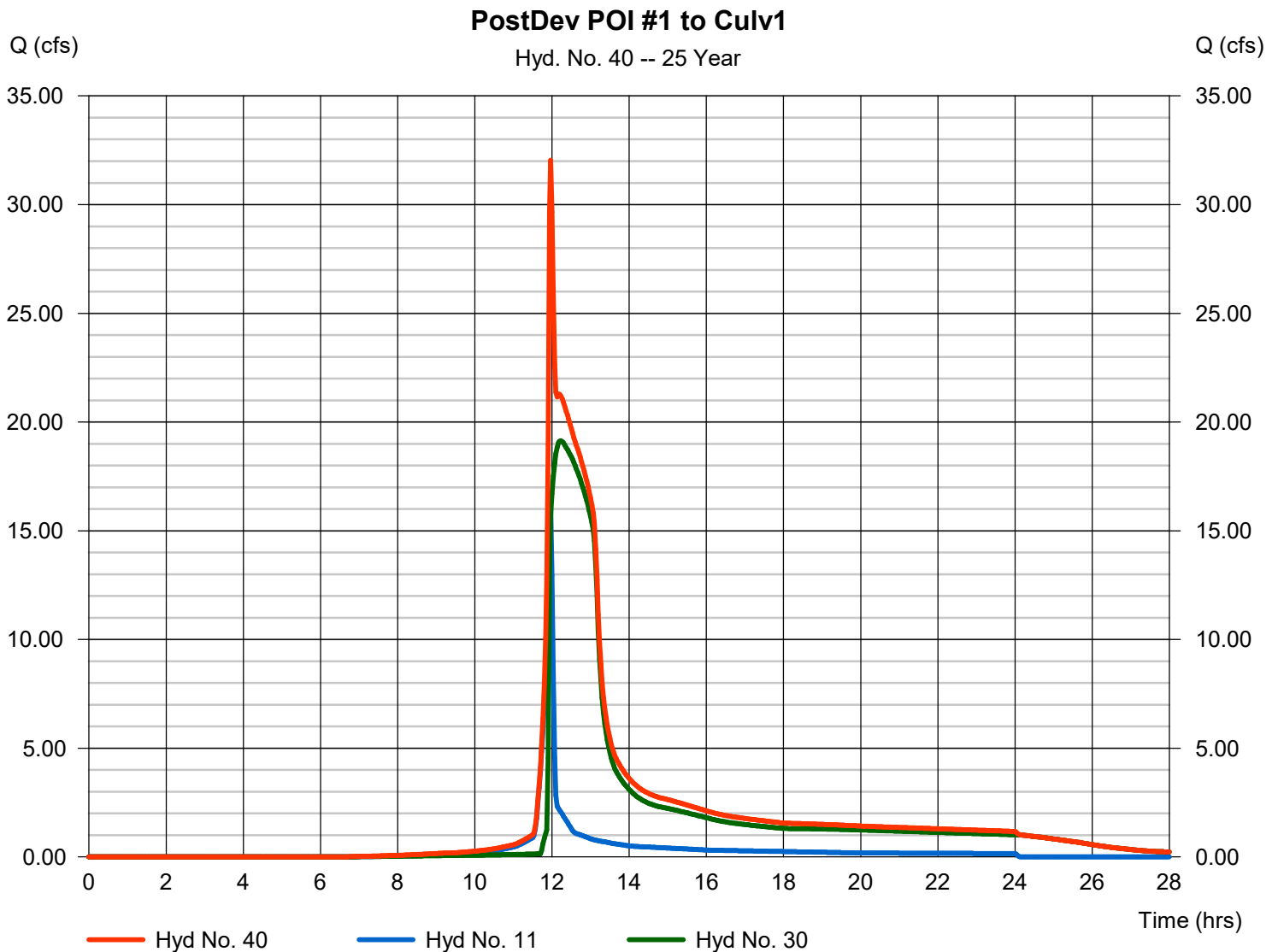
Saturday, 04 / 12 / 2025

Hyd. No. 40

PostDev POI #1 to Culv1

Hydrograph type = Combine
Storm frequency = 25 yrs
Time interval = 2 min
Inflow hyds. = 11, 30

Peak discharge = 32.03 cfs
Time to peak = 11.97 hrs
Hyd. volume = 213,865 cuft
Contrib. drain. area = 2.720 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

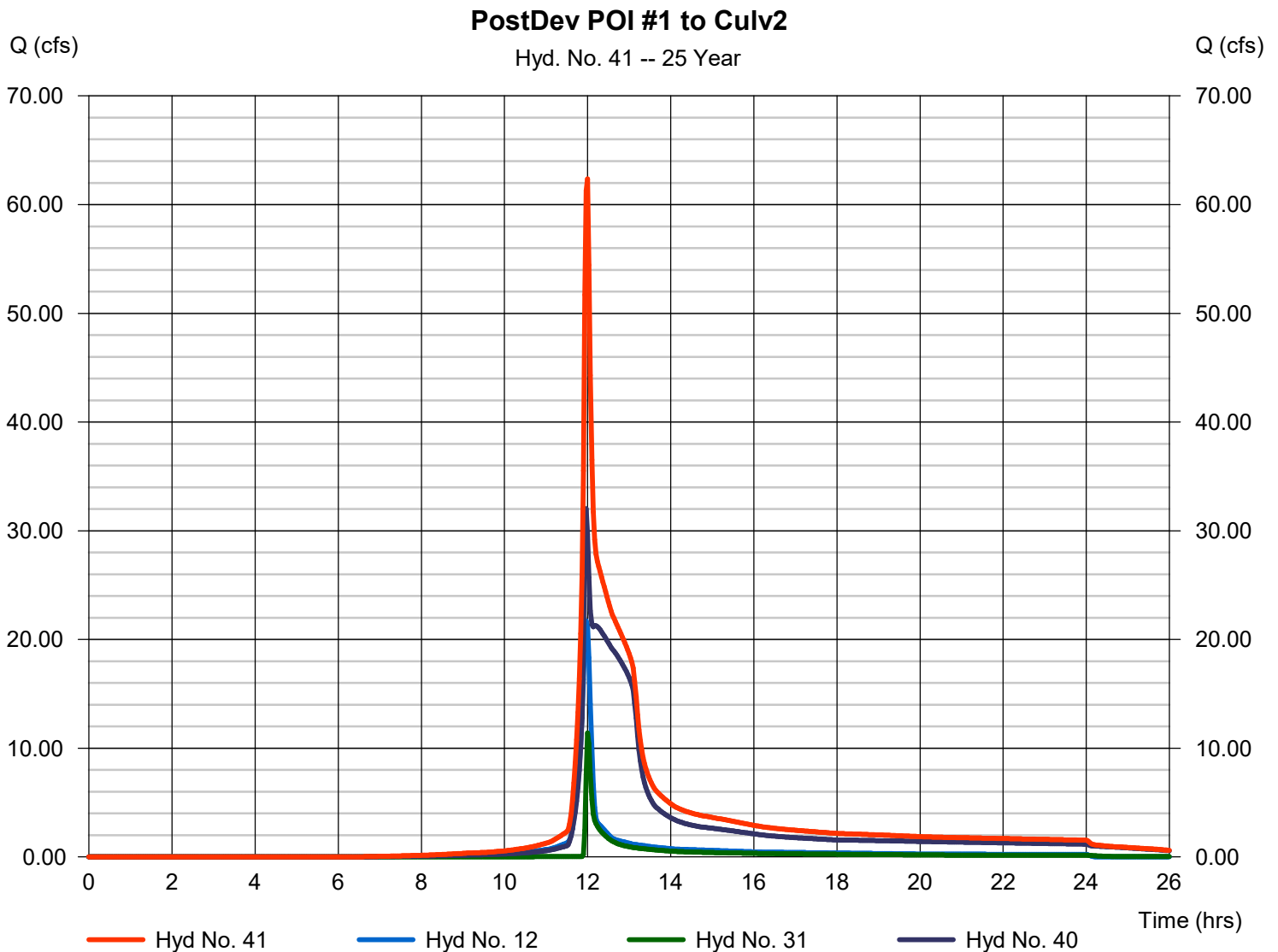
Saturday, 04 / 12 / 2025

Hyd. No. 41

PostDev POI #1 to Culv2

Hydrograph type = Combine
Storm frequency = 25 yrs
Time interval = 2 min
Inflow hyds. = 12, 31, 40

Peak discharge = 62.36 cfs
Time to peak = 12.00 hrs
Hyd. volume = 294,442 cuft
Contrib. drain. area = 3.640 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

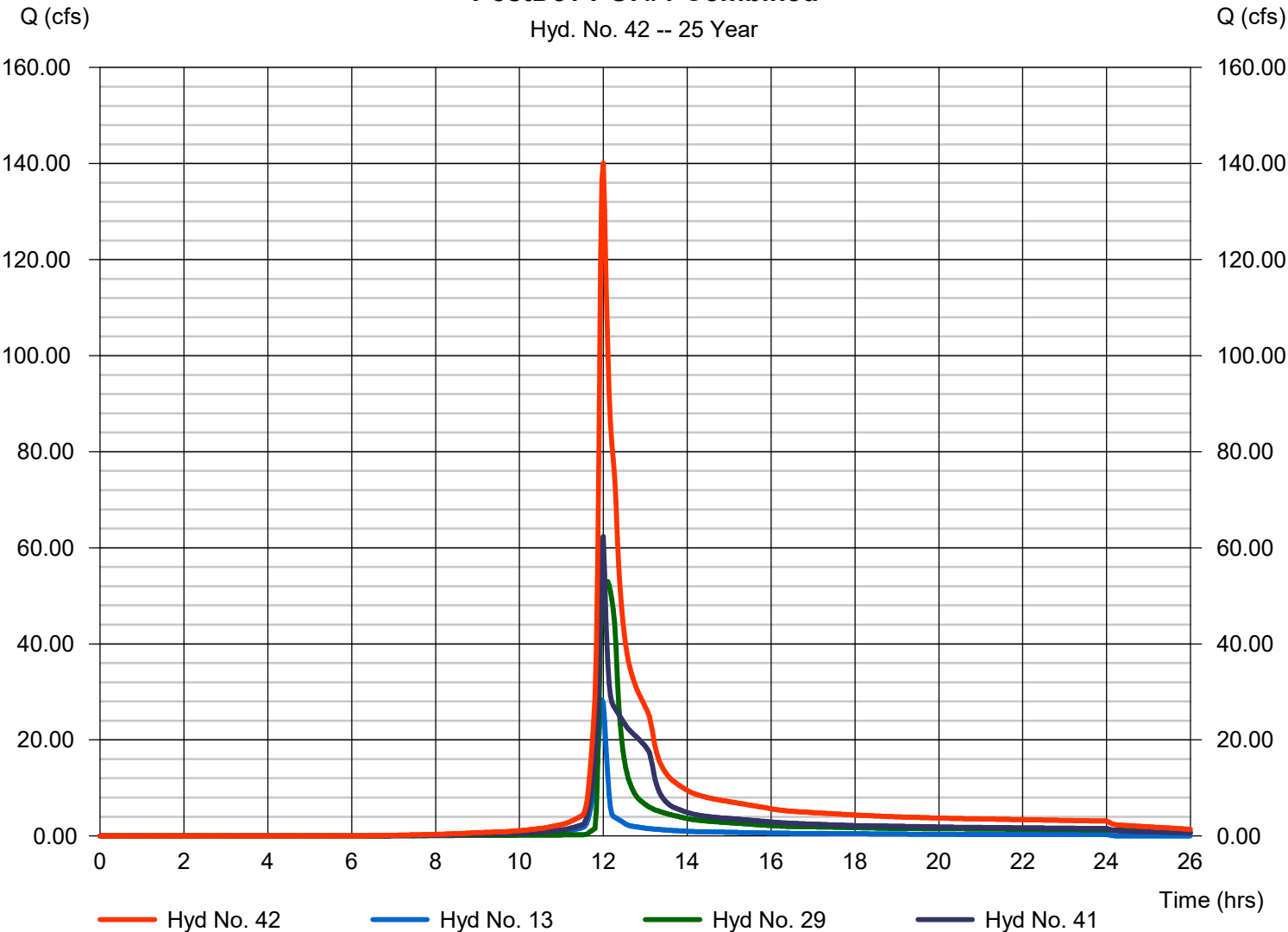
Hyd. No. 42

PostDev POI #1 Combined

Hydrograph type	= Combine	Peak discharge	= 140.08 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 595,079 cuft
Inflow hyds.	= 13, 29, 41	Contrib. drain. area	= 4.620 ac

PostDev POI #1 Combined

Hyd. No. 42 -- 25 Year



Hydrograph Report

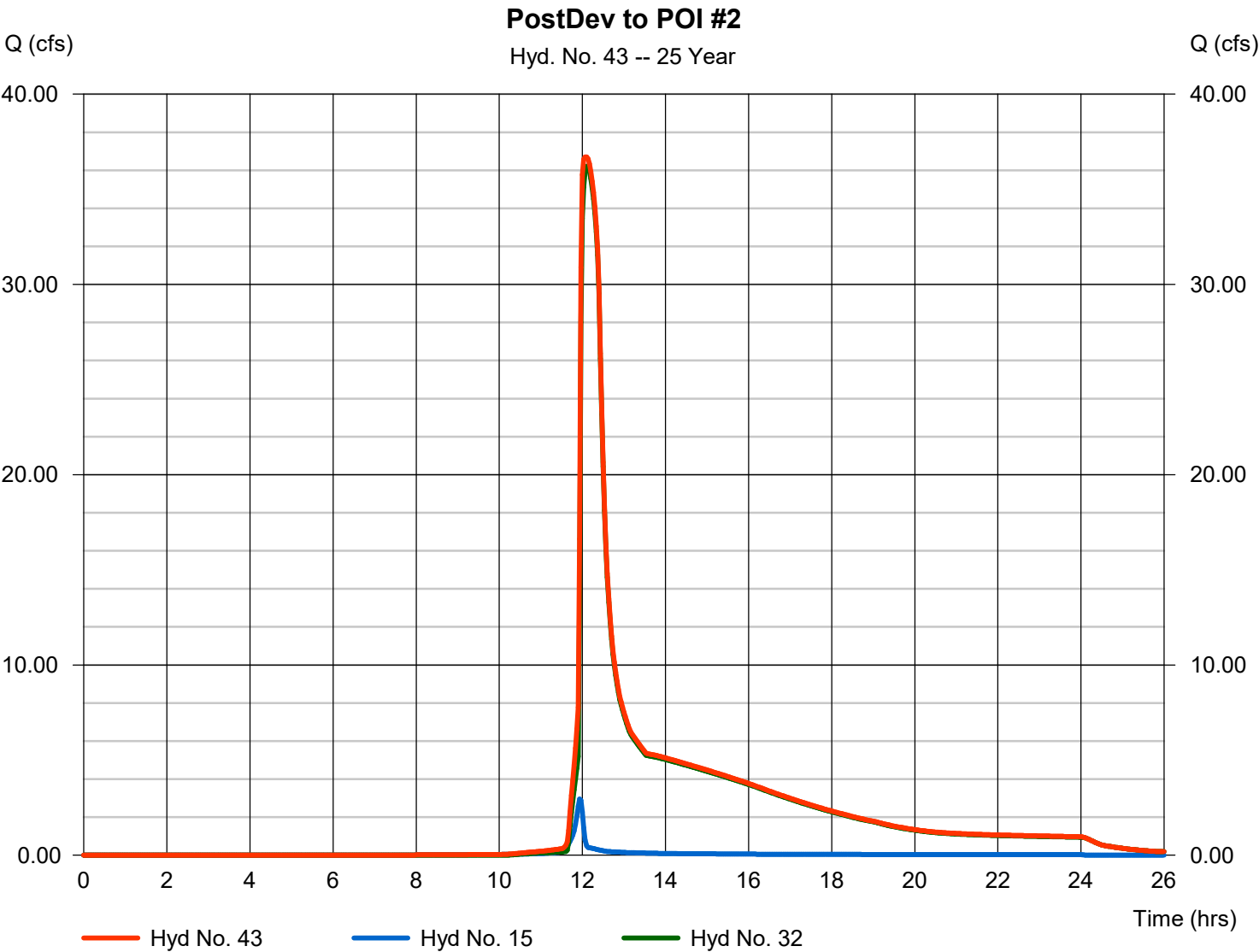
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 43

PostDev to POI #2

Hydrograph type	= Combine	Peak discharge	= 36.71 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 218,704 cuft
Inflow hyds.	= 15, 32	Contrib. drain. area	= 0.460 ac



Hydrograph Report

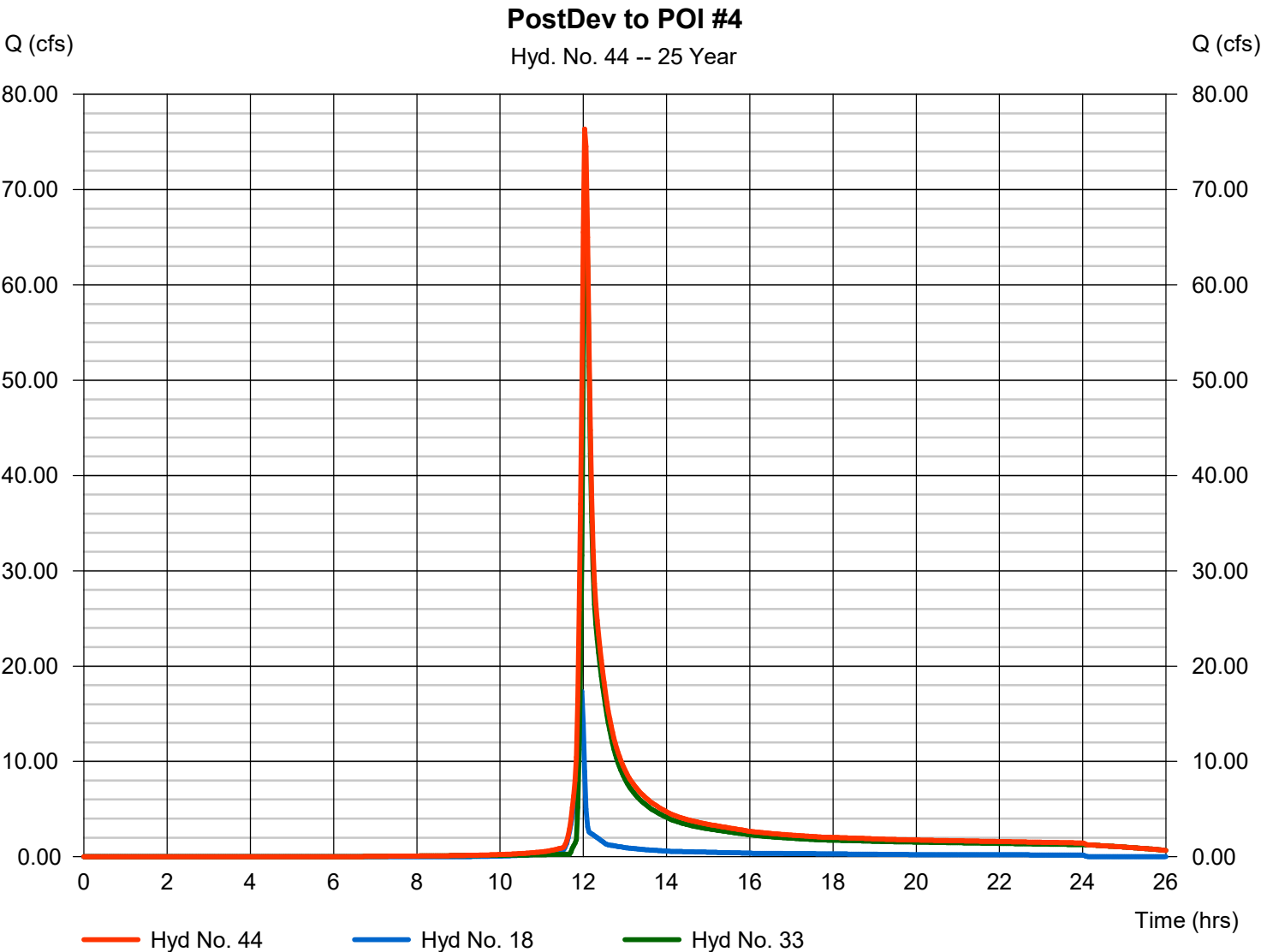
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 44

PostDev to POI #4

Hydrograph type	= Combine	Peak discharge	= 76.36 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.03 hrs
Time interval	= 2 min	Hyd. volume	= 265,384 cuft
Inflow hyds.	= 18, 33	Contrib. drain. area	= 3.670 ac



Hydrograph Report

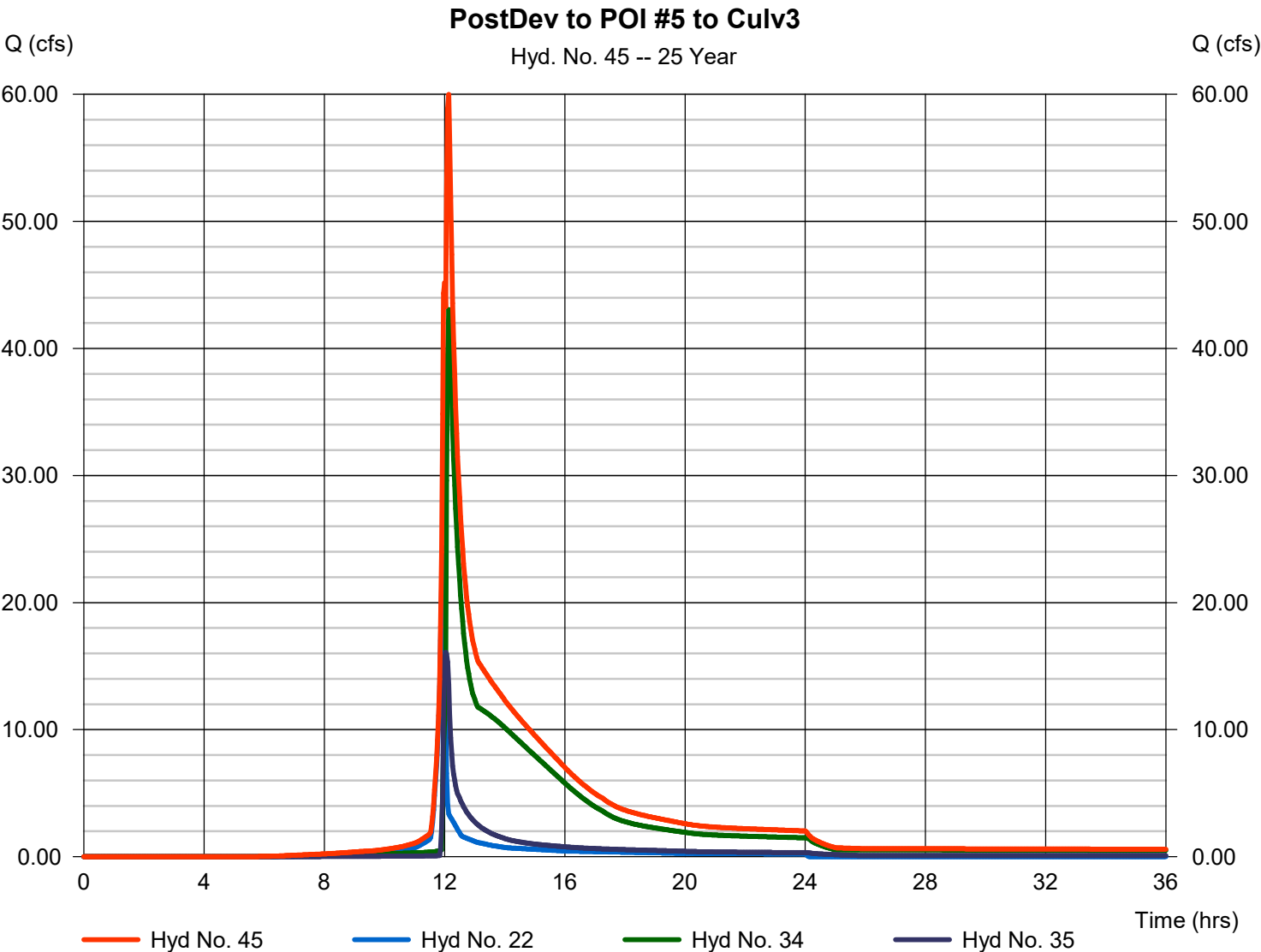
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 45

PostDev to POI #5 to Culv3

Hydrograph type	= Combine	Peak discharge	= 59.99 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 480,944 cuft
Inflow hyds.	= 22, 34, 35	Contrib. drain. area	= 3.810 ac



Hydrograph Report

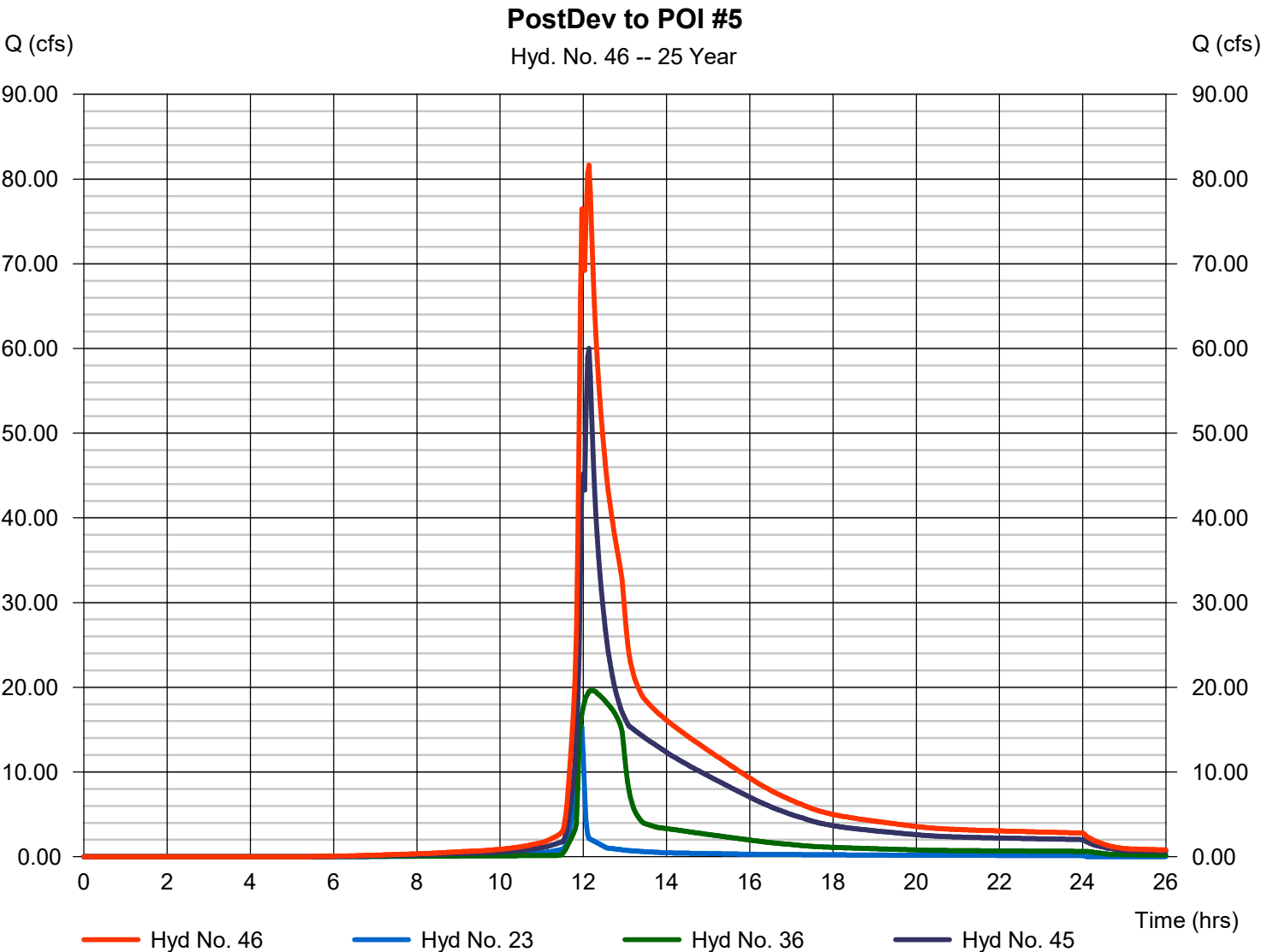
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 46

PostDev to POI #5

Hydrograph type	= Combine	Peak discharge	= 81.65 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 676,412 cuft
Inflow hyds.	= 23, 36, 45	Contrib. drain. area	= 2.420 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

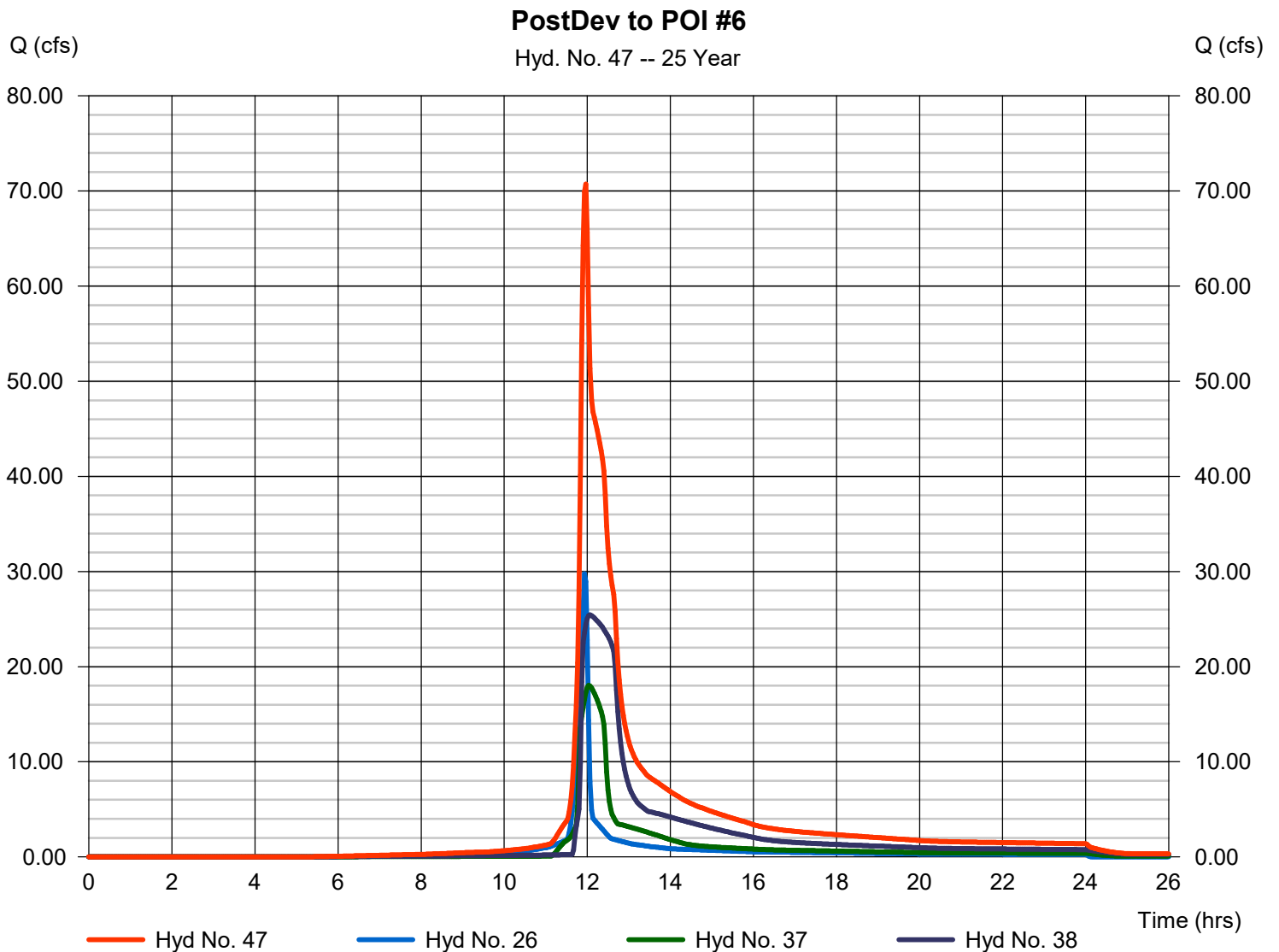
Saturday, 04 / 12 / 2025

Hyd. No. 47

PostDev to POI #6

Hydrograph type = Combine
Storm frequency = 25 yrs
Time interval = 2 min
Inflow hyds. = 26, 37, 38

Peak discharge = 70.71 cfs
Time to peak = 11.97 hrs
Hyd. volume = 350,895 cuft
Contrib. drain. area = 4.370 ac



Hydrograph Report

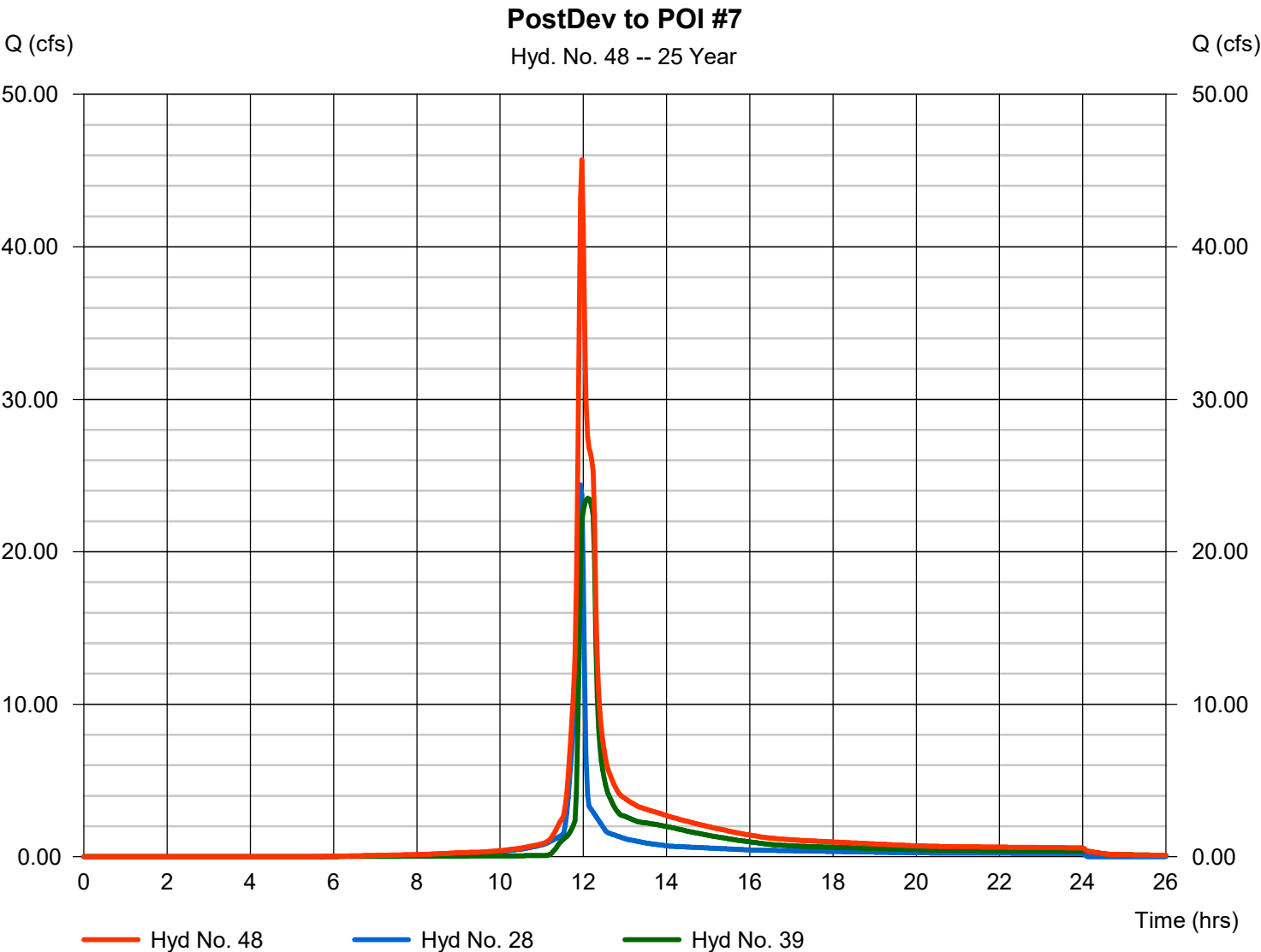
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 48

PostDev to POI #7

Hydrograph type	= Combine	Peak discharge	= 45.71 cfs
Storm frequency	= 25 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 142,923 cuft
Inflow hyds.	= 28, 39	Contrib. drain. area	= 3.640 ac



Hydrograph Report

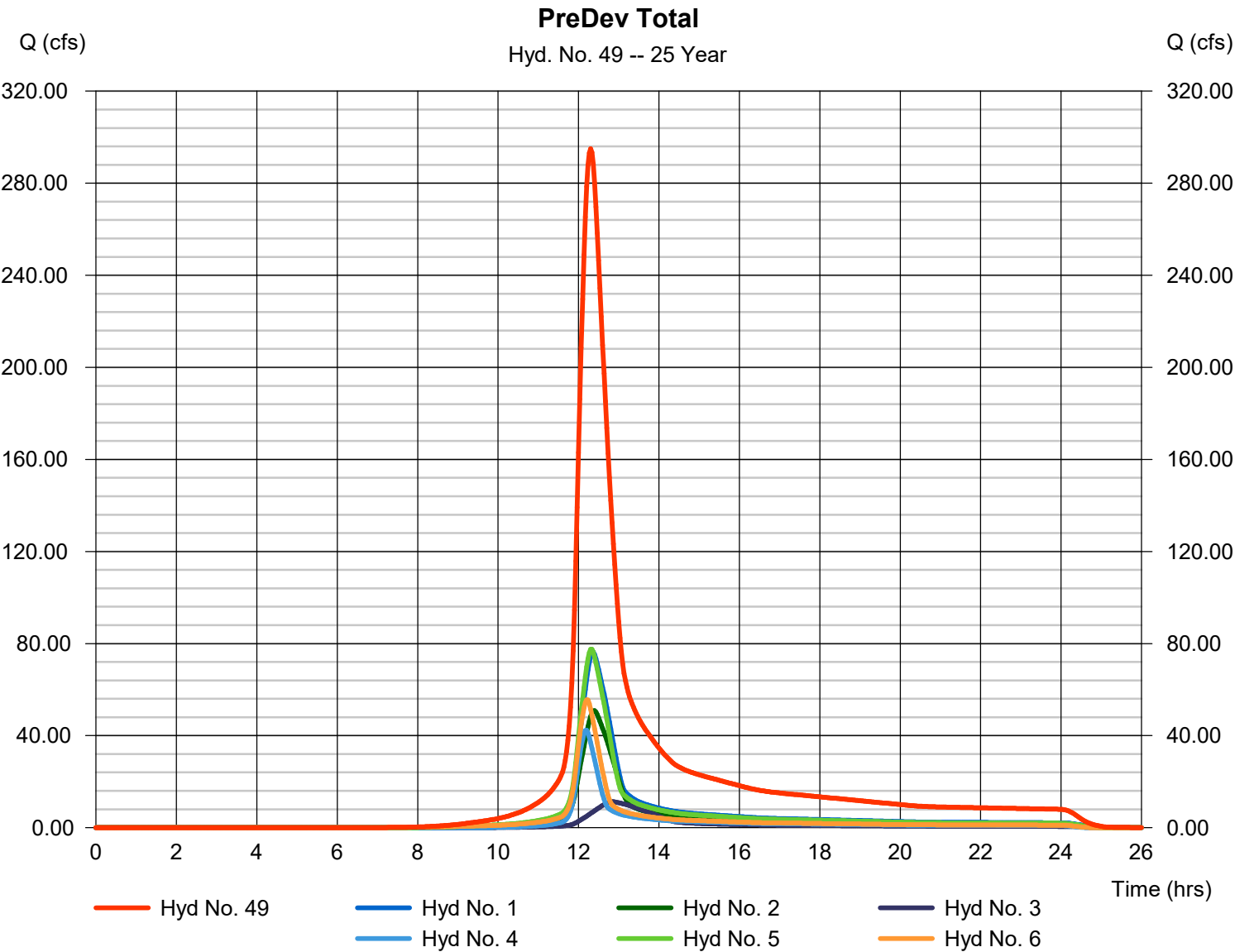
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 49

PreDev Total

Hydrograph type	= Combine	Peak discharge	= 294.99 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.30 hrs
Time interval	= 2 min	Hyd. volume	= 1,616,660 cuft
Inflow hyds.	= 1, 2, 3, 4, 5, 6	Contrib. drain. area	= 139.020 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

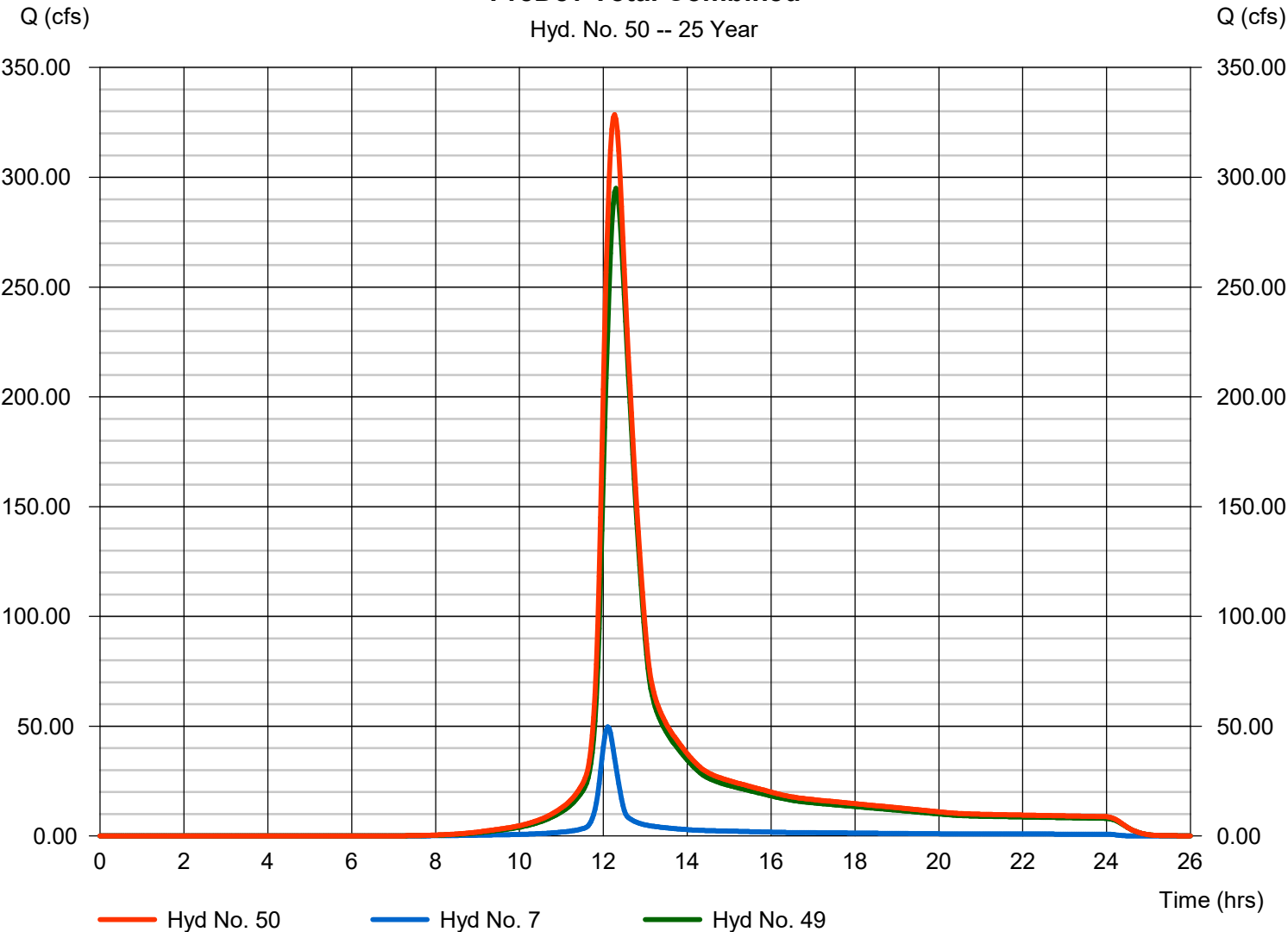
Hyd. No. 50

PreDev Total Combined

Hydrograph type	= Combine	Peak discharge	= 328.59 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.27 hrs
Time interval	= 2 min	Hyd. volume	= 1,788,268 cuft
Inflow hyds.	= 7, 49	Contrib. drain. area	= 13.250 ac

PreDev Total Combined

Hyd. No. 50 -- 25 Year



Hydrograph Report

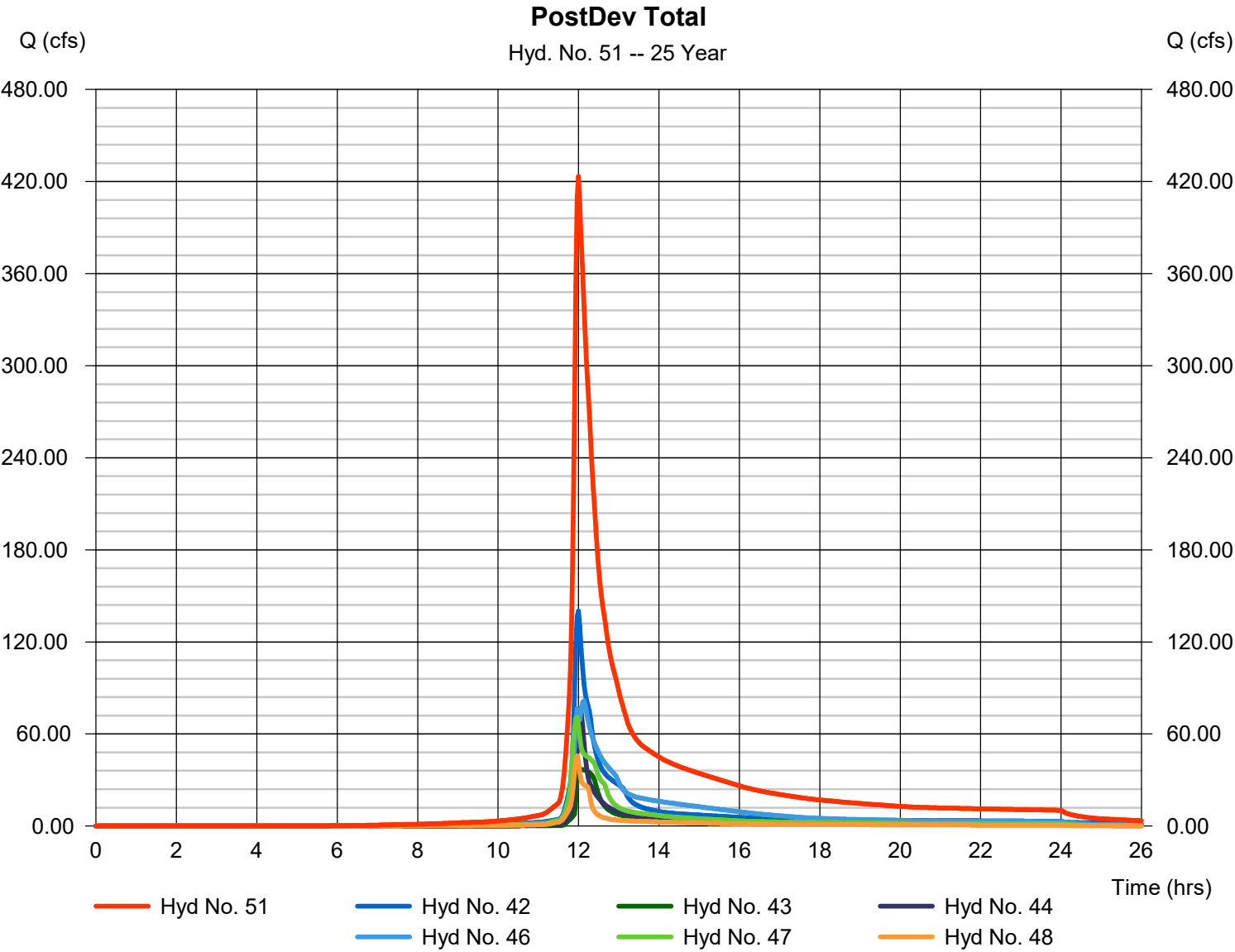
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 51

PostDev Total

Hydrograph type	= Combine	Peak discharge	= 423.27 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 2,249,397 cuft
Inflow hyds.	= 42, 43, 44, 46, 47, 48	Contrib. drain. area	= 0.000 ac

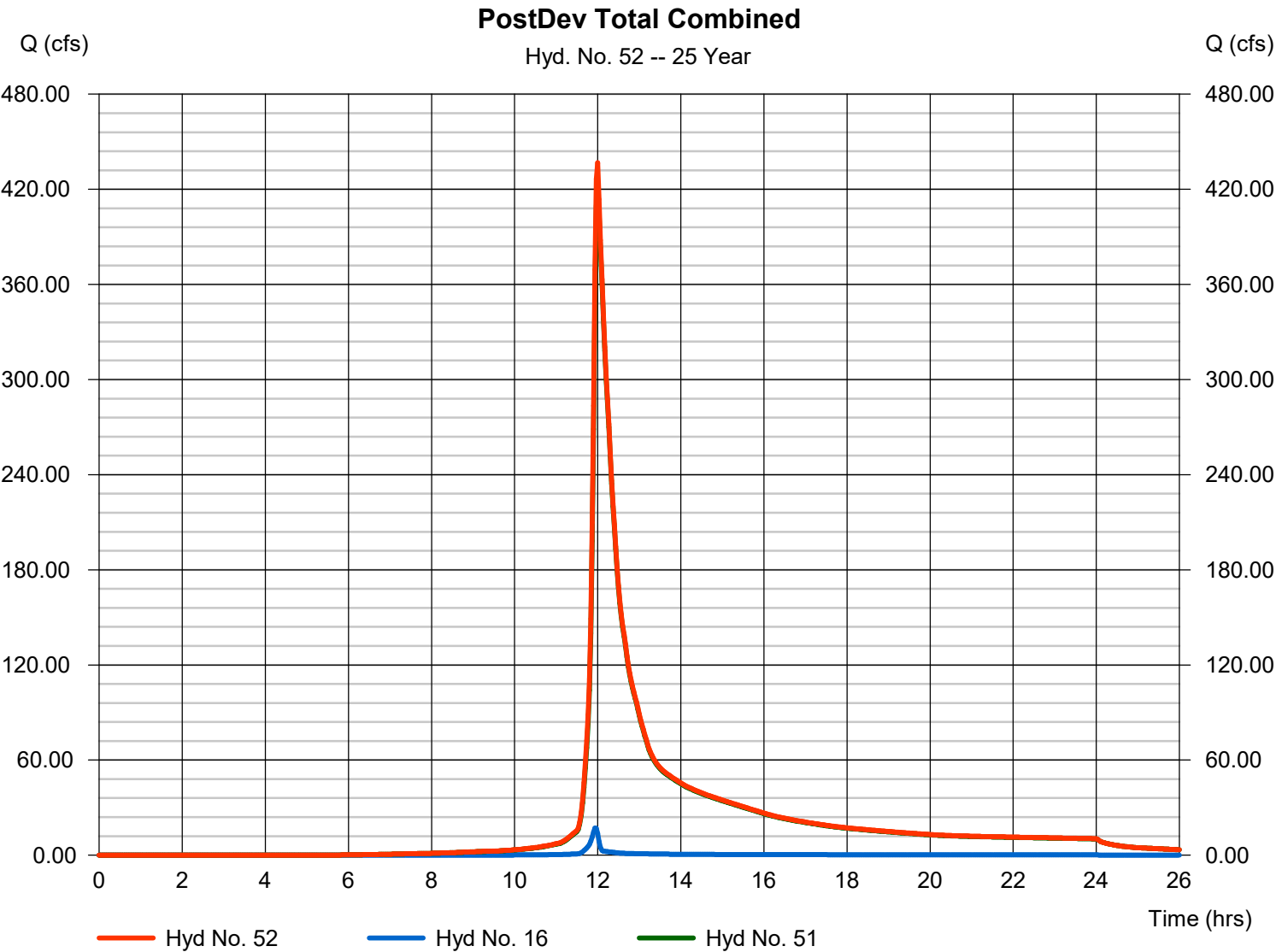


Hydrograph Report

Hyd. No. 52

PostDev Total Combined

Hydrograph type	= Combine	Peak discharge	= 436.84 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 2,283,940 cuft
Inflow hyds.	= 16, 51	Contrib. drain. area	= 3.240 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

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	93.19	2	742	500,878	-----	-----	-----	PreDev POI #1
2	SCS Runoff	61.39	2	744	347,676	-----	-----	-----	PreDev POI #2
3	SCS Runoff	13.80	2	770	124,505	-----	-----	-----	PreDev to POI #3
4	SCS Runoff	52.60	2	732	212,466	-----	-----	-----	PreDev to POI #4
5	SCS Runoff	93.21	2	738	480,852	-----	-----	-----	PreDev to POI #5
6	SCS Runoff	66.11	2	732	285,970	-----	-----	-----	PreDev to POI #6
7	SCS Runoff	59.44	2	726	205,393	-----	-----	-----	PreDev to POI #7
8	SCS Runoff	115.05	2	718	275,263	-----	-----	-----	PostDev to SCM 1A
9	SCS Runoff	80.40	2	720	213,847	-----	-----	-----	PostDev to SCM 1B
10	SCS Runoff	18.36	2	716	37,827	-----	-----	-----	PostDev to SCM 1C
11	SCS Runoff	19.69	2	716	40,528	-----	-----	-----	PostDev to POI #1 Bypass 1
12	SCS Runoff	25.61	2	718	59,572	-----	-----	-----	PostDev to POI #1 Bypass 2
13	SCS Runoff	33.24	2	718	77,624	-----	-----	-----	PostDev to POI #1 Bypass 3
14	SCS Runoff	110.73	2	718	262,445	-----	-----	-----	PostDev to SCM 2
15	SCS Runoff	3.468	2	716	7,194	-----	-----	-----	PostDev to POI #2 Bypass
16	SCS Runoff	20.62	2	716	41,821	-----	-----	-----	PostDev to POI #3
17	SCS Runoff	113.83	2	718	270,508	-----	-----	-----	PostDev to SCM 4
18	SCS Runoff	21.21	2	716	42,843	-----	-----	-----	PostDev to POI #4 Bypass
19	SCS Runoff	181.14	2	718	438,363	-----	-----	-----	PostDev to SCM 5A
20	SCS Runoff	42.35	2	716	89,688	-----	-----	-----	PostDev to SCM 5B
21	SCS Runoff	69.00	2	720	189,839	-----	-----	-----	PostDev to SCM 5C
22	SCS Runoff	28.62	2	716	59,305	-----	-----	-----	PostDev to POI #5 Bypass 1
23	SCS Runoff	18.35	2	716	38,119	-----	-----	-----	PostDev to POI #5 Bypass 2
24	SCS Runoff	50.36	2	716	108,606	-----	-----	-----	PostDev to SCM 6A
25	SCS Runoff	104.87	2	716	228,061	-----	-----	-----	PostDev to SCM 6B
26	SCS Runoff	34.69	2	716	72,932	-----	-----	-----	PostDev to POI #6 Bypass
27	SCS Runoff	39.55	2	720	107,470	-----	-----	-----	PostDev to SCM 7
28	SCS Runoff	28.49	2	716	59,652	-----	-----	-----	PostDev to POI #7 Bypass
29	Reservoir	56.86	2	726	274,611	8	353.12	101,841	PostDev to SCM 1A
30	Reservoir	21.66	2	734	211,567	9	381.58	97,867	PostDev to SCM 1B
31	Reservoir	14.64	2	720	36,428	10	363.90	13,501	PostDev to SCM 1C
32	Reservoir	50.95	2	726	251,349	14	358.39	111,604	PostDev to SCM 2
33	Reservoir	94.41	2	722	270,000	17	368.53	94,935	PostDev to SCM 4
34	Reservoir	54.23	2	728	419,327	19	328.45	224,867	PostDev to SCM 5A
Merritt Reserve Hydrographs.gpw					Return Period: 50 Year			Saturday, 04 / 12 / 2025	

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
35	Reservoir	17.63	2	722	85,949	20	310.11	40,460	PostDev to SCM 5B
36	Reservoir	24.26	2	732	189,075	21	297.67	82,574	PostDev to SCM 5C
37	Reservoir	18.95	2	722	108,508	24	282.10	38,321	PostDev to SCM 6A
38	Reservoir	42.81	2	722	227,037	25	295.47	102,345	PostDev to SCM 6B
39	Reservoir	24.24	2	728	107,318	27	321.92	30,502	PostDev to SCM 7
40	Combine	36.36	2	718	252,095	11, 30,	-----	-----	PostDev POI #1 to Culv1
41	Combine	76.23	2	718	348,096	12, 31, 40	-----	-----	PostDev POI #1 to Culv2
42	Combine	160.58	2	718	700,332	13, 29, 41	-----	-----	PostDev POI #1 Combined
43	Combine	51.52	2	726	258,543	15, 32,	-----	-----	PostDev to POI #2
44	Combine	105.21	2	722	312,842	18, 33,	-----	-----	PostDev to POI #4
45	Combine	83.26	2	722	564,581	22, 34, 35,	-----	-----	PostDev to POI #5 to Culv3
46	Combine	111.34	2	722	791,776	23, 36, 45	-----	-----	PostDev to POI #5
47	Combine	78.66	2	720	408,478	26, 37, 38,	-----	-----	PostDev to POI #6
48	Combine	50.43	2	716	166,969	28, 39,	-----	-----	PostDev to POI #7
49	Combine	357.35	2	738	1,952,346	1, 2, 3, 4, 5, 6,	-----	-----	PreDev Total
50	Combine	397.67	2	736	2,157,739	7, 49	-----	-----	PreDev Total Combined
51	Combine	530.75	2	720	2,638,940	42, 43, 44, 46, 47, 48,	-----	-----	PostDev Total
52	Combine	546.98	2	720	2,680,762	16, 51	-----	-----	PostDev Total Combined
Merritt Reserve Hydrographs.gpw					Return Period: 50 Year			Saturday, 04 / 12 / 2025	

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

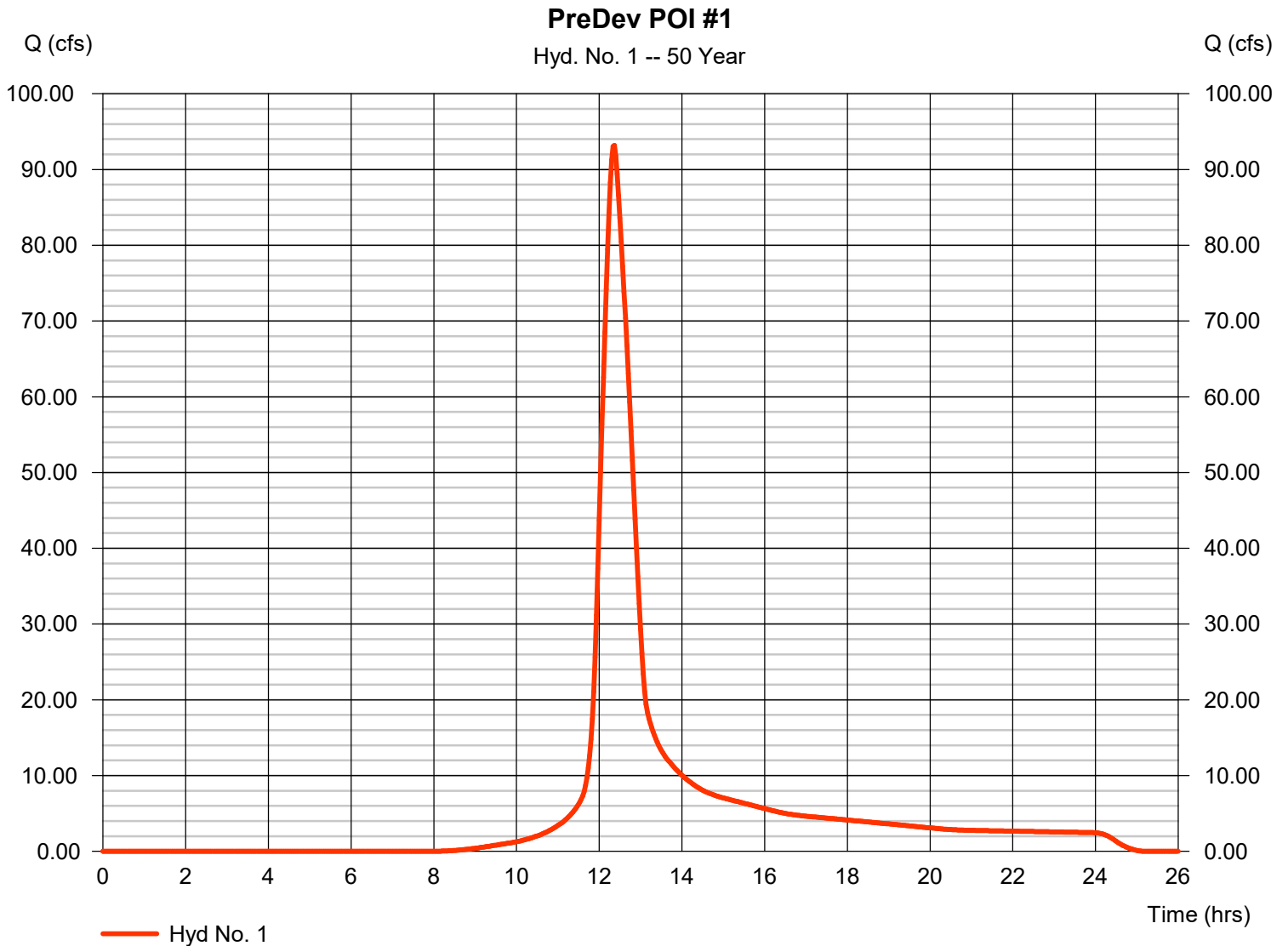
Saturday, 04 / 12 / 2025

Hyd. No. 1

PreDev POI #1

Hydrograph type = SCS Runoff
Storm frequency = 50 yrs
Time interval = 2 min
Drainage area = 37.960 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24 hrs

Peak discharge = 93.19 cfs
Time to peak = 12.37 hrs
Hyd. volume = 500,878 cuft
Curve number = 72
Hydraulic length = 0 ft
Time of conc. (Tc) = 46.50 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

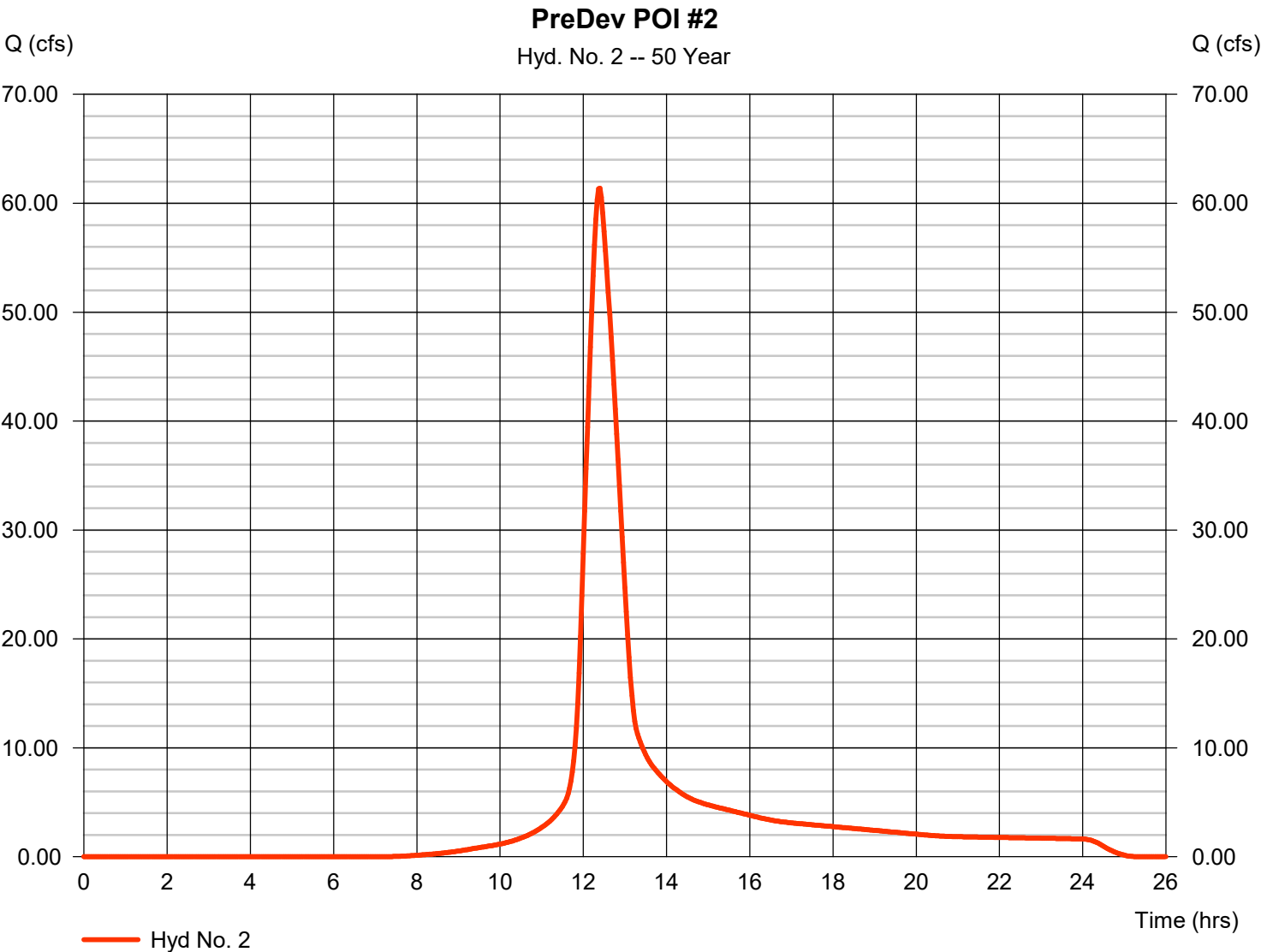
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 2

PreDev POI #2

Hydrograph type	= SCS Runoff	Peak discharge	= 61.39 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.40 hrs
Time interval	= 2 min	Hyd. volume	= 347,676 cuft
Drainage area	= 24.050 ac	Curve number	= 75
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 48.70 min
Total precip.	= 6.81 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

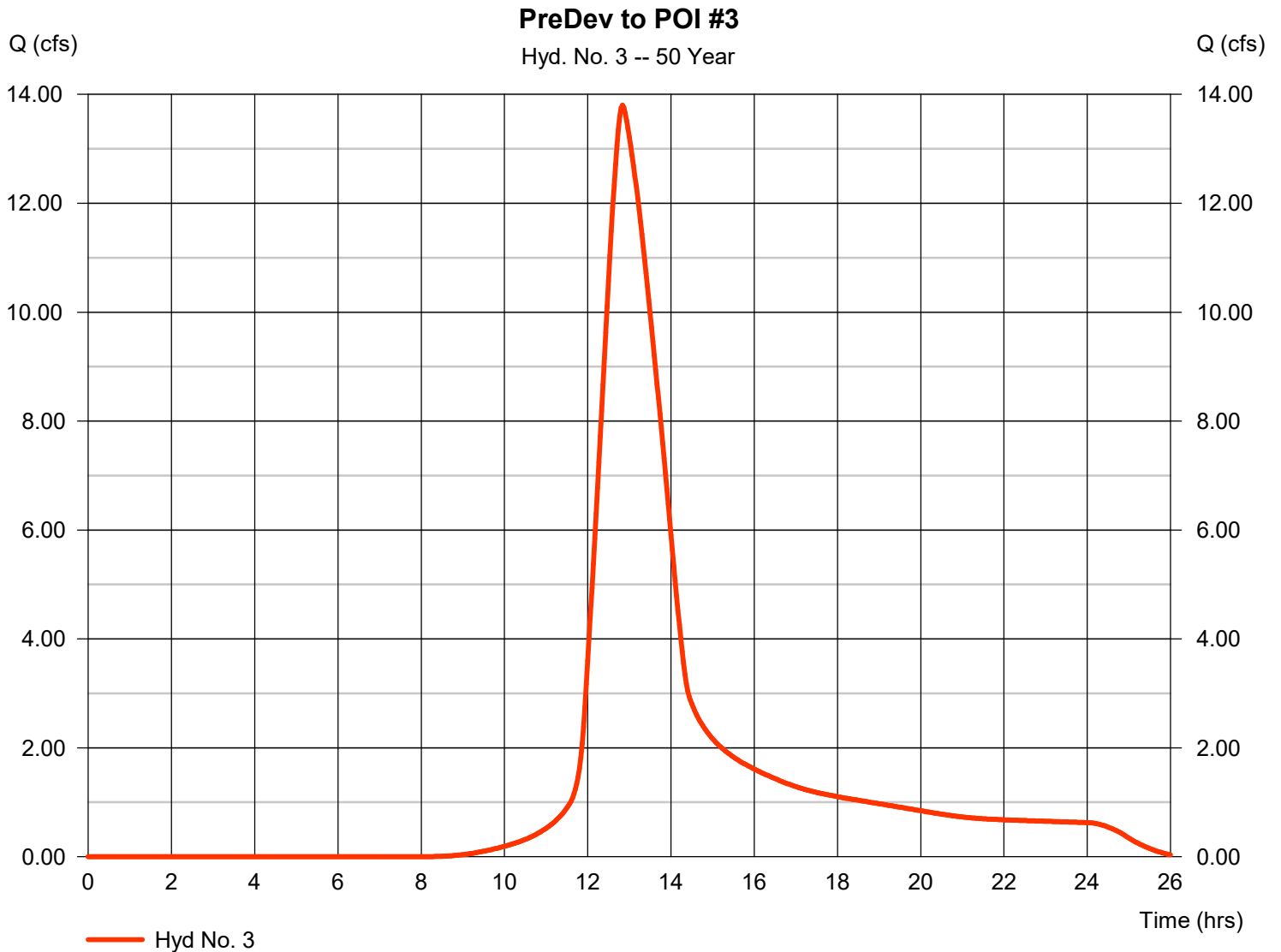
Saturday, 04 / 12 / 2025

Hyd. No. 3

PreDev to POI #3

Hydrograph type = SCS Runoff
 Storm frequency = 50 yrs
 Time interval = 2 min
 Drainage area = 9.310 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 6.81 in
 Storm duration = 24 hrs

