STORMWATER MANAGEMENT REPORT

FOR
NIELSEN FORD DEALERSHIP & NIELSEN CHRYSLER, DODGE, JEEP AND RAM

TAX BLOCK 10201, LOTS 5, 9, 11 & 12
MORRIS TOWNSHIP
MORRIS COUNTY
NEW JERSEY

DATED: July 3, 2025

PREPARED BY:
DYKSTRA ASSOCIATES, PC
11 LAWRENCE ROAD
NEWTON, NEW JERSEY 07860

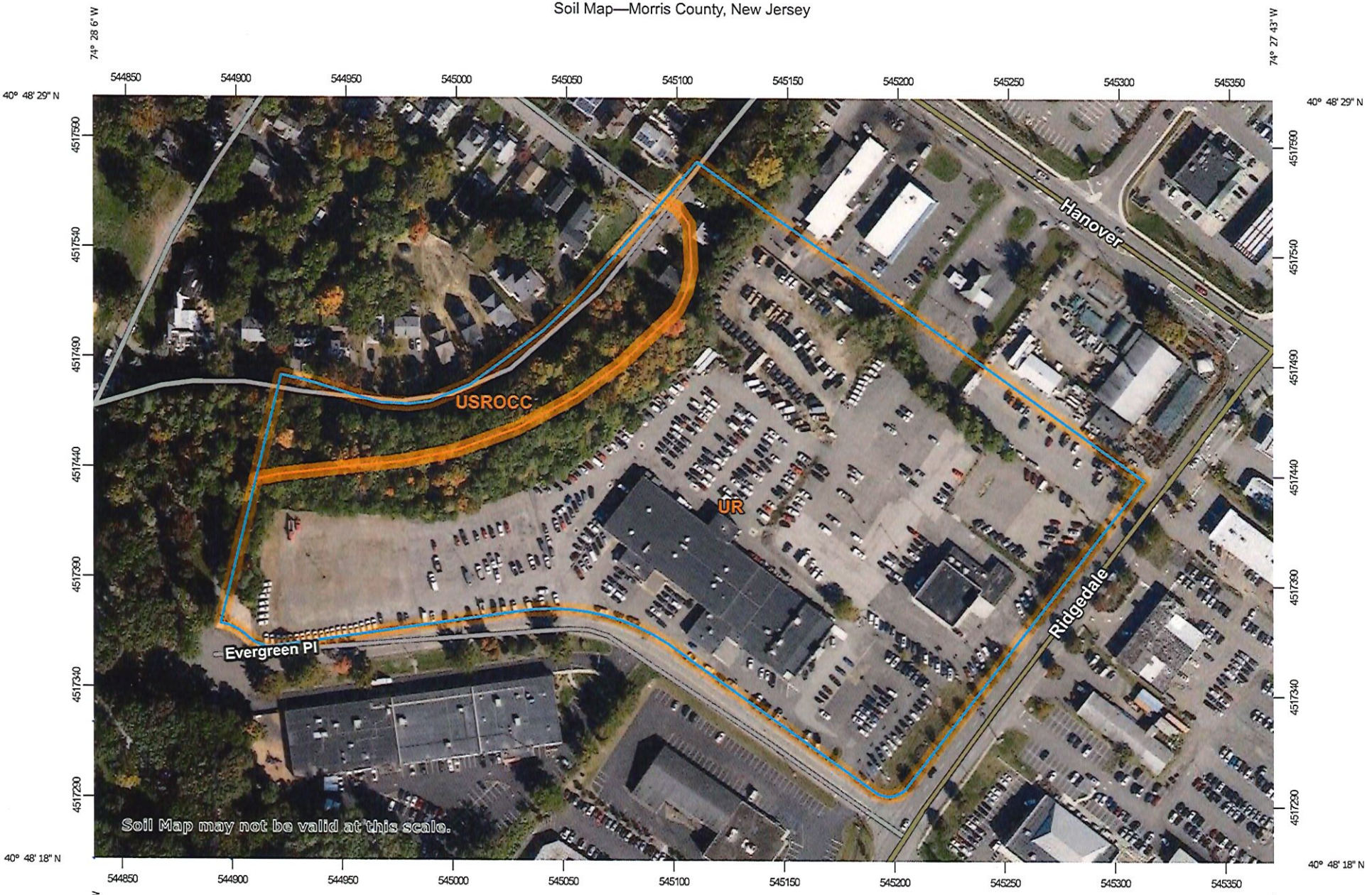
OWEN DYKSTRA,
P.E. N.J. LIC. No.: 39920

TABLE OF CONTENTS

NEW JERSEY 24 HOUR RAINFALL FREQUENCY DATA

Rainfall amounts in Inches

County	1 year	2 year	5 year	10 year	25 year	50 year	100 year
Atlantic	2.72	3.31	4.30	5.16	6.46	7.61	8.90
Bergen	2.75	3.34	4.27	5.07	6.28	7.32	8.47
Burlington	2.77	3.36	4.34	5.18	6.45	7.56	8.81
Camden	2.73	3.31	4.25	5.06	6.28	7.34	8.52
Cape May	2.67	3.25	4.22	5.07	6.34	7.47	8.73
Cumberland	2.69	3.27	4.25	5.09	6.37	7.49	8.76
Essex	2.85	3.44	4.40	5.22	6.44	7.49	8.66
Gloucester	2.71	3.29	4.24	5.05	6.29	7.36	8.55
Hudson	2.73	3.31	4.23	5.02	6.19	7.20	8.31
Hunterdon	2.80	3.38	4.26	5.00	6.09	7.02	8.03
Mercer	2.74	3.31	4.23	5.01	6.19	7.20	8.33
Middlesex	2.76	3.35	4.30	5.12	6.36	7.43	8.63
Monmouth	2.79	3.38	4.38	5.23	6.53	7.66	8.94
Morris	2.94	3.54	4.47	5.24	6.37	7.32	8.35
Ocean	2.81	3.42	4.45	5.33	6.68	7.87	9.20
Passaic	2.87	3.47	4.42	5.23	6.43	7.47	8.62
Salem	2.69	3.26	4.20	5.00	6.22	7.28	8.45
Somerset	2.76	3.34	4.25	5.01	6.15	7.13	8.21
Sussex	2.68	3.22	4.02	4.70	5.72	6.60	7.58
Union	2.80	3.39	4.35	5.17	6.42	7.49	8.69
Warren	2.78	3.34	4.18	4.89	5.93	6.83	7.82



Map Scale: 1:2,440 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
UR	Urban land	13.1	88.0%
USROCC	Urban land-Rockaway complex, 3 to 15 percent slopes	1.8	12.0%
Totals for Area of Interest		**14.9**	**100.0%**

Dykstra Associates, PC

INTRODUCTION

The site is a 4 lot parcel located at the corner of Ridgedale Avenue and Evergreen Place in Morris Township, NJ. There are two car dealership buildings on the parcels (2 parcels each) along with paved and gravel parking areas, walkways, lighting, signage, drainage infrastructure and sanitary infrastructure. The proposed project involves improvements to the parking areas, walkways, stormwater infrastructure and sanitary infrastructure.

This report is prepared to address Chapter 57 Part 12 Article XXXVII: Stormwater Control for Major Development in the Morris Township Code.

APPLICABILITY

The proposed redevelopment is subject to the Stormwater Control Ordinance as it is defined as a Major Development disturbing more than 1 acre.

GENERAL STANDARDS

The project will require conformance with the water quality, water quantity and groundwater recharge requirements of the Stormwater Ordinance.

To demonstrate compliance with the requirements a model of the pre-developed and post-developed conditions has been prepared. The associated hydrographs are incorporated in Appendix A of this report.

PRE-DEVELOPED CONDITION:

The property has been divided into four drainage basins for analysis. They are as follows: Basin S is 9.37 acres and drains to the existing storm sewer systems in Ridgedale Avenue and Evergreen Place which combine flows and direct them to the south, Basin NE is 1.81 acres and drains to Ridgedale Avenue in a northeasterly direction, Basin Lot 8 is 0.18 acres and drains to adjacent property known (Lot 8), Basin N is 1.50 acres and drains to a depression at the northern end of the property. Drainage basins are comprised of Type UR (Urban land) and USROCC (Urban land-Rockaway complex, 3 to 15 percent slopes). A hydrologic soil group of D is assigned for modeling purposes. Seepage pits on site have been ignored as they are insignificant for the return periods being analyzed.

The pre-developed drainage basin has been modeled to determine the pre-developed discharge rates as follows:

Pre-Developed Basin S:

Pervious Area: (Hydrograph 1)
TC = 20.4 Minutes
2.28 Acres Pervious (Composite CN = 78)

Impervious Area: (Hydrograph 2)
TC = 4.9 Minutes
7.09 Acres Impervious (CN = 98)

Total Pre-developed Basin S Peak Discharge (Hydrograph 3):
Q2 = 27.2 CFS
Q10 = 41.4 CFS
Q100 = 67.5 CFS

Pre-Developed Basin NE:

Pervious Area: (Hydrograph 4)
TC = 4.7 Minutes
0.26 Acres Open Space (CN = 80)

Impervious Area: (Hydrograph 5)
TC = 2.2 Minutes
1.55 Acres Impervious (CN = 98)

Total Pre-developed Basin NE Peak Discharge (Hydrograph 6):
Q2 = 5.9 CFS
Q10 = 9.0 CFS
Q100 = 14.6 CFS

Pre-Developed Basin Lot 8:

Pervious Area: (Hydrograph 7)
TC = 2.0 Minutes (program minimum used-calculated value was less)
0.08 Acres Open Space (CN = 80)

Impervious Area: (Hydrograph 8)
TC = 2.0 Minutes (program minimum used-calculated value was less)
0.10 Acres Impervious (CN = 98)

Total Pre-developed Basin Lot 8 Peak Discharge (Hydrograph 9):

Q2 = 0.5 CFS
Q10 = 0.8 CFS
Q100 = 1.4 CFS

Pre-Developed Basin N:

Pervious Area: (Hydrograph 10)

TC = 26.5 Minutes
0.63 Acres Pervious (Composite CN = 78)

Impervious Area: (Hydrograph 11)

TC = 8.7 Minutes
0.87 Acres Impervious (CN = 98)

Total Pre-developed Basin N Peak Discharge (Hydrograph 9):

Q2 = 3.1 CFS
Q10 = 4.8 CFS
Q100 = 8.0 CFS

POST-DEVELOPED CONDITION:

The property has been divided into four drainage basins for analysis. They are as follows: Basin S is 9.76 acres and drains to the existing storm sewer systems in Ridgedale Avenue and Evergreen Place which combine flows and direct them to the south, Basin NE is 1.59 acres and drains to Ridgedale Avenue in a northeasterly direction, Basin Lot 8 is 0.13 acres and drains to adjacent property known (Lot 8), Basin N is 1.38 acres and drains to a depression at the northern end of the property. Seepage pits on site have been ignored as they are insignificant for the return periods being analyzed.

The post-developed drainage basin has been modeled to determine the post-developed discharge rates as follows:

Post-Developed Basin S:

Pervious Area: (Hydrograph 13)
TC = 20.4 Minutes
2.56 Acres Pervious (Composite CN = 78)

Impervious Area: (Hydrograph 14)
TC = 2.7 Minutes
7.2 Acres Impervious (CN = 98)

Total Pre-developed Basin S Peak Discharge (Hydrograph 15):
Q2 = 26.8 CFS
Q10 = 40.8 CFS
Q100 = 66.7 CFS

Post-Developed Basin NE:

Pervious Area: (Hydrograph 16)
TC = 3.0 Minutes
0.33 Acres Open Space (CN = 80)

Impervious Area: (Hydrograph 17)
TC = 2.6 Minutes
1.26 Acres Impervious (CN = 98)

Total Post-developed Basin NE Peak Discharge (Hydrograph 18):
Q2 = 5.1 CFS
Q10 = 7.7 CFS
Q100 = 12.7 CFS

Post-Developed Basin Lot 8:

Pervious Area: (Hydrograph 19)

TC = 2.6 Minutes
0.12 Acres Open Space (CN = 80)

Impervious Area: (Hydrograph 20)

TC = 2.0 Minutes (program minimum used-calculated value was less)
0.01 Acres Impervious (CN = 98)

Total Post-developed Basin Lot 8 Peak Discharge (Hydrograph 21):

Q2 = 0.3 CFS
Q10 = 0.5 CFS
Q100 = 0.9 CFS

Post-Developed Basin N:

Pervious Area: (Hydrograph 22)

TC = 26.8 Minutes
0.85 Acres Pervious (Composite CN = 79)

Impervious Area: (Hydrograph 23)

TC = 8.8 Minutes
0.53 Acres Impervious (CN = 98)

Total Pre-developed Basin N Peak Discharge (Hydrograph 24):

Q2 = 2.2 CFS
Q10 = 3.6 CFS
Q100 = 6.3 CFS

STORMWATER MANAGEMENT COMPLIANCE:

WATER QUANTITY STANDARDS:

Requirement: Demonstrate through hydrologic and hydraulic analysis that for stormwater leaving the site, post-construction runoff hydrographs for the two-, ten- and 100-year storm events do not exceed the preconstruction runoff hydrographs for the same storm events.

The pre and post developed hydrographs have been compared as follows for each drainage basin:

Comparison of Peak Discharge Rates: Basin S:

AREA	2 YEAR STORM	10 YEAR STORM	100 YEAR STORM
PRE-DEVELOPED (CFS)	27.20	41.40	67.50
POST-DEVELOPED (CFS)	26.80	40.80	66.70
PERCENT CHANGE	-1.47%	-1.45%	-1.19%

Comparison of Volume Discharging: Basin S:

AREA	2 YEAR STORM	10 YEAR STORM	100 YEAR STORM
PRE-DEVELOPED (CF)	97,800	153,100	256,400
POST-DEVELOPED (CF)	95,500	150,100	252,500
PERCENT CHANGE	-2.35%	-1.96%	-1.52%

The peak discharge and runoff volume from Basin S have been reduced for each of the requisite stormwater events. Together with a review of the timing of the hydrographs, this demonstrates that the post-construction hydrographs do not exceed the preconstruction hydrographs for the requisite storm events.

Comparison of Peak Discharge Rates: Basin NE:

AREA	2 YEAR STORM	10 YEAR STORM	100 YEAR STORM
PRE-DEVELOPED (CFS)	5.90	9.00	14.60
POST-DEVELOPED (CFS)	5.10	7.70	12.70
PERCENT CHANGE	-13.56%	-14.44%	-13.01%

Comparison of Volume Discharging: Basin NE:

AREA	2 YEAR STORM	10 YEAR STORM	100 YEAR STORM
PRE-DEVELOPED (CF)	19,000	29,300	48,400
POST-DEVELOPED (CF)	16,100	24,900	41,500
PERCENT CHANGE	-15.26%	-15.02%	-14.26%

The peak discharge and runoff volume from Basin NE have been reduced for each of the requisite stormwater events. Together with a review of the timing of the hydrographs, this demonstrates that the post-construction hydrographs do not exceed the preconstruction hydrographs for the requisite storm events.

Comparison of Peak Discharge Rates: Basin Lot 8:

AREA	2 YEAR STORM	10 YEAR STORM	100 YEAR STORM
PRE-DEVELOPED (CFS)	0.50	0.80	1.40
POST-DEVELOPED (CFS)	0.30	0.50	0.90
PERCENT CHANGE	-40.00%	-37.50%	-35.71%

Comparison of Volume Discharging: Basin Lot 8:

AREA	2 YEAR STORM	10 YEAR STORM	100 YEAR STORM
PRE-DEVELOPED (CF)	1,600	2,500	4,400
POST-DEVELOPED (CF)	800	1,400	2,700
PERCENT CHANGE	-50.00%	-44.00%	-38.64%

The peak discharge and runoff volume from Basin Lot 8 have been reduced for each of the requisite stormwater events. Together with a review of the timing of the hydrographs, this demonstrates that the post-construction hydrographs do not exceed the preconstruction hydrographs for the requisite storm events.

Comparison of Peak Discharge Rates: Basin N:

AREA	2 YEAR STORM	10 YEAR STORM	100 YEAR STORM
PRE-DEVELOPED (CFS)	3.10	4.80	8.00
POST-DEVELOPED (CFS)	2.20	3.60	6.30
PERCENT CHANGE	-29.03%	-25.00%	-21.25%

Comparison of Volume Discharging: Basin N:

AREA	2 YEAR STORM	10 YEAR STORM	100 YEAR STORM
PRE-DEVELOPED (CF)	14,000	22,600	39,000
POST-DEVELOPED (CF)	11,300	18,900	33,700
PERCENT CHANGE	-19.29%	-16.37%	-13.59%

The peak discharge and runoff volume from Basin N have been reduced for each of the requisite stormwater events. Together with a review of the timing of the hydrographs, this demonstrates that the post-construction hydrographs do not exceed the preconstruction hydrographs for the requisite storm events.

WATER QUALITY COMPLIANCE:

Requirement: Stormwater runoff quality standards are applicable when the major development results in an increase of one-quarter acre or more of new impervious surface.

Overall: Impervious coverage for the site is reduced by 0.61 acres. As shown below, proposed impervious coverage is not increased by 0.25 acres or more in any drainage basin.

Basin S:

An increase of 0.11 acres of new impervious surface is proposed; therefore, the water quality standards are not applicable to this basin.

Basin NE:

A decrease of 0.29 acres of impervious surface is proposed; therefore, the water quality standards are not applicable to this basin.

Basin Lot 8:

A decrease of 0.09 acres of impervious surface is proposed; therefore, the water quality standards are not applicable to this basin.

Basin N:

A decrease of 0.34 acres of impervious surface is proposed; therefore, the water quality standards are not applicable to this basin.

GROUNDWATER RECHARGE STANDARDS:

Requirement: Demonstrate through hydrologic and hydraulic analysis that the increase of stormwater runoff volume from preconstruction to post-construction for the two-year, twenty-four hour storm is infiltrated.

Basin S:

The 2-year runoff volume from Basin S is reduced from 97,800 cubic feet to 95,500 cubic feet. The groundwater recharge requirement is met for Basin S.

Basin NE:

The 2-year runoff volume from Basin NE is reduced from 19,000 cubic feet to 16,100 cubic feet. The groundwater recharge requirement is met for Basin NE.

Basin Lot 8:

The 2-year runoff volume from Basin Lot 8 is reduced from 1,600 cubic feet to 800 cubic feet. The groundwater recharge requirement is met for Basin Lot 8.

Basin N:

The 2-year runoff volume from Basin N is reduced from 14,000 cubic feet to 11,300 cubic feet. The groundwater recharge requirement is met for Basin N.

OFFSITE STABILITY COMPLIANCE:

The rate of discharge from all drainage basins has been reduced below the pre-developed condition for the 10-year storm. Therefore, offsite stability compliance has been demonstrated.

GREEN INFRASTRUCTURE REQUIREMENTS:

No BMPs are necessary to meet the requirements of the stormwater ordinance. Therefore, the green infrastructure requirements do not apply.

CONCLUSION:

The proposed site plan has been designed for compliance with the municipal stormwater control ordinance.

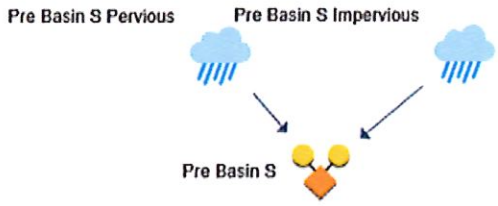
APPENDIX A

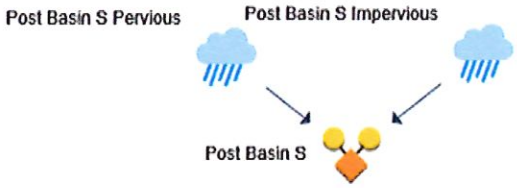
STORMWATER ROUTING

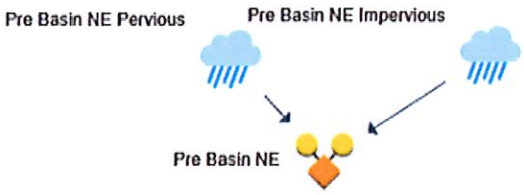
Basin Model

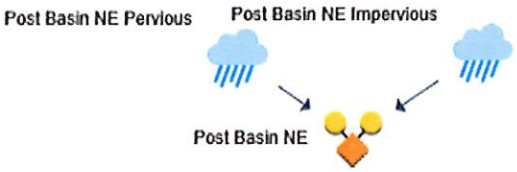
Hydrology Studio v 3.0.0.38

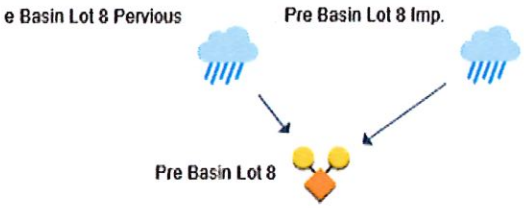
Project Name: MT-7
File: MT-7.hys
07-03-2025

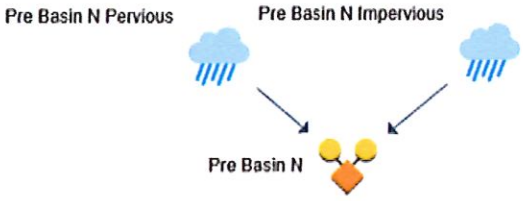


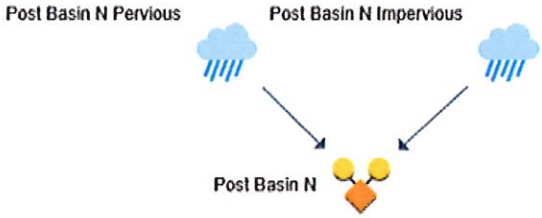












Hydrograph 2-yr Summary

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	NRCS Runoff	Pre Basin S Pervious	2.636	12.28	12,738	----		
2	NRCS Runoff	Pre Basin S Impervious	25.62	12.10	85,095	----		
3	Junction	Pre Basin S	27.24	12.10	97,833	1, 2		
4	NRCS Runoff	Pre Basin NE Pervious	0.553	12.10	1,574	----		
5	NRCS Runoff	Pre Basin NE Impervious	5.363	12.10	17,440	----		
6	Junction	Pre Basin NE	5.917	12.10	19,015	4, 5		
7	NRCS Runoff	Pre Basin Lot 8 Pervious	0.168	12.10	454	----		
8	NRCS Runoff	Pre Basin Lot 8 Imp.	0.346	12.10	1,125	----		
9	Junction	Pre Basin Lot 8	0.514	12.10	1,579	7, 8		
10	NRCS Runoff	Pre Basin N Pervious	0.672	12.33	3,582	----		
11	NRCS Runoff	Pre Basin N Impervious	2.615	12.13	10,442	----		
12	Junction	Pre Basin N	3.065	12.15	14,023	10, 11		
13	NRCS Runoff	Post Basin S Pervious	2.991	12.28	14,444	----		
14	NRCS Runoff	Post Basin S Impervious	24.91	12.10	81,014	----		
15	Junction	Post Basin S	26.75	12.10	95,458	13, 14		
16	NRCS Runoff	Post Basin NE Pervious	0.691	12.10	1,873	----		
17	NRCS Runoff	Post Basin NE Impervious	4.360	12.10	14,177	----		
18	Junction	Post Basin NE	5.051	12.10	16,051	16, 17		
19	NRCS Runoff	Post Basin Lot 8 Pervious	0.251	12.10	681	----		
20	NRCS Runoff	Post Basin Lot 8 Imp.	0.035	12.10	113	----		
21	Junction	Post Basin Lot 8	0.286	12.10	794	19, 20		
22	NRCS Runoff	Post Basin N Pervious	0.923	12.33	4,914	----		
23	NRCS Runoff	Post Basin N Impervious	1.593	12.13	6,361	----		
24	Junction	Post Basin N	2.219	12.15	11,275	22, 23		

Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

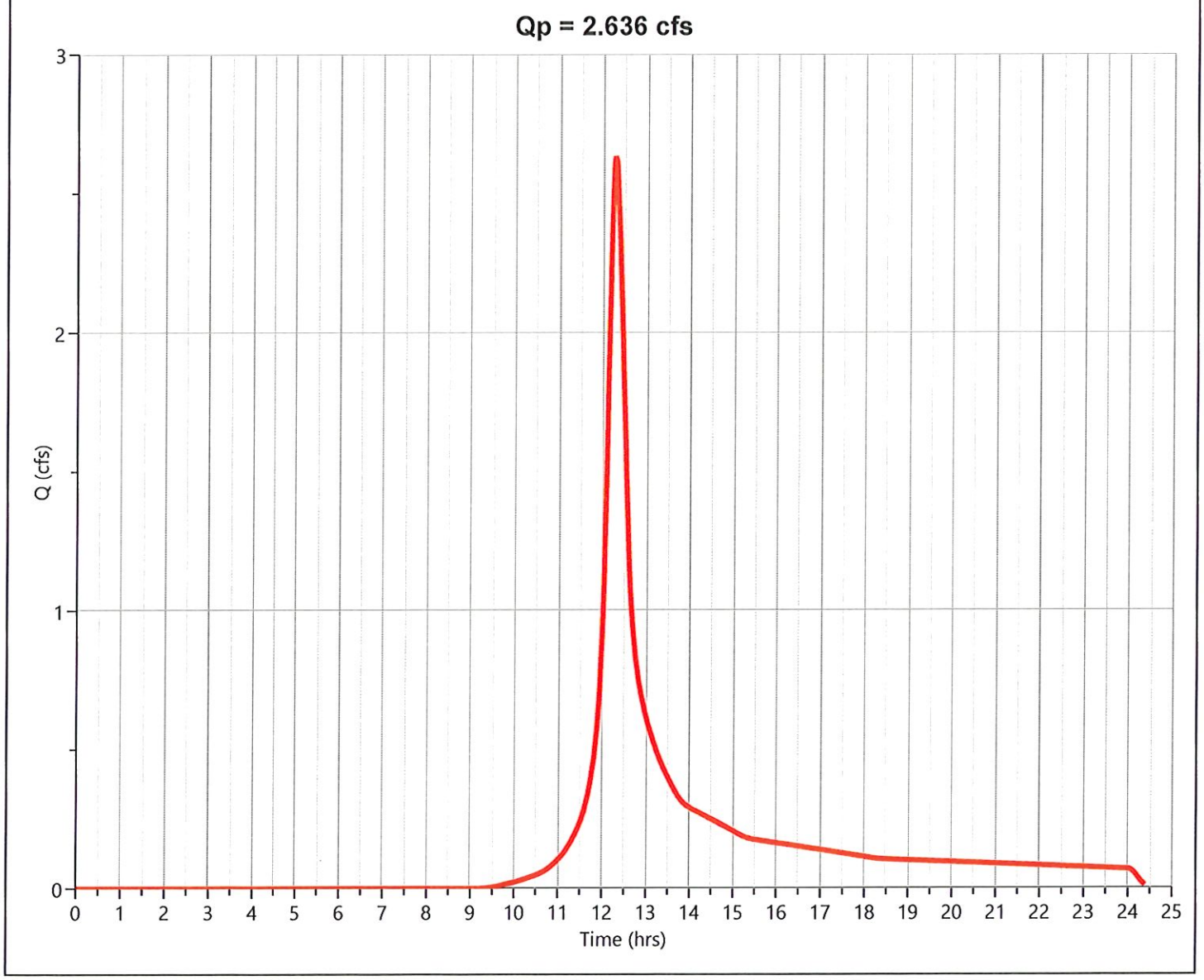
Pre Basin S Pervious

Hyd. No. 1

Hydrograph Type	= NRCS Runoff	Peak Flow	= 2.636 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.28 hrs
Time Interval	= 1 min	Runoff Volume	= 12,738 cuft
Drainage Area	= 2.28 ac	Curve Number	= 77.95*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 20.4 min
Total Rainfall	= 3.54 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
1.56	77.00	Woods
0.72	80.00	Open Space
2.28	**77.95**	Weighted CN Method Employed



Tc by TR55 Worksheet

Project Name: MT-7
File: MT-7.hys

Hydrology Studio v 3.0.0.38

07-03-2025

Basin S Pervious
NRCS Runoff

Hyd. No. 1

Description	Segments			Tc (min)
	A	B	C	
Sheet Flow				
Description	Woods			
Manning's n	0.400	0.013	0.013	
Flow Length (ft)	100			
2-yr, 24-hr Precip. (in)	3.54	2.28	2.28	
Land Slope (%)	2.5			
Travel Time (min)	**18.67**	**0.00**	**0.00**	**18.67**
Shallow Concentrated Flow				
Flow Length (ft)	105	35		
Watercourse Slope (%)	18.50	7.00	0.00	
Surface Description	Forest	Paved	Paved	
Average Velocity (ft/s)	1.08	5.38		
Travel Time (min)	**1.62**	**0.11**	**0.00**	**1.73**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**20.4 min**

Hydrograph Report

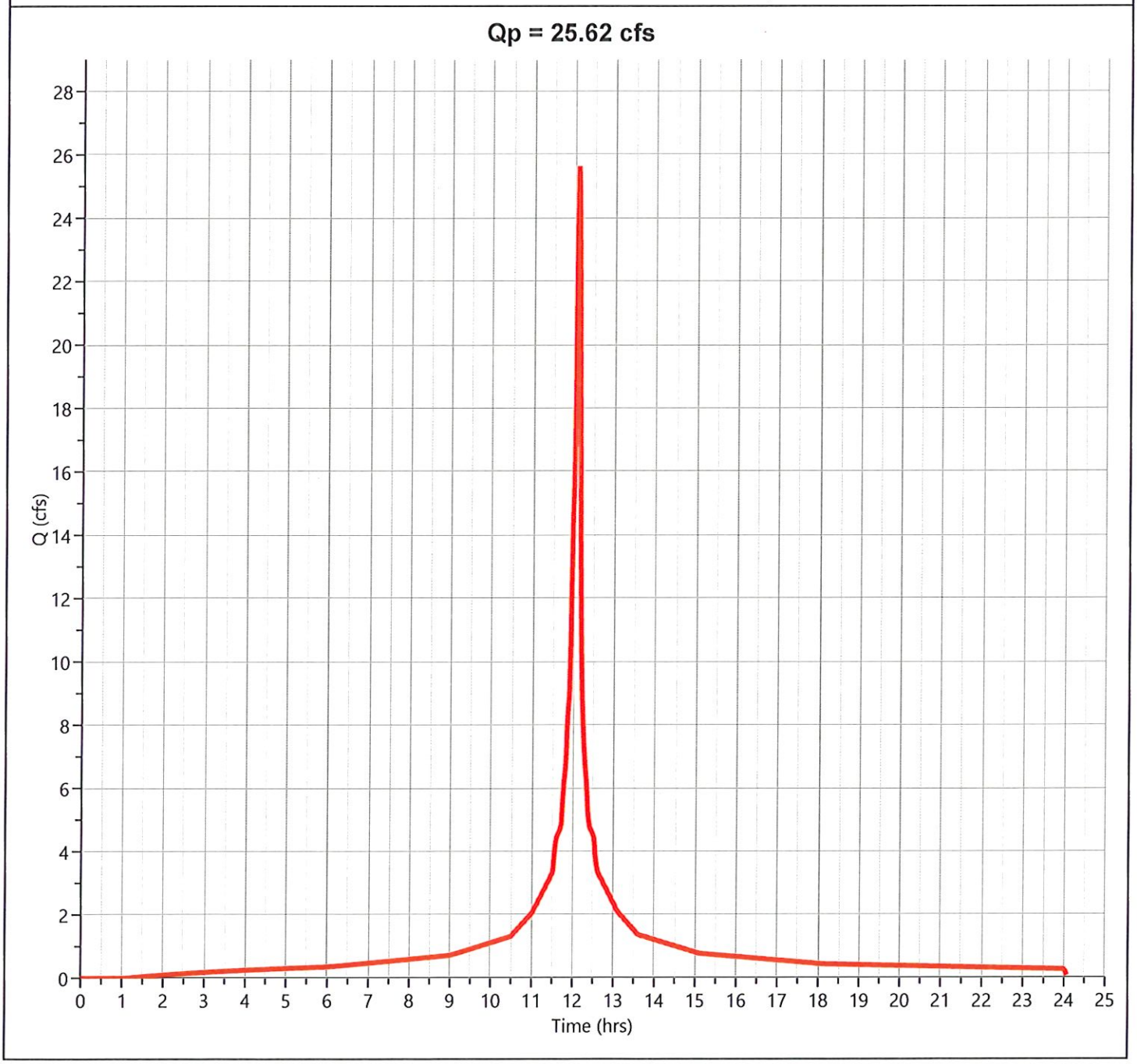
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin S Impervious