Peak discharge = 13.80 cfs
 Time to peak = 12.83 hrs
 Hyd. volume = 124,505 cuft
 Curve number = 72
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 92.00 min
 Distribution = Type II
 Shape factor = 484



Hydrograph Report

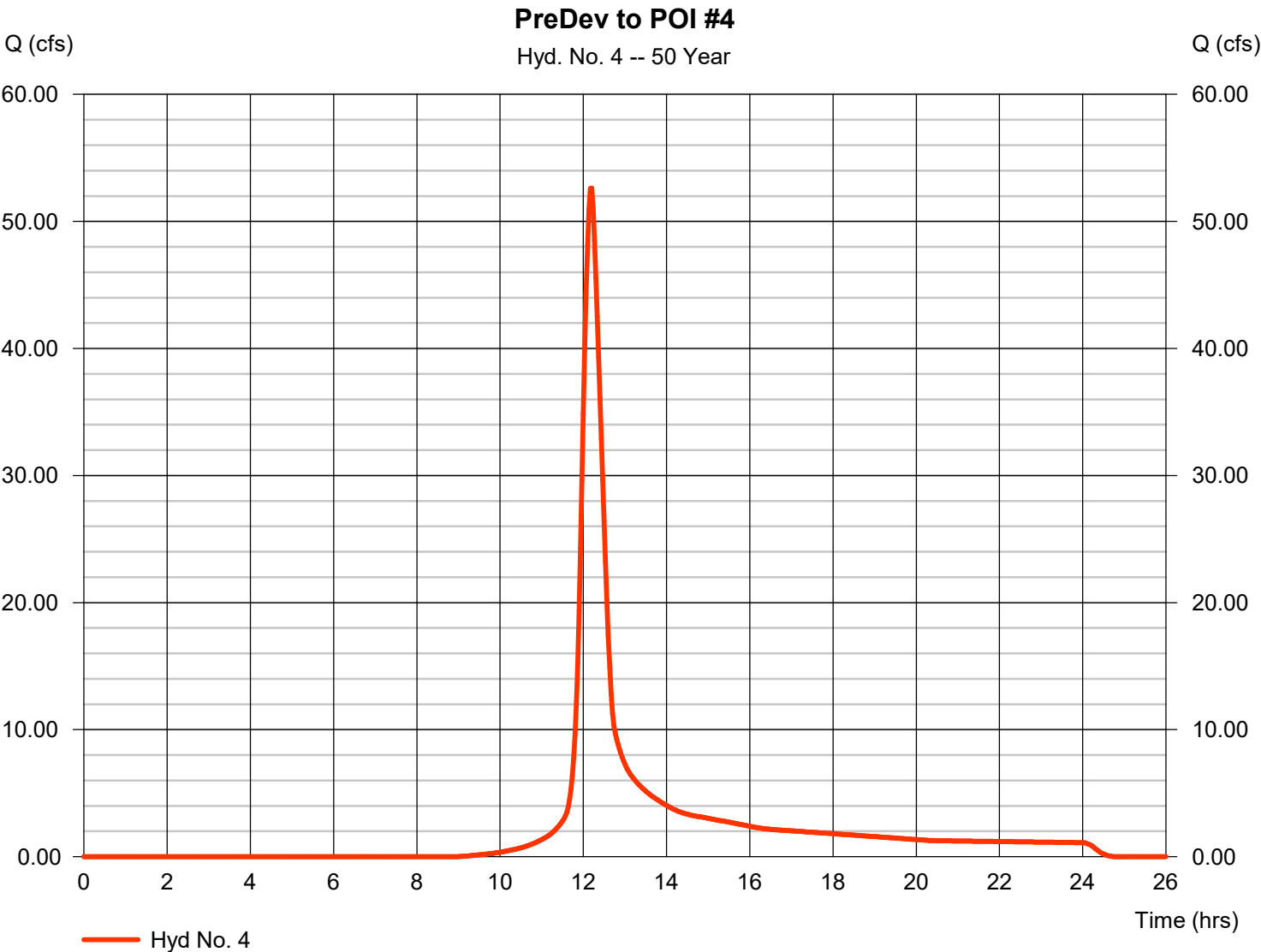
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 4

PreDev to POI #4

Hydrograph type	= SCS Runoff	Peak discharge	= 52.60 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 212,466 cuft
Drainage area	= 17.970 ac	Curve number	= 68
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 28.80 min
Total precip.	= 6.81 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

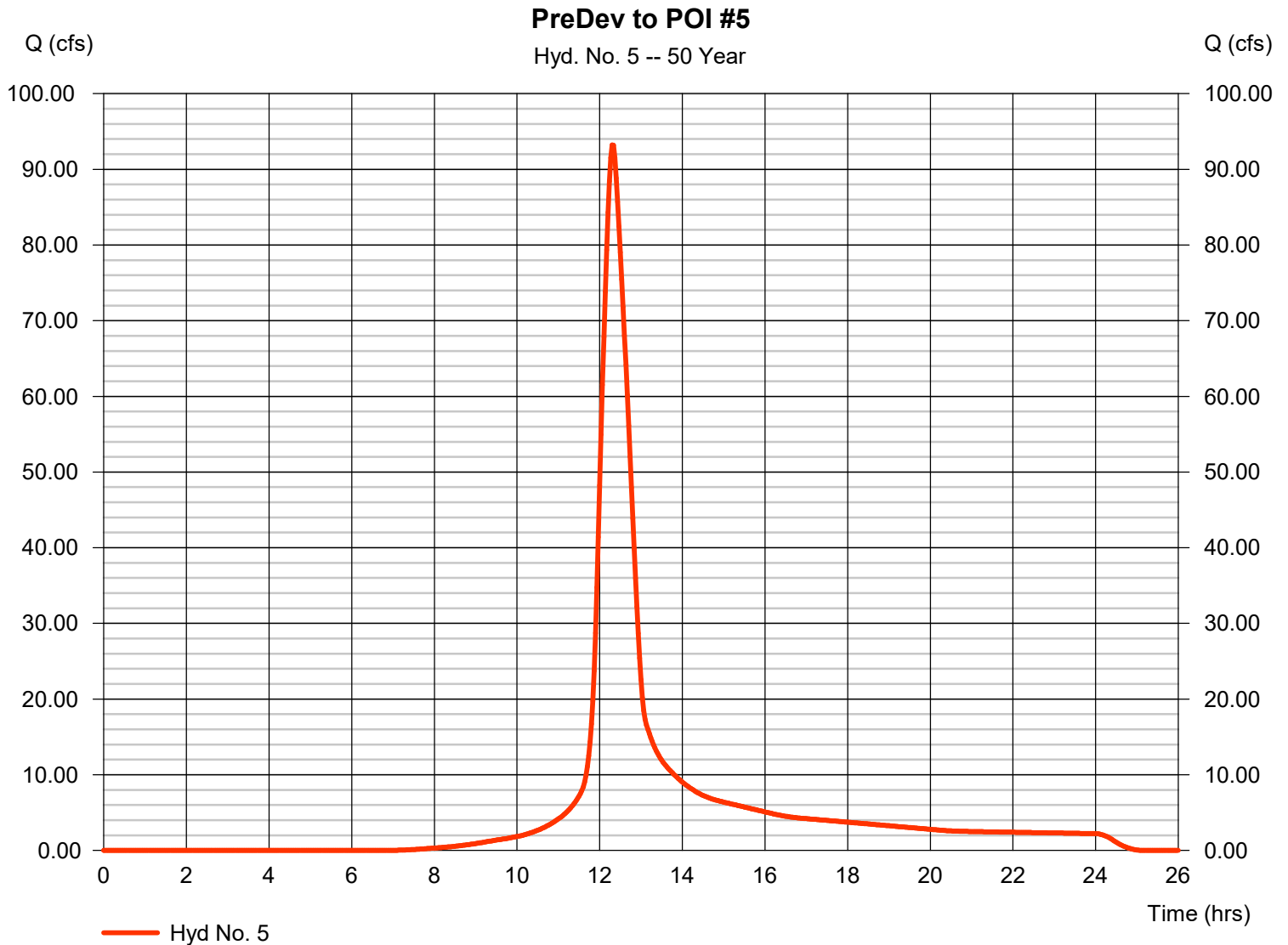
Saturday, 04 / 12 / 2025

Hyd. No. 5

PreDev to POI #5

Hydrograph type = SCS Runoff
 Storm frequency = 50 yrs
 Time interval = 2 min
 Drainage area = 32.090 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 6.81 in
 Storm duration = 24 hrs

Peak discharge = 93.21 cfs
 Time to peak = 12.30 hrs
 Hyd. volume = 480,852 cuft
 Curve number = 76
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 43.30 min
 Distribution = Type II
 Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

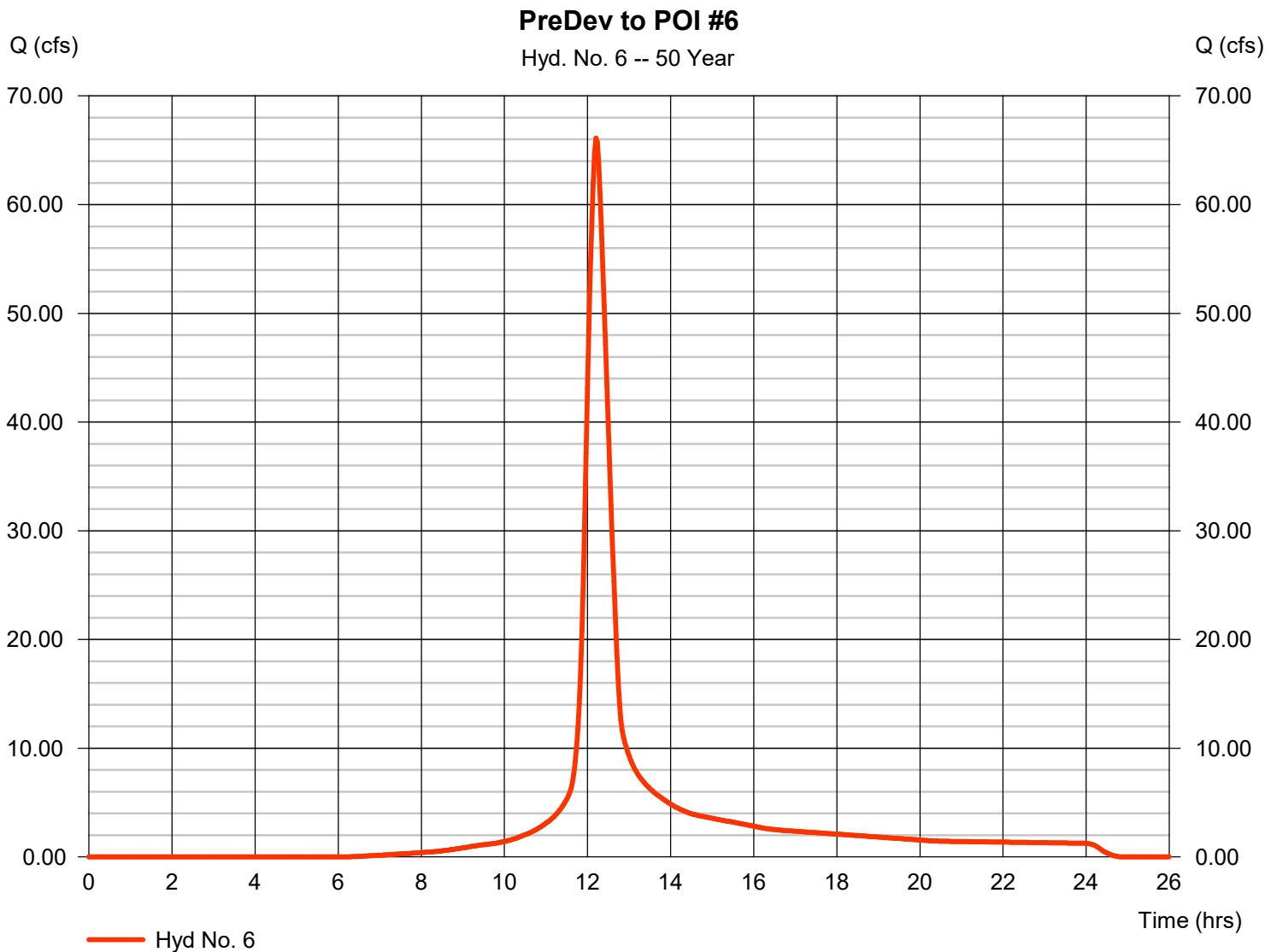
Saturday, 04 / 12 / 2025

Hyd. No. 6

PreDev to POI #6

Hydrograph type = SCS Runoff
 Storm frequency = 50 yrs
 Time interval = 2 min
 Drainage area = 17.640 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 6.81 in
 Storm duration = 24 hrs

Peak discharge = 66.11 cfs
 Time to peak = 12.20 hrs
 Hyd. volume = 285,970 cuft
 Curve number = 79
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 32.90 min
 Distribution = Type II
 Shape factor = 484



Hydrograph Report

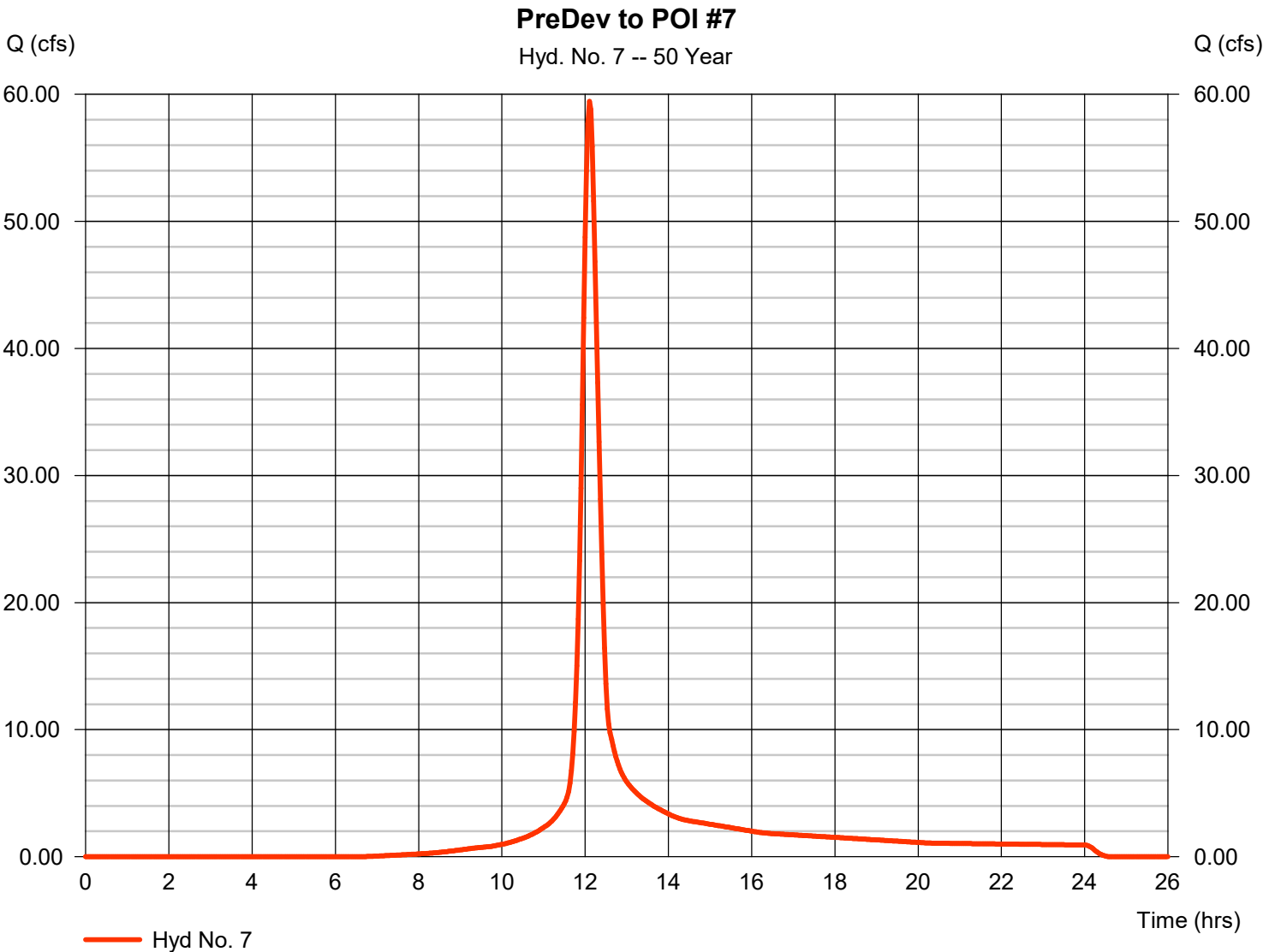
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 7

PreDev to POI #7

Hydrograph type	= SCS Runoff	Peak discharge	= 59.44 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 205,393 cuft
Drainage area	= 13.250 ac	Curve number	= 77
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 22.00 min
Total precip.	= 6.81 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

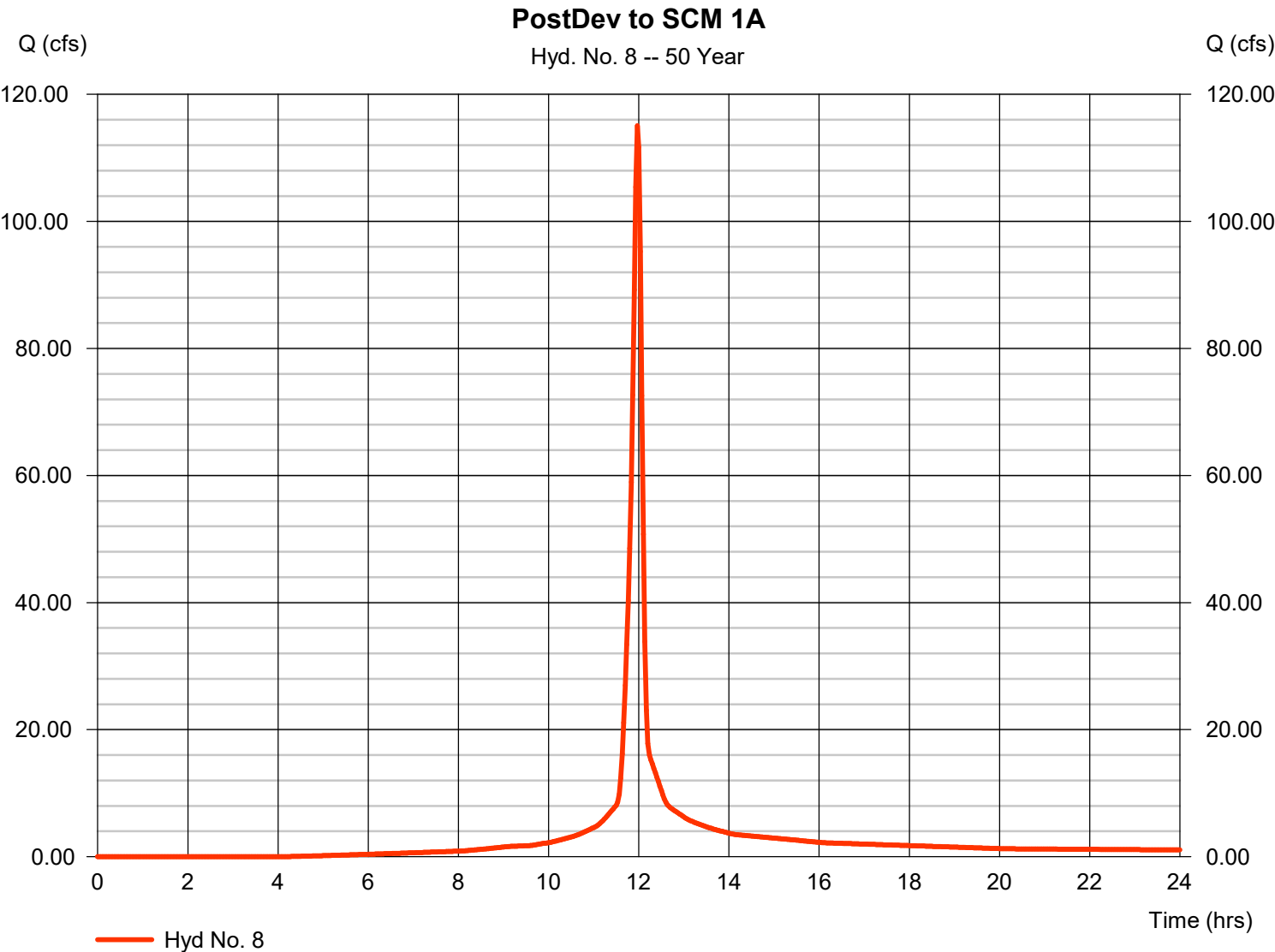
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 8

PostDev to SCM 1A

Hydrograph type	= SCS Runoff	Peak discharge	= 115.05 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 275,263 cuft
Drainage area	= 14.630 ac	Curve number	= 86
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 8.30 min
Total precip.	= 6.81 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

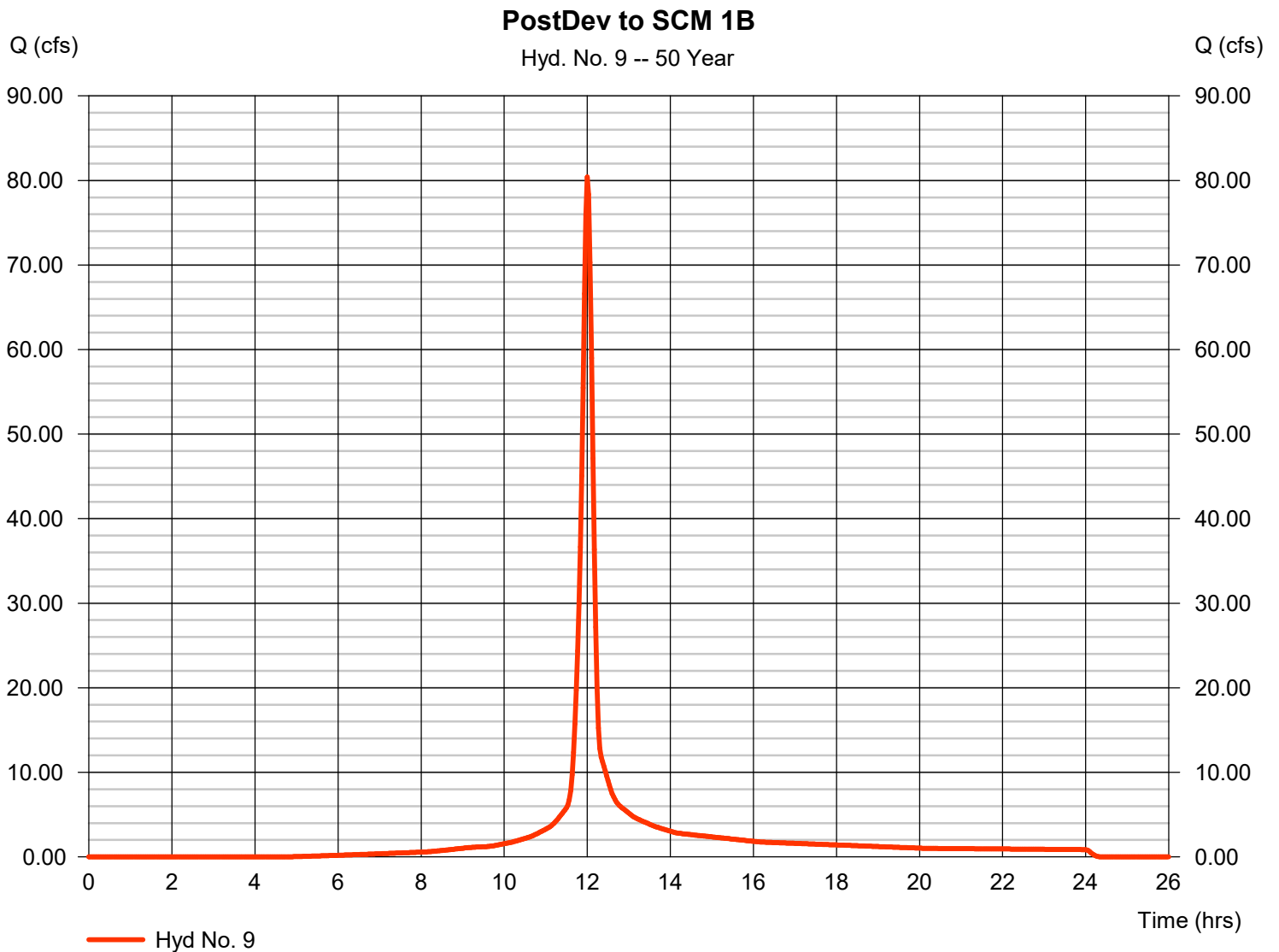
Saturday, 04 / 12 / 2025

Hyd. No. 9

PostDev to SCM 1B

Hydrograph type = SCS Runoff
Storm frequency = 50 yrs
Time interval = 2 min
Drainage area = 11.570 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24 hrs

Peak discharge = 80.40 cfs
Time to peak = 12.00 hrs
Hyd. volume = 213,847 cuft
Curve number = 83.8
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.10 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

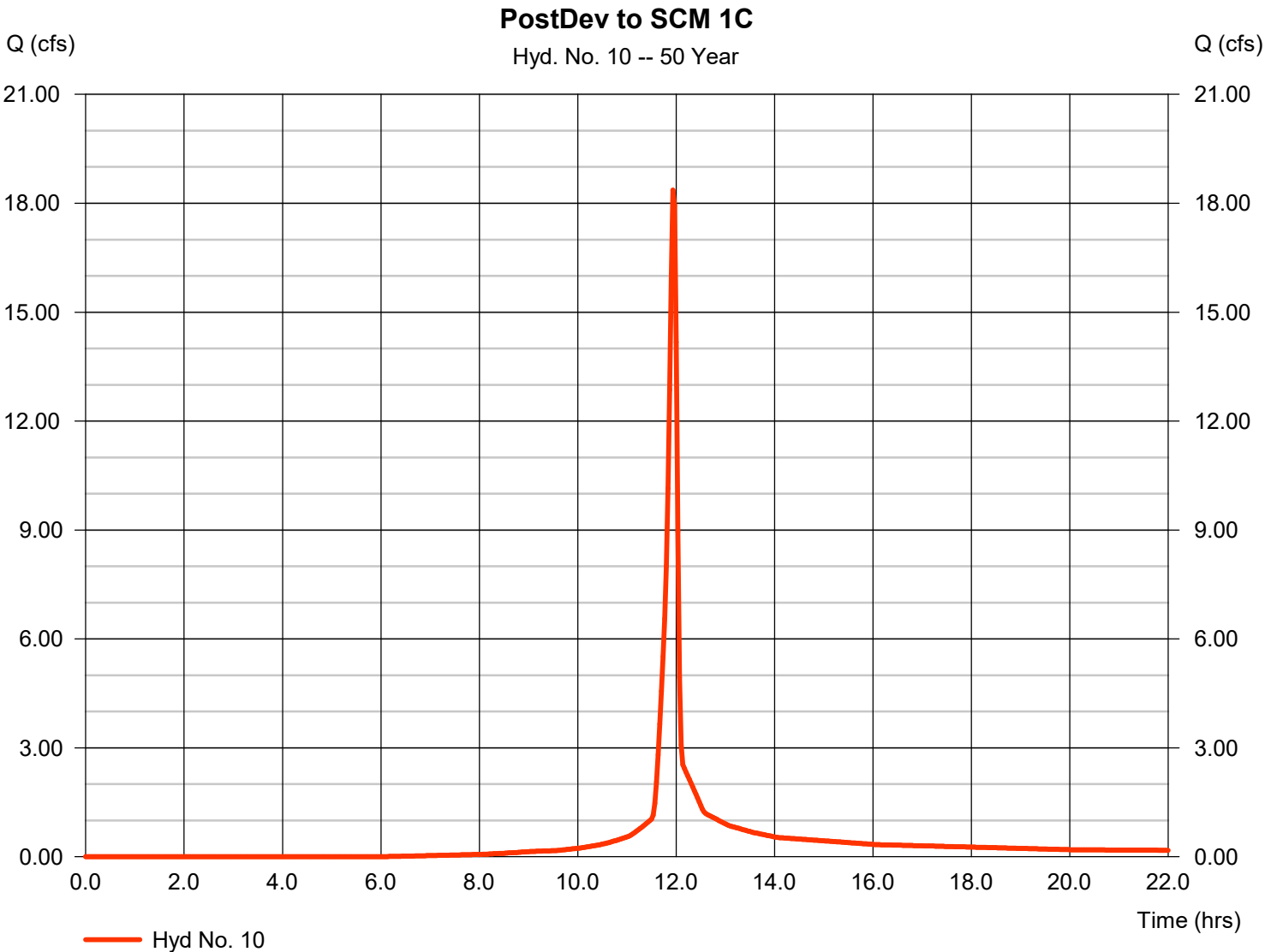
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 10

PostDev to SCM 1C

Hydrograph type	= SCS Runoff	Peak discharge	= 18.36 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 37,827 cuft
Drainage area	= 2.520 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.81 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

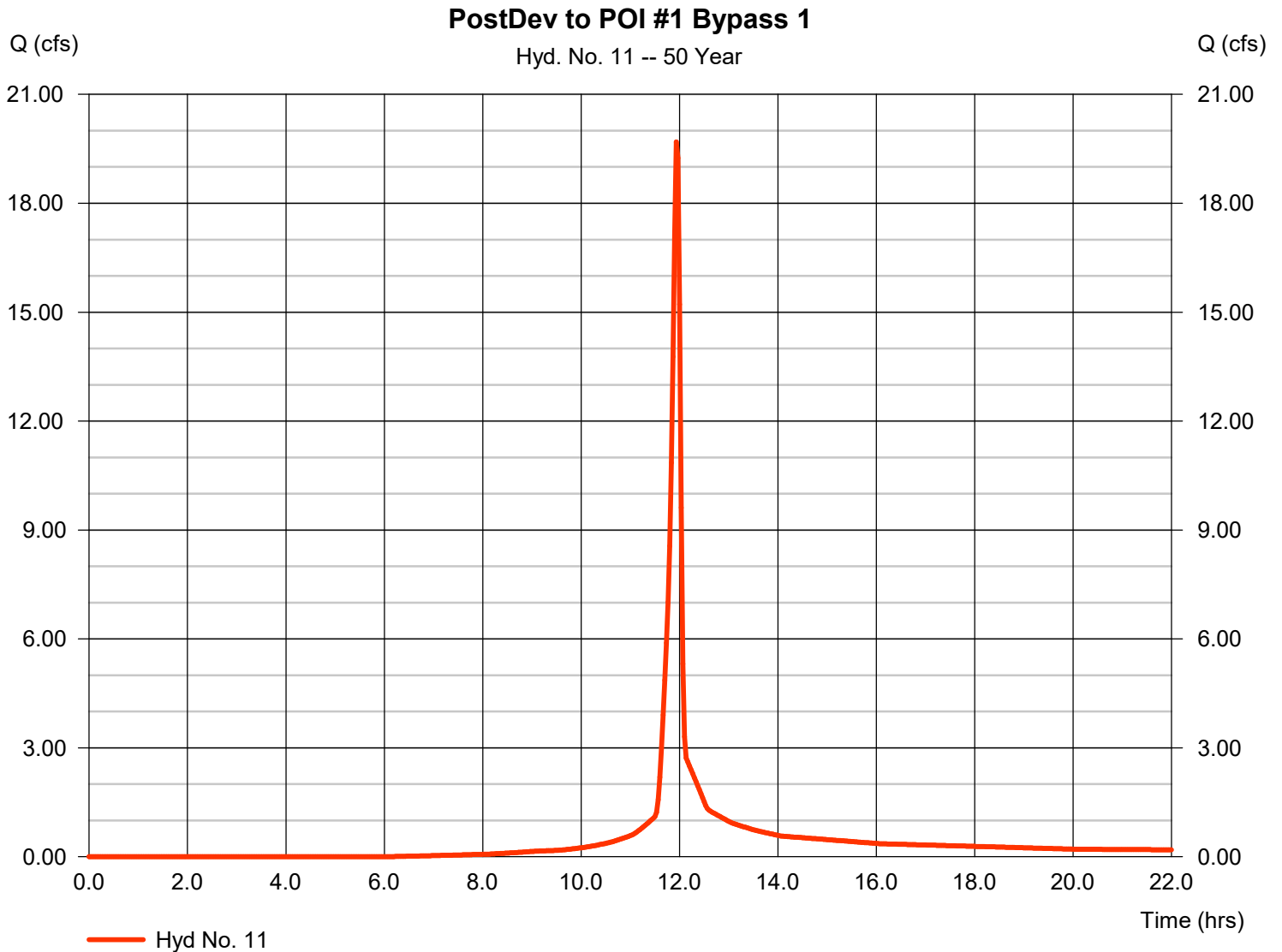
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 11

PostDev to POI #1 Bypass 1

Hydrograph type	= SCS Runoff	Peak discharge	= 19.69 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 40,528 cuft
Drainage area	= 2.720 ac	Curve number	= 78.7
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.81 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

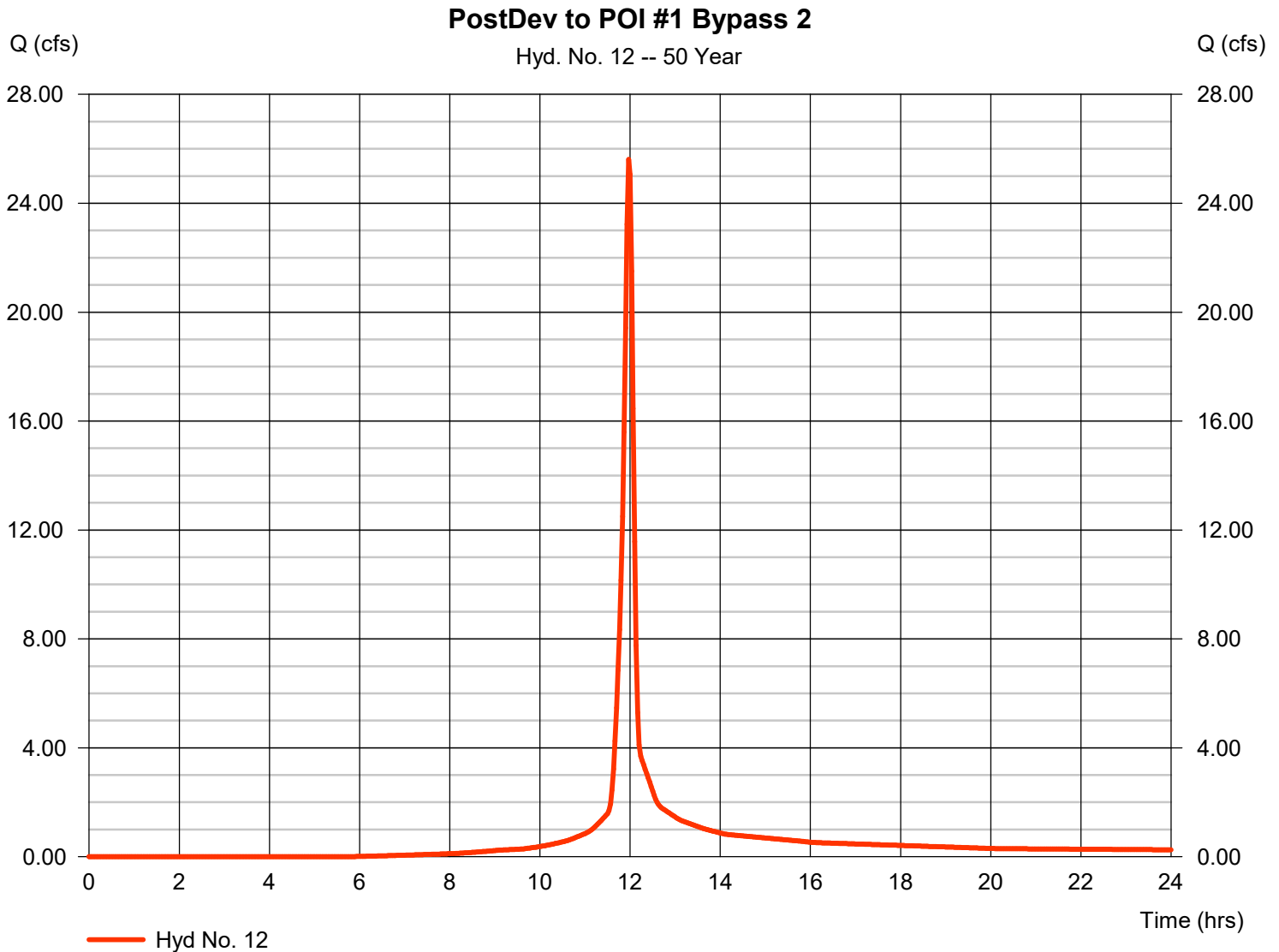
Saturday, 04 / 12 / 2025

Hyd. No. 12

PostDev to POI #1 Bypass 2

Hydrograph type = SCS Runoff
Storm frequency = 50 yrs
Time interval = 2 min
Drainage area = 3.640 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24 hrs

Peak discharge = 25.61 cfs
Time to peak = 11.97 hrs
Hyd. volume = 59,572 cuft
Curve number = 79.9
Hydraulic length = 0 ft
Time of conc. (Tc) = 6.70 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

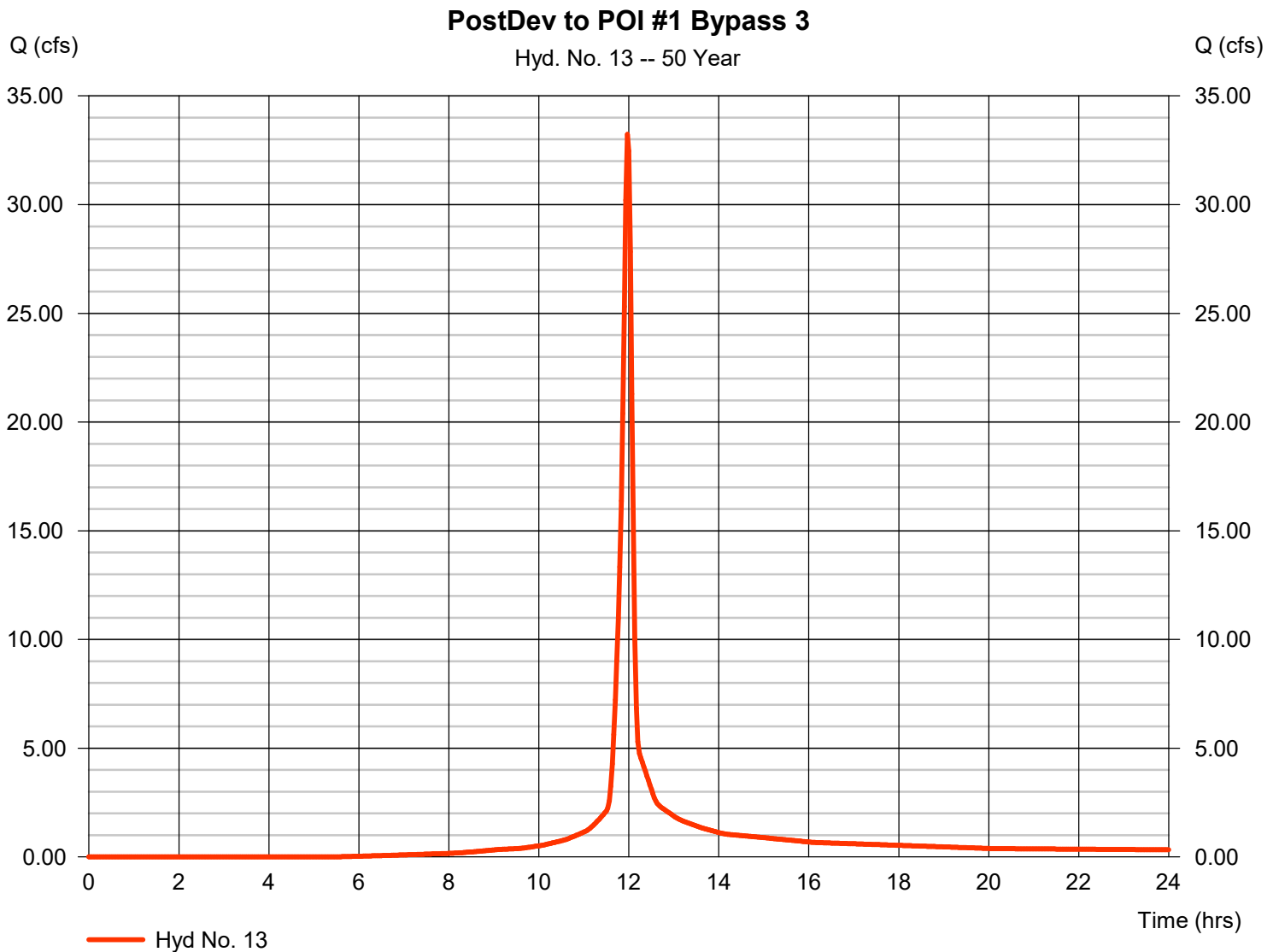
Saturday, 04 / 12 / 2025

Hyd. No. 13

PostDev to POI #1 Bypass 3

Hydrograph type = SCS Runoff
Storm frequency = 50 yrs
Time interval = 2 min
Drainage area = 4.620 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24 hrs

Peak discharge = 33.24 cfs
Time to peak = 11.97 hrs
Hyd. volume = 77,624 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 7.20 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

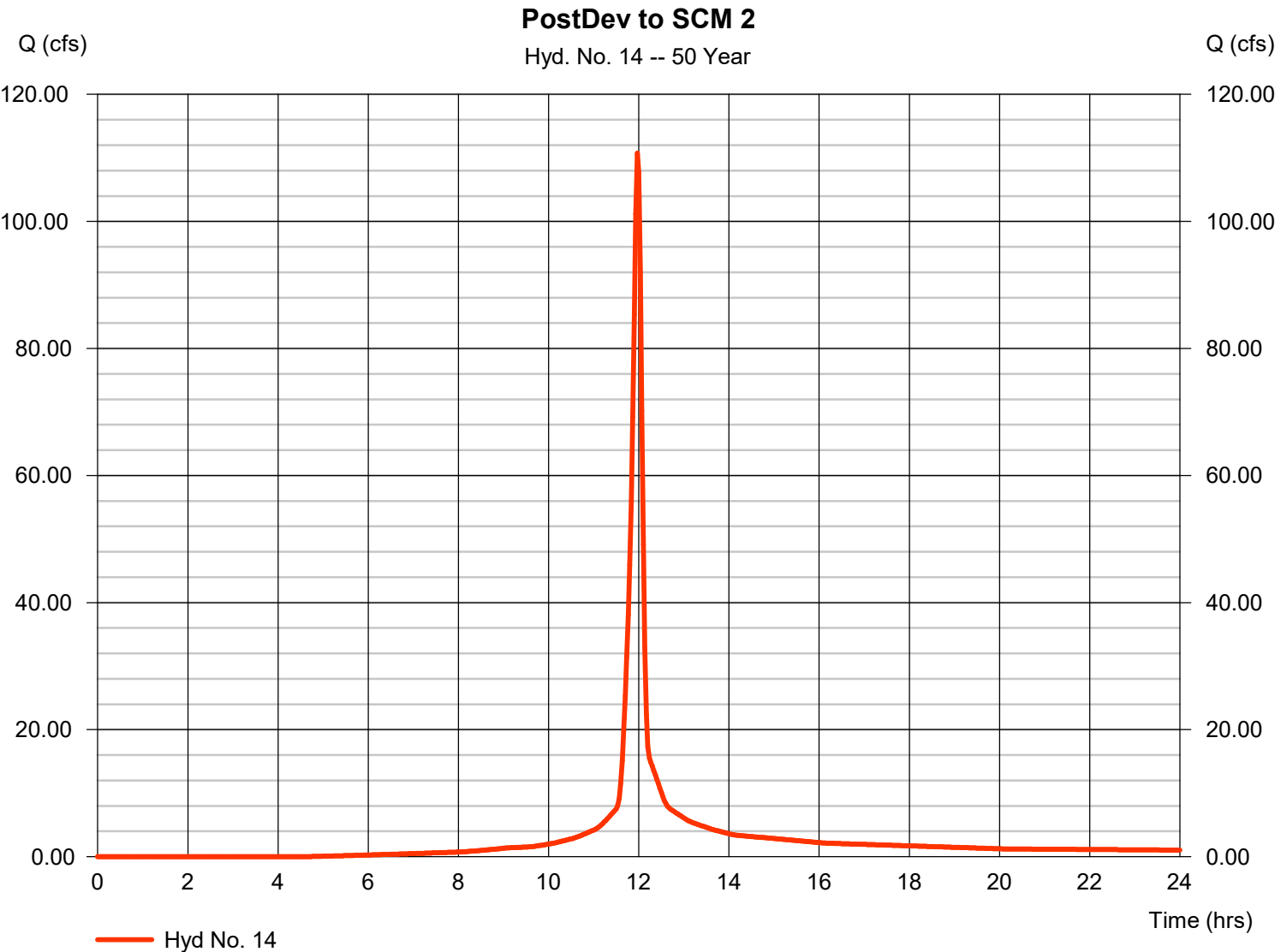
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 14

PostDev to SCM 2

Hydrograph type	= SCS Runoff	Peak discharge	= 110.73 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 262,445 cuft
Drainage area	= 14.480 ac	Curve number	= 84.3
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.10 min
Total precip.	= 6.81 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

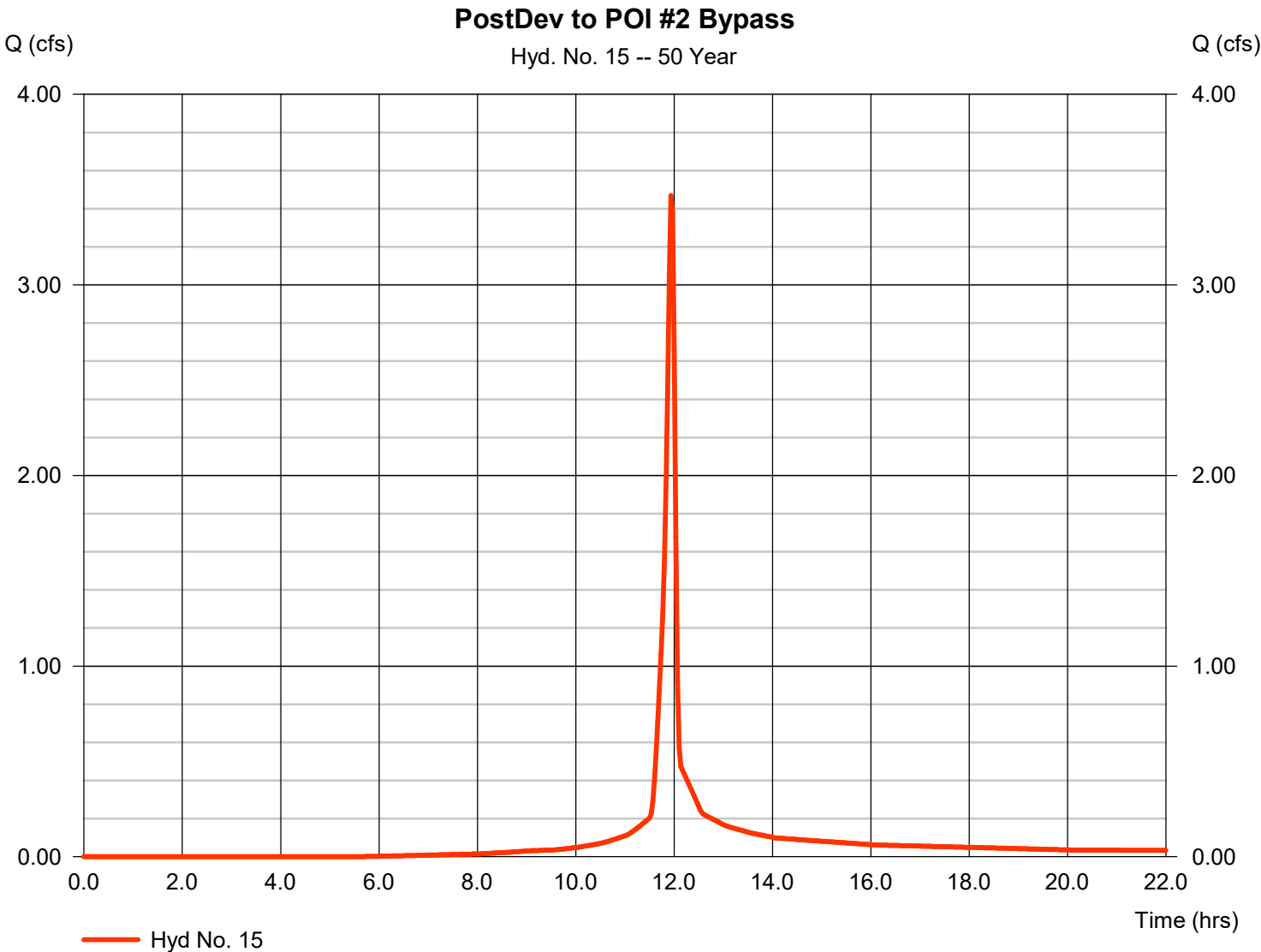
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 15

PostDev to POI #2 Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.468 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	7,194 cuft
Drainage area	=	0.460 ac	Curve number	=	80.7
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.81 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

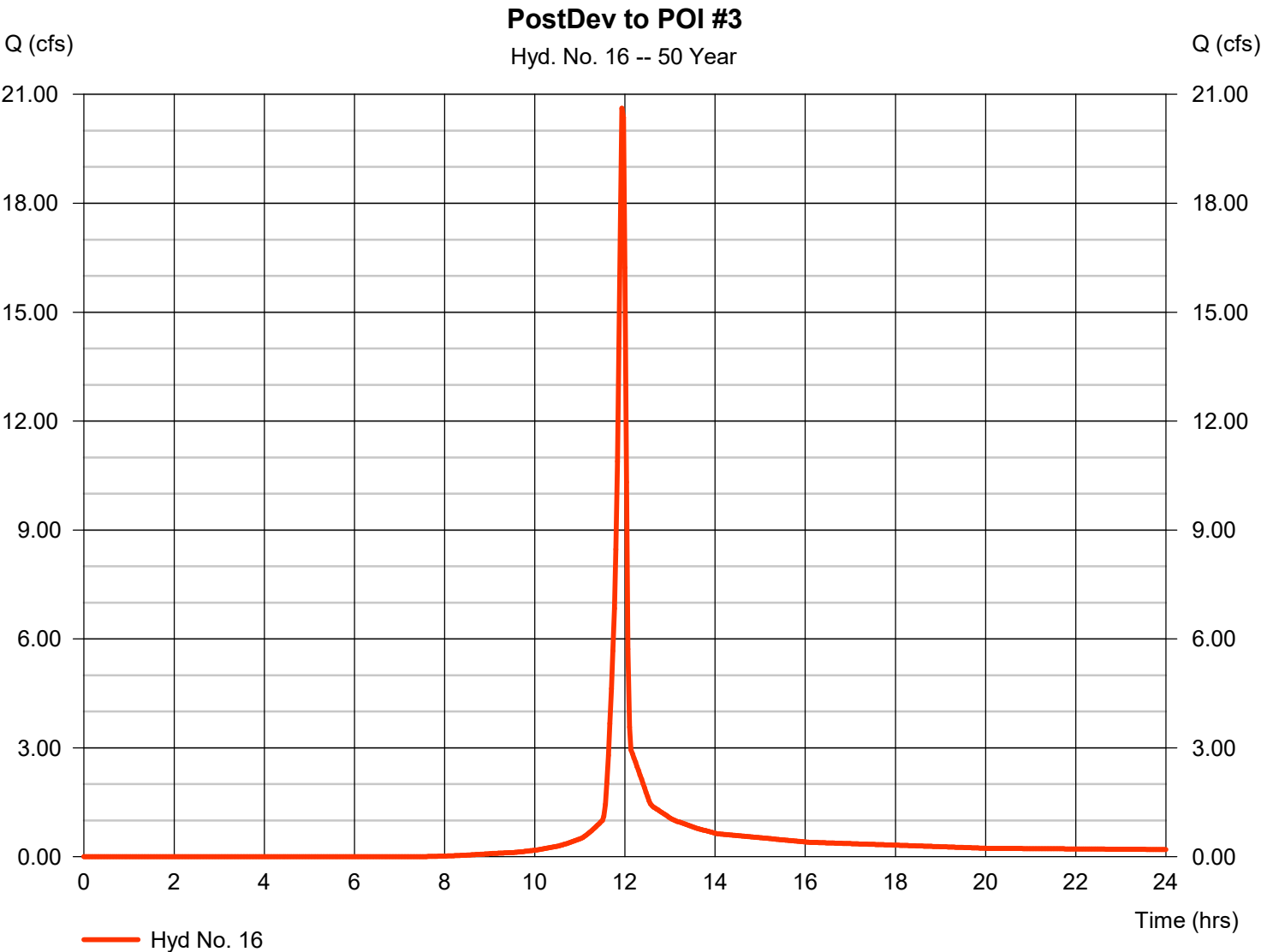
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 16

PostDev to POI #3

Hydrograph type	= SCS Runoff	Peak discharge	= 20.62 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 41,821 cuft
Drainage area	= 3.240 ac	Curve number	= 73.2
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.70 min
Total precip.	= 6.81 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

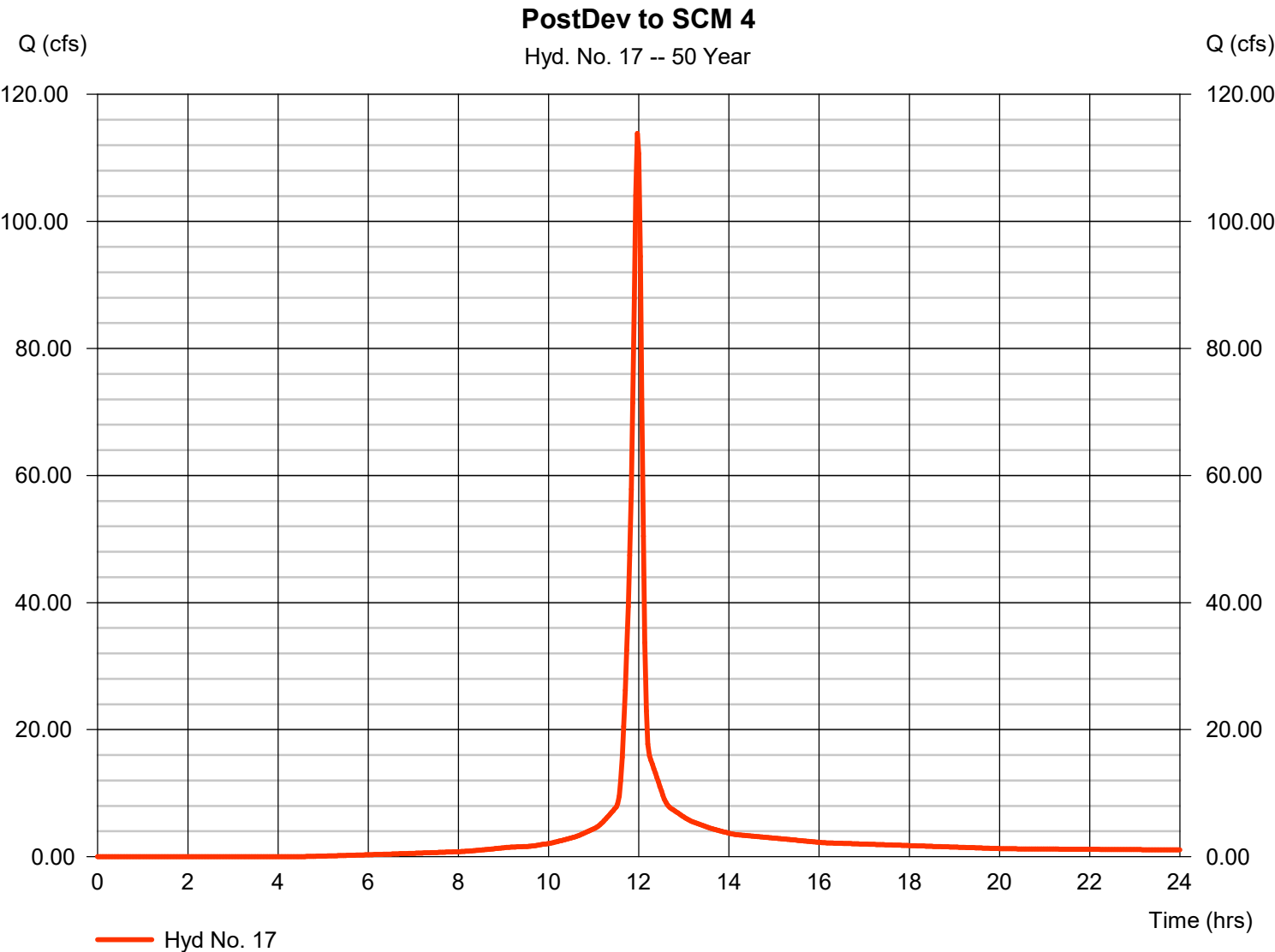
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 17

PostDev to SCM 4

Hydrograph type	= SCS Runoff	Peak discharge	= 113.83 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 270,508 cuft
Drainage area	= 14.760 ac	Curve number	= 84.8
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.20 min
Total precip.	= 6.81 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

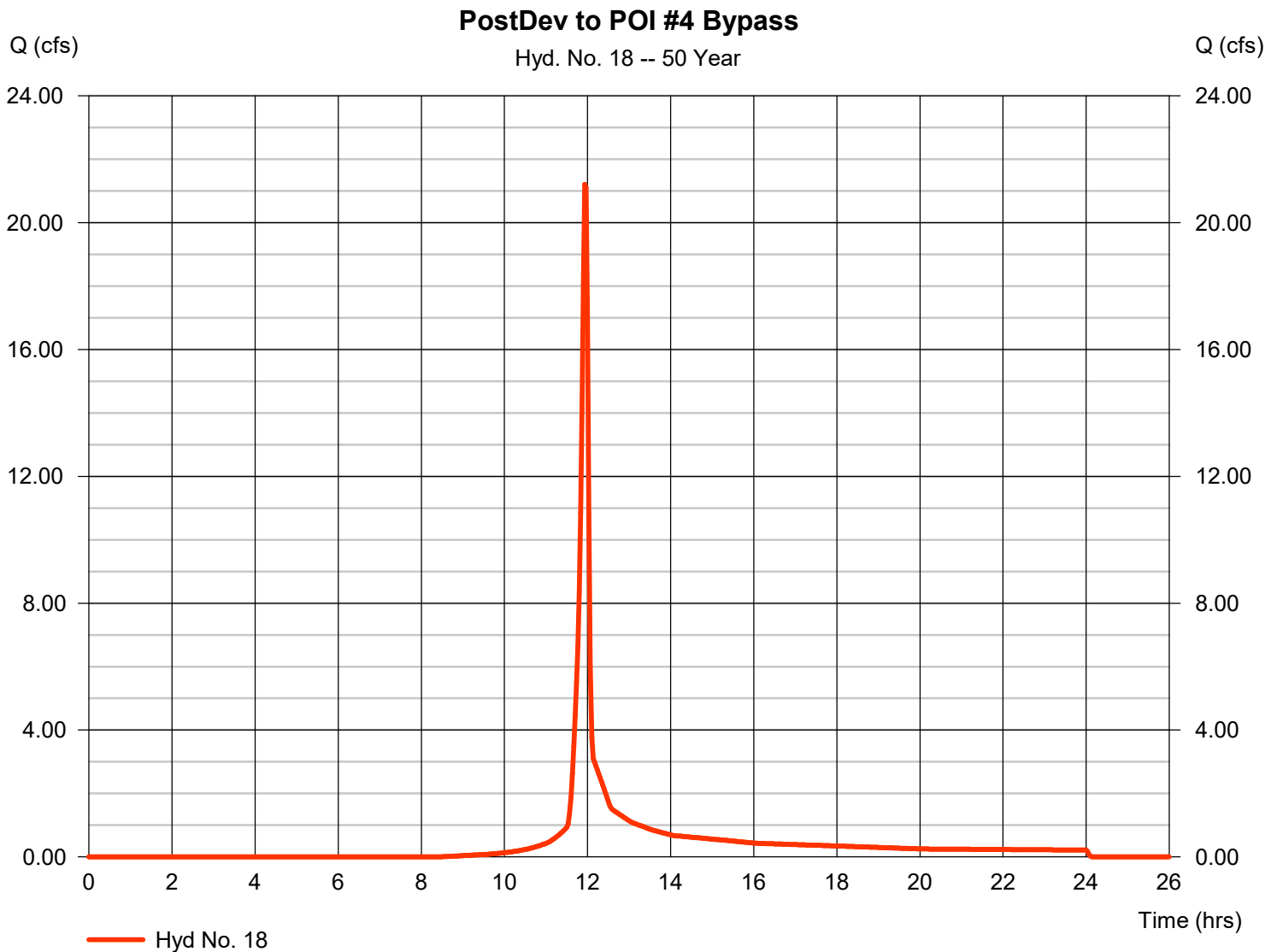
Saturday, 04 / 12 / 2025

Hyd. No. 18

PostDev to POI #4 Bypass

Hydrograph type = SCS Runoff
 Storm frequency = 50 yrs
 Time interval = 2 min
 Drainage area = 3.670 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 6.81 in
 Storm duration = 24 hrs

Peak discharge = 21.21 cfs
 Time to peak = 11.93 hrs
 Hyd. volume = 42,843 cuft
 Curve number = 69.7
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 5.00 min
 Distribution = Type II
 Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

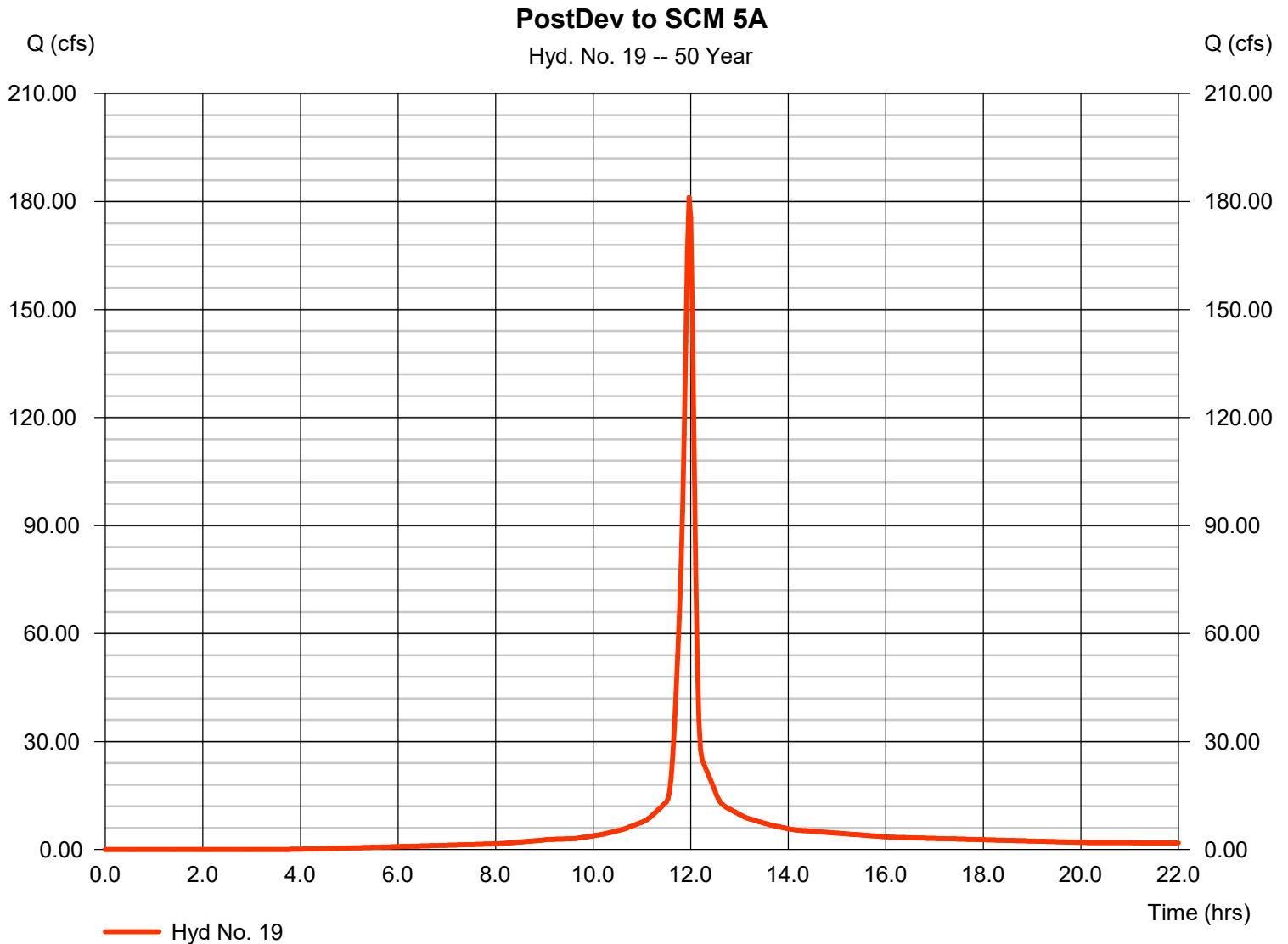
Saturday, 04 / 12 / 2025

Hyd. No. 19

PostDev to SCM 5A

Hydrograph type = SCS Runoff
Storm frequency = 50 yrs
Time interval = 2 min
Drainage area = 22.420 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24 hrs

Peak discharge = 181.14 cfs
Time to peak = 11.97 hrs
Hyd. volume = 438,363 cuft
Curve number = 87.8
Hydraulic length = 0 ft
Time of conc. (Tc) = 9.10 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

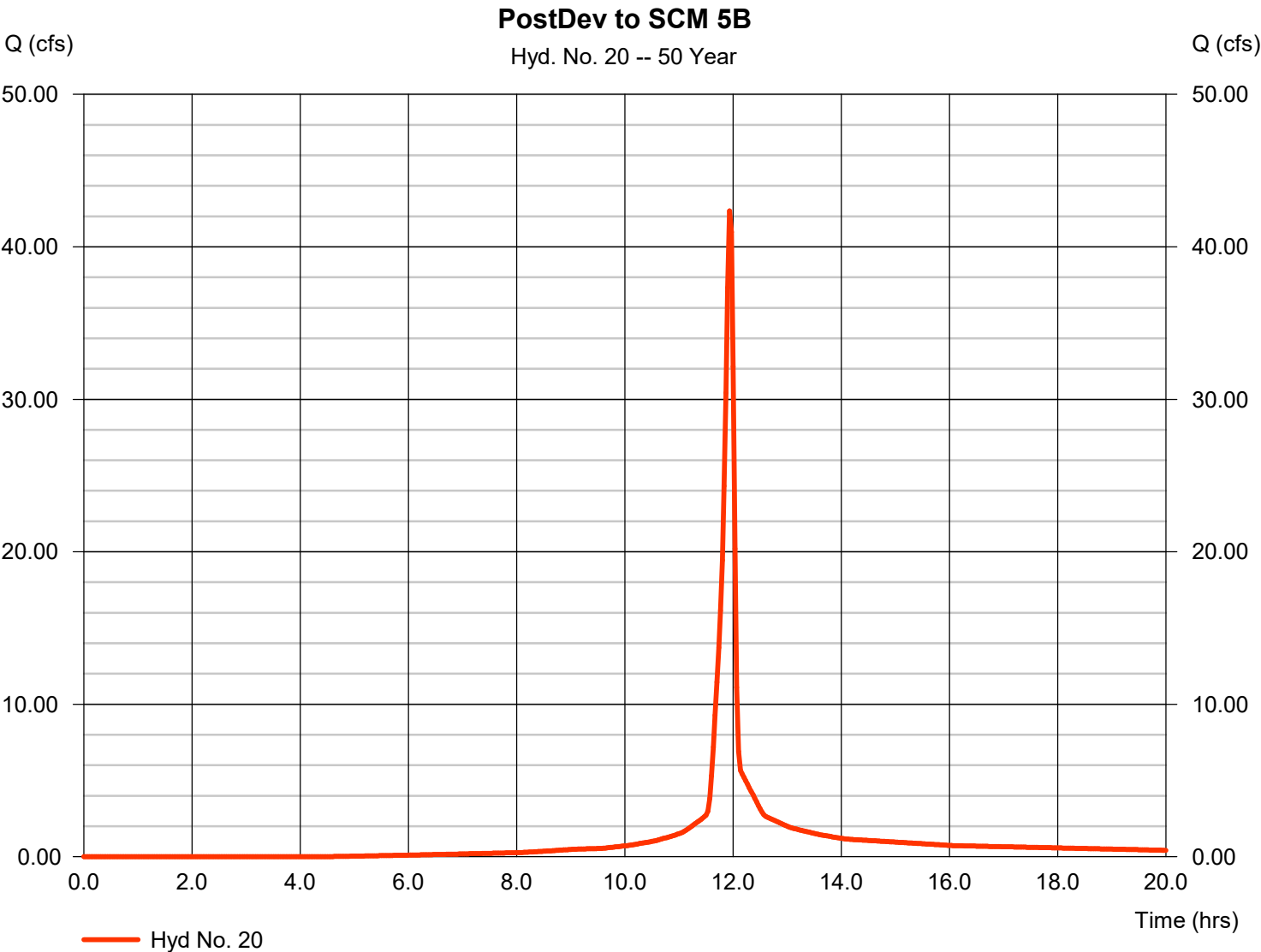
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 20

PostDev to SCM 5B

Hydrograph type	= SCS Runoff	Peak discharge	= 42.35 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 89,688 cuft
Drainage area	= 5.220 ac	Curve number	= 84.8
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.81 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

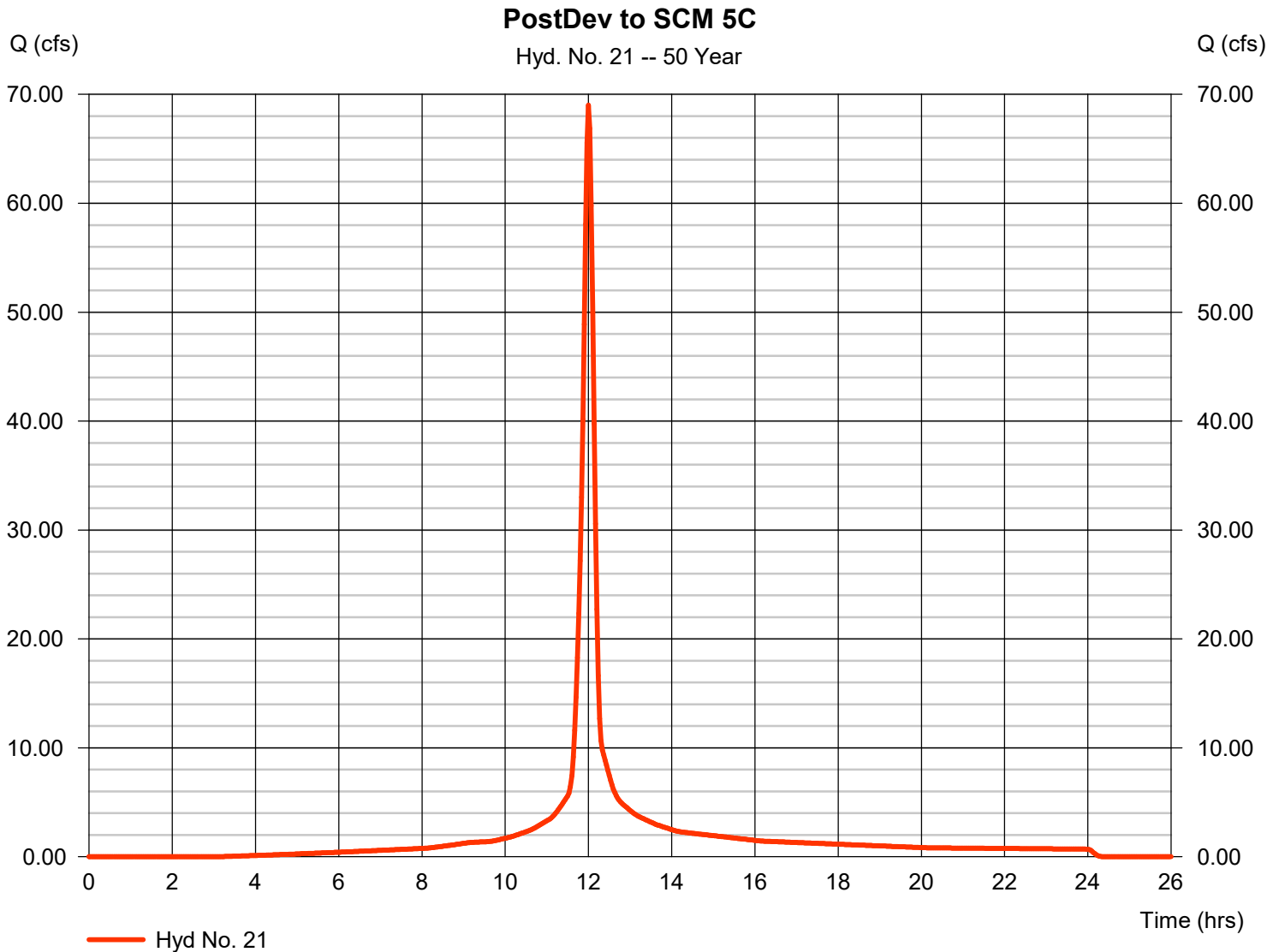
Saturday, 04 / 12 / 2025

Hyd. No. 21

PostDev to SCM 5C

Hydrograph type = SCS Runoff
 Storm frequency = 50 yrs
 Time interval = 2 min
 Drainage area = 9.070 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 6.81 in
 Storm duration = 24 hrs

Peak discharge = 69.00 cfs
 Time to peak = 12.00 hrs
 Hyd. volume = 189,839 cuft
 Curve number = 89.6
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 12.80 min
 Distribution = Type II
 Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

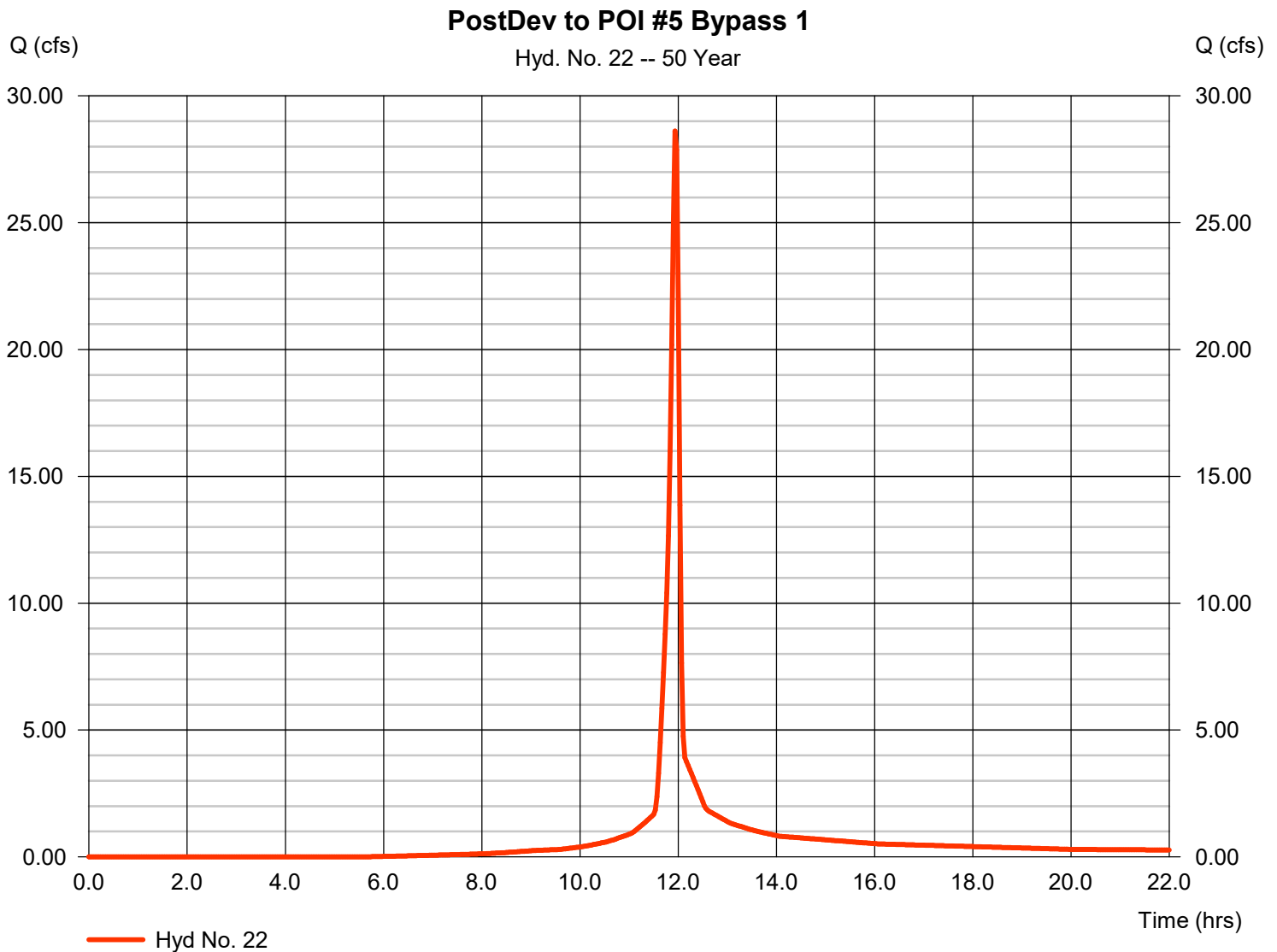
Saturday, 04 / 12 / 2025

Hyd. No. 22

PostDev to POI #5 Bypass 1

Hydrograph type = SCS Runoff
Storm frequency = 50 yrs
Time interval = 2 min
Drainage area = 3.810 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24 hrs

Peak discharge = 28.62 cfs
Time to peak = 11.93 hrs
Hyd. volume = 59,305 cuft
Curve number = 80.5
Hydraulic length = 0 ft
Time of conc. (Tc) = 5.00 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

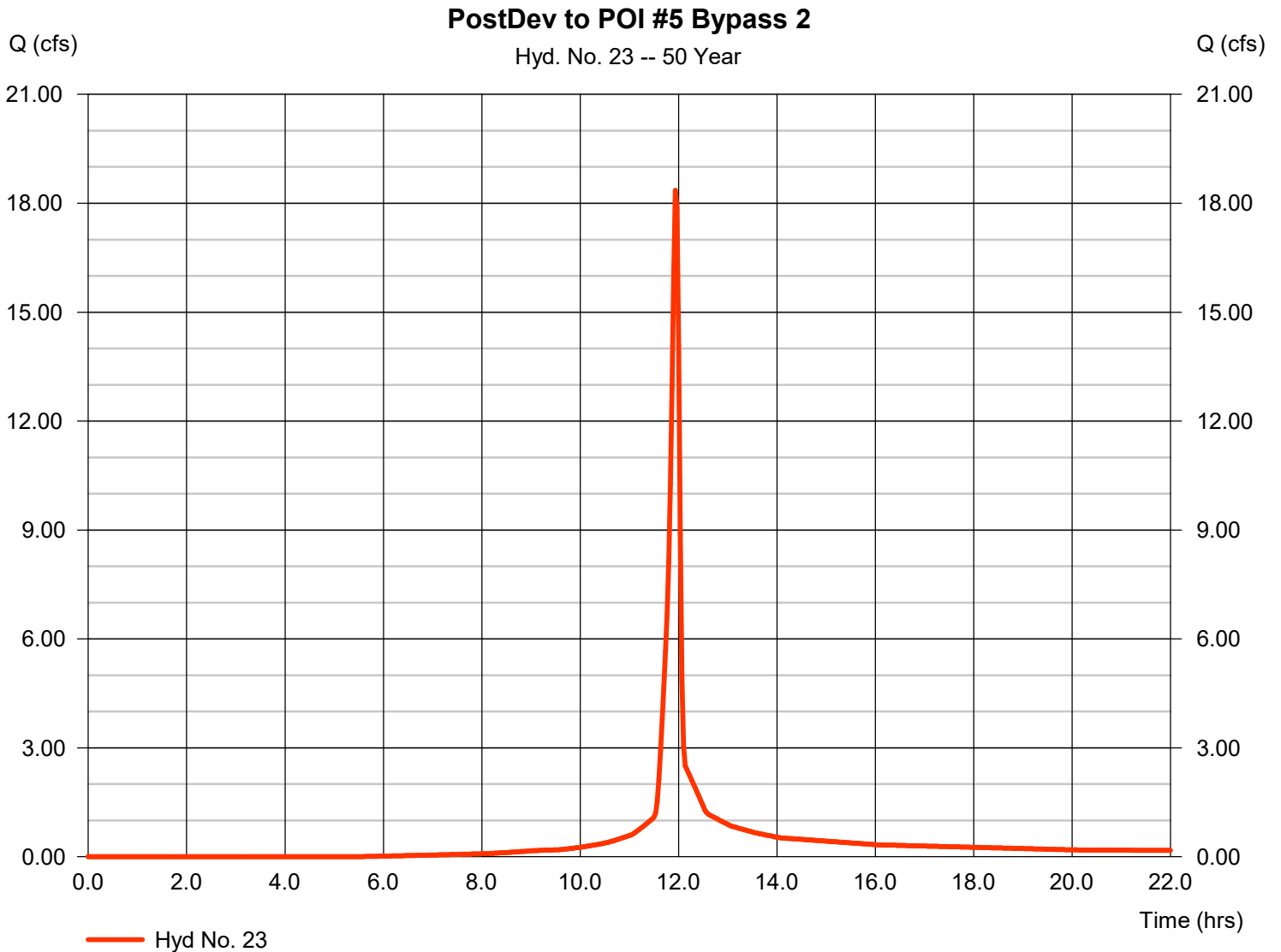
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 23

PostDev to POI #5 Bypass 2

Hydrograph type	= SCS Runoff	Peak discharge	= 18.35 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 38,119 cuft
Drainage area	= 2.420 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.81 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

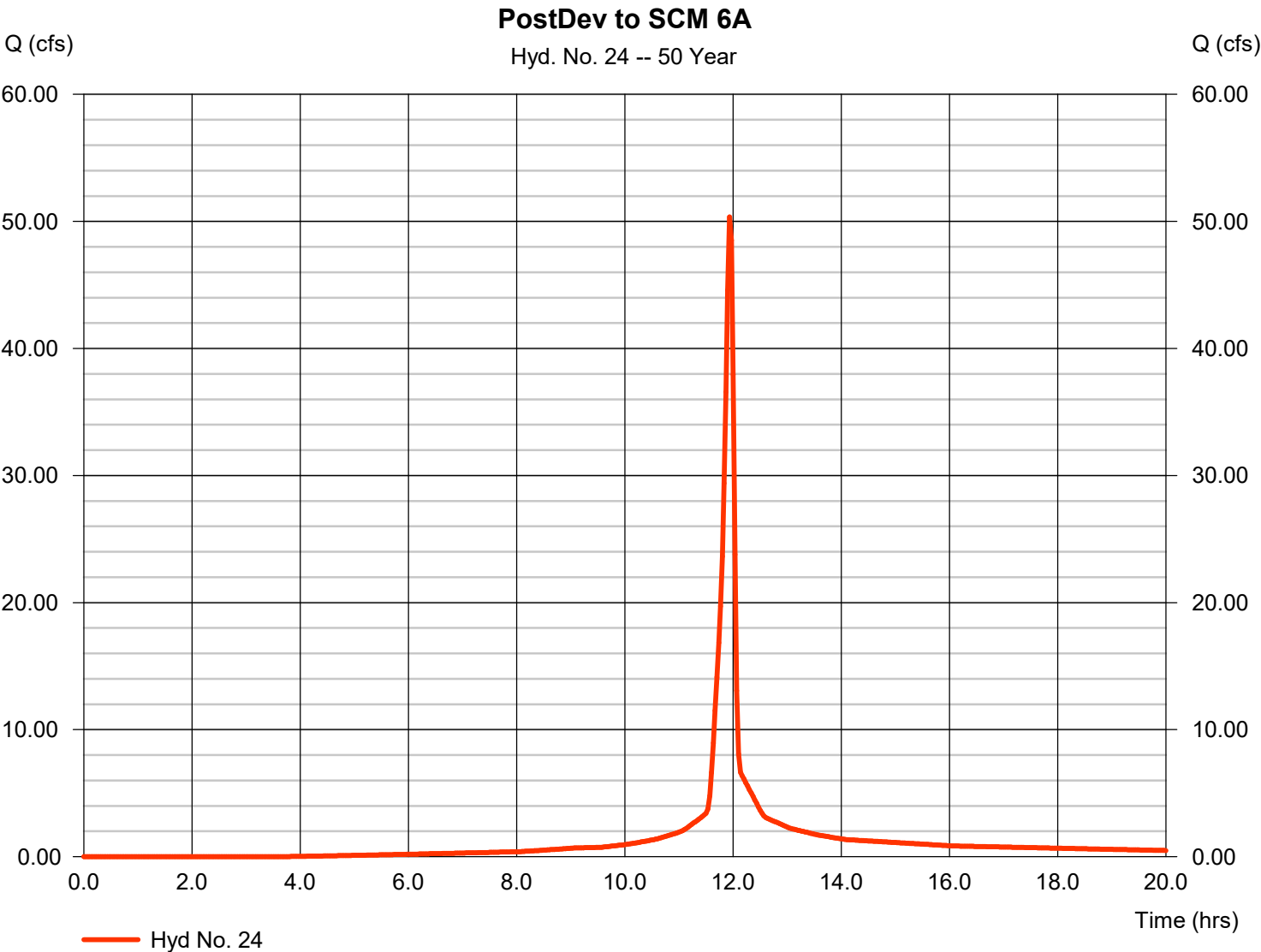
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 24

PostDev to SCM 6A

Hydrograph type	= SCS Runoff	Peak discharge	= 50.36 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 108,606 cuft
Drainage area	= 5.950 ac	Curve number	= 87.6
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.81 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

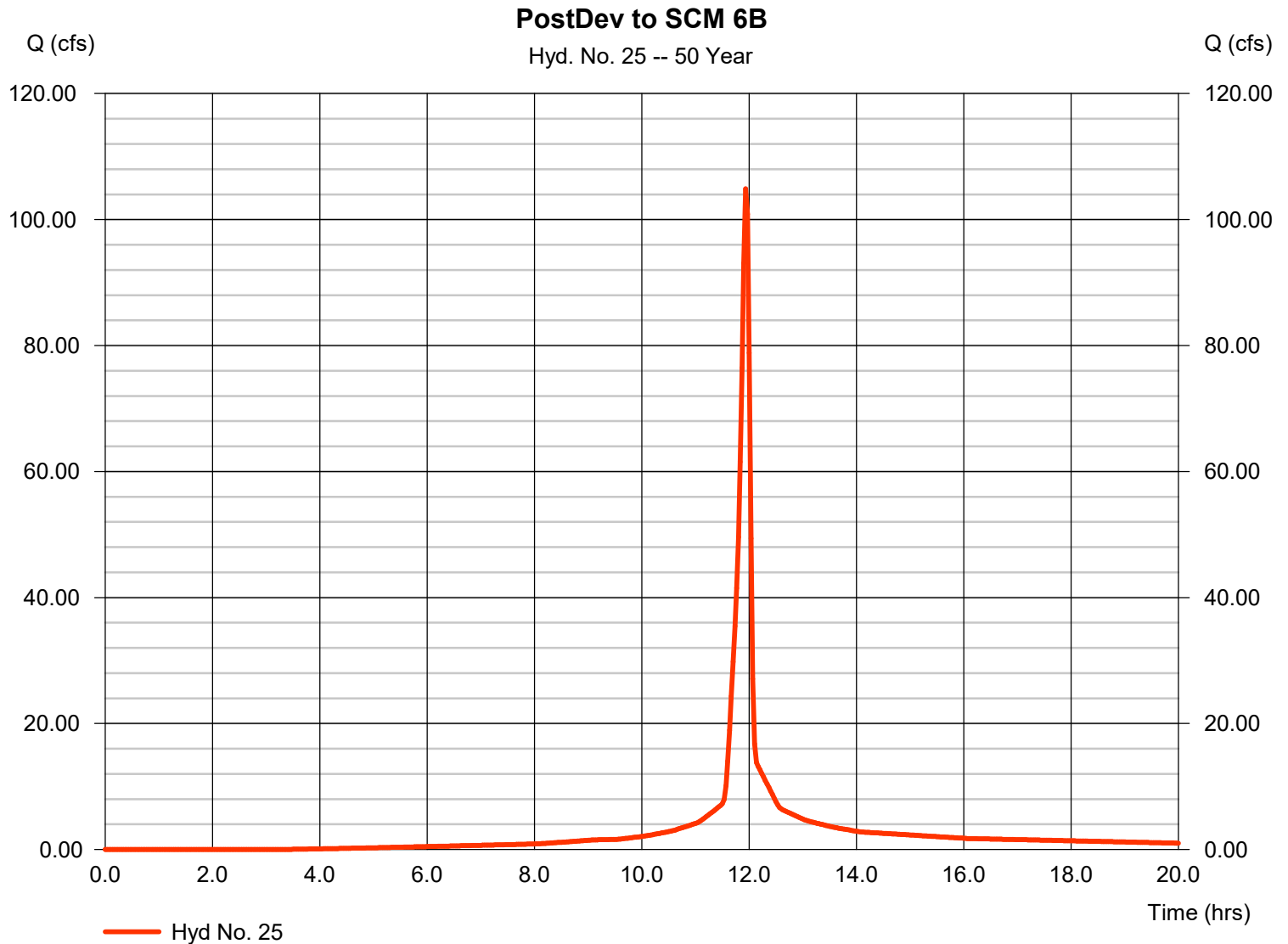
Saturday, 04 / 12 / 2025

Hyd. No. 25

PostDev to SCM 6B

Hydrograph type = SCS Runoff
Storm frequency = 50 yrs
Time interval = 2 min
Drainage area = 12.210 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24 hrs

Peak discharge = 104.87 cfs
Time to peak = 11.93 hrs
Hyd. volume = 228,061 cuft
Curve number = 88.7
Hydraulic length = 0 ft
Time of conc. (Tc) = 6.30 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

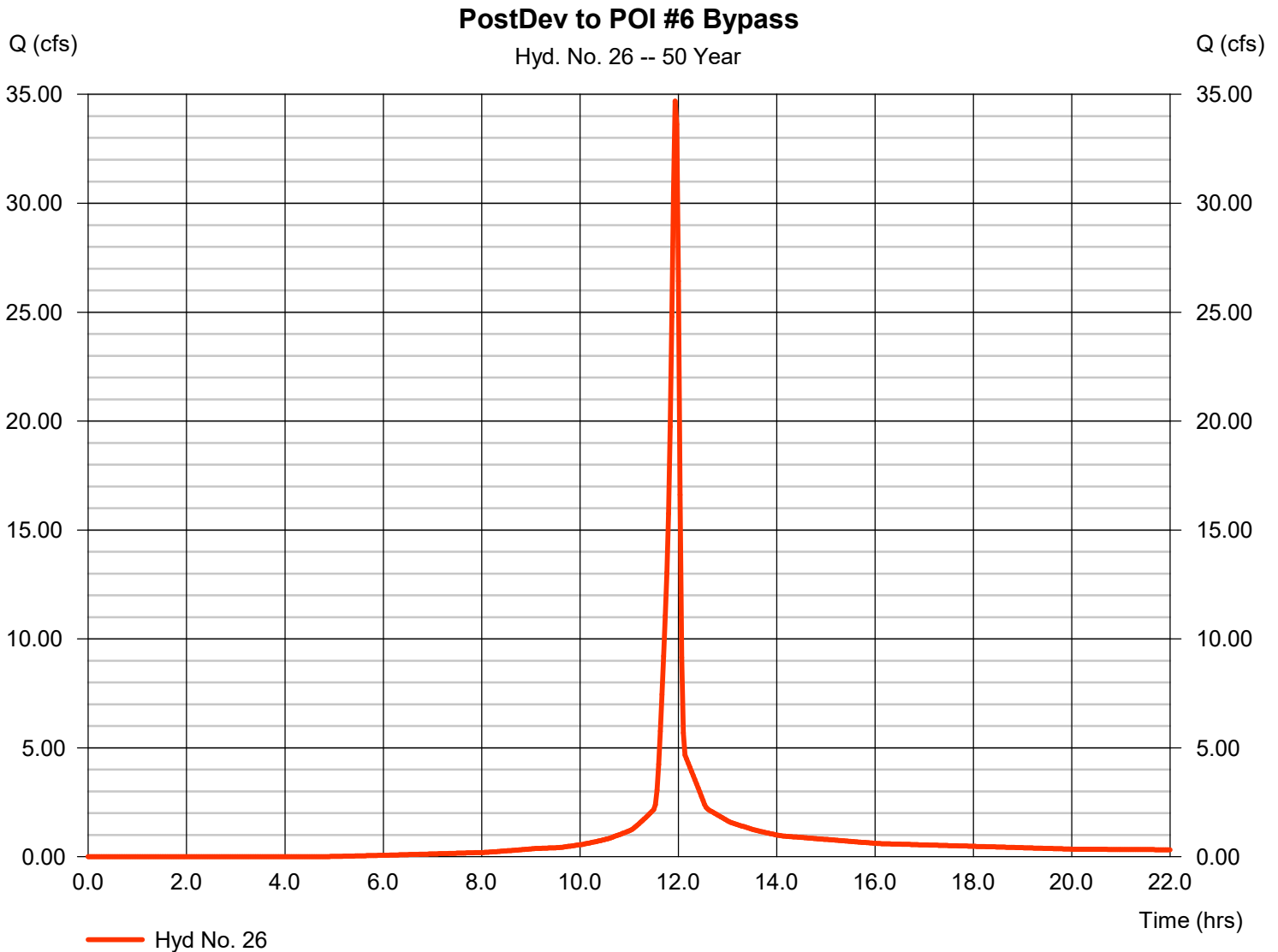
Saturday, 04 / 12 / 2025

Hyd. No. 26

PostDev to POI #6 Bypass

Hydrograph type = SCS Runoff
Storm frequency = 50 yrs
Time interval = 2 min
Drainage area = 4.370 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24 hrs

Peak discharge = 34.69 cfs
Time to peak = 11.93 hrs
Hyd. volume = 72,932 cuft
Curve number = 83.5
Hydraulic length = 0 ft
Time of conc. (Tc) = 5.00 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

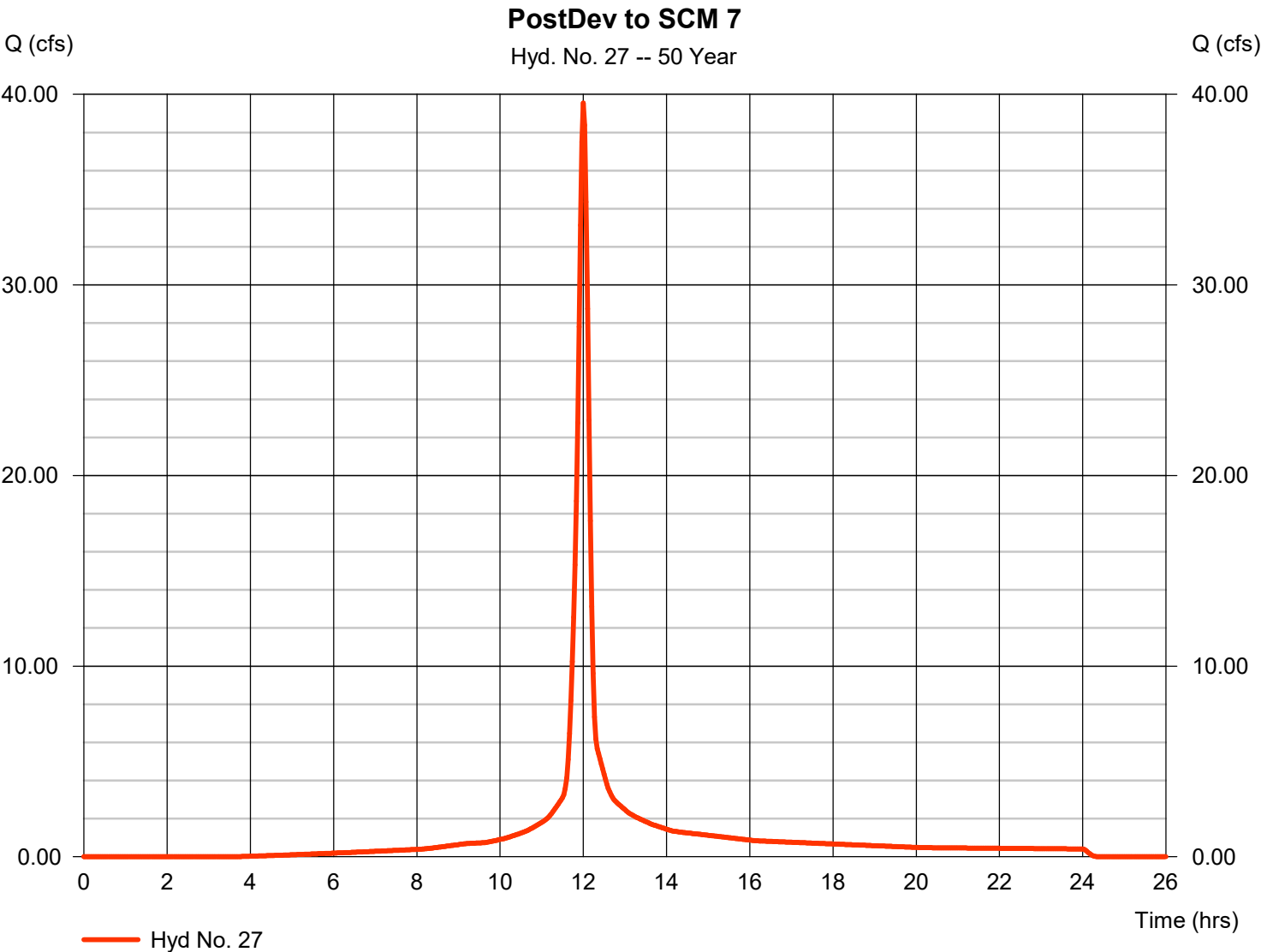
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 27

PostDev to SCM 7

Hydrograph type	= SCS Runoff	Peak discharge	= 39.55 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 107,470 cuft
Drainage area	= 5.330 ac	Curve number	= 87.8
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 12.40 min
Total precip.	= 6.81 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

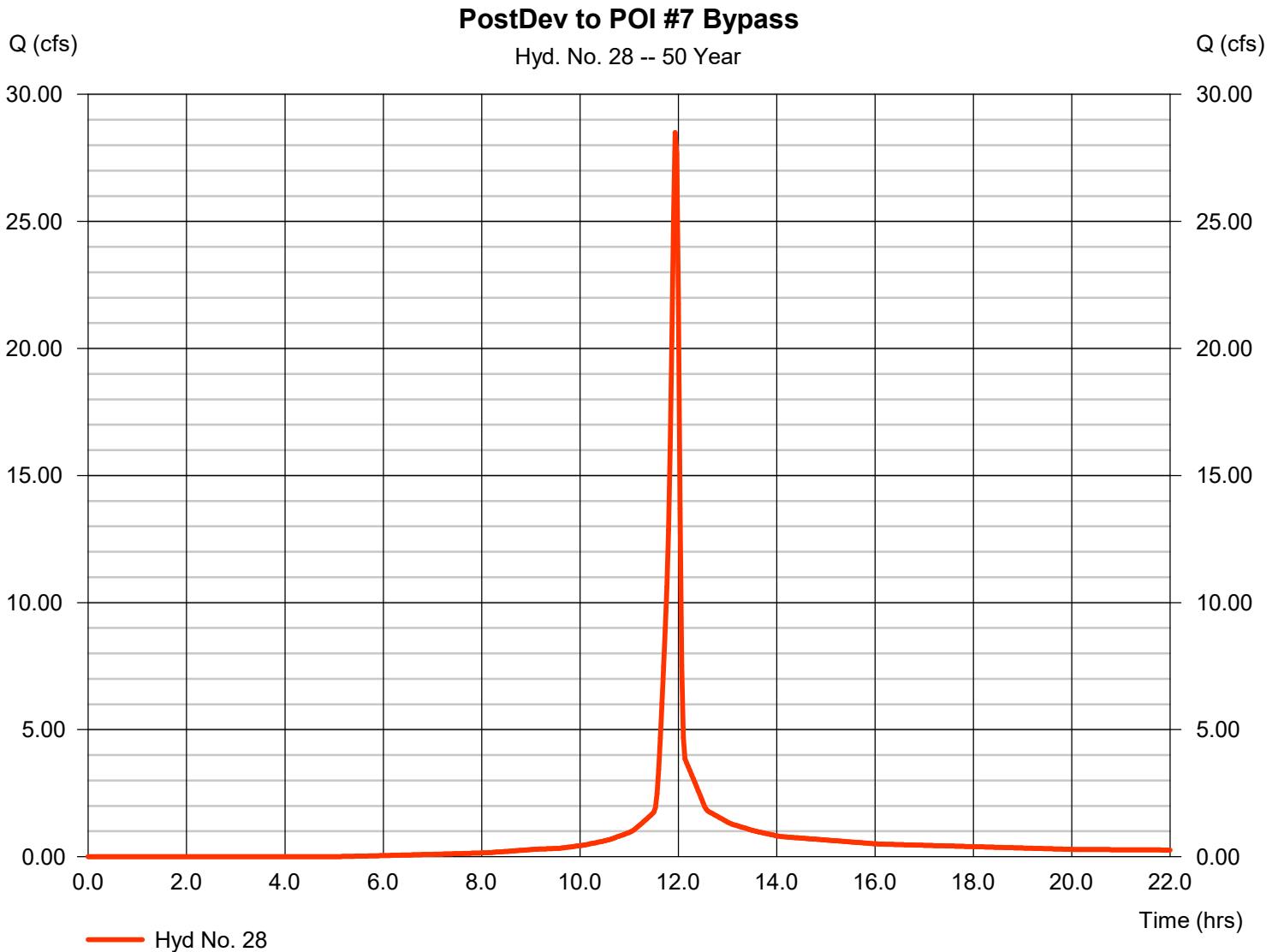
Saturday, 04 / 12 / 2025

Hyd. No. 28

PostDev to POI #7 Bypass

Hydrograph type = SCS Runoff
Storm frequency = 50 yrs
Time interval = 2 min
Drainage area = 3.640 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.81 in
Storm duration = 24 hrs

Peak discharge = 28.49 cfs
Time to peak = 11.93 hrs
Hyd. volume = 59,652 cuft
Curve number = 82.7
Hydraulic length = 0 ft
Time of conc. (Tc) = 5.00 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

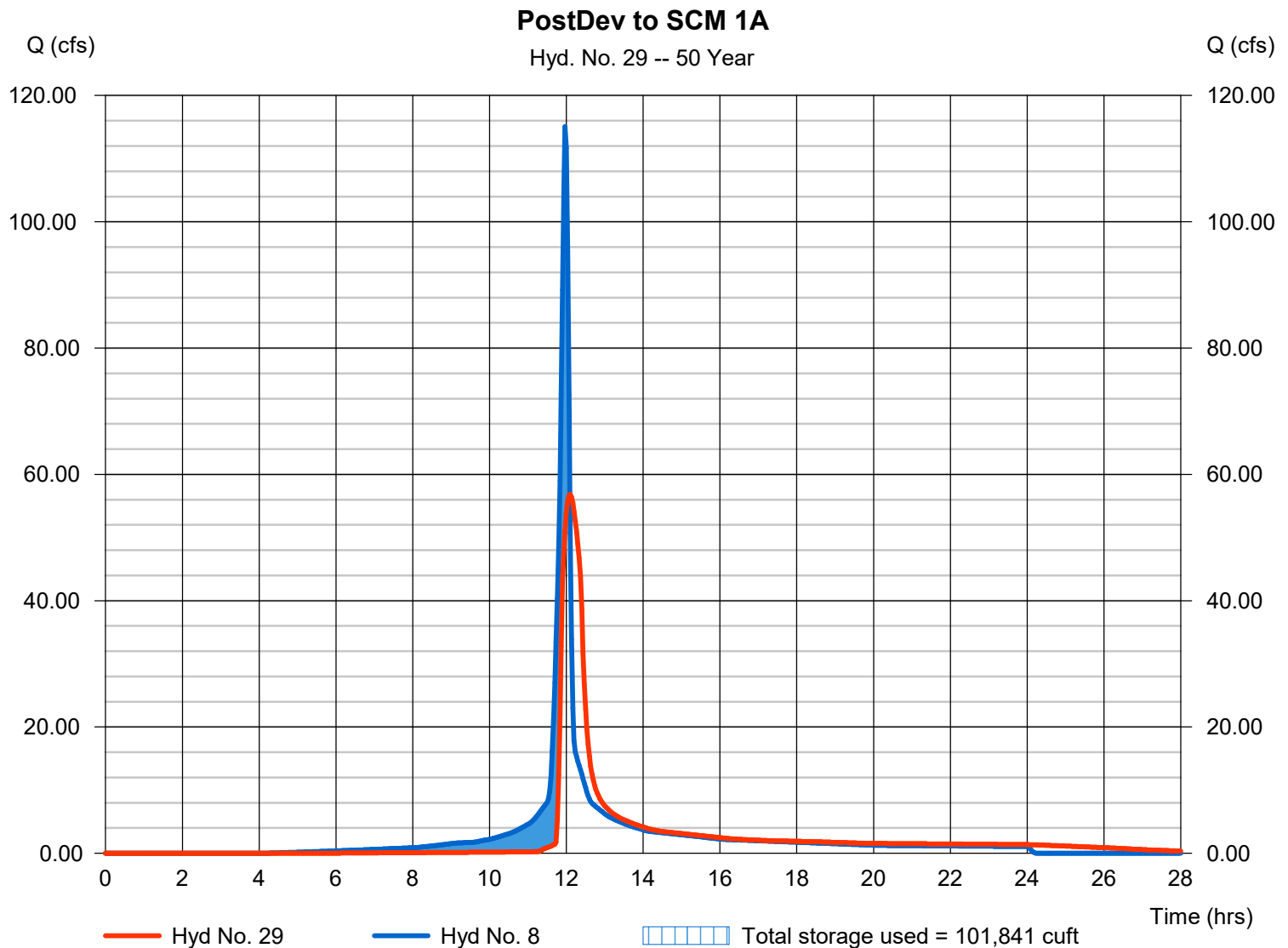
Saturday, 04 / 12 / 2025

Hyd. No. 29

PostDev to SCM 1A

Hydrograph type	= Reservoir	Peak discharge	= 56.86 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 274,611 cuft
Inflow hyd. No.	= 8 - PostDev to SCM 1A	Max. Elevation	= 353.12 ft
Reservoir name	= SCM 1A	Max. Storage	= 101,841 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

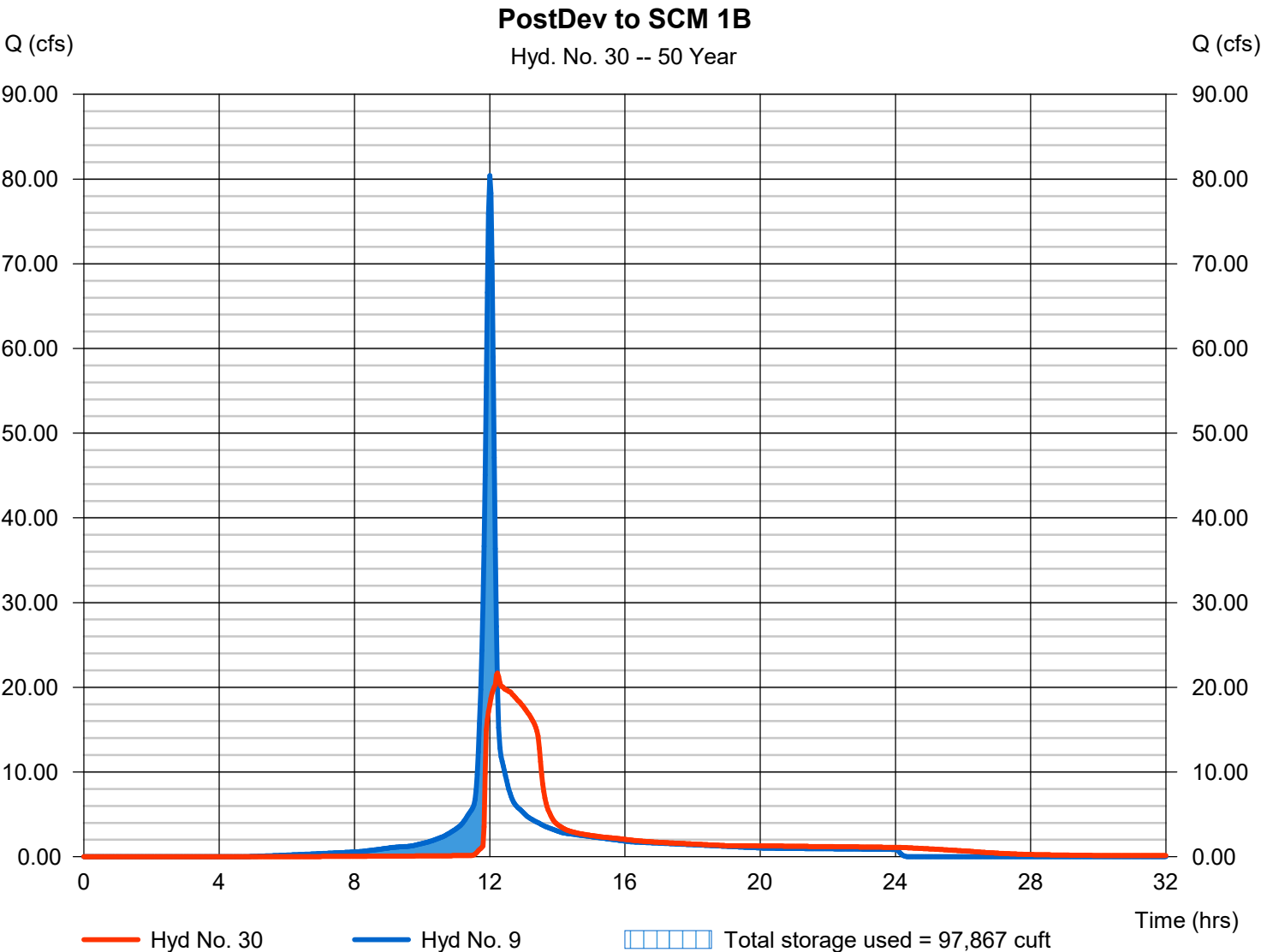
Saturday, 04 / 12 / 2025

Hyd. No. 30

PostDev to SCM 1B

Hydrograph type	= Reservoir	Peak discharge	= 21.66 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.23 hrs
Time interval	= 2 min	Hyd. volume	= 211,567 cuft
Inflow hyd. No.	= 9 - PostDev to SCM 1B	Max. Elevation	= 381.58 ft
Reservoir name	= SCM 1B	Max. Storage	= 97,867 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

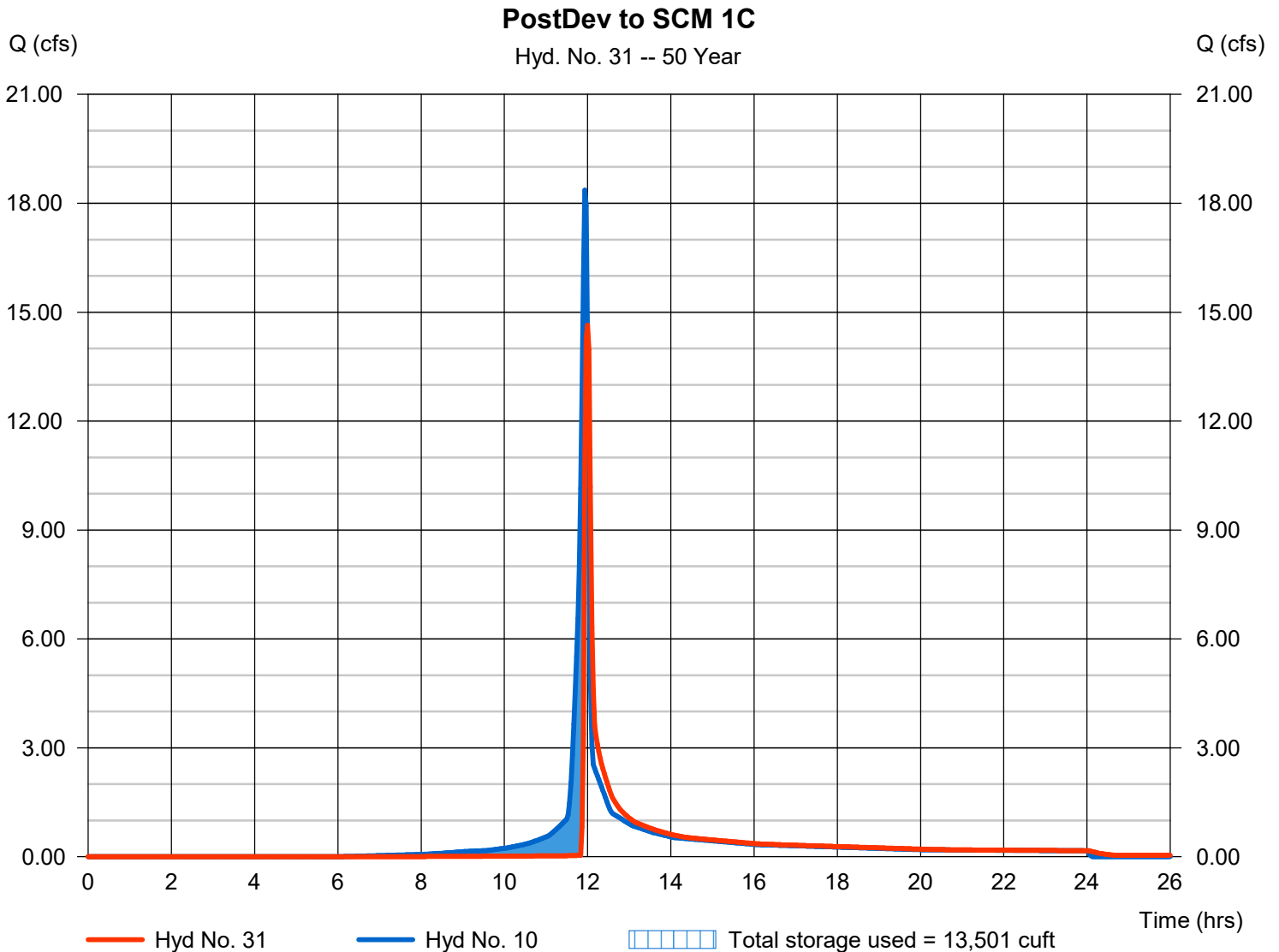
Saturday, 04 / 12 / 2025

Hyd. No. 31

PostDev to SCM 1C

Hydrograph type	= Reservoir	Peak discharge	= 14.64 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 36,428 cuft
Inflow hyd. No.	= 10 - PostDev to SCM 1C	Max. Elevation	= 363.90 ft
Reservoir name	= SCM 1C	Max. Storage	= 13,501 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

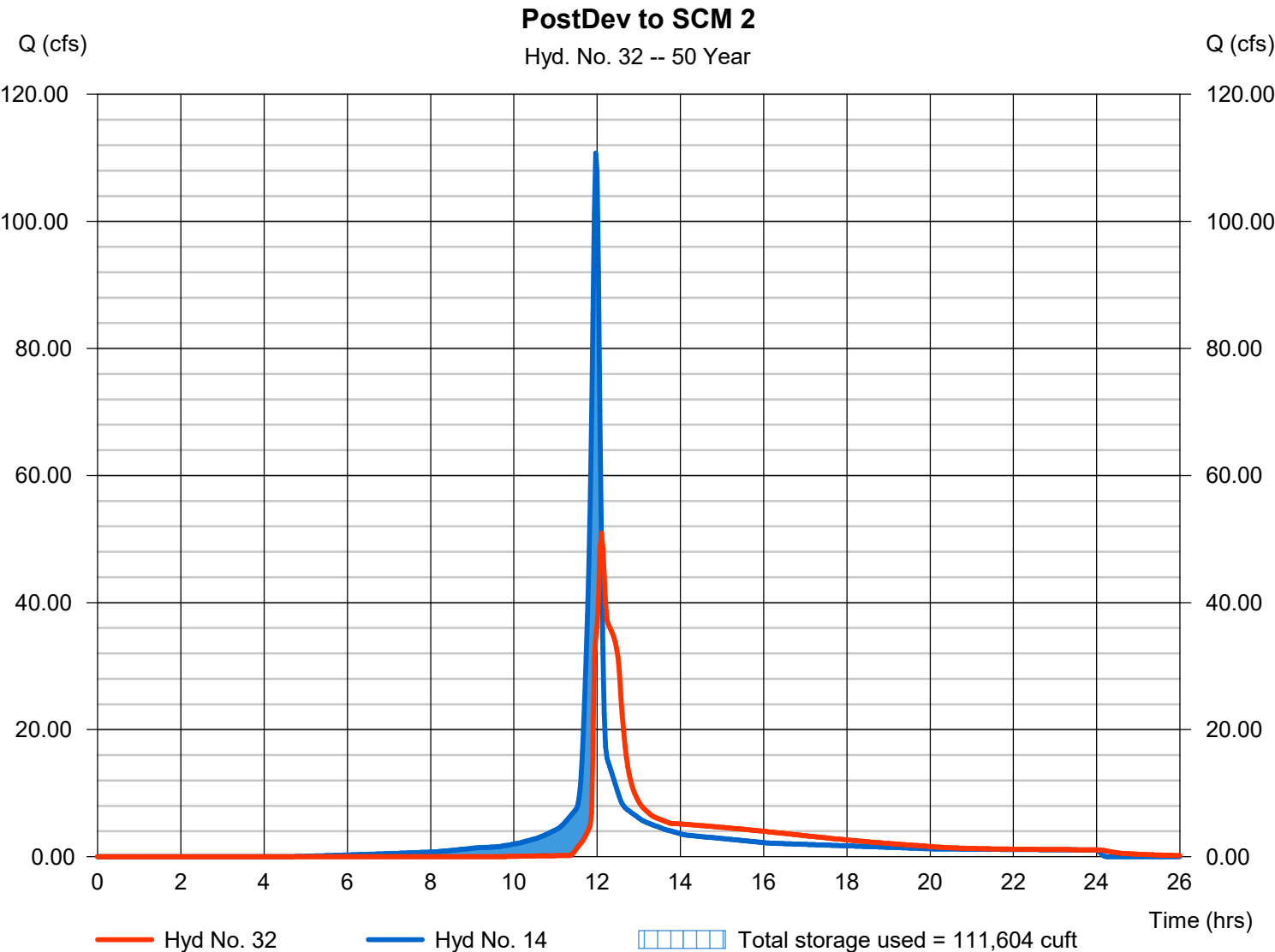
Saturday, 04 / 12 / 2025

Hyd. No. 32

PostDev to SCM 2

Hydrograph type	= Reservoir	Peak discharge	= 50.95 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 251,349 cuft
Inflow hyd. No.	= 14 - PostDev to SCM 2	Max. Elevation	= 358.39 ft
Reservoir name	= SCM 2	Max. Storage	= 111,604 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

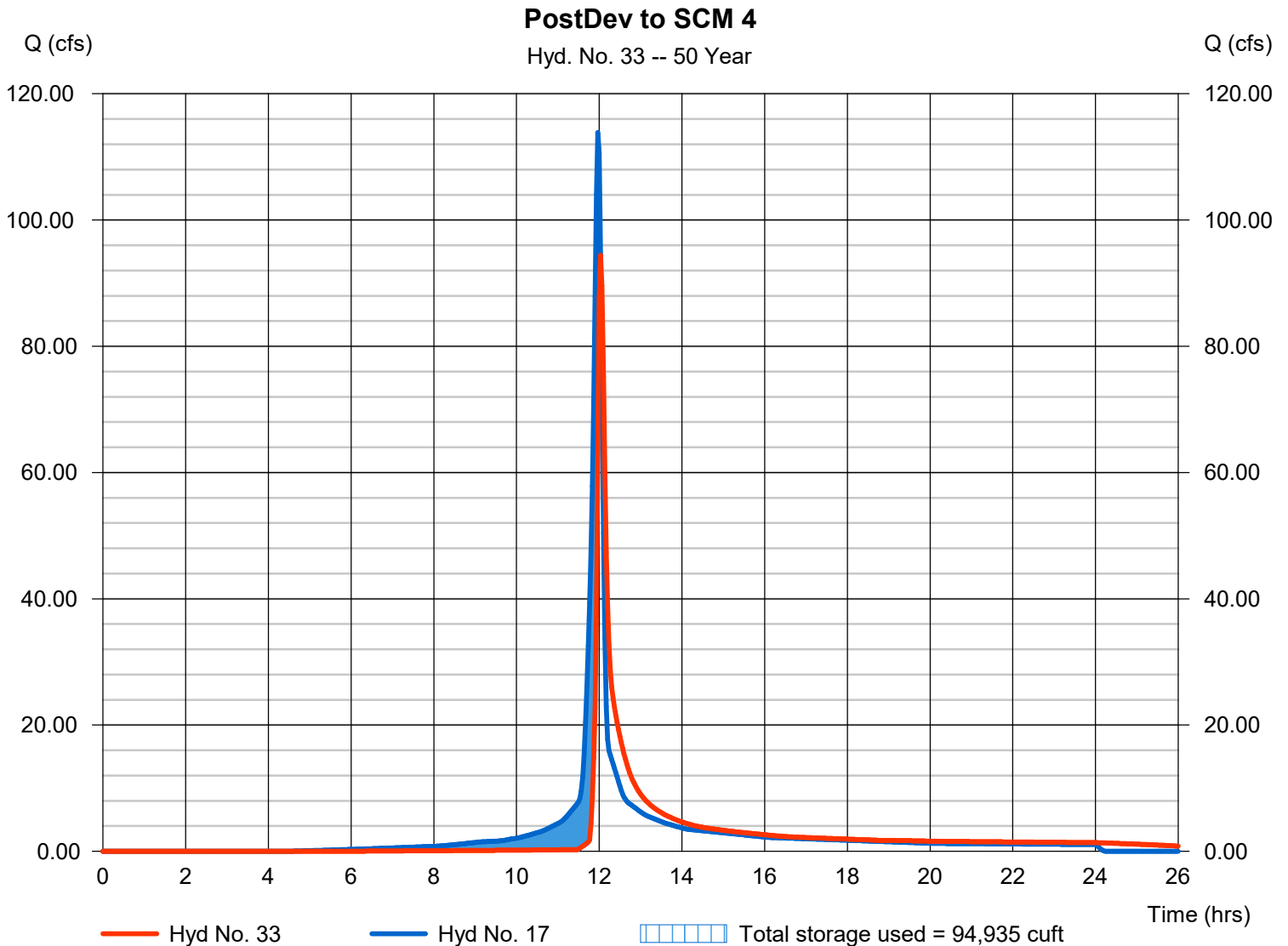
Saturday, 04 / 12 / 2025

Hyd. No. 33

PostDev to SCM 4

Hydrograph type	= Reservoir	Peak discharge	= 94.41 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.03 hrs
Time interval	= 2 min	Hyd. volume	= 270,000 cuft
Inflow hyd. No.	= 17 - PostDev to SCM 4	Max. Elevation	= 368.53 ft
Reservoir name	= SCM 4	Max. Storage	= 94,935 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

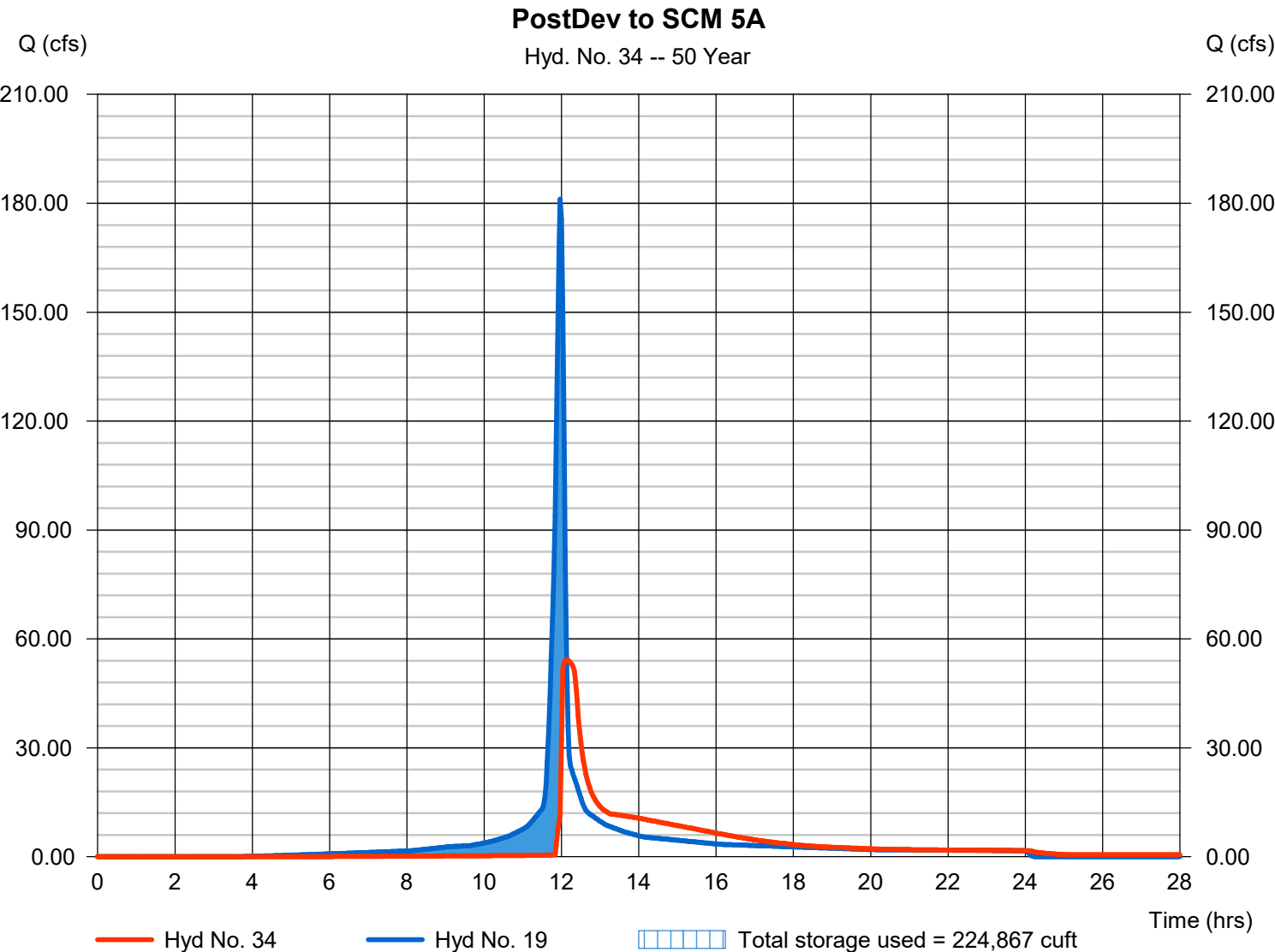
Saturday, 04 / 12 / 2025

Hyd. No. 34

PostDev to SCM 5A

Hydrograph type	= Reservoir	Peak discharge	= 54.23 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 419,327 cuft
Inflow hyd. No.	= 19 - PostDev to SCM 5A	Max. Elevation	= 328.45 ft
Reservoir name	= SCM 5A	Max. Storage	= 224,867 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

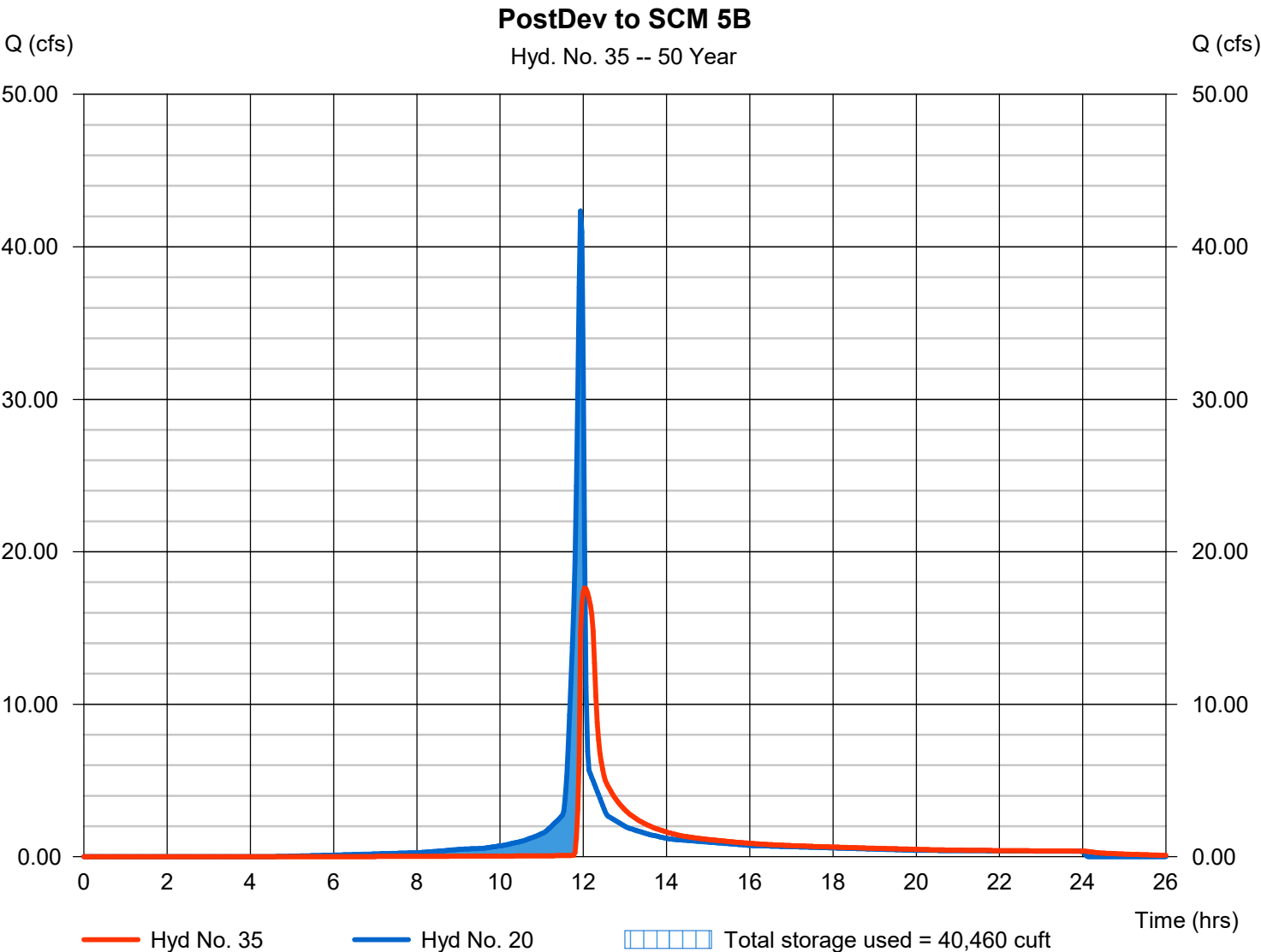
Saturday, 04 / 12 / 2025

Hyd. No. 35

PostDev to SCM 5B

Hydrograph type	= Reservoir	Peak discharge	= 17.63 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.03 hrs
Time interval	= 2 min	Hyd. volume	= 85,949 cuft
Inflow hyd. No.	= 20 - PostDev to SCM 5B	Max. Elevation	= 310.11 ft
Reservoir name	= SCM 5B	Max. Storage	= 40,460 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

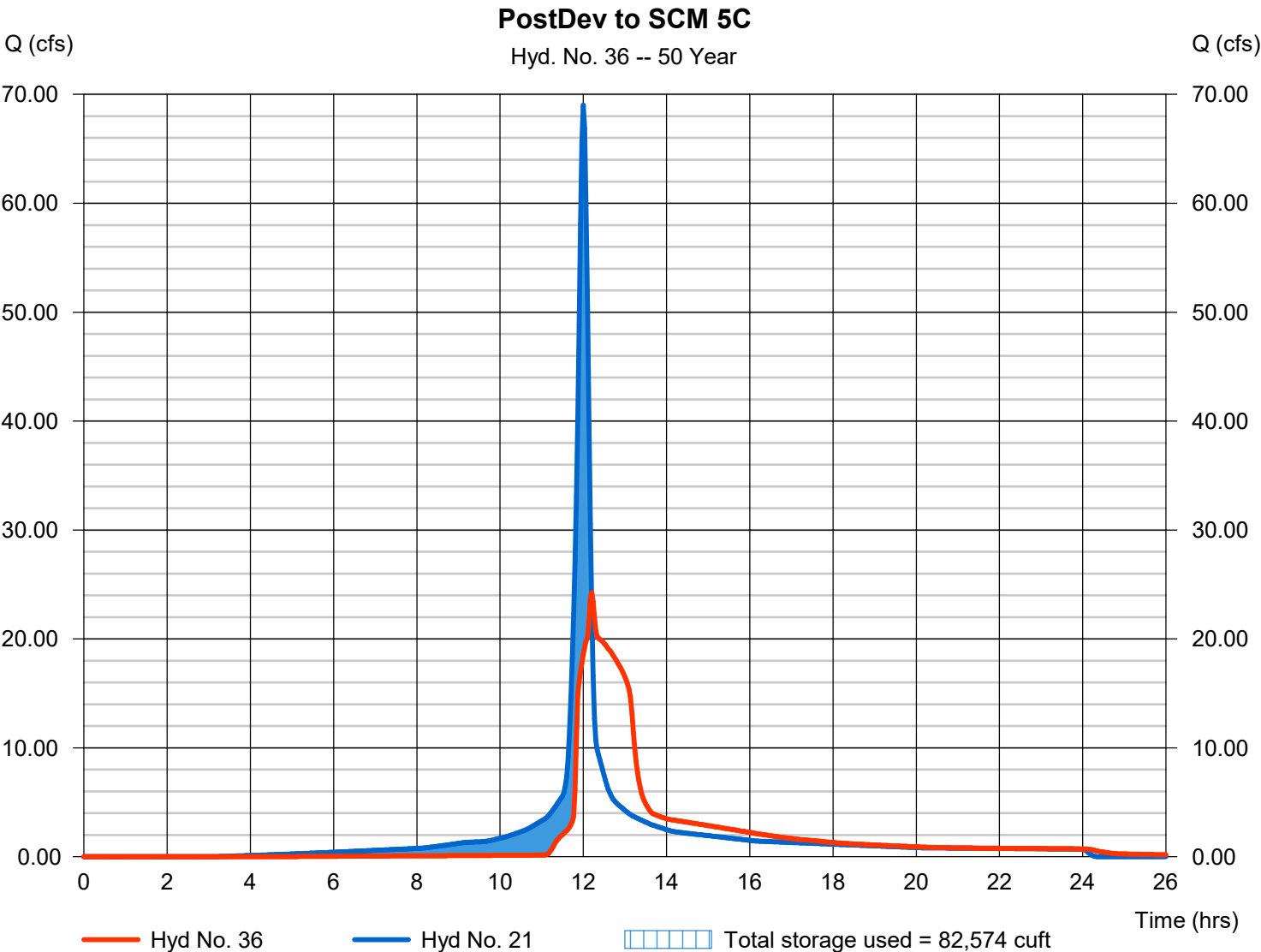
Saturday, 04 / 12 / 2025

Hyd. No. 36

PostDev to SCM 5C

Hydrograph type	= Reservoir	Peak discharge	= 24.26 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 189,075 cuft
Inflow hyd. No.	= 21 - PostDev to SCM 5C	Max. Elevation	= 297.67 ft
Reservoir name	= SCM 5C	Max. Storage	= 82,574 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

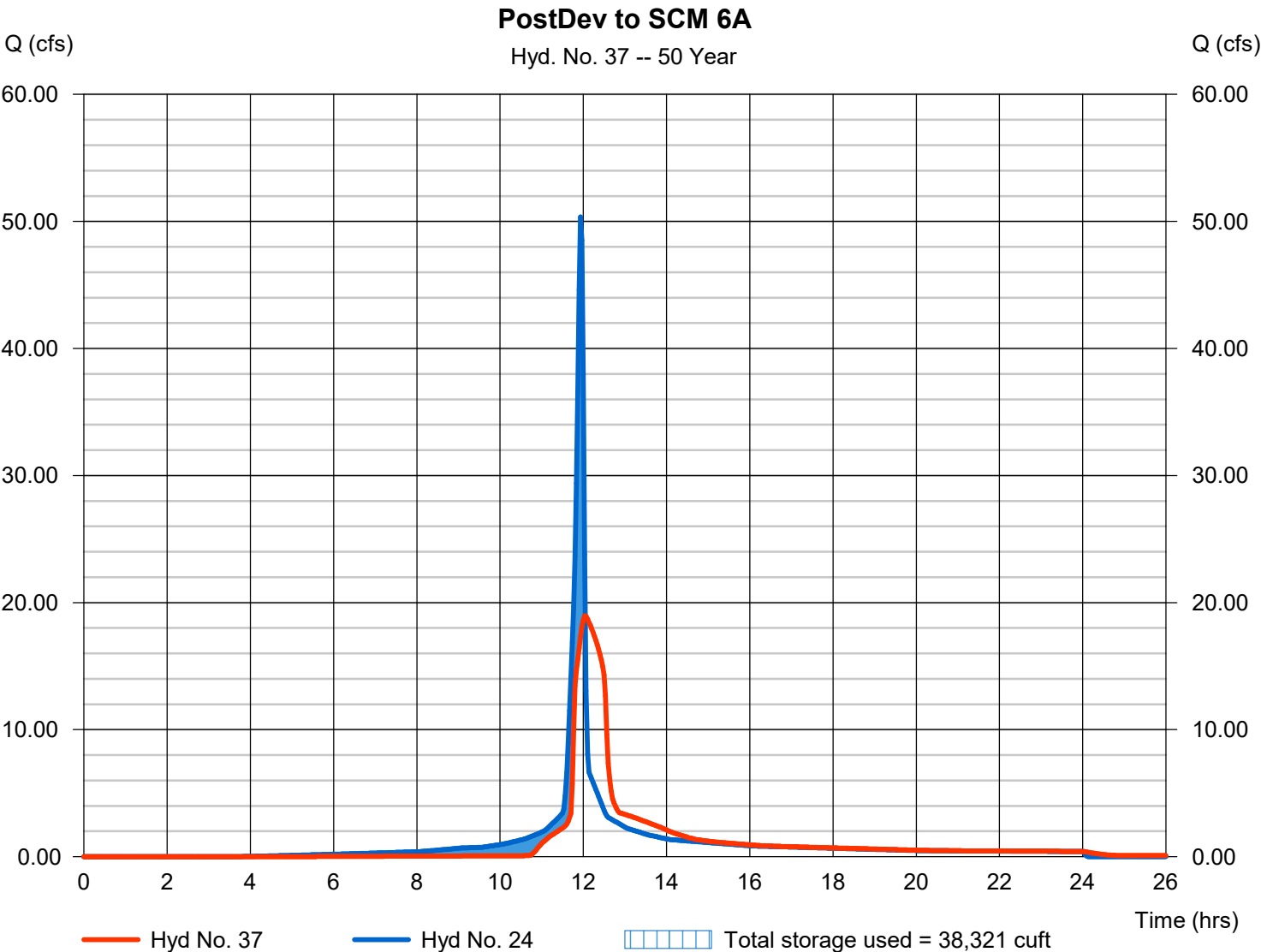
Saturday, 04 / 12 / 2025

Hyd. No. 37

PostDev to SCM 6A

Hydrograph type	= Reservoir	Peak discharge	= 18.95 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.03 hrs
Time interval	= 2 min	Hyd. volume	= 108,508 cuft
Inflow hyd. No.	= 24 - PostDev to SCM 6A	Max. Elevation	= 282.10 ft
Reservoir name	= SCM 6A	Max. Storage	= 38,321 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

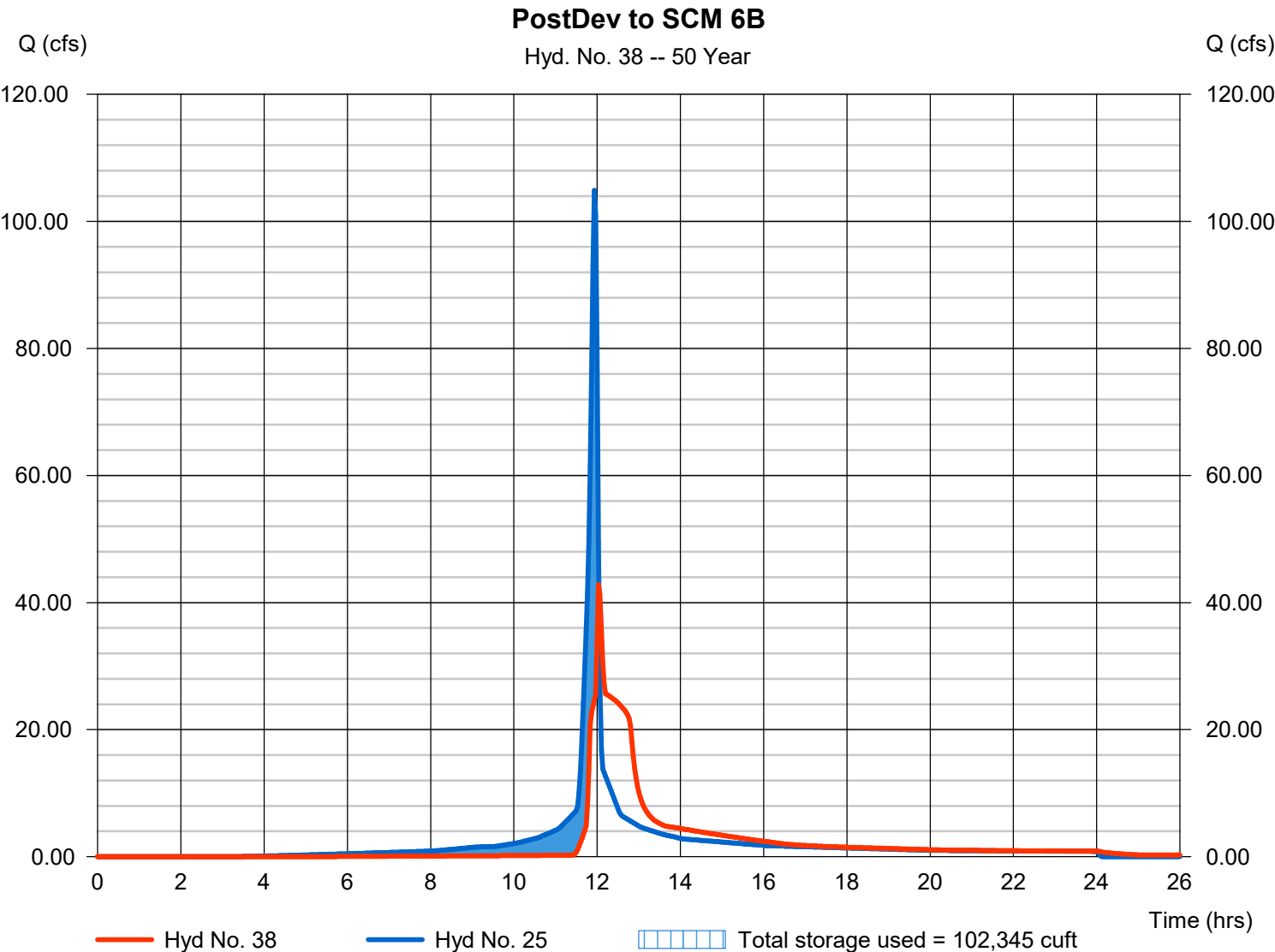
Saturday, 04 / 12 / 2025

Hyd. No. 38

PostDev to SCM 6B

Hydrograph type	= Reservoir	Peak discharge	= 42.81 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.03 hrs
Time interval	= 2 min	Hyd. volume	= 227,037 cuft
Inflow hyd. No.	= 25 - PostDev to SCM 6B	Max. Elevation	= 295.47 ft
Reservoir name	= SCM 6B	Max. Storage	= 102,345 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

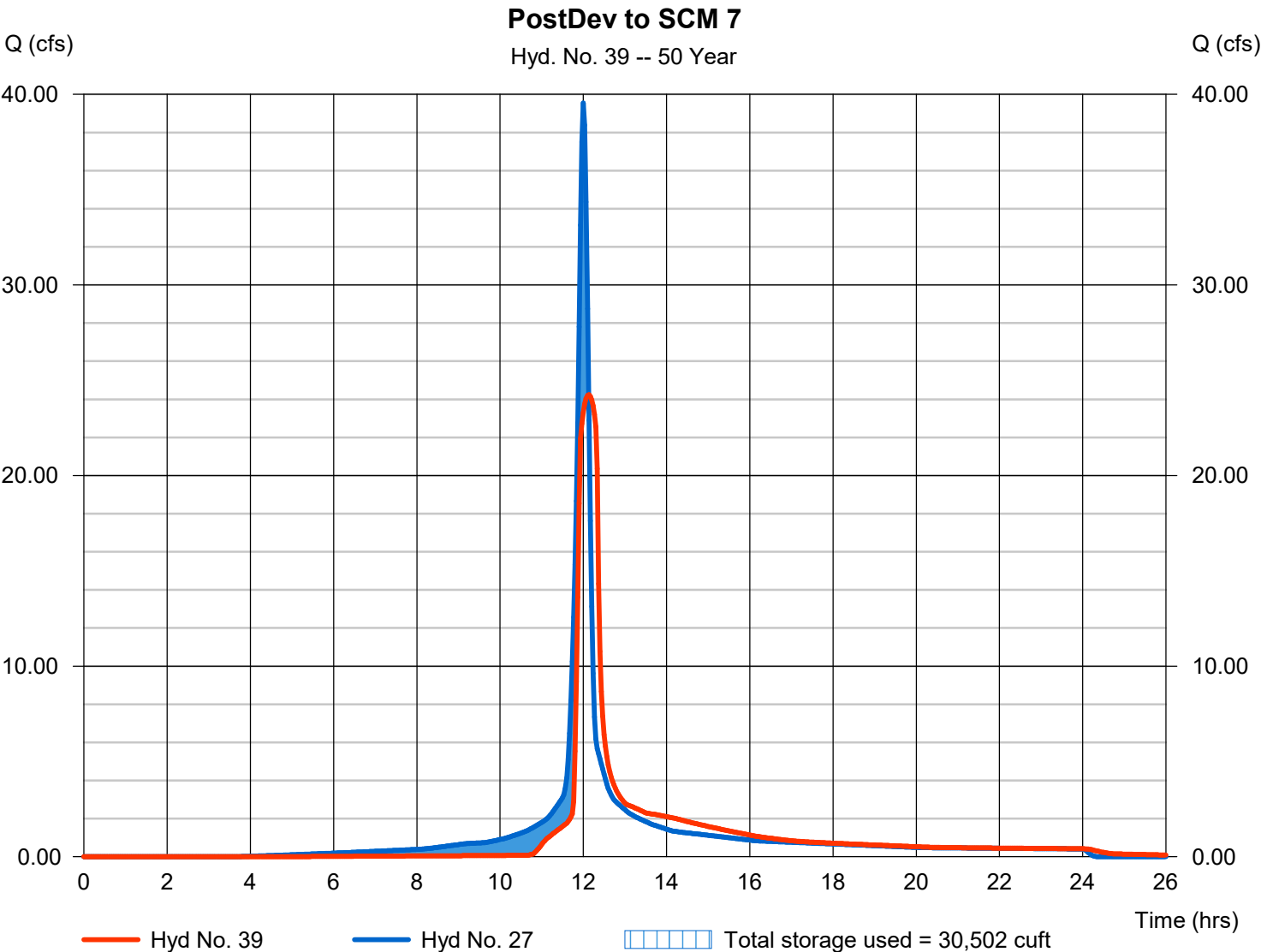
Saturday, 04 / 12 / 2025

Hyd. No. 39

PostDev to SCM 7

Hydrograph type	= Reservoir	Peak discharge	= 24.24 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 107,318 cuft
Inflow hyd. No.	= 27 - PostDev to SCM 7	Max. Elevation	= 321.92 ft
Reservoir name	= SCM 7	Max. Storage	= 30,502 cuft

Storage Indication method used.