Hyd. No. 2

Hydrograph Type	= NRCS Runoff	Peak Flow	= 25.62 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 85,095 cuft
Drainage Area	= 7.09 ac	Curve Number	= 98.00
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 4.92 min
Total Rainfall	= 3.54 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Tc by TR55 Worksheet

Project Name: MT-7
File: MT-7.hys

Hydrology Studio v 3.0.0.38

07-03-2025

Basin S Impervious
NRCS Runoff

Hyd. No. 2

Description	Segments			Tc (min)
	A	B	C	
Sheet Flow				
Description	Paved			
Manning's n	0.011	0.013	0.013	
Flow Length (ft)	100			
2-yr, 24-hr Precip. (in)	3.54	2.28	2.28	
Land Slope (%)	.5			
Travel Time (min)	**2.01**	**0.00**	**0.00**	**2.01**
Shallow Concentrated Flow				
Flow Length (ft)	190	225		
Watercourse Slope (%)	0.67	3.30	0.00	
Surface Description	Paved	Paved	Paved	
Average Velocity (ft/s)	1.66	3.69		
Travel Time (min)	**1.90**	**1.02**	**0.00**	**2.92**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**4.92 min**

Hydrograph Report

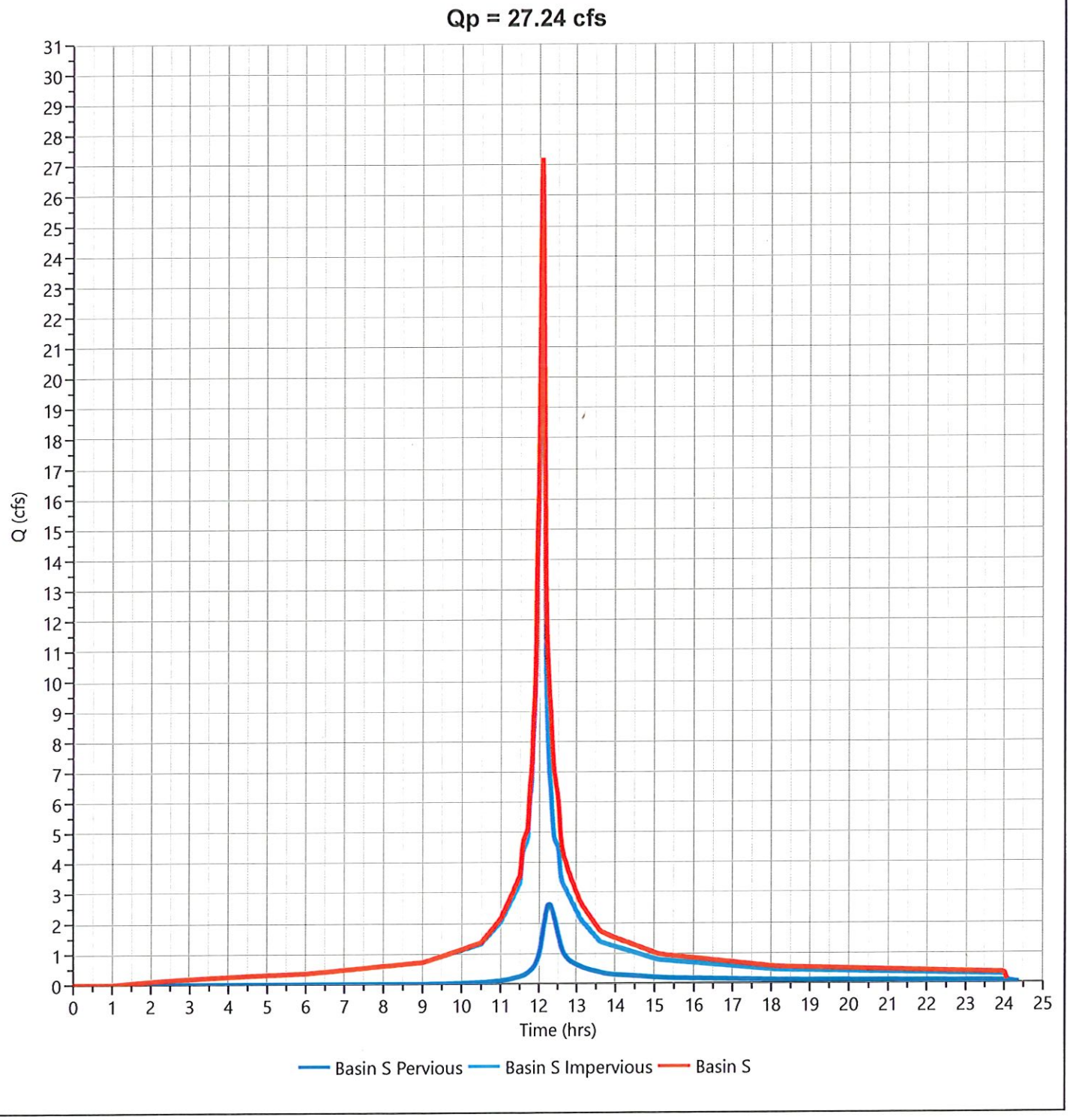
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin S

Hyd. No. 3

Hydrograph Type	= Junction	Peak Flow	= 27.24 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 97,833 cuft
Inflow Hydrographs	= 1, 2	Total Contrib. Area	= 9.37 ac



Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

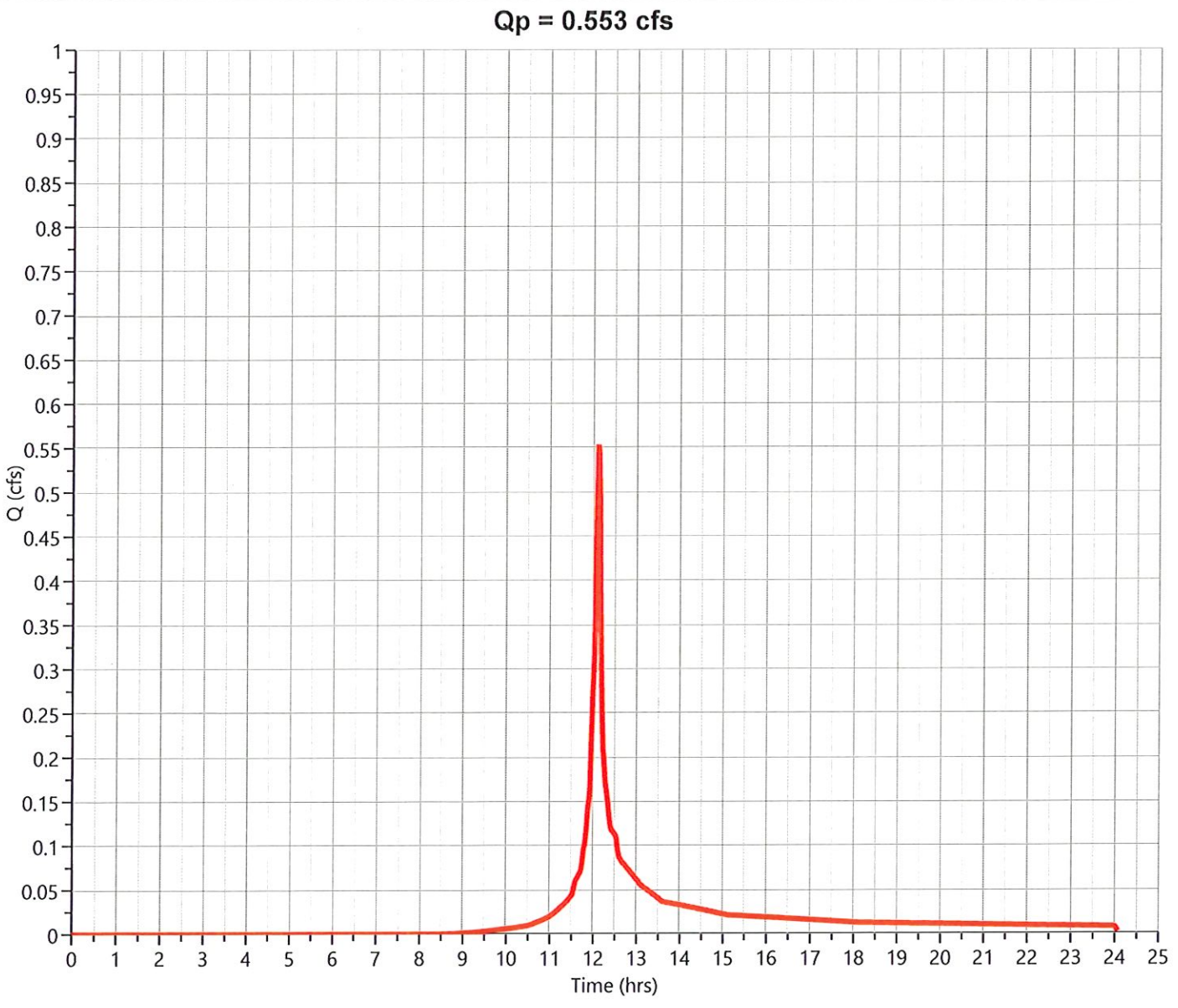
Pre Basin NE Pervious

Hyd. No. 4

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.553 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 1,574 cuft
Drainage Area	= 0.26 ac	Curve Number	= 80.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 4.69 min
Total Rainfall	= 3.54 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.26	80.00	Open Space
0.26	**80.00**	Weighted CN Method Employed



Tc by TR55 Worksheet

Project Name: MT-7
File: MT-7.hys

Hydrology Studio v 3.0.0.38

07-03-2025

Basin NE Pervious
NRCS Runoff

Hyd. No. 4

Description	Segments			Tc (min)
	A	B	C	
Sheet Flow				
Description	Grass			
Manning's n	0.240	0.013	0.013	
Flow Length (ft)	37.5			
2-yr, 24-hr Precip. (in)	3.54	2.28	2.28	
Land Slope (%)	4			
Travel Time (min)	**4.69**	**0.00**	**0.00**	**4.69**
Shallow Concentrated Flow				
Flow Length (ft)				
Watercourse Slope (%)	0.00	0.00	0.00	
Surface Description	Paved	Paved	Paved	
Average Velocity (ft/s)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**4.69 min**

Hydrograph Report

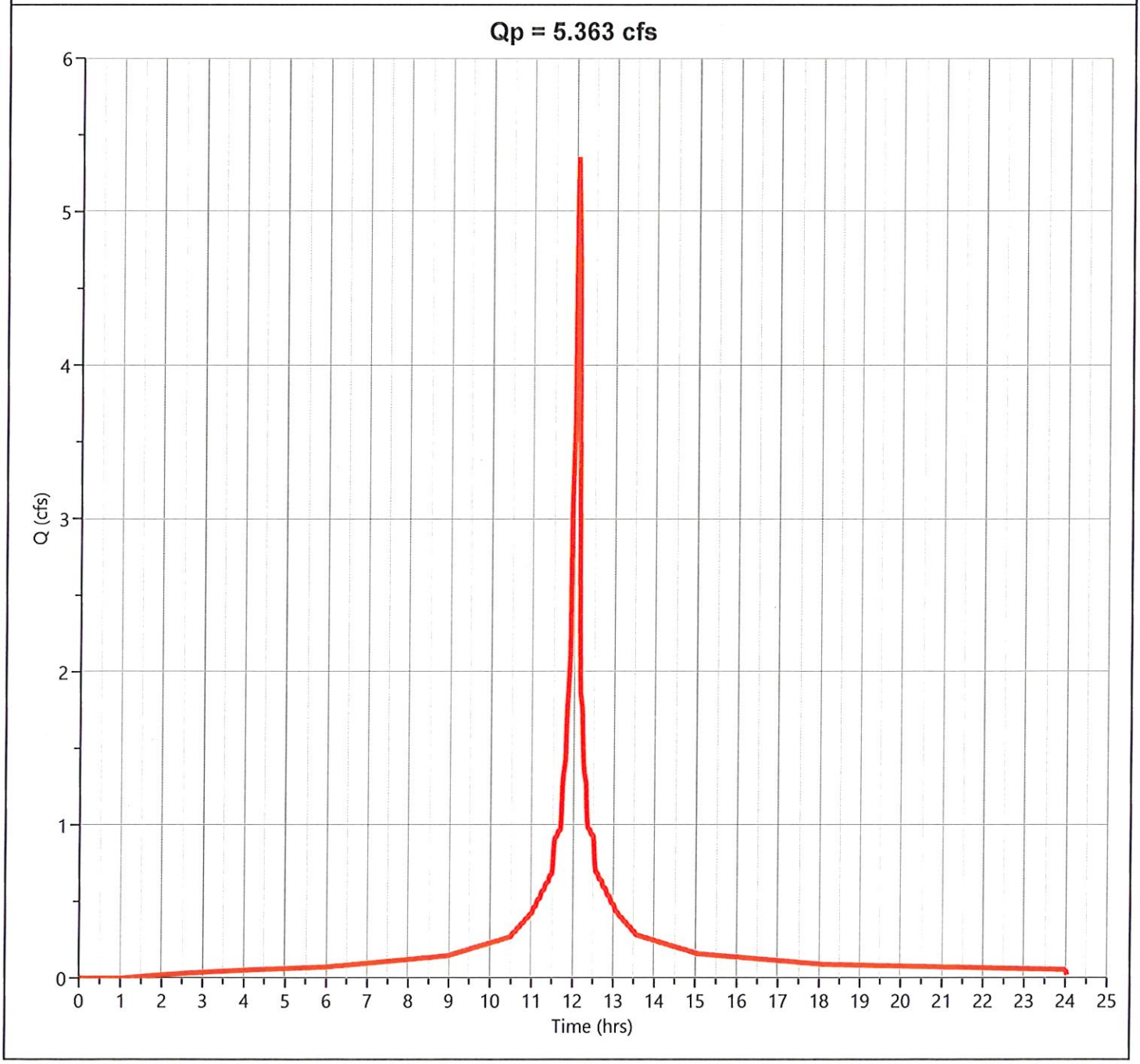
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin NE Impervious

Hyd. No. 5

Hydrograph Type	= NRCS Runoff	Peak Flow	= 5.363 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 17,440 cuft
Drainage Area	= 1.55 ac	Curve Number	= 98.00
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 2.19 min
Total Rainfall	= 3.54 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Tc by TR55 Worksheet

Project Name: MT-7
File: MT-7.hys

Hydrology Studio v 3.0.0.38

07-03-2025

Basin NE Impervious
NRCS Runoff

Hyd. No. 5

Description	Segments			Tc (min)
	A	B	C	
Sheet Flow				
Description	Paved			
Manning's n	0.011	0.013	0.013	
Flow Length (ft)	100			
2-yr, 24-hr Precip. (in)	3.54	2.28	2.28	
Land Slope (%)	1			
Travel Time (min)	**1.52**	**0.00**	**0.00**	**1.52**
Shallow Concentrated Flow				
Flow Length (ft)	110			
Watercourse Slope (%)	1.80	0.00	0.00	
Surface Description	Paved	Paved	Paved	
Average Velocity (ft/s)	2.73			
Travel Time (min)	**0.67**	**0.00**	**0.00**	**0.67**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**2.19 min**

Hydrograph Report

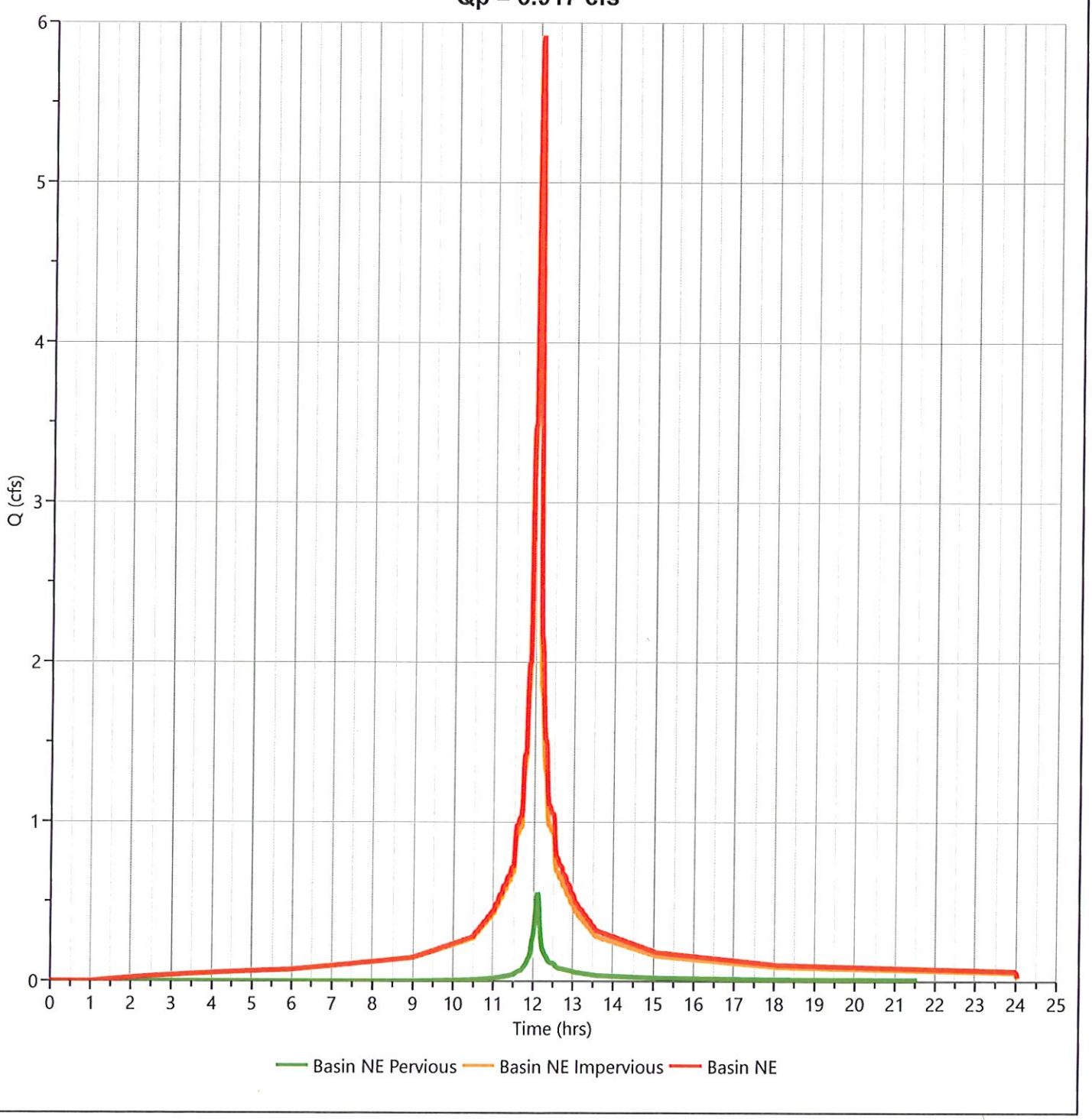
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin NE

Hyd. No. 6

Hydrograph Type	= Junction	Peak Flow	= 5.917 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 19,015 cuft
Inflow Hydrographs	= 4, 5	Total Contrib. Area	= 1.81 ac



Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

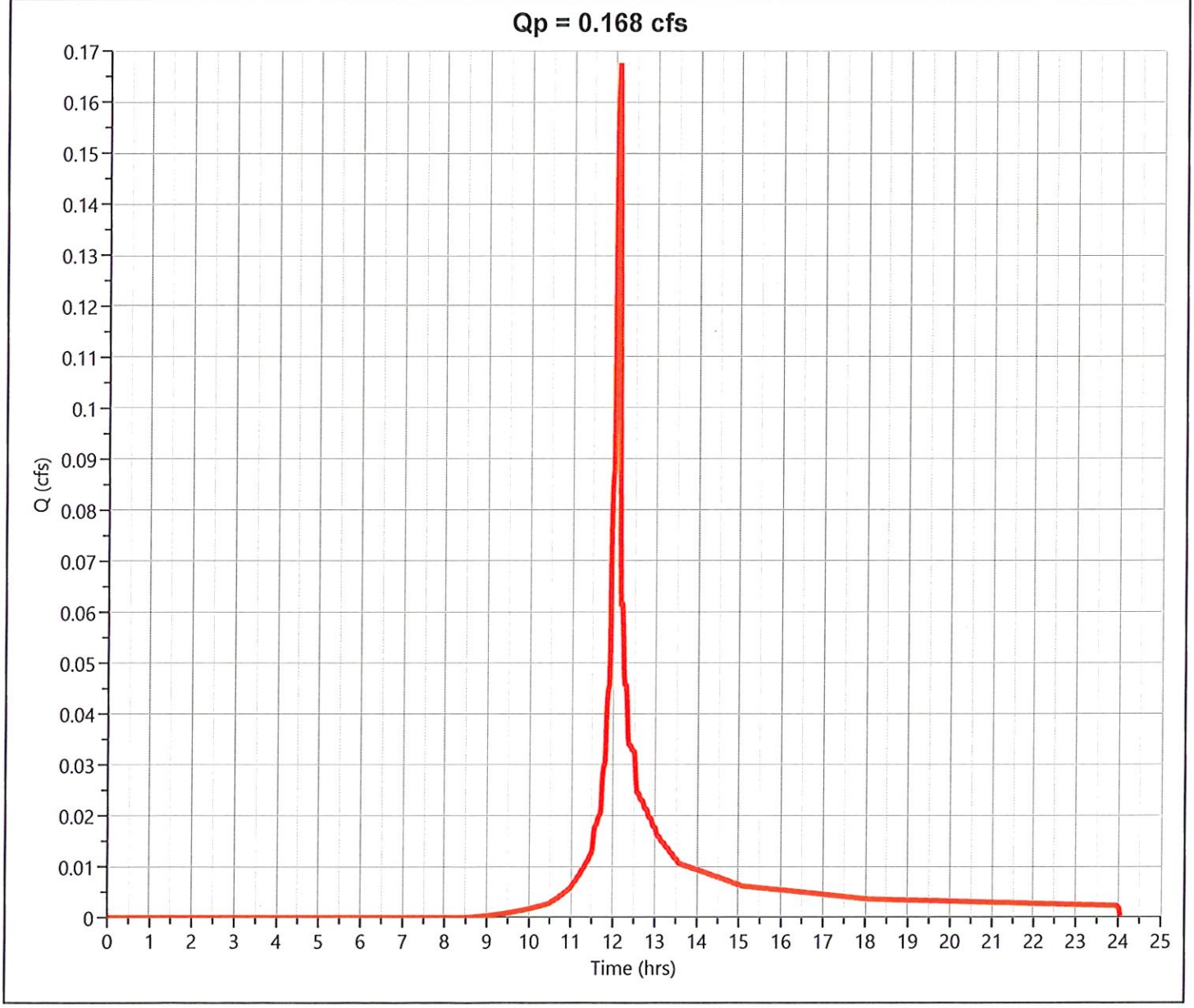
Pre Basin Lot 8 Pervious

Hyd. No. 7

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.168 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 454 cuft
Drainage Area	= 0.08 ac	Curve Number	= 80.00*
Tc Method	= User	Time of Conc. (Tc)	= 2.0 min
Total Rainfall	= 3.54 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.08	80.00	Open Space
0.08	**80.00**	Weighted CN Method Employed



Hydrograph Report

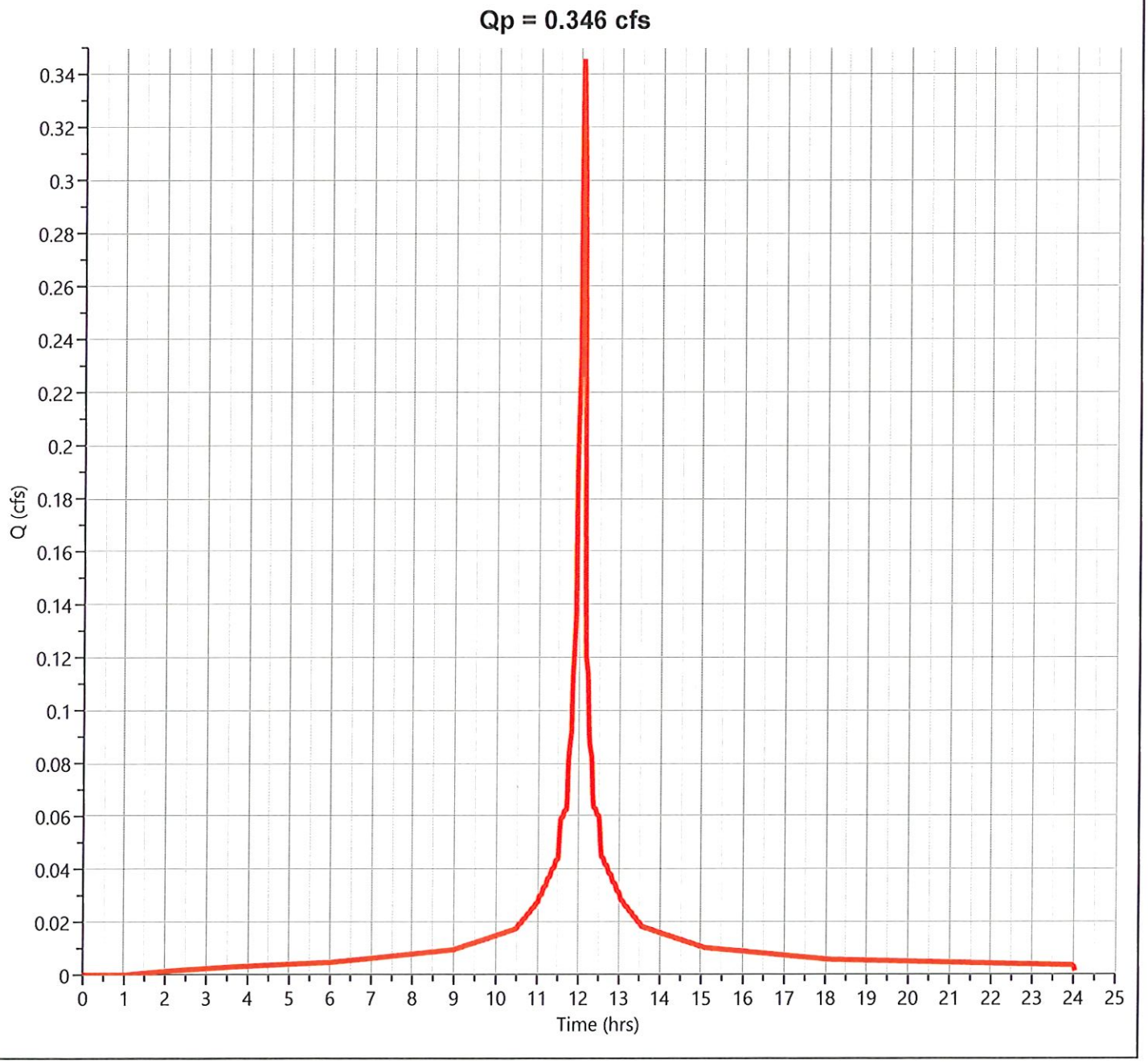
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin Lot 8 Imp.