Hydrograph Report

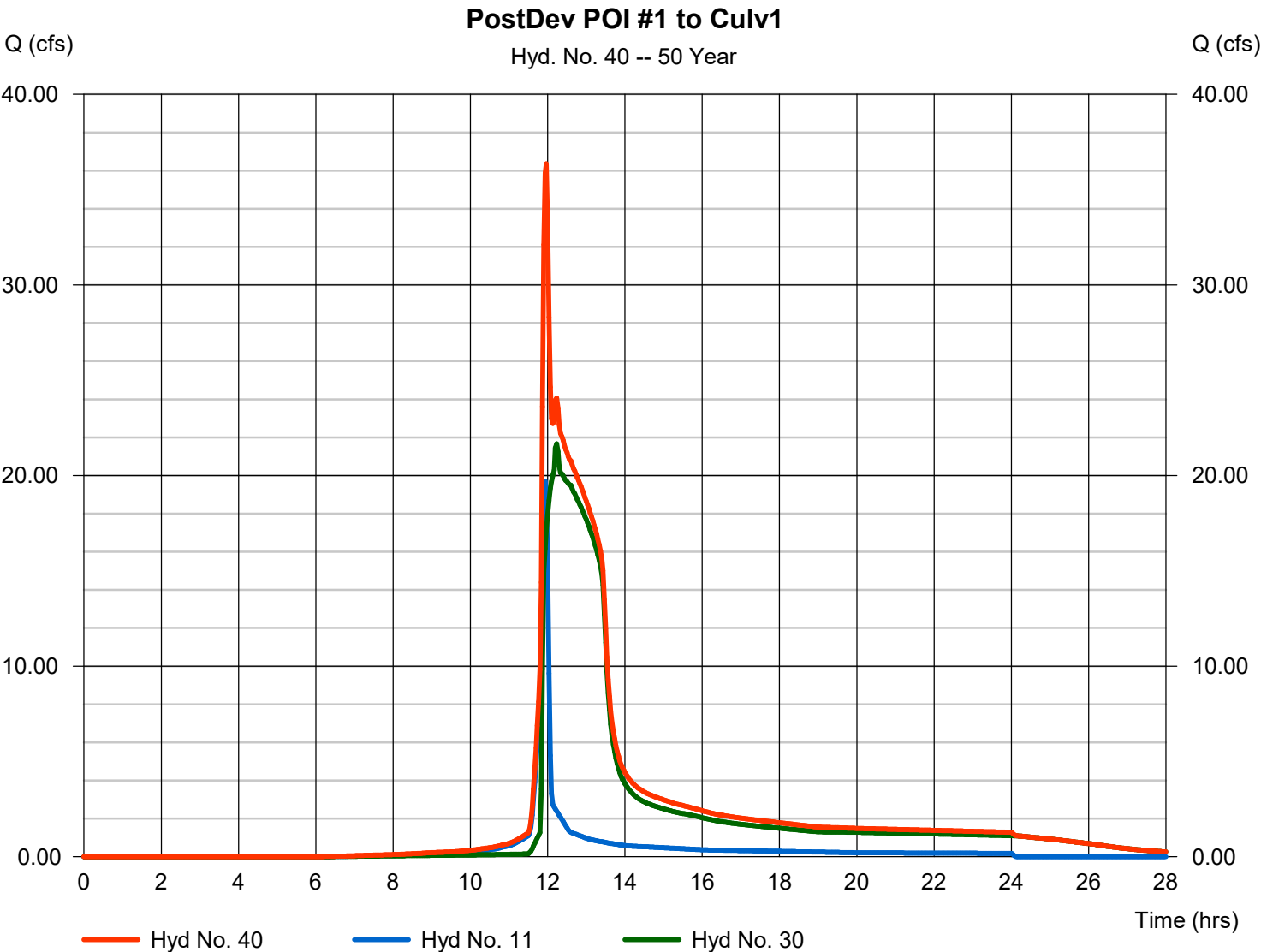
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 40

PostDev POI #1 to Culv1

Hydrograph type	= Combine	Peak discharge	= 36.36 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 252,095 cuft
Inflow hyds.	= 11, 30	Contrib. drain. area	= 2.720 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

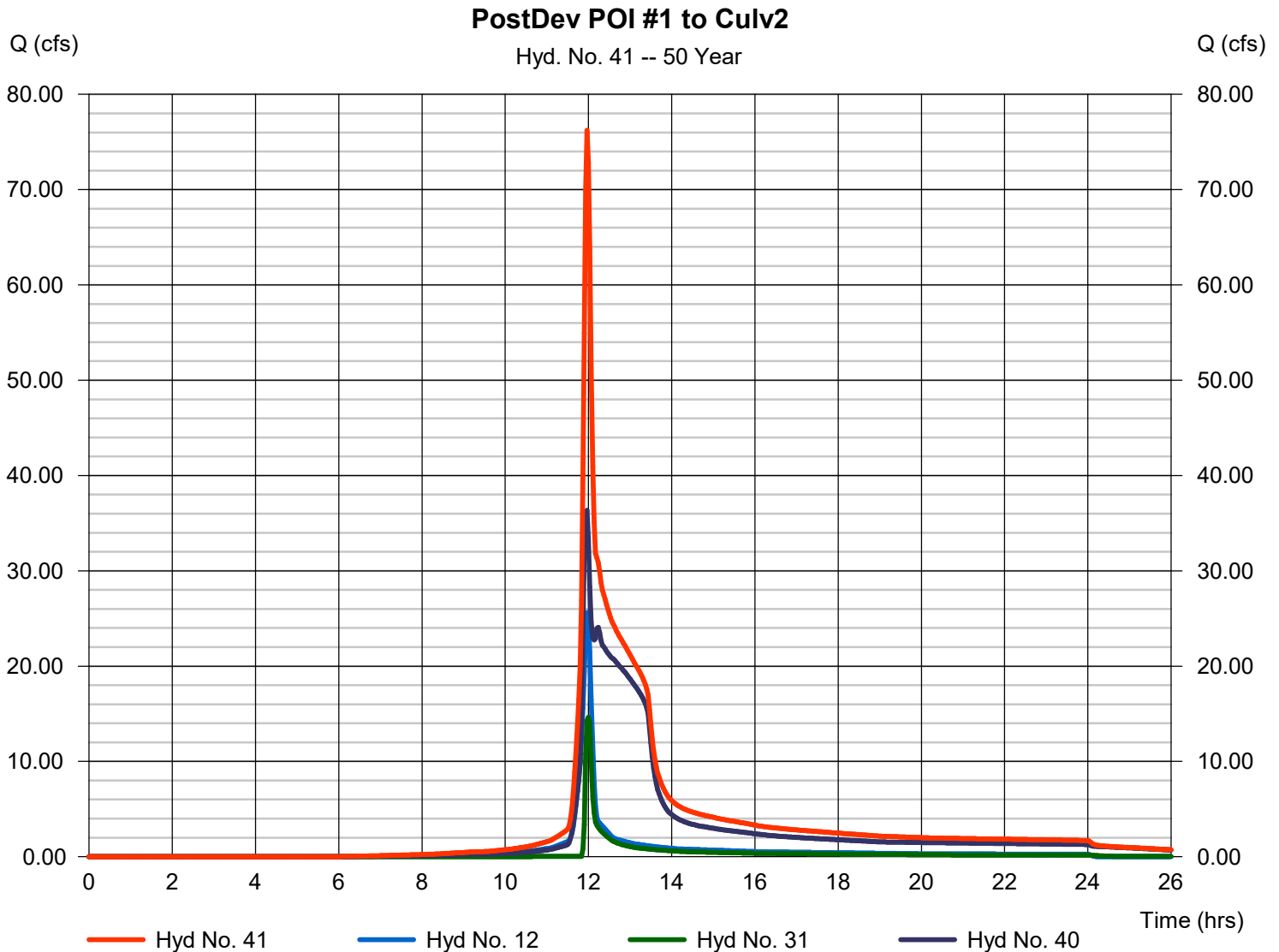
Saturday, 04 / 12 / 2025

Hyd. No. 41

PostDev POI #1 to Culv2

Hydrograph type = Combine
Storm frequency = 50 yrs
Time interval = 2 min
Inflow hyds. = 12, 31, 40

Peak discharge = 76.23 cfs
Time to peak = 11.97 hrs
Hyd. volume = 348,096 cuft
Contrib. drain. area = 3.640 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

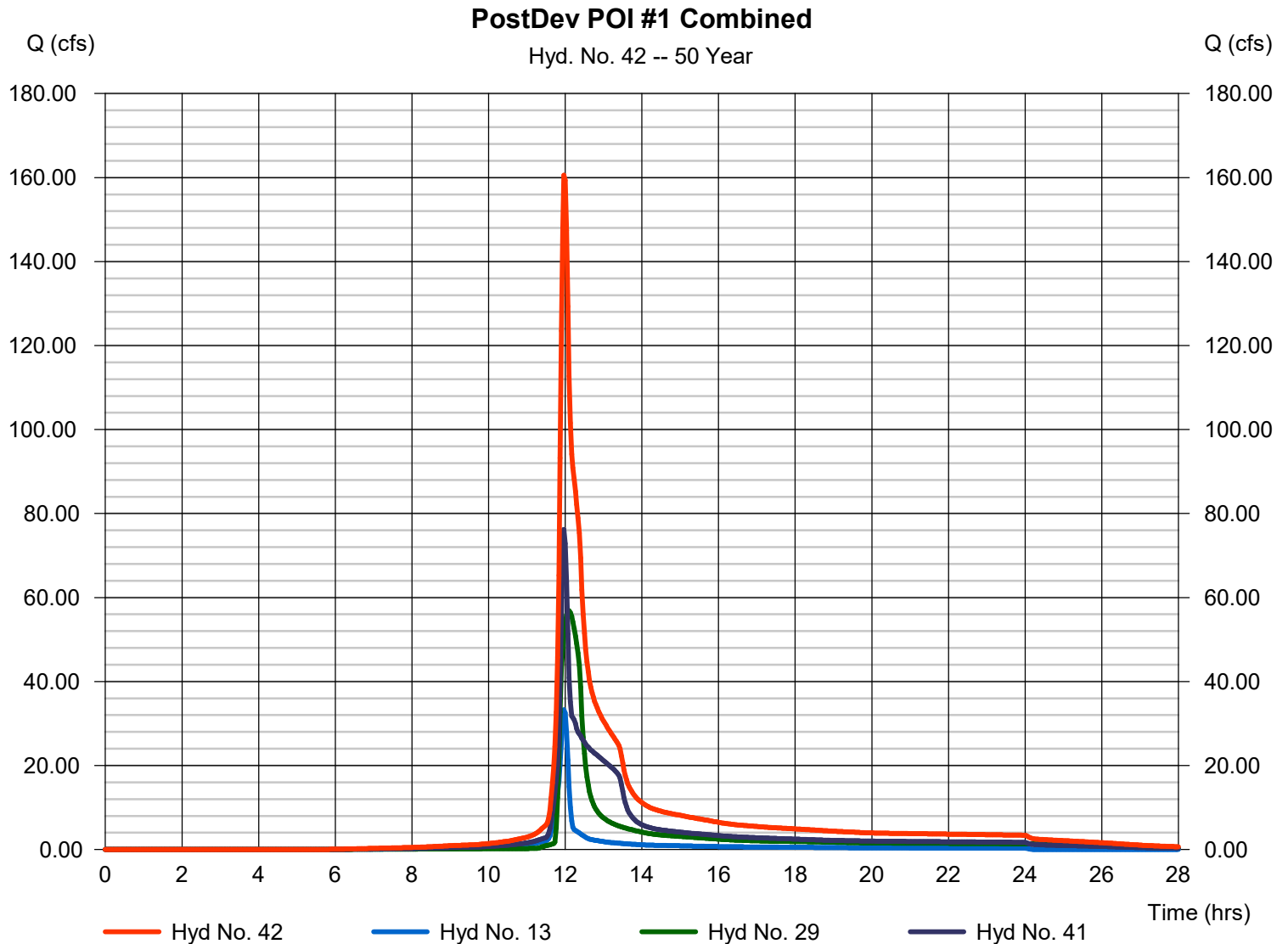
Saturday, 04 / 12 / 2025

Hyd. No. 42

PostDev POI #1 Combined

Hydrograph type = Combine
Storm frequency = 50 yrs
Time interval = 2 min
Inflow hyds. = 13, 29, 41

Peak discharge = 160.58 cfs
Time to peak = 11.97 hrs
Hyd. volume = 700,332 cuft
Contrib. drain. area = 4.620 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

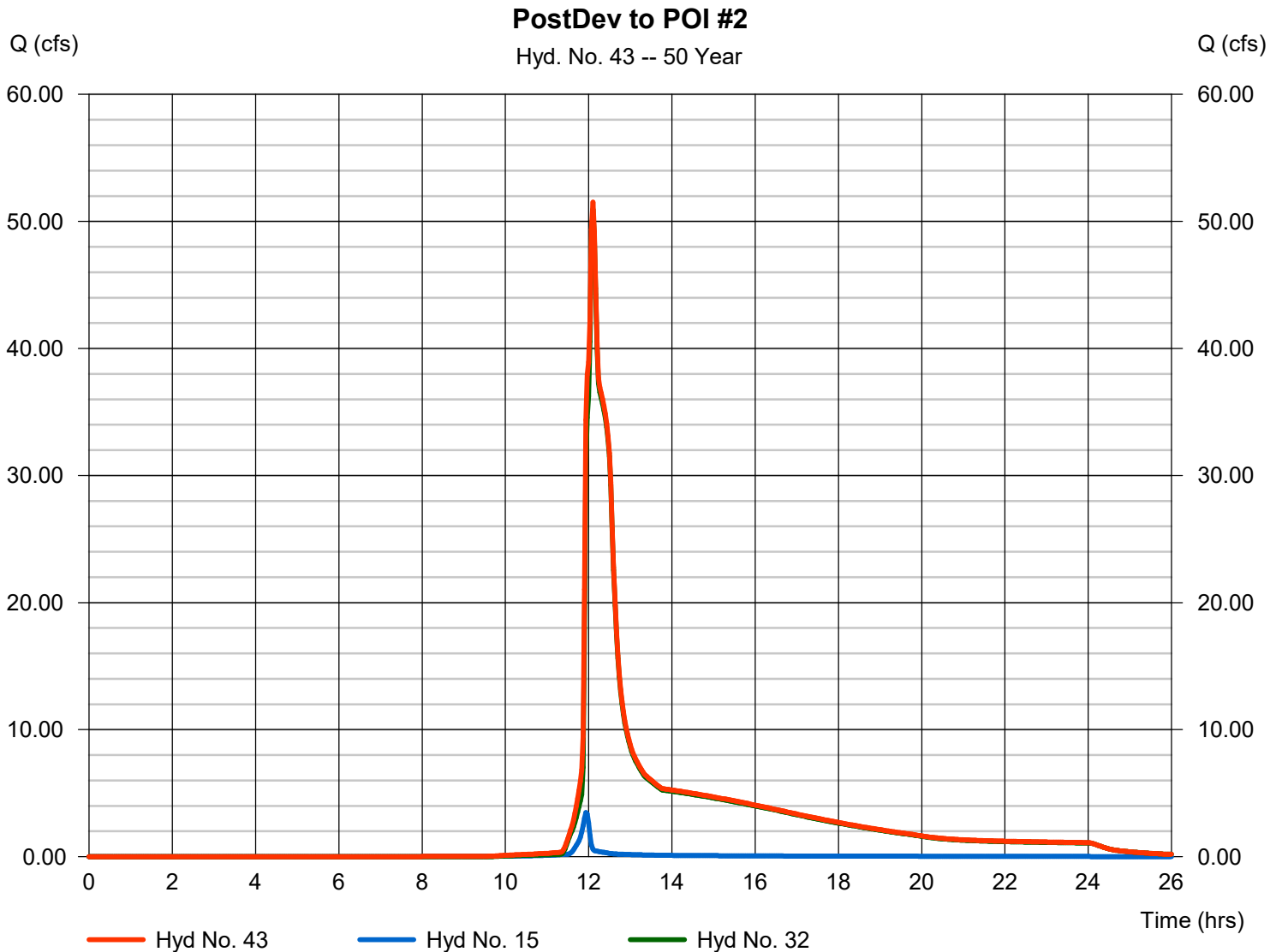
Saturday, 04 / 12 / 2025

Hyd. No. 43

PostDev to POI #2

Hydrograph type = Combine
Storm frequency = 50 yrs
Time interval = 2 min
Inflow hyds. = 15, 32

Peak discharge = 51.52 cfs
Time to peak = 12.10 hrs
Hyd. volume = 258,543 cuft
Contrib. drain. area = 0.460 ac



Hydrograph Report

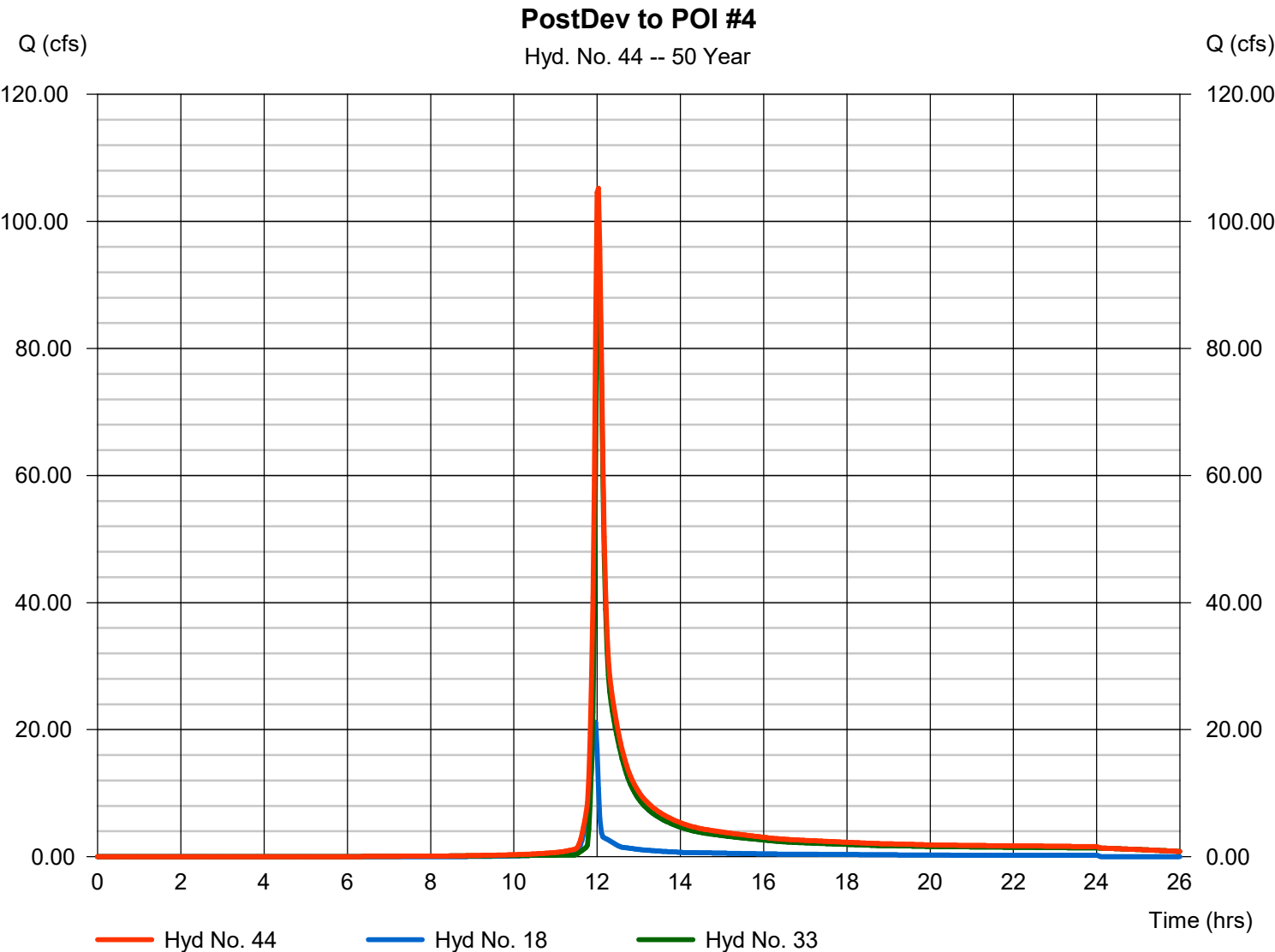
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 44

PostDev to POI #4

Hydrograph type	= Combine	Peak discharge	= 105.21 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.03 hrs
Time interval	= 2 min	Hyd. volume	= 312,842 cuft
Inflow hyds.	= 18, 33	Contrib. drain. area	= 3.670 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

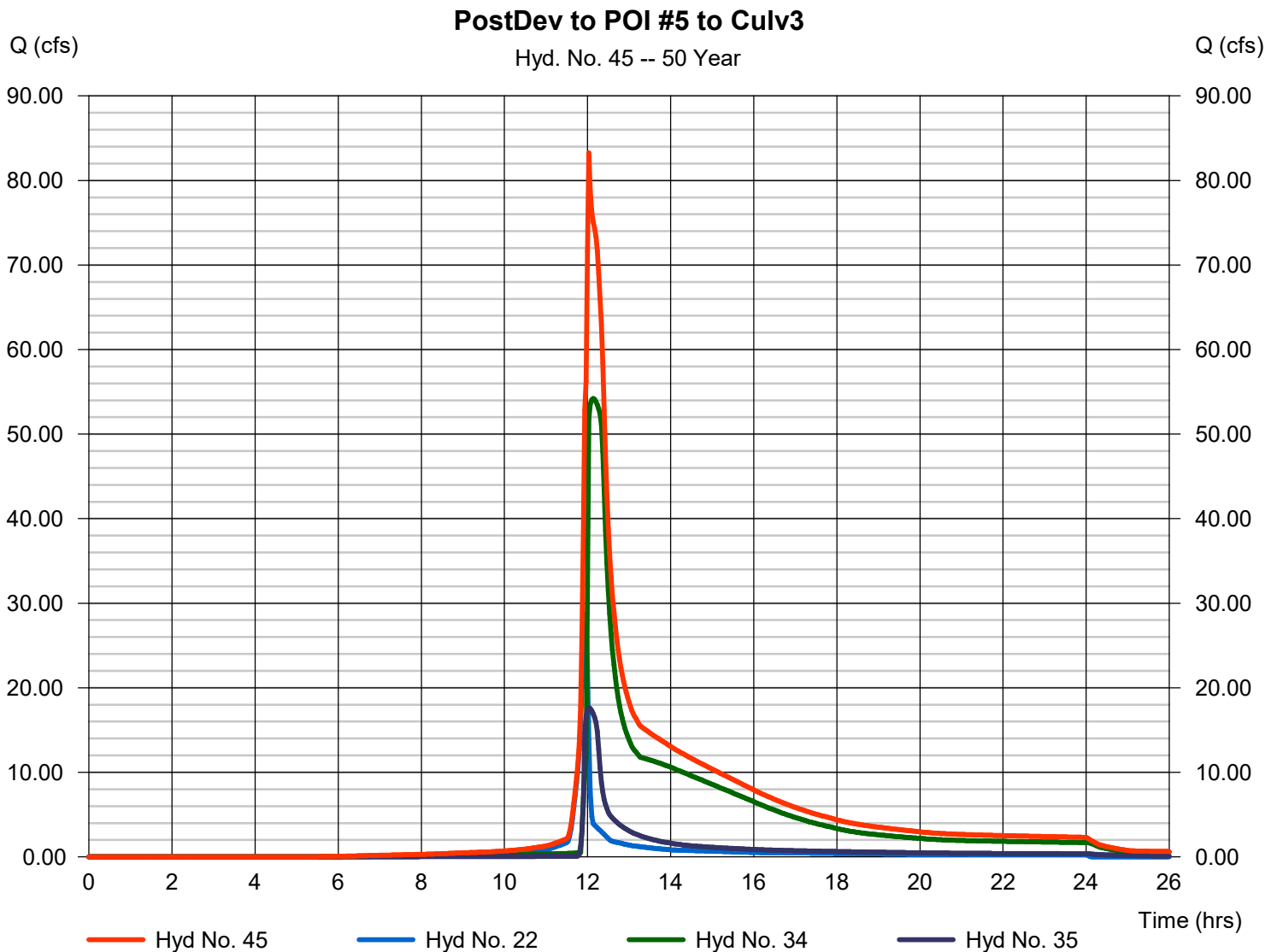
Saturday, 04 / 12 / 2025

Hyd. No. 45

PostDev to POI #5 to Culv3

Hydrograph type = Combine
Storm frequency = 50 yrs
Time interval = 2 min
Inflow hyds. = 22, 34, 35

Peak discharge = 83.26 cfs
Time to peak = 12.03 hrs
Hyd. volume = 564,581 cuft
Contrib. drain. area = 3.810 ac



Hydrograph Report

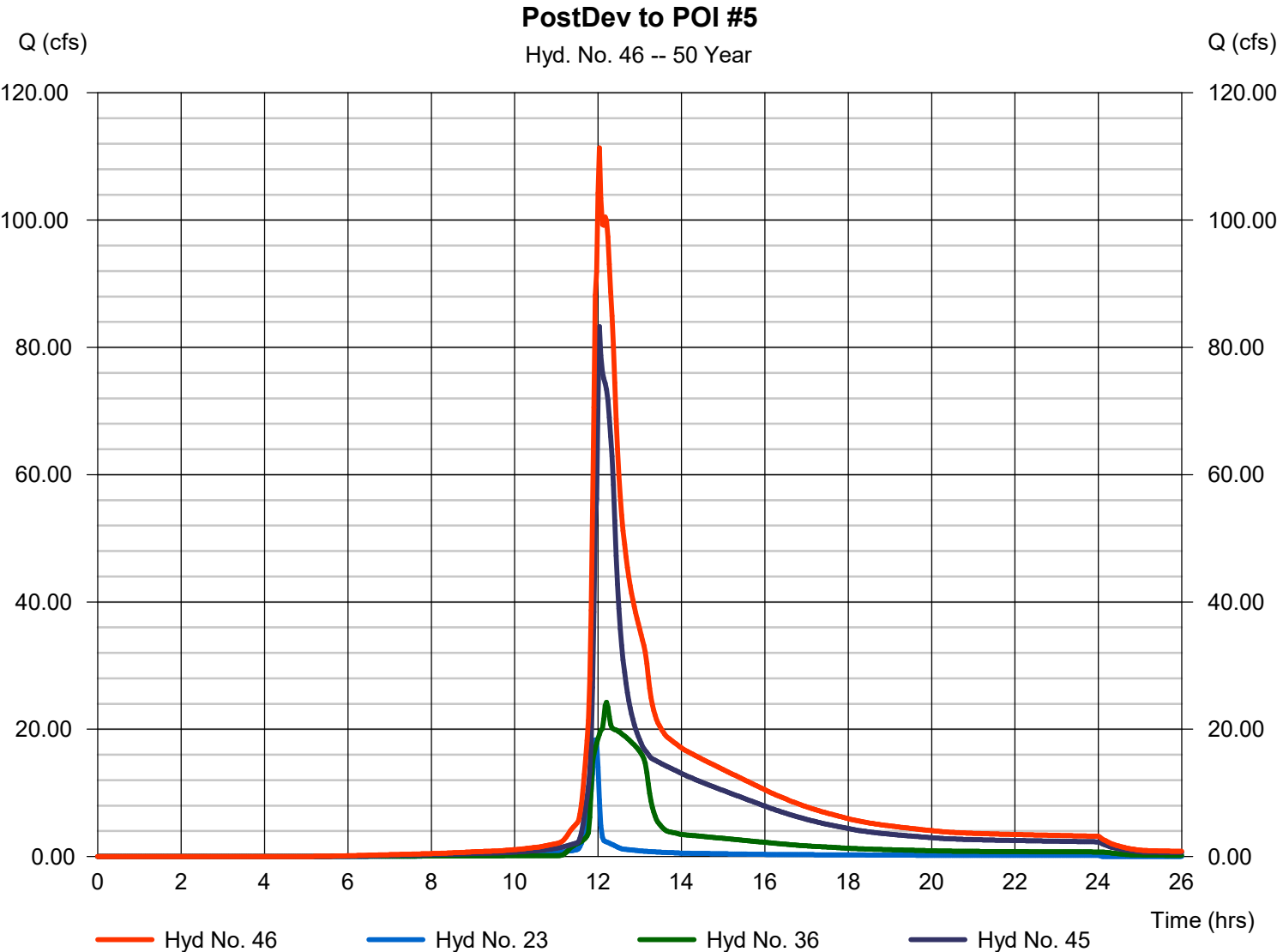
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 46

PostDev to POI #5

Hydrograph type	= Combine	Peak discharge	= 111.34 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.03 hrs
Time interval	= 2 min	Hyd. volume	= 791,776 cuft
Inflow hyds.	= 23, 36, 45	Contrib. drain. area	= 2.420 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

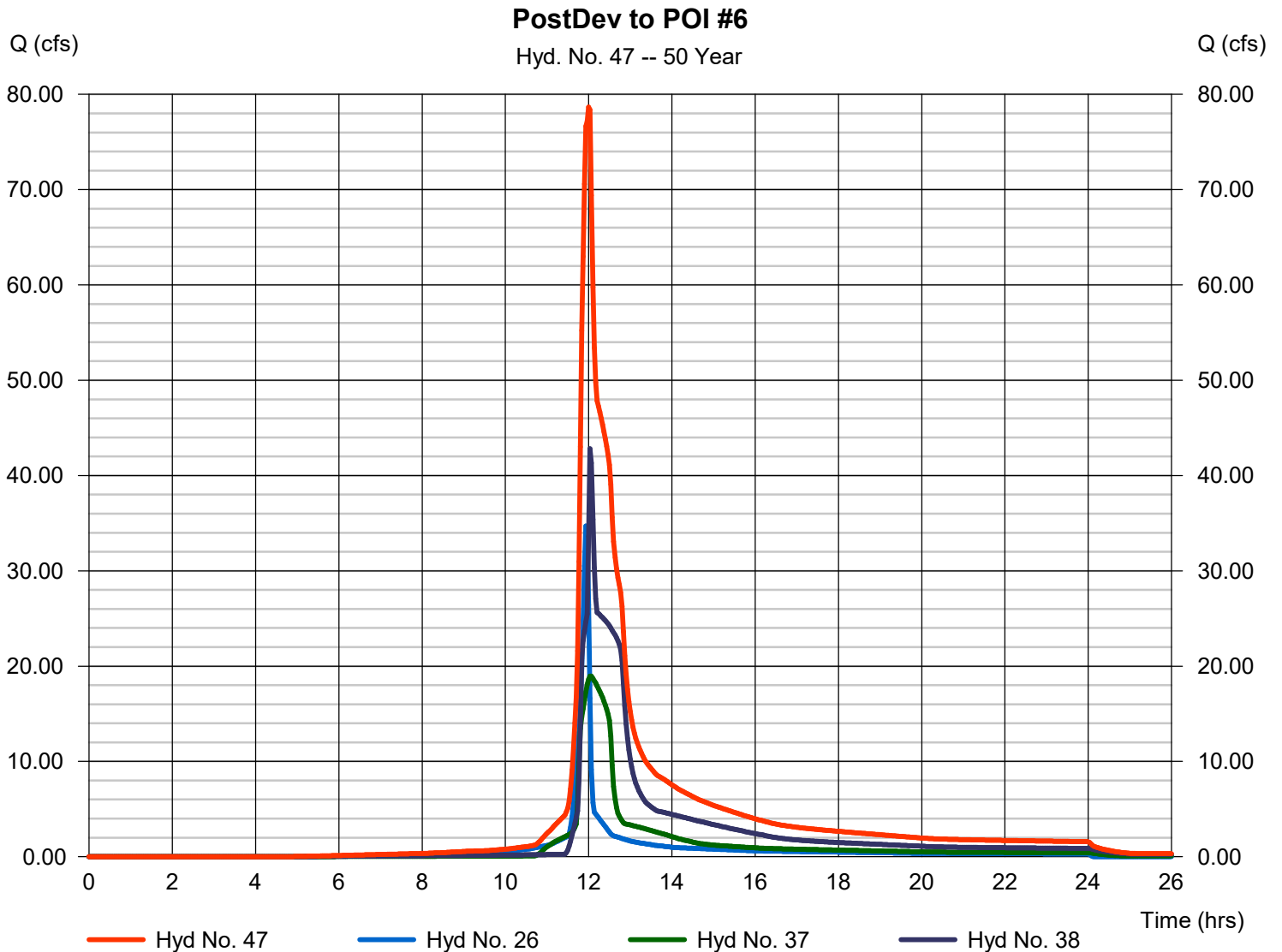
Saturday, 04 / 12 / 2025

Hyd. No. 47

PostDev to POI #6

Hydrograph type = Combine
Storm frequency = 50 yrs
Time interval = 2 min
Inflow hyds. = 26, 37, 38

Peak discharge = 78.66 cfs
Time to peak = 12.00 hrs
Hyd. volume = 408,478 cuft
Contrib. drain. area = 4.370 ac



Hydrograph Report

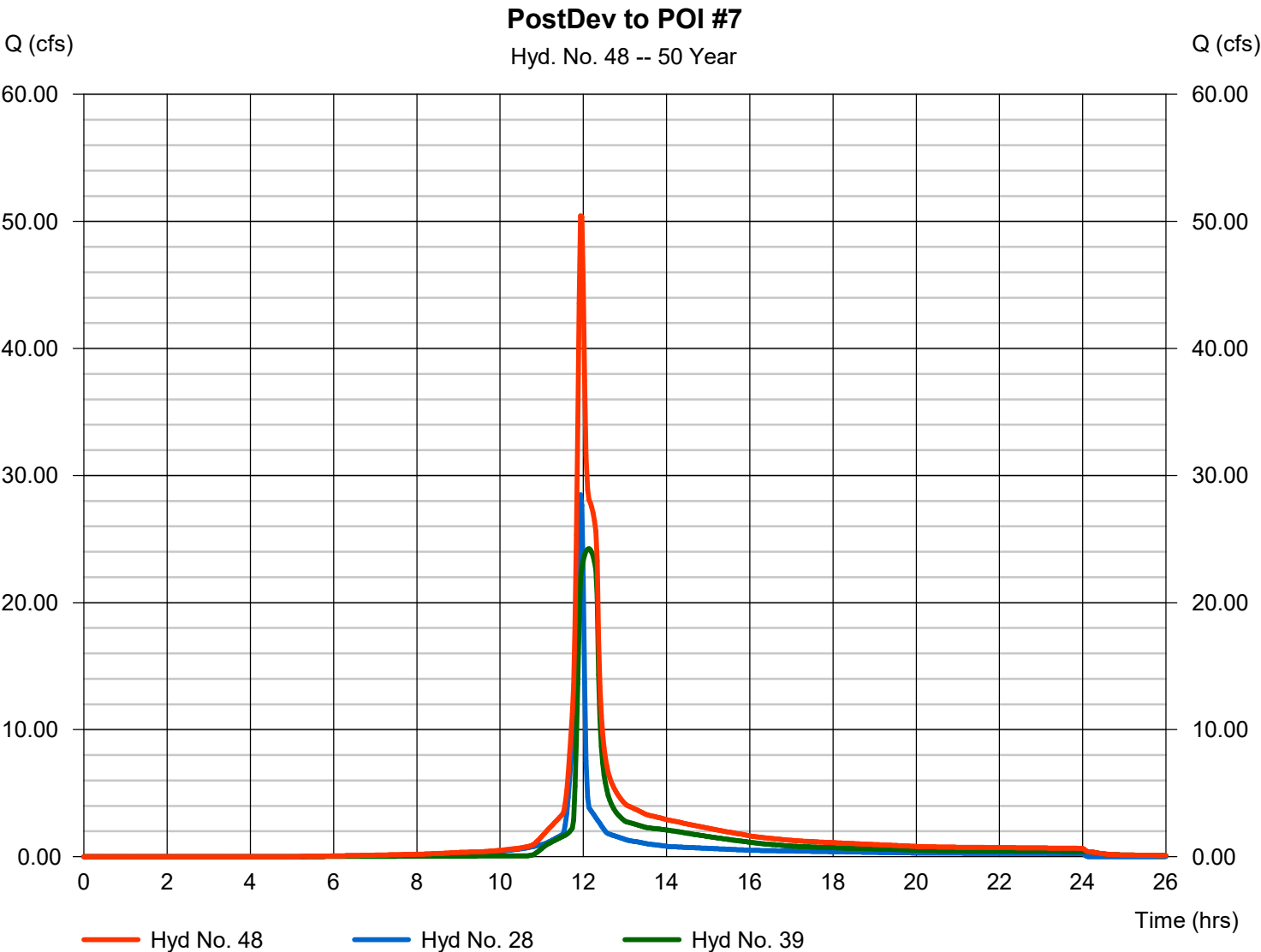
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 48

PostDev to POI #7

Hydrograph type	= Combine	Peak discharge	= 50.43 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 166,969 cuft
Inflow hyds.	= 28, 39	Contrib. drain. area	= 3.640 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

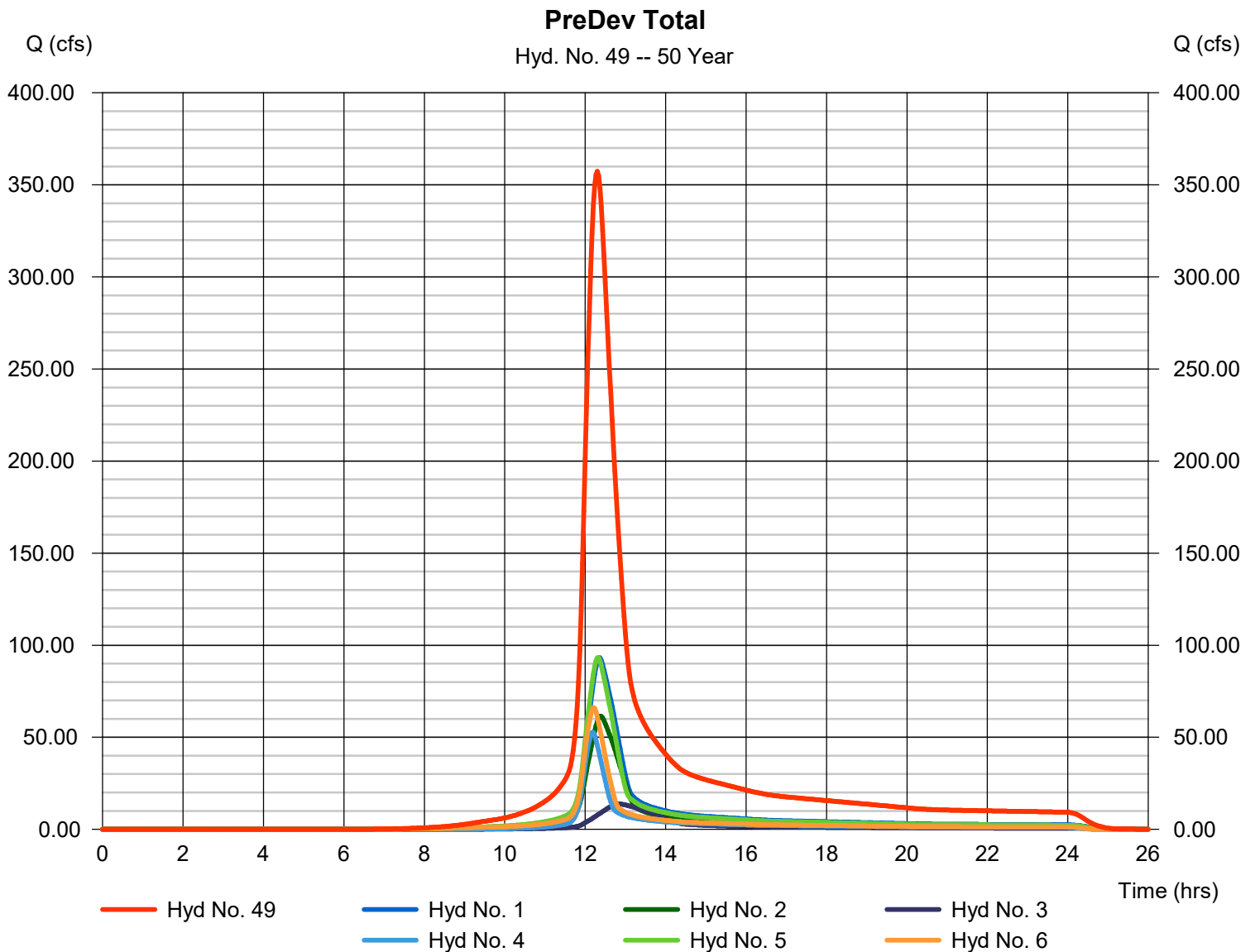
Saturday, 04 / 12 / 2025

Hyd. No. 49

PreDev Total

Hydrograph type = Combine
Storm frequency = 50 yrs
Time interval = 2 min
Inflow hyds. = 1, 2, 3, 4, 5, 6

Peak discharge = 357.35 cfs
Time to peak = 12.30 hrs
Hyd. volume = 1,952,346 cuft
Contrib. drain. area = 139.020 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

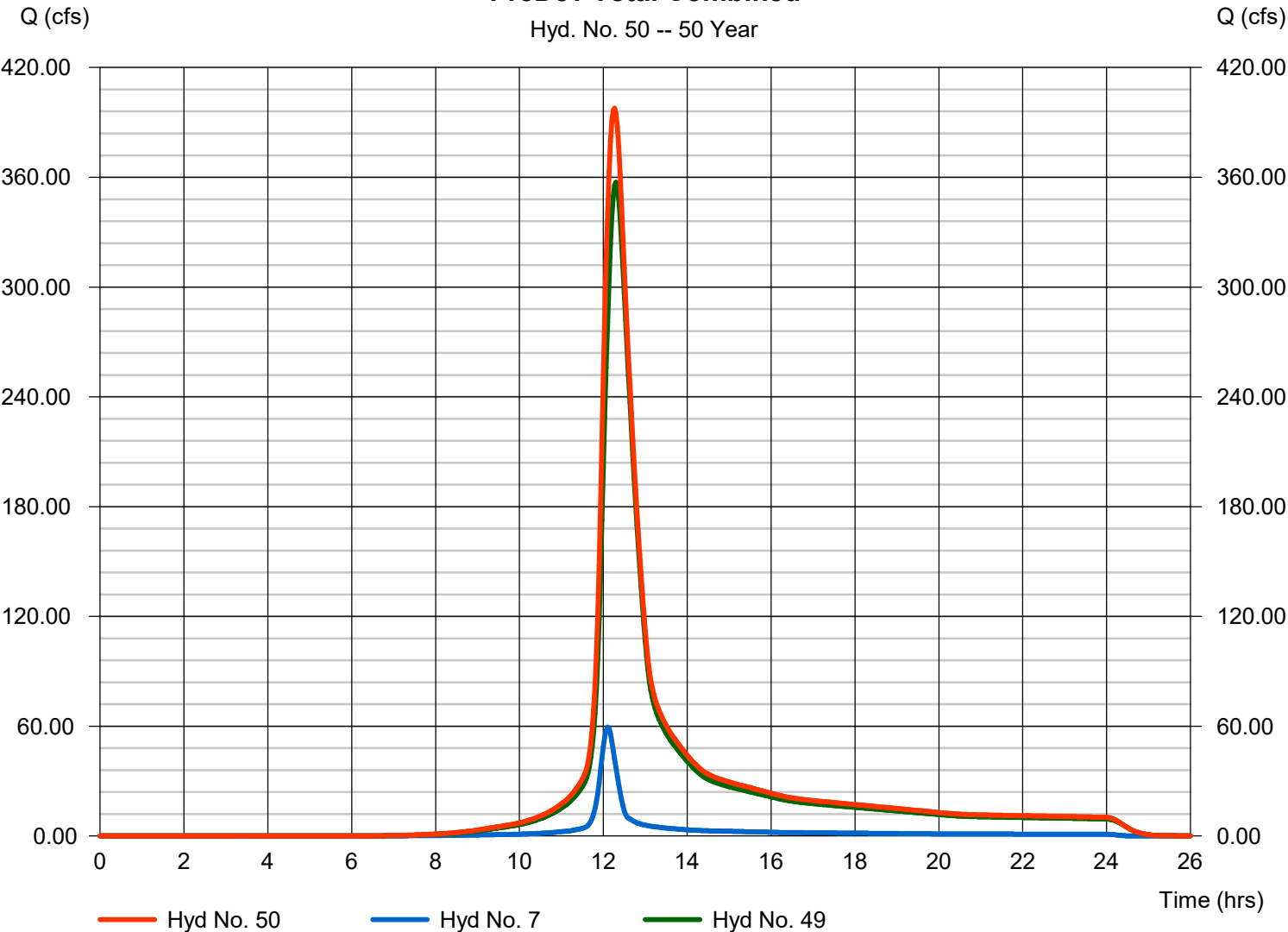
Hyd. No. 50

PreDev Total Combined

Hydrograph type	= Combine	Peak discharge	= 397.67 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.27 hrs
Time interval	= 2 min	Hyd. volume	= 2,157,739 cuft
Inflow hyds.	= 7, 49	Contrib. drain. area	= 13.250 ac

PreDev Total Combined

Hyd. No. 50 -- 50 Year



Hydrograph Report

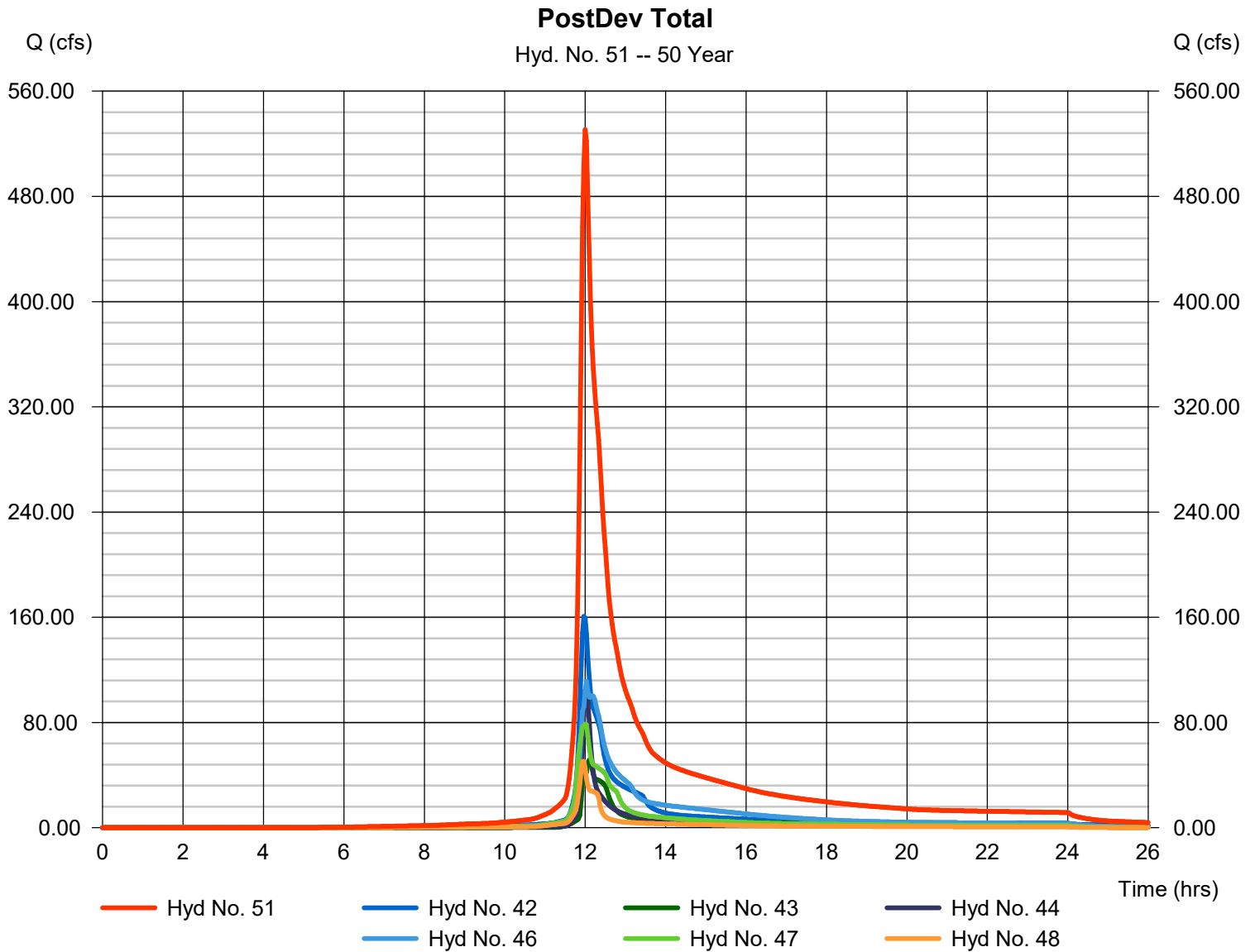
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 51

PostDev Total

Hydrograph type	= Combine	Peak discharge	= 530.75 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 2,638,940 cuft
Inflow hyds.	= 42, 43, 44, 46, 47, 48	Contrib. drain. area	= 0.000 ac



Hydrograph Report

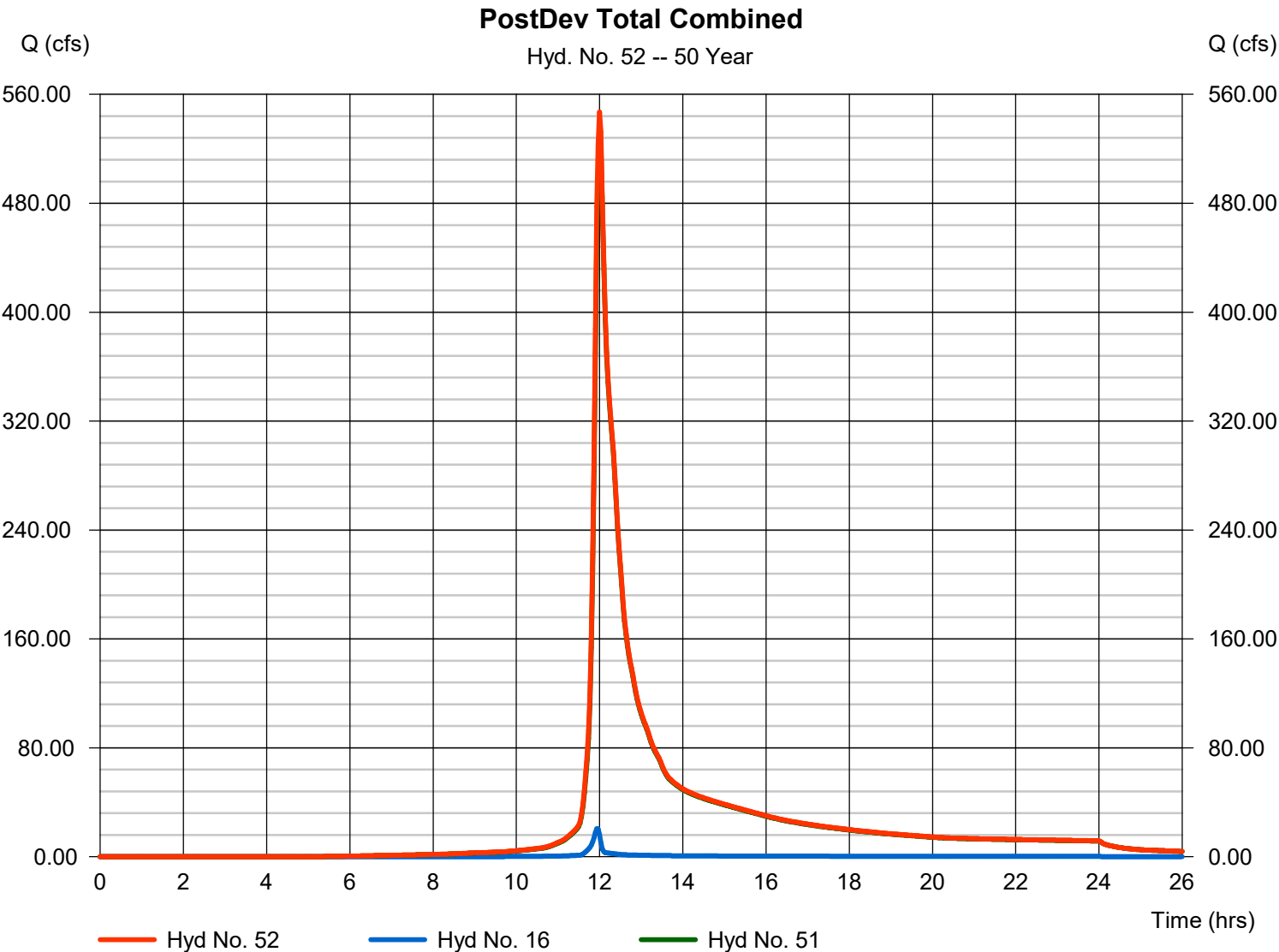
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 52

PostDev Total Combined

Hydrograph type	= Combine	Peak discharge	= 546.98 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 2,680,762 cuft
Inflow hyds.	= 16, 51	Contrib. drain. area	= 3.240 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

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	110.86	2	742	594,596	-----	-----	-----	PreDev POI #1
2	SCS Runoff	72.33	2	742	409,549	-----	-----	-----	PreDev POI #2
3	SCS Runoff	16.46	2	770	147,800	-----	-----	-----	PreDev to POI #3
4	SCS Runoff	63.50	2	730	255,043	-----	-----	-----	PreDev to POI #4
5	SCS Runoff	109.54	2	738	565,024	-----	-----	-----	PreDev to POI #5
6	SCS Runoff	76.94	2	732	333,625	-----	-----	-----	PreDev to POI #6
7	SCS Runoff	69.53	2	726	240,760	-----	-----	-----	PreDev to POI #7
8	SCS Runoff	131.11	2	718	316,191	-----	-----	-----	PostDev to SCM 1A
9	SCS Runoff	92.15	2	720	246,804	-----	-----	-----	PostDev to SCM 1B
10	SCS Runoff	21.27	2	716	44,130	-----	-----	-----	PostDev to SCM 1C
11	SCS Runoff	22.83	2	716	47,315	-----	-----	-----	PostDev to POI #1 Bypass 1
12	SCS Runoff	29.62	2	718	69,355	-----	-----	-----	PostDev to POI #1 Bypass 2
13	SCS Runoff	38.34	2	718	90,145	-----	-----	-----	PostDev to POI #1 Bypass 3
14	SCS Runoff	126.68	2	718	302,564	-----	-----	-----	PostDev to SCM 2
15	SCS Runoff	4.000	2	716	8,361	-----	-----	-----	PostDev to POI #2 Bypass
16	SCS Runoff	24.29	2	716	49,490	-----	-----	-----	PostDev to POI #3
17	SCS Runoff	130.07	2	718	311,524	-----	-----	-----	PostDev to SCM 4
18	SCS Runoff	25.28	2	716	51,179	-----	-----	-----	PostDev to POI #4 Bypass
19	SCS Runoff	205.60	2	718	501,651	-----	-----	-----	PostDev to SCM 5A
20	SCS Runoff	48.36	2	716	103,287	-----	-----	-----	PostDev to SCM 5B
21	SCS Runoff	78.07	2	720	216,448	-----	-----	-----	PostDev to SCM 5C
22	SCS Runoff	33.02	2	716	68,949	-----	-----	-----	PostDev to POI #5 Bypass 1
23	SCS Runoff	21.15	2	716	44,268	-----	-----	-----	PostDev to POI #5 Bypass 2
24	SCS Runoff	57.15	2	716	124,338	-----	-----	-----	PostDev to SCM 6A
25	SCS Runoff	118.76	2	716	260,504	-----	-----	-----	PostDev to SCM 6B
26	SCS Runoff	39.73	2	716	84,227	-----	-----	-----	PostDev to POI #6 Bypass
27	SCS Runoff	44.91	2	720	122,986	-----	-----	-----	PostDev to SCM 7
28	SCS Runoff	32.70	2	716	69,011	-----	-----	-----	PostDev to POI #7 Bypass
29	Reservoir	64.30	2	726	315,528	8	353.70	114,286	PostDev to SCM 1A
30	Reservoir	39.61	2	730	244,472	9	382.01	107,282	PostDev to SCM 1B
31	Reservoir	16.87	2	720	42,729	10	364.09	14,489	PostDev to SCM 1C
32	Reservoir	73.82	2	724	291,466	14	358.76	120,152	PostDev to SCM 2
33	Reservoir	106.10	2	722	311,007	17	368.81	99,929	PostDev to SCM 4
34	Reservoir	73.52	2	728	482,566	19	329.48	250,997	PostDev to SCM 5A
Merritt Reserve Hydrographs.gpw					Return Period: 100 Year			Saturday, 04 / 12 / 2025	

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
35	Reservoir	18.74	2	722	99,533	20	310.62	45,721	PostDev to SCM 5B
36	Reservoir	38.50	2	730	215,680	21	297.98	88,282	PostDev to SCM 5C
37	Reservoir	20.75	2	724	124,240	24	282.57	43,276	PostDev to SCM 6A
38	Reservoir	67.55	2	722	259,478	25	295.85	108,738	PostDev to SCM 6B
39	Reservoir	24.87	2	728	122,833	27	322.33	34,640	PostDev to SCM 7
40	Combine	42.61	2	730	291,788	11, 30,	-----	-----	PostDev POI #1 to Culv1
41	Combine	86.01	2	718	403,871	12, 31, 40	-----	-----	PostDev POI #1 to Culv2
42	Combine	178.77	2	718	809,544	13, 29, 41	-----	-----	PostDev POI #1 Combined
43	Combine	74.88	2	724	299,827	15, 32,	-----	-----	PostDev to POI #2
44	Combine	124.28	2	720	362,186	18, 33,	-----	-----	PostDev to POI #4
45	Combine	97.38	2	720	651,049	22, 34, 35,	-----	-----	PostDev to POI #5 to Culv3
46	Combine	137.10	2	728	910,997	23, 36, 45	-----	-----	PostDev to POI #5
47	Combine	113.51	2	720	467,945	26, 37, 38,	-----	-----	PostDev to POI #6
48	Combine	55.29	2	716	191,844	28, 39,	-----	-----	PostDev to POI #7
49	Combine	422.44	2	738	2,305,636	1, 2, 3, 4, 5, 6,	-----	-----	PreDev Total
50	Combine	469.74	2	736	2,546,395	7, 49	-----	-----	PreDev Total Combined
51	Combine	647.91	2	720	3,042,342	42, 43, 44, 46, 47, 48,	-----	-----	PostDev Total
52	Combine	666.89	2	720	3,091,832	16, 51	-----	-----	PostDev Total Combined
Merritt Reserve Hydrographs.gpw					Return Period: 100 Year			Saturday, 04 / 12 / 2025	

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

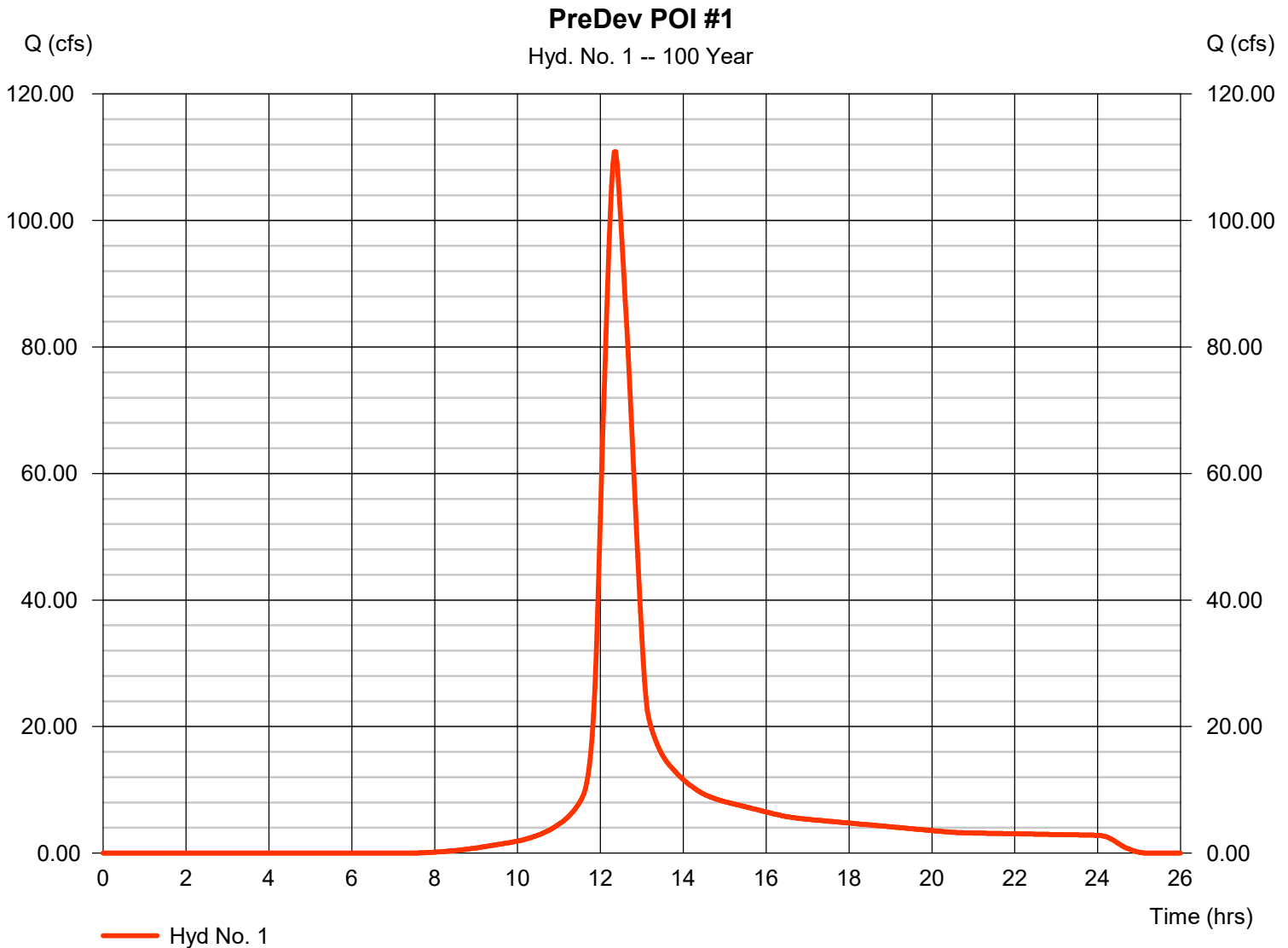
Saturday, 04 / 12 / 2025

Hyd. No. 1

PreDev POI #1

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Time interval = 2 min
 Drainage area = 37.960 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 7.61 in
 Storm duration = 24 hrs

Peak discharge = 110.86 cfs
 Time to peak = 12.37 hrs
 Hyd. volume = 594,596 cuft
 Curve number = 72
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 46.50 min
 Distribution = Type II
 Shape factor = 484