Hyd. No. 8

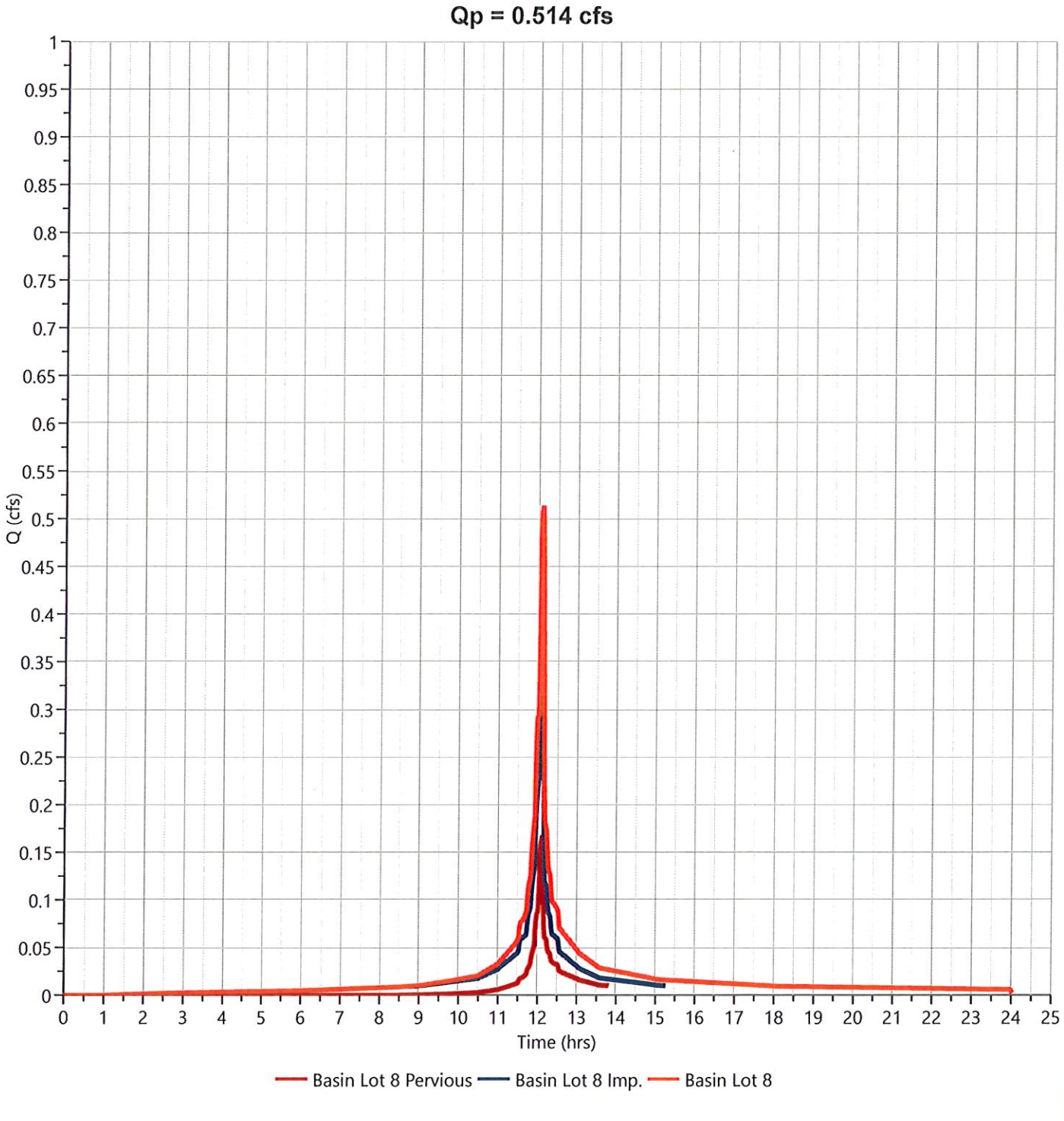
Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.346 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 1,125 cuft
Drainage Area	= 0.1 ac	Curve Number	= 98.00
Tc Method	= User	Time of Conc. (Tc)	= 2.0 min
Total Rainfall	= 3.54 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Pre Basin Lot 8

Hyd. No. 9

Hydrograph Type	= Junction	Peak Flow	= 0.514 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 1,579 cuft
Inflow Hydrographs	= 7, 8	Total Contrib. Area	= 0.18 ac



Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

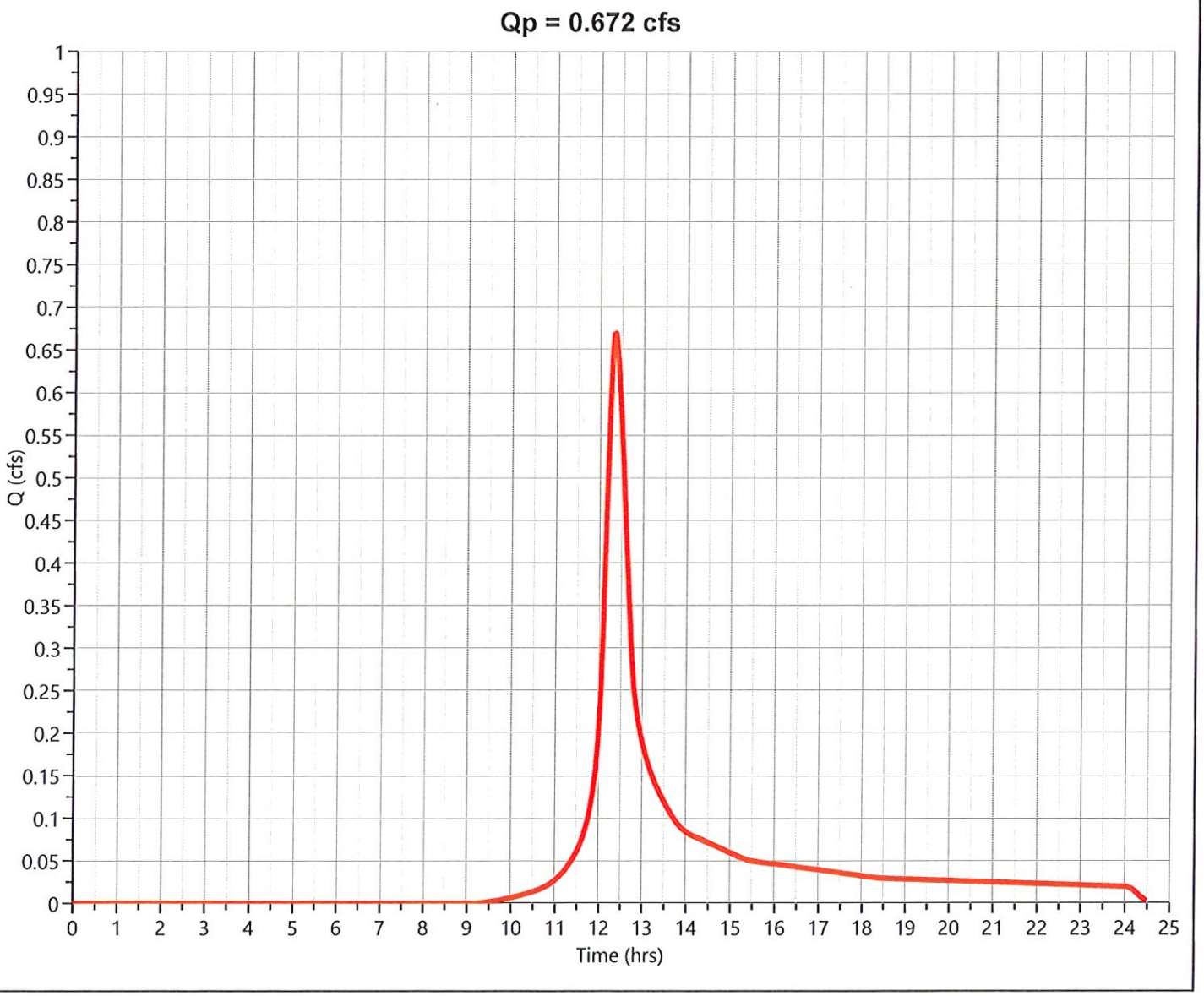
Pre Basin N Pervious

Hyd. No. 10

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.672 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.33 hrs
Time Interval	= 1 min	Runoff Volume	= 3,582 cuft
Drainage Area	= 0.63 ac	Curve Number	= 78.38*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 26.45 min
Total Rainfall	= 3.54 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.34	77.00	Woods
0.29	80.00	Open Space
0.63	**78.38**	Weighted CN Method Employed



Tc by TR55 Worksheet

Project Name: MT-7
File: MT-7.hys

Hydrology Studio v 3.0.0.38

07-03-2025

Basin N Pervious
NRCS Runoff

Hyd. No. 10

Description	Segments			Tc (min)
	A	B	C	
Sheet Flow				
Description	Woods			
Manning's n	0.400	0.013	0.013	
Flow Length (ft)	100			
2-yr, 24-hr Precip. (in)	3.54	2.28	2.28	
Land Slope (%)	1.5			
Travel Time (min)	**22.91**	**0.00**	**0.00**	**22.91**
Shallow Concentrated Flow				
Flow Length (ft)	65	103.5	23	
Watercourse Slope (%)	2.30	16.50	4.35	
Surface Description	Forest	Prairie	Paved	
Average Velocity (ft/s)	.38	2.83	4.24	
Travel Time (min)	**2.84**	**0.61**	**0.09**	**3.54**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**26.45 min**

Hydrograph Report

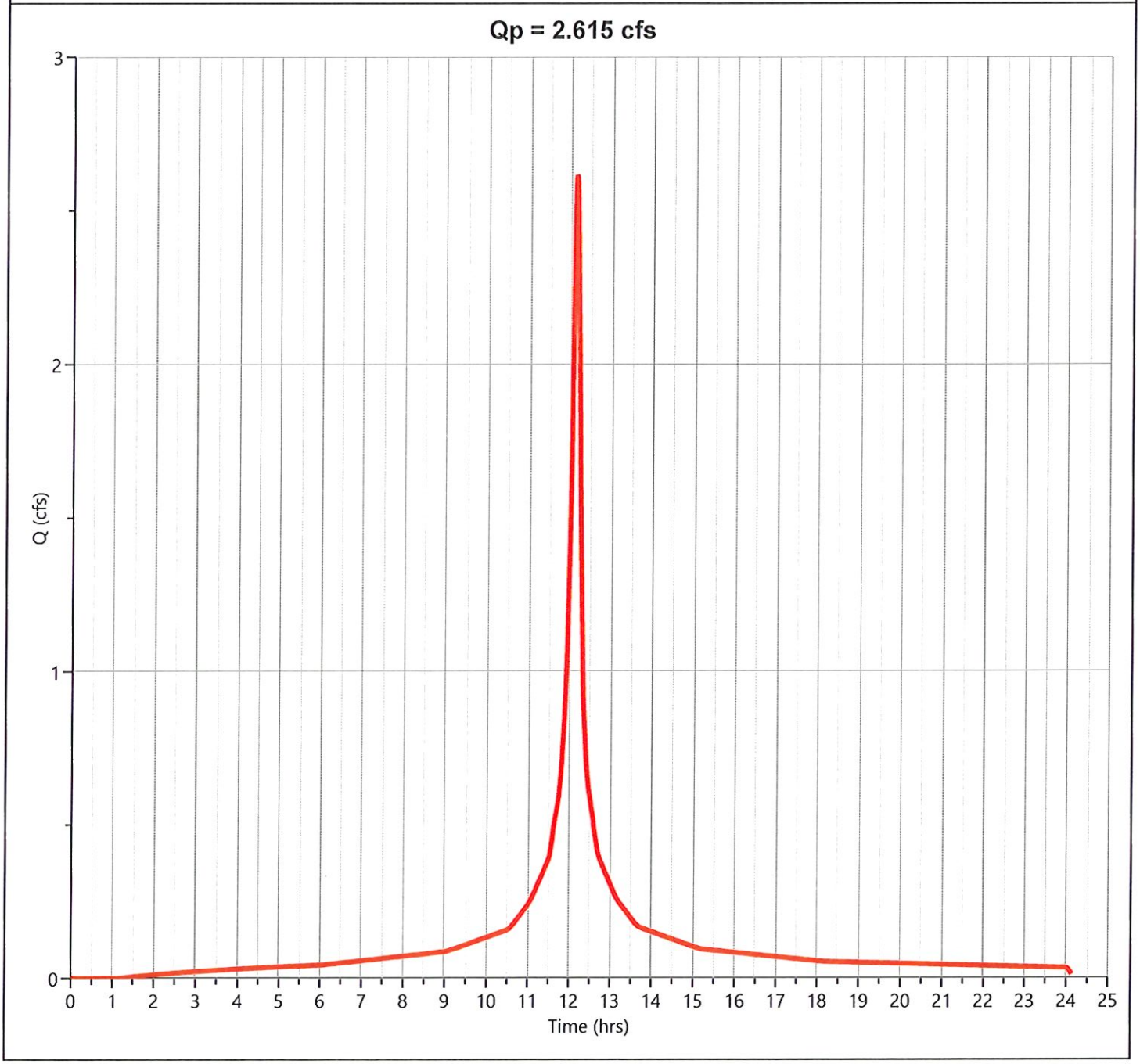
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin N Impervious

Hyd. No. 11

Hydrograph Type	= NRCS Runoff	Peak Flow	= 2.615 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.13 hrs
Time Interval	= 1 min	Runoff Volume	= 10,442 cuft
Drainage Area	= 0.87 ac	Curve Number	= 98.00
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 8.65 min
Total Rainfall	= 3.54 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Tc by TR55 Worksheet

Project Name: MT-7
File: MT-7.hys

Hydrology Studio v 3.0.0.38

07-03-2025

Basin N Impervious

Hyd. No. 11

NRCS Runoff

Description	Segments			Tc (min)
	A	B	C	
Sheet Flow				
Description	Lawn	Woods		
Manning's n	0.240	0.400	0.013	
Flow Length (ft)	85	15		
2-yr, 24-hr Precip. (in)	3.54	3.54	2.28	
Land Slope (%)	10	13.33		
Travel Time (min)	**6.26**	**2.10**	**0.00**	**8.35**
Shallow Concentrated Flow				
Flow Length (ft)	15	8		
Watercourse Slope (%)	13.33	6.25	0.00	
Surface Description	Forest	Paved	Paved	
Average Velocity (ft/s)	.92	5.08		
Travel Time (min)	**0.27**	**0.03**	**0.00**	**0.30**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**8.65 min**

Hydrograph Report

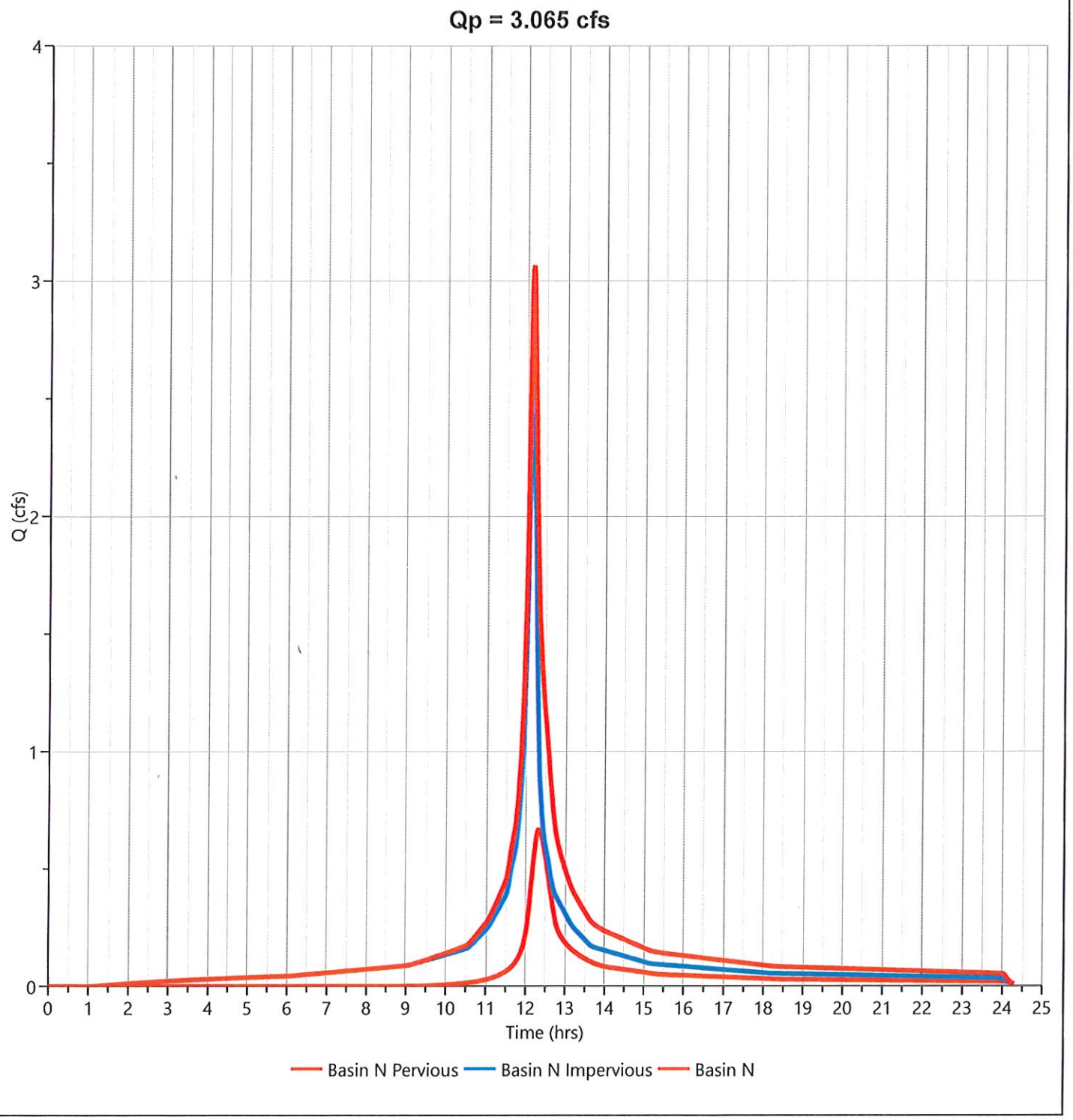
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin N

Hyd. No. 12

Hydrograph Type	= Junction	Peak Flow	= 3.065 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.15 hrs
Time Interval	= 1 min	Hydrograph Volume	= 14,023 cuft
Inflow Hydrographs	= 10, 11	Total Contrib. Area	= 1.5 ac



Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

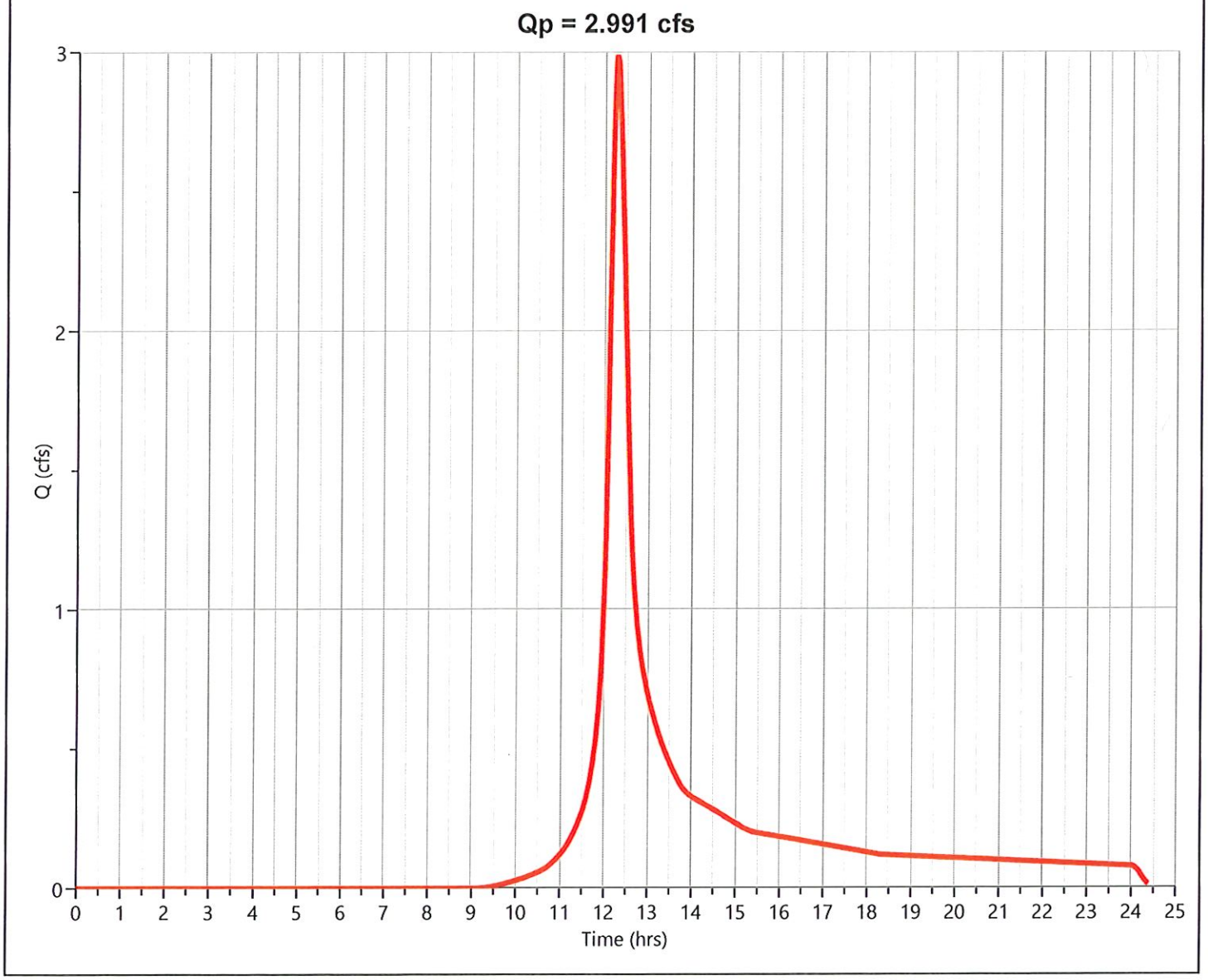
Post Basin S Pervious

Hyd. No. 13

Hydrograph Type	= NRCS Runoff	Peak Flow	= 2.991 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.28 hrs
Time Interval	= 1 min	Runoff Volume	= 14,444 cuft
Drainage Area	= 2.56 ac	Curve Number	= 78.17*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 20.4 min
Total Rainfall	= 3.54 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
1.56	77.00	Woods
1.0	80.00	Open Space
2.56	**78.17**	Weighted CN Method Employed



Tc by TR55 Worksheet

Project Name: MT-7
File: MT-7.hys

Hydrology Studio v 3.0.0.38

07-03-2025

Basin S Pervious
NRCS Runoff

Hyd. No. 13

Description	Segments			Tc (min)
	A	B	C	
Sheet Flow				
Description	Woods			
Manning's n	0.400	0.013	0.013	
Flow Length (ft)	100			
2-yr, 24-hr Precip. (in)	3.54	2.28	2.28	
Land Slope (%)	2.5			
Travel Time (min)	**18.67**	**0.00**	**0.00**	**18.67**
Shallow Concentrated Flow				
Flow Length (ft)	105	35		
Watercourse Slope (%)	18.50	7.00	0.00	
Surface Description	Forest	Paved	Paved	
Average Velocity (ft/s)	1.08	5.38		
Travel Time (min)	**1.62**	**0.11**	**0.00**	**1.73**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**20.4 min**

Hydrograph Report

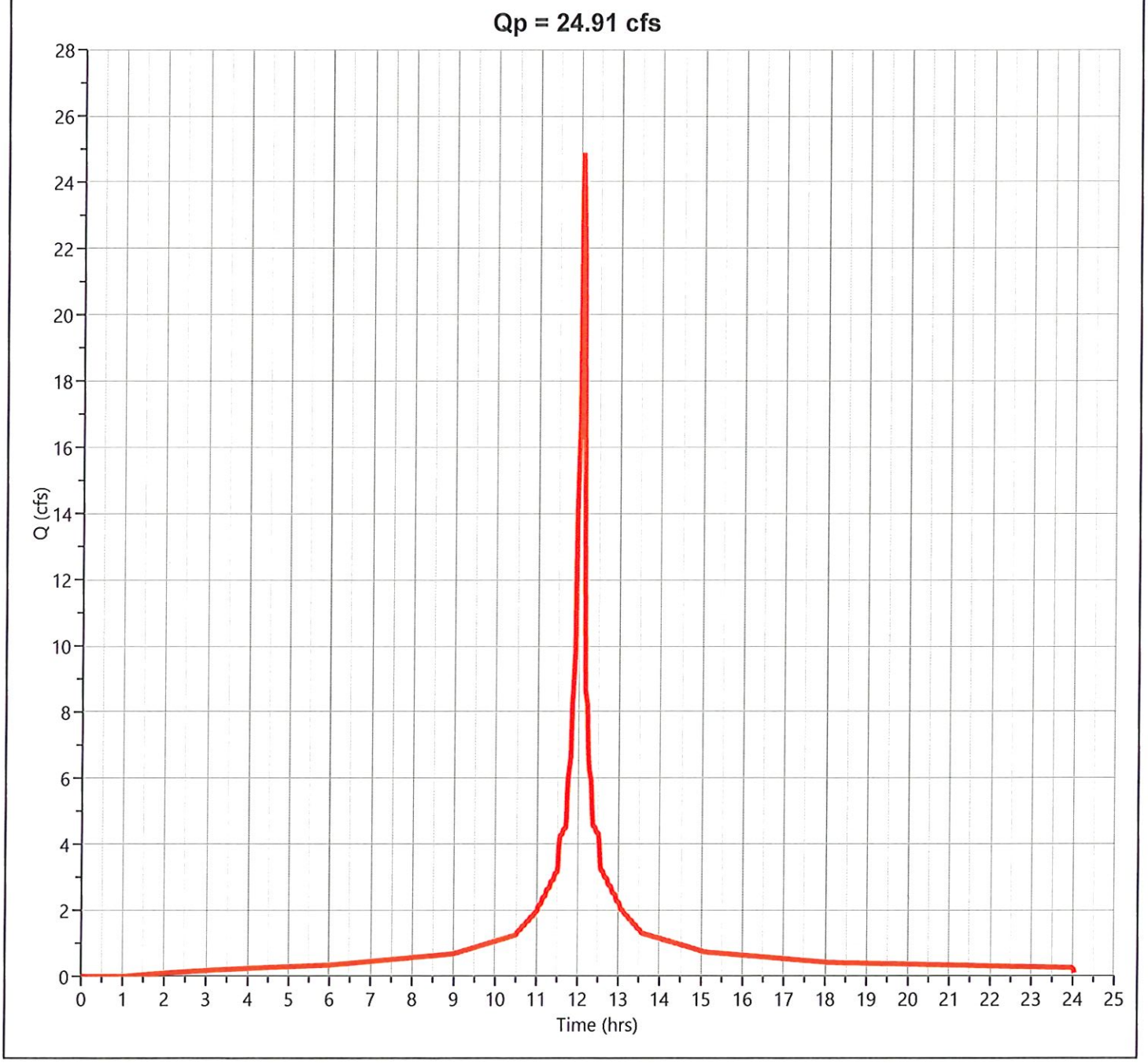
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin S Impervious

Hyd. No. 14

Hydrograph Type	= NRCS Runoff	Peak Flow	= 24.91 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 81,014 cuft
Drainage Area	= 7.2 ac	Curve Number	= 98.00
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 2.68 min
Total Rainfall	= 3.54 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Tc by TR55 Worksheet

Project Name: MT-7
File: MT-7.hys

Hydrology Studio v 3.0.0.38

07-03-2025

Basin S Impervious
NRCS Runoff

Hyd. No. 14

Description	Segments			Tc (min)
	A	B	C	
Sheet Flow				
Description	Paved	Paved		
Manning's n	0.011	0.013	0.013	
Flow Length (ft)	100			
2-yr, 24-hr Precip. (in)	3.54	2.28	2.28	
Land Slope (%)	1.5			
Travel Time (min)	**1.29**	**0.00**	**0.00**	**1.29**
Shallow Concentrated Flow				
Flow Length (ft)	206.75			
Watercourse Slope (%)	1.50	0.00	0.00	
Surface Description	Paved	Paved	Paved	
Average Velocity (ft/s)	2.49			
Travel Time (min)	**1.38**	**0.00**	**0.00**	**1.38**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**2.68 min**

Hydrograph Report

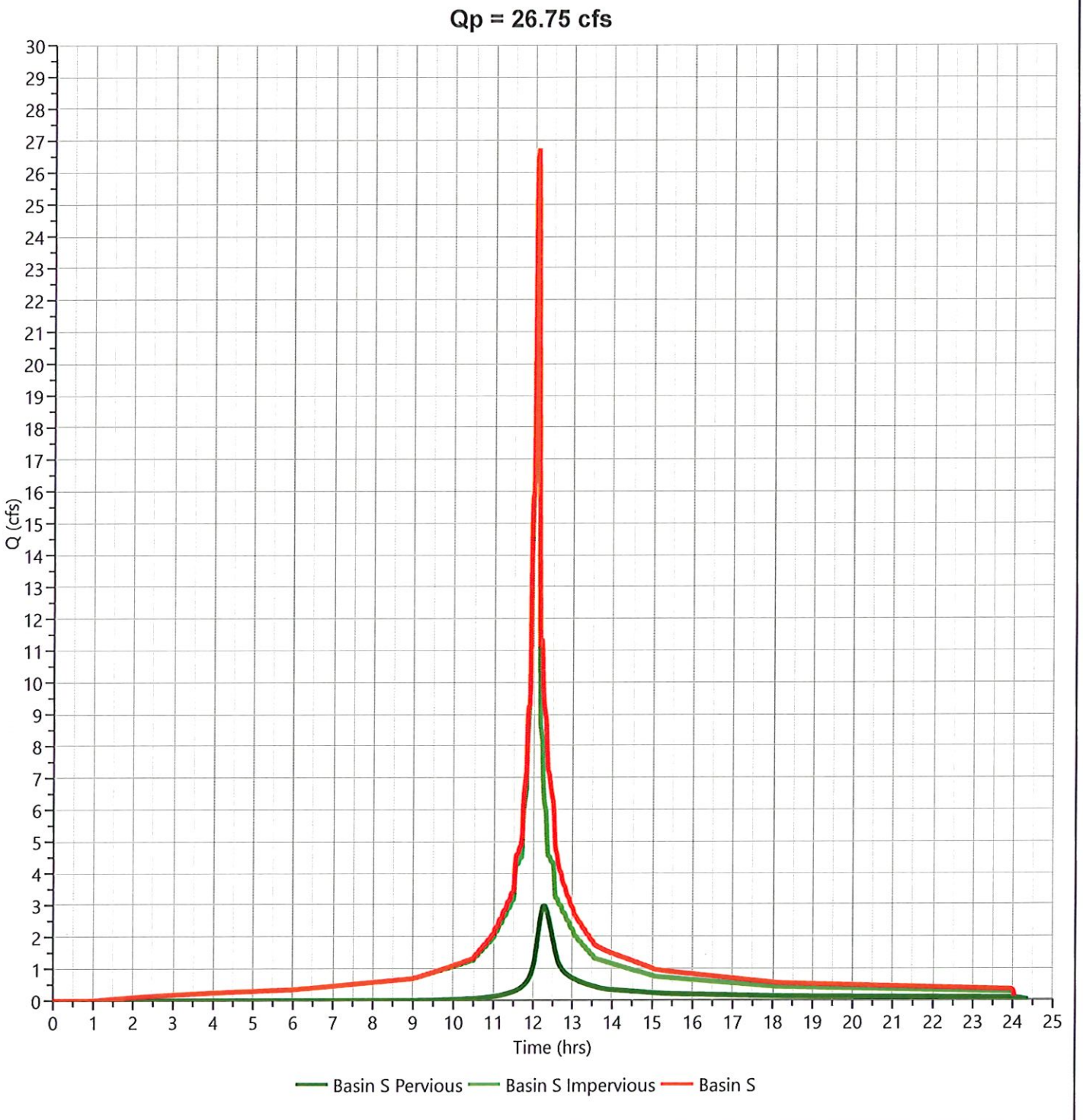
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin S

Hyd. No. 15

Hydrograph Type	= Junction	Peak Flow	= 26.75 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 95,458 cuft
Inflow Hydrographs	= 13, 14	Total Contrib. Area	= 9.76 ac



Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

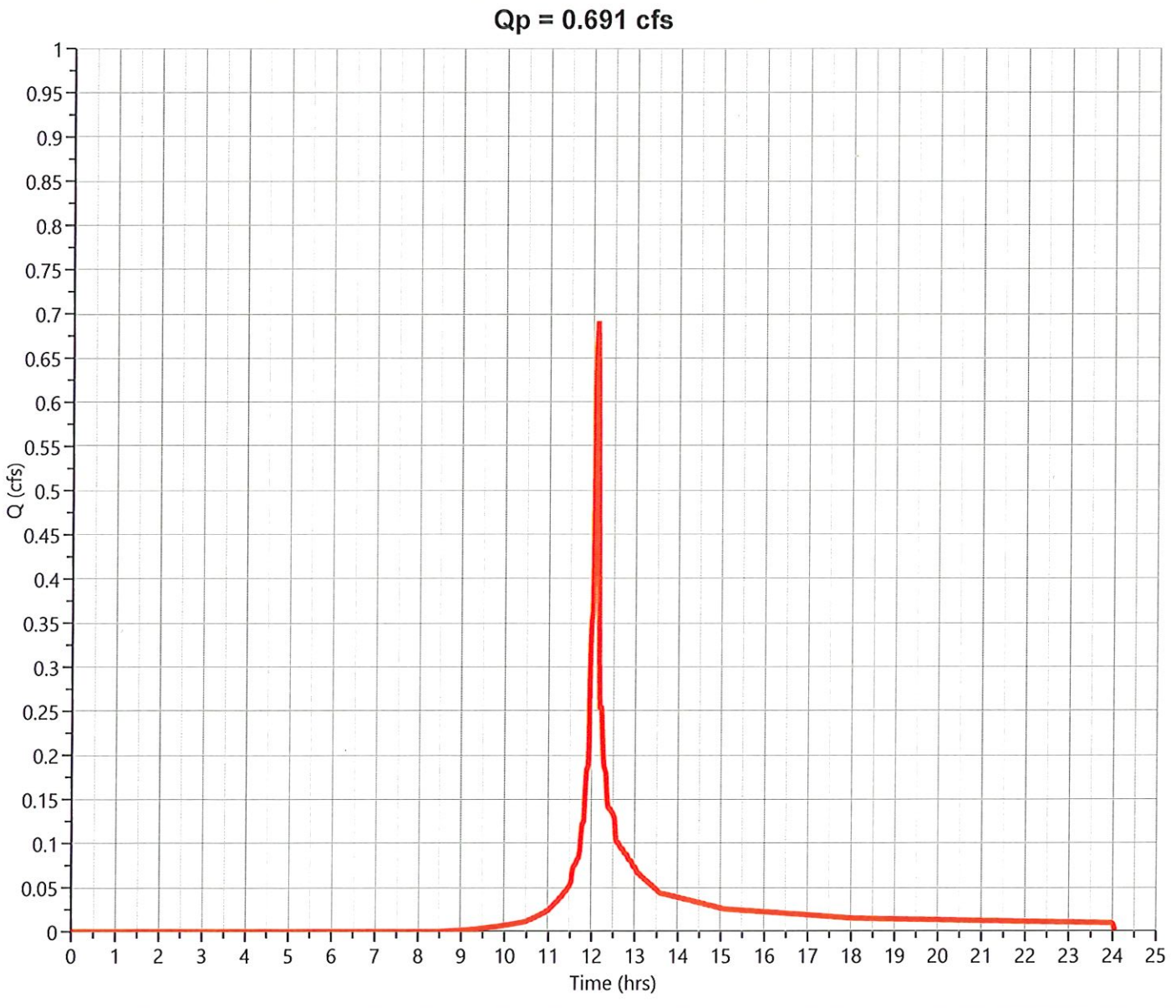
Post Basin NE Pervious

Hyd. No. 16

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.691 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 1,873 cuft
Drainage Area	= 0.33 ac	Curve Number	= 80.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 2.96 min
Total Rainfall	= 3.54 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.33	80.00	Open Space
0.33	**80.00**	Weighted CN Method Employed



Tc by TR55 Worksheet

Project Name: MT-7
File: MT-7.hys

Hydrology Studio v 3.0.0.38

07-03-2025

Basin NE Pervious
NRCS Runoff

Hyd. No. 16

Description	Segments			Tc (min)
	A	B	C	
Sheet Flow				
Description	Lawn			
Manning's n	0.240	0.013	0.013	
Flow Length (ft)	33.33			
2-yr, 24-hr Precip. (in)	3.54	2.28	2.28	
Land Slope (%)	10			
Travel Time (min)	**2.96**	**0.00**	**0.00**	**2.96**
Shallow Concentrated Flow				
Flow Length (ft)				
Watercourse Slope (%)	0.00	0.00	0.00	
Surface Description	Paved	Paved	Paved	
Average Velocity (ft/s)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**2.96 min**

Hydrograph Report

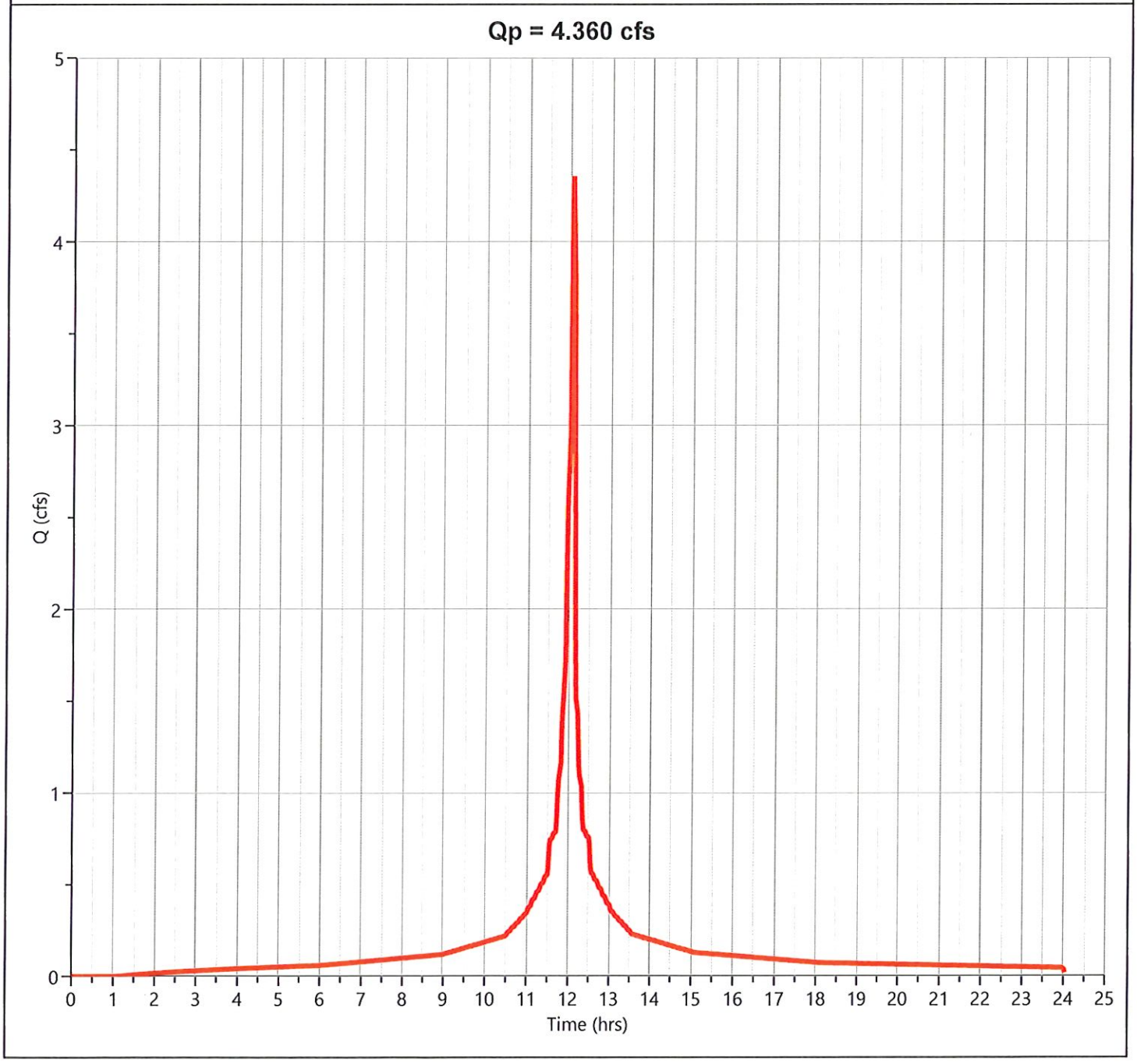
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin NE Impervious

Hyd. No. 17

Hydrograph Type	= NRCS Runoff	Peak Flow	= 4.360 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 14,177 cuft
Drainage Area	= 1.26 ac	Curve Number	= 98.00
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 2.55 min
Total Rainfall	= 3.54 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Tc by TR55 Worksheet

Project Name: MT-7
File: MT-7.hys

Hydrology Studio v 3.0.0.38

07-03-2025

Basin NE Impervious
NRCS Runoff

Hyd. No. 17

Description	Segments			Tc (min)
	A	B	C	
Sheet Flow				
Description	Paved			
Manning's n	0.011	0.013	0.013	
Flow Length (ft)	100			
2-yr, 24-hr Precip. (in)	3.54	2.28	2.28	
Land Slope (%)	.7			
Travel Time (min)	**1.75**	**0.00**	**0.00**	**1.75**
Shallow Concentrated Flow				
Flow Length (ft)	105	17.5		
Watercourse Slope (%)	1.50	18.75	0.00	
Surface Description	Paved	Prairie	Paved	
Average Velocity (ft/s)	2.49	3.01		
Travel Time (min)	**0.70**	**0.10**	**0.00**	**0.80**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**2.55 min**

Hydrograph Report

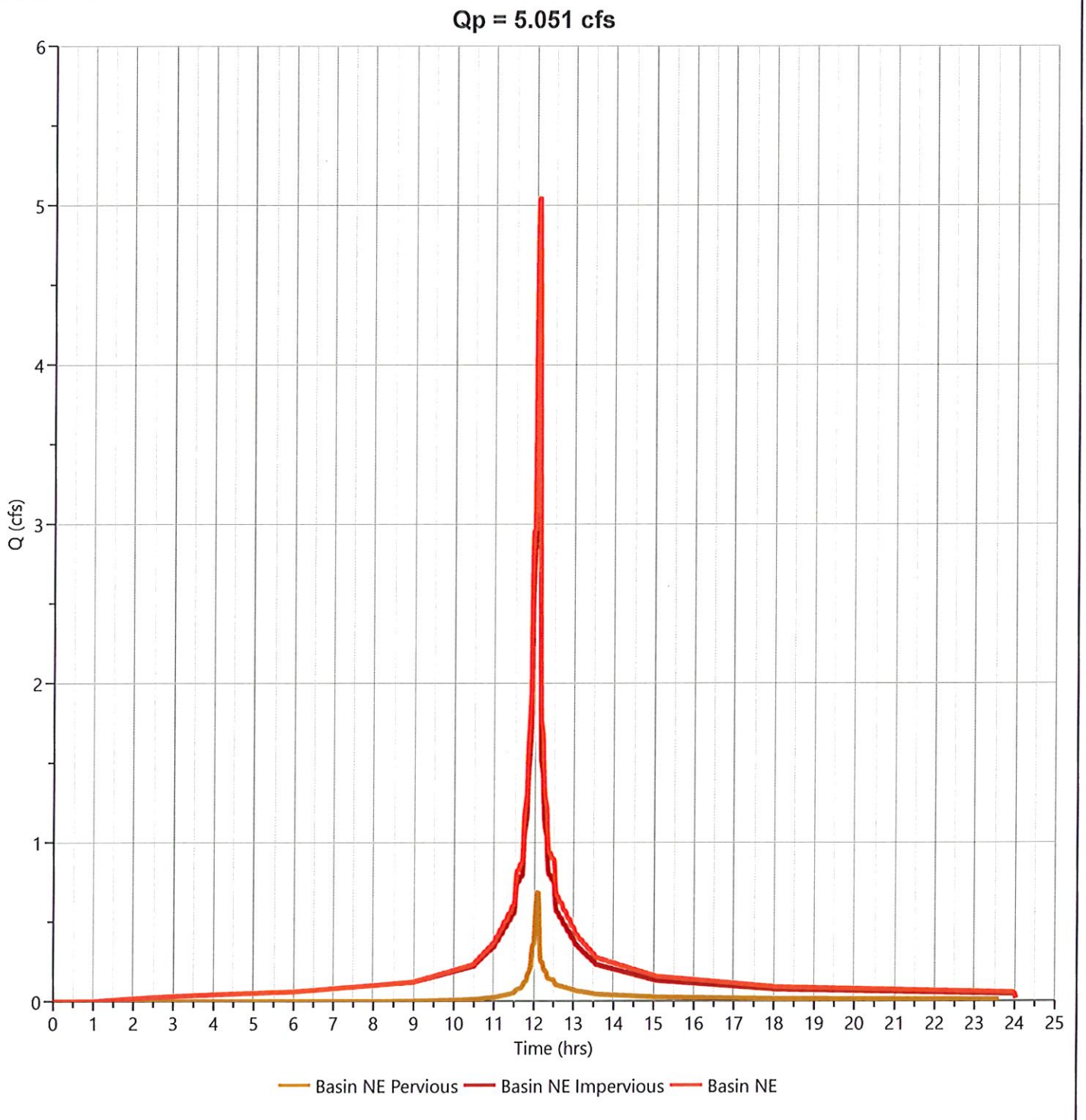
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin NE

Hyd. No. 18

Hydrograph Type	= Junction	Peak Flow	= 5.051 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 16,051 cuft
Inflow Hydrographs	= 16, 17	Total Contrib. Area	= 1.59 ac



Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

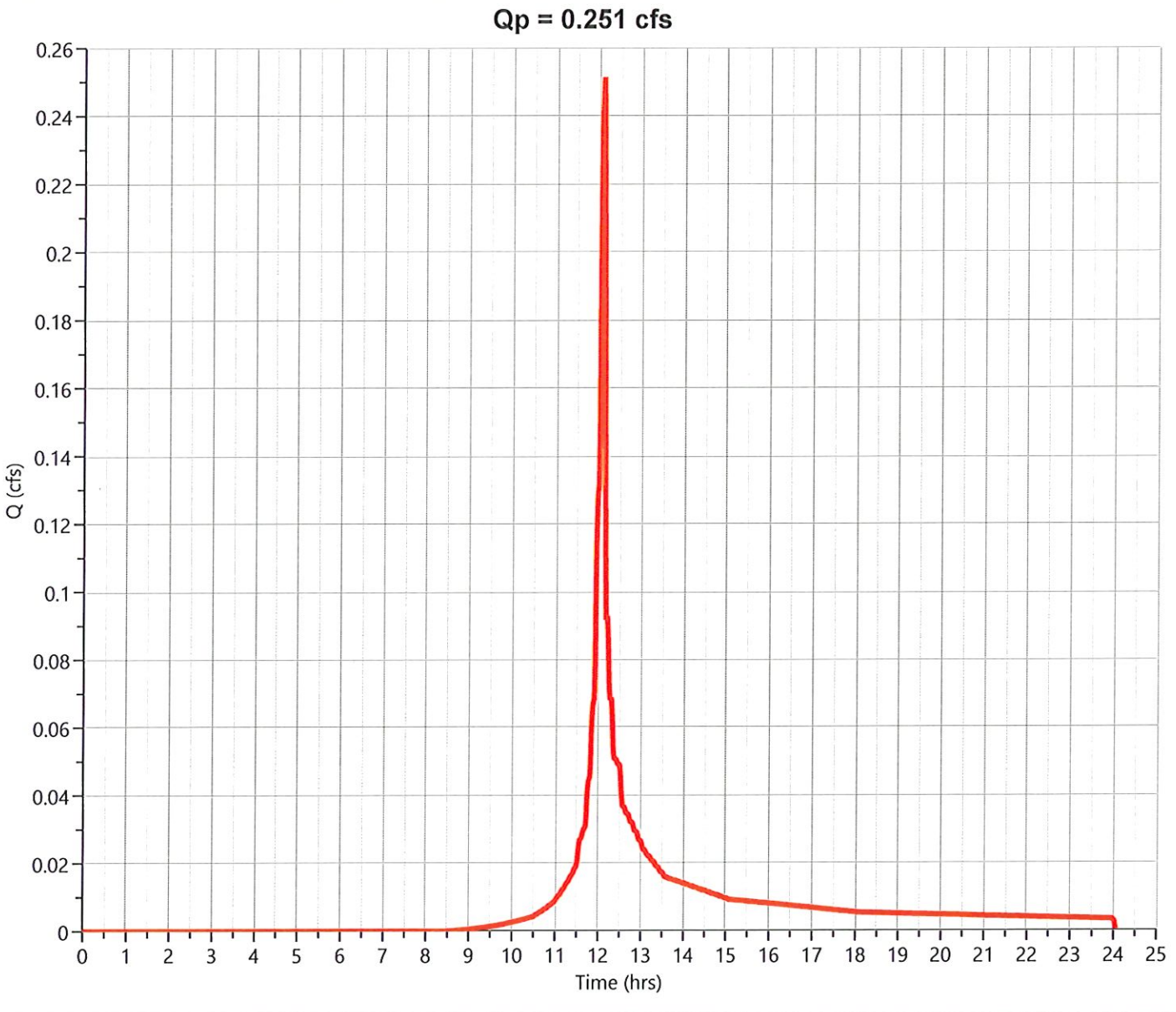
Post Basin Lot 8 Pervious

Hyd. No. 19

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.251 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 681 cuft
Drainage Area	= 0.12 ac	Curve Number	= 80.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 2.62 min
Total Rainfall	= 3.54 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.12	80.00	Open Space
0.12	**80.00**	Weighted CN Method Employed



Tc by TR55 Worksheet

Project Name: MT-7
File: MT-7.hys

Hydrology Studio v 3.0.0.38

07-03-2025

Basin Lot 8 Pervious
NRCS Runoff

Hyd. No. 19

Description	Segments			Tc (min)
	A	B	C	
Sheet Flow				
Description	Lawn			
Manning's n	0.240	0.013	0.013	
Flow Length (ft)	33			
2-yr, 24-hr Precip. (in)	3.54	2.28	2.28	
Land Slope (%)	13.25			
Travel Time (min)	**2.62**	**0.00**	**0.00**	**2.62**
Shallow Concentrated Flow				
Flow Length (ft)				
Watercourse Slope (%)	0.00	0.00	0.00	
Surface Description	Paved	Paved	Paved	
Average Velocity (ft/s)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**2.62 min**

Hydrograph Report

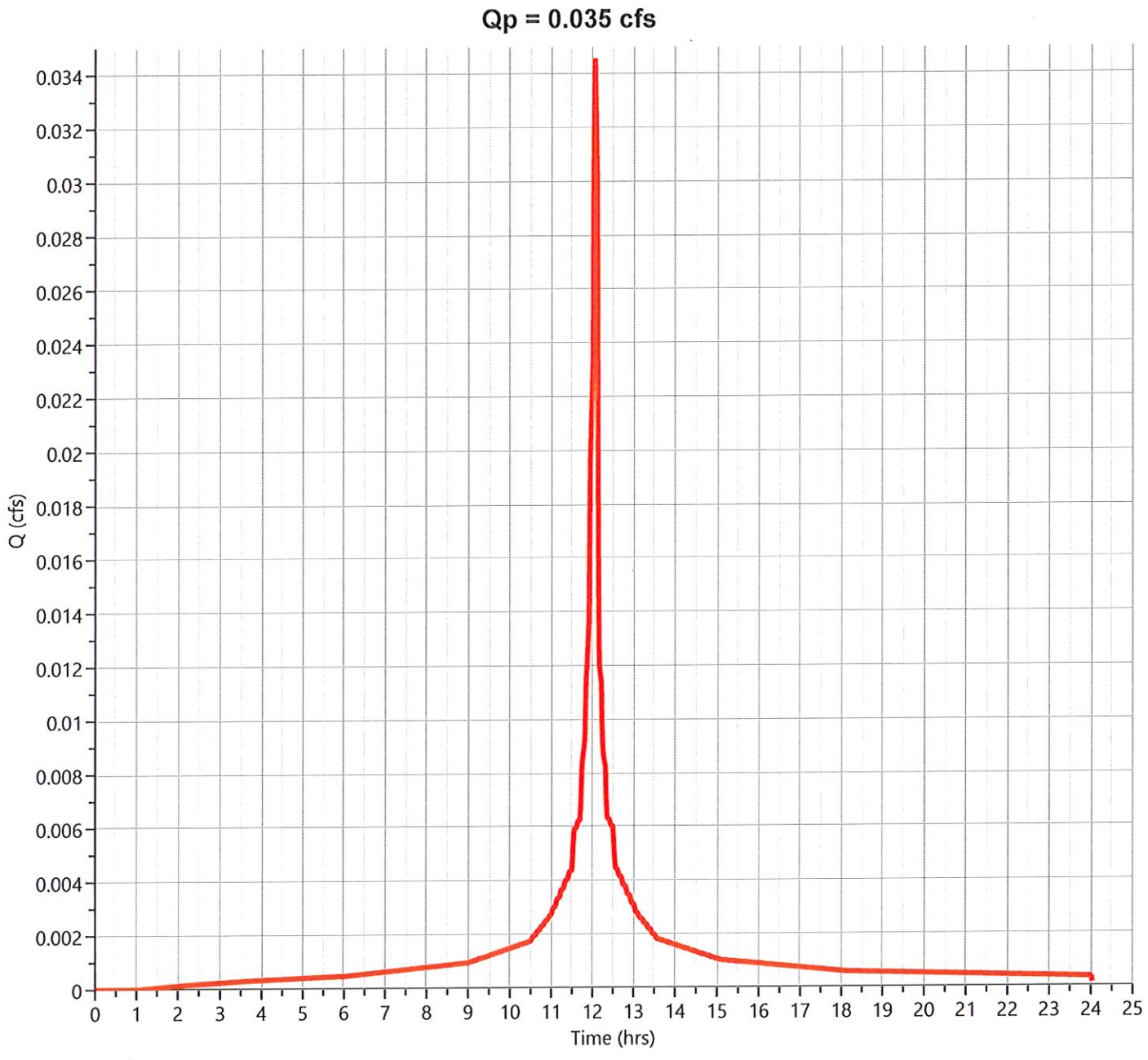
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin Lot 8 Imp.

Hyd. No. 20

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.035 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 113 cuft
Drainage Area	= 0.01 ac	Curve Number	= 98.00
Tc Method	= User	Time of Conc. (Tc)	= 2.0 min
Total Rainfall	= 3.54 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

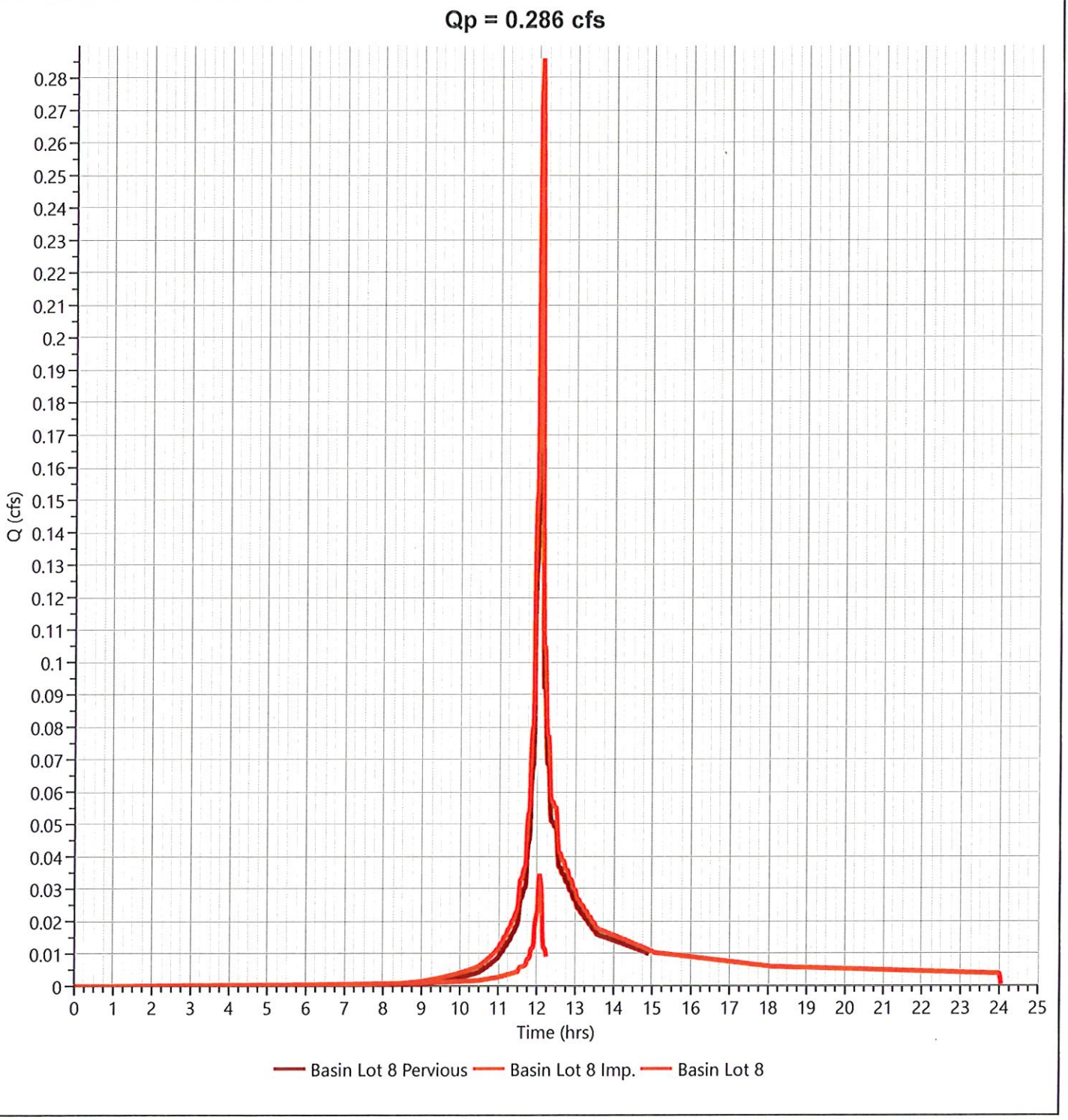
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin Lot 8

Hyd. No. 21

Hydrograph Type	= Junction	Peak Flow	= 0.286 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 794 cuft
Inflow Hydrographs	= 19, 20	Total Contrib. Area	= 0.13 ac



Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

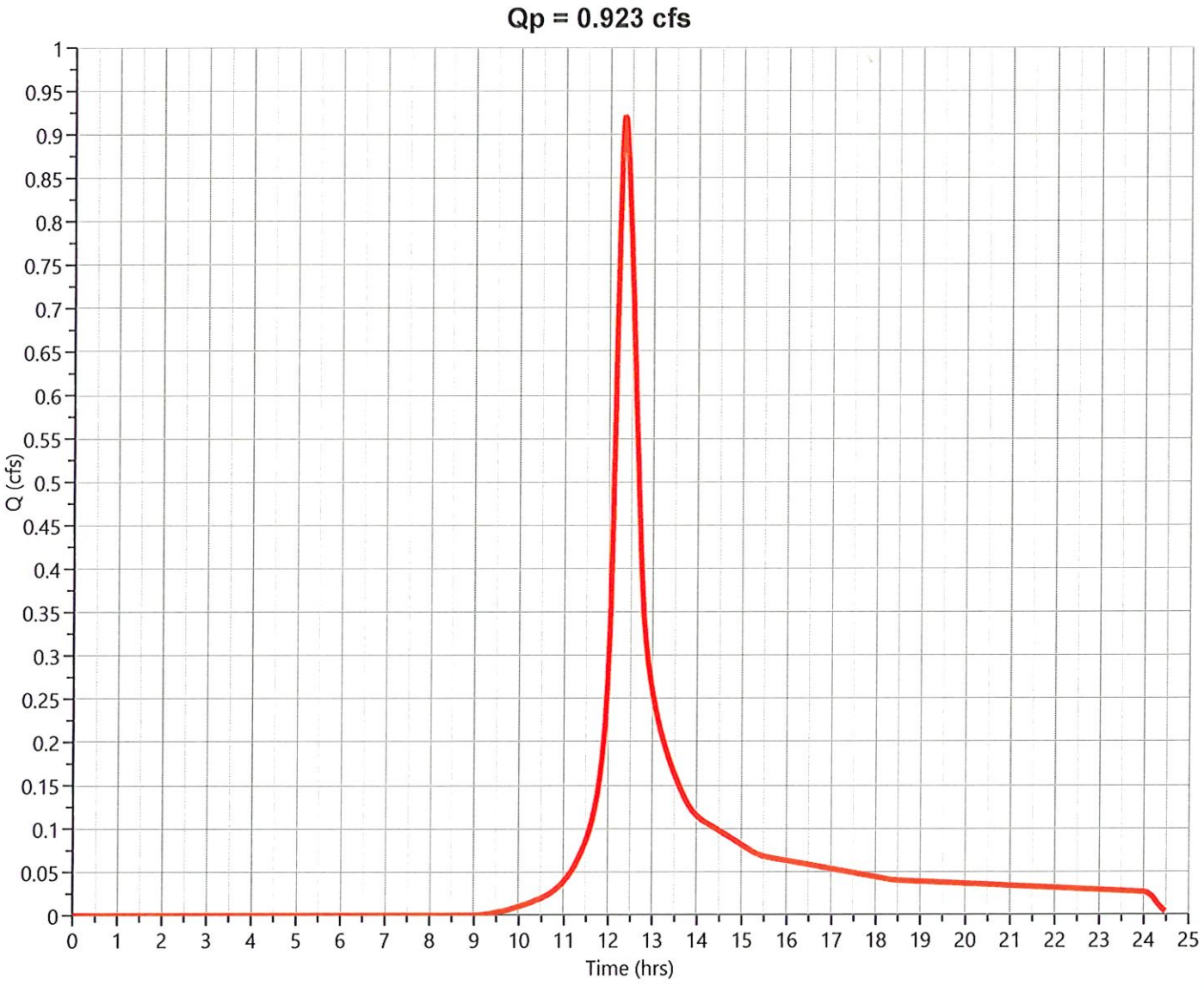
Post Basin N Pervious

Hyd. No. 22

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.923 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.33 hrs
Time Interval	= 1 min	Runoff Volume	= 4,914 cuft
Drainage Area	= 0.85 ac	Curve Number	= 78.76*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 26.77 min
Total Rainfall	= 3.54 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.35	77.00	Woods
0.5	80.00	Open Space
0.85	**78.76**	Weighted CN Method Employed



Tc by TR55 Worksheet

Project Name: MT-7
File: MT-7.hys

Hydrology Studio v 3.0.0.38

07-03-2025

Basin N Pervious
NRCS Runoff

Hyd. No. 22

Description	Segments			Tc (min)
	A	B	C	
Sheet Flow				
Description	Woods			
Manning's n	0.400	0.013	0.013	
Flow Length (ft)	100			
2-yr, 24-hr Precip. (in)	3.54	2.28	2.28	
Land Slope (%)	1.5			
Travel Time (min)	**22.91**	**0.00**	**0.00**	**22.91**
Shallow Concentrated Flow				
Flow Length (ft)	65	155		
Watercourse Slope (%)	2.30	13.00	0.00	
Surface Description	Forest	Prairie	Paved	
Average Velocity (ft/s)	.38	2.51		
Travel Time (min)	**2.84**	**1.03**	**0.00**	**3.87**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**26.77 min**

Hydrograph Report

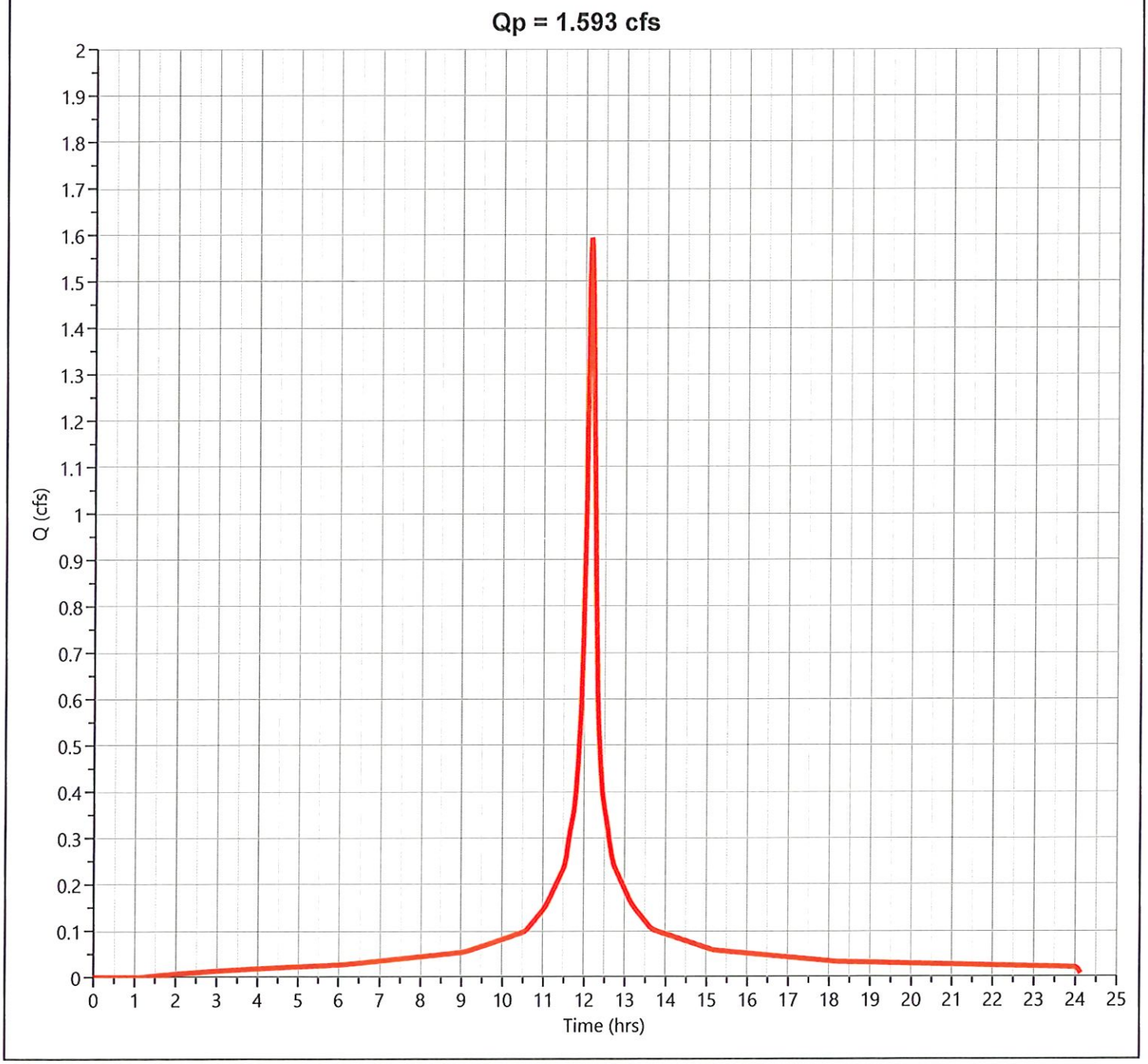
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin N Impervious