Hydrograph Report

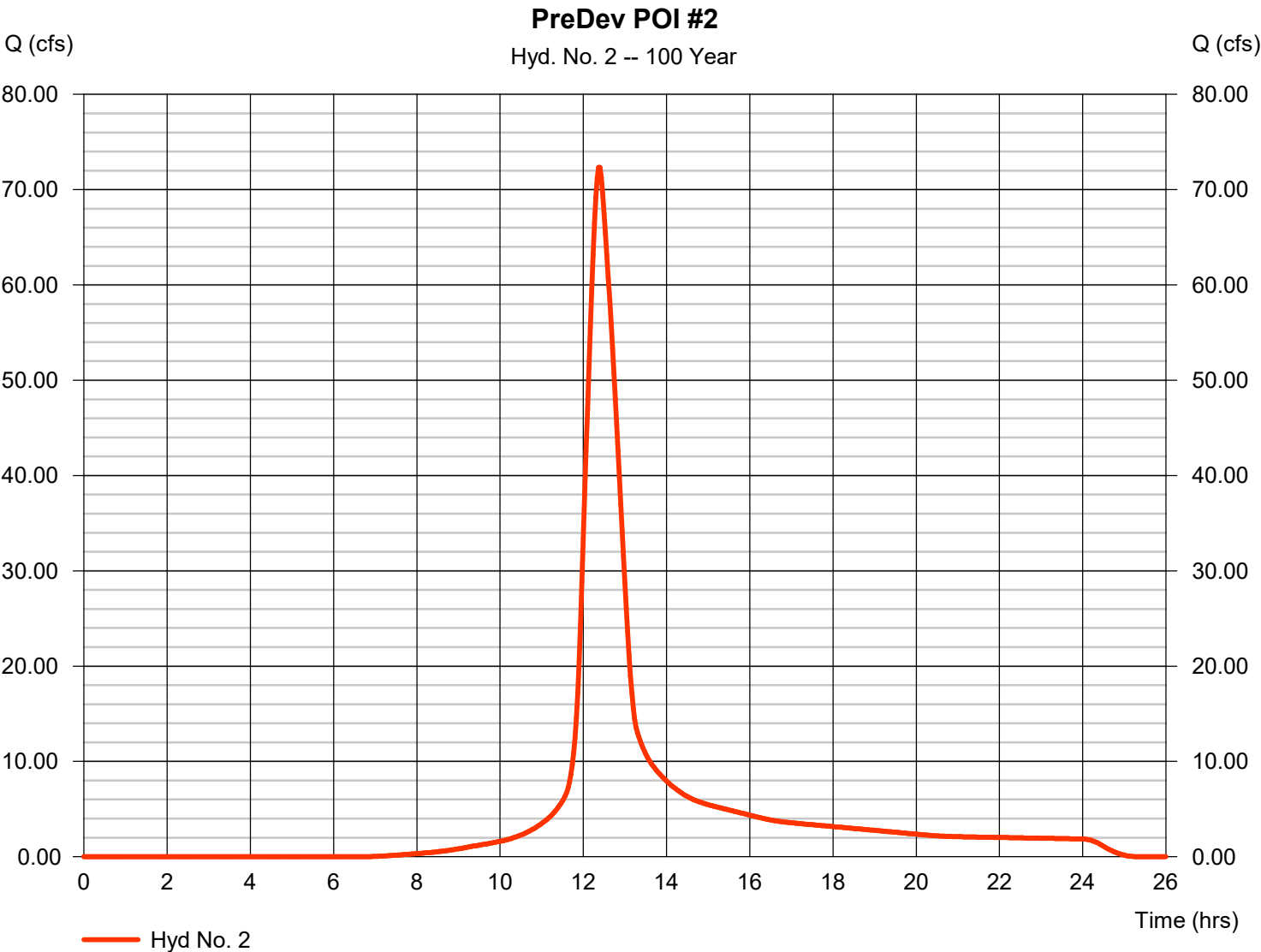
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 2

PreDev POI #2

Hydrograph type	= SCS Runoff	Peak discharge	= 72.33 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.37 hrs
Time interval	= 2 min	Hyd. volume	= 409,549 cuft
Drainage area	= 24.050 ac	Curve number	= 75
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 48.70 min
Total precip.	= 7.61 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

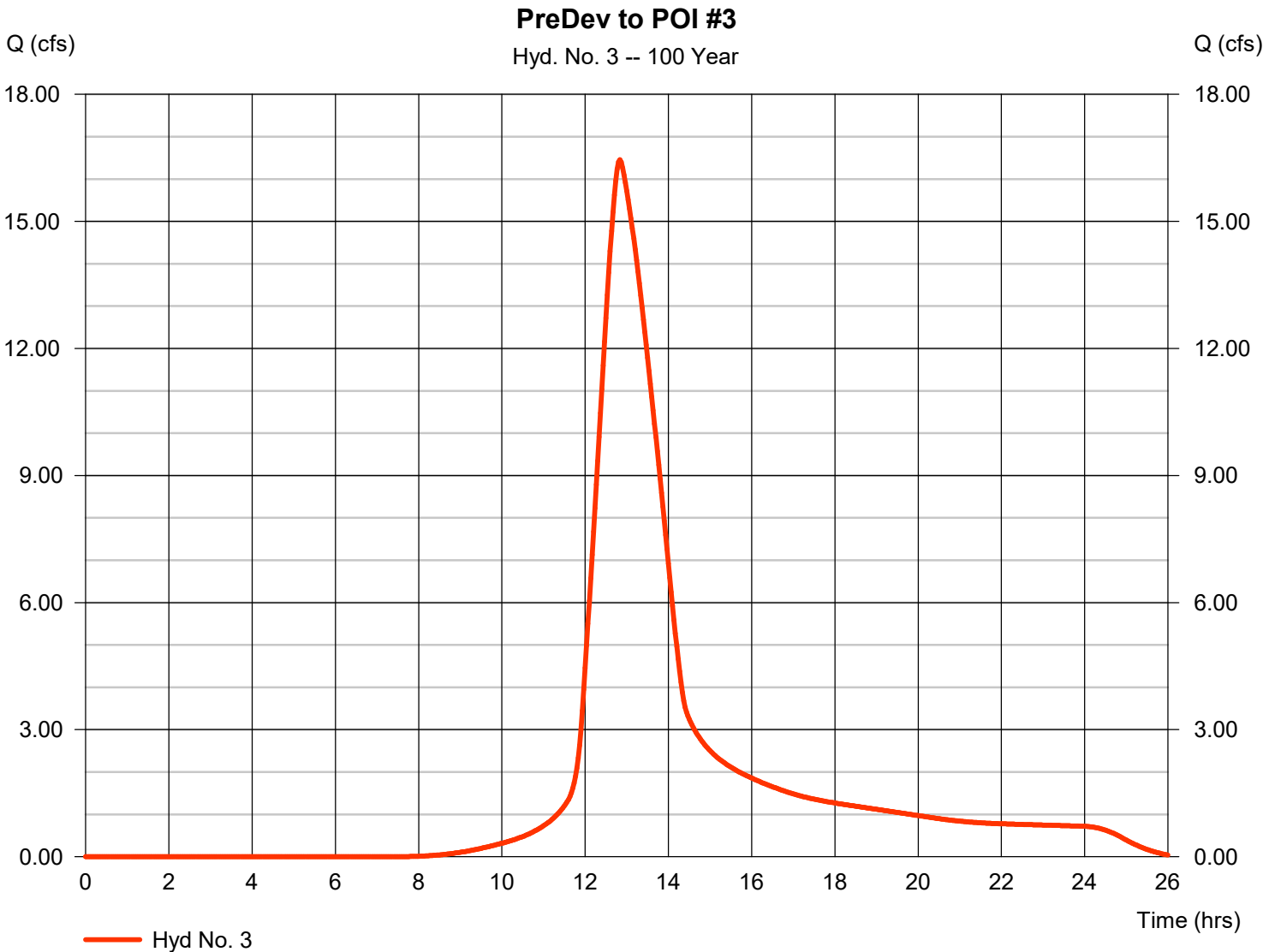
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 3

PreDev to POI #3

Hydrograph type	= SCS Runoff	Peak discharge	= 16.46 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.83 hrs
Time interval	= 2 min	Hyd. volume	= 147,800 cuft
Drainage area	= 9.310 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 92.00 min
Total precip.	= 7.61 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

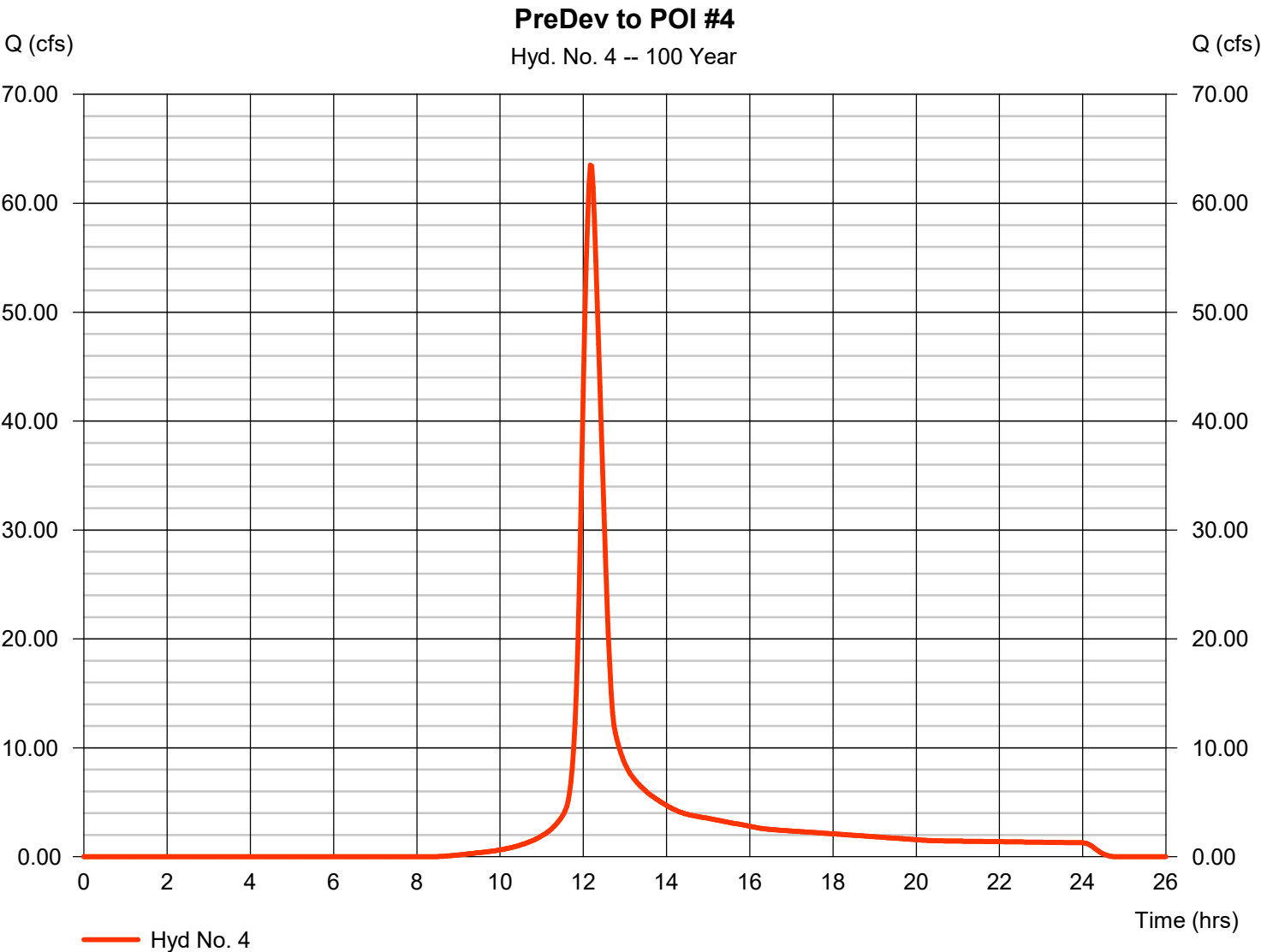
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 4

PreDev to POI #4

Hydrograph type	= SCS Runoff	Peak discharge	= 63.50 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 255,043 cuft
Drainage area	= 17.970 ac	Curve number	= 68
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 28.80 min
Total precip.	= 7.61 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

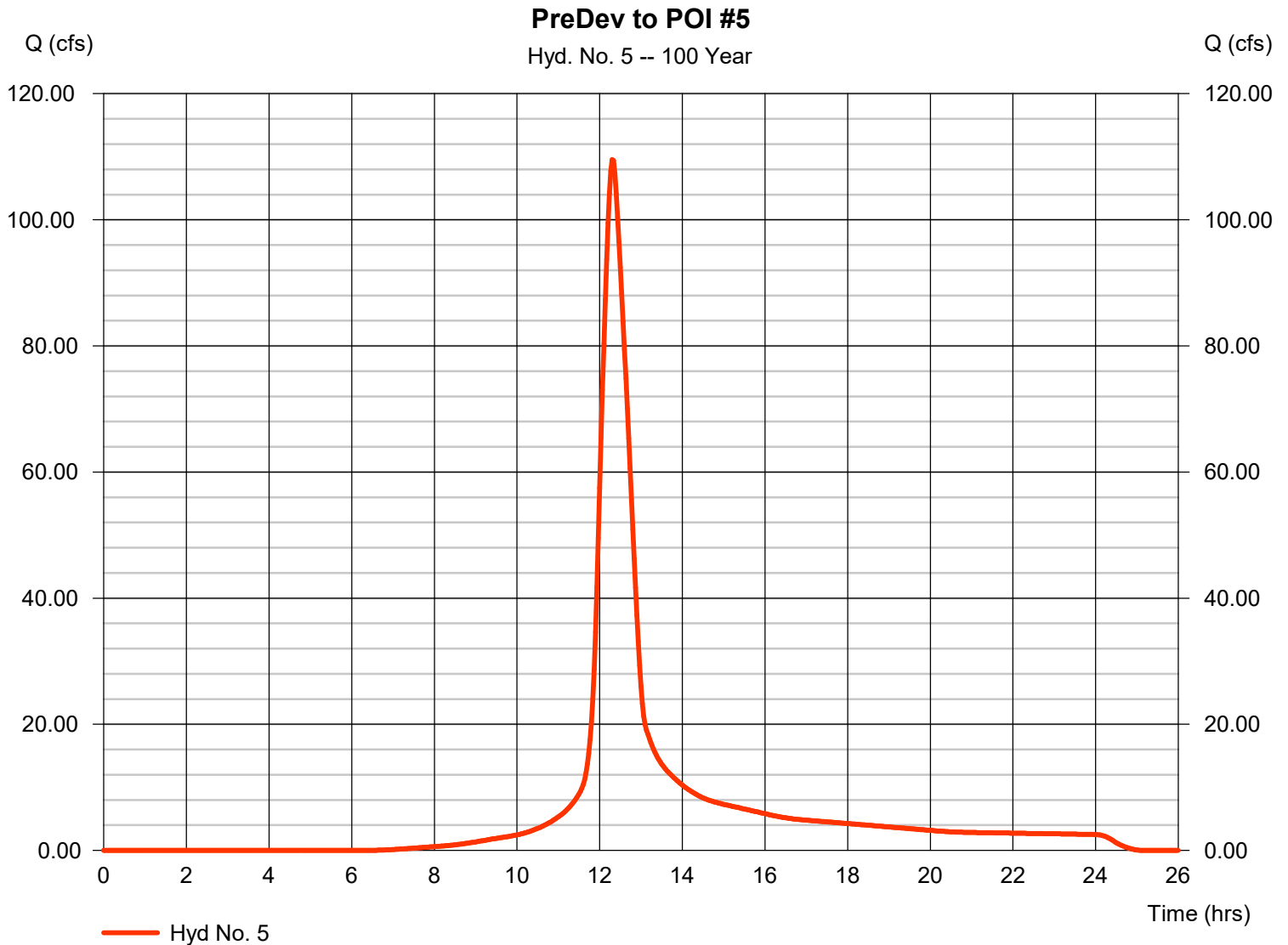
Saturday, 04 / 12 / 2025

Hyd. No. 5

PreDev to POI #5

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Time interval = 2 min
 Drainage area = 32.090 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 7.61 in
 Storm duration = 24 hrs

Peak discharge = 109.54 cfs
 Time to peak = 12.30 hrs
 Hyd. volume = 565,024 cuft
 Curve number = 76
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 43.30 min
 Distribution = Type II
 Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

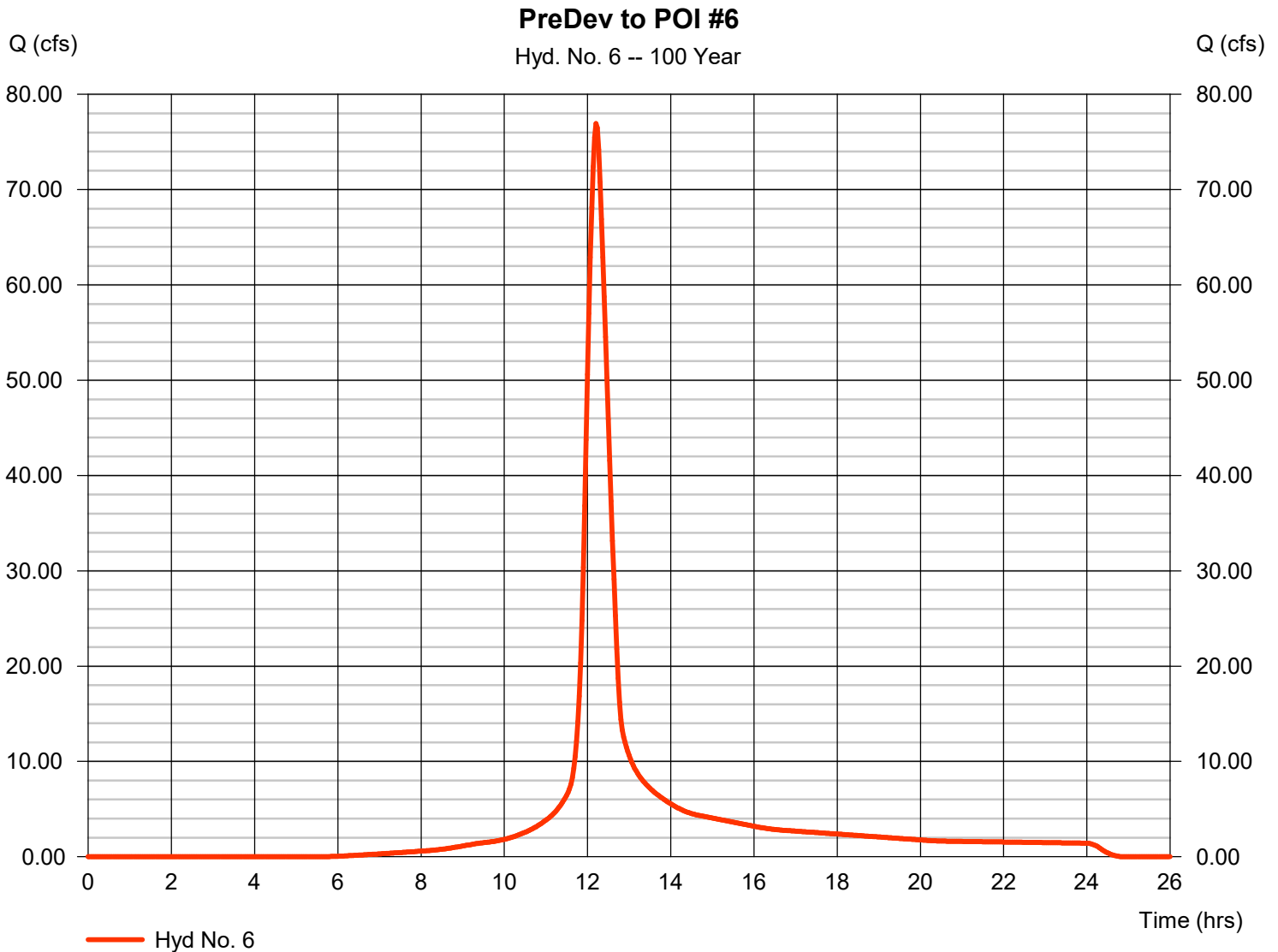
Saturday, 04 / 12 / 2025

Hyd. No. 6

PreDev to POI #6

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 2 min
Drainage area = 17.640 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 7.61 in
Storm duration = 24 hrs

Peak discharge = 76.94 cfs
Time to peak = 12.20 hrs
Hyd. volume = 333,625 cuft
Curve number = 79
Hydraulic length = 0 ft
Time of conc. (Tc) = 32.90 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

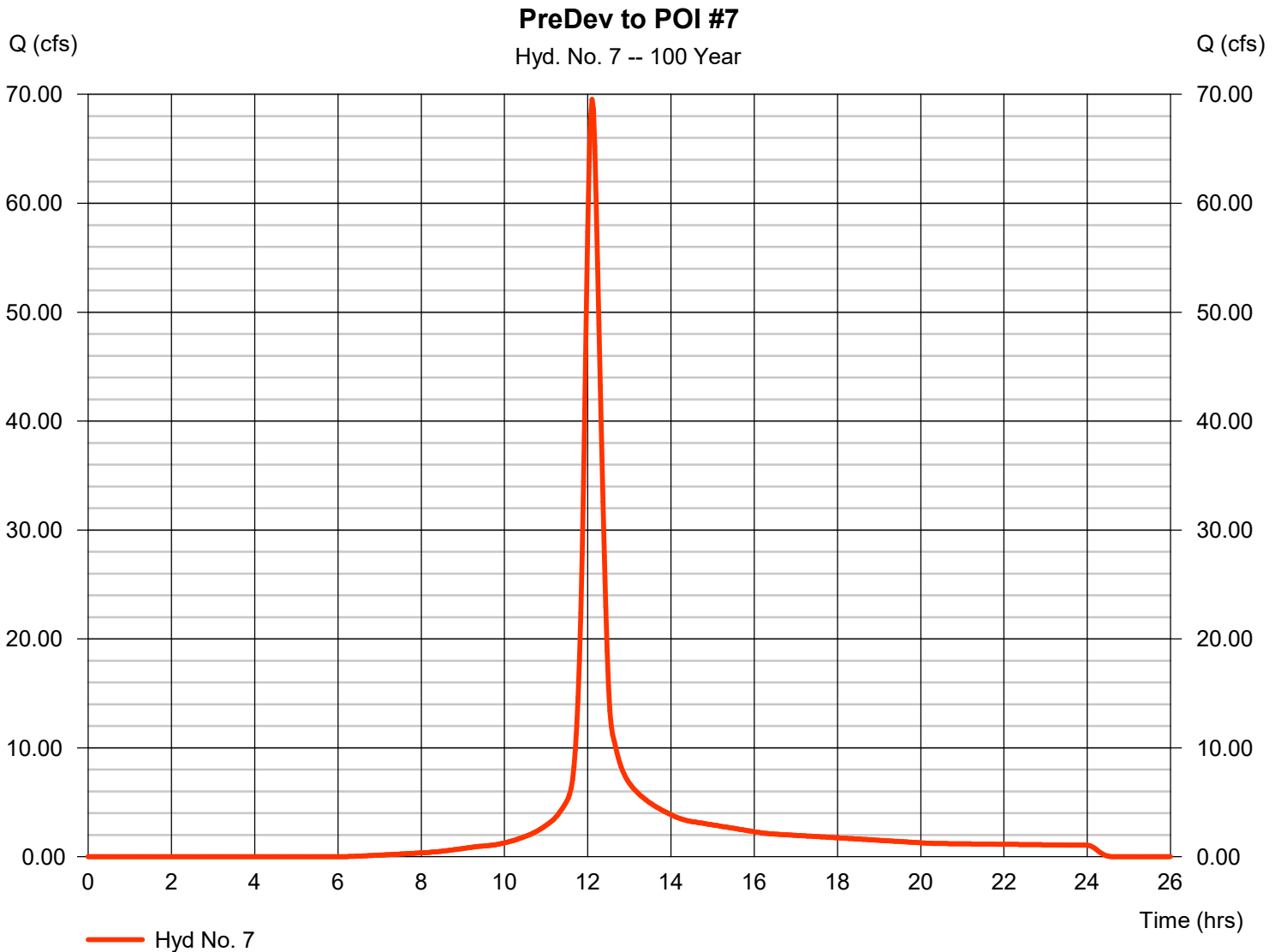
Saturday, 04 / 12 / 2025

Hyd. No. 7

PreDev to POI #7

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 2 min
Drainage area = 13.250 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 7.61 in
Storm duration = 24 hrs

Peak discharge = 69.53 cfs
Time to peak = 12.10 hrs
Hyd. volume = 240,760 cuft
Curve number = 77
Hydraulic length = 0 ft
Time of conc. (Tc) = 22.00 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

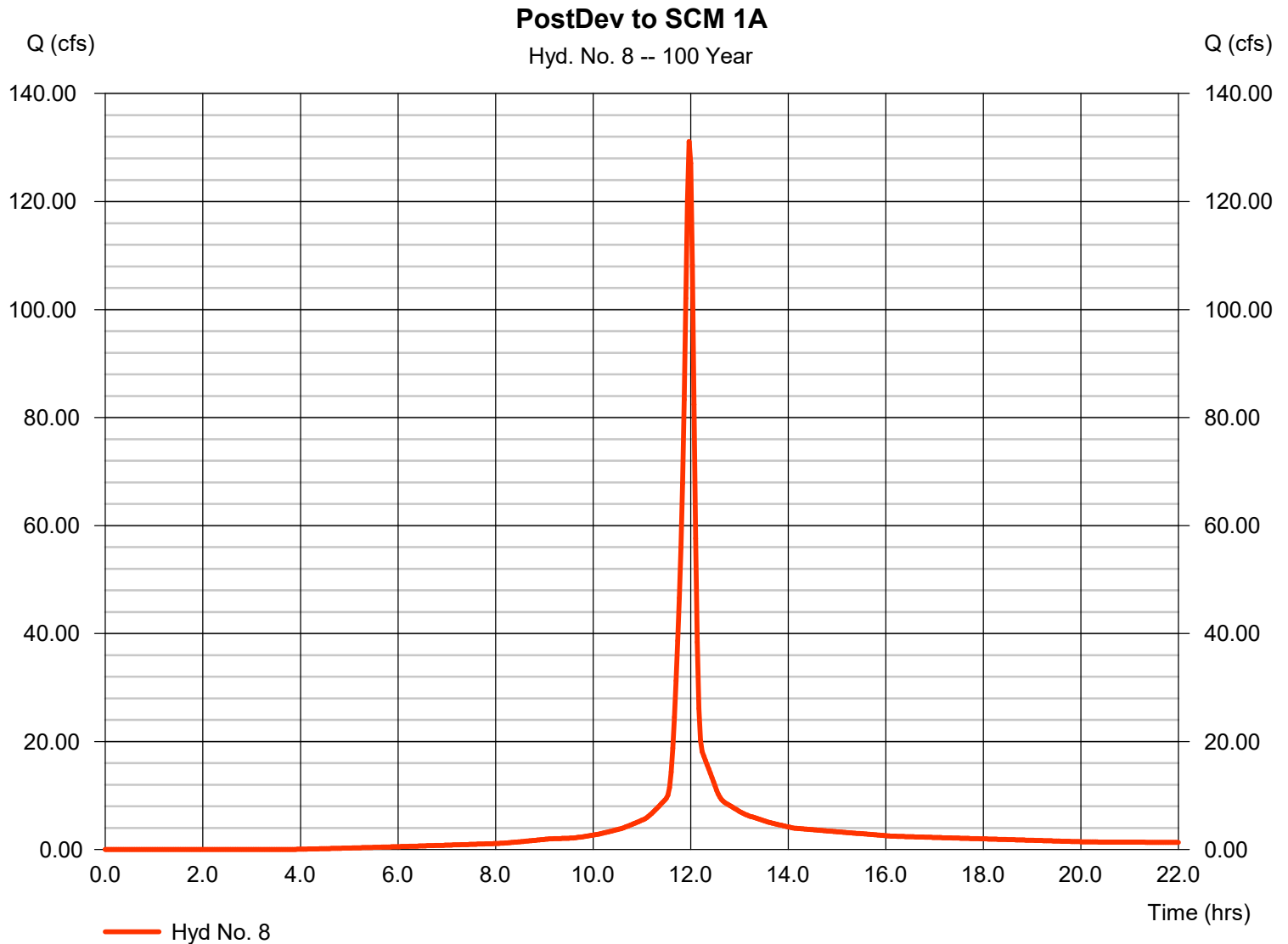
Saturday, 04 / 12 / 2025

Hyd. No. 8

PostDev to SCM 1A

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 2 min
Drainage area = 14.630 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 7.61 in
Storm duration = 24 hrs

Peak discharge = 131.11 cfs
Time to peak = 11.97 hrs
Hyd. volume = 316,191 cuft
Curve number = 86
Hydraulic length = 0 ft
Time of conc. (Tc) = 8.30 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

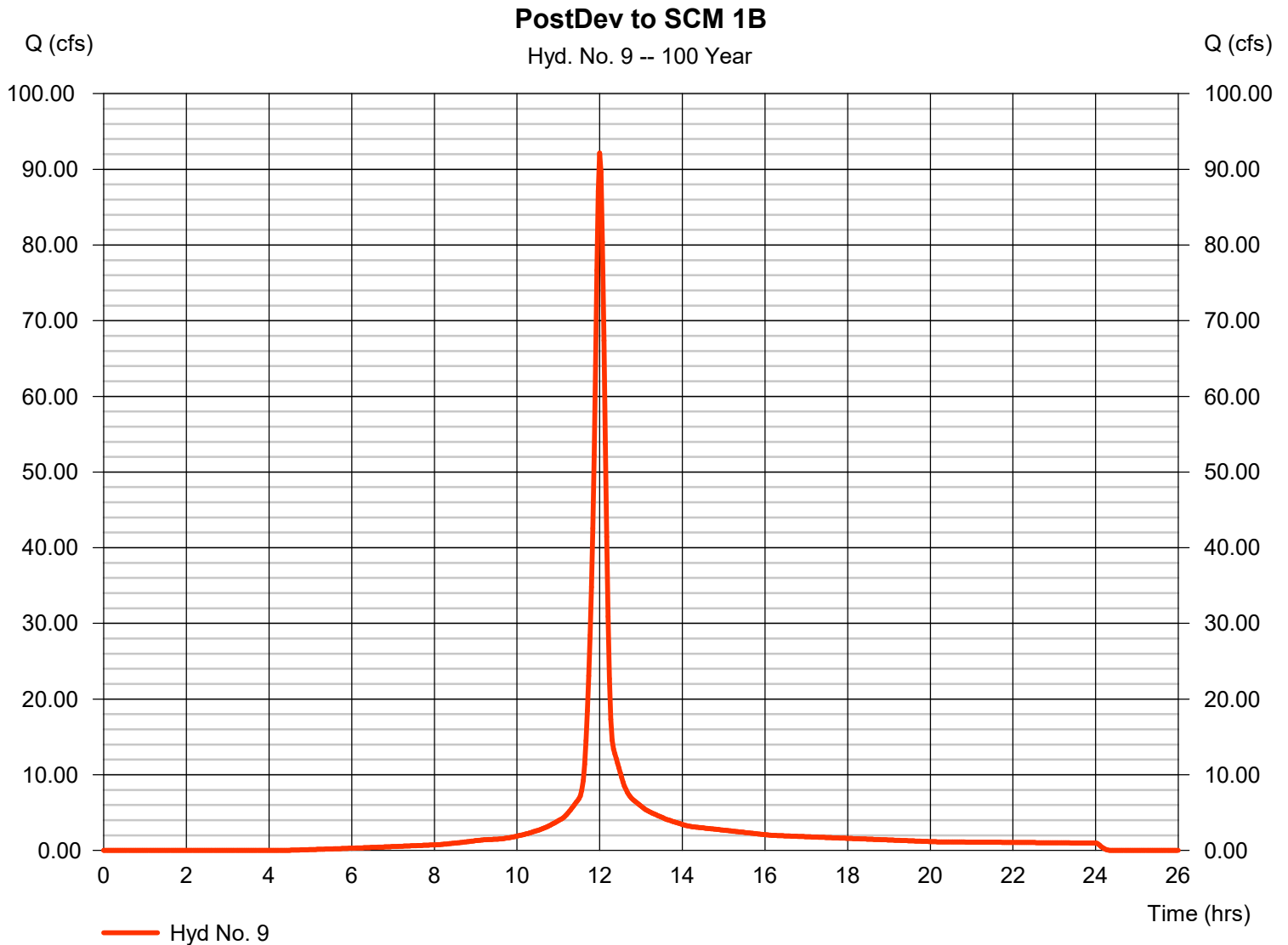
Saturday, 04 / 12 / 2025

Hyd. No. 9

PostDev to SCM 1B

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 2 min
Drainage area = 11.570 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 7.61 in
Storm duration = 24 hrs

Peak discharge = 92.15 cfs
Time to peak = 12.00 hrs
Hyd. volume = 246,804 cuft
Curve number = 83.8
Hydraulic length = 0 ft
Time of conc. (Tc) = 11.10 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

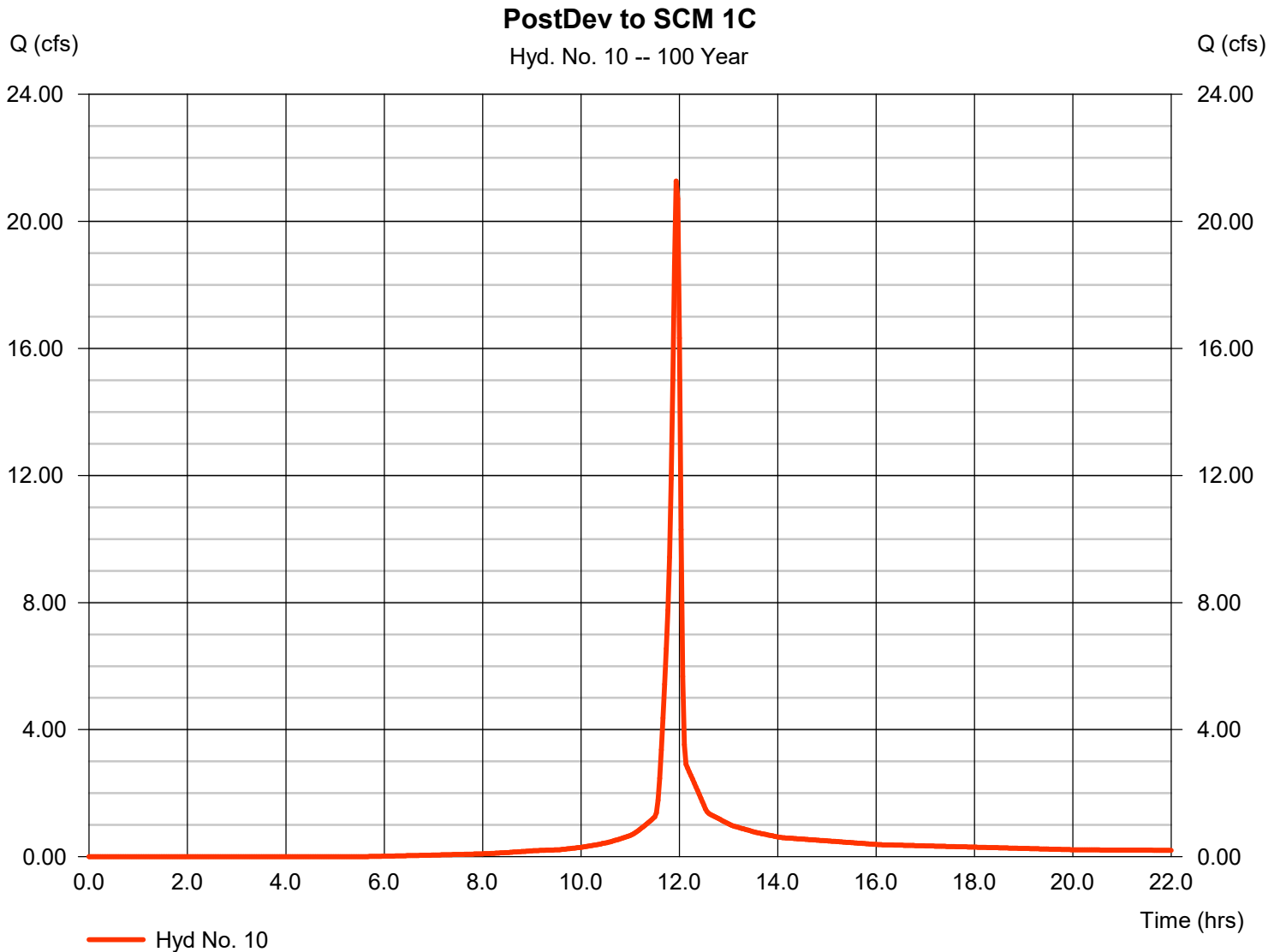
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 10

PostDev to SCM 1C

Hydrograph type	= SCS Runoff	Peak discharge	= 21.27 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 44,130 cuft
Drainage area	= 2.520 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.61 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

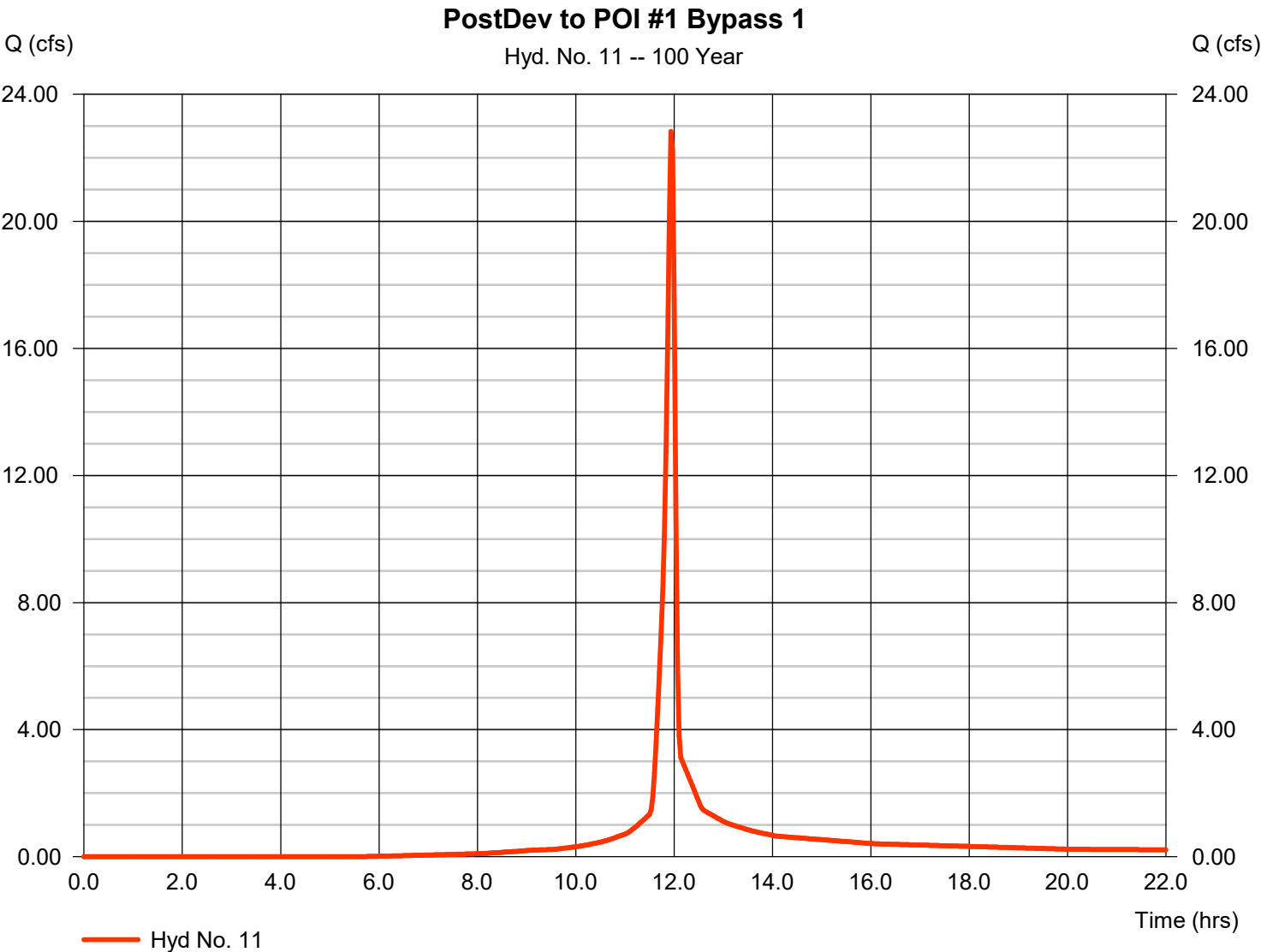
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 11

PostDev to POI #1 Bypass 1

Hydrograph type	=	SCS Runoff	Peak discharge	=	22.83 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	47,315 cuft
Drainage area	=	2.720 ac	Curve number	=	78.7
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.61 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

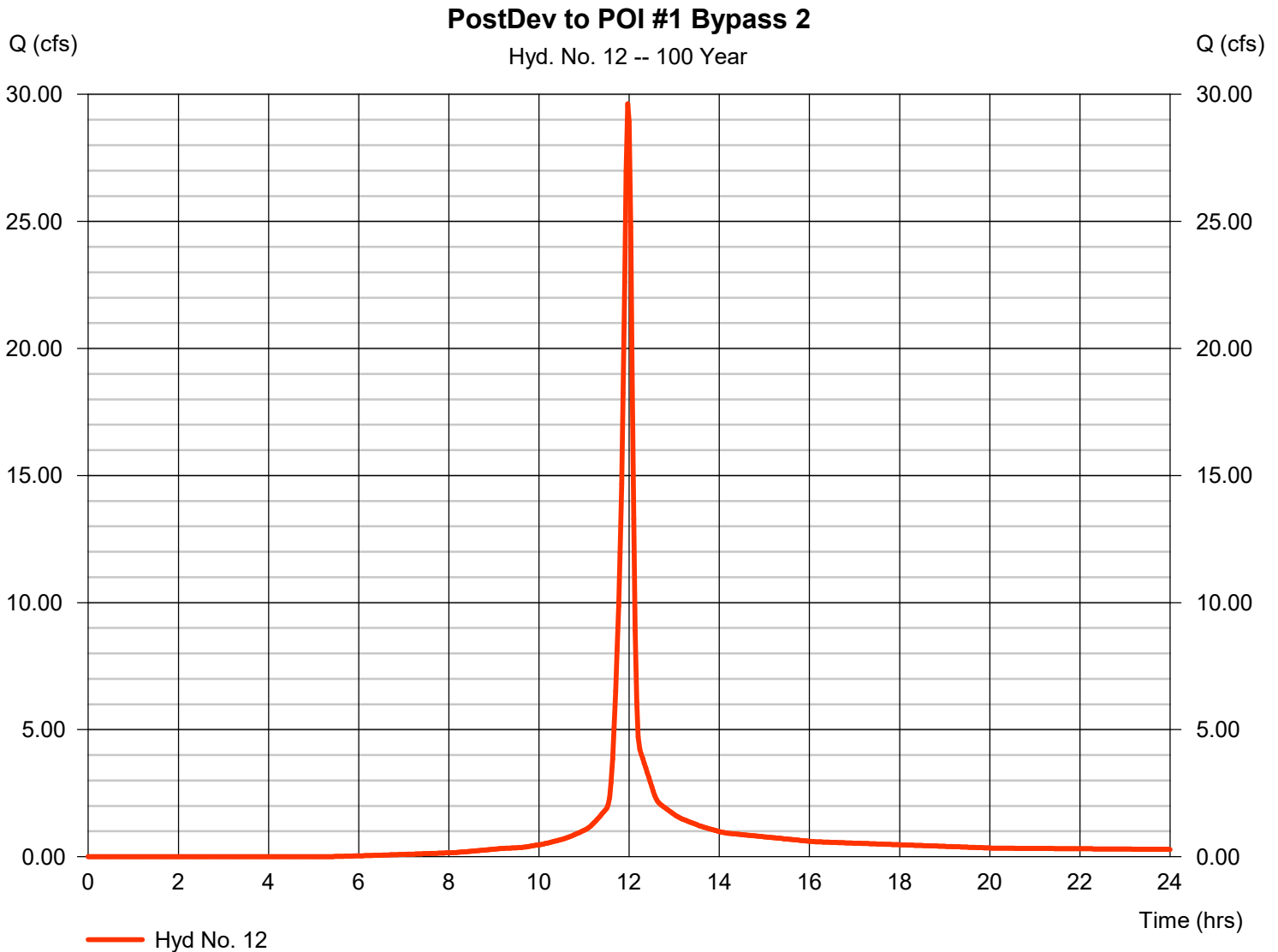
Saturday, 04 / 12 / 2025

Hyd. No. 12

PostDev to POI #1 Bypass 2

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 2 min
Drainage area = 3.640 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 7.61 in
Storm duration = 24 hrs

Peak discharge = 29.62 cfs
Time to peak = 11.97 hrs
Hyd. volume = 69,355 cuft
Curve number = 79.9
Hydraulic length = 0 ft
Time of conc. (Tc) = 6.70 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

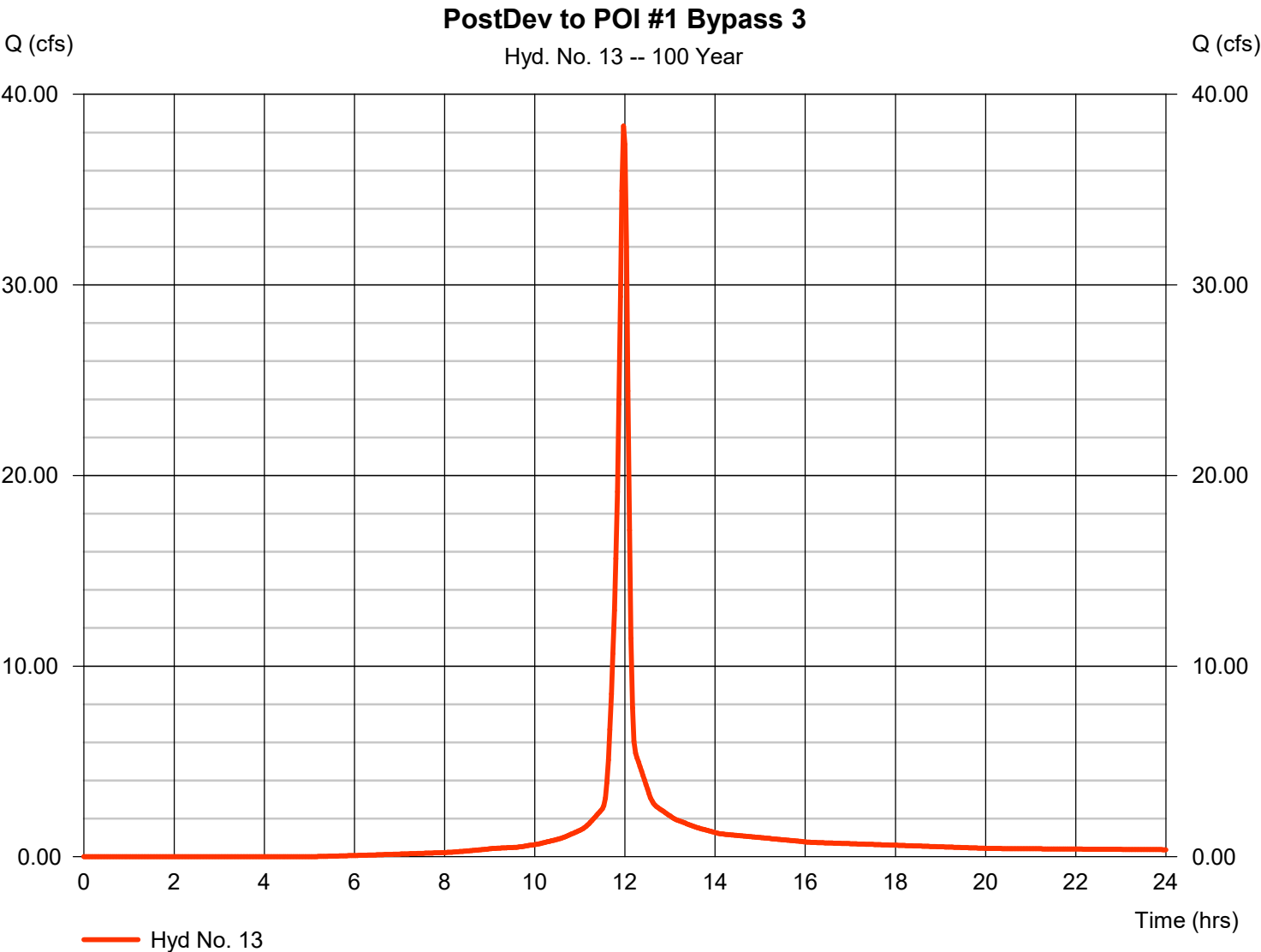
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 13

PostDev to POI #1 Bypass 3

Hydrograph type	=	SCS Runoff	Peak discharge	=	38.34 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	90,145 cuft
Drainage area	=	4.620 ac	Curve number	=	81
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	7.20 min
Total precip.	=	7.61 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

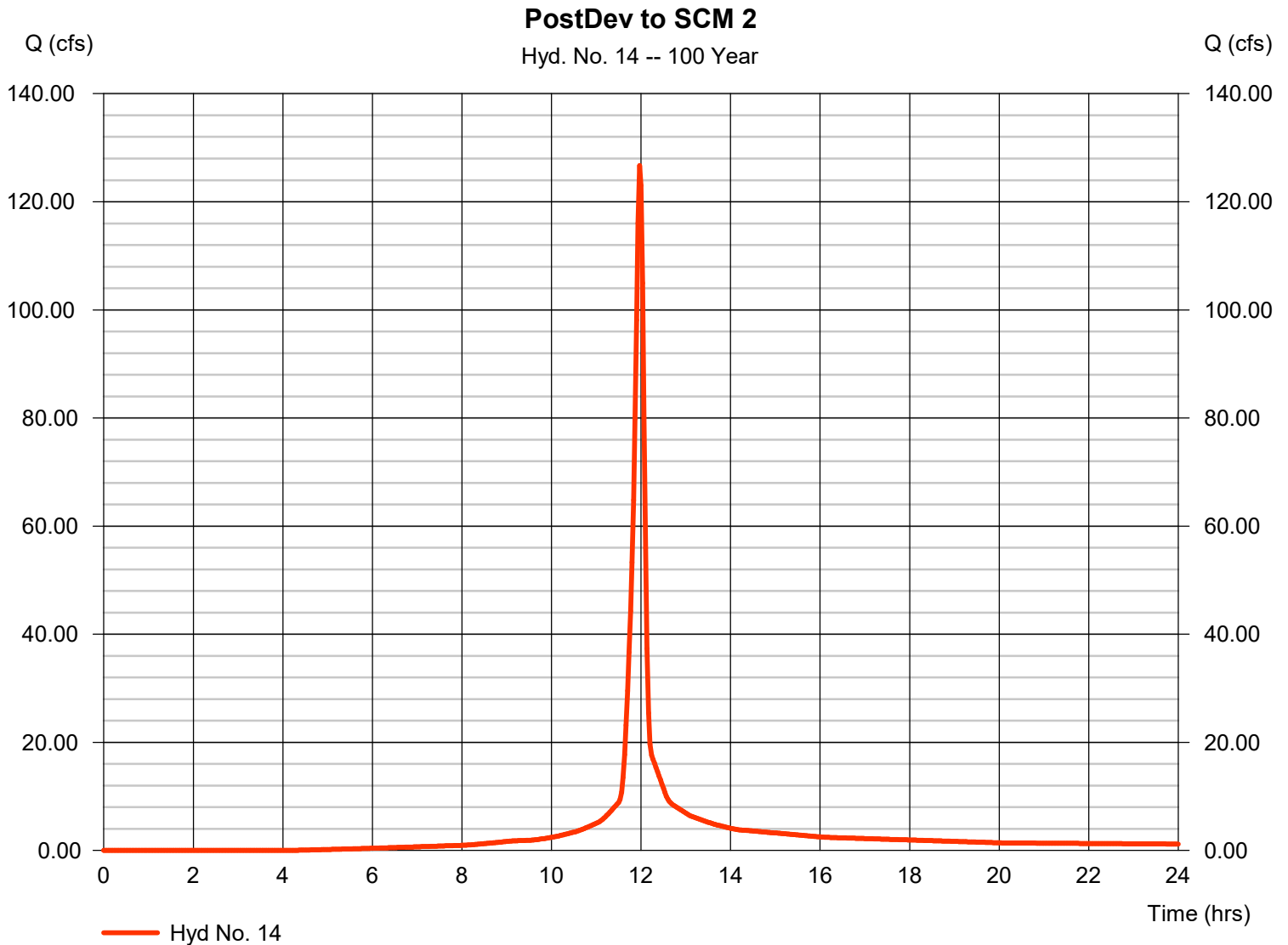
Saturday, 04 / 12 / 2025

Hyd. No. 14

PostDev to SCM 2

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 2 min
Drainage area = 14.480 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 7.61 in
Storm duration = 24 hrs

Peak discharge = 126.68 cfs
Time to peak = 11.97 hrs
Hyd. volume = 302,564 cuft
Curve number = 84.3
Hydraulic length = 0 ft
Time of conc. (Tc) = 7.10 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

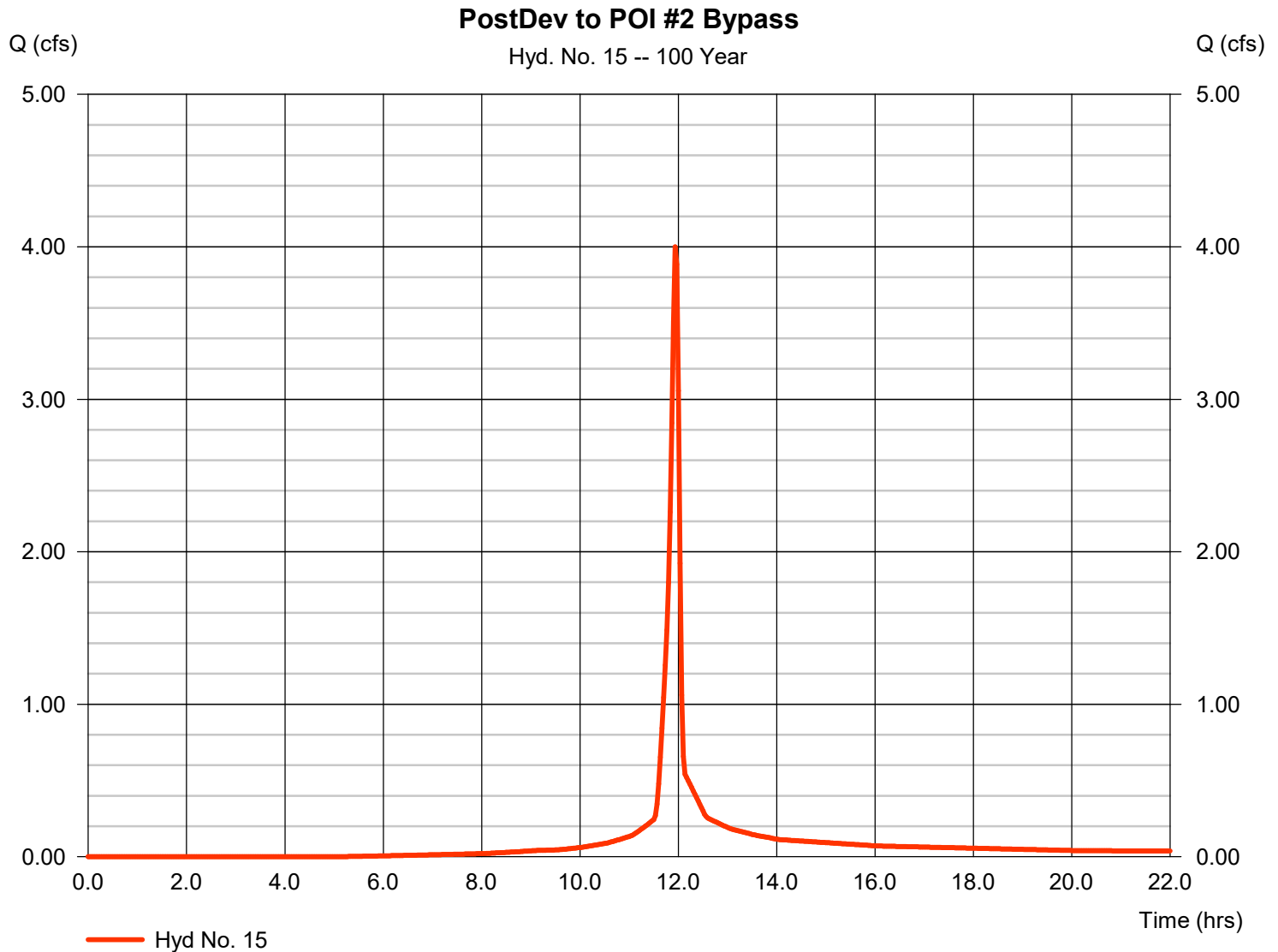
Saturday, 04 / 12 / 2025

Hyd. No. 15

PostDev to POI #2 Bypass

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 2 min
Drainage area = 0.460 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 7.61 in
Storm duration = 24 hrs

Peak discharge = 4.000 cfs
Time to peak = 11.93 hrs
Hyd. volume = 8,361 cuft
Curve number = 80.7
Hydraulic length = 0 ft
Time of conc. (Tc) = 5.00 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

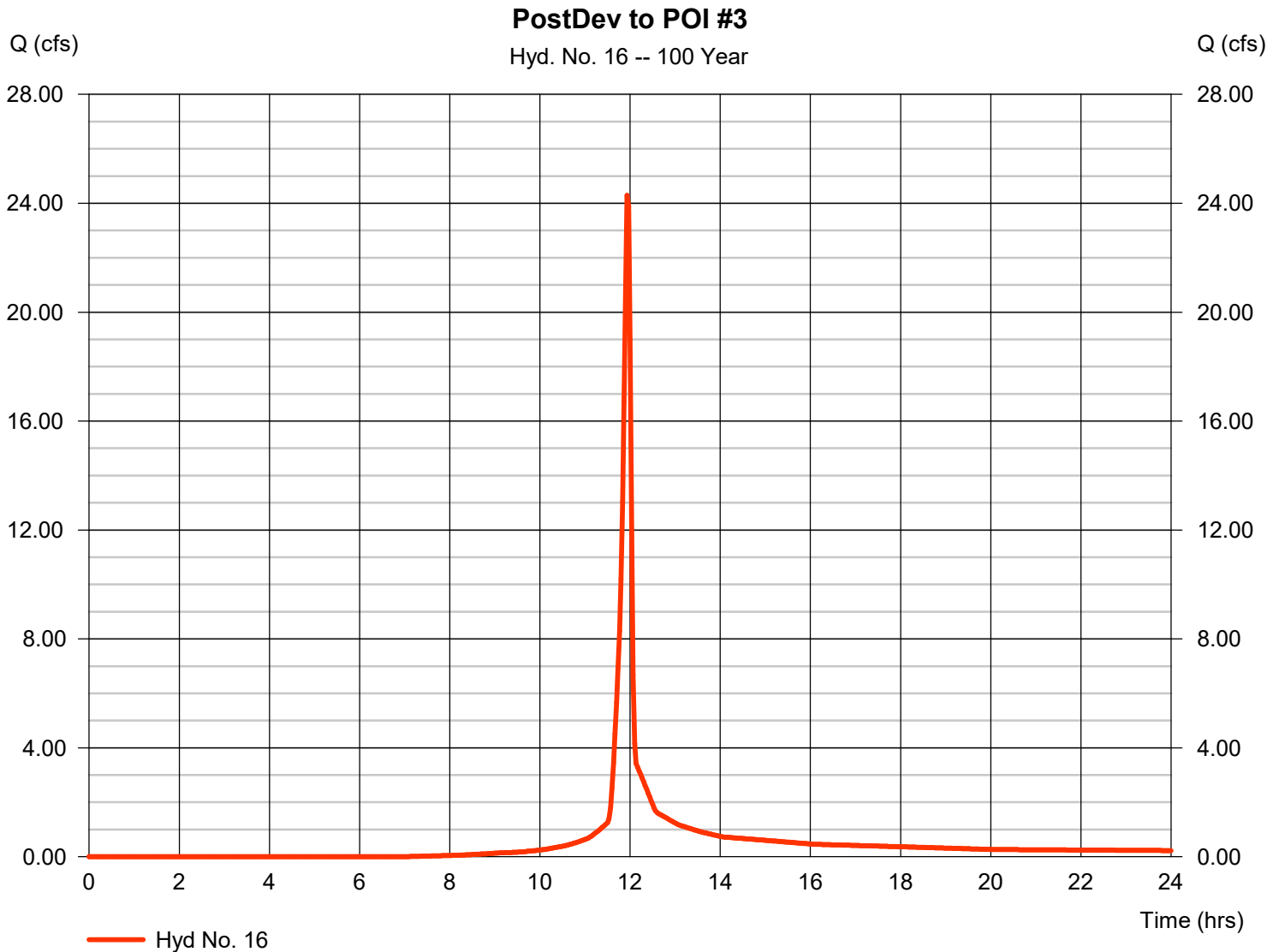
Saturday, 04 / 12 / 2025

Hyd. No. 16

PostDev to POI #3

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 2 min
Drainage area = 3.240 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 7.61 in
Storm duration = 24 hrs

Peak discharge = 24.29 cfs
Time to peak = 11.93 hrs
Hyd. volume = 49,490 cuft
Curve number = 73.2
Hydraulic length = 0 ft
Time of conc. (Tc) = 5.70 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

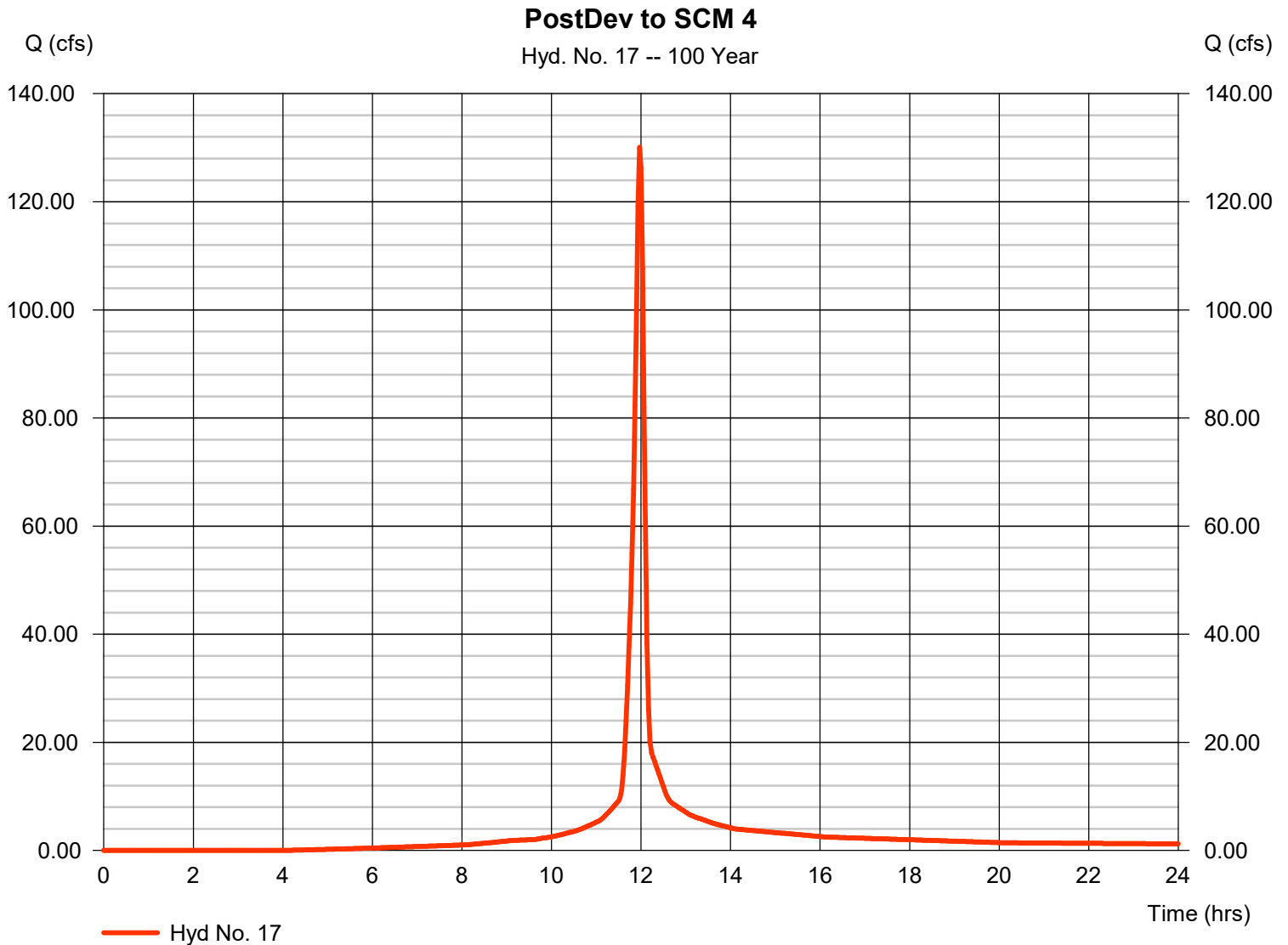
Saturday, 04 / 12 / 2025

Hyd. No. 17

PostDev to SCM 4

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 2 min
Drainage area = 14.760 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 7.61 in
Storm duration = 24 hrs

Peak discharge = 130.07 cfs
Time to peak = 11.97 hrs
Hyd. volume = 311,524 cuft
Curve number = 84.8
Hydraulic length = 0 ft
Time of conc. (Tc) = 7.20 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

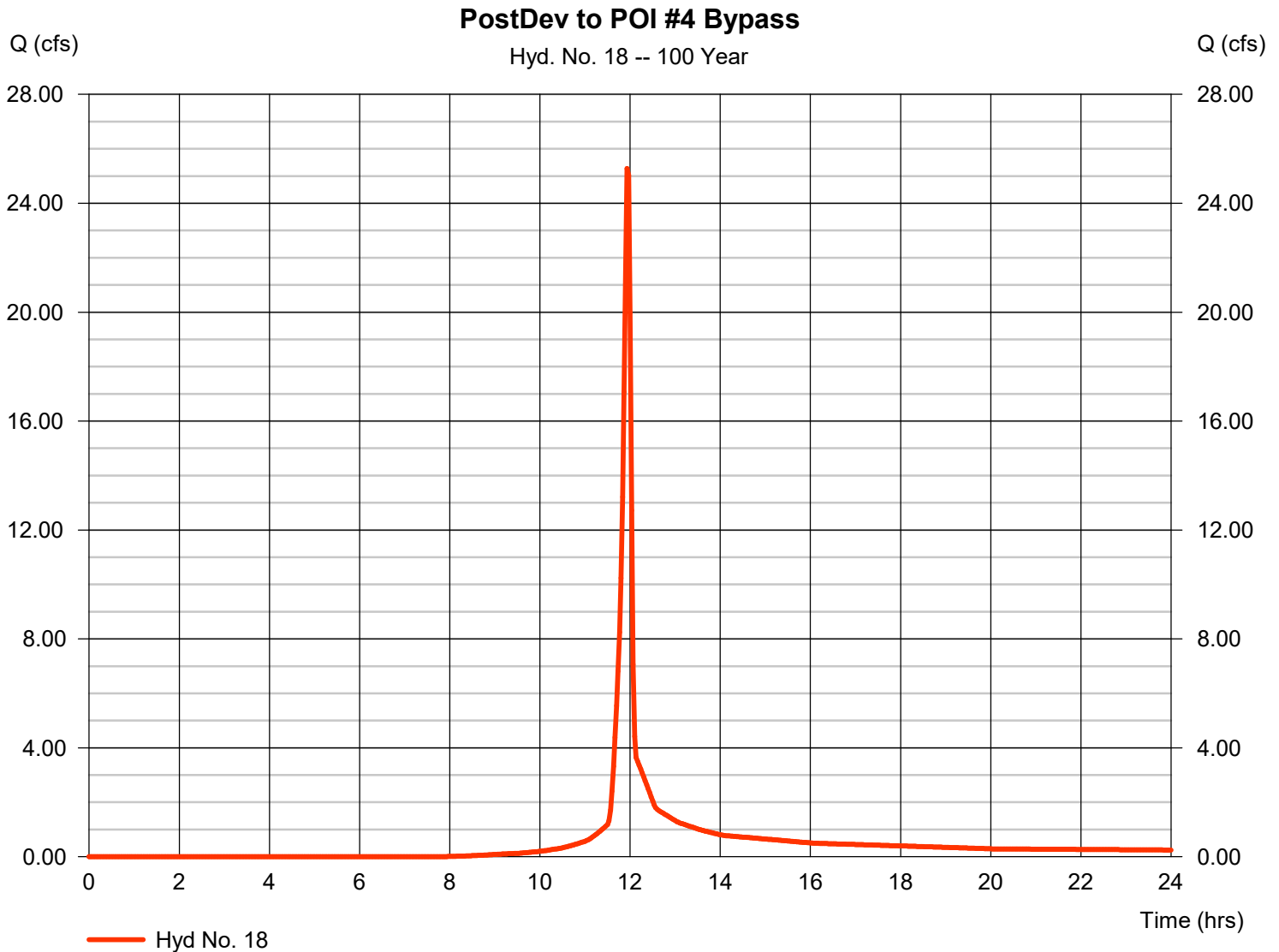
Saturday, 04 / 12 / 2025

Hyd. No. 18

PostDev to POI #4 Bypass

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 2 min
Drainage area = 3.670 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 7.61 in
Storm duration = 24 hrs

Peak discharge = 25.28 cfs
Time to peak = 11.93 hrs
Hyd. volume = 51,179 cuft
Curve number = 69.7
Hydraulic length = 0 ft
Time of conc. (Tc) = 5.00 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