Hyd. No. 23

Hydrograph Type	= NRCS Runoff	Peak Flow	= 1.593 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.13 hrs
Time Interval	= 1 min	Runoff Volume	= 6,361 cuft
Drainage Area	= 0.53 ac	Curve Number	= 98.00
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 8.8 min
Total Rainfall	= 3.54 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Tc by TR55 Worksheet

Project Name: MT-7
File: MT-7.hys

Hydrology Studio v 3.0.0.38

07-03-2025

Basin N Impervious
NRCS Runoff

Hyd. No. 23

Description	Segments			Tc (min)
	A	B	C	
Sheet Flow				
Description	Lawn	Woods		
Manning's n	0.240	0.400	0.013	
Flow Length (ft)	85	15		
2-yr, 24-hr Precip. (in)	3.54	3.54	2.28	
Land Slope (%)	10	13.33		
Travel Time (min)	**6.26**	**2.10**	**0.00**	**8.35**
Shallow Concentrated Flow				
Flow Length (ft)	15	20		
Watercourse Slope (%)	13.33	7.50	0.00	
Surface Description	Forest	Prairie	Paved	
Average Velocity (ft/s)	.92	1.91		
Travel Time (min)	**0.27**	**0.17**	**0.00**	**0.45**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**8.8 min**

Hydrograph Report

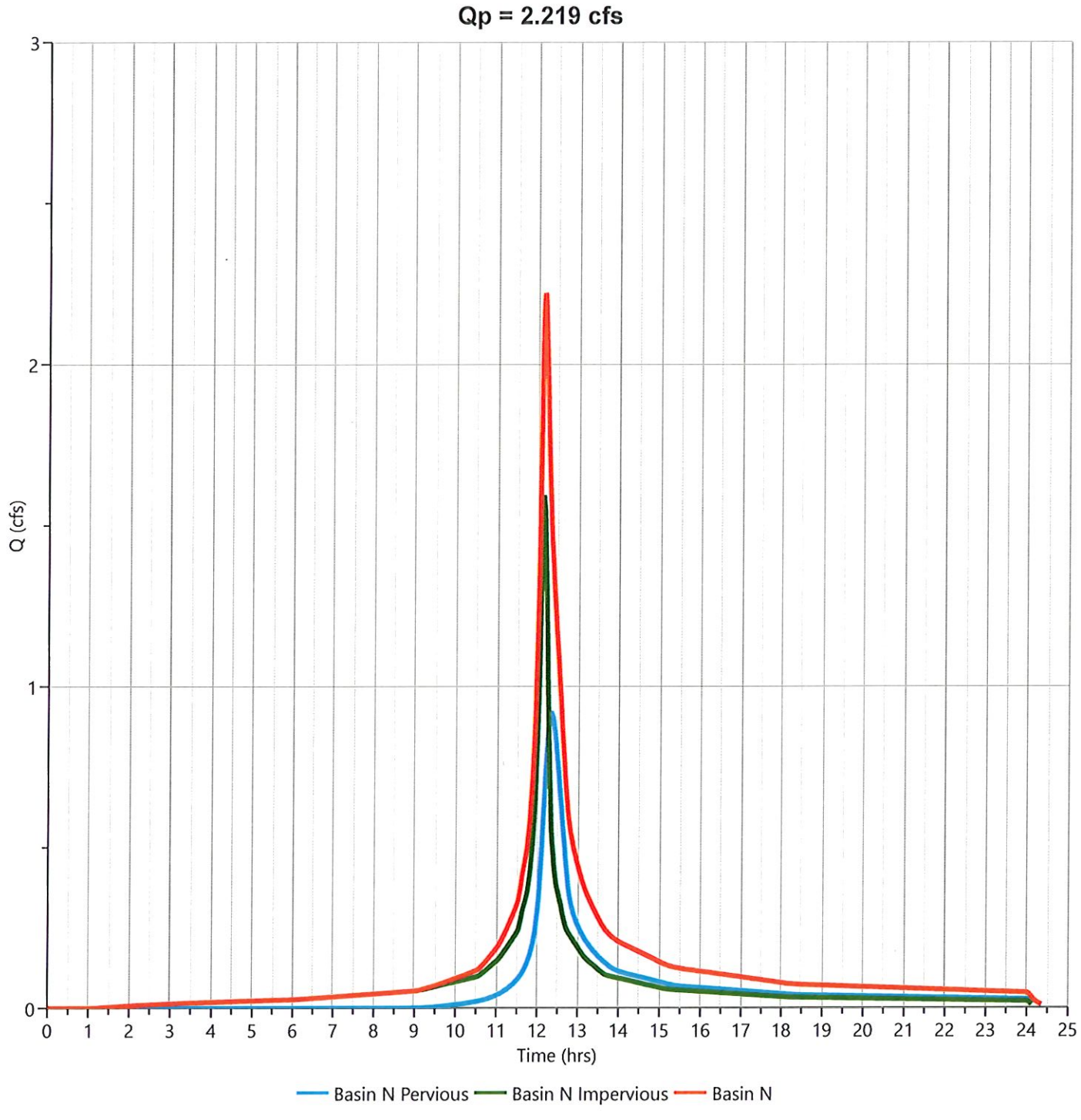
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin N

Hyd. No. 24

Hydrograph Type	= Junction	Peak Flow	= 2.219 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.15 hrs
Time Interval	= 1 min	Hydrograph Volume	= 11,275 cuft
Inflow Hydrographs	= 22, 23	Total Contrib. Area	= 1.38 ac



Hydrograph 10-yr Summary

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	NRCS Runoff	Pre Basin S Pervious	5.088	12.27	24,333	----		
2	NRCS Runoff	Pre Basin S Impervious	38.13	12.10	128,756	----		
3	Junction	Pre Basin S	41.41	12.10	153,088	1, 2		
4	NRCS Runoff	Pre Basin NE Pervious	1.019	12.10	2,929	----		
5	NRCS Runoff	Pre Basin NE Impervious	7.977	12.10	26,389	----		
6	Junction	Pre Basin NE	8.996	12.10	29,318	4, 5		
7	NRCS Runoff	Pre Basin Lot 8 Pervious	0.305	12.10	845	----		
8	NRCS Runoff	Pre Basin Lot 8 Imp.	0.515	12.10	1,703	----		
9	Junction	Pre Basin Lot 8	0.820	12.10	2,547	7, 8		
10	NRCS Runoff	Pre Basin N Pervious	1.289	12.32	6,803	----		
11	NRCS Runoff	Pre Basin N Impervious	3.893	12.13	15,799	----		
12	Junction	Pre Basin N	4.800	12.15	22,602	10, 11		
13	NRCS Runoff	Post Basin S Pervious	5.753	12.27	27,511	----		
14	NRCS Runoff	Post Basin S Impervious	37.06	12.10	122,581	----		
15	Junction	Post Basin S	40.77	12.10	150,092	13, 14		
16	NRCS Runoff	Post Basin NE Pervious	1.260	12.10	3,485	----		
17	NRCS Runoff	Post Basin NE Impervious	6.485	12.10	21,452	----		
18	Junction	Post Basin NE	7.745	12.10	24,937	16, 17		
19	NRCS Runoff	Post Basin Lot 8 Pervious	0.458	12.10	1,267	----		
20	NRCS Runoff	Post Basin Lot 8 Imp.	0.051	12.10	170	----		
21	Junction	Post Basin Lot 8	0.510	12.10	1,438	19, 20		
22	NRCS Runoff	Post Basin N Pervious	1.759	12.32	9,288	----		
23	NRCS Runoff	Post Basin N Impervious	2.372	12.13	9,625	----		
24	Junction	Post Basin N	3.626	12.17	18,913	22, 23		

Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

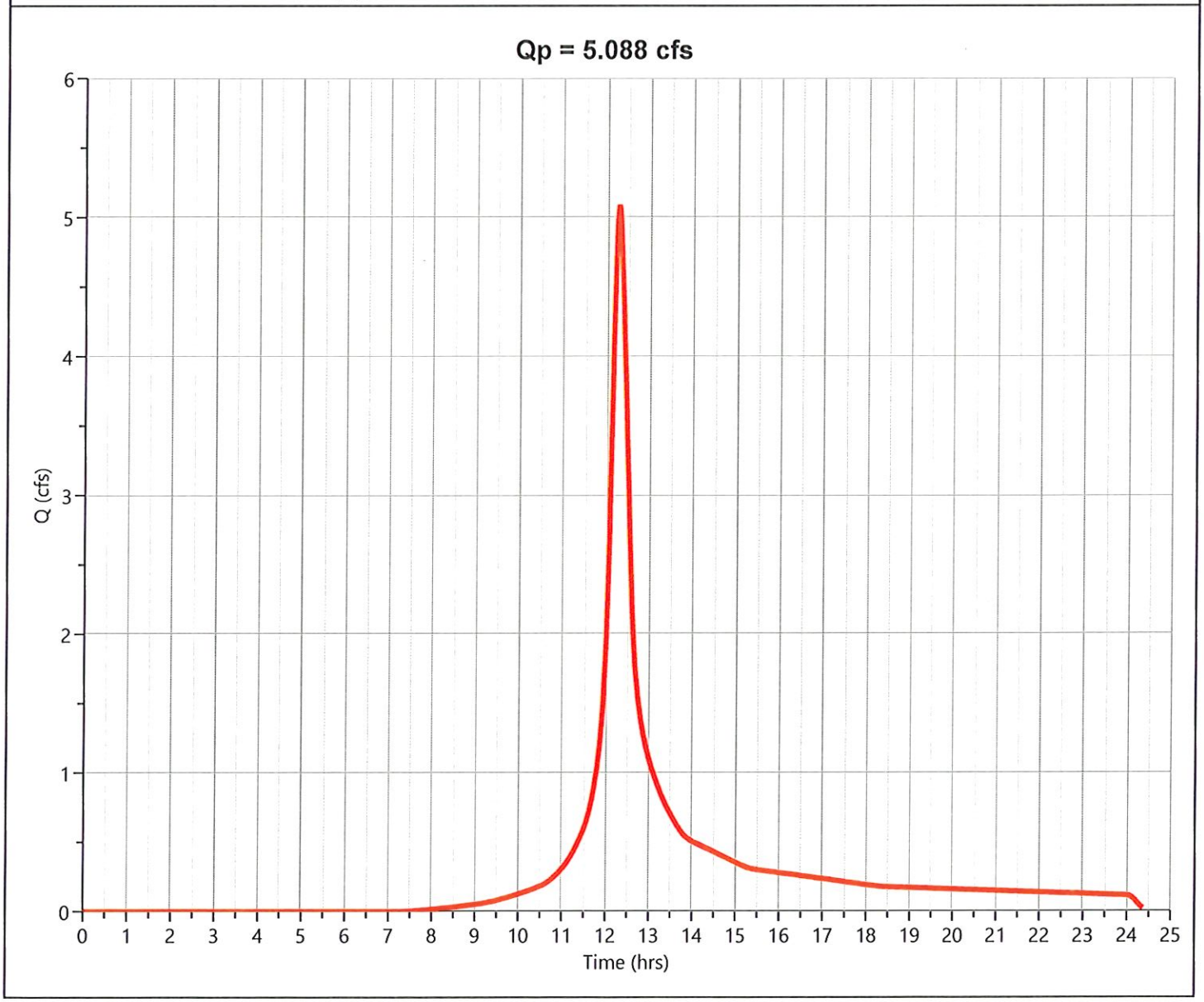
Pre Basin S Pervious

Hyd. No. 1

Hydrograph Type	= NRCS Runoff	Peak Flow	= 5.088 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.27 hrs
Time Interval	= 1 min	Runoff Volume	= 24,333 cuft
Drainage Area	= 2.28 ac	Curve Number	= 77.95*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 20.4 min
Total Rainfall	= 5.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
1.56	77.00	Woods
0.72	80.00	Open Space
2.28	**77.95**	Weighted CN Method Employed



Hydrograph Report

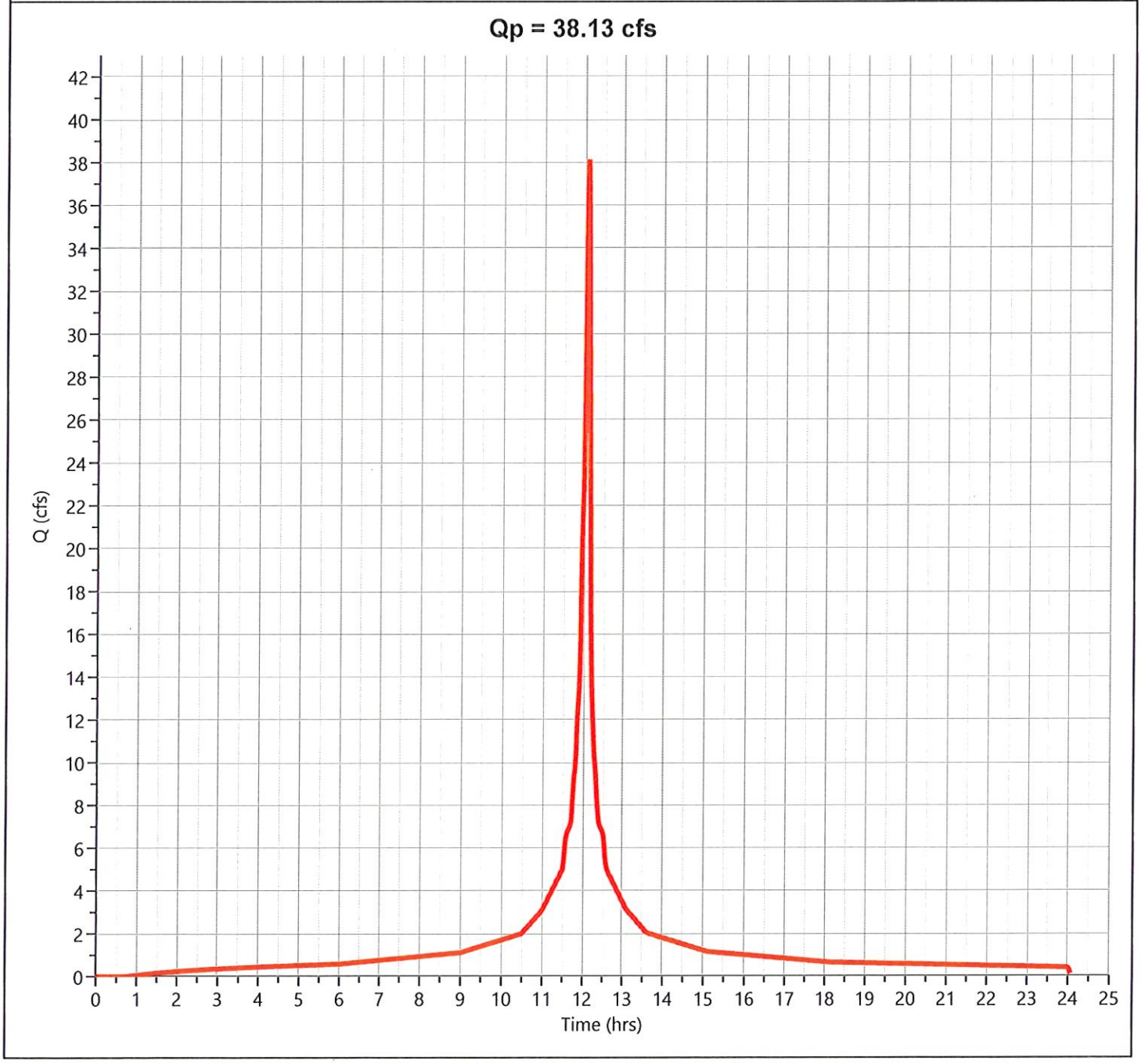
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin S Impervious

Hyd. No. 2

Hydrograph Type	= NRCS Runoff	Peak Flow	= 38.13 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 128,756 cuft
Drainage Area	= 7.09 ac	Curve Number	= 98.00
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 4.92 min
Total Rainfall	= 5.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

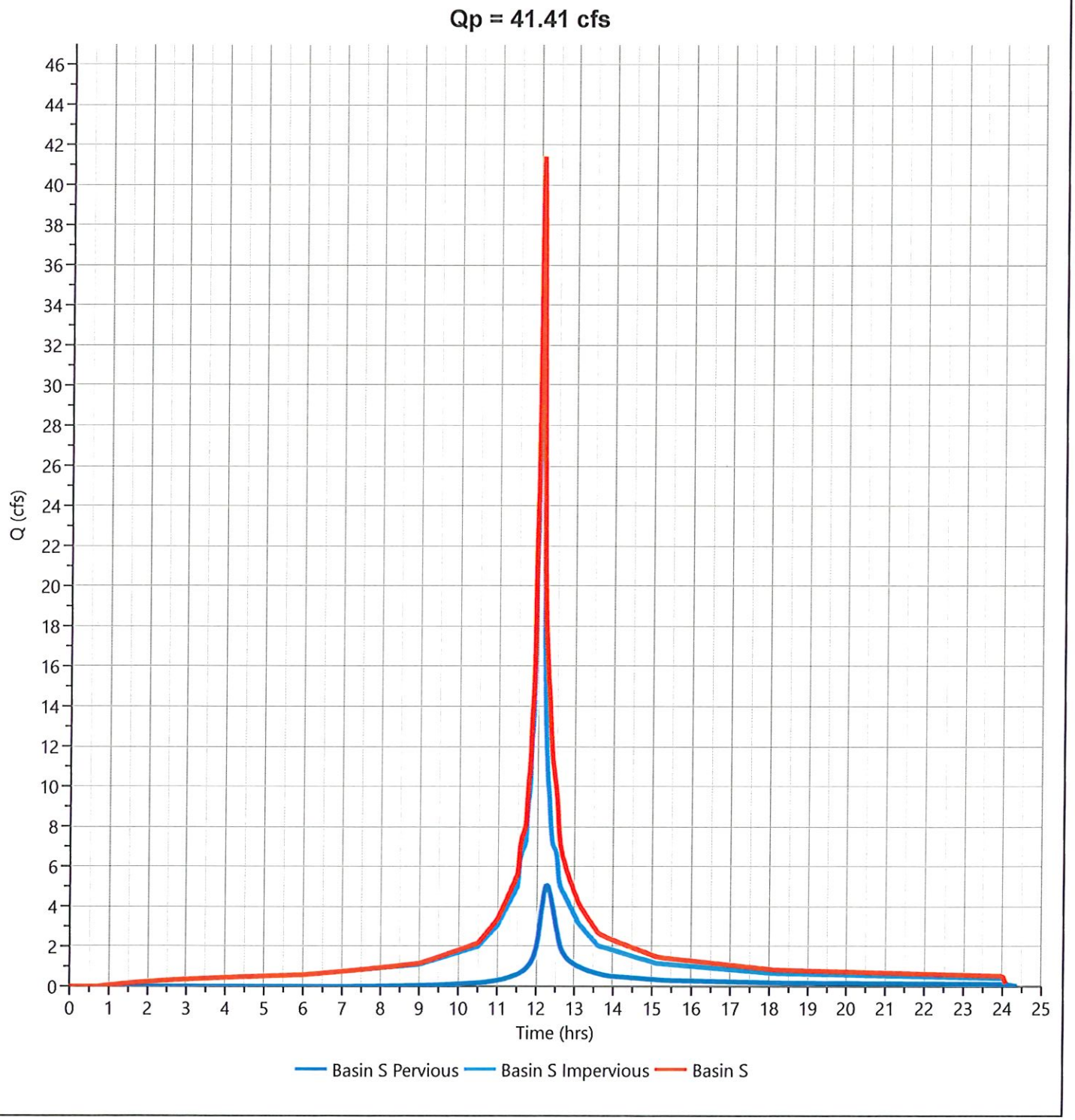
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin S

Hyd. No. 3

Hydrograph Type	= Junction	Peak Flow	= 41.41 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 153,088 cuft
Inflow Hydrographs	= 1, 2	Total Contrib. Area	= 9.37 ac



Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

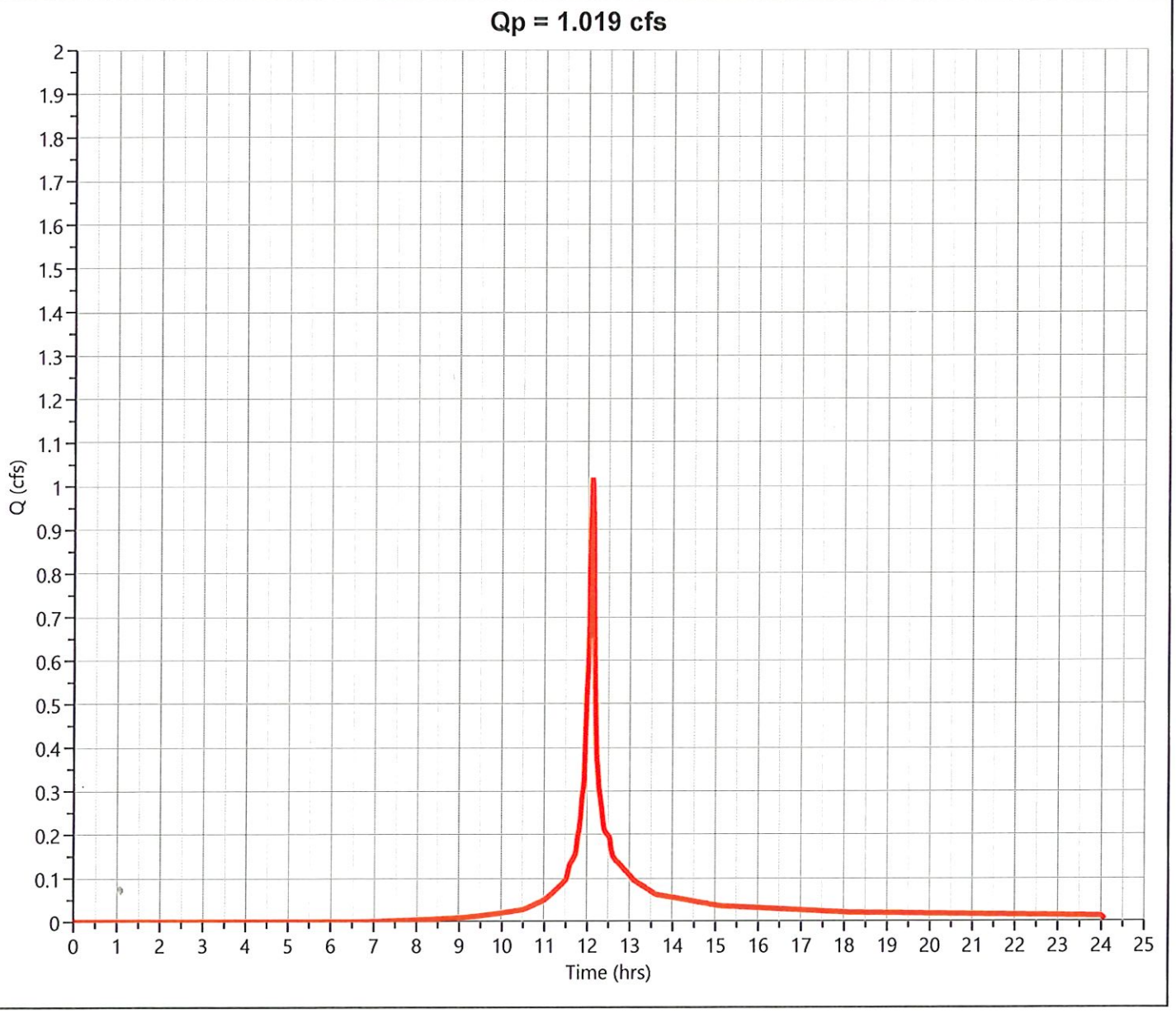
Pre Basin NE Pervious

Hyd. No. 4

Hydrograph Type	= NRCS Runoff	Peak Flow	= 1.019 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 2,929 cuft
Drainage Area	= 0.26 ac	Curve Number	= 80.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 4.69 min
Total Rainfall	= 5.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.26	80.00	Open Space
0.26	**80.00**	Weighted CN Method Employed



Hydrograph Report

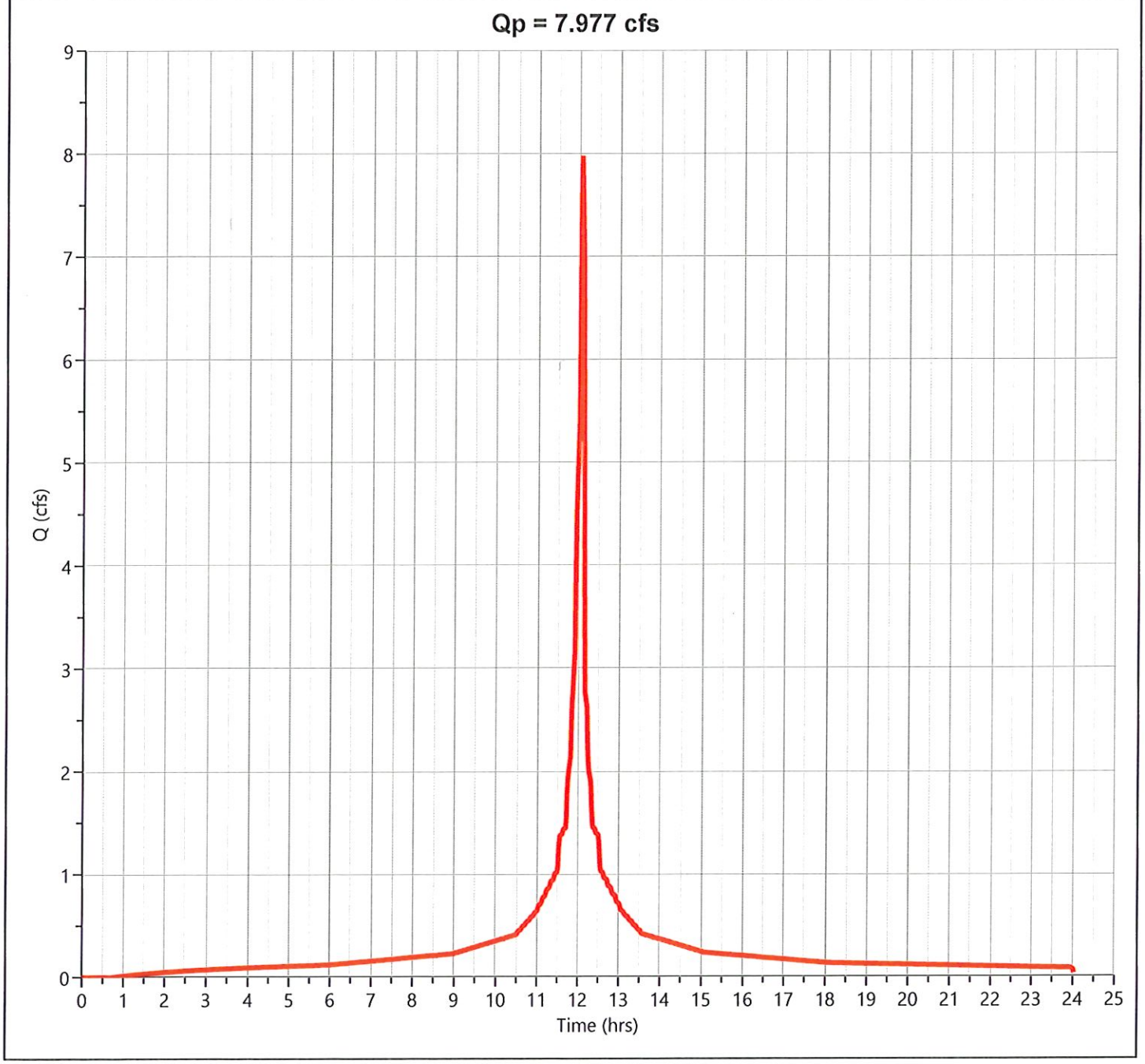
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin NE Impervious

Hyd. No. 5

Hydrograph Type	= NRCS Runoff	Peak Flow	= 7.977 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 26,389 cuft
Drainage Area	= 1.55 ac	Curve Number	= 98.00
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 2.19 min
Total Rainfall	= 5.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