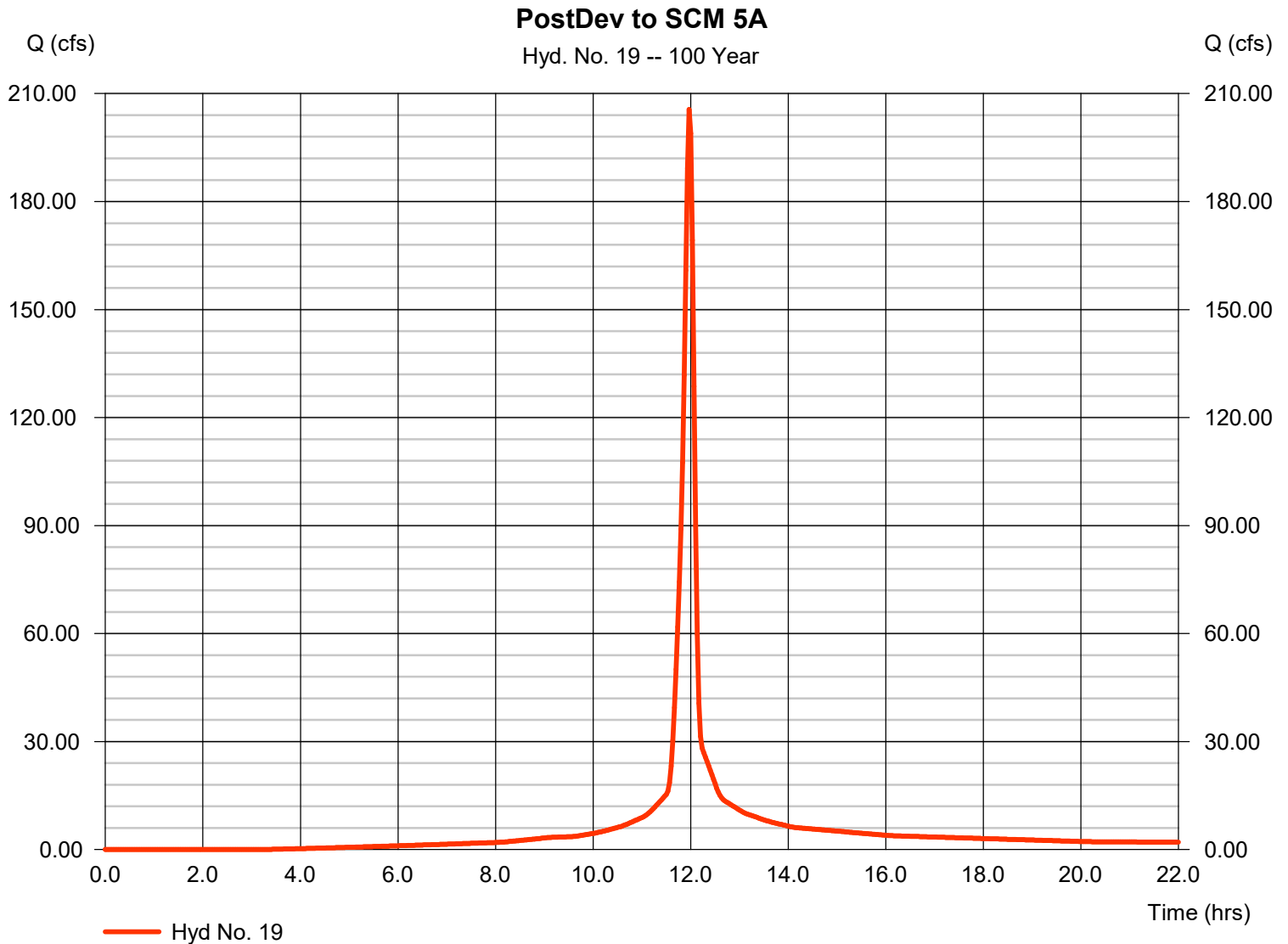
Saturday, 04 / 12 / 2025

Hyd. No. 19

PostDev to SCM 5A

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 2 min
Drainage area = 22.420 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 7.61 in
Storm duration = 24 hrs

Peak discharge = 205.60 cfs
Time to peak = 11.97 hrs
Hyd. volume = 501,651 cuft
Curve number = 87.8
Hydraulic length = 0 ft
Time of conc. (Tc) = 9.10 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

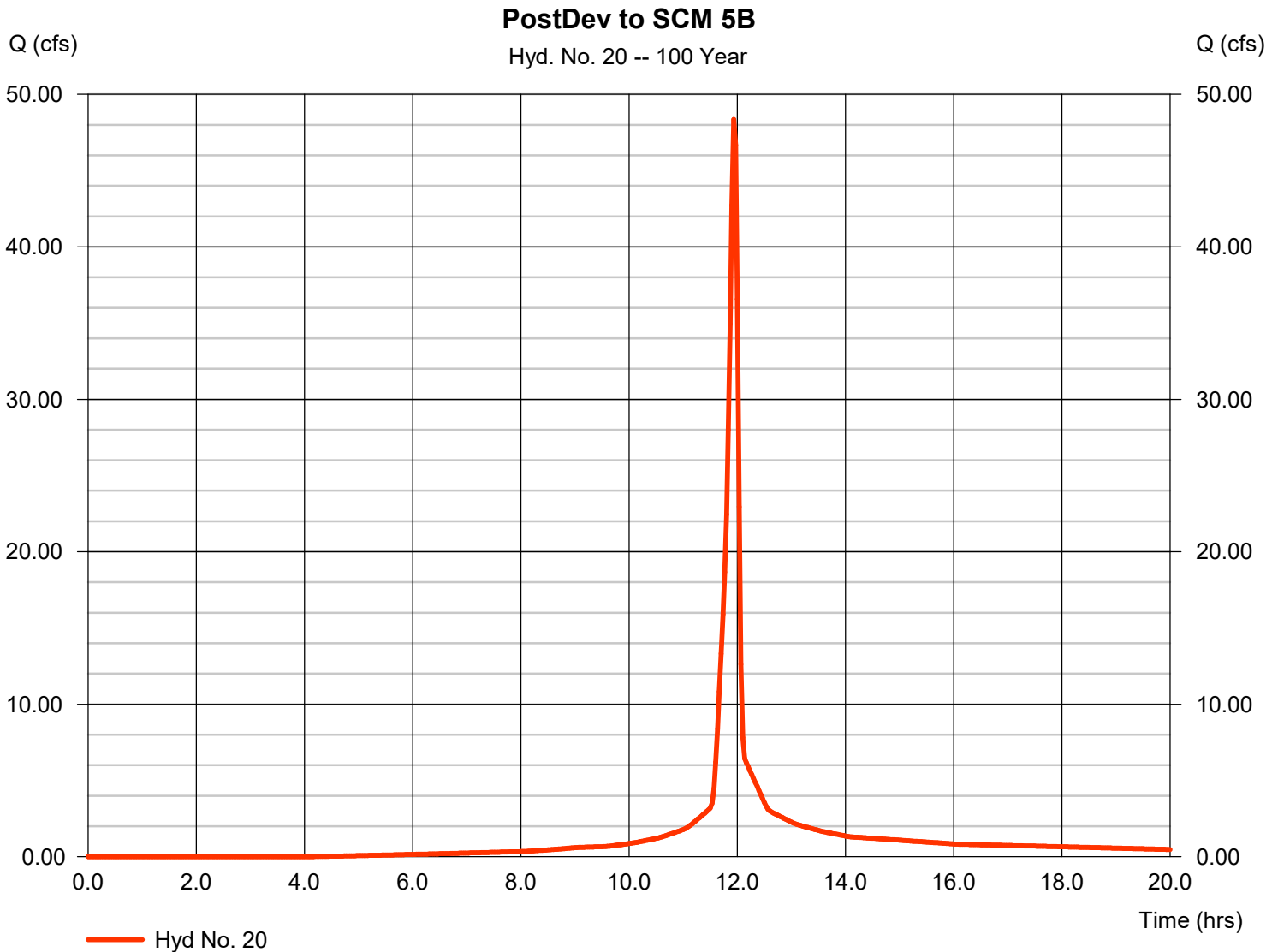
Saturday, 04 / 12 / 2025

Hyd. No. 20

PostDev to SCM 5B

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 2 min
Drainage area = 5.220 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 7.61 in
Storm duration = 24 hrs

Peak discharge = 48.36 cfs
Time to peak = 11.93 hrs
Hyd. volume = 103,287 cuft
Curve number = 84.8
Hydraulic length = 0 ft
Time of conc. (Tc) = 5.00 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

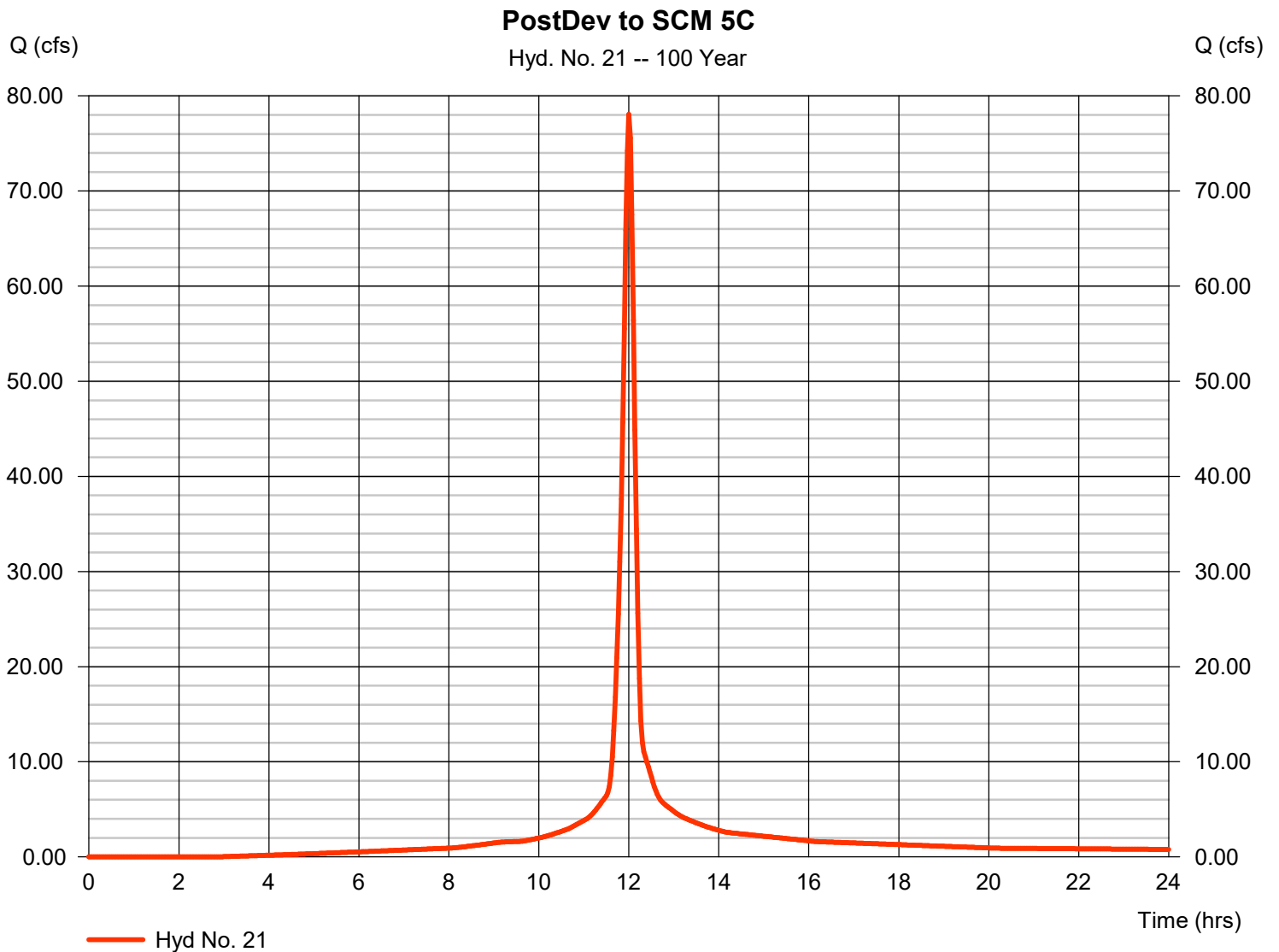
Saturday, 04 / 12 / 2025

Hyd. No. 21

PostDev to SCM 5C

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 2 min
Drainage area = 9.070 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 7.61 in
Storm duration = 24 hrs

Peak discharge = 78.07 cfs
Time to peak = 12.00 hrs
Hyd. volume = 216,448 cuft
Curve number = 89.6
Hydraulic length = 0 ft
Time of conc. (Tc) = 12.80 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

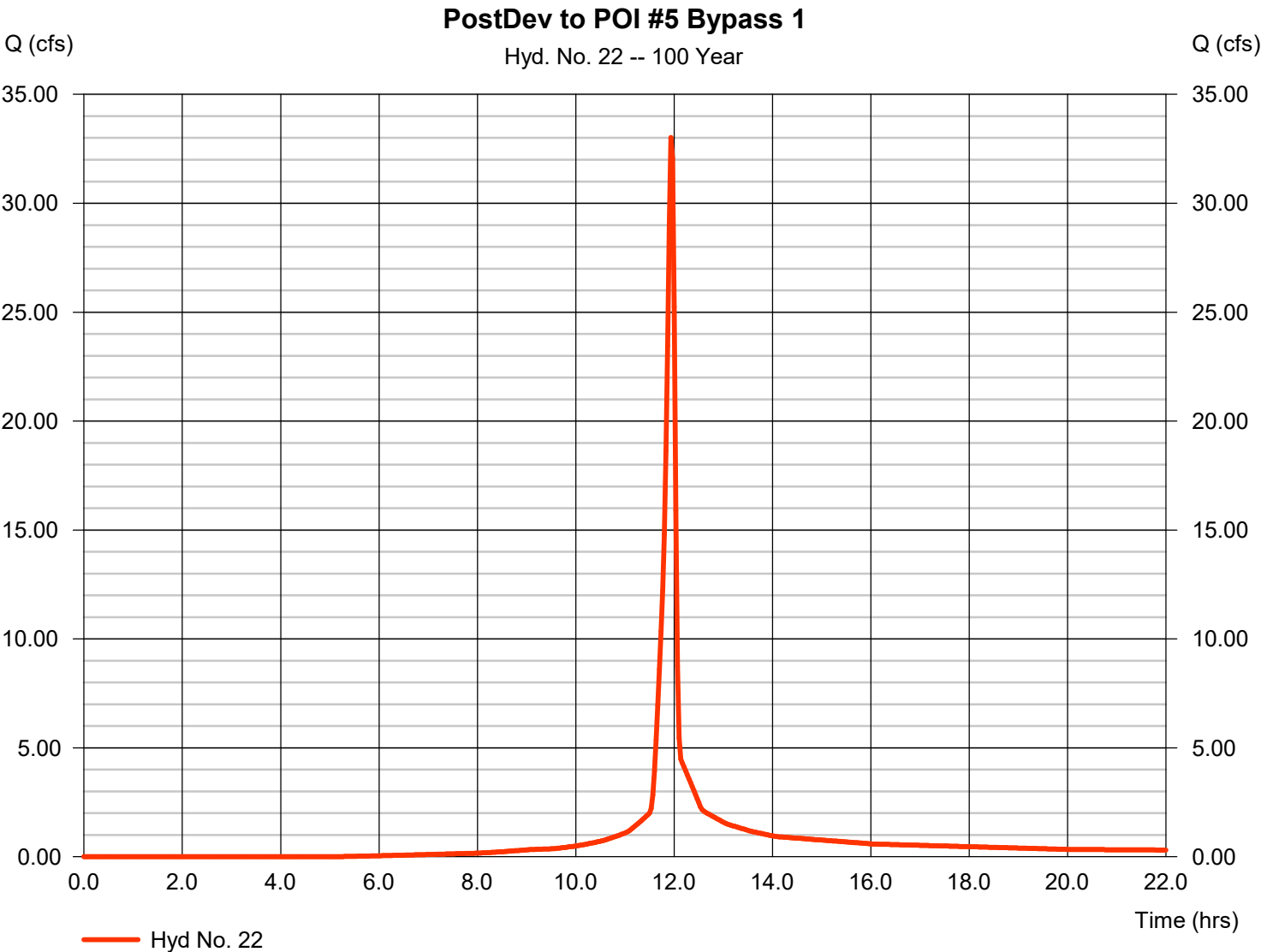
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 22

PostDev to POI #5 Bypass 1

Hydrograph type	= SCS Runoff	Peak discharge	= 33.02 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 68,949 cuft
Drainage area	= 3.810 ac	Curve number	= 80.5
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.61 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

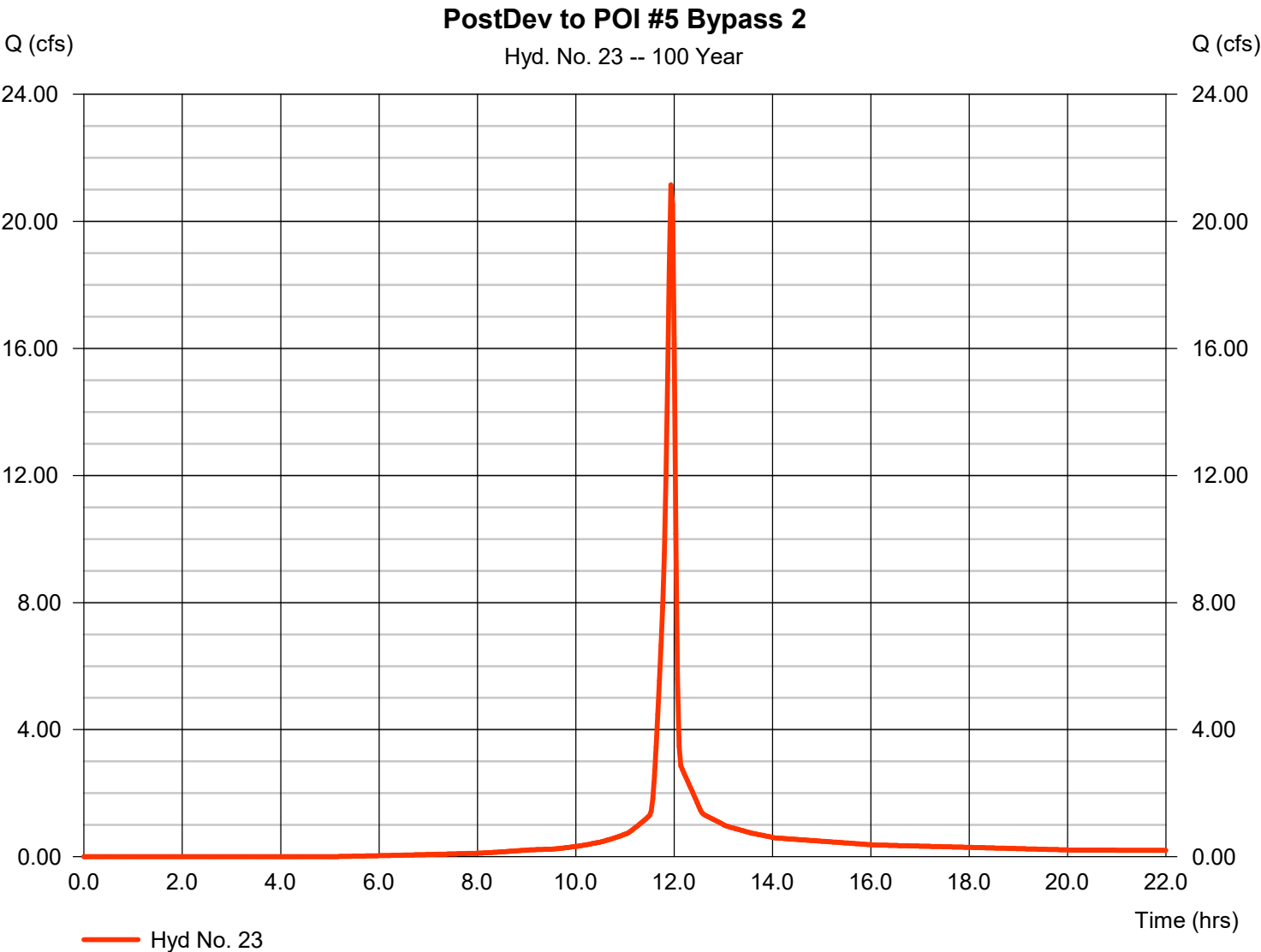
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 23

PostDev to POI #5 Bypass 2

Hydrograph type	= SCS Runoff	Peak discharge	= 21.15 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 44,268 cuft
Drainage area	= 2.420 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.61 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

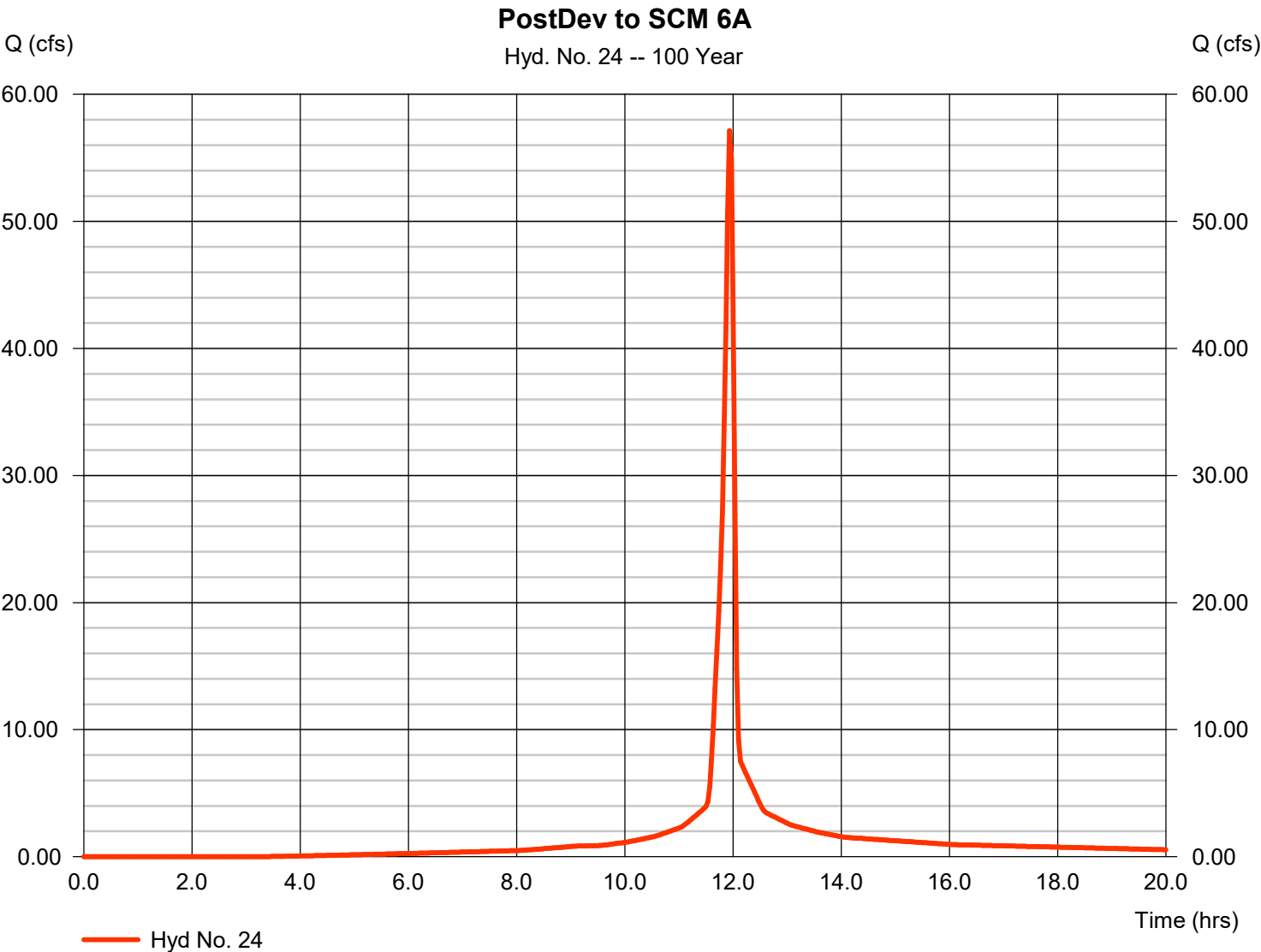
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 24

PostDev to SCM 6A

Hydrograph type	=	SCS Runoff	Peak discharge	=	57.15 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	124,338 cuft
Drainage area	=	5.950 ac	Curve number	=	87.6
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.61 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

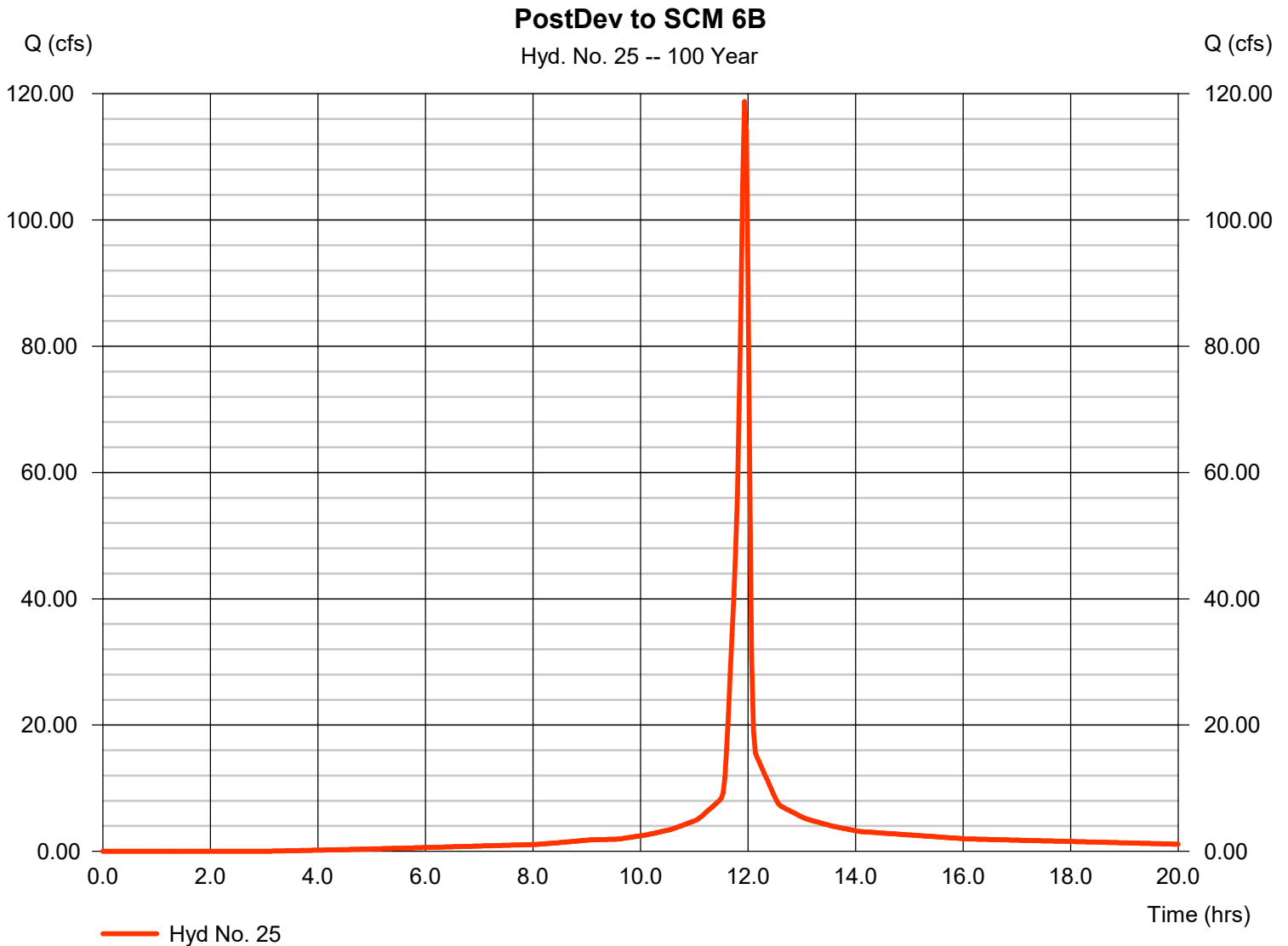
Saturday, 04 / 12 / 2025

Hyd. No. 25

PostDev to SCM 6B

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Time interval = 2 min
 Drainage area = 12.210 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 7.61 in
 Storm duration = 24 hrs

Peak discharge = 118.76 cfs
 Time to peak = 11.93 hrs
 Hyd. volume = 260,504 cuft
 Curve number = 88.7
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 6.30 min
 Distribution = Type II
 Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

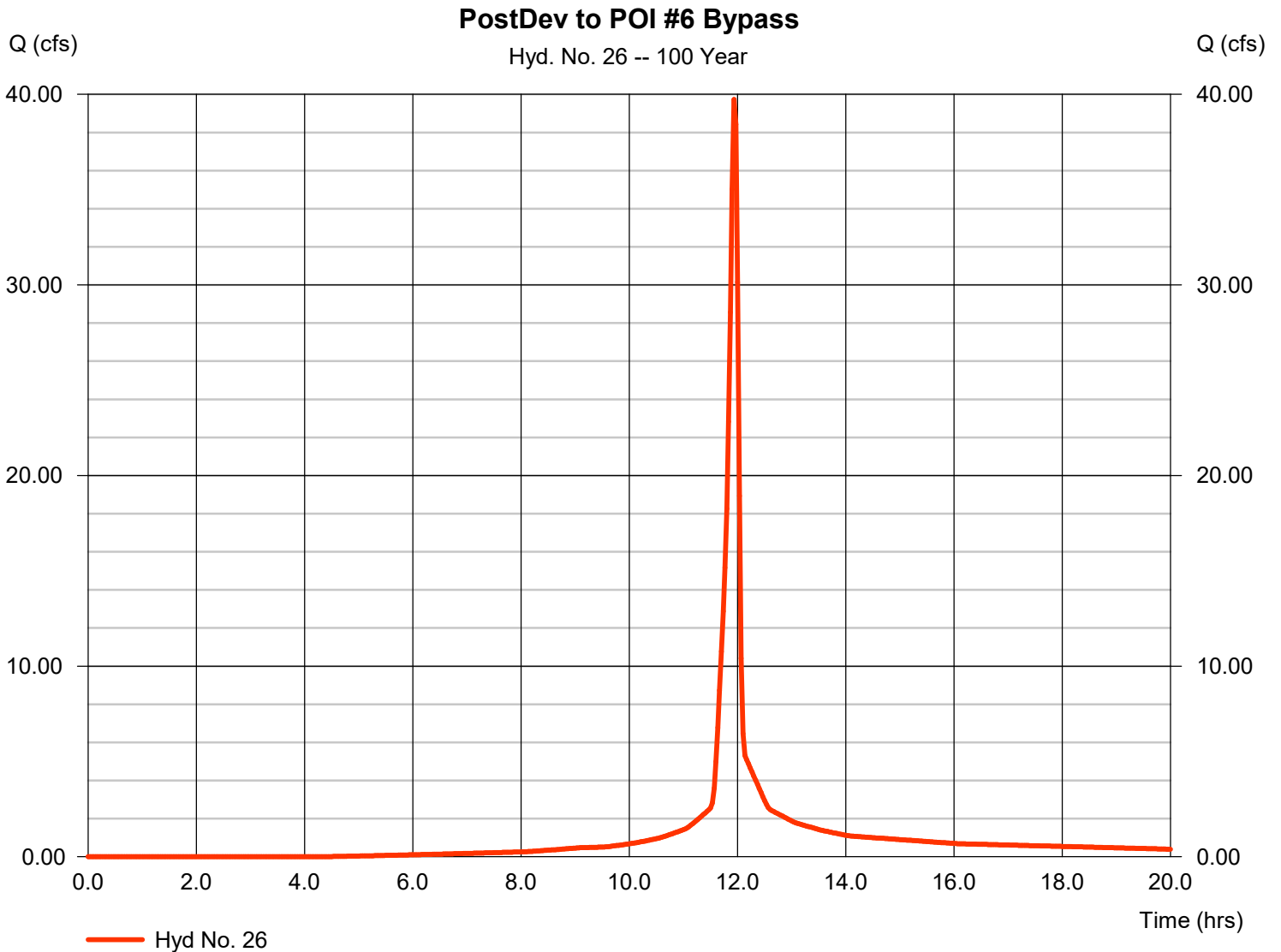
Saturday, 04 / 12 / 2025

Hyd. No. 26

PostDev to POI #6 Bypass

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 2 min
Drainage area = 4.370 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 7.61 in
Storm duration = 24 hrs

Peak discharge = 39.73 cfs
Time to peak = 11.93 hrs
Hyd. volume = 84,227 cuft
Curve number = 83.5
Hydraulic length = 0 ft
Time of conc. (Tc) = 5.00 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

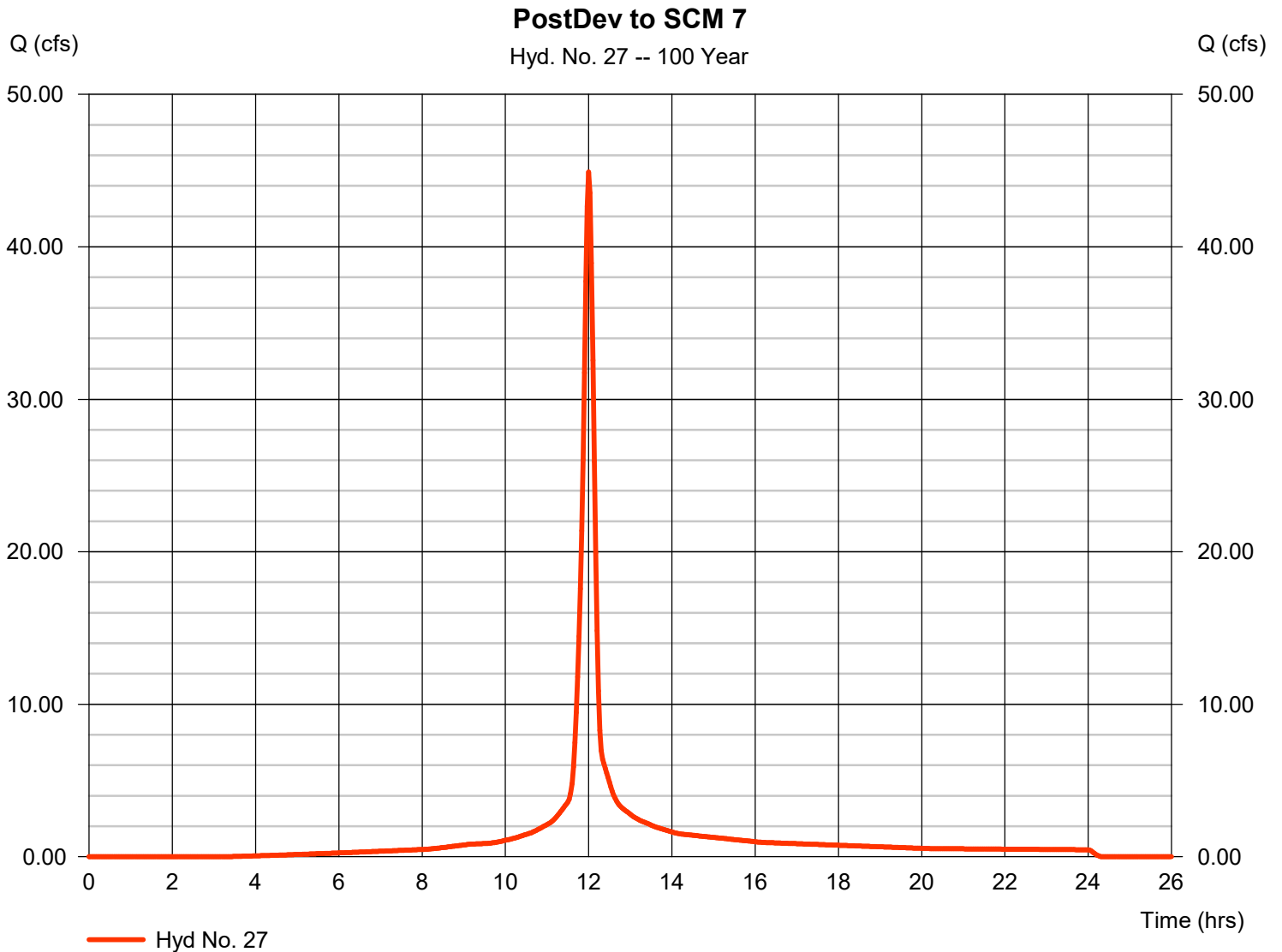
Saturday, 04 / 12 / 2025

Hyd. No. 27

PostDev to SCM 7

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Time interval = 2 min
 Drainage area = 5.330 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 7.61 in
 Storm duration = 24 hrs

Peak discharge = 44.91 cfs
 Time to peak = 12.00 hrs
 Hyd. volume = 122,986 cuft
 Curve number = 87.8
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 12.40 min
 Distribution = Type II
 Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

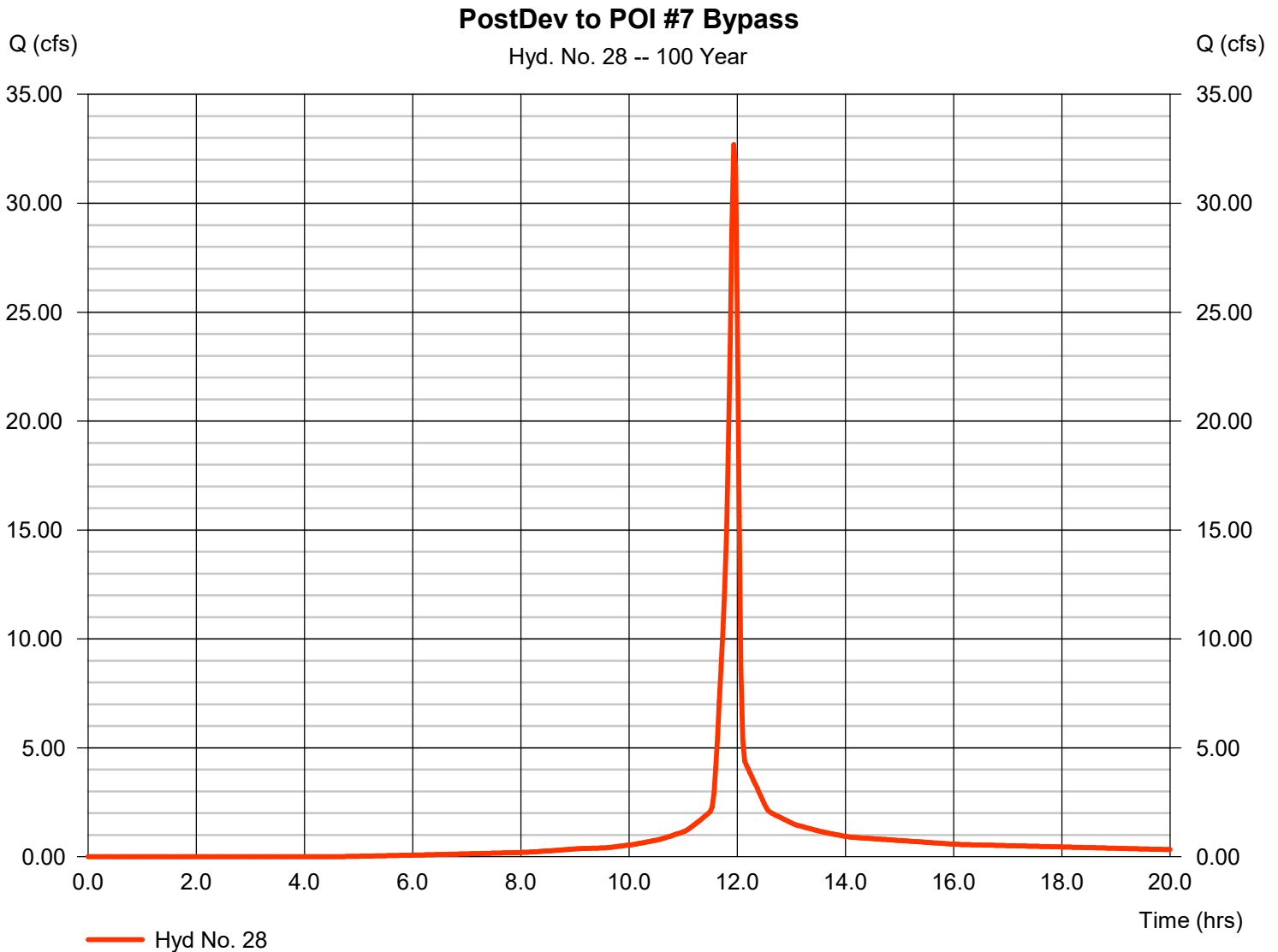
Saturday, 04 / 12 / 2025

Hyd. No. 28

PostDev to POI #7 Bypass

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 2 min
Drainage area = 3.640 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 7.61 in
Storm duration = 24 hrs

Peak discharge = 32.70 cfs
Time to peak = 11.93 hrs
Hyd. volume = 69,011 cuft
Curve number = 82.7
Hydraulic length = 0 ft
Time of conc. (Tc) = 5.00 min
Distribution = Type II
Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

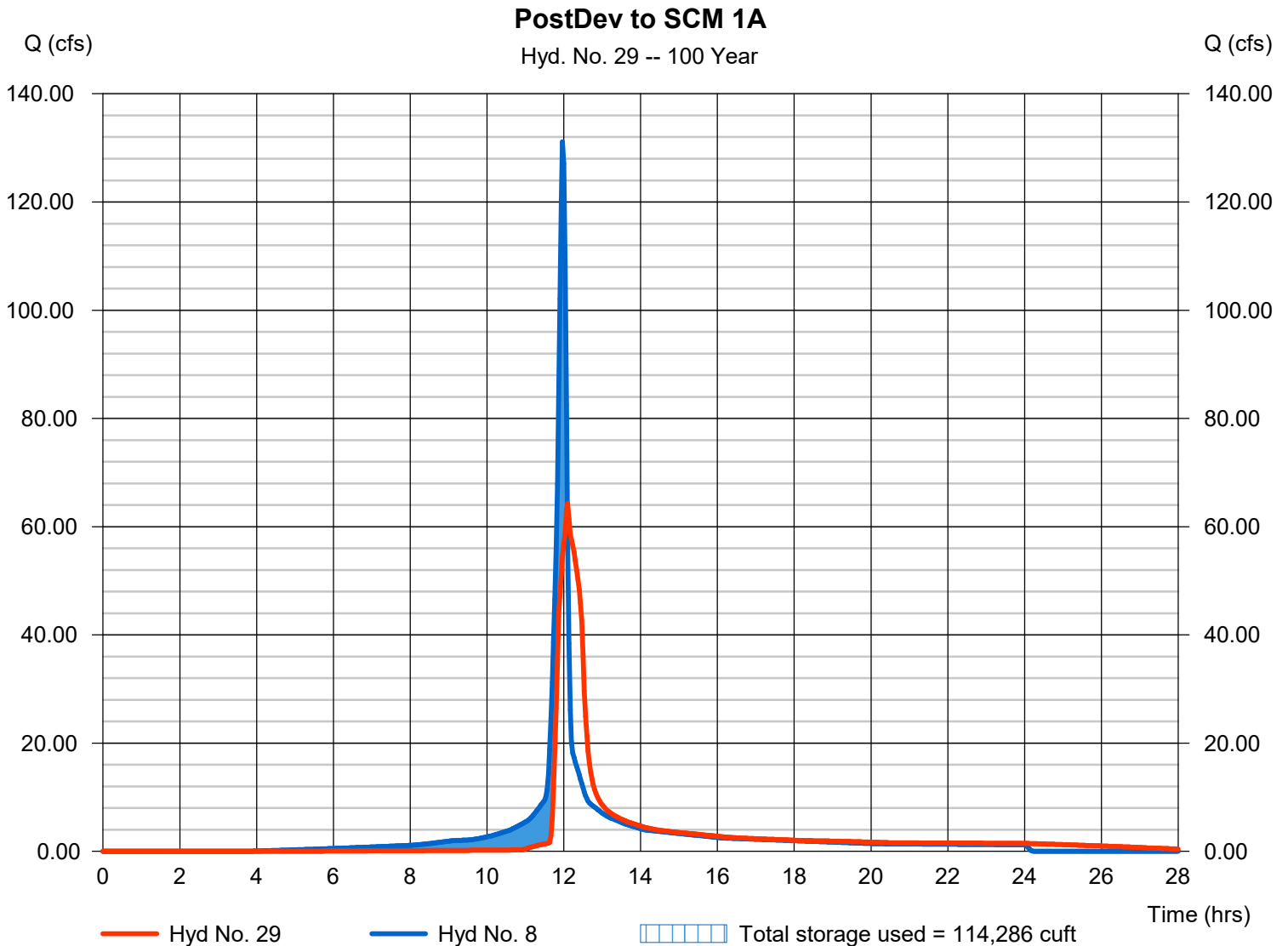
Saturday, 04 / 12 / 2025

Hyd. No. 29

PostDev to SCM 1A

Hydrograph type	= Reservoir	Peak discharge	= 64.30 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 315,528 cuft
Inflow hyd. No.	= 8 - PostDev to SCM 1A	Max. Elevation	= 353.70 ft
Reservoir name	= SCM 1A	Max. Storage	= 114,286 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

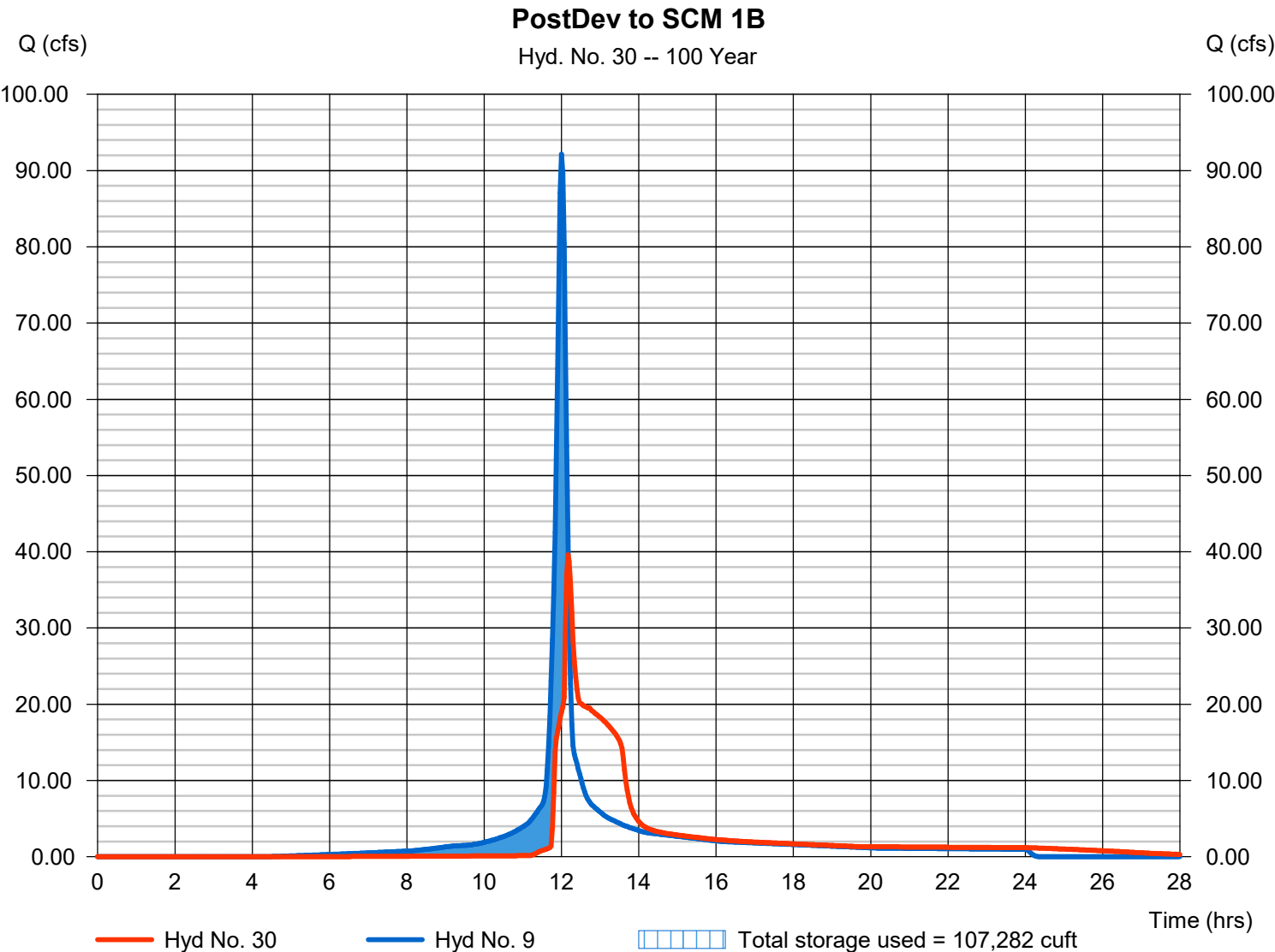
Saturday, 04 / 12 / 2025

Hyd. No. 30

PostDev to SCM 1B

Hydrograph type	= Reservoir	Peak discharge	= 39.61 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 244,472 cuft
Inflow hyd. No.	= 9 - PostDev to SCM 1B	Max. Elevation	= 382.01 ft
Reservoir name	= SCM 1B	Max. Storage	= 107,282 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

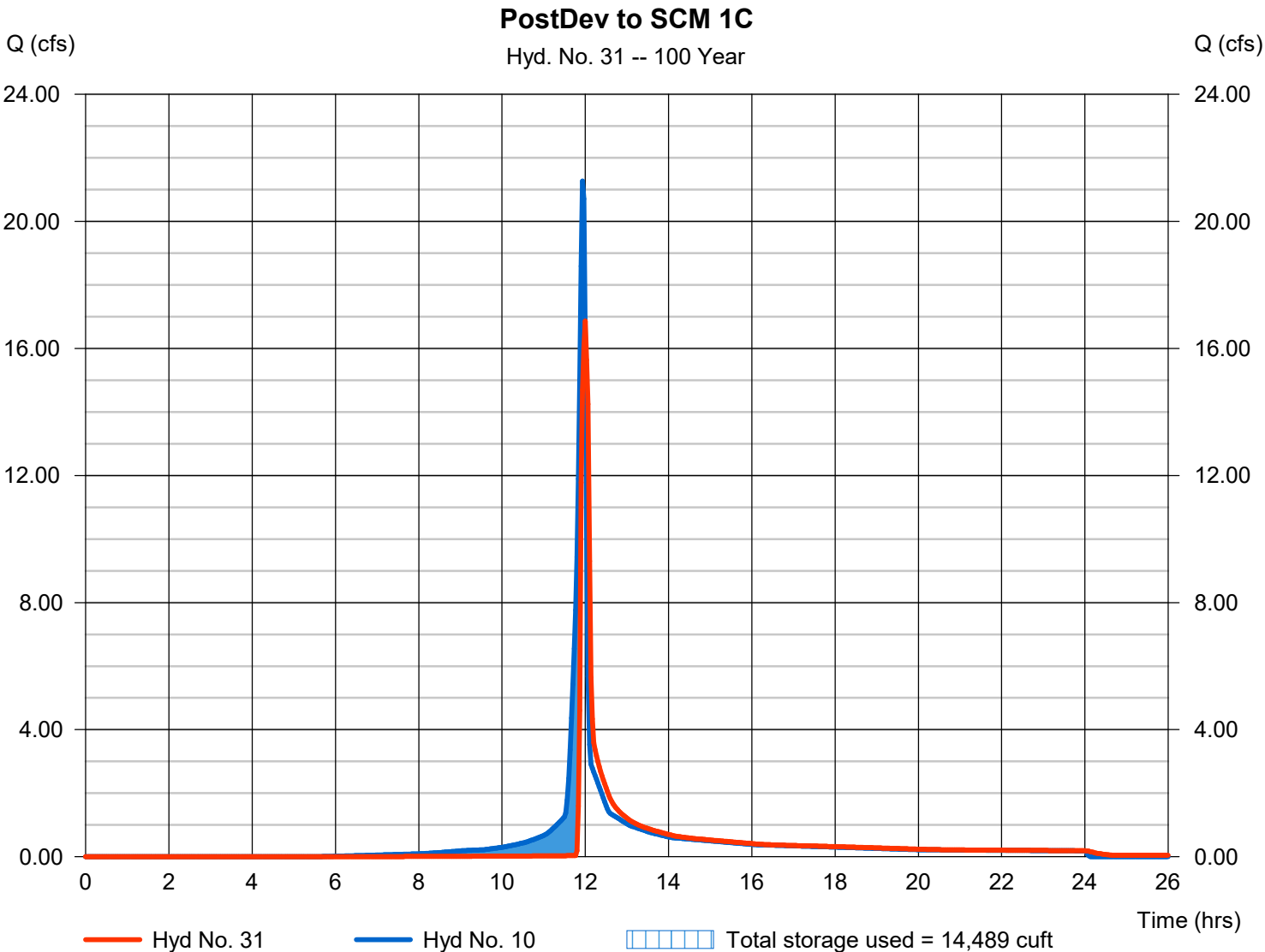
Saturday, 04 / 12 / 2025

Hyd. No. 31

PostDev to SCM 1C

Hydrograph type	= Reservoir	Peak discharge	= 16.87 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 42,729 cuft
Inflow hyd. No.	= 10 - PostDev to SCM 1C	Max. Elevation	= 364.09 ft
Reservoir name	= SCM 1C	Max. Storage	= 14,489 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

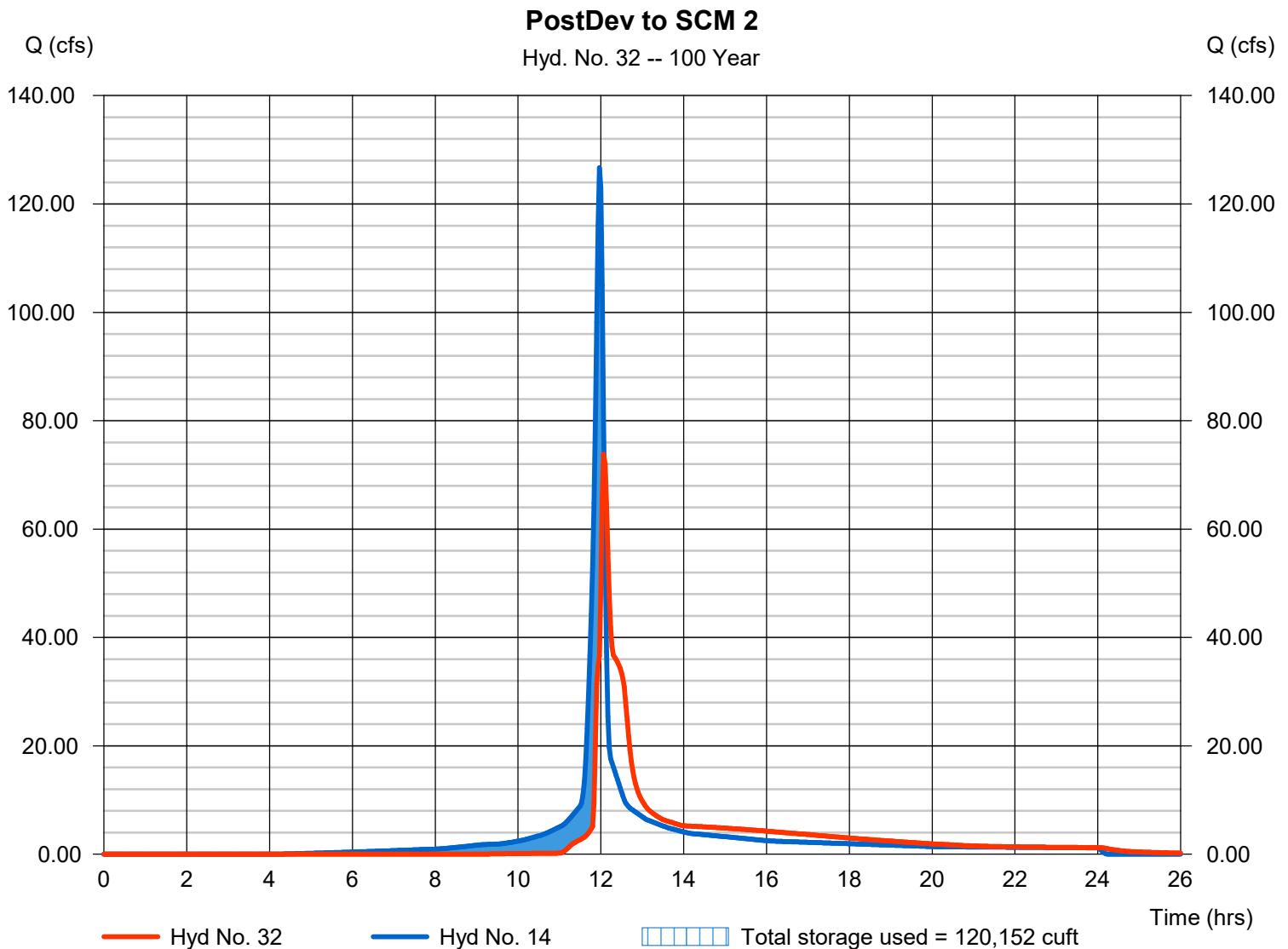
Saturday, 04 / 12 / 2025

Hyd. No. 32

PostDev to SCM 2

Hydrograph type	= Reservoir	Peak discharge	= 73.82 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 291,466 cuft
Inflow hyd. No.	= 14 - PostDev to SCM 2	Max. Elevation	= 358.76 ft
Reservoir name	= SCM 2	Max. Storage	= 120,152 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

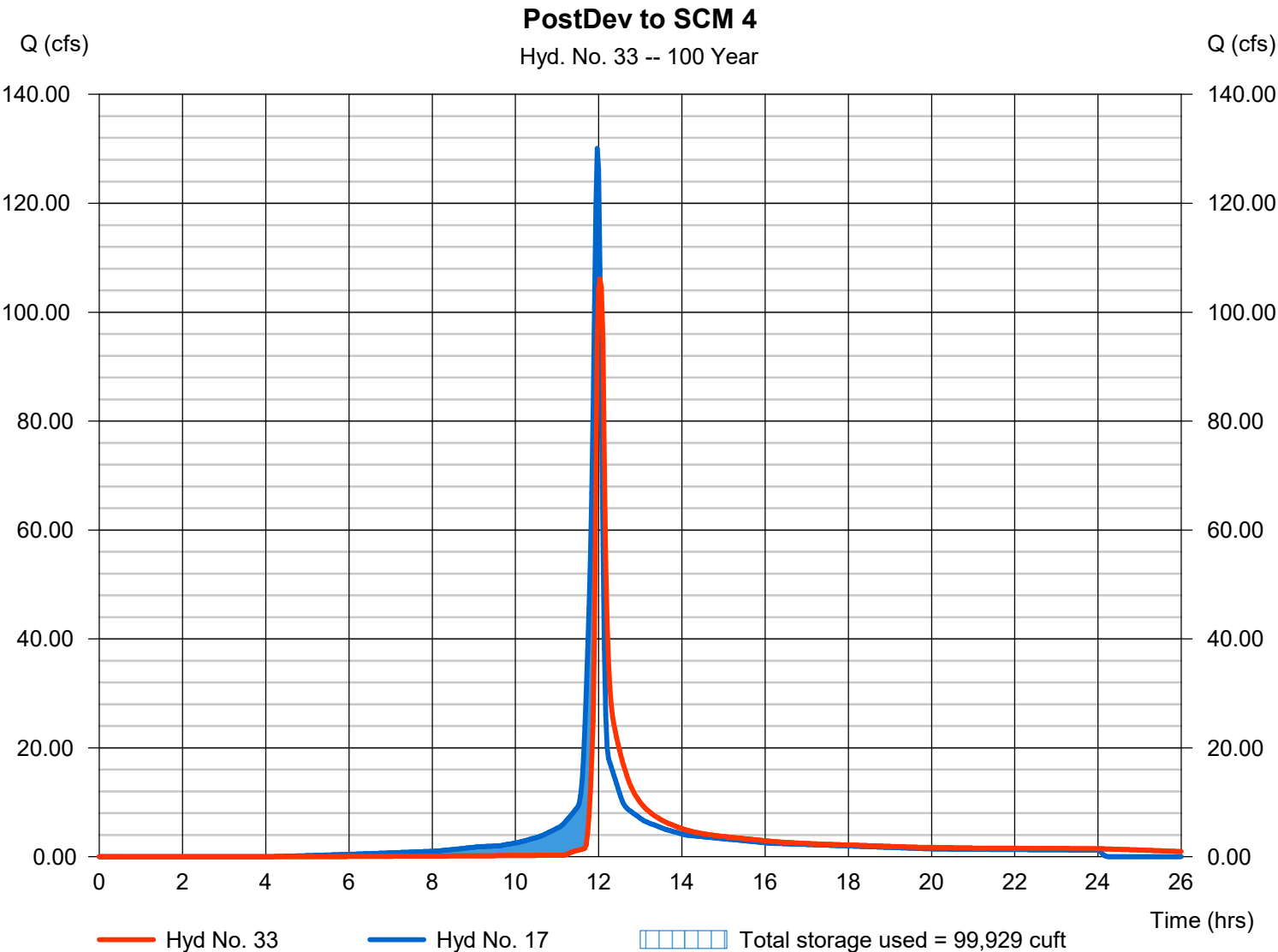
Saturday, 04 / 12 / 2025

Hyd. No. 33

PostDev to SCM 4

Hydrograph type	= Reservoir	Peak discharge	= 106.10 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.03 hrs
Time interval	= 2 min	Hyd. volume	= 311,007 cuft
Inflow hyd. No.	= 17 - PostDev to SCM 4	Max. Elevation	= 368.81 ft
Reservoir name	= SCM 4	Max. Storage	= 99,929 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

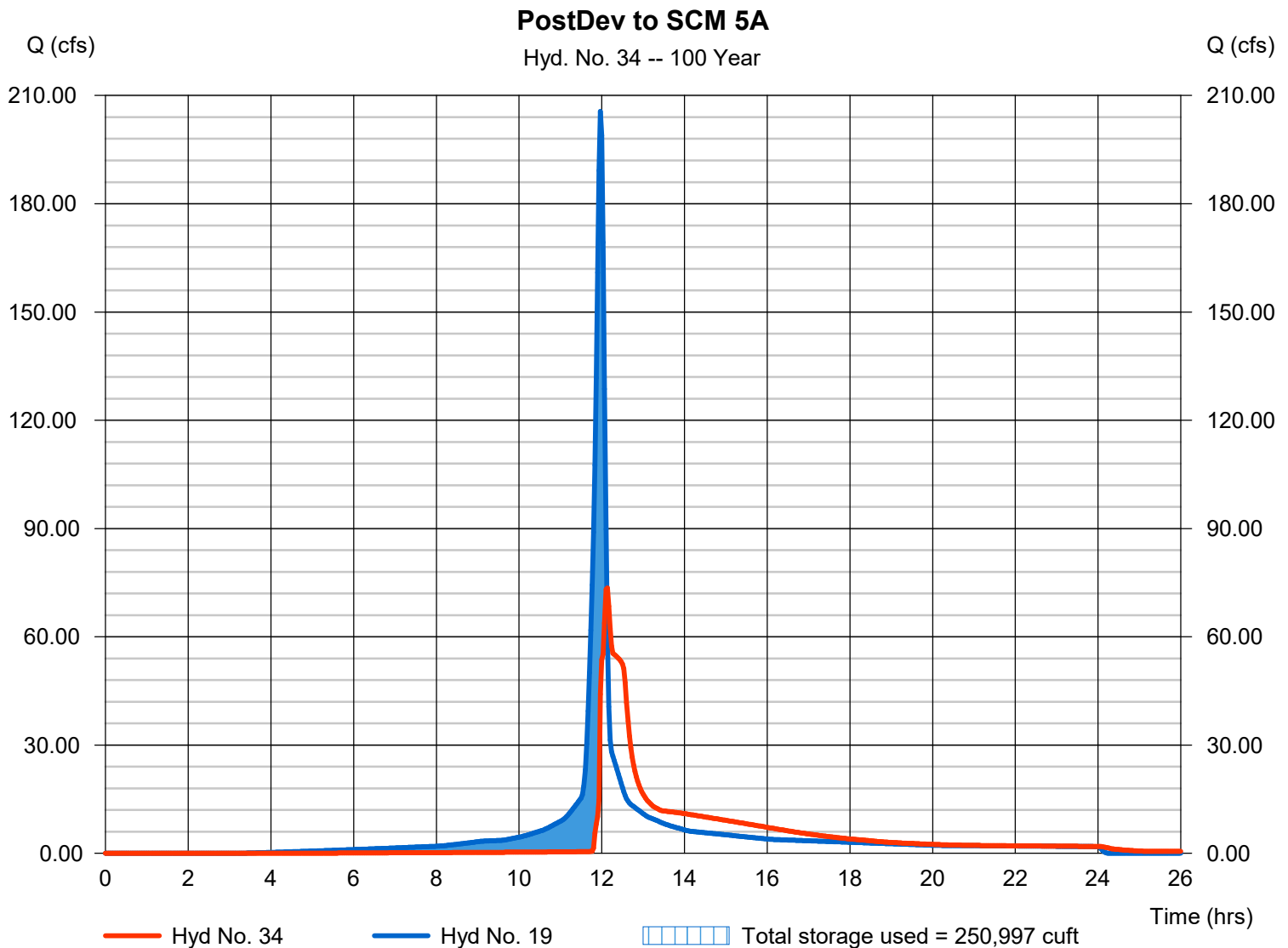
Saturday, 04 / 12 / 2025

Hyd. No. 34

PostDev to SCM 5A

Hydrograph type	= Reservoir	Peak discharge	= 73.52 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 482,566 cuft
Inflow hyd. No.	= 19 - PostDev to SCM 5A	Max. Elevation	= 329.48 ft
Reservoir name	= SCM 5A	Max. Storage	= 250,997 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

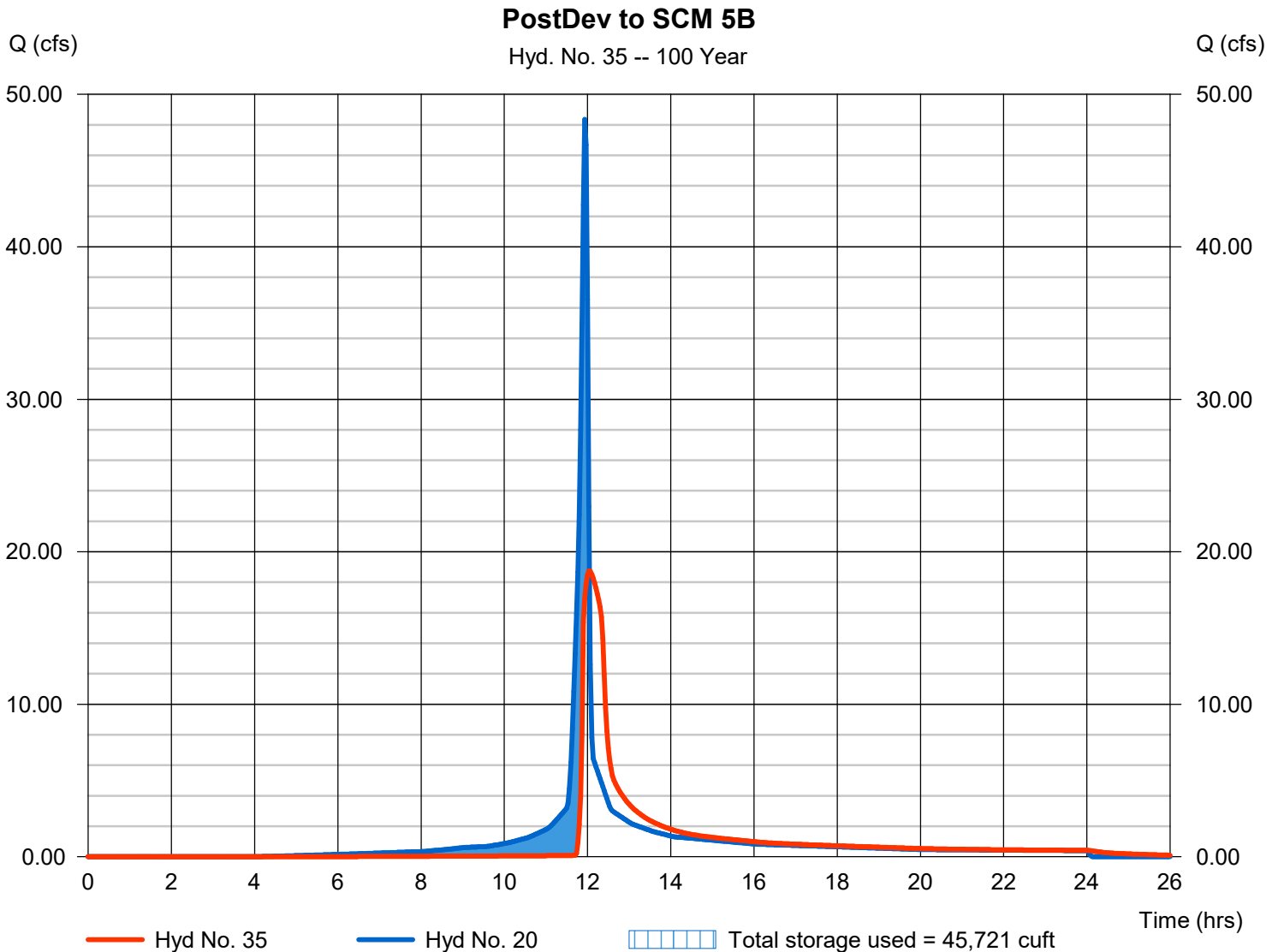
Saturday, 04 / 12 / 2025

Hyd. No. 35

PostDev to SCM 5B

Hydrograph type	= Reservoir	Peak discharge	= 18.74 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.03 hrs
Time interval	= 2 min	Hyd. volume	= 99,533 cuft
Inflow hyd. No.	= 20 - PostDev to SCM 5B	Max. Elevation	= 310.62 ft
Reservoir name	= SCM 5B	Max. Storage	= 45,721 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

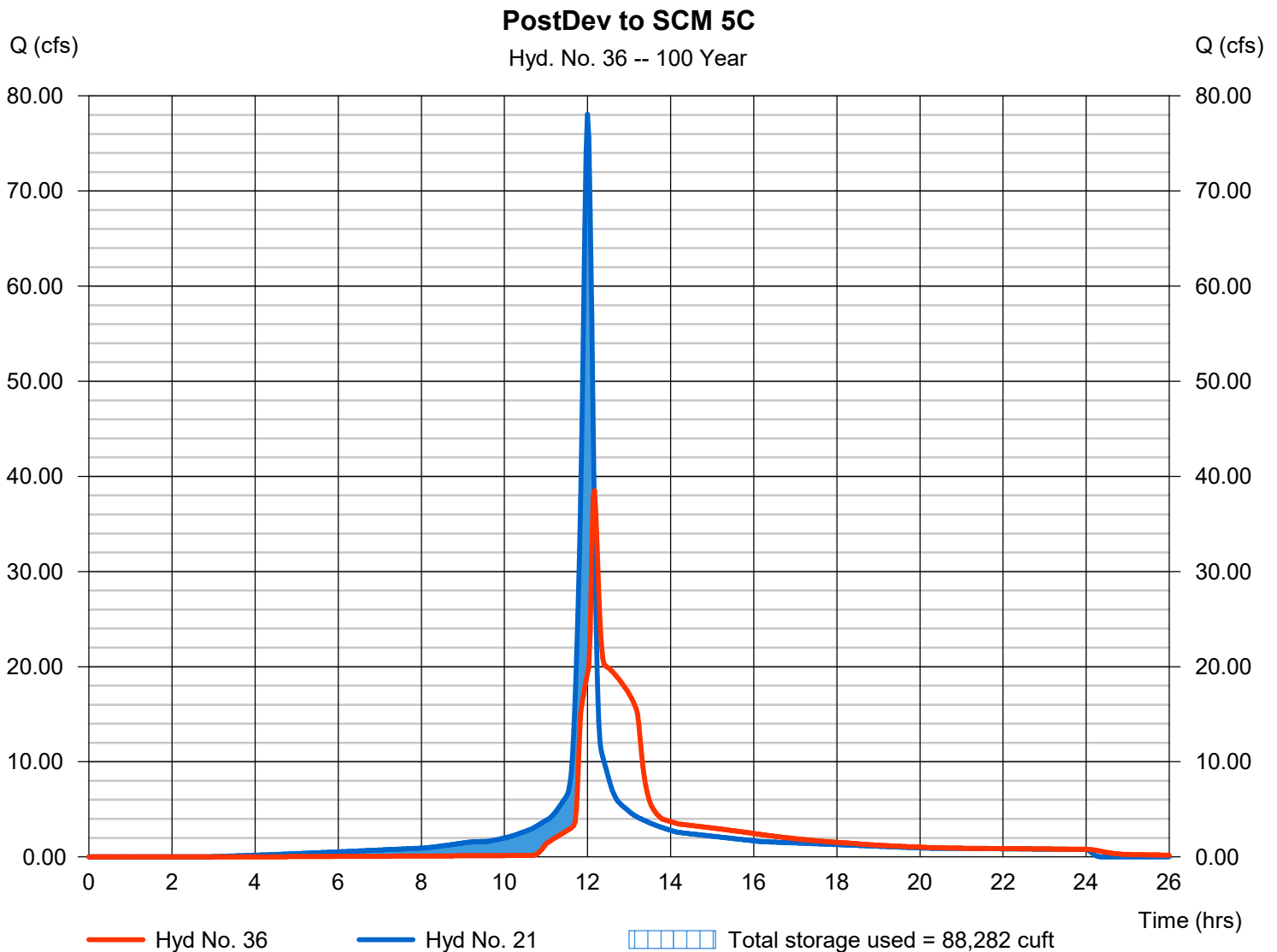
Saturday, 04 / 12 / 2025

Hyd. No. 36

PostDev to SCM 5C

Hydrograph type	= Reservoir	Peak discharge	= 38.50 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 215,680 cuft
Inflow hyd. No.	= 21 - PostDev to SCM 5C	Max. Elevation	= 297.98 ft
Reservoir name	= SCM 5C	Max. Storage	= 88,282 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

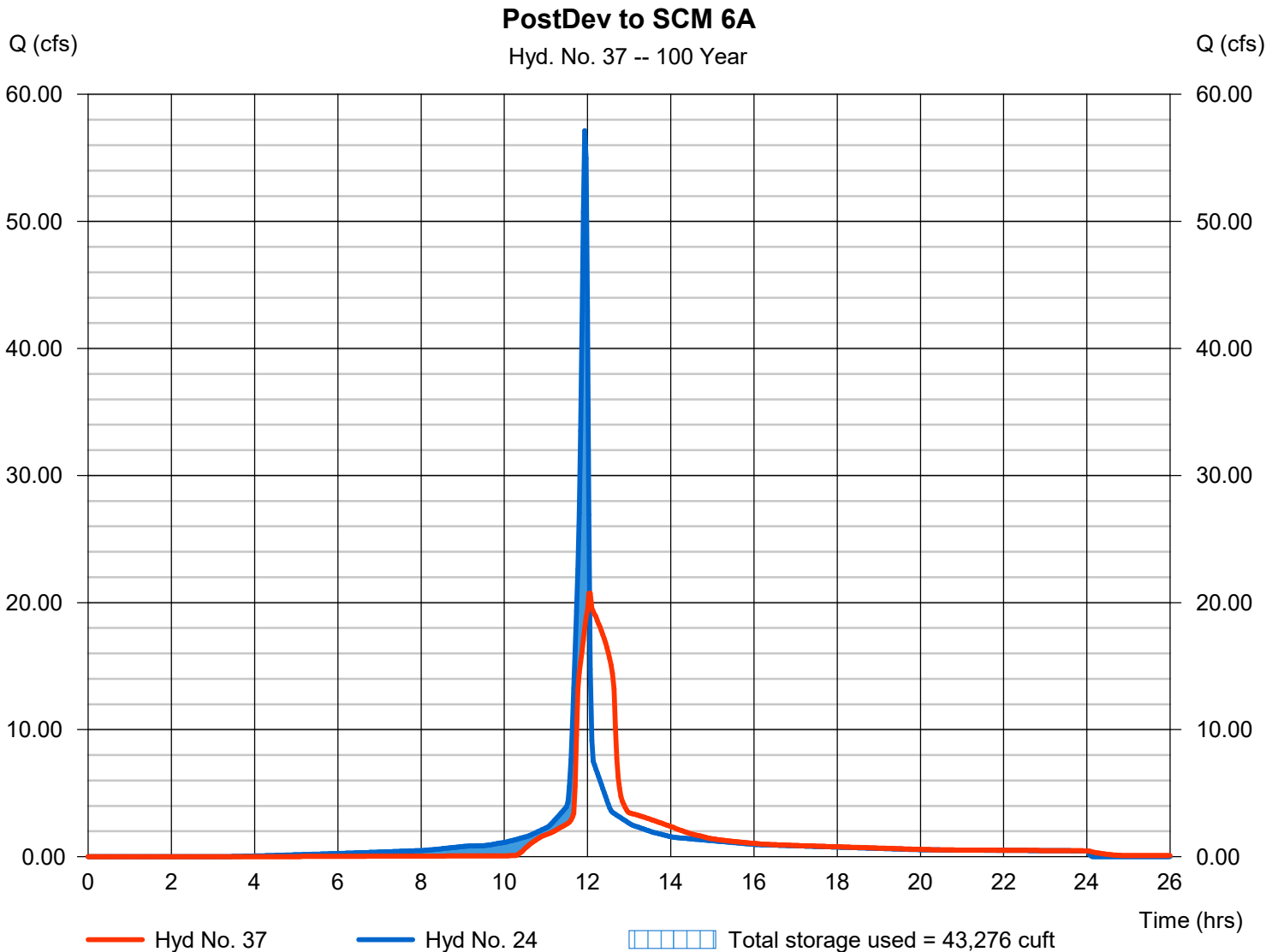
Saturday, 04 / 12 / 2025

Hyd. No. 37

PostDev to SCM 6A

Hydrograph type	= Reservoir	Peak discharge	= 20.75 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 124,240 cuft
Inflow hyd. No.	= 24 - PostDev to SCM 6A	Max. Elevation	= 282.57 ft
Reservoir name	= SCM 6A	Max. Storage	= 43,276 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

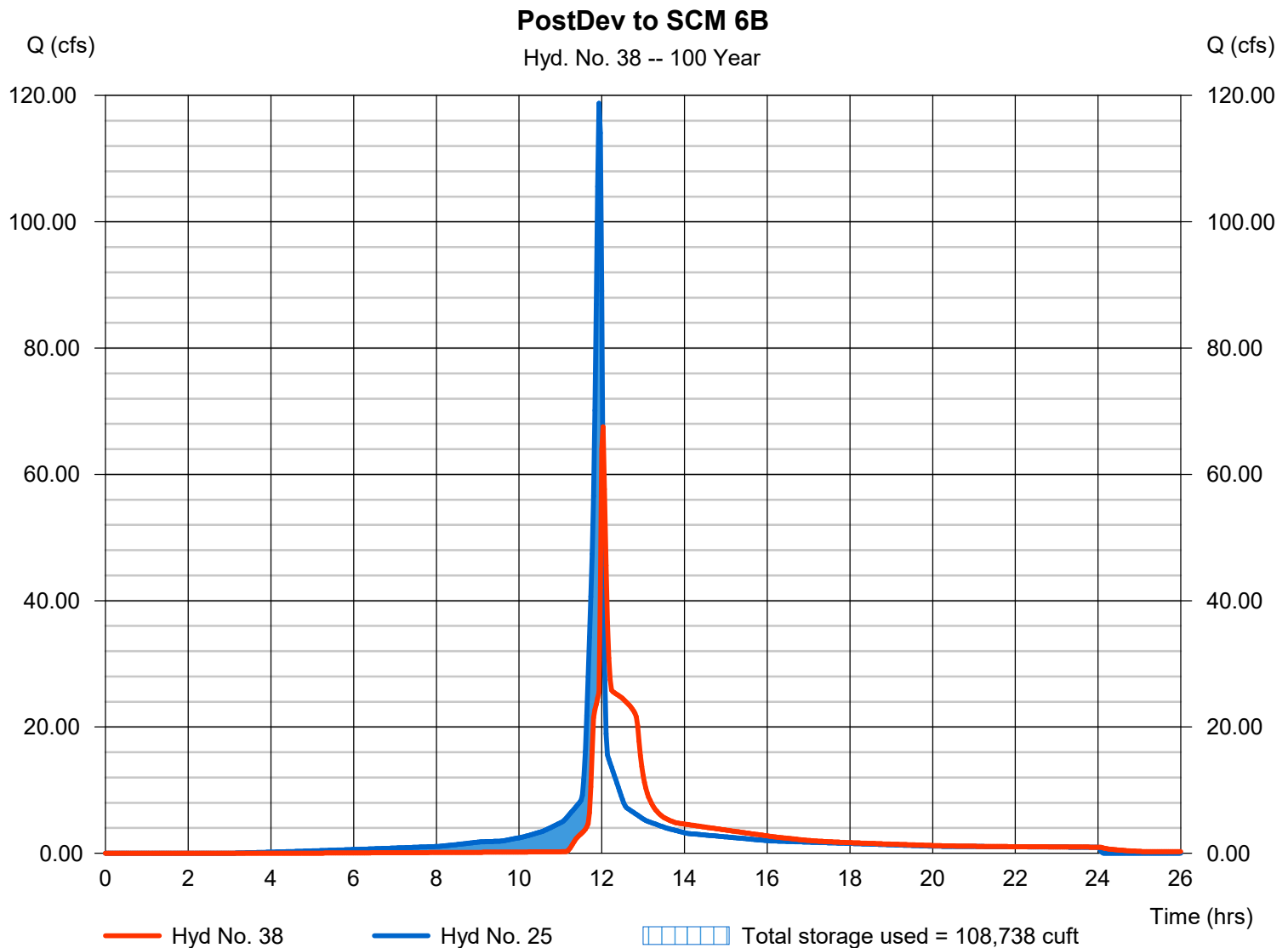
Hyd. No. 38

PostDev to SCM 6B

Hydrograph type = Reservoir
 Storm frequency = 100 yrs
 Time interval = 2 min
 Inflow hyd. No. = 25 - PostDev to SCM 6B
 Reservoir name = SCM 6B

Peak discharge = 67.55 cfs
 Time to peak = 12.03 hrs
 Hyd. volume = 259,478 cuft
 Max. Elevation = 295.85 ft
 Max. Storage = 108,738 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

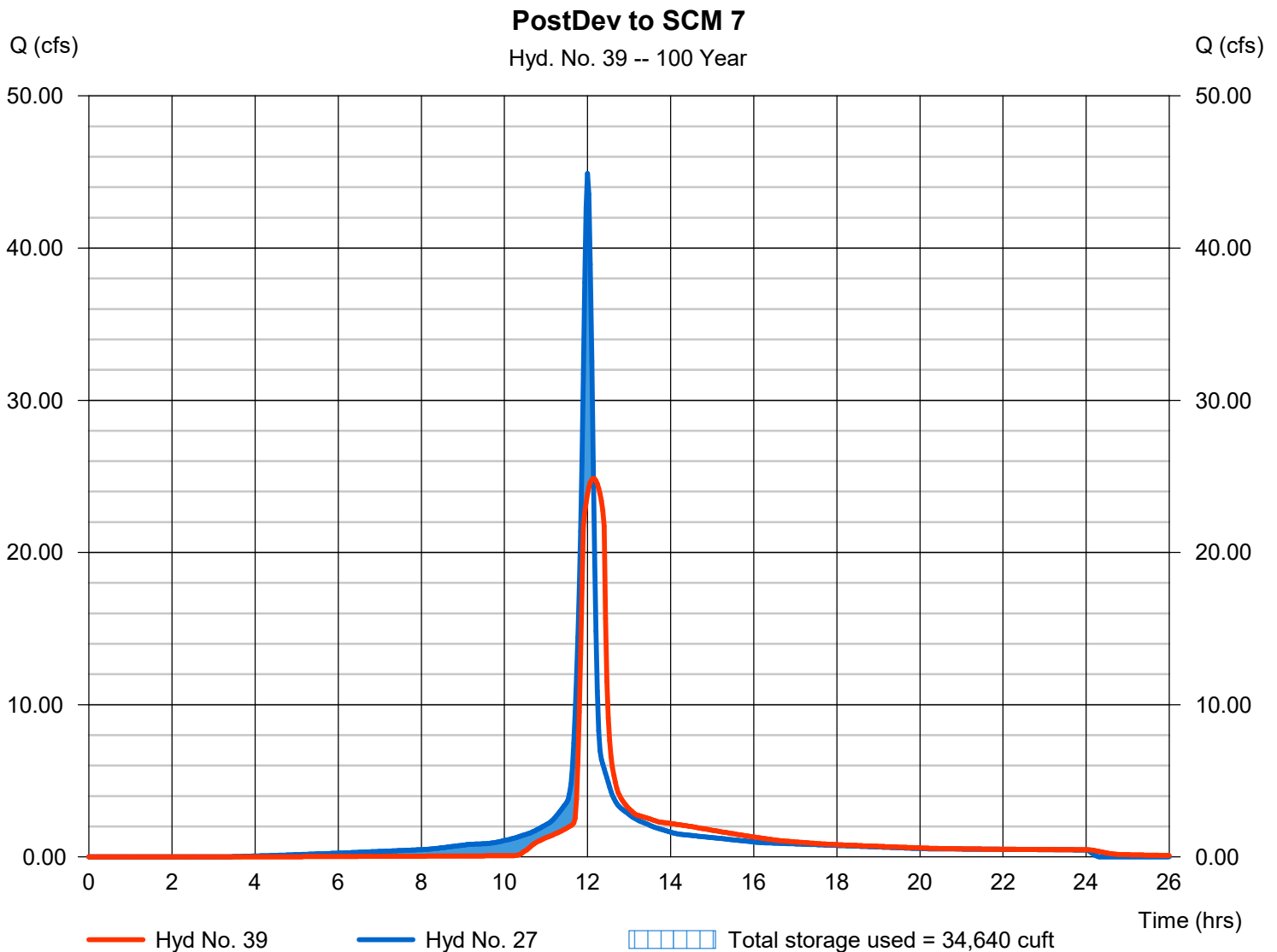
Saturday, 04 / 12 / 2025

Hyd. No. 39

PostDev to SCM 7

Hydrograph type	= Reservoir	Peak discharge	= 24.87 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 122,833 cuft
Inflow hyd. No.	= 27 - PostDev to SCM 7	Max. Elevation	= 322.33 ft
Reservoir name	= SCM 7	Max. Storage	= 34,640 cuft

Storage Indication method used.



Hydrograph Report

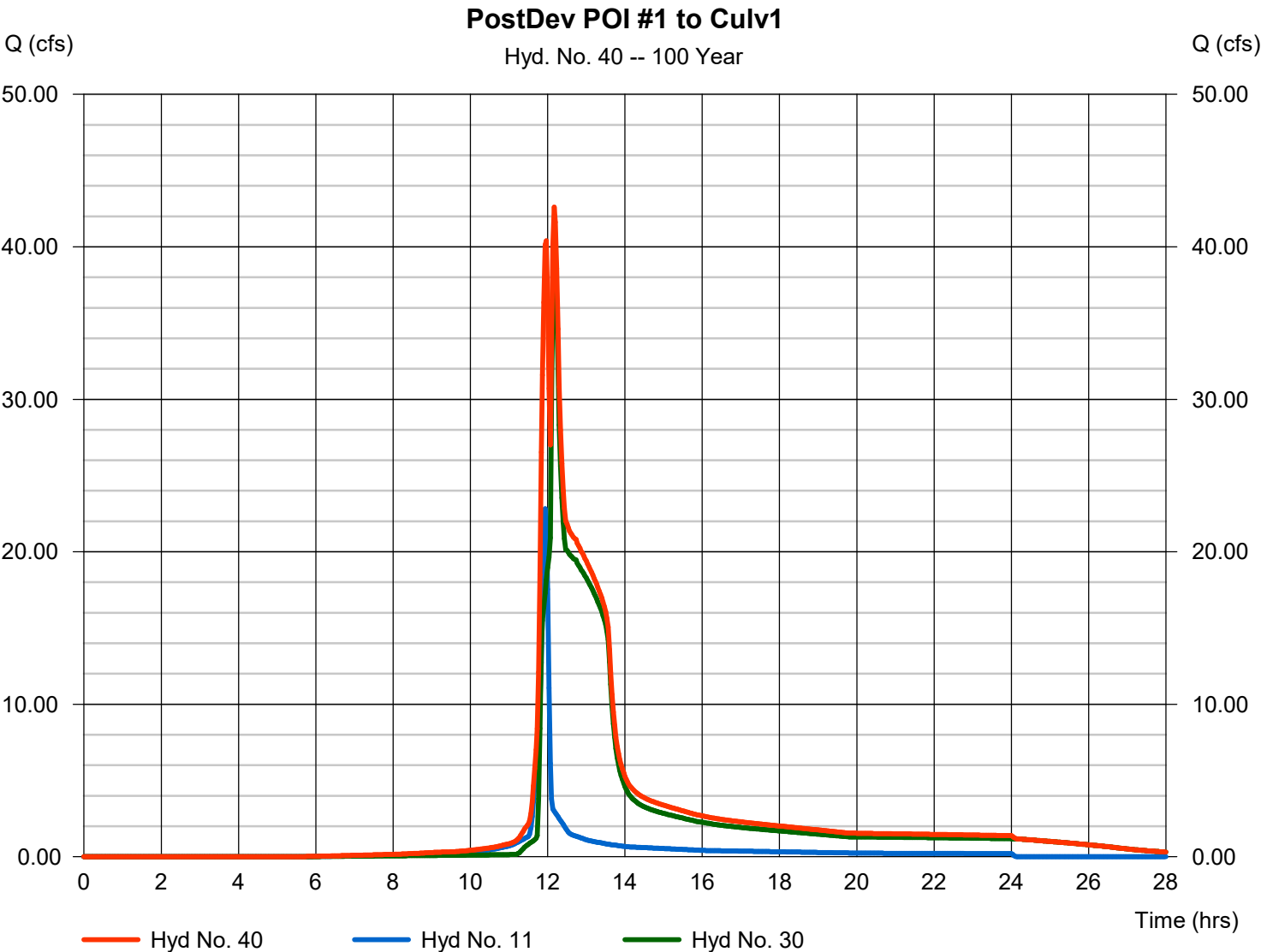
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 40

PostDev POI #1 to Culv1

Hydrograph type	= Combine	Peak discharge	= 42.61 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 291,788 cuft
Inflow hyds.	= 11, 30	Contrib. drain. area	= 2.720 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

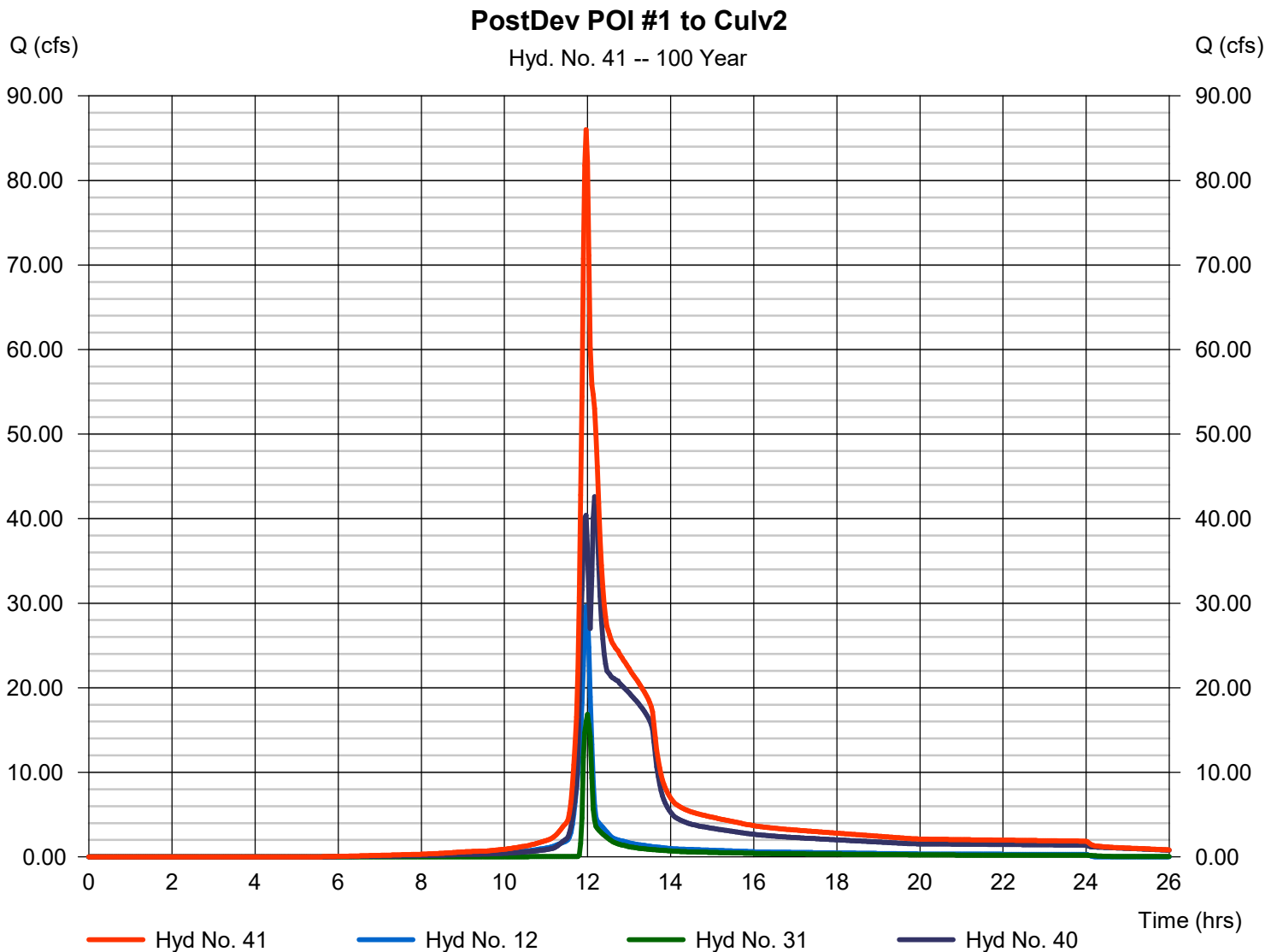
Saturday, 04 / 12 / 2025

Hyd. No. 41

PostDev POI #1 to Culv2

Hydrograph type = Combine
Storm frequency = 100 yrs
Time interval = 2 min
Inflow hyds. = 12, 31, 40

Peak discharge = 86.01 cfs
Time to peak = 11.97 hrs
Hyd. volume = 403,871 cuft
Contrib. drain. area = 3.640 ac



Hydrograph Report

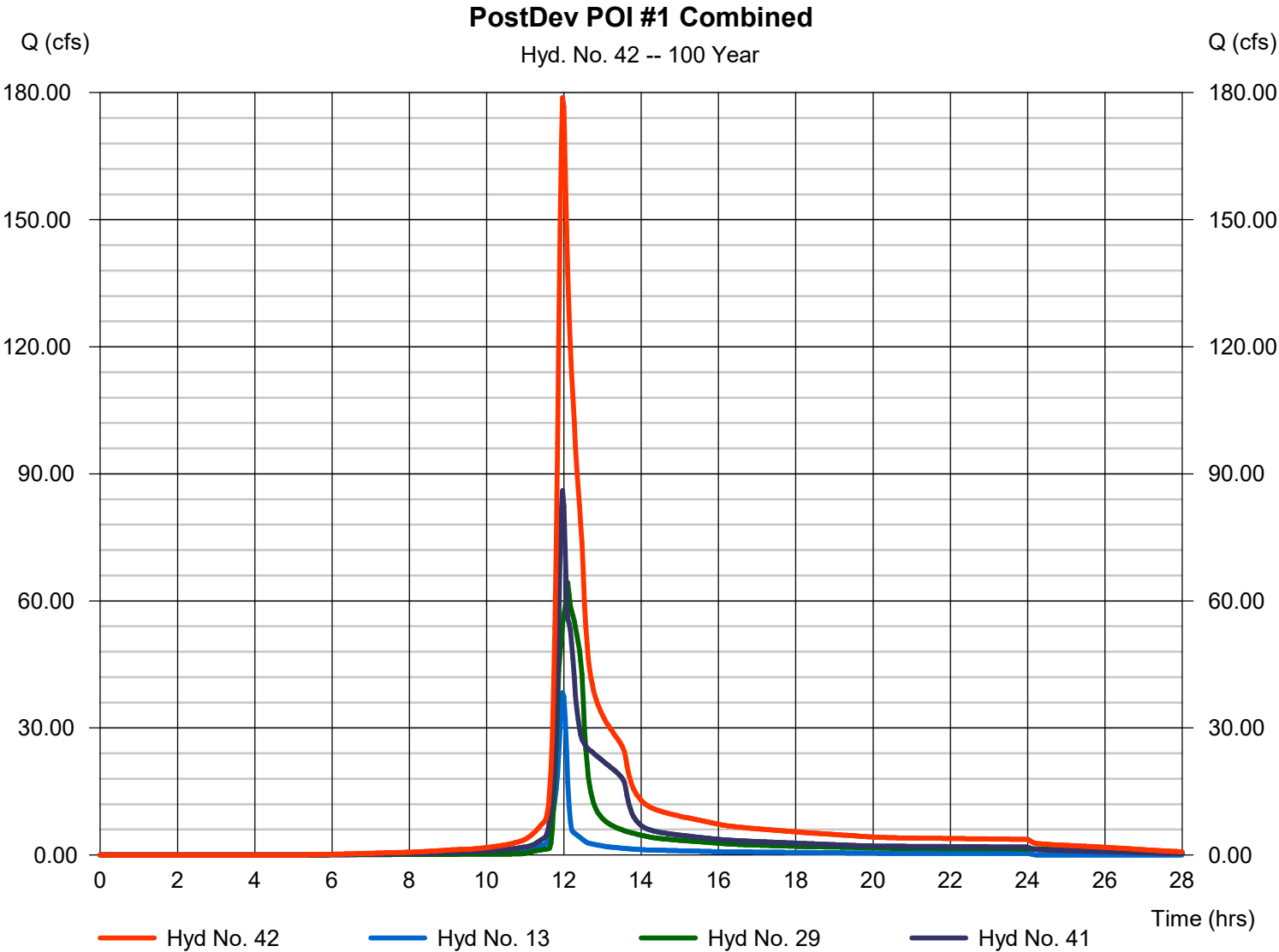
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 42

PostDev POI #1 Combined

Hydrograph type	= Combine	Peak discharge	= 178.77 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 809,544 cuft
Inflow hyds.	= 13, 29, 41	Contrib. drain. area	= 4.620 ac



Hydrograph Report

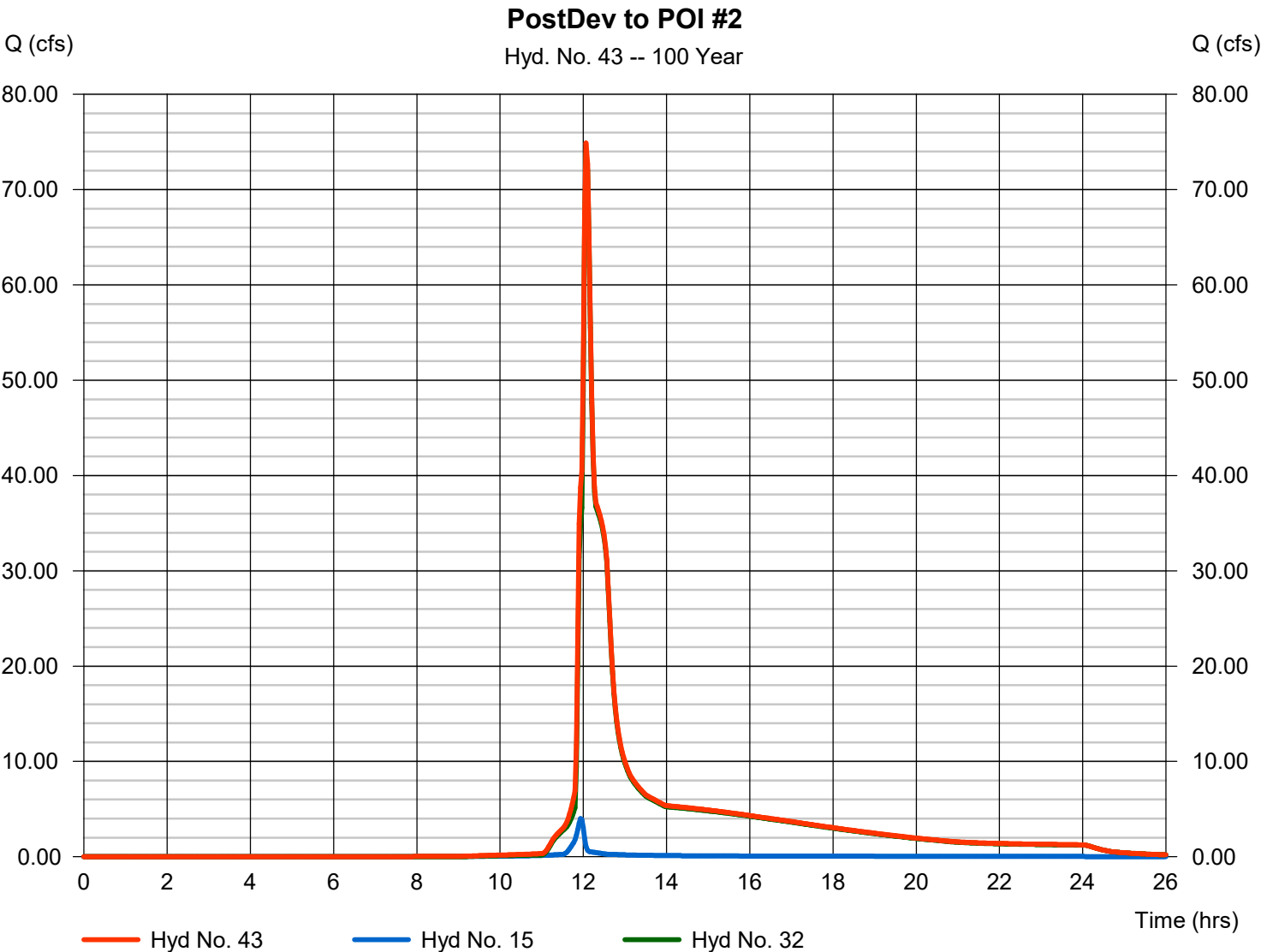
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 43

PostDev to POI #2

Hydrograph type	= Combine	Peak discharge	= 74.88 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 299,827 cuft
Inflow hyds.	= 15, 32	Contrib. drain. area	= 0.460 ac



Hydrograph Report

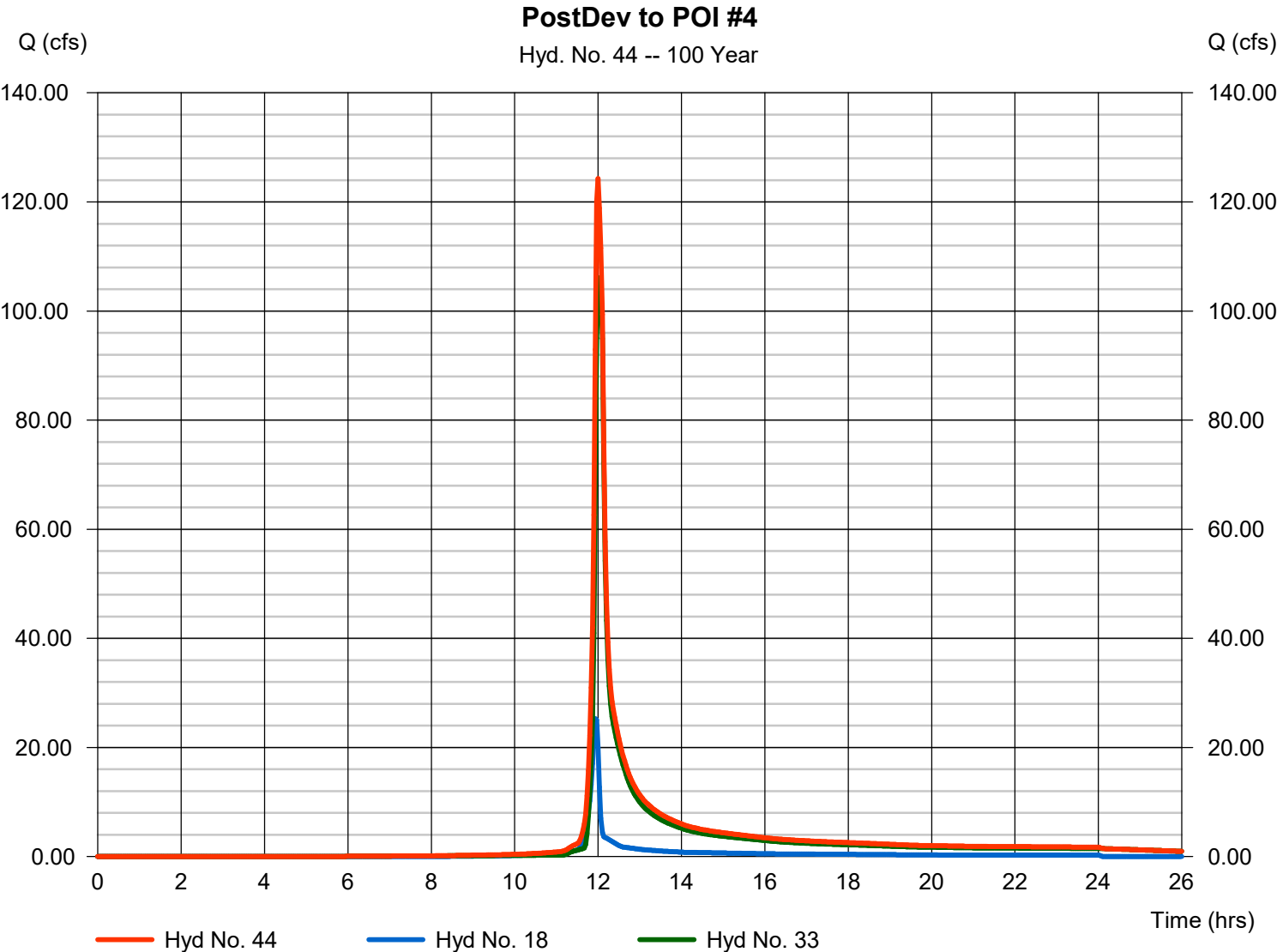
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 44

PostDev to POI #4

Hydrograph type	= Combine	Peak discharge	= 124.28 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 362,186 cuft
Inflow hyds.	= 18, 33	Contrib. drain. area	= 3.670 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

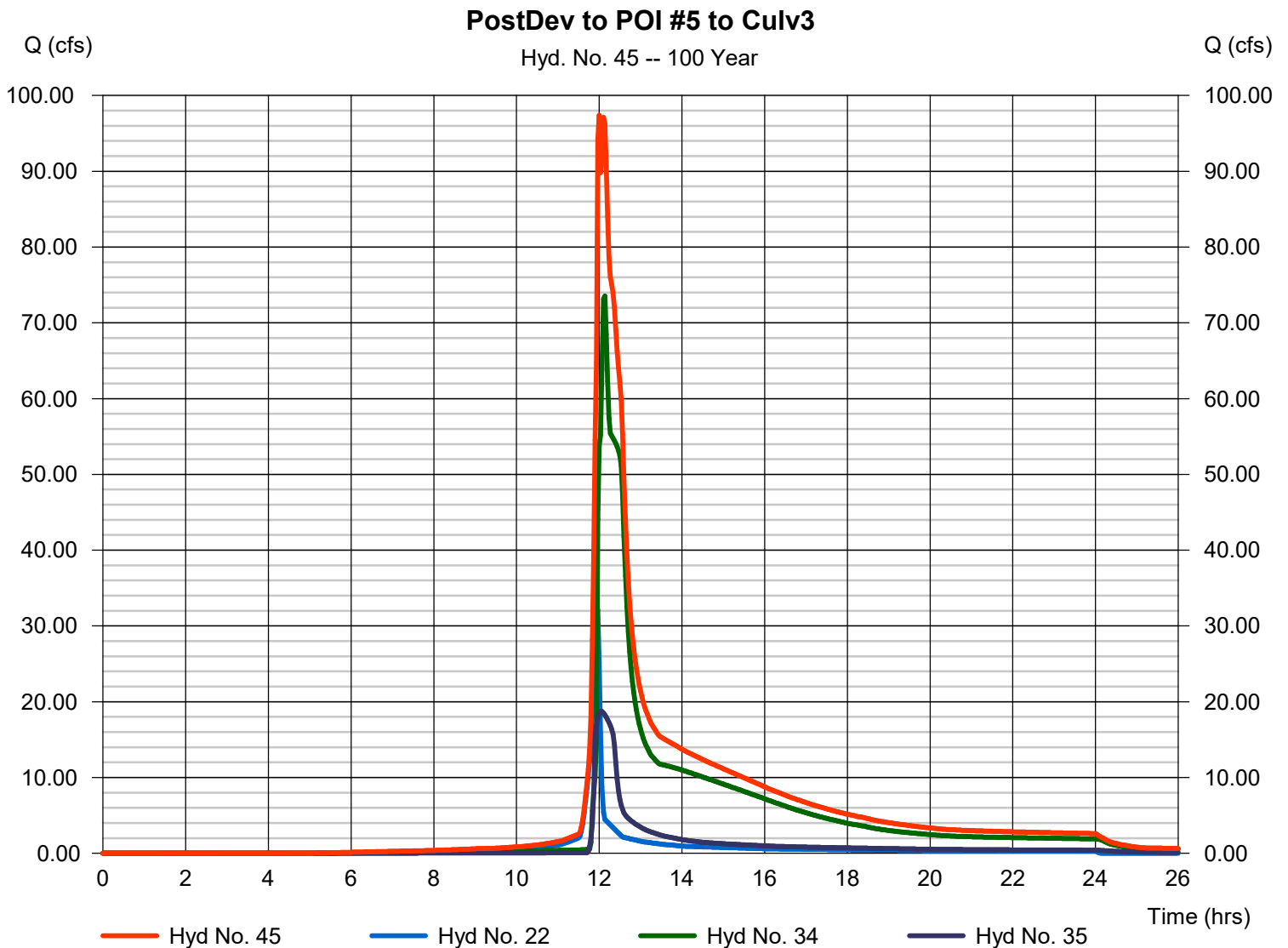
Saturday, 04 / 12 / 2025

Hyd. No. 45

PostDev to POI #5 to Culv3

Hydrograph type = Combine
Storm frequency = 100 yrs
Time interval = 2 min
Inflow hyds. = 22, 34, 35

Peak discharge = 97.38 cfs
Time to peak = 12.00 hrs
Hyd. volume = 651,049 cuft
Contrib. drain. area = 3.810 ac



Hydrograph Report

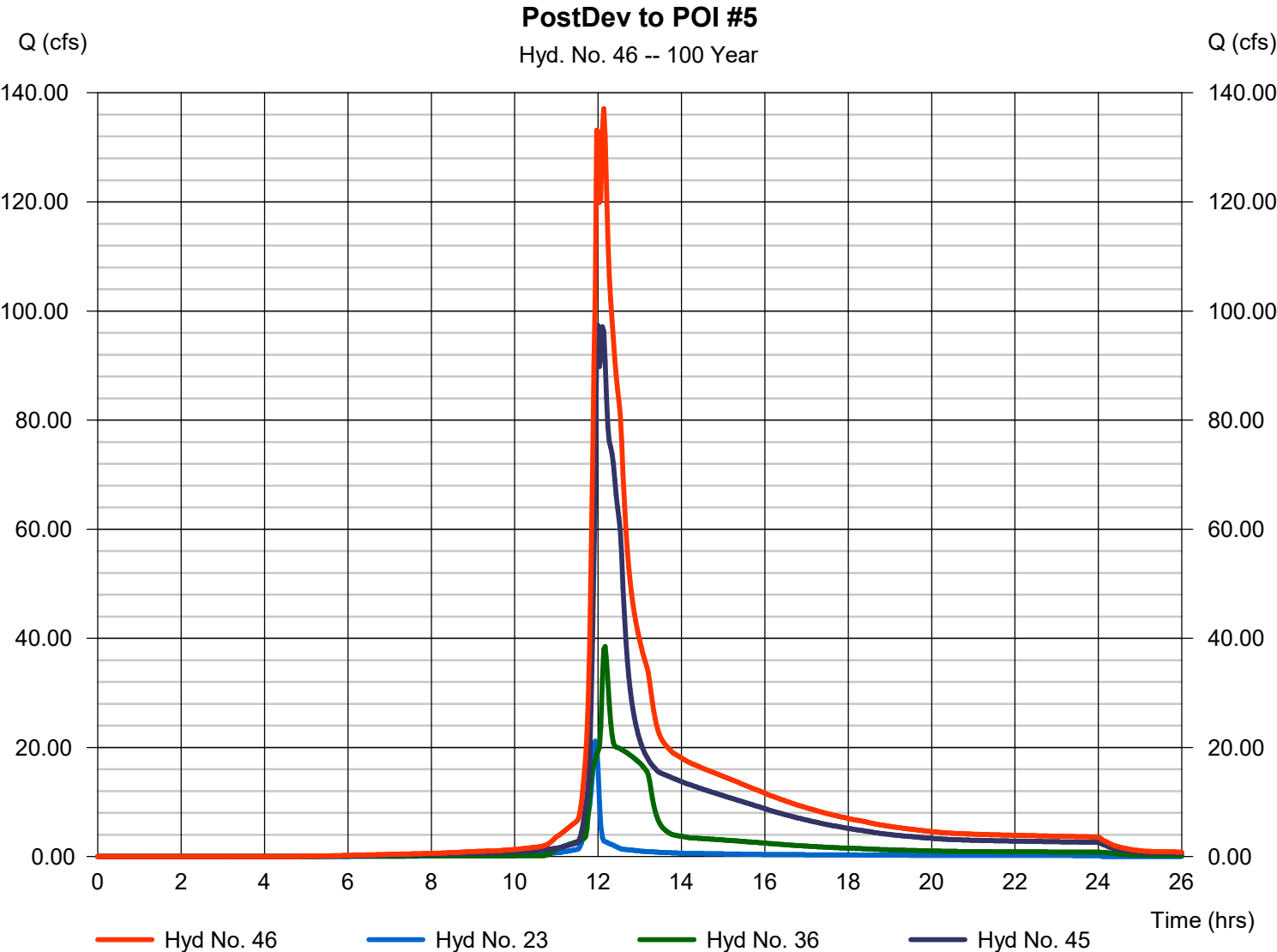
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 46

PostDev to POI #5

Hydrograph type	= Combine	Peak discharge	= 137.10 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 910,997 cuft
Inflow hyds.	= 23, 36, 45	Contrib. drain. area	= 2.420 ac



Hydrograph Report

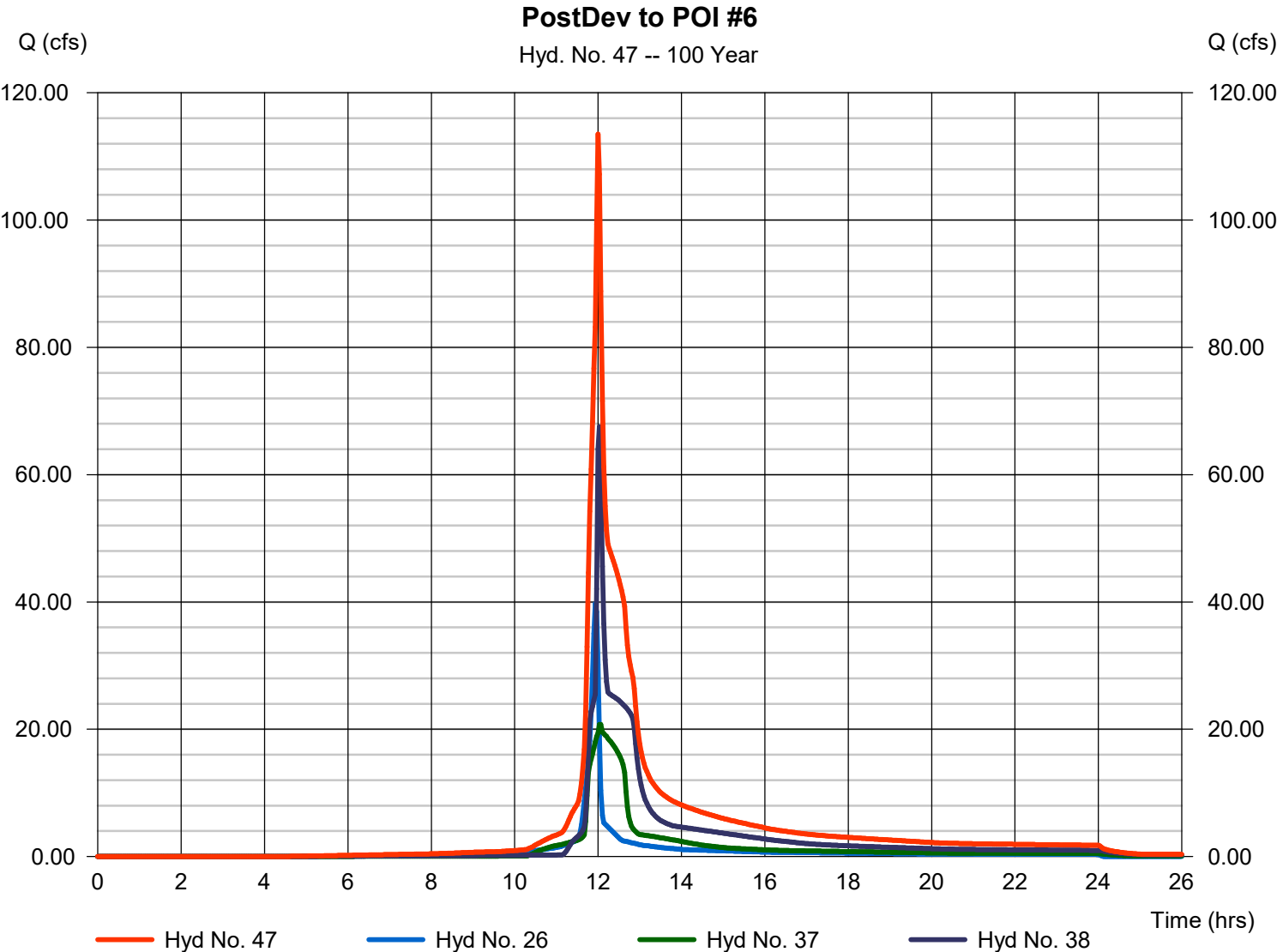
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 47

PostDev to POI #6

Hydrograph type	= Combine	Peak discharge	= 113.51 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 467,945 cuft
Inflow hyds.	= 26, 37, 38	Contrib. drain. area	= 4.370 ac



Hydrograph Report

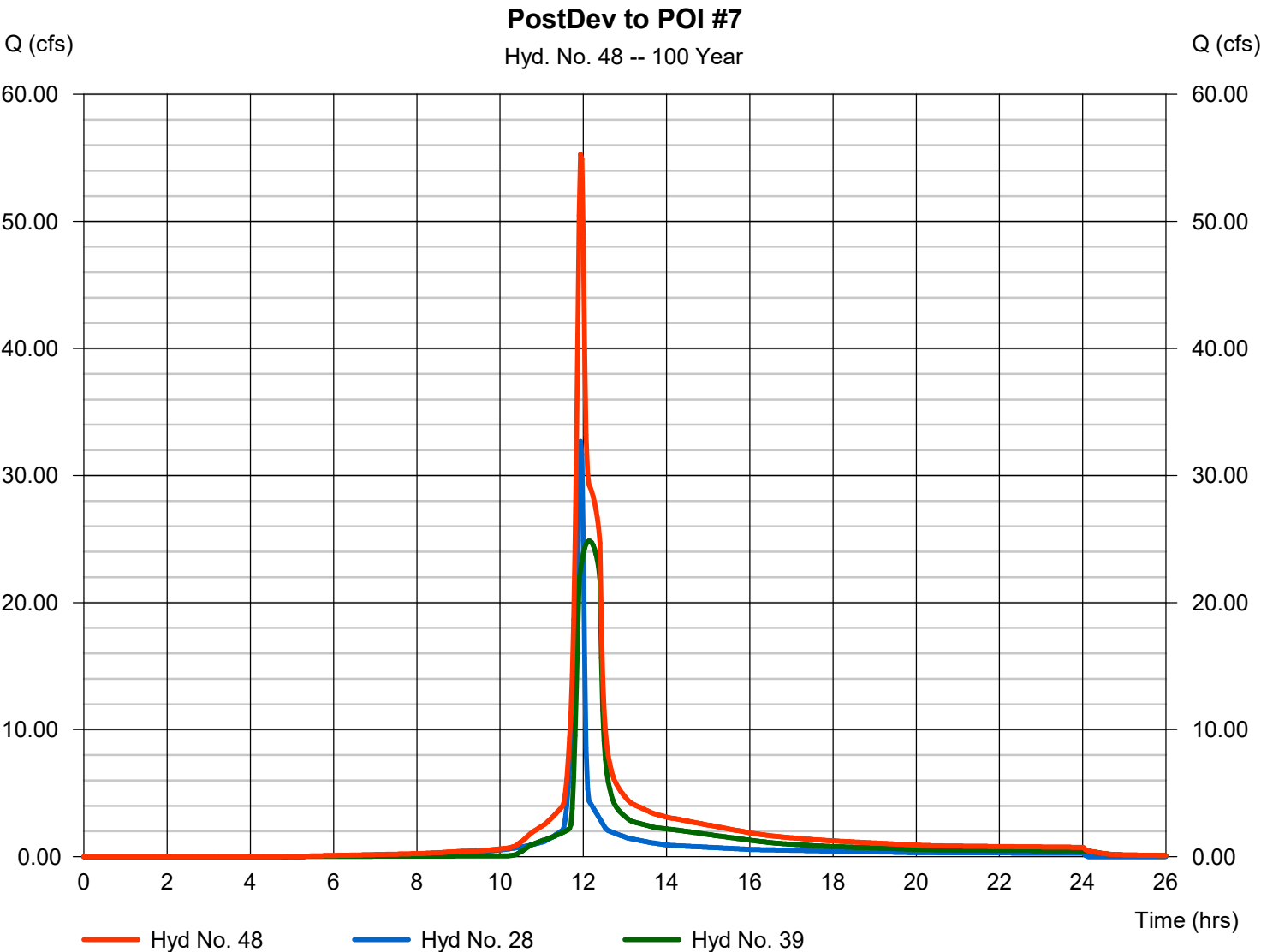
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 48

PostDev to POI #7

Hydrograph type	= Combine	Peak discharge	= 55.29 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 191,844 cuft
Inflow hyds.	= 28, 39	Contrib. drain. area	= 3.640 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

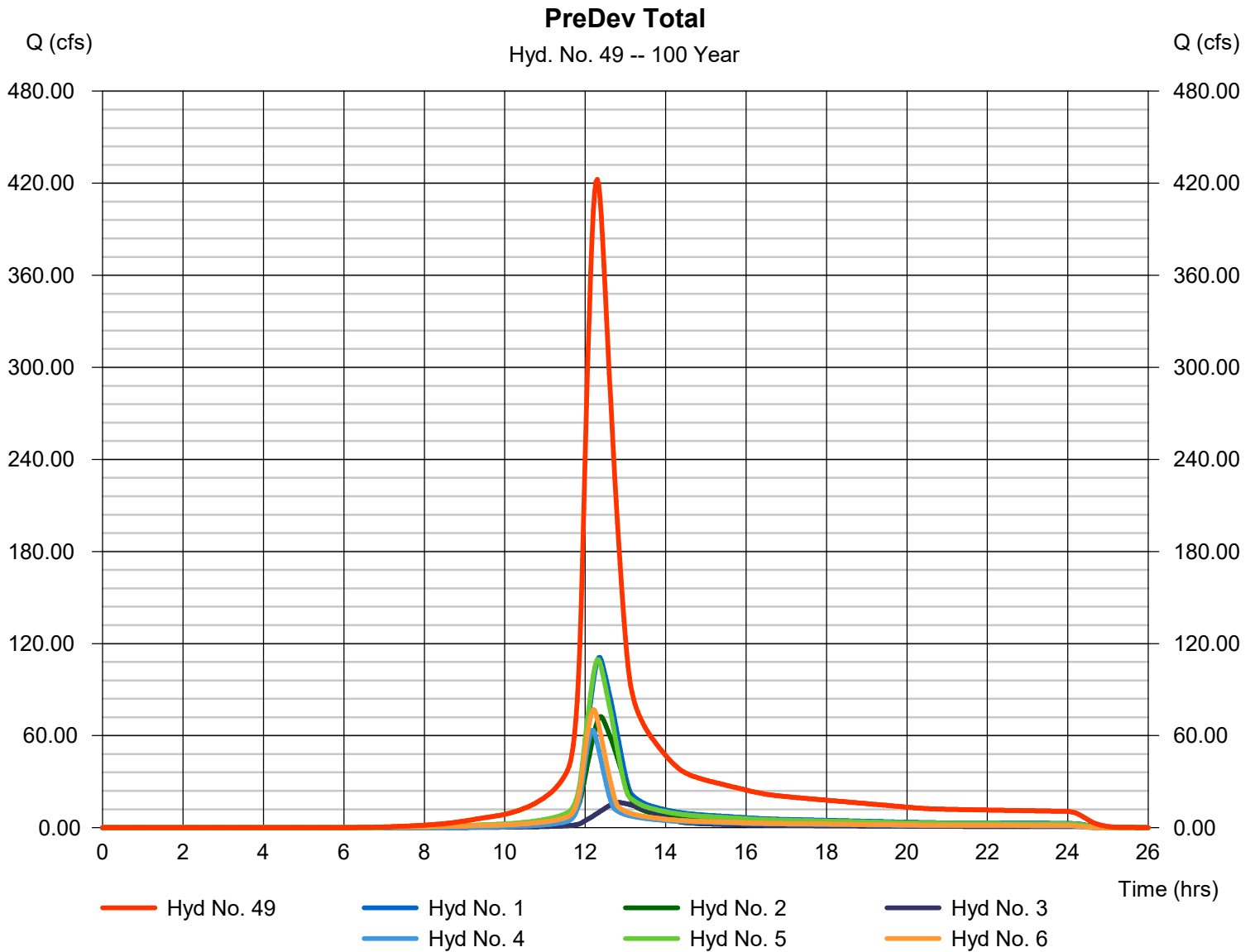
Saturday, 04 / 12 / 2025

Hyd. No. 49

PreDev Total

Hydrograph type = Combine
Storm frequency = 100 yrs
Time interval = 2 min
Inflow hyds. = 1, 2, 3, 4, 5, 6

Peak discharge = 422.44 cfs
Time to peak = 12.30 hrs
Hyd. volume = 2,305,636 cuft
Contrib. drain. area = 139.020 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

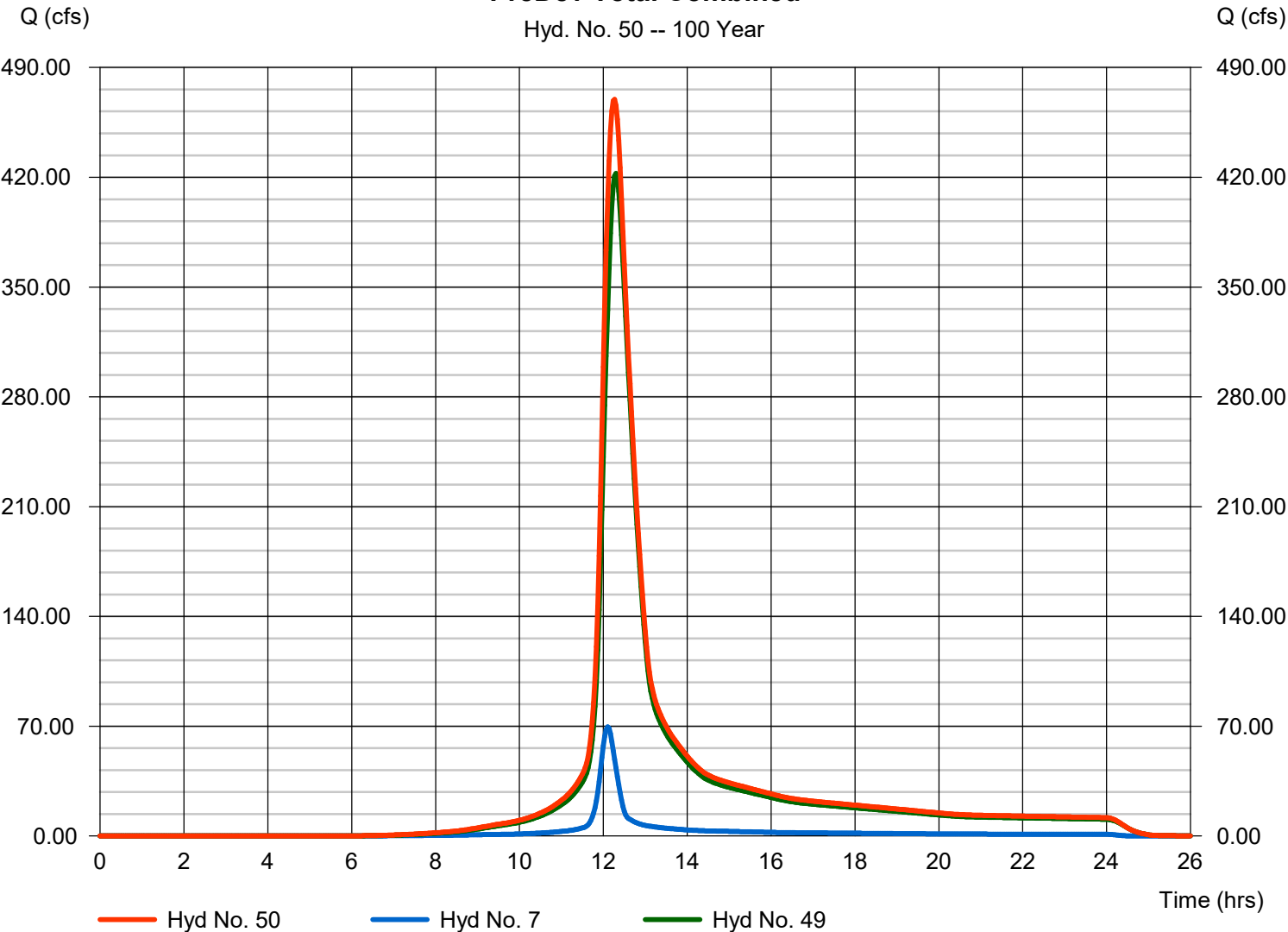
Hyd. No. 50

PreDev Total Combined

Hydrograph type	= Combine	Peak discharge	= 469.74 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.27 hrs
Time interval	= 2 min	Hyd. volume	= 2,546,395 cuft
Inflow hyds.	= 7, 49	Contrib. drain. area	= 13.250 ac

PreDev Total Combined

Hyd. No. 50 -- 100 Year



Hydrograph Report

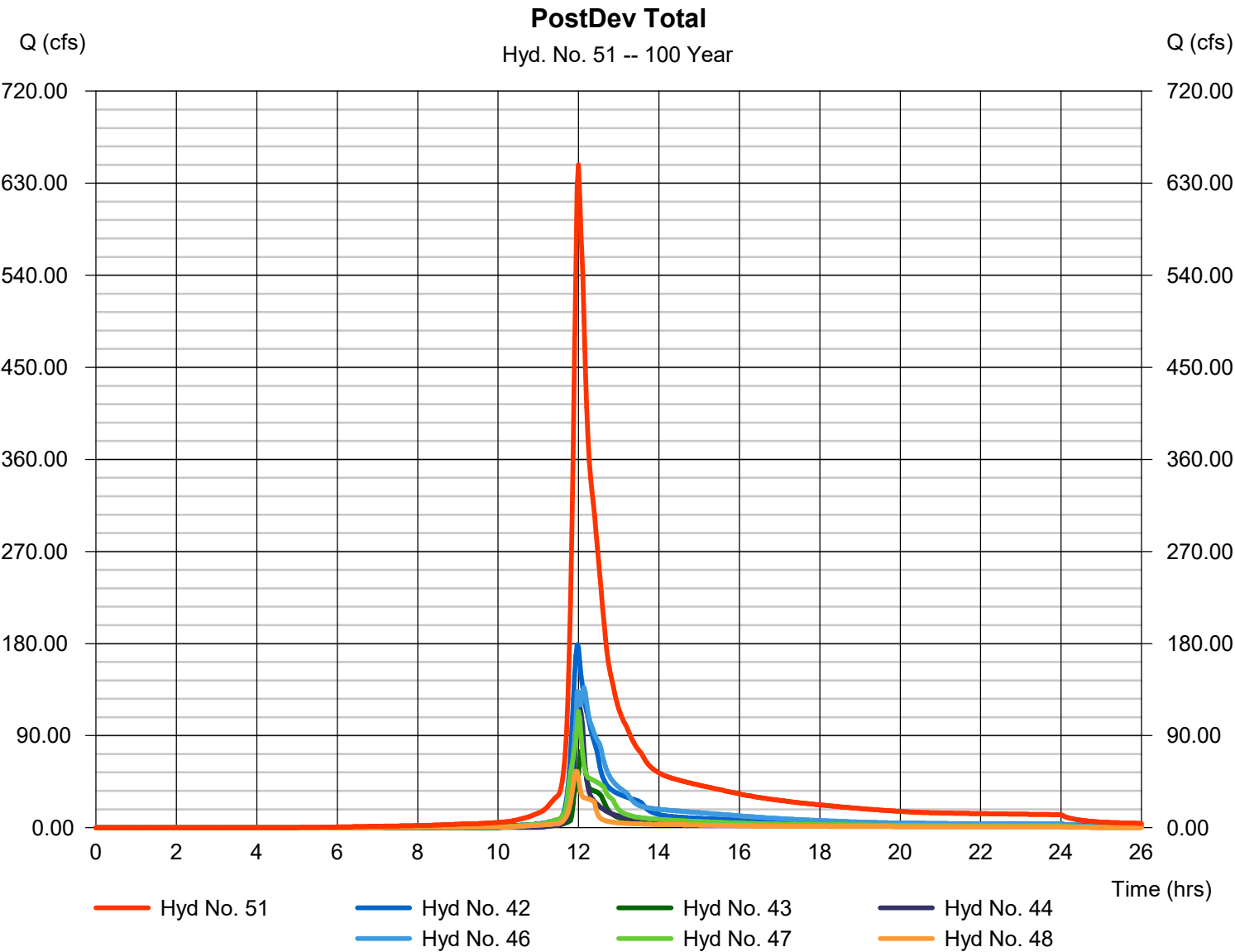
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

Hyd. No. 51

PostDev Total

Hydrograph type	= Combine	Peak discharge	= 647.91 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 3,042,342 cuft
Inflow hyds.	= 42, 43, 44, 46, 47, 48	Contrib. drain. area	= 0.000 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Saturday, 04 / 12 / 2025

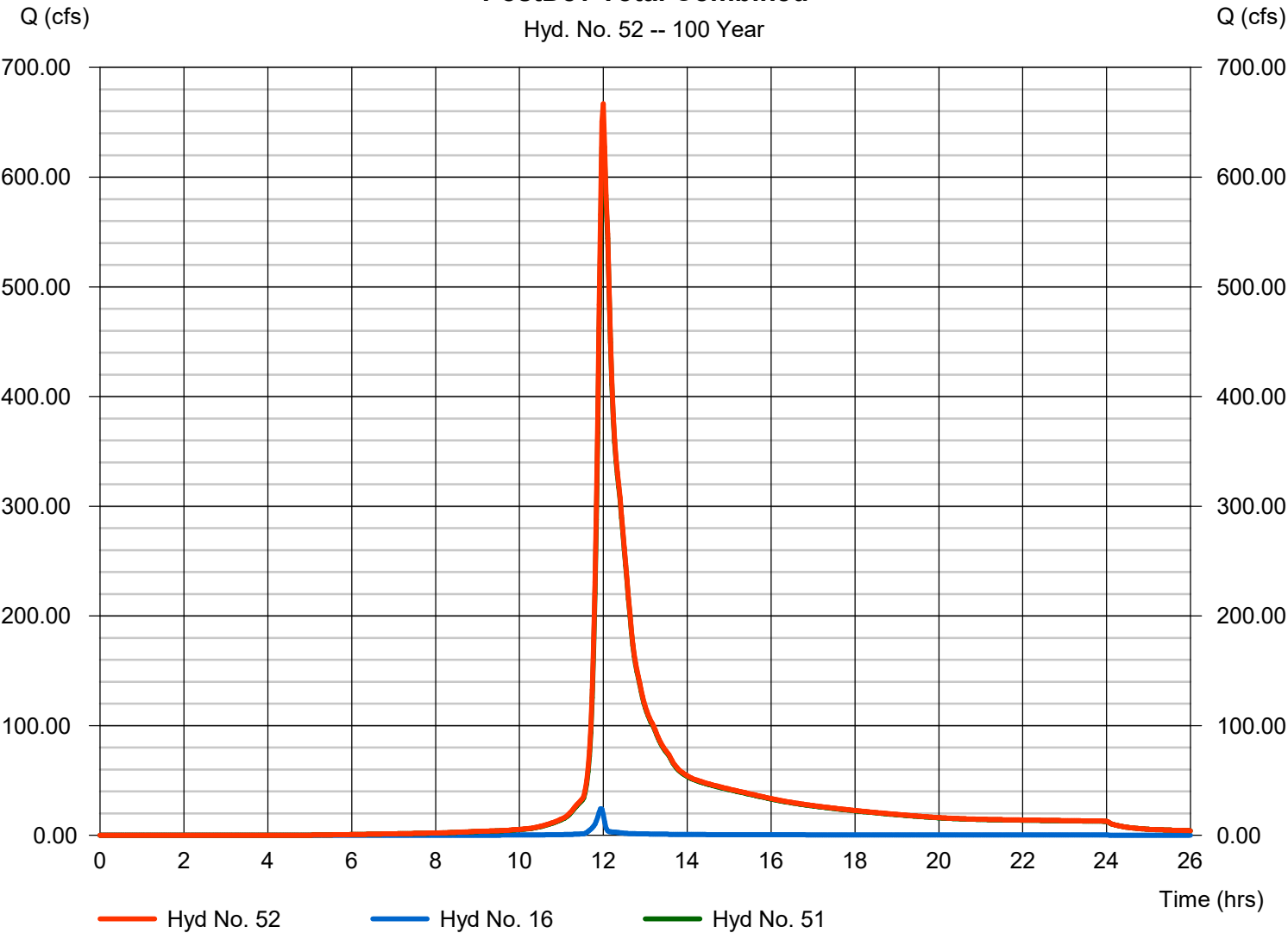
Hyd. No. 52

PostDev Total Combined

Hydrograph type	= Combine	Peak discharge	= 666.89 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 3,091,832 cuft
Inflow hyds.	= 16, 51	Contrib. drain. area	= 3.240 ac

PostDev Total Combined

Hyd. No. 52 -- 100 Year



Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	59.7930	12.4000	0.8801	-----
2	71.2172	12.9000	0.8806	-----
3	0.0000	0.0000	0.0000	-----
5	70.2128	12.7000	0.8337	-----
10	71.9967	12.5000	0.8049	-----
25	68.6940	12.4000	0.7601	-----
50	57.7473	10.2000	0.6988	-----
100	60.1673	11.6000	0.6833	-----

File name: Merritt IDF Intensities.IDF

$$\text{Intensity} = B / (Tc + D)^E$$

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	4.84	3.88	3.25	2.80	2.47	2.21	2.00	1.83	1.69	1.57	1.47	1.38
2	5.61	4.52	3.80	3.28	2.90	2.60	2.36	2.16	2.00	1.86	1.74	1.63
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.40	5.20	4.40	3.83	3.41	3.07	2.80	2.58	2.39	2.23	2.09	1.97
10	7.19	5.87	5.00	4.37	3.89	3.52	3.22	2.97	2.76	2.58	2.43	2.29
25	7.83	6.46	5.55	4.88	4.38	3.98	3.66	3.39	3.16	2.97	2.80	2.65
50	8.62	7.07	6.06	5.34	4.80	4.37	4.03	3.74	3.50	3.30	3.12	2.96
100	8.82	7.37	6.39	5.68	5.14	4.71	4.36	4.07	3.82	3.60	3.41	3.25

Tc = time in minutes. Values may exceed 60.

Z:\Jobs\23-0004 Merrit Property BRD\Calculations\Storm Analysis\Data-Resources\Merritt Precipitation SCS depth.pcp

[illegible]

HydraFlow Storm Sewers Calculations

Gutter Spread by Limited Area

Determine maximum area to on-grade inlet using input factors as shown below.