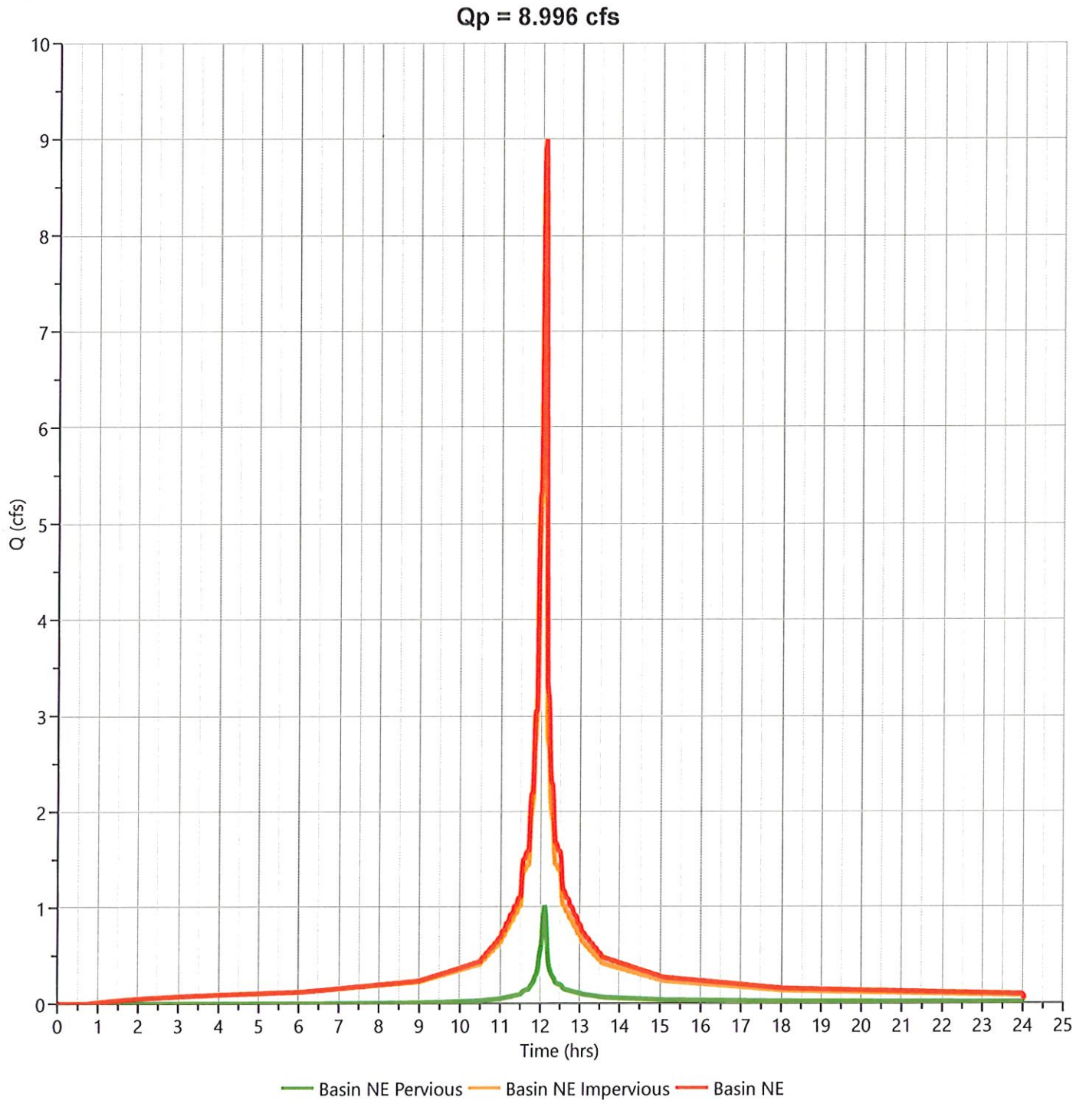
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin NE

Hyd. No. 6

Hydrograph Type	= Junction	Peak Flow	= 8.996 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 29,318 cuft
Inflow Hydrographs	= 4, 5	Total Contrib. Area	= 1.81 ac



Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

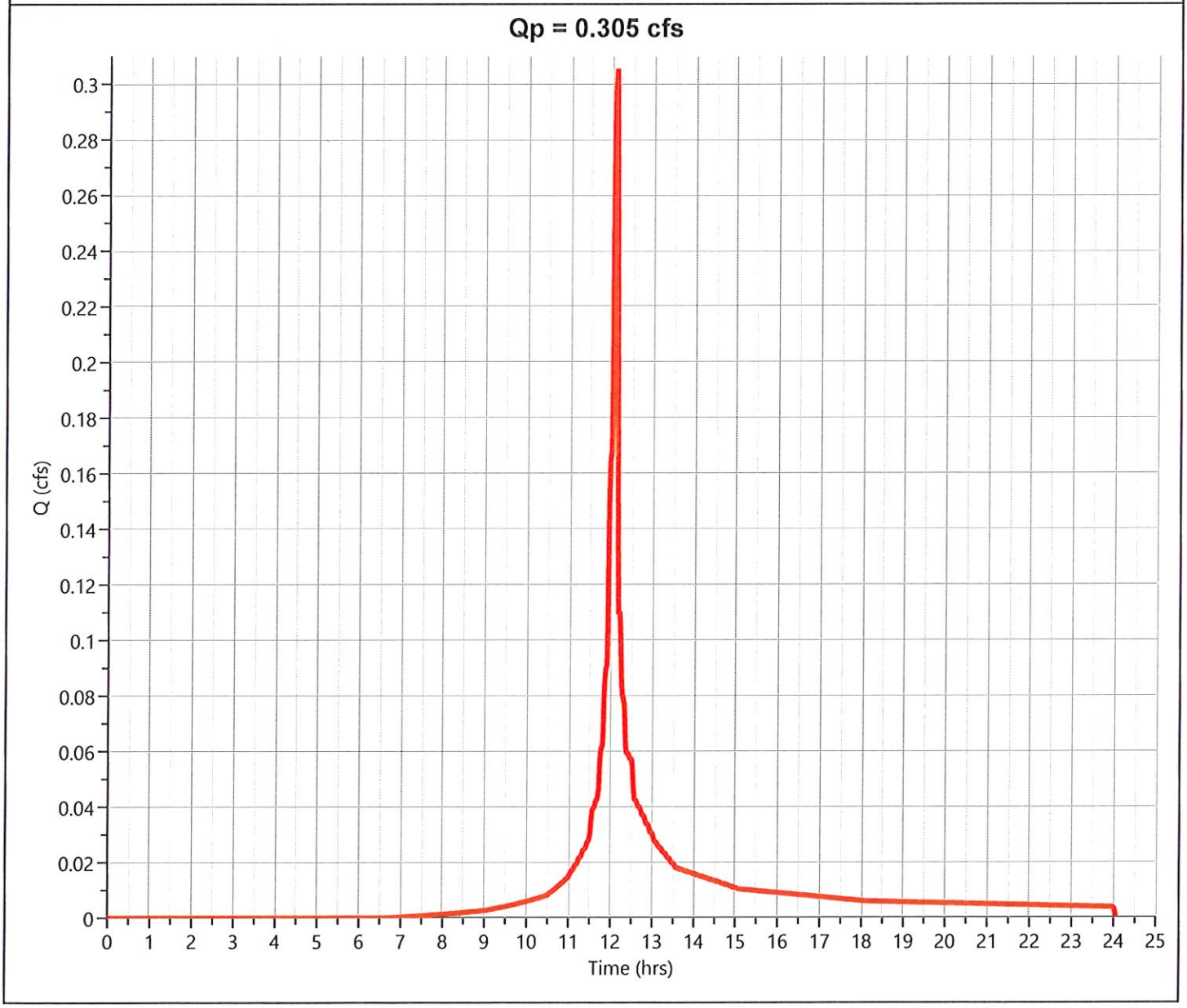
Pre Basin Lot 8 Pervious

Hyd. No. 7

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.305 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 845 cuft
Drainage Area	= 0.08 ac	Curve Number	= 80.00*
Tc Method	= User	Time of Conc. (Tc)	= 2.0 min
Total Rainfall	= 5.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.08	80.00	Open Space
0.08	**80.00**	Weighted CN Method Employed



Hydrograph Report

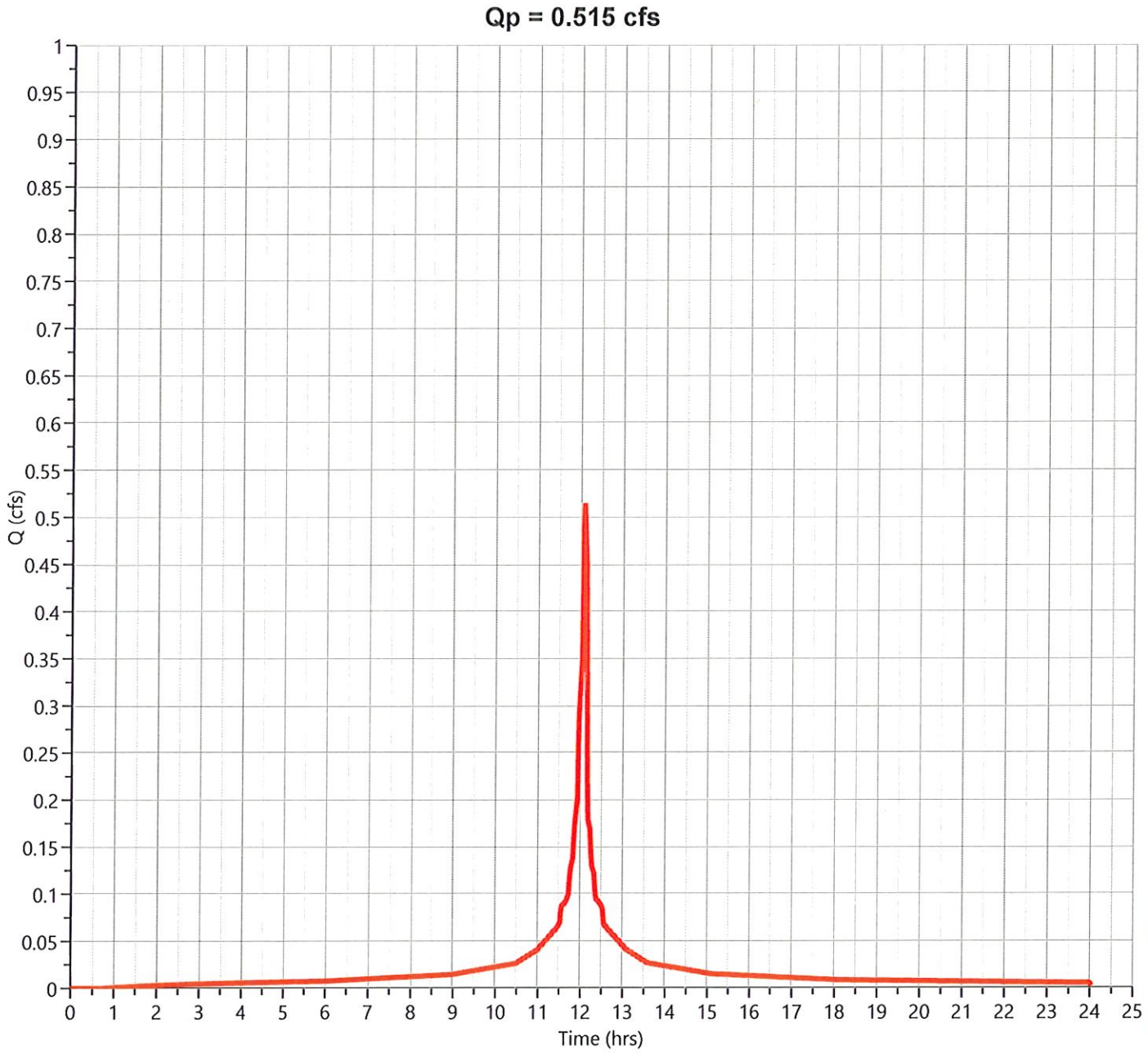
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin Lot 8 Imp.

Hyd. No. 8

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.515 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 1,703 cuft
Drainage Area	= 0.1 ac	Curve Number	= 98.00
Tc Method	= User	Time of Conc. (Tc)	= 2.0 min
Total Rainfall	= 5.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

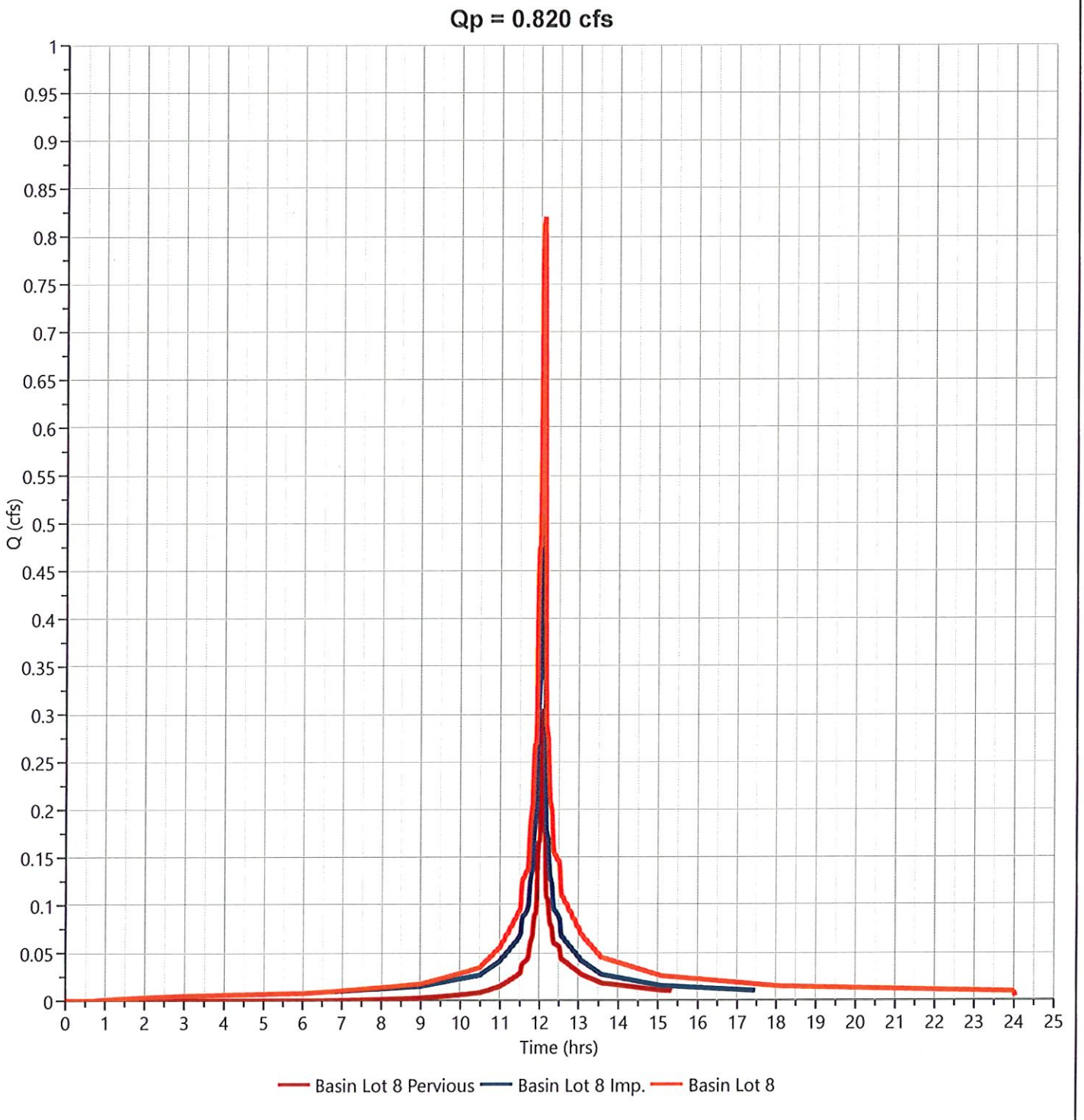
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin Lot 8

Hyd. No. 9

Hydrograph Type	= Junction	Peak Flow	= 0.820 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 2,547 cuft
Inflow Hydrographs	= 7, 8	Total Contrib. Area	= 0.18 ac



Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

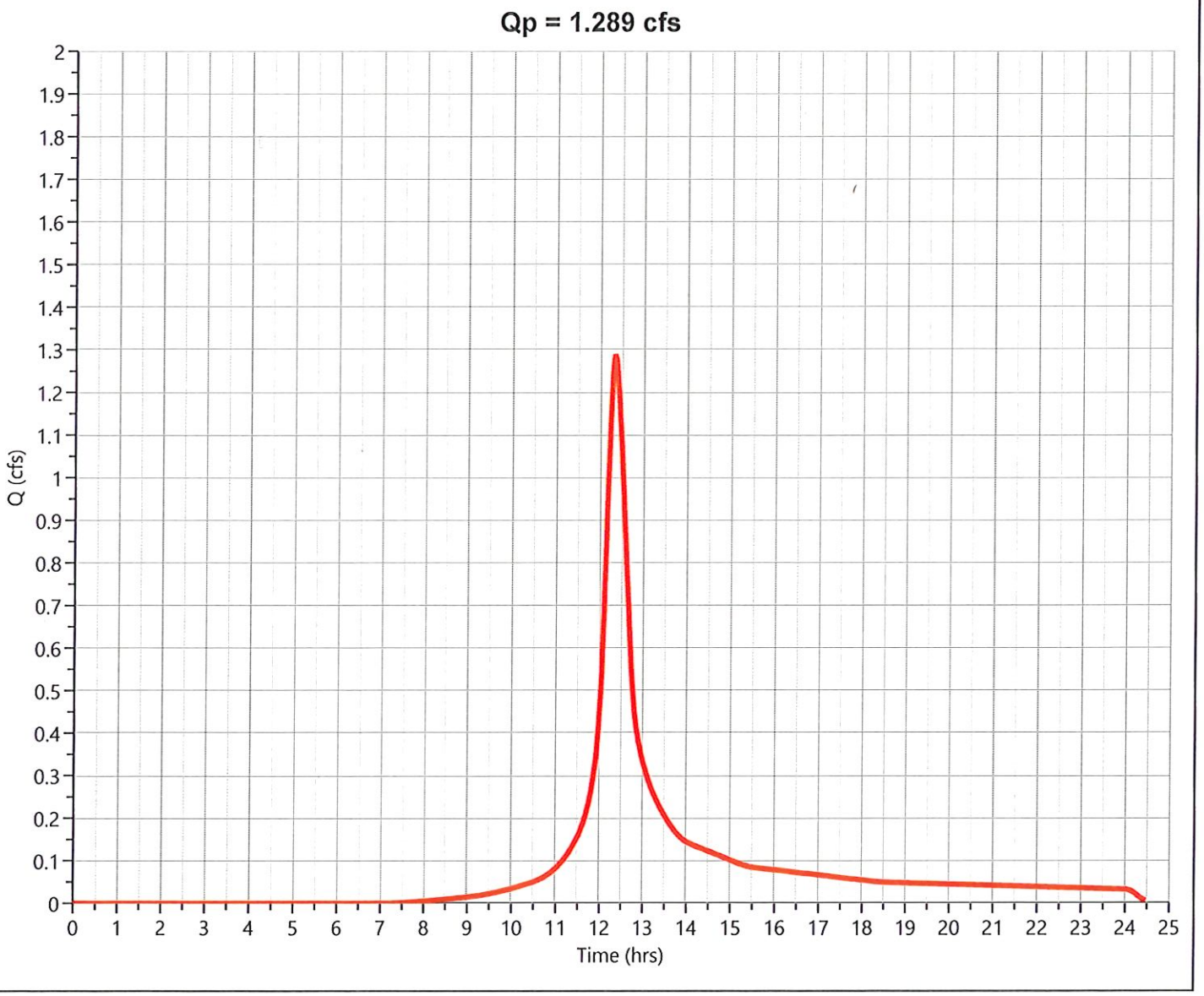
Pre Basin N Pervious

Hyd. No. 10

Hydrograph Type	= NRCS Runoff	Peak Flow	= 1.289 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.32 hrs
Time Interval	= 1 min	Runoff Volume	= 6,803 cuft
Drainage Area	= 0.63 ac	Curve Number	= 78.38*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 26.45 min
Total Rainfall	= 5.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.34	77.00	Woods
0.29	80.00	Open Space
0.63	**78.38**	Weighted CN Method Employed



Hydrograph Report

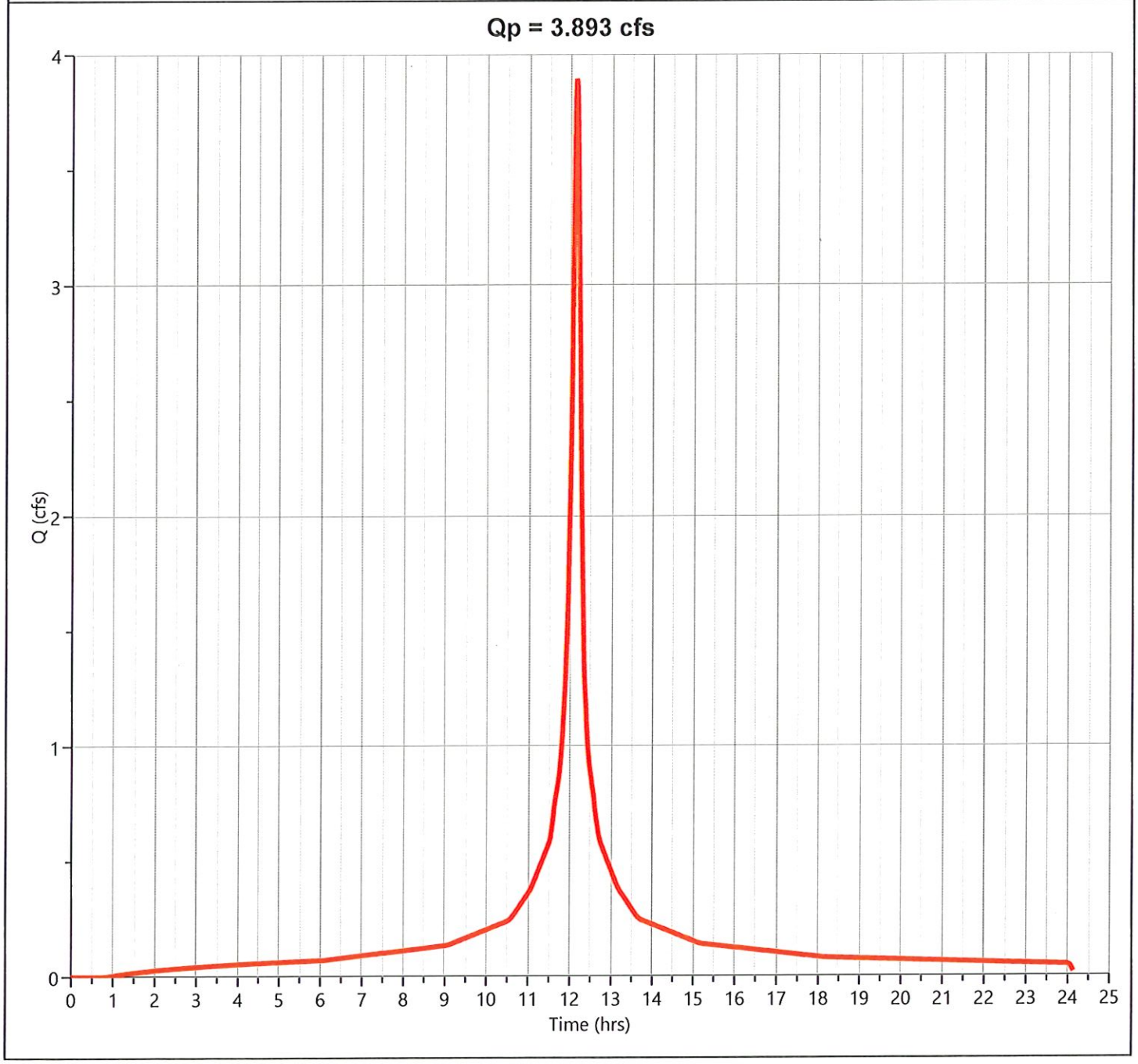
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin N Impervious

Hyd. No. 11

Hydrograph Type	= NRCS Runoff	Peak Flow	= 3.893 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.13 hrs
Time Interval	= 1 min	Runoff Volume	= 15,799 cuft
Drainage Area	= 0.87 ac	Curve Number	= 98.00
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 8.65 min
Total Rainfall	= 5.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

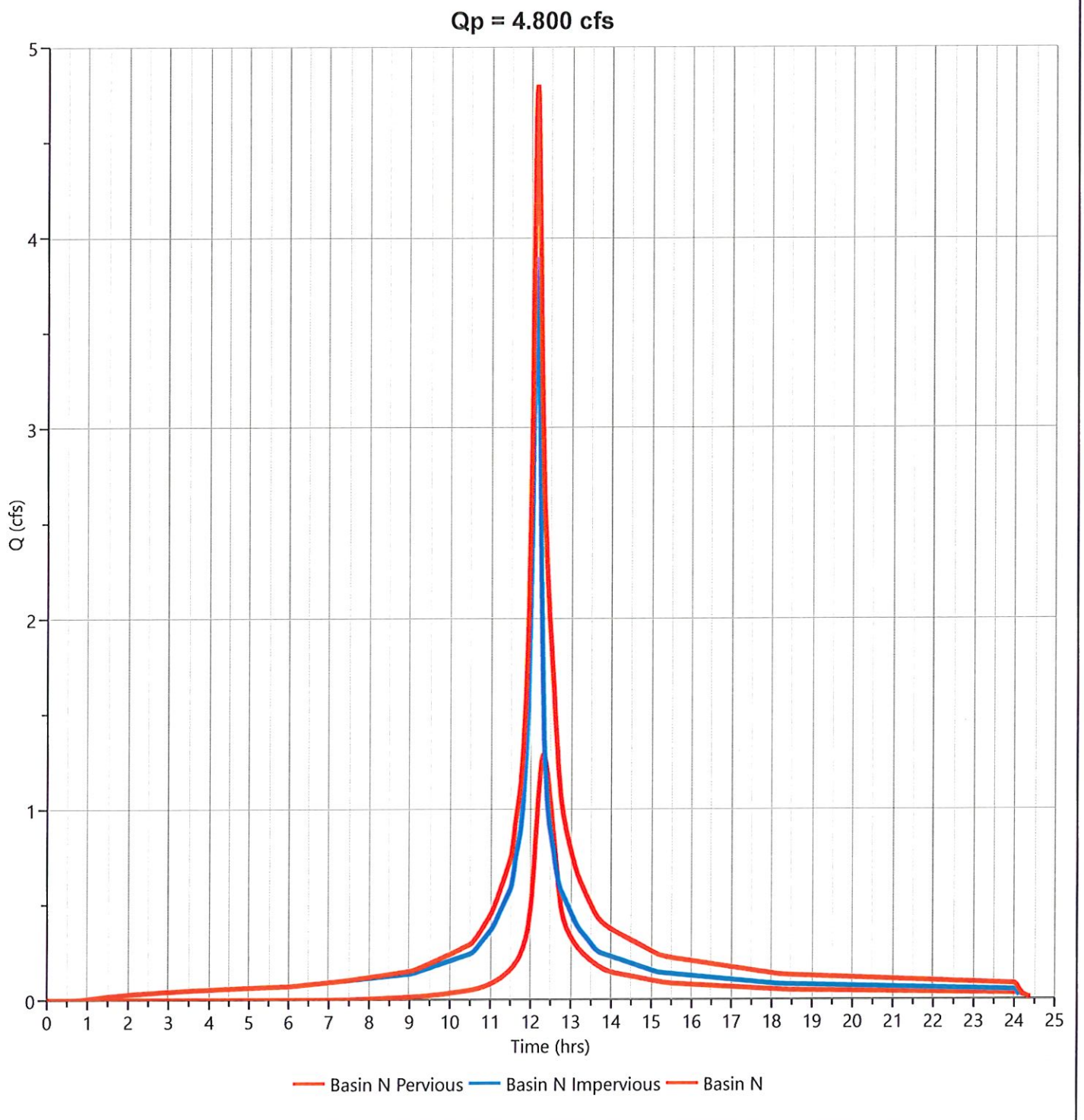
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin N

Hyd. No. 12

Hydrograph Type	= Junction	Peak Flow	= 4.800 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.15 hrs
Time Interval	= 1 min	Hydrograph Volume	= 22,602 cuft
Inflow Hydrographs	= 10, 11	Total Contrib. Area	= 1.5 ac



Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

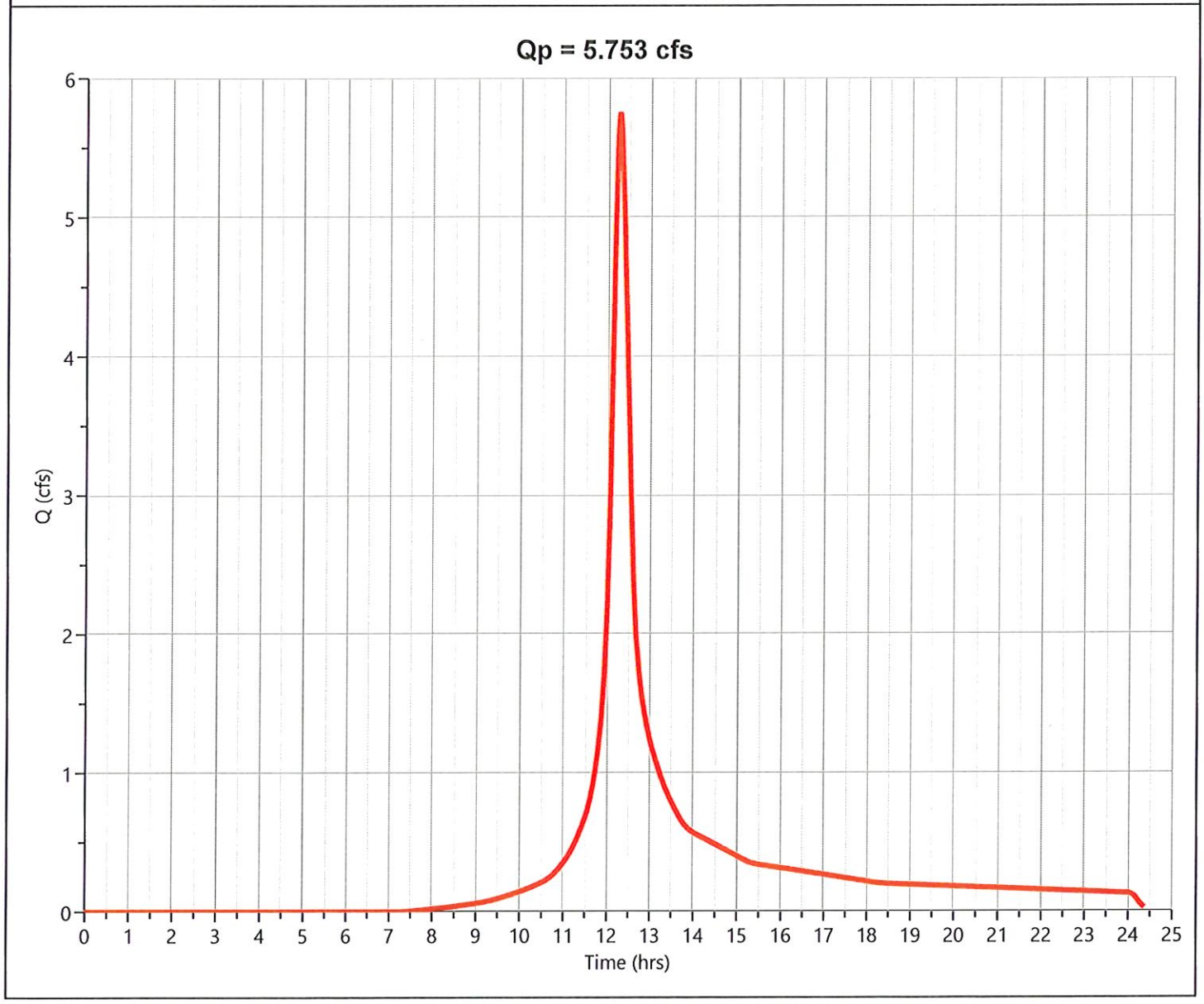
Post Basin S Pervious

Hyd. No. 13

Hydrograph Type	= NRCS Runoff	Peak Flow	= 5.753 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.27 hrs
Time Interval	= 1 min	Runoff Volume	= 27,511 cuft
Drainage Area	= 2.56 ac	Curve Number	= 78.17*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 20.4 min
Total Rainfall	= 5.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
1.56	77.00	Woods
1.0	80.00	Open Space
2.56	**78.17**	Weighted CN Method Employed



Hydrograph Report

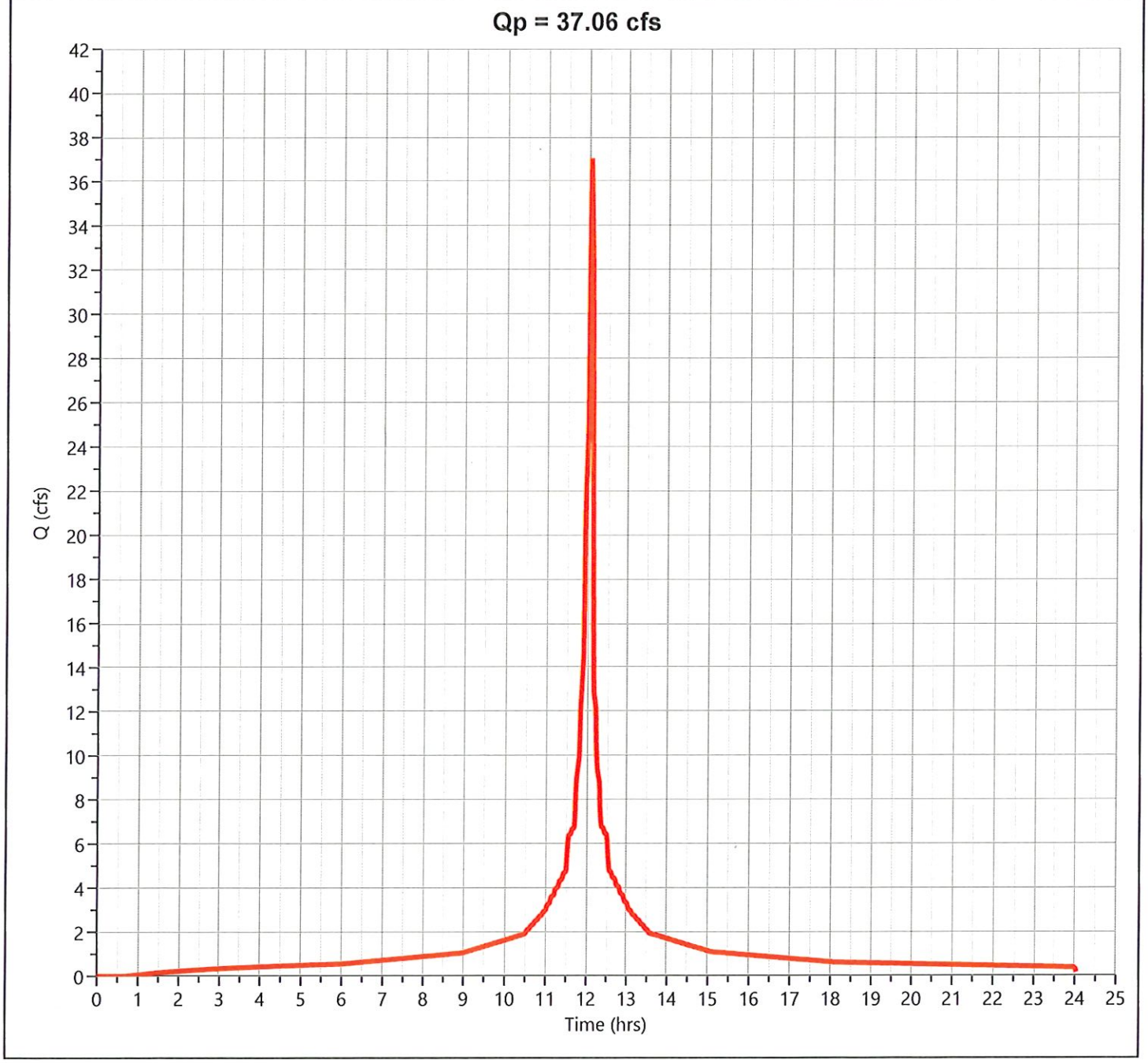
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin S Impervious

Hyd. No. 14

Hydrograph Type	= NRCS Runoff	Peak Flow	= 37.06 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 122,581 cuft
Drainage Area	= 7.2 ac	Curve Number	= 98.00
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 2.68 min
Total Rainfall	= 5.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

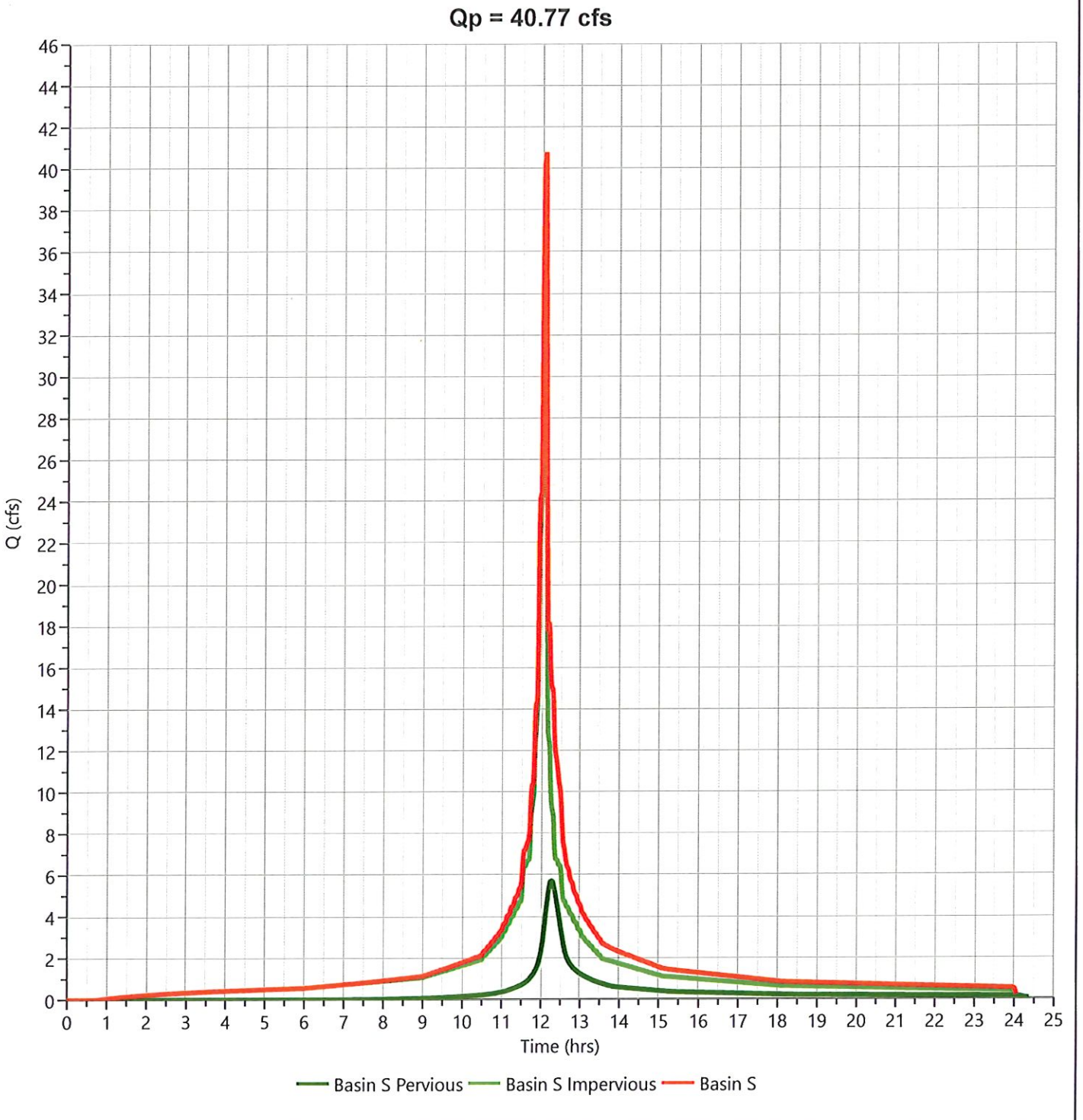
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin S

Hyd. No. 15

Hydrograph Type	= Junction	Peak Flow	= 40.77 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 150,092 cuft
Inflow Hydrographs	= 13, 14	Total Contrib. Area	= 9.76 ac



Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

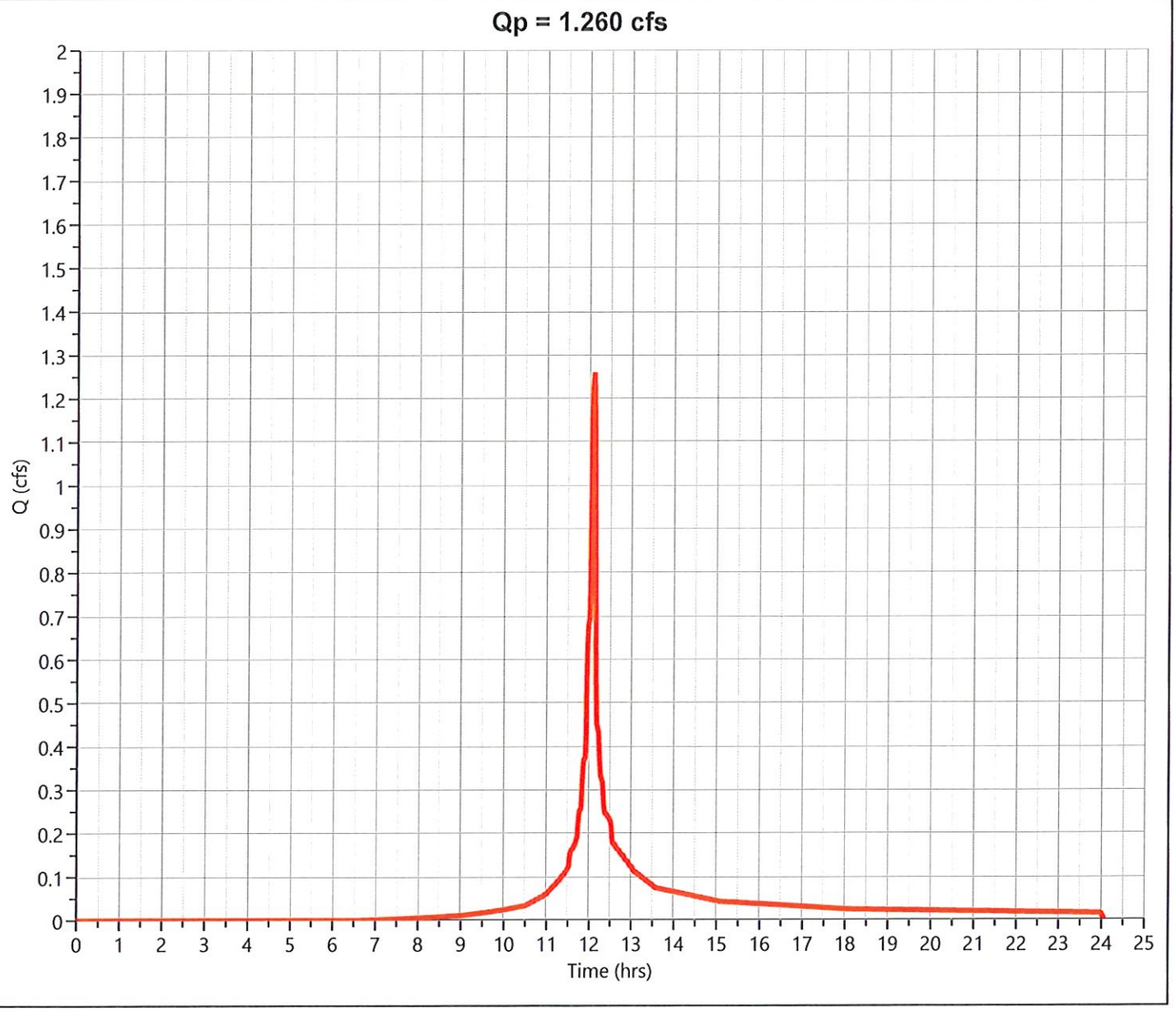
Post Basin NE Pervious

Hyd. No. 16

Hydrograph Type	= NRCS Runoff	Peak Flow	= 1.260 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 3,485 cuft
Drainage Area	= 0.33 ac	Curve Number	= 80.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 2.96 min
Total Rainfall	= 5.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.33	80.00	Open Space
0.33	**80.00**	Weighted CN Method Employed



Hydrograph Report

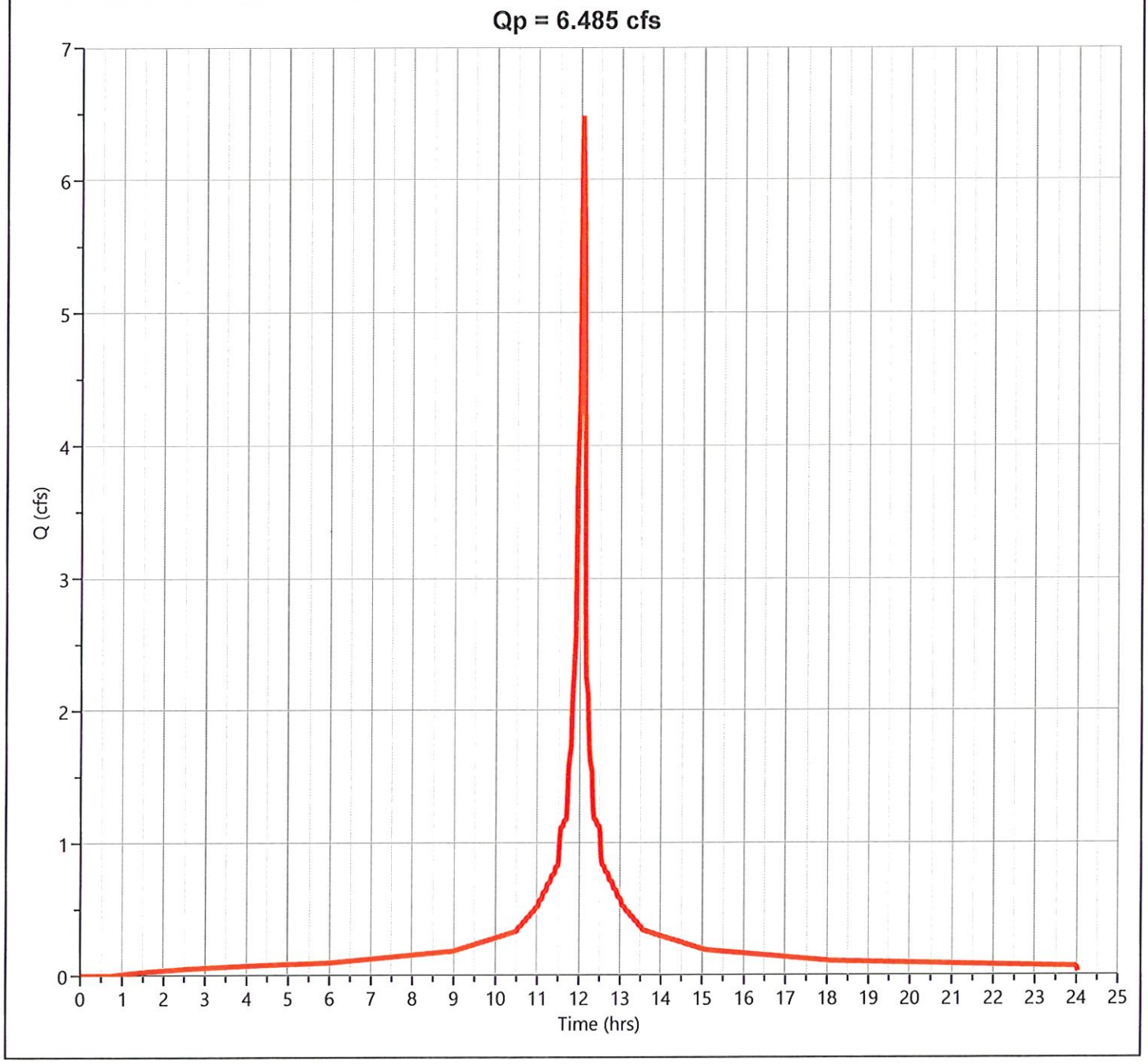
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin NE Impervious

Hyd. No. 17

Hydrograph Type	= NRCS Runoff	Peak Flow	= 6.485 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 21,452 cuft
Drainage Area	= 1.26 ac	Curve Number	= 98.00
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 2.55 min
Total Rainfall	= 5.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

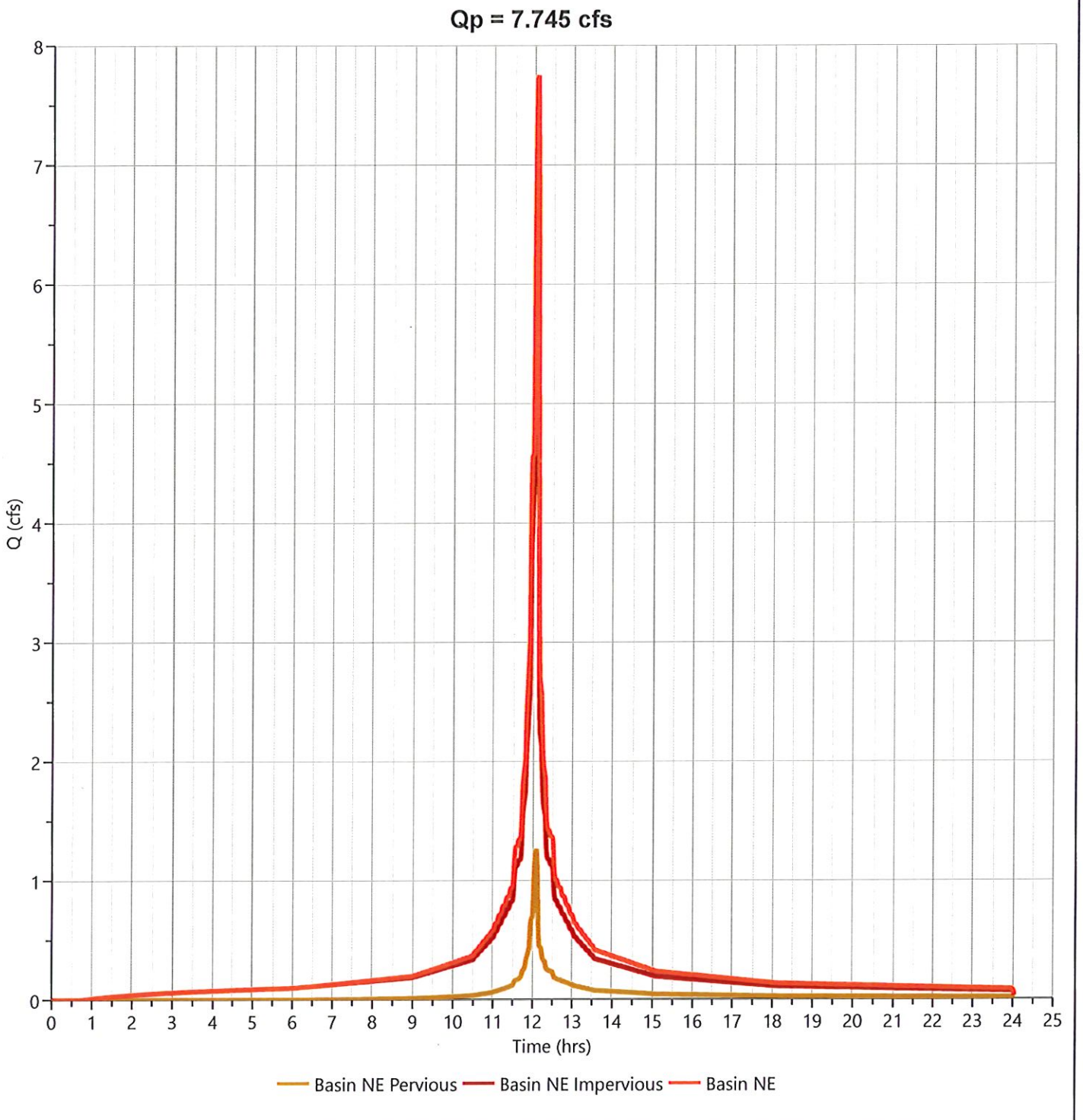
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin NE

Hyd. No. 18

Hydrograph Type	= Junction	Peak Flow	= 7.745 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 24,937 cuft
Inflow Hydrographs	= 16, 17	Total Contrib. Area	= 1.59 ac



Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

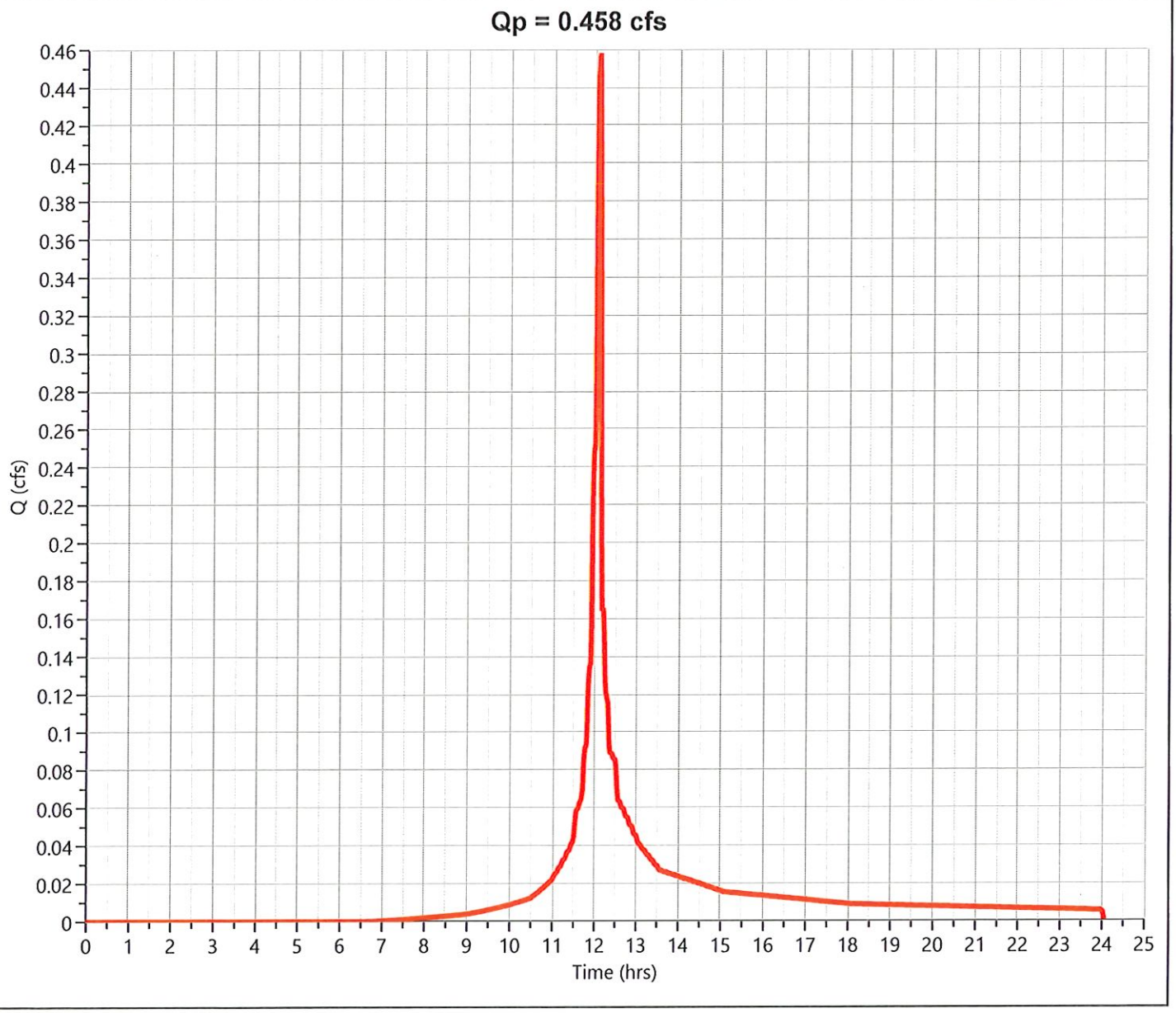
Post Basin Lot 8 Pervious

Hyd. No. 19

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.458 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 1,267 cuft
Drainage Area	= 0.12 ac	Curve Number	= 80.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 2.62 min
Total Rainfall	= 5.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.12	80.00	Open Space
0.12	**80.00**	Weighted CN Method Employed



Hydrograph Report

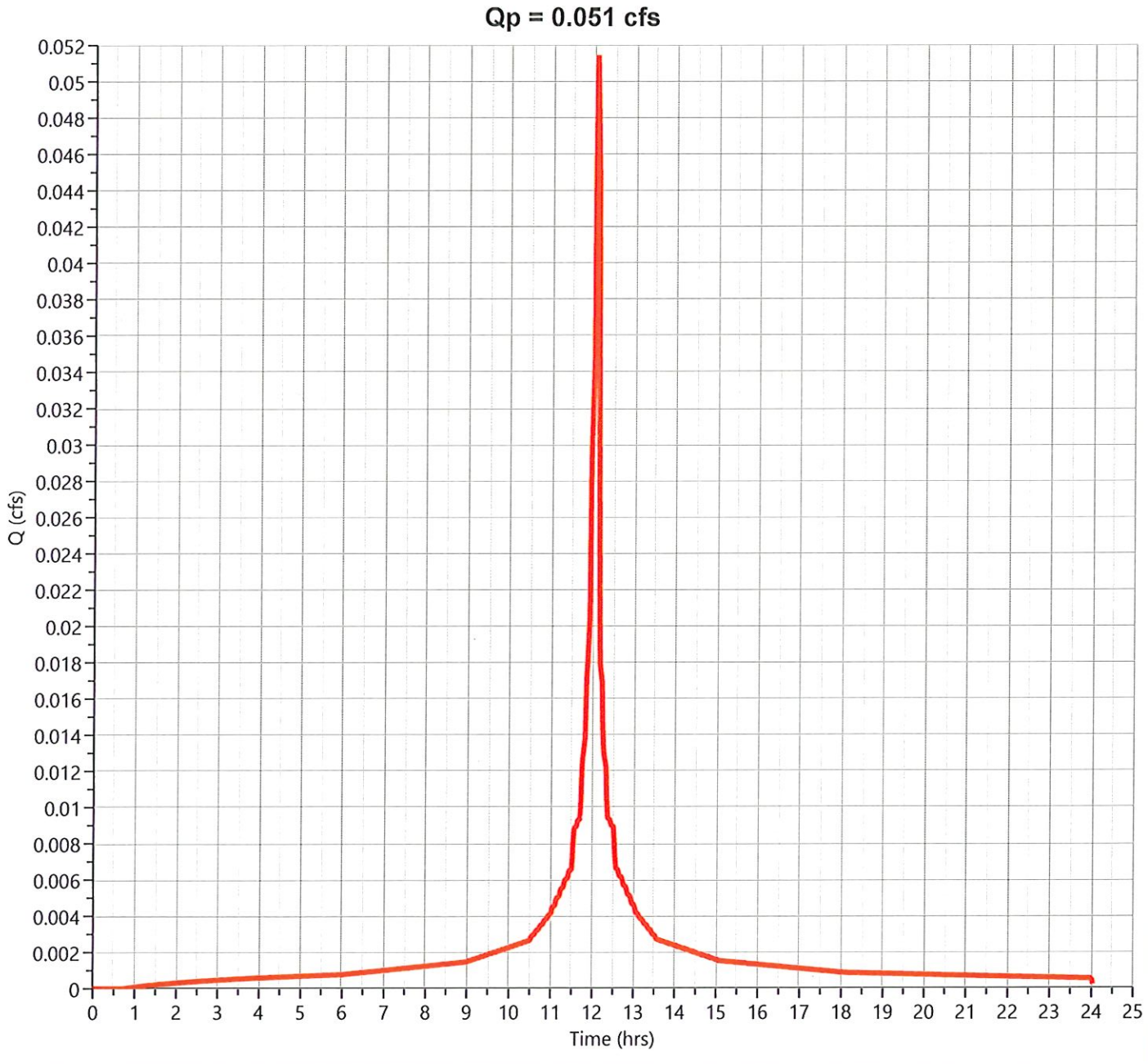
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin Lot 8 Imp.