Project: Merritt Road: Fowler Rd (35' B-B) Date: 4/14/25

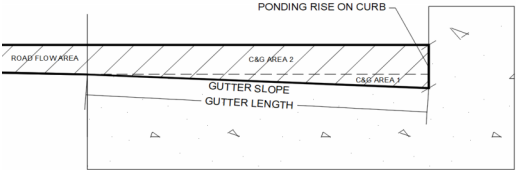
Inlet No. 1 Allowable Spread=Pvm't + Gutter Width: 13 ft
Compute "C" Factor: One Half R/W Width: 27.5 One Half B/B Width: 17.5 S/W Width: 5
Paved Area "C": 0.95 Grass Area "C": 0.2
0.78 0.04

Gutter Width= 2.00 ft.
Total Allow. Spread = 13.00 ft. Manning's n = 0.015 Weir C = 3.33

Inlet Type 1 Inlet Types 1 NCDOT Std. 840.03

Composite Rational C = 0.81 I (2yr.) = 4.00 iph

Roadway X-slope = 0.02 Varies Manual Input



Standard Curb and Gutter Profile (see diagram above)

Gutter Length (ft) 2
Gutter Slope (ft/ft) 0.04
Ponding Rise on Curb (ft) 0.30

Max Flow for Limited Spread																	
C.B.	Long.	ROAD	E. O. P.	Weir	C&G Flow	C&G Flow	C&G	Road	Road	Total	Total	MAX Q FOR	On-Grade	Max Drainage	Actual Drainage Area	Actual Drainage Area	Check
NUMBER	Slope	X-SLOPE	Depth	Depth	Area 1	Area 2	WP	Flow Area	WP	Flow A	WP	SPREAD, CFS	Spread	Area (S.F.)	Area (S.F.)	Area (ACRE)	
CB 572A	0.025	0.020	0.22	0.22	0.08	0.44	2.30	1.21	11.00	1.73	13.30	6.98	13.00	86238	6970	0.16	GOOD
CB 572	0.025	0.020	0.22	0.22	0.08	0.44	2.30	1.21	11.00	1.73	13.30	6.98	13.00	86238	11761	0.27	GOOD
CB 571	0.023	0.020	0.22	0.22	0.08	0.44	2.30	1.21	11.00	1.73	13.30	6.62	13.00	81812	10454	0.24	GOOD
CB 570	0.035	0.020	0.22	0.22	0.08	0.44	2.30	1.21	11.00	1.73	13.30	8.26	13.00	102038	30492	0.70	GOOD
CB 569	0.030	0.020	0.22	0.22	0.08	0.44	2.30	1.21	11.00	1.73	13.30	7.64	13.00	94469	27007	0.62	GOOD
CB 568	0.023	0.020	0.22	0.22	0.08	0.44	2.30	1.21	11.00	1.73	13.30	6.62	13.00	81812	11761	0.27	GOOD
CB 567	0.018	0.020	0.22	0.22	0.08	0.44	2.30	1.21	11.00	1.73	13.30	5.84	13.00	72152	34848	0.80	GOOD
CB 566	0.040	0.020	0.22	0.22	0.08	0.44	2.30	1.21	11.00	1.73	13.30	8.83	13.00	109083	58370	1.34	GOOD
CB 565	0.060	0.020	0.22	0.22	0.08	0.44	2.30	1.21	11.00	1.73	13.30	10.81	13.00	133599	50530	1.16	GOOD
CB 564	0.060	0.020	0.22	0.22	0.08	0.44	2.30	1.21	11.00	1.73	13.30	10.81	13.00	133599	45302	1.04	GOOD
CB 563	0.040	0.020	0.22	0.22	0.08	0.44	2.30	1.21	11.00	1.73	13.30	8.83	13.00	109083	29621	0.68	GOOD
CB 562	0.019	0.020	0.22	0.22	0.08	0.44	2.30	1.21	11.00	1.73	13.30	6.08	13.00	75180	27878	0.64	GOOD
CB 562A	0.005	0.020	0.22	0.22	0.08	0.44	2.30	1.21	11.00	1.73	13.30	3.12	13.00	38567	10454	0.24	GOOD
CB 634	0.005	0.020	0.22	0.22	0.08	0.44	2.30	1.21	11.00	1.73	13.30	3.12	13.00	38567	12632	0.29	GOOD
CB 633	0.020	0.020	0.22	0.22	0.08	0.44	2.30	1.21	11.00	1.73	13.30	6.24	13.00	77133	21344	0.49	GOOD
CB 620	0.060	0.020	0.22	0.22	0.08	0.44	2.30	1.21	11.00	1.73	13.30	10.81	13.00	133599	436	0.01	GOOD
CB 621	0.060	0.020	0.22	0.22	0.08	0.44	2.30	1.21	11.00	1.73	13.30	10.81	13.00	133599	8276	0.19	GOOD
CB 618A	0.050	0.020	0.22	0.22	0.08	0.44	2.30	1.21	11.00	1.73	13.30	9.87	13.00	121958	2178	0.05	GOOD
CB 618B	0.050	0.020	0.22	0.22	0.08	0.44	2.30	1.21	11.00	1.73	13.30	9.87	13.00	121958	22216	0.51	GOOD

E. O. P. - Edge of Pavement A - Area (s. f.) Note: Program uses Manning's formula for open channel flow.
C&G - Curb and gutter V - Velocity (fps)
WP - Wetted Perimeter (ft.)

189. Provide road names on gutter spread calcs sheets that match the site plan (versus Road A, B, C, etc.)

Diagram illustrating the calculation of gutter length for a two-lane highway with a crowned cross-section. The diagram shows a cross-section of the road with a central crown. Key labels include:

- ROAD FLOW AREA
- WATER LEVEL DEPTH AT FLOW LINE
- INTERCEPT POINT
- PONDING LENGTH #1
- PONDING LENGTH #2
- GUTTER SLOPE #1
- GUTTER SLOPE #2
- HYPOTENUSE L.A.1
- GUTTER LENGTH #1
- GUTTER LENGTH #2

NOTE: GUTTER LENGTH #1 + HYPOTENUSE L.A.1 + HALF LANE WIDTH = TOTAL WETTED PERIMETER

Gutter Length #1 (ft)	1
Gutter Length #2 (ft)	1.5
Gutter Slope #1 (ft/ft)	0.083
Gutter Slope #2 (ft/ft)	0.222
Ponding Length #1 (ft)	1.00
Ponding Length #2 (ft)	1.05
Depth at Flow Line (ft)	0.23
Length at Intercept (ft)	1.08

Roadway X-slope = 0.02 Varies Manual Input

*dbl

Z:\Jobs\9900\Watkins Property\Documents\Schedules\Gutter Spread Calcs

Gutter Spread by Limited Area

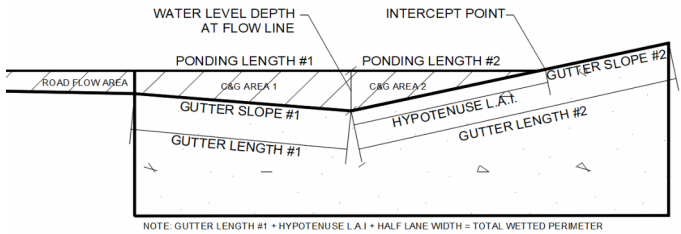
Determine maximum area to on-grade inlet using input factors as shown below.

Project: Merritt Road: Strips Dr (35' B-B) Date: 4/14/25

Inlet No. 2 Allowable Spread=Pvm't + Gutter Width: 8.5 ft
Compute "C" Factor: One Half R/W Width: 30 One Half B/B Width: 17.5 S/W Width: 5
Paved Area "C": 0.95 Grass Area "C": 0.2
0.71 0.05

Gutter Width= 1.00 ft.
Total Allow. Spread = 8.50 ft. Manning's n = 0.015 Weir C = 3.33
Inlet Type 1 Inlet Types 1 NCDOT Std. 840.03
Composite Rational C = 0.76 I (2yr.) = 4.00 iph

Roadway X-slope = 0.02 Varies Manual Input



Valley Curb and Gutter Profile (see diagram above)

Gutter Length #1 (ft) 1
Gutter Length #2 (ft) 1.5
Gutter Slope #1 (ft/ft) 0.083
Gutter Slope #2 (ft/ft) 0.222
Ponding Length #1 (ft) 1.00
Ponding Length #2 (ft) 1.05
Water Level Depth at Flow Line (ft) 0.23
Hypotenuse Length at Intercept (ft) 1.08

Max Flow for Limited Spread																	
C.B. NUMBER	Long. Slope	ROAD X-SLOPE	E. O. P. Depth	Weir Depth	C&G Flow Area 1	C&G Flow Area 2	C&G WP	Road Flow Area	Road WP	Total Flow A	Total WP	MAX Q FOR SPREAD, CFS	On-Grade Spread	Max Drainage Area (S.F.)	Actual Drainage Area (S.F.)	Actual Drainage Area (ACRE)	Check
CB 163	0.005	0.020	0.15	0.15	0.19	0.12	2.08	0.56	7.50	0.88	9.58	1.25	9.50	16430	14375	0.33	GOOD
CB 164	0.005	0.020	0.15	0.15	0.19	0.12	2.08	0.56	7.50	0.88	9.58	1.25	9.50	16430	14810	0.34	GOOD
CB 145B	0.034	0.020	0.15	0.15	0.19	0.12	2.08	0.56	7.50	0.88	9.58	3.25	9.50	42844	871	0.02	GOOD
CB 145C	0.034	0.020	0.15	0.15	0.19	0.12	2.08	0.56	7.50	0.88	9.58	3.25	9.50	42844	871	0.02	GOOD

E. O. P. - Edge of Pavement A - Area (s. f.) Note: Program uses Manning's formula for open channel flow.
C&G - Curb and gutter V - Velocity (fps)
WP - Wetted Perimeter (ft.)

Gutter Spread by Limited Area

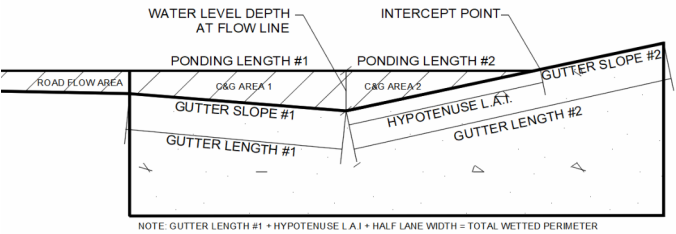
Determine maximum area to on-grade inlet using input factors as shown below.

Project: Merritt Road: Jocund St (35' B-B) Date: 4/14/25

Inlet No. 2 Allowable Spread=Pvm't + Gutter Width: 8.5 ft
Compute "C" Factor: One Half R/W Width: 30 One Half B/B Width: 17.5 S/W Width: 5
Paved Area "C": 0.95 Grass Area "C": 0.2
0.71 0.05

Gutter Width= 1.00 ft.
Total Allow. Spread = 8.50 ft. Manning's n = 0.015 Weir C = 3.33
Inlet Type 1 Inlet Types 1 NCDOT Std. 840.03
Composite Rational C = 0.76 I (2yr.) = 4.00 iph

Roadway X-slope = 0.02 Varies Manual Input



Valley Curb and Gutter Profile (see diagram above)

Gutter Length #1 (ft) 1
Gutter Length #2 (ft) 1.5
Gutter Slope #1 (ft/ft) 0.083
Gutter Slope #2 (ft/ft) 0.222
Ponding Length #1 (ft) 1.00
Ponding Length #2 (ft) 1.05
Water Level Depth at Flow Line (ft) 0.23
Hypotenuse Length at Intercept (ft) 1.08

Max Flow for Limited Spread																	
C.B. NUMBER	Long. Slope	ROAD X-SLOPE	E. O. P. Depth	Weir Depth	C&G Flow Area 1	C&G Flow Area 2	C&G WP	Road Flow Area	Road WP	Total Flow A	Total WP	MAX Q FOR SPREAD, CFS	On-Grade Spread	Max Drainage Area (S.F.)	Actual Drainage Area Area (S.F.)	Actual Drainage Area Area (ACRE)	Check
CB 434	0.050	0.020	0.15	0.15	0.19	0.12	2.08	0.56	7.50	0.88	9.58	3.94	9.50	51956	3049	0.07	GOOD
CB 435	0.050	0.020	0.15	0.15	0.19	0.12	2.08	0.56	7.50	0.88	9.58	3.94	9.50	51956	4792	0.11	GOOD
CB 432	0.050	0.020	0.15	0.15	0.19	0.12	2.08	0.56	7.50	0.88	9.58	3.94	9.50	51956	3049	0.07	GOOD
CB 433	0.050	0.020	0.15	0.15	0.19	0.12	2.08	0.56	7.50	0.88	9.58	3.94	9.50	51956	6098	0.14	GOOD
CB 433A	0.050	0.020	0.15	0.15	0.19	0.12	2.08	0.56	7.50	0.88	9.58	3.94	9.50	51956	5663	0.13	GOOD

E. O. P. - Edge of Pavement A - Area (s. f.) Note: Program uses Manning's formula for open channel flow.
C&G - Curb and gutter V - Velocity (fps)
WP - Wetted Perimeter (ft.)

Gutter Spread by Limited Area

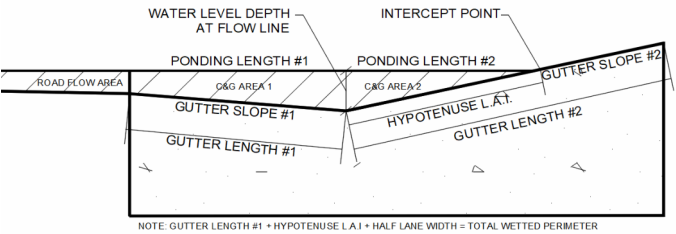
Determine maximum area to on-grade inlet using input factors as shown below.

Project: Merritt Road: Fletching PI (35' B-B) Date: 4/14/25

Inlet No. 2 Allowable Spread=Pvm't + Gutter Width: 8.5 ft
Compute "C" Factor: One Half R/W Width: 30 One Half B/B Width: 17.5 S/W Width: 5
Paved Area "C": 0.95 Grass Area "C": 0.2
0.71 0.05

Gutter Width= 1.00 ft.
Total Allow. Spread = 8.50 ft. Manning's n = 0.015 Weir C = 3.33
Inlet Type 1 Inlet Types 1 NCDOT Std. 840.03
Composite Rational C = 0.76 I (2yr.) = 4.00 iph

Roadway X-slope = 0.02 Varies Manual Input



Valley Curb and Gutter Profile (see diagram above)

Gutter Length #1 (ft) 1
Gutter Length #2 (ft) 1.5
Gutter Slope #1 (ft/ft) 0.083
Gutter Slope #2 (ft/ft) 0.222
Ponding Length #1 (ft) 1.00
Ponding Length #2 (ft) 1.05
Water Level Depth at Flow Line (ft) 0.23
Hypotenuse Length at Intercept (ft) 1.08

Max Flow for Limited Spread																	
C.B. NUMBER	Long. Slope	ROAD X-SLOPE	E. O. P. Depth	Weir Depth	C&G Flow Area 1	C&G Flow Area 2	C&G WP	Road Flow Area	Road WP	Total Flow A	Total WP	MAX Q FOR SPREAD, CFS	On-Grade Spread	Max Drainage Area (S.F.)	Actual Drainage Area Area (S.F.)	Actual Drainage Area Area (ACRE)	Check
CB 624	0.035	0.020	0.15	0.15	0.19	0.12	2.08	0.56	7.50	0.88	9.58	3.30	9.50	43469	6534	0.15	GOOD
CB 622	0.035	0.020	0.15	0.15	0.19	0.12	2.08	0.56	7.50	0.88	9.58	3.30	9.50	43469	8276	0.19	GOOD
CB 623	0.035	0.020	0.15	0.15	0.19	0.12	2.08	0.56	7.50	0.88	9.58	3.30	9.50	43469	41382	0.95	GOOD
CB 618	0.020	0.020	0.15	0.15	0.19	0.12	2.08	0.56	7.50	0.88	9.58	2.49	9.50	32860	1307	0.03	GOOD
CB 619	0.020	0.020	0.15	0.15	0.19	0.12	2.08	0.56	7.50	0.88	9.58	2.49	9.50	32860	1307	0.03	GOOD
CB 617	0.085	0.020	0.15	0.15	0.19	0.12	2.08	0.56	7.50	0.88	9.58	5.14	9.50	67742	23087	0.53	GOOD
CB 617A	0.085	0.020	0.15	0.15	0.19	0.12	2.08	0.56	7.50	0.88	9.58	5.14	9.50	67742	3485	0.08	GOOD
CB 612	0.110	0.020	0.15	0.15	0.19	0.12	2.08	0.56	7.50	0.88	9.58	5.84	9.50	77063	3485	0.08	GOOD
CB 613	0.110	0.020	0.15	0.15	0.19	0.12	2.08	0.56	7.50	0.88	9.58	5.84	9.50	77063	11326	0.26	GOOD
CB 613A	0.100	0.020	0.15	0.15	0.19	0.12	2.08	0.56	7.50	0.88	9.58	5.57	9.50	73477	8712	0.20	GOOD
CB 613B	0.100	0.020	0.15	0.15	0.19	0.12	2.08	0.56	7.50	0.88	9.58	5.57	9.50	73477	5227	0.12	GOOD
CB 614	0.110	0.020	0.15	0.15	0.19	0.12	2.08	0.56	7.50	0.88	9.58	5.84	9.50	77063	6098	0.14	GOOD

E. O. P. - Edge of Pavement A - Area (s. f.) Note: Program uses Manning's formula for open channel flow.
C&G - Curb and gutter V - Velocity (fps)
WP - Wetted Perimeter (ft.)

Gutter Spread by Limited Area

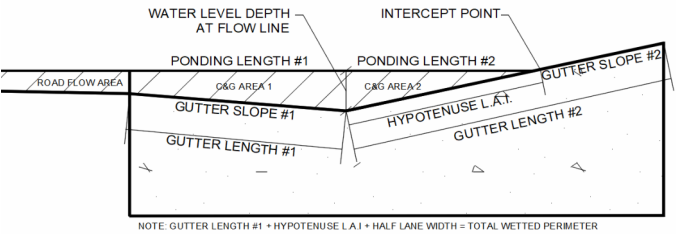
Determine maximum area to on-grade inlet using input factors as shown below.

Project: Merritt Road: Strips Dr (29' B-B) Date: 4/14/25

Inlet No. 2 Allowable Spread=Pvm't + Gutter Width: 7 ft
Compute "C" Factor: One Half R/W Width: 25 One Half B/B Width: 14.5 S/W Width: 5
Paved Area "C": 0.95 Grass Area "C": 0.2
0.74 0.04

Gutter Width= 1.00 ft.
Total Allow. Spread = 7.00 ft. Manning's n = 0.015 Weir C = 3.33
Inlet Type 1 Inlet Types 1 NCDOT Std. 840.03
Composite Rational C = 0.79 I (2yr.) = 4.00 iph

Roadway X-slope = 0.02 Varies Manual Input



Valley Curb and Gutter Profile (see diagram above)

Gutter Length #1 (ft) 1
Gutter Length #2 (ft) 1.5
Gutter Slope #1 (ft/ft) 0.083
Gutter Slope #2 (ft/ft) 0.222
Ponding Length #1 (ft) 1.00
Ponding Length #2 (ft) 0.92
Water Level Depth at Flow Line (ft) 0.20
Hypotenuse Length at Intercept (ft) 0.94

Max Flow for Limited Spread																	
C.B. NUMBER	Long. Slope	ROAD X-SLOPE	E. O. P. Depth	Weir Depth	C&G Flow Area 1	C&G Flow Area 2	C&G WP	Road Flow Area	Road WP	Total Flow A	Total WP	MAX Q FOR SPREAD, CFS	On-Grade Spread	Max Drainage Area (S.F.)	Actual Drainage Area Area (S.F.)	Actual Drainage Area Area (ACRE)	Check
CB 146	0.008	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.99	8.00	12657	8276	0.19	GOOD
CB 146A	0.008	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.99	8.00	12657	5663	0.13	GOOD
CB 148	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	2614	0.06	GOOD
CB 150A	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	42452	40511	0.93	GOOD
CB 150B	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	7841	0.18	GOOD
CB 216	0.035	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.07	8.00	26473	5227	0.12	GOOD
CB 216A	0.035	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.07	8.00	26473	5663	0.13	GOOD
CB 215	0.054	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.57	8.00	32883	4356	0.10	GOOD
CB 214	0.054	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.57	8.00	32883	8276	0.19	GOOD
CB 211	0.054	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.57	8.00	32883	1742	0.04	GOOD
CB 211A	0.054	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.57	8.00	32883	11761	0.27	GOOD
CB 209	0.030	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.91	8.00	24510	3049	0.07	GOOD
CB 209A	0.030	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.91	8.00	24510	9583	0.22	GOOD
CB 226	0.008	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.99	8.00	12657	4792	0.11	GOOD
CB 204	0.015	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.35	8.00	17331	13504	0.31	GOOD
CB 205	0.015	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.35	8.00	17331	12632	0.29	GOOD

E. O. P. - Edge of Pavement A - Area (s. f.) Note: Program uses Manning's formula for open channel flow.
C&G - Curb and gutter V - Velocity (fps)
WP - Wetted Perimeter (ft.)

Gutter Spread by Limited Area

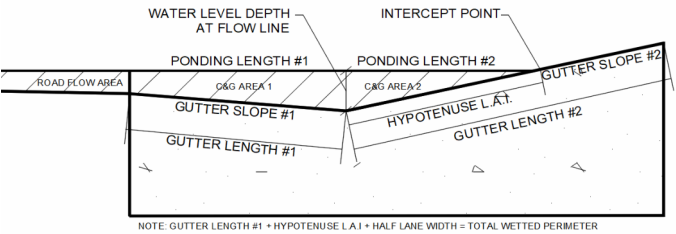
Determine maximum area to on-grade inlet using input factors as shown below.

Project: Merritt Road: Staffordshire (29' B-B) Date: 4/14/25

Inlet No. 2 Allowable Spread=Pvm't + Gutter Width: 7 ft
Compute "C" Factor: One Half R/W Width: 25 One Half B/B Width: 14.5 S/W Width: 5
Paved Area "C": 0.95 Grass Area "C": 0.2
0.74 0.04

Gutter Width= 1.00 ft.
Total Allow. Spread = 7.00 ft. Manning's n = 0.015 Weir C = 3.33
Inlet Type 1 Inlet Types 1 NCDOT Std. 840.03
Composite Rational C = 0.79 I (2yr.) = 4.00 iph

Roadway X-slope = 0.02 Varies Manual Input



Valley Curb and Gutter Profile (see diagram above)

Gutter Length #1 (ft) 1
Gutter Length #2 (ft) 1.5
Gutter Slope #1 (ft/ft) 0.083
Gutter Slope #2 (ft/ft) 0.222
Ponding Length #1 (ft) 1.00
Ponding Length #2 (ft) 0.92
Water Level Depth at Flow Line (ft) 0.20
Hypotenuse Length at Intercept (ft) 0.94

Max Flow for Limited Spread																	
C.B. NUMBER	Long. Slope	ROAD X-SLOPE	E. O. P. Depth	Weir Depth	C&G Flow Area 1	C&G Flow Area 2	C&G WP	Road Flow Area	Road WP	Total Flow A	Total WP	MAX Q FOR SPREAD, CFS	On-Grade Spread	Max Drainage Area (S.F.)	Actual Drainage Area Area (S.F.)	Actual Drainage Area Area (ACRE)	Check
CB 137	0.005	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.78	8.00	10006	3920	0.09	GOOD
CB 138	0.005	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.78	8.00	10006	3920	0.09	GOOD
CB 125	0.024	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.71	8.00	21922	4792	0.11	GOOD
CB 125A	0.024	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.71	8.00	21922	6970	0.16	GOOD
CB 126	0.045	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.34	8.00	30018	2178	0.05	GOOD
CB 129	0.040	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.21	8.00	28301	6970	0.16	GOOD
CB 130	0.040	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.21	8.00	28301	3485	0.08	GOOD
CB 136	0.047	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.39	8.00	30678	11326	0.26	GOOD
CB 136A	0.047	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.39	8.00	30678	4792	0.11	GOOD
CB 112	0.047	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.39	8.00	30678	2178	0.05	GOOD
CB 112A	0.047	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.39	8.00	30678	6970	0.16	GOOD
CB 149	0.009	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.05	8.00	40273	31363	0.72	GOOD
CB 150	0.009	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.05	8.00	13424	11761	0.27	GOOD
CB 151	0.008	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.99	8.00	12657	5663	0.13	GOOD
CB 152	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	2178	0.05	GOOD
CB 154A	0.008	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.99	8.00	12657	5227	0.12	GOOD
CB 413	0.038	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.15	8.00	27585	17860	0.41	GOOD
CB 414	0.038	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.15	8.00	55169	37026	0.85	GOOD

E. O. P. - Edge of Pavement A - Area (s. f.) Note: Program uses Manning's formula for open channel flow.
C&G - Curb and gutter V - Velocity (fps)
WP - Wetted Perimeter (ft.)

Gutter Spread by Limited Area

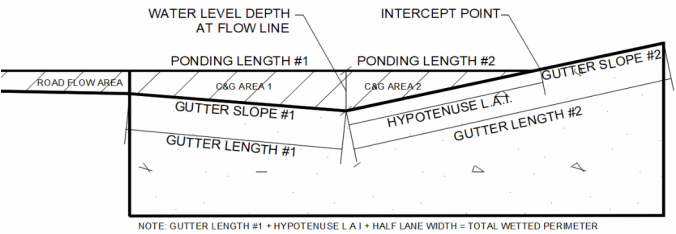
Determine maximum area to on-grade inlet using input factors as shown below.

Project: Merritt Road: Lineage PI (29' B-B) Date: 4/14/25

Inlet No. 2 Allowable Spread=Pvm't + Gutter Width: 7 ft
Compute "C" Factor: One Half R/W Width: 25 One Half B/B Width: 14.5 S/W Width: 5
Paved Area "C": 0.95 Grass Area "C": 0.2
0.74 0.04

Gutter Width= 1.00 ft.
Total Allow. Spread = 7.00 ft. Manning's n = 0.015 Weir C = 3.33
Inlet Type 1 Inlet Types 1 NCDOT Std. 840.03
Composite Rational C = 0.79 I (2yr.) = 4.00 iph

Roadway X-slope = 0.02 Varies Manual Input



Valley Curb and Gutter Profile (see diagram above)

Gutter Length #1 (ft) 1
Gutter Length #2 (ft) 1.5
Gutter Slope #1 (ft/ft) 0.083
Gutter Slope #2 (ft/ft) 0.222
Ponding Length #1 (ft) 1.00
Ponding Length #2 (ft) 0.92
Water Level Depth at Flow Line (ft) 0.20
Hypotenuse Length at Intercept (ft) 0.94

Max Flow for Limited Spread																	
C.B. NUMBER	Long. Slope	ROAD X-SLOPE	E. O. P. Depth	Weir Depth	C&G Flow Area 1	C&G Flow Area 2	C&G WP	Road Flow Area	Road WP	Total Flow A	Total WP	MAX Q FOR SPREAD, CFS	On-Grade Spread	Max Drainage Area (S.F.)	Actual Drainage Area Area (S.F.)	Actual Drainage Area Area (ACRE)	Check
CB 105	0.018	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.48	8.00	18985	8712	0.20	GOOD
CB 105A	0.018	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.48	8.00	18985	5663	0.13	GOOD
CB 104	0.018	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.48	8.00	18985	6098	0.14	GOOD
CB 103	0.018	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.48	8.00	18985	871	0.02	GOOD
CB 107	0.030	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.91	8.00	24510	14810	0.34	GOOD
CB 108	0.030	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.91	8.00	24510	17424	0.40	GOOD
CB 109	0.035	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.07	8.00	26473	17860	0.41	GOOD
CB 109A	0.035	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.07	8.00	26473	11761	0.27	GOOD
CB 111	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	12632	0.29	GOOD
CB 111A	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	2178	0.05	GOOD

E. O. P. - Edge of Pavement A - Area (s. f.) Note: Program uses Manning's formula for open channel flow.
C&G - Curb and gutter V - Velocity (fps)
WP - Wetted Perimeter (ft.)

Gutter Spread by Limited Area

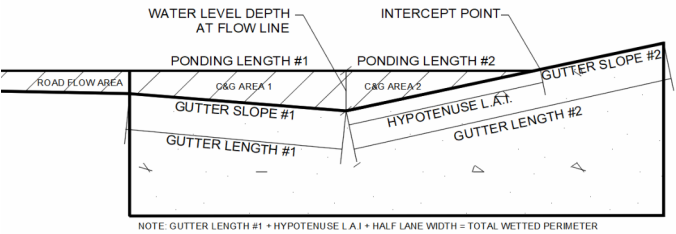
Determine maximum area to on-grade inlet using input factors as shown below.

Project: Merritt Road: Road A (29' B-B) Date: 4/14/25

Inlet No. 2 Allowable Spread=Pvm't + Gutter Width: 7 ft
Compute "C" Factor: One Half R/W Width: 25 One Half B/B Width: 14.5 S/W Width: 5
Paved Area "C": 0.95 Grass Area "C": 0.2
0.74 0.04

Gutter Width= 1.00 ft.
Total Allow. Spread = 7.00 ft. Manning's n = 0.015 Weir C = 3.33
Inlet Type 1 Inlet Types 1 NCDOT Std. 840.03
Composite Rational C = 0.79 I (2yr.) = 4.00 iph

Roadway X-slope = 0.02 Varies Manual Input



Valley Curb and Gutter Profile (see diagram above)

Gutter Length #1 (ft) 1
Gutter Length #2 (ft) 1.5
Gutter Slope #1 (ft/ft) 0.083
Gutter Slope #2 (ft/ft) 0.222
Ponding Length #1 (ft) 1.00
Ponding Length #2 (ft) 0.92
Water Level Depth at Flow Line (ft) 0.20
Hypotenuse Length at Intercept (ft) 0.94

Max Flow for Limited Spread																	
C.B. NUMBER	Long. Slope	ROAD X-SLOPE	E. O. P. Depth	Weir Depth	C&G Flow Area 1	C&G Flow Area 2	C&G WP	Road Flow Area	Road WP	Total Flow A	Total WP	MAX Q FOR SPREAD, CFS	On-Grade Spread	Max Drainage Area (S.F.)	Actual Drainage Area Area (S.F.)	Actual Drainage Area Area (ACRE)	Check
CB 416	0.005	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.78	8.00	10006	1307	0.03	GOOD
CB 417	0.005	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.78	8.00	10006	1742	0.04	GOOD
CB 526	0.040	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.21	8.00	28301	3049	0.07	GOOD
CB 527	0.025	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.75	8.00	22374	2614	0.06	GOOD
CB 525	0.070	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.92	8.00	37439	3049	0.07	GOOD
CB 525A	0.070	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.92	8.00	37439	9583	0.22	GOOD
CB 524	0.070	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.92	8.00	37439	1742	0.04	GOOD
CB 524A	0.070	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.92	8.00	37439	5663	0.13	GOOD
CB 523	0.070	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.92	8.00	37439	3485	0.08	GOOD
CB 534	0.070	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.92	8.00	37439	3920	0.09	GOOD
CB 522	0.070	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.92	8.00	37439	1742	0.04	GOOD
CB 522A	0.070	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.92	8.00	37439	7405	0.17	GOOD
CB 521	0.050	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.47	8.00	31642	1742	0.04	GOOD
CB 520	0.040	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.21	8.00	28301	2614	0.06	GOOD
CB 538	0.040	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.21	8.00	28301	11326	0.26	GOOD
CB 519	0.040	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.21	8.00	28301	5227	0.12	GOOD
CB 519A	0.040	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.21	8.00	28301	18295	0.42	GOOD
CB 518	0.035	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.07	8.00	26473	3485	0.08	GOOD
CB 517	0.035	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.07	8.00	26473	3920	0.09	GOOD
CB 516	0.035	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.07	8.00	52947	34848	0.80	GOOD

E. O. P. - Edge of Pavement A - Area (s. f.) Note: Program uses Manning's formula for open channel flow.
C&G - Curb and gutter V - Velocity (fps)

Gutter Spread by Limited Area

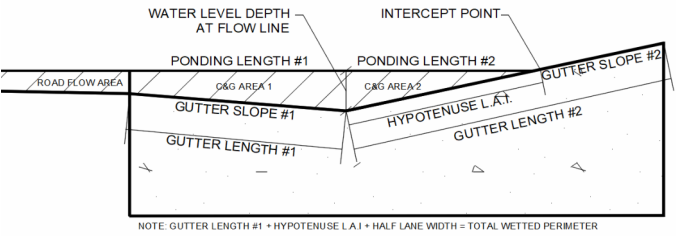
Determine maximum area to on-grade inlet using input factors as shown below.

Project: Merritt Road: Road B (29' B-B) Date: 4/14/25

Inlet No. 2 Allowable Spread=Pvm't + Gutter Width: 7 ft
Compute "C" Factor: One Half R/W Width: 25 One Half B/B Width: 14.5 S/W Width: 5
Paved Area "C": 0.95 Grass Area "C": 0.2
0.74 0.04

Gutter Width= 1.00 ft.
Total Allow. Spread = 7.00 ft. Manning's n = 0.015 Weir C = 3.33
Inlet Type 1 Inlet Types 1 NCDOT Std. 840.03
Composite Rational C = 0.79 I (2yr.) = 4.00 iph

Roadway X-slope = 0.02 Varies Manual Input



Valley Curb and Gutter Profile (see diagram above)

Gutter Length #1 (ft) 1
Gutter Length #2 (ft) 1.5
Gutter Slope #1 (ft/ft) 0.083
Gutter Slope #2 (ft/ft) 0.222
Ponding Length #1 (ft) 1.00
Ponding Length #2 (ft) 0.92
Water Level Depth at Flow Line (ft) 0.20
Hypotenuse Length at Intercept (ft) 0.94

Max Flow for Limited Spread																	
C.B. NUMBER	Long. Slope	ROAD X-SLOPE	E. O. P. Depth	Weir Depth	C&G Flow Area 1	C&G Flow Area 2	C&G WP	Road Flow Area	Road WP	Total Flow A	Total WP	MAX Q FOR SPREAD, CFS	On-Grade Spread	Max Drainage Area (S.F.)	Actual Drainage Area Area (S.F.)	Actual Drainage Area Area (ACRE)	Check
CB 404	0.025	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.75	8.00	22374	1742	0.04	GOOD
CB 405	0.025	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.75	8.00	67122	47045	1.08	GOOD
CB 406	0.025	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.75	8.00	22374	3920	0.09	GOOD
CB 407	0.025	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.75	8.00	22374	9583	0.22	GOOD
CB 407A	0.025	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.75	8.00	22374	6970	0.16	GOOD
CB 408	0.025	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.75	8.00	22374	4792	0.11	GOOD
CB 419	0.025	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.75	8.00	22374	5663	0.13	GOOD
CB 409	0.025	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.75	8.00	22374	3049	0.07	GOOD
CB 422C	0.033	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.01	8.00	25706	7405	0.17	GOOD
CB 422D	0.033	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.01	8.00	25706	10454	0.24	GOOD
CB 143A	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	8712	0.20	GOOD
CB 143	0.005	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.78	8.00	20012	18295	0.42	GOOD
CB 142	0.005	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.78	8.00	30018	21344	0.49	GOOD
CB 144	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	28301	21344	0.49	GOOD
CB 144A	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	10890	0.25	GOOD
CB 145	0.005	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.78	8.00	10006	1307	0.03	GOOD
CB 145A	0.005	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.78	8.00	10006	871	0.02	GOOD
CB 145D	0.025	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.75	8.00	22374	871	0.02	GOOD
CB 146B	0.025	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.75	8.00	22374	3049	0.07	GOOD
CB 135	0.050	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.47	8.00	31642	8712	0.20	GOOD
CB 134	0.025	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.75	8.00	22374	8276	0.19	GOOD
CB 134A	0.025	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.75	8.00	22374	9148	0.21	GOOD
CB 132	0.015	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.35	8.00	17331	3049	0.07	GOOD

*YI

*dbl

*dbl

*dbl

CB 131	0.015	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.35	8.00	17331	13504	0.31	GOOD	
CB 131A	0.015	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.35	8.00	17331	10890	0.25	GOOD	
CB 127	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	2178	0.05	GOOD	
CB 128	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	3920	0.09	GOOD	
CB 116	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	11326	0.26	GOOD	
CB 115	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	28301	16553	0.38	GOOD	*dbl
CB 115A	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	28301	18731	0.43	GOOD	*dbl
CB 114	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	9148	0.21	GOOD	
CB 101	0.005	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.78	8.00	20012	13068	0.30	GOOD	*dbl
CB 102	0.015	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.35	8.00	17331	871	0.02	GOOD	
CB 106	0.015	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.35	8.00	17331	2178	0.05	GOOD	
CB 228	0.007	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.92	8.00	11839	3485	0.08	GOOD	
CB 227	0.013	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.26	8.00	16134	3049	0.07	GOOD	
CB 227A	0.013	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.26	8.00	16134	4792	0.11	GOOD	
CB 207	0.020	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.56	8.00	20012	6098	0.14	GOOD	
CB 208	0.020	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.56	8.00	20012	2614	0.06	GOOD	
CB 206	0.020	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.56	8.00	20012	1307	0.03	GOOD	
CB 203	0.020	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.56	8.00	20012	3920	0.09	GOOD	
CB 203A	0.020	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.56	8.00	20012	15682	0.36	GOOD	
CB 202	0.005	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.78	8.00	20012	10019	0.23	GOOD	
CB 202A	0.005	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.78	8.00	40024	30056	0.69	GOOD	*dbl *YI
CB 223	0.028	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.85	8.00	23678	10019	0.23	GOOD	
CB 223A	0.028	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.85	8.00	23678	17860	0.41	GOOD	
CB 541	0.034	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.04	8.00	26092	20038	0.46	GOOD	
CB 541A	0.034	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.04	8.00	26092	18731	0.43	GOOD	
CB 539	0.048	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.42	8.00	31002	26572	0.61	GOOD	
CB 539A	0.048	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.42	8.00	31002	27007	0.62	GOOD	

E. O. P. - Edge of Pavement
C&G - Curb and gutter
WP - Wetted Perimeter (ft.)

A - Area (s. f.)
V - Velocity (fps)

Note: Program uses Manning's formula for open channel flow.

Gutter Spread by Limited Area

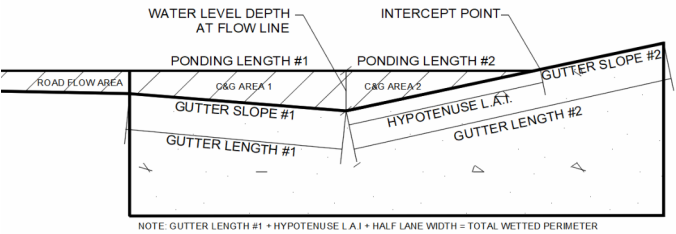
Determine maximum area to on-grade inlet using input factors as shown below.

Project: Merritt Road: Road C (29' B-B) Date: 4/14/25

Inlet No. 2 Allowable Spread=Pvm't + Gutter Width: 7 ft
Compute "C" Factor: One Half R/W Width: 25 One Half B/B Width: 14.5 S/W Width: 5
Paved Area "C": 0.95 Grass Area "C": 0.2
0.74 0.04

Gutter Width= 1.00 ft.
Total Allow. Spread = 7.00 ft. Manning's n = 0.015 Weir C = 3.33
Inlet Type 1 Inlet Types 1 NCDOT Std. 840.03
Composite Rational C = 0.79 I (2yr.) = 4.00 iph

Roadway X-slope = 0.02 Varies Manual Input



Valley Curb and Gutter Profile (see diagram above)

Gutter Length #1 (ft) 1
Gutter Length #2 (ft) 1.5
Gutter Slope #1 (ft/ft) 0.083
Gutter Slope #2 (ft/ft) 0.222
Ponding Length #1 (ft) 1.00
Ponding Length #2 (ft) 0.92
Water Level Depth at Flow Line (ft) 0.20
Hypotenuse Length at Intercept (ft) 0.94

Max Flow for Limited Spread																	
C.B. NUMBER	Long. Slope	ROAD X-SLOPE	E. O. P. Depth	Weir Depth	C&G Flow Area 1	C&G Flow Area 2	C&G WP	Road Flow Area	Road WP	Total Flow A	Total WP	MAX Q FOR SPREAD, CFS	On-Grade Spread	Max Drainage Area (S.F.)	Actual Drainage Area Area (S.F.)	Actual Drainage Area Area (ACRE)	Check
CB 429	0.045	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.34	8.00	30018	9148	0.21	GOOD
CB 429A	0.045	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.34	8.00	30018	7841	0.18	GOOD
CB 428	0.030	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.91	8.00	24510	8276	0.19	GOOD
CB 403	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	6534	0.15	GOOD
CB 402	0.005	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.78	8.00	20012	15246	0.35	GOOD
CB 401	0.005	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.78	8.00	20012	16117	0.37	GOOD
CB 430	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	436	0.01	GOOD
CB 431	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	871	0.02	GOOD
CB 436	0.020	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.56	8.00	20012	9148	0.21	GOOD
CB 436A	0.020	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.56	8.00	20012	13504	0.31	GOOD
CB 510	0.088	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	3.28	8.00	41977	14810	0.34	GOOD
CB 510A	0.088	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	3.28	8.00	41977	8712	0.20	GOOD
CB 509	0.070	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.92	8.00	37439	9148	0.21	GOOD
CB 509A	0.070	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.92	8.00	37439	4792	0.11	GOOD
CB 508	0.023	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.66	8.00	21226	6098	0.14	GOOD
CB 507	0.008	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.99	8.00	12657	6098	0.14	GOOD
CB 507A	0.008	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.99	8.00	12657	7405	0.17	GOOD
CB 506	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	5227	0.12	GOOD
CB 515	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	6534	0.15	GOOD
CB 505	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	3920	0.09	GOOD
CB 504	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	2614	0.06	GOOD
CB 504A	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	28301	21344	0.49	GOOD
CB 503	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	12197	0.28	GOOD

*dbl

*dbl

*dbl

Gutter Spread by Limited Area

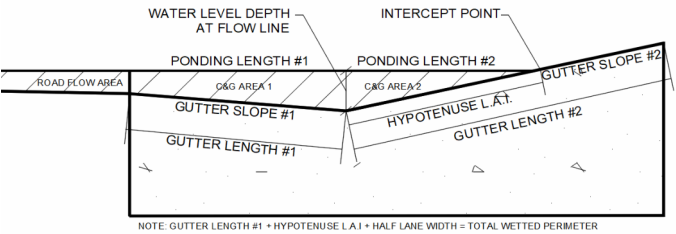
Determine maximum area to on-grade inlet using input factors as shown below.

Project: Merritt Road: Road F (29' B-B) Date: 4/14/25

Inlet No. 2 Allowable Spread=Pvm't + Gutter Width: 7 ft
Compute "C" Factor: One Half R/W Width: 25 One Half B/B Width: 14.5 S/W Width: 5
Paved Area "C": 0.95 Grass Area "C": 0.2
0.74 0.04

Gutter Width= 1.00 ft.
Total Allow. Spread = 7.00 ft. Manning's n = 0.015 Weir C = 3.33
Inlet Type 1 Inlet Types 1 NCDOT Std. 840.03
Composite Rational C = 0.79 I (2yr.) = 4.00 iph

Roadway X-slope = 0.02 Varies Manual Input



Valley Curb and Gutter Profile (see diagram above)

Gutter Length #1 (ft) 1
Gutter Length #2 (ft) 1.5
Gutter Slope #1 (ft/ft) 0.083
Gutter Slope #2 (ft/ft) 0.222
Ponding Length #1 (ft) 1.00
Ponding Length #2 (ft) 0.92
Water Level Depth at Flow Line (ft) 0.20
Hypotenuse Length at Intercept (ft) 0.94

Max Flow for Limited Spread																	
C.B. NUMBER	Long. Slope	ROAD X-SLOPE	E. O. P. Depth	Weir Depth	C&G Flow Area 1	C&G Flow Area 2	C&G WP	Road Flow Area	Road WP	Total Flow A	Total WP	MAX Q FOR SPREAD, CFS	On-Grade Spread	Max Drainage Area (S.F.)	Actual Drainage Area Area (S.F.)	Actual Drainage Area Area (ACRE)	Check
CB 533	0.020	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.56	8.00	20012	7841	0.18	GOOD
CB 153	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	3049	0.07	GOOD
CB 154	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	28301	16988	0.39	GOOD

*dbl

E. O. P. - Edge of Pavement A - Area (s. f.) Note: Program uses Manning's formula for open channel flow.
C&G - Curb and gutter V - Velocity (fps)
WP - Wetted Perimeter (ft.)

Gutter Spread by Limited Area

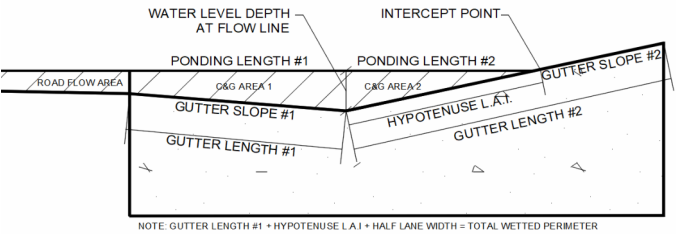
Determine maximum area to on-grade inlet using input factors as shown below.

Project: Merritt Road: Road G (29' B-B) Date: 4/14/25

Inlet No. 2 Allowable Spread=Pvm't + Gutter Width: 7 ft
Compute "C" Factor: One Half R/W Width: 25 One Half B/B Width: 14.5 S/W Width: 5
Paved Area "C": 0.95 Grass Area "C": 0.2
0.74 0.04

Gutter Width= 1.00 ft.
Total Allow. Spread = 7.00 ft. Manning's n = 0.015 Weir C = 3.33
Inlet Type 1 Inlet Types 1 NCDOT Std. 840.03
Composite Rational C = 0.79 I (2yr.) = 4.00 iph

Roadway X-slope = 0.02 Varies Manual Input



Valley Curb and Gutter Profile (see diagram above)

Gutter Length #1 (ft) 1
Gutter Length #2 (ft) 1.5
Gutter Slope #1 (ft/ft) 0.083
Gutter Slope #2 (ft/ft) 0.222
Ponding Length #1 (ft) 1.00
Ponding Length #2 (ft) 0.92
Water Level Depth at Flow Line (ft) 0.20
Hypotenuse Length at Intercept (ft) 0.94

Max Flow for Limited Spread																	
C.B. NUMBER	Long. Slope	ROAD X-SLOPE	E. O. P. Depth	Weir Depth	C&G Flow Area 1	C&G Flow Area 2	C&G WP	Road Flow Area	Road WP	Total Flow A	Total WP	MAX Q FOR SPREAD, CFS	On-Grade Spread	Max Drainage Area (S.F.)	Actual Drainage Area Area (S.F.)	Actual Drainage Area Area (ACRE)	Check
CB 528	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	12632	0.29	GOOD
CB 528A	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	70753	60984	1.40	GOOD
CB 529	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	42452	28750	0.66	GOOD
CB 530	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	28301	15246	0.35	GOOD
CB 531	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	13939	0.32	GOOD
CB 531A	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	6534	0.15	GOOD
CB 532	0.009	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.05	8.00	13424	10019	0.23	GOOD
CB 532A	0.009	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.05	8.00	13424	6534	0.15	GOOD
CB 217	0.013	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.26	8.00	32268	25700	0.59	GOOD
CB 217A	0.013	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.26	8.00	16134	15246	0.35	GOOD

E. O. P. - Edge of Pavement A - Area (s. f.) Note: Program uses Manning's formula for open channel flow.
C&G - Curb and gutter V - Velocity (fps)
WP - Wetted Perimeter (ft.)

Gutter Spread by Limited Area

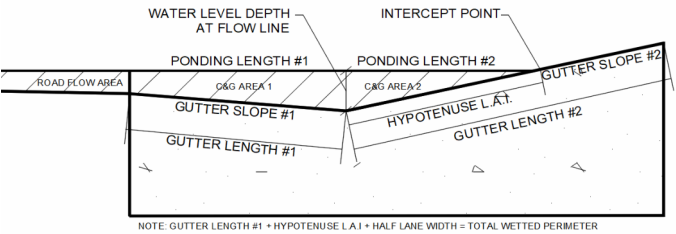
Determine maximum area to on-grade inlet using input factors as shown below.

Project: Merritt Road: Road H (29' B-B) Date: 4/14/25

Inlet No. 2 Allowable Spread=Pvm't + Gutter Width: 7 ft
Compute "C" Factor: One Half R/W Width: 25 One Half B/B Width: 14.5 S/W Width: 5
Paved Area "C": 0.95 Grass Area "C": 0.2
0.74 0.04

Gutter Width= 1.00 ft.
Total Allow. Spread = 7.00 ft. Manning's n = 0.015 Weir C = 3.33
Inlet Type 1 Inlet Types 1 NCDOT Std. 840.03
Composite Rational C = 0.79 I (2yr.) = 4.00 iph

Roadway X-slope = 0.02 Varies Manual Input



Valley Curb and Gutter Profile (see diagram above)

Gutter Length #1 (ft) 1
Gutter Length #2 (ft) 1.5
Gutter Slope #1 (ft/ft) 0.083
Gutter Slope #2 (ft/ft) 0.222
Ponding Length #1 (ft) 1.00
Ponding Length #2 (ft) 0.92
Water Level Depth at Flow Line (ft) 0.20
Hypotenuse Length at Intercept (ft) 0.94

Max Flow for Limited Spread																	
C.B. NUMBER	Long. Slope	ROAD X-SLOPE	E. O. P. Depth	Weir Depth	C&G Flow Area 1	C&G Flow Area 2	C&G WP	Road Flow Area	Road WP	Total Flow A	Total WP	MAX Q FOR SPREAD, CFS	On-Grade Spread	Max Drainage Area (S.F.)	Actual Drainage Area Area (S.F.)	Actual Drainage Area Area (ACRE)	Check
CB 535	0.016	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.40	8.00	17899	16988	0.39	GOOD
CB 535A	0.016	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.40	8.00	35798	20473	0.47	GOOD
CB 536	0.016	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.40	8.00	35798	20038	0.46	GOOD
CB 536A	0.016	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.40	8.00	35798	30492	0.70	GOOD
CB 537	0.042	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.25	8.00	57654	32670	0.75	GOOD
CB 537A	0.042	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.25	8.00	57654	29185	0.67	GOOD
CB 212	0.015	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.35	8.00	34662	33541	0.77	GOOD
CB 213	0.015	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.35	8.00	34662	26572	0.61	GOOD

E. O. P. - Edge of Pavement A - Area (s. f.) Note: Program uses Manning's formula for open channel flow.
C&G - Curb and gutter V - Velocity (fps)
WP - Wetted Perimeter (ft.)

Gutter Spread by Limited Area

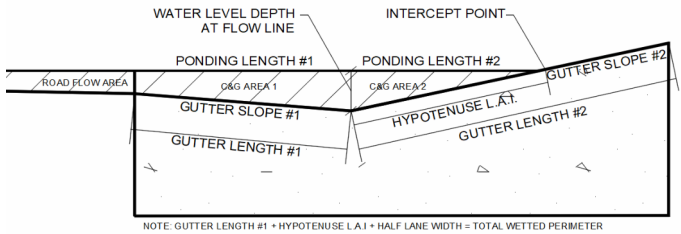
Determine maximum area to on-grade inlet using input factors as shown below.

Project: Merritt Road: Road I (29' B-B) Date: 4/14/25

Inlet No. 2 Allowable Spread=Pvm't + Gutter Width: 7 ft
Compute "C" Factor: One Half R/W Width: 25 One Half B/B Width: 14.5 S/W Width: 5
Paved Area "C": 0.95 Grass Area "C": 0.2
0.74 0.04

Gutter Width= 1.00 ft.
Total Allow. Spread = 7.00 ft. Manning's n = 0.015 Weir C = 3.33
Inlet Type 1 Inlet Types 1 NCDOT Std. 840.03
Composite Rational C = 0.79 I (2yr.) = 4.00 iph

Roadway X-slope = 0.02 Varies Manual Input



Valley Curb and Gutter Profile (see diagram above)

Gutter Length #1 (ft) 1
Gutter Length #2 (ft) 1.5
Gutter Slope #1 (ft/ft) 0.083
Gutter Slope #2 (ft/ft) 0.222
Ponding Length #1 (ft) 1.00
Ponding Length #2 (ft) 0.92
Water Level Depth at Flow Line (ft) 0.20
Hypotenuse Length at Intercept (ft) 0.94

Max Flow for Limited Spread																	
C.B. NUMBER	Long. Slope	ROAD X-SLOPE	E. O. P. Depth	Weir Depth	C&G Flow Area 1	C&G Flow Area 2	C&G WP	Road Flow Area	Road WP	Total Flow A	Total WP	MAX Q FOR SPREAD, CFS	On-Grade Spread	Max Drainage Area (S.F.)	Actual Drainage Area Area (S.F.)	Actual Drainage Area Area (ACRE)	Check
CB 511	0.085	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	3.22	8.00	41256	2178	0.05	GOOD
CB 511A	0.085	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	3.22	8.00	41256	31799	0.73	GOOD
CB 512	0.085	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	3.22	8.00	41256	1742	0.04	GOOD
CB 513	0.085	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	3.22	8.00	41256	2614	0.06	GOOD
CB 514	0.085	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	3.22	8.00	41256	9148	0.21	GOOD
CB 514A	0.085	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	3.22	8.00	82511	49658	1.14	GOOD
CB 225	0.028	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.85	8.00	23678	5227	0.12	GOOD
CB 224	0.026	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.78	8.00	22817	5227	0.12	GOOD
CB 224A	0.026	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.78	8.00	22817	10454	0.24	GOOD

E. O. P. - Edge of Pavement A - Area (s. f.) Note: Program uses Manning's formula for open channel flow.
C&G - Curb and gutter V - Velocity (fps)
WP - Wetted Perimeter (ft.)

Gutter Spread by Limited Area

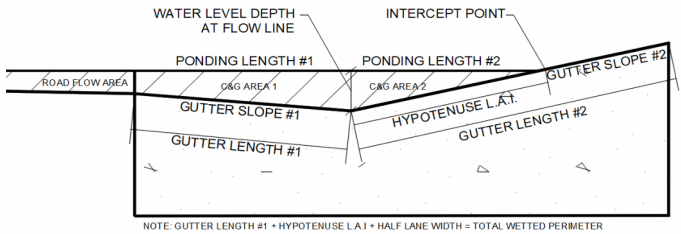
Determine maximum area to on-grade inlet using input factors as shown below.

Project: Merritt Road: Road J (29' B-B) Date: 4/14/25

Inlet No. 2 Allowable Spread=Pvm't + Gutter Width: 7 ft
Compute "C" Factor: One Half R/W Width: 25 One Half B/B Width: 14.5 S/W Width: 5
Paved Area "C": 0.95 Grass Area "C": 0.2
0.74 0.04

Gutter Width= 1.00 ft.
Total Allow. Spread = 7.00 ft. Manning's n = 0.015 Weir C = 3.33
Inlet Type 1 Inlet Types 1 NCDOT Std. 840.03
Composite Rational C = 0.79 I (2yr.) = 4.00 iph

Roadway X-slope = 0.02 Varies Manual Input



Valley Curb and Gutter Profile (see diagram above)

Gutter Length #1 (ft) 1
Gutter Length #2 (ft) 1.5
Gutter Slope #1 (ft/ft) 0.083
Gutter Slope #2 (ft/ft) 0.222
Ponding Length #1 (ft) 1.00
Ponding Length #2 (ft) 0.92
Water Level Depth at Flow Line (ft) 0.20
Hypotenuse Length at Intercept (ft) 0.94

Max Flow for Limited Spread																	
C.B. NUMBER	Long. Slope	ROAD X-SLOPE	E. O. P. Depth	Weir Depth	C&G Flow Area 1	C&G Flow Area 2	C&G WP	Road Flow Area	Road WP	Total Flow A	Total WP	MAX Q FOR SPREAD, CFS	On-Grade Spread	Max Drainage Area (S.F.)	Actual Drainage Area Area (S.F.)	Actual Drainage Area Area (ACRE)	Check
CB 625	0.030	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.91	8.00	24510	10890	0.25	GOOD
CB 625A	0.030	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.91	8.00	24510	15246	0.35	GOOD
CB 626	0.005	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.78	8.00	10006	1742	0.04	GOOD
CB 704	0.070	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.92	8.00	37439	11326	0.26	GOOD
CB 703	0.070	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.92	8.00	37439	7841	0.18	GOOD
CB 703A	0.070	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.92	8.00	37439	17860	0.41	GOOD
CB 702A	0.015	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.35	8.00	17331	13504	0.31	GOOD

E. O. P. - Edge of Pavement A - Area (s. f.) Note: Program uses Manning's formula for open channel flow.
C&G - Curb and gutter V - Velocity (fps)
WP - Wetted Perimeter (ft.)

Gutter Spread by Limited Area

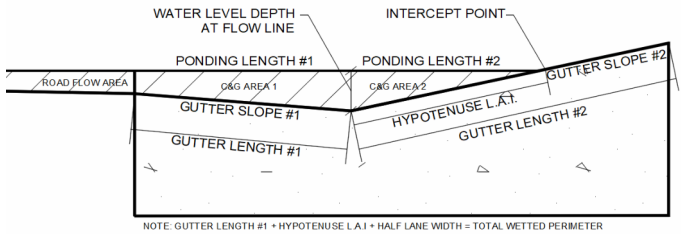
Determine maximum area to on-grade inlet using input factors as shown below.

Project: Merritt Road: Road K (29' B-B) Date: 4/14/25

Inlet No. 2 Allowable Spread=Pvm't + Gutter Width: 7 ft
Compute "C" Factor: One Half R/W Width: 25 One Half B/B Width: 14.5 S/W Width: 5
Paved Area "C": 0.95 Grass Area "C": 0.2
0.74 0.04

Gutter Width= 1.00 ft.
Total Allow. Spread = 7.00 ft. Manning's n = 0.015 Weir C = 3.33
Inlet Type 1 Inlet Types 1 NCDOT Std. 840.03
Composite Rational C = 0.79 I (2yr.) = 4.00 iph

Roadway X-slope = 0.02 Varies Manual Input



Valley Curb and Gutter Profile (see diagram above)

Gutter Length #1 (ft) 1
Gutter Length #2 (ft) 1.5
Gutter Slope #1 (ft/ft) 0.083
Gutter Slope #2 (ft/ft) 0.222
Ponding Length #1 (ft) 1.00
Ponding Length #2 (ft) 0.92
Water Level Depth at Flow Line (ft) 0.20
Hypotenuse Length at Intercept (ft) 0.94

Max Flow for Limited Spread																	
C.B. NUMBER	Long. Slope	ROAD X-SLOPE	E. O. P. Depth	Weir Depth	C&G Flow Area 1	C&G Flow Area 2	C&G WP	Road Flow Area	Road WP	Total Flow A	Total WP	MAX Q FOR SPREAD, CFS	On-Grade Spread	Max Drainage Area (S.F.)	Actual Drainage Area Area (S.F.)	Actual Drainage Area Area (ACRE)	Check
CB 626	0.016	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.40	8.00	17899	1742	0.04	GOOD
CB 628	0.016	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.40	8.00	17899	5227	0.12	GOOD
CB 628A	0.016	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.40	8.00	17899	3049	0.07	GOOD

E. O. P. - Edge of Pavement A - Area (s. f.) Note: Program uses Manning's formula for open channel flow.
C&G - Curb and gutter V - Velocity (fps)
WP - Wetted Perimeter (ft.)

Gutter Spread by Limited Area

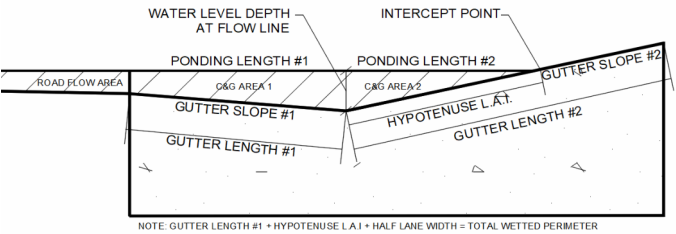
Determine maximum area to on-grade inlet using input factors as shown below.

Project: Merritt Road: Road L (29' B-B) Date: 4/14/25

Inlet No. 2 Allowable Spread=Pvm't + Gutter Width: 7 ft
Compute "C" Factor: One Half R/W Width: 25 One Half B/B Width: 14.5 S/W Width: 5
Paved Area "C": 0.95 Grass Area "C": 0.2
0.74 0.04

Gutter Width= 1.00 ft.
Total Allow. Spread = 7.00 ft. Manning's n = 0.015 Weir C = 3.33
Inlet Type 1 Inlet Types 1 NCDOT Std. 840.03
Composite Rational C = 0.79 I (2yr.) = 4.00 iph

Roadway X-slope = 0.02 Varies Manual Input



Valley Curb and Gutter Profile (see diagram above)

Gutter Length #1 (ft) 1
Gutter Length #2 (ft) 1.5
Gutter Slope #1 (ft/ft) 0.083
Gutter Slope #2 (ft/ft) 0.222
Ponding Length #1 (ft) 1.00
Ponding Length #2 (ft) 0.92
Water Level Depth at Flow Line (ft) 0.20
Hypotenuse Length at Intercept (ft) 0.94

Max Flow for Limited Spread																	
C.B. NUMBER	Long. Slope	ROAD X-SLOPE	E. O. P. Depth	Weir Depth	C&G Flow Area 1	C&G Flow Area 2	C&G WP	Road Flow Area	Road WP	Total Flow A	Total WP	MAX Q FOR SPREAD, CFS	On-Grade Spread	Max Drainage Area (S.F.)	Actual Drainage Area Area (S.F.)	Actual Drainage Area Area (ACRE)	Check
CB 615	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	5227	0.12	GOOD
CB 616	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	28301	23522	0.54	GOOD
CB 615A	0.015	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.35	8.00	17331	10019	0.23	GOOD
CB 615B	0.015	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.35	8.00	34662	30492	0.70	GOOD
CB 605	0.075	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	3.03	8.00	38753	3920	0.09	GOOD
CB 605A	0.075	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	3.03	8.00	38753	22216	0.51	GOOD
CB 604	0.075	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	3.03	8.00	38753	4356	0.10	GOOD
CB 604A	0.075	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	3.03	8.00	38753	15246	0.35	GOOD
CB 603	0.045	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	2.34	8.00	60036	39640	0.91	GOOD

E. O. P. - Edge of Pavement A - Area (s. f.) Note: Program uses Manning's formula for open channel flow.
C&G - Curb and gutter V - Velocity (fps)
WP - Wetted Perimeter (ft.)

Gutter Spread by Limited Area

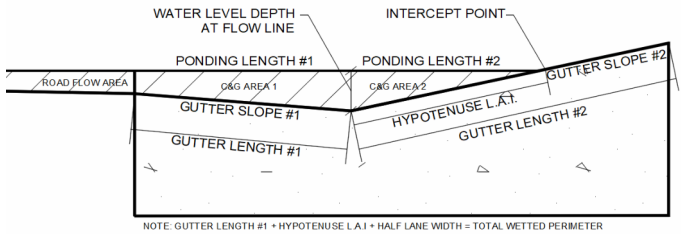
Determine maximum area to on-grade inlet using input factors as shown below.

Project: Merritt Road: Road M (29' B-B) Date: 4/14/25

Inlet No. 2 Allowable Spread=Pvm't + Gutter Width: 7 ft
Compute "C" Factor: One Half R/W Width: 25 One Half B/B Width: 14.5 S/W Width: 5
Paved Area "C": 0.95 Grass Area "C": 0.2
0.74 0.04

Gutter Width= 1.00 ft.
Total Allow. Spread = 7.00 ft. Manning's n = 0.015 Weir C = 3.33
Inlet Type 1 Inlet Types 1 NCDOT Std. 840.03
Composite Rational C = 0.79 I (2yr.) = 4.00 iph

Roadway X-slope = 0.02 Varies Manual Input



Valley Curb and Gutter Profile (see diagram above)

Gutter Length #1 (ft) 1
Gutter Length #2 (ft) 1.5
Gutter Slope #1 (ft/ft) 0.083
Gutter Slope #2 (ft/ft) 0.222
Ponding Length #1 (ft) 1.00
Ponding Length #2 (ft) 0.92
Water Level Depth at Flow Line (ft) 0.20
Hypotenuse Length at Intercept (ft) 0.94

Max Flow for Limited Spread																	
C.B. NUMBER	Long. Slope	ROAD X-SLOPE	E. O. P. Depth	Weir Depth	C&G Flow Area 1	C&G Flow Area 2	C&G WP	Road Flow Area	Road WP	Total Flow A	Total WP	MAX Q FOR SPREAD, CFS	On-Grade Spread	Max Drainage Area (S.F.)	Actual Drainage Area Area (S.F.)	Actual Drainage Area Area (ACRE)	Check
CB 420	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	42452	36155	0.83	GOOD *dbl
CB 421	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	42452	33106	0.76	GOOD *dbl
CB 425	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	1307	0.03	GOOD
CB 426	0.010	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.10	8.00	14151	436	0.01	GOOD
CB 427	0.030	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	1.91	8.00	73529	26572	0.61	GOOD *dbl

E. O. P. - Edge of Pavement A - Area (s. f.) Note: Program uses Manning's formula for open channel flow.
C&G - Curb and gutter V - Velocity (fps)
WP - Wetted Perimeter (ft.)

Gutter Spread by Limited Area

Determine maximum area to on-grade inlet using input factors as shown below.

Project: Merritt Road: Road N (29' B-B) Date: 4/14/25

Inlet No.2

Allowable Spread=Pvm't + Gutter Width:7 ft

Compute "C" Factor:

One Half R/W Width:25

One Half B/B Width:14.5

S/W Width:5

Paved Area "C":0.95

Grass Area "C":0.2

0.74

0.04

Gutter Width=1.00 ft.

Total Allow. Spread =7.00 ft.

Manning's n =0.015

Weir C =3.33

Inlet Type1

Inlet Types1

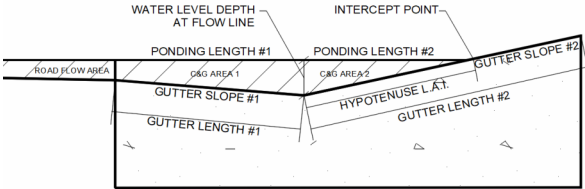
NCDOT Std. 840.03

Composite Rational C =0.79

I (2yr.) =4.00 iph

Roadway X-slope =0.02

Varies Manual Input



Valley Curb and Gutter Profile (see diagram above)

Gutter Length #1 (ft)	1
Gutter Length #2 (ft)	1.5
Gutter Slope #1 (ft/ft)	0.083
Gutter Slope #2 (ft/ft)	0.222
Ponding Length #1 (ft)	1.00
Ponding Length #2 (ft)	0.92
Water Level Depth at Flow Line (ft)	0.20
Hypotenuse Length at Intercept (ft)	0.94

Max Flow for Limited Spread																	
C.B. NUMBER	Long. Slope	ROAD X-SLOPE	E. O. P. Depth	Weir Depth	C&G Flow Area 1	C&G Flow Area 2	C&G WP	Road Flow Area	Road WP	Total Flow A	Total WP	MAX Q FOR SPREAD, CFS	On-Grade Spread	Max Drainage Area (S.F.)	Actual Drainage Area (S.F.)	Actual Drainage Area (ACRE)	Check
CB 615C	0.008	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.99	8.00	25313	13504	0.31	GOOD
CB 615D	0.008	0.020	0.12	0.12	0.16	0.09	1.94	0.36	6.00	0.61	7.94	0.99	8.00	25313	13939	0.32	GOOD

E. O. P. - Edge of Pavement

C&G - Curb and gutter

WP - Wetted Perimeter (ft.)

A - Area (s. f.)

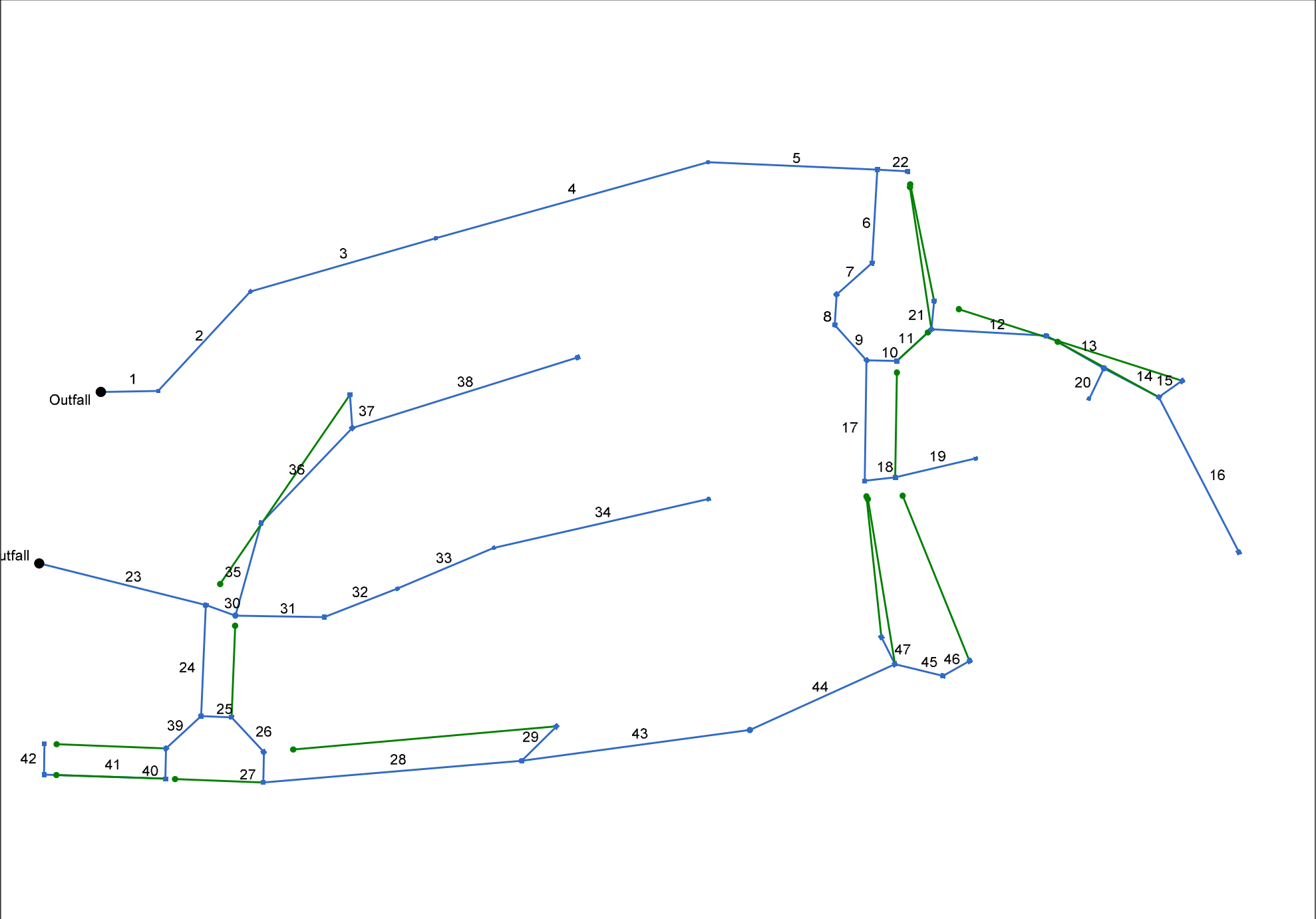
V - Velocity (fps)

Note: Program uses Manning's formula for open channel flow.

*dbl

*dbl

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan SCM 1A 10-YEAR



Project File: SCM 1A Storm Network.stm	Number of lines: 47	Date: 4/11/2025
--	---------------------	-----------------