Hyd. No. 20

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.051 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 170 cuft
Drainage Area	= 0.01 ac	Curve Number	= 98.00
Tc Method	= User	Time of Conc. (Tc)	= 2.0 min
Total Rainfall	= 5.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

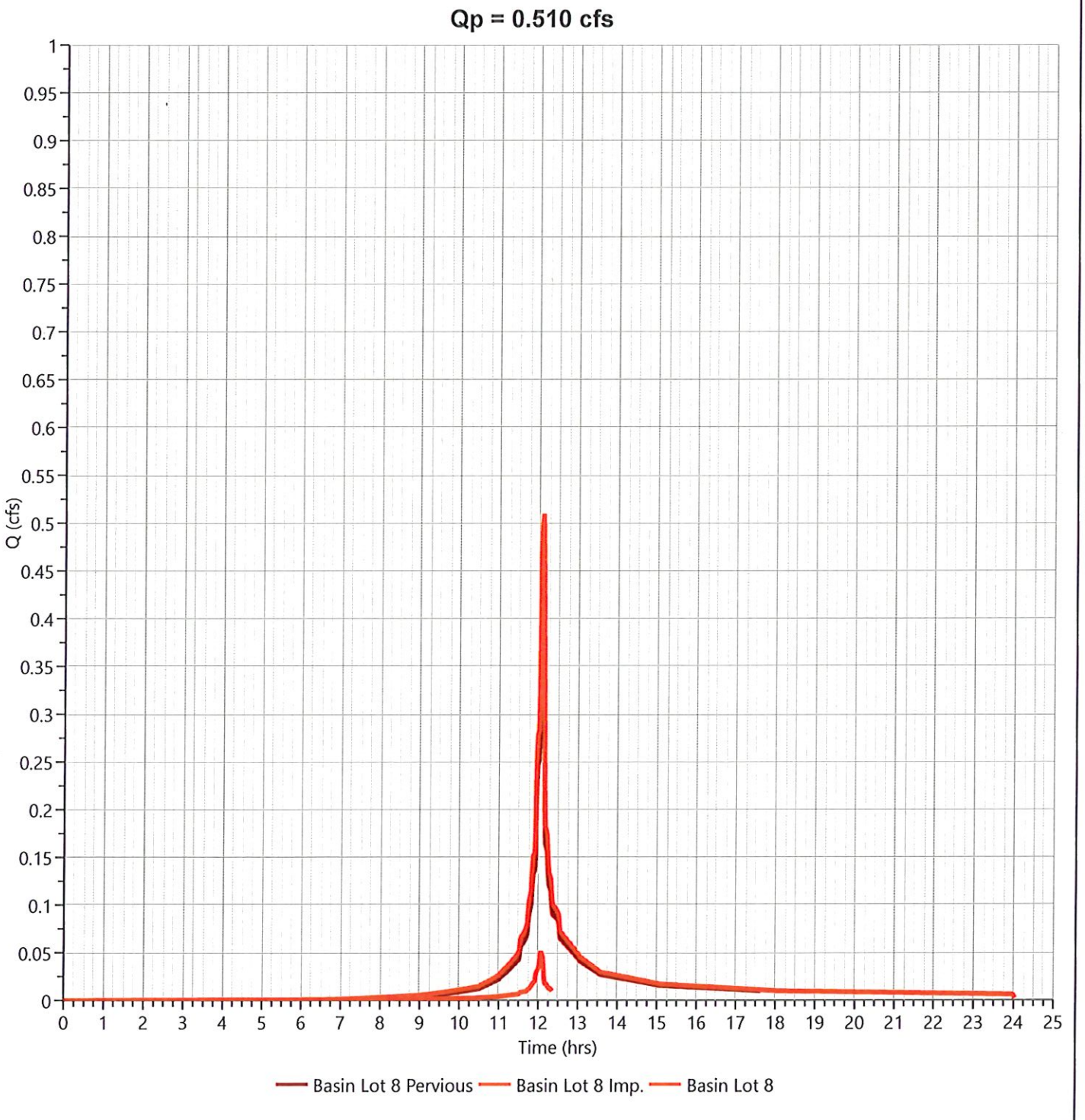
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin Lot 8

Hyd. No. 21

Hydrograph Type	= Junction	Peak Flow	= 0.510 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 1,438 cuft
Inflow Hydrographs	= 19, 20	Total Contrib. Area	= 0.13 ac



Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

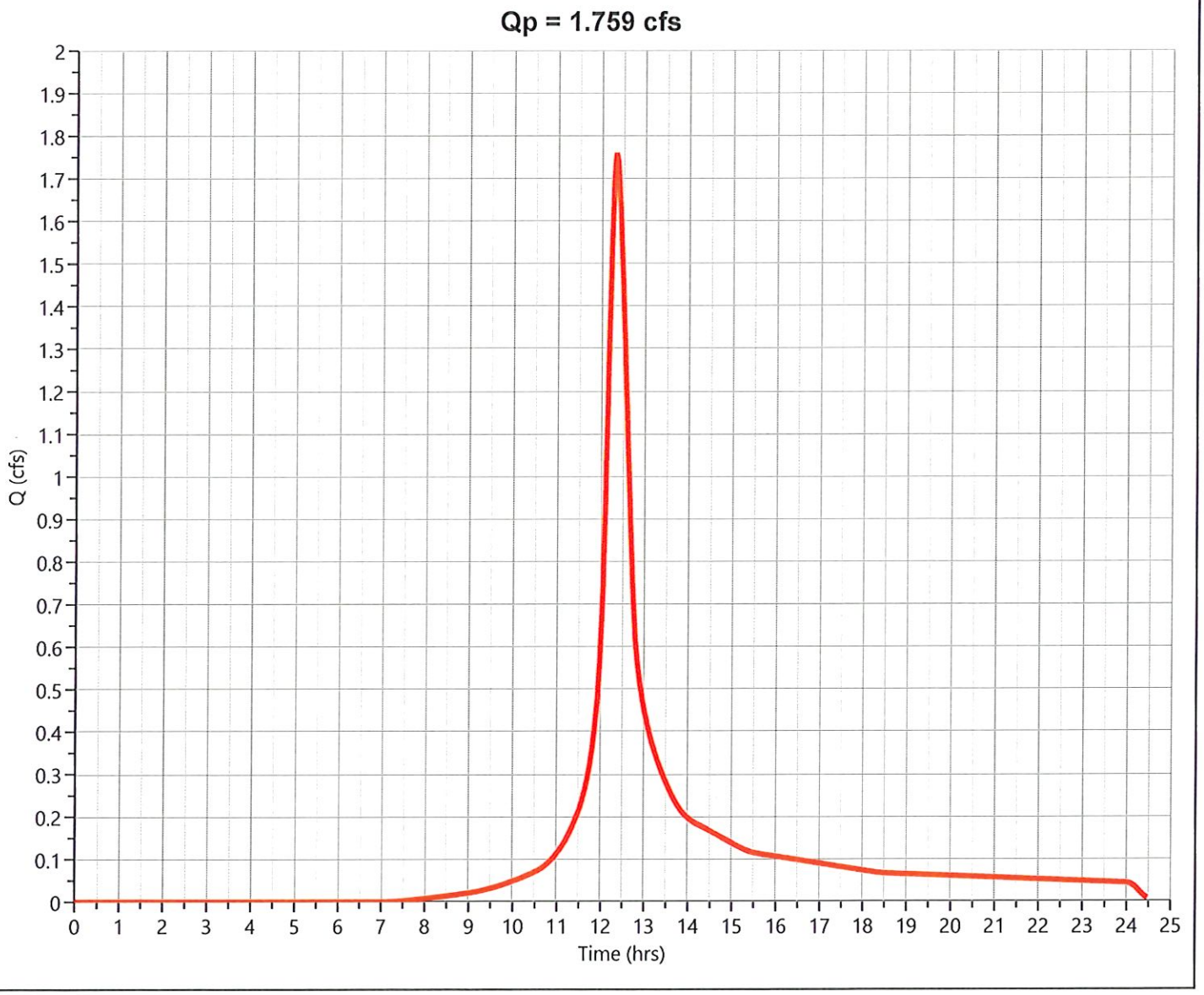
Post Basin N Pervious

Hyd. No. 22

Hydrograph Type	= NRCS Runoff	Peak Flow	= 1.759 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.32 hrs
Time Interval	= 1 min	Runoff Volume	= 9,288 cuft
Drainage Area	= 0.85 ac	Curve Number	= 78.76*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 26.77 min
Total Rainfall	= 5.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.35	77.00	Woods
0.5	80.00	Open Space
0.85	**78.76**	Weighted CN Method Employed



Hydrograph Report

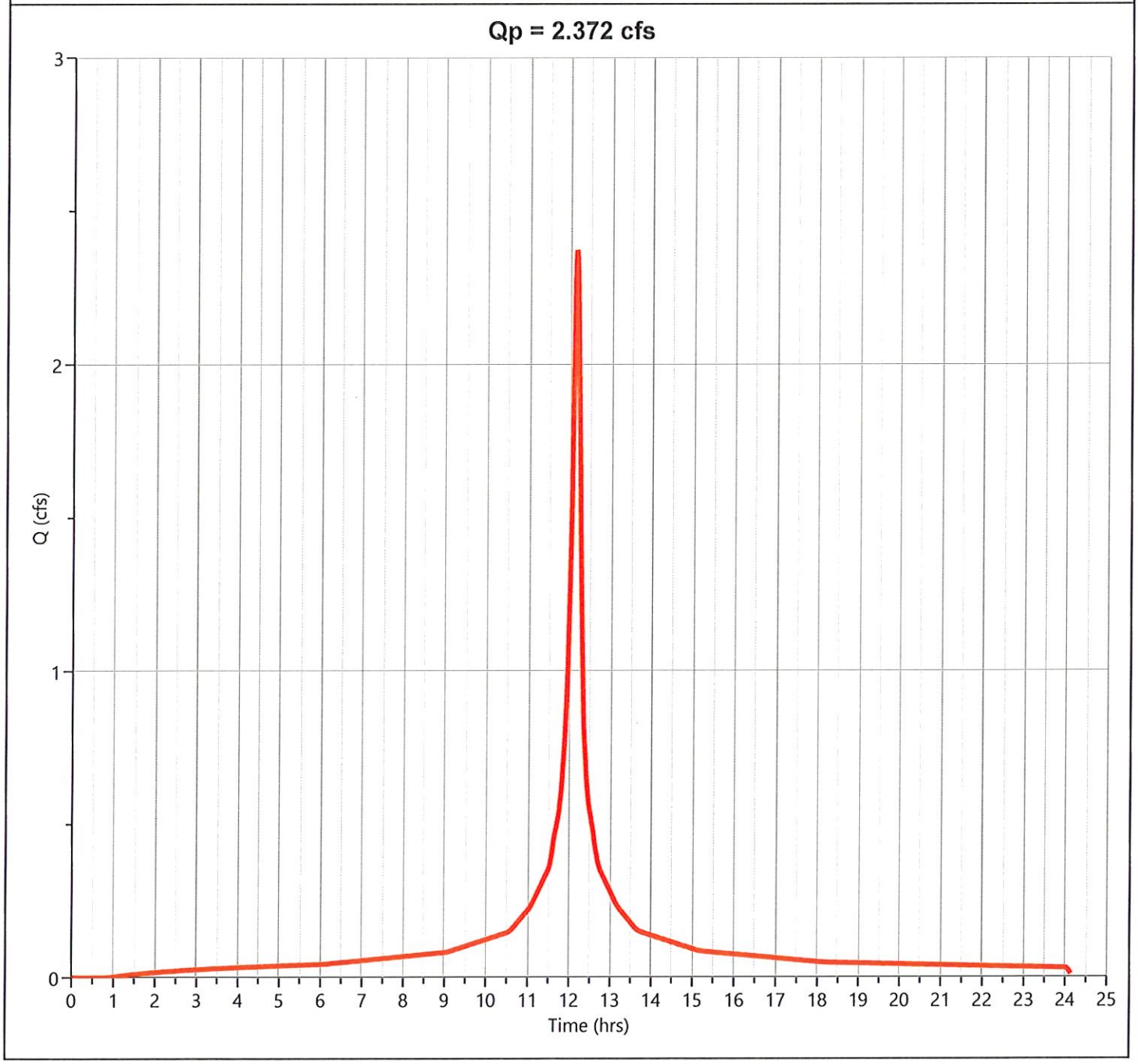
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin N Impervious

Hyd. No. 23

Hydrograph Type	= NRCS Runoff	Peak Flow	= 2.372 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.13 hrs
Time Interval	= 1 min	Runoff Volume	= 9,625 cuft
Drainage Area	= 0.53 ac	Curve Number	= 98.00
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 8.8 min
Total Rainfall	= 5.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

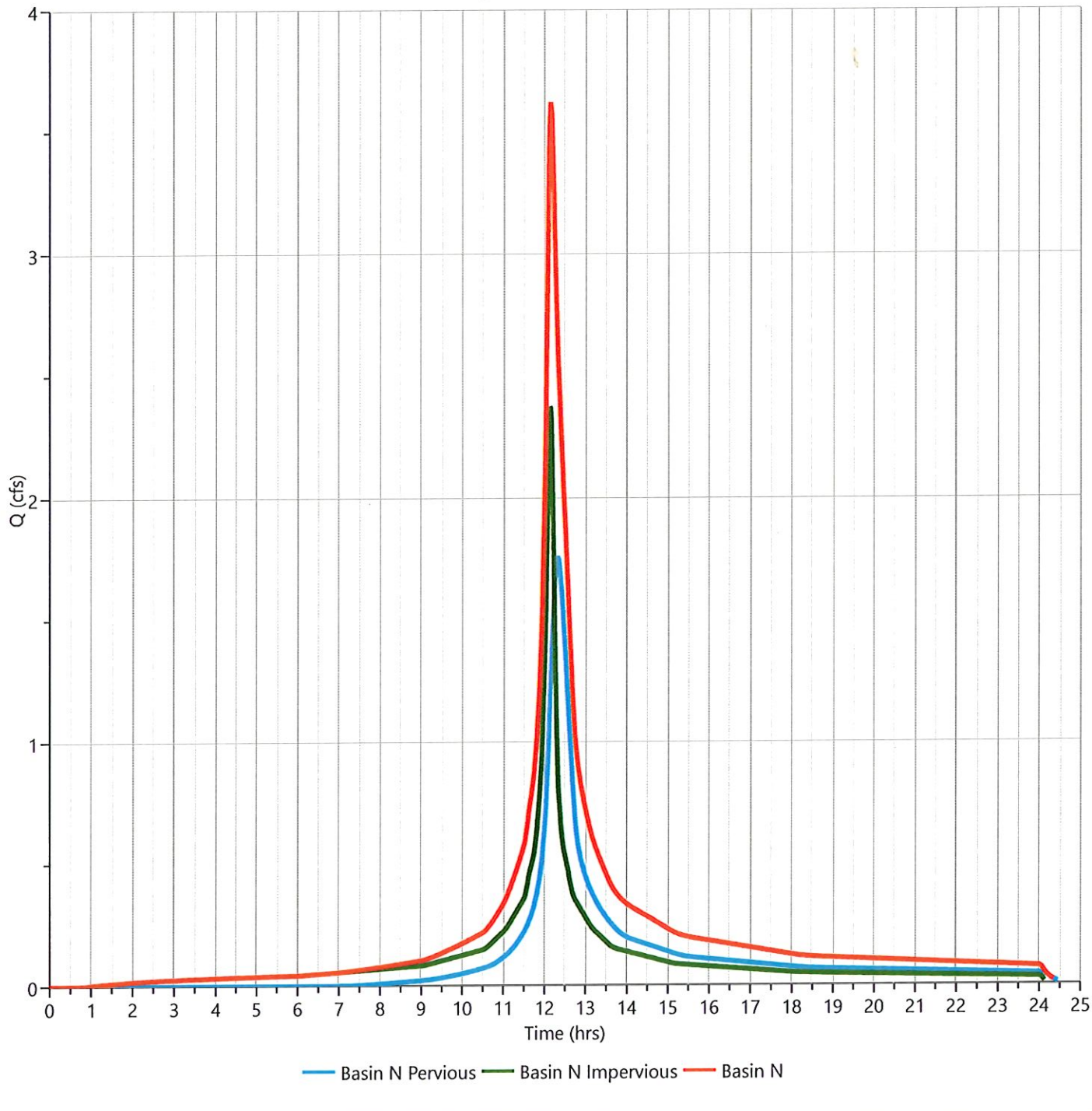
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin N

Hyd. No. 24

Hydrograph Type	= Junction	Peak Flow	= 3.626 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.17 hrs
Time Interval	= 1 min	Hydrograph Volume	= 18,913 cuft
Inflow Hydrographs	= 22, 23	Total Contrib. Area	= 1.38 ac



Hydrograph 100-yr Summary

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	NRCS Runoff	Pre Basin S Pervious	9.841	12.27	47,708	----		
2	NRCS Runoff	Pre Basin S Impervious	60.93	12.10	208,724	----		
3	Junction	Pre Basin S	67.53	12.10	256,433	1, 2		
4	NRCS Runoff	Pre Basin NE Pervious	1.898	12.10	5,619	----		
5	NRCS Runoff	Pre Basin NE Impervious	12.75	12.10	42,779	----		
6	Junction	Pre Basin NE	14.64	12.10	48,398	4, 5		
7	NRCS Runoff	Pre Basin Lot 8 Pervious	0.565	12.10	1,621	----		
8	NRCS Runoff	Pre Basin Lot 8 Imp.	0.822	12.10	2,760	----		
9	Junction	Pre Basin Lot 8	1.387	12.10	4,381	7, 8		
10	NRCS Runoff	Pre Basin N Pervious	2.483	12.32	13,277	----		
11	NRCS Runoff	Pre Basin N Impervious	6.224	12.13	25,612	----		
12	Junction	Pre Basin N	8.031	12.15	38,889	10, 11		
13	NRCS Runoff	Post Basin S Pervious	11.09	12.27	53,813	----		
14	NRCS Runoff	Post Basin S Impervious	59.21	12.10	198,715	----		
15	Junction	Post Basin S	66.65	12.10	252,528	13, 14		
16	NRCS Runoff	Post Basin NE Pervious	2.329	12.10	6,686	----		
17	NRCS Runoff	Post Basin NE Impervious	10.36	12.10	34,775	----		
18	Junction	Post Basin NE	12.69	12.10	41,462	16, 17		
19	NRCS Runoff	Post Basin Lot 8 Pervious	0.847	12.10	2,431	----		
20	NRCS Runoff	Post Basin Lot 8 Imp.	0.082	12.10	276	----		
21	Junction	Post Basin Lot 8	0.929	12.10	2,707	19, 20		
22	NRCS Runoff	Post Basin N Pervious	3.372	12.32	18,054	----		
23	NRCS Runoff	Post Basin N Impervious	3.791	12.13	15,603	----		
24	Junction	Post Basin N	6.290	12.17	33,657	22, 23		

Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

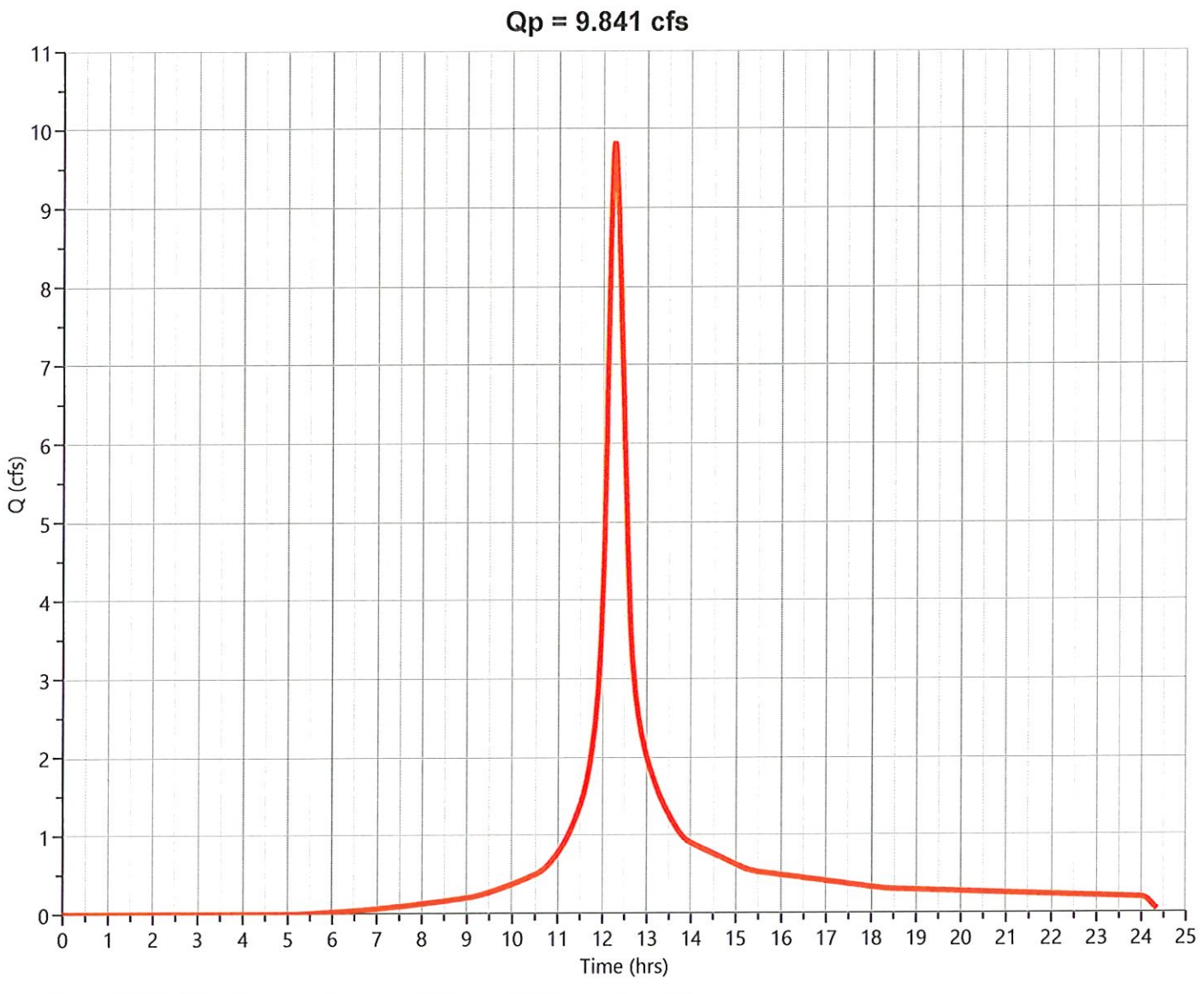
Pre Basin S Pervious

Hyd. No. 1

Hydrograph Type	= NRCS Runoff	Peak Flow	= 9.841 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.27 hrs
Time Interval	= 1 min	Runoff Volume	= 47,708 cuft
Drainage Area	= 2.28 ac	Curve Number	= 77.95*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 20.4 min
Total Rainfall	= 8.35 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
1.56	77.00	Woods
0.72	80.00	Open Space
2.28	**77.95**	Weighted CN Method Employed



Hydrograph Report

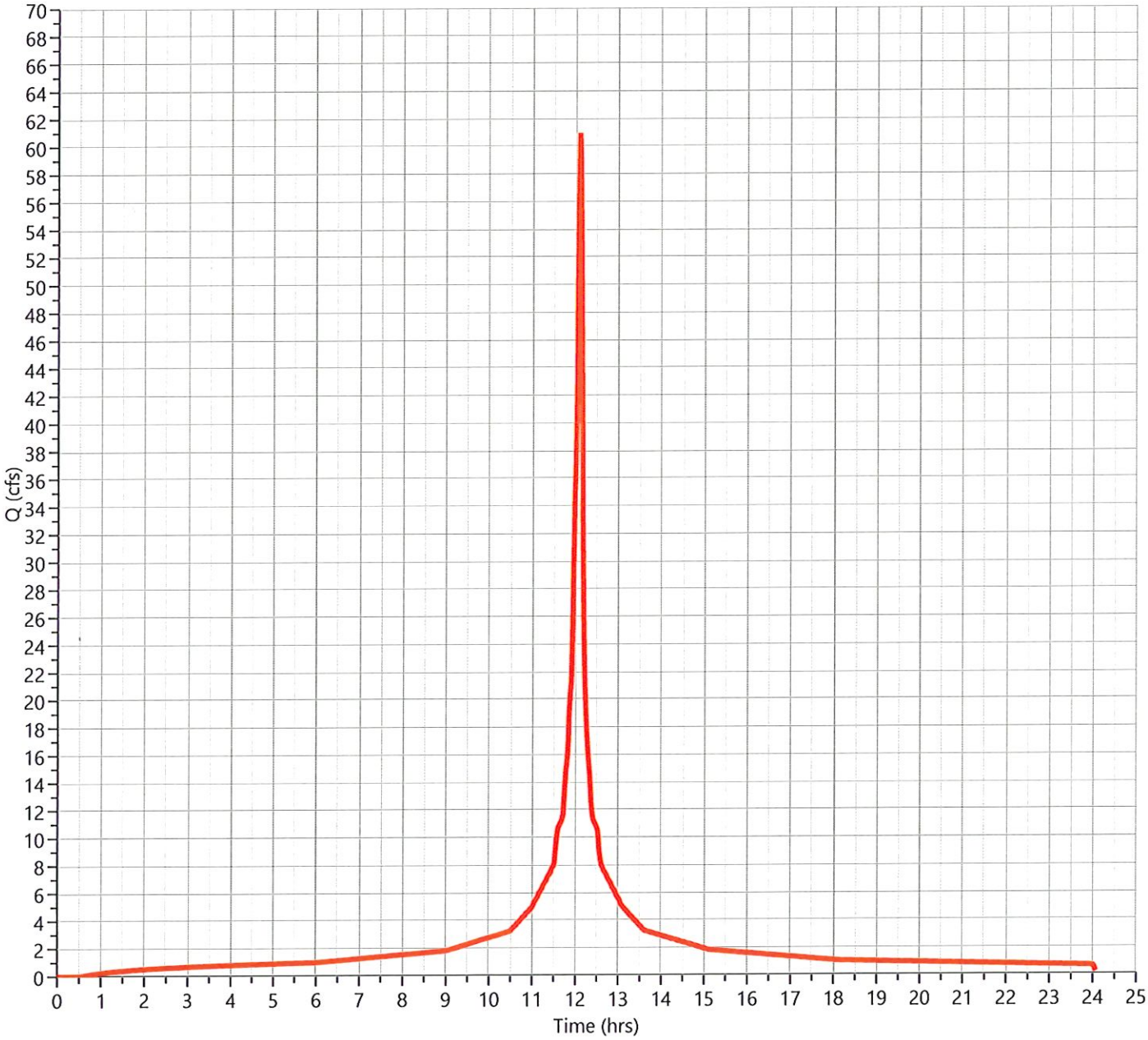
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin S Impervious

Hyd. No. 2

Hydrograph Type	= NRCS Runoff	Peak Flow	= 60.93 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 208,724 cuft
Drainage Area	= 7.09 ac	Curve Number	= 98.00
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 4.92 min
Total Rainfall	= 8.35 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

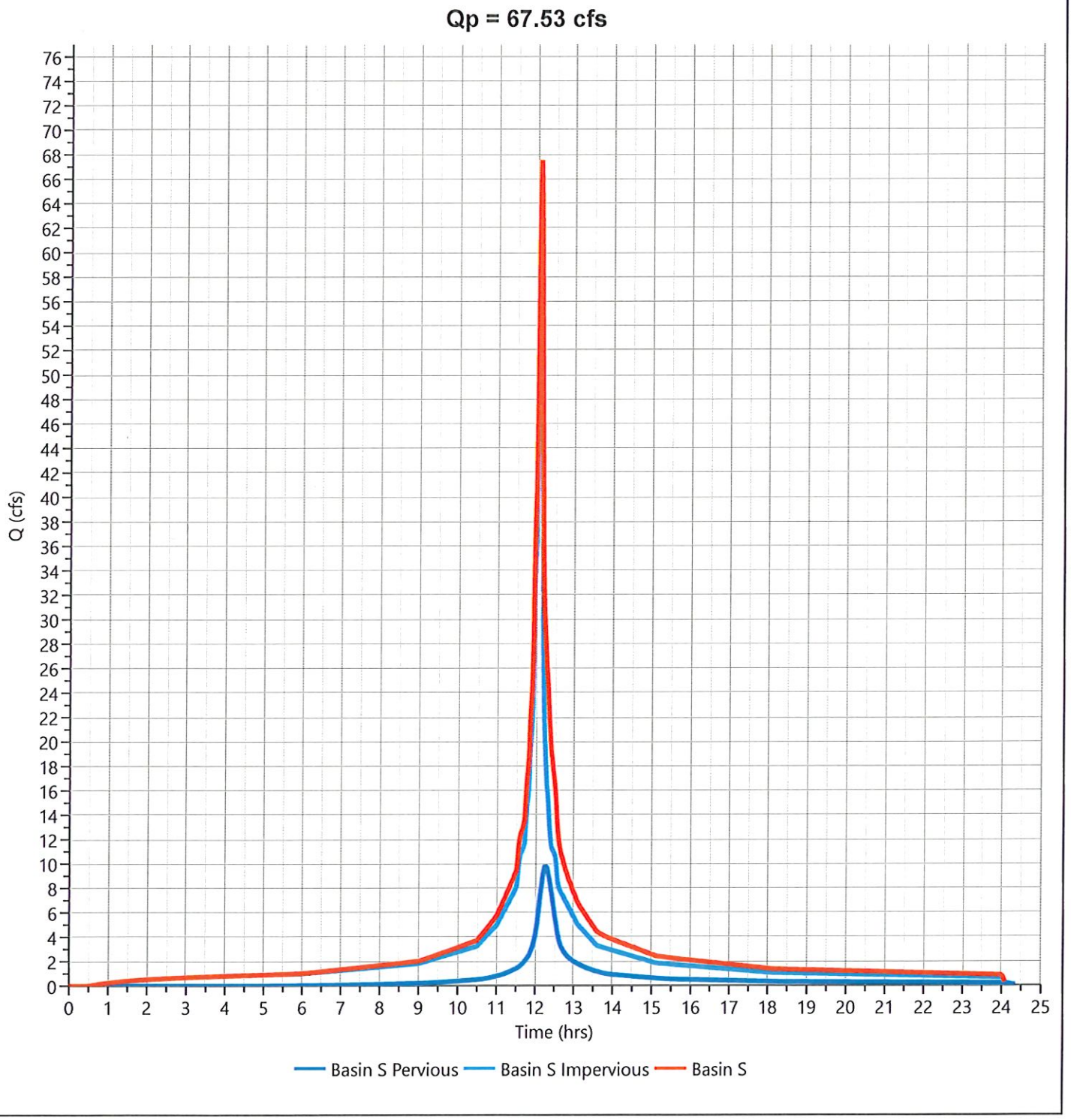
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin S

Hyd. No. 3

Hydrograph Type	= Junction	Peak Flow	= 67.53 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 256,433 cuft
Inflow Hydrographs	= 1, 2	Total Contrib. Area	= 9.37 ac



Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

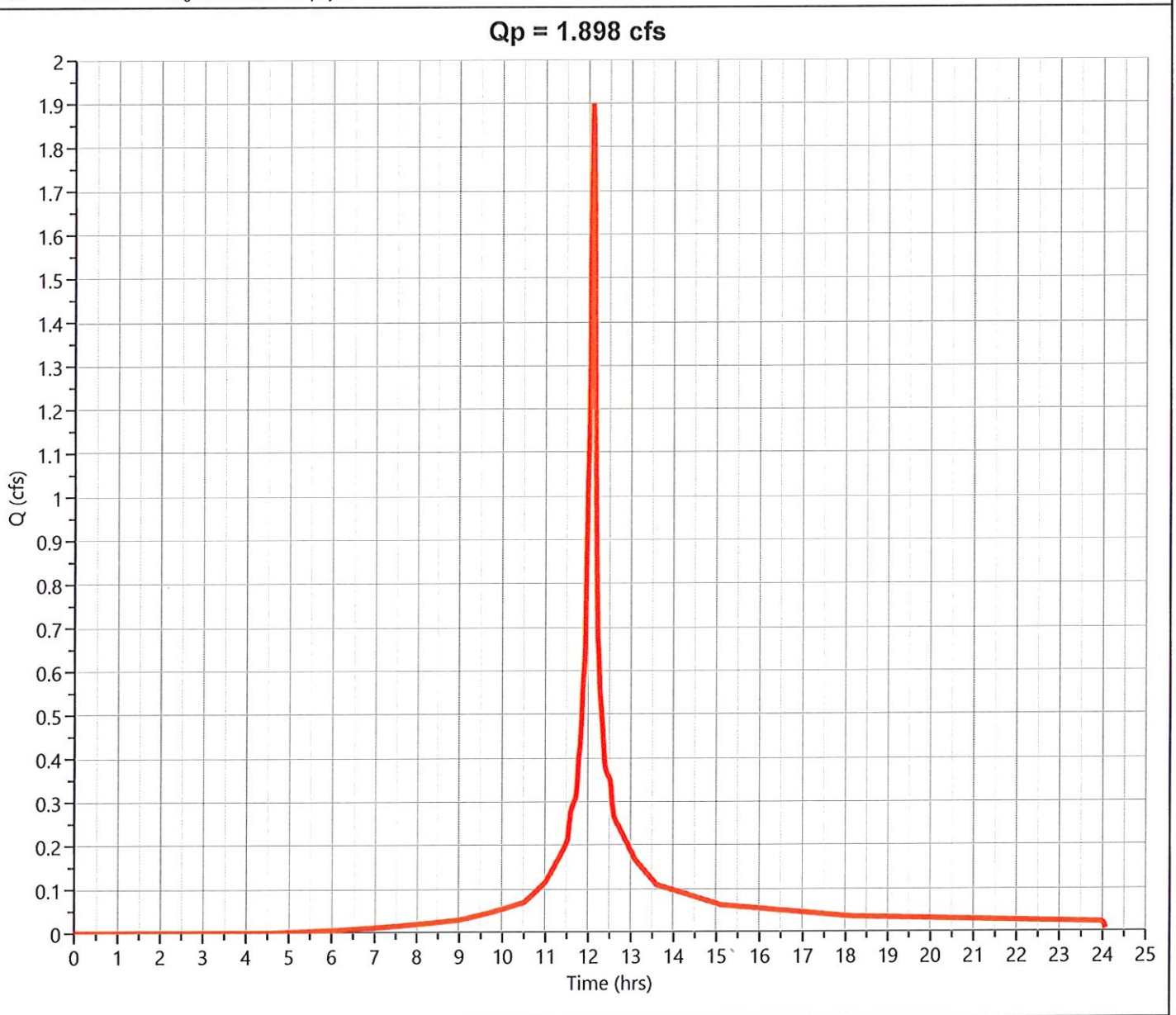
Pre Basin NE Pervious

Hyd. No. 4

Hydrograph Type	= NRCS Runoff	Peak Flow	= 1.898 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 5,619 cuft
Drainage Area	= 0.26 ac	Curve Number	= 80.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 4.69 min
Total Rainfall	= 8.35 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.26	80.00	Open Space
0.26	**80.00**	Weighted CN Method Employed



Hydrograph Report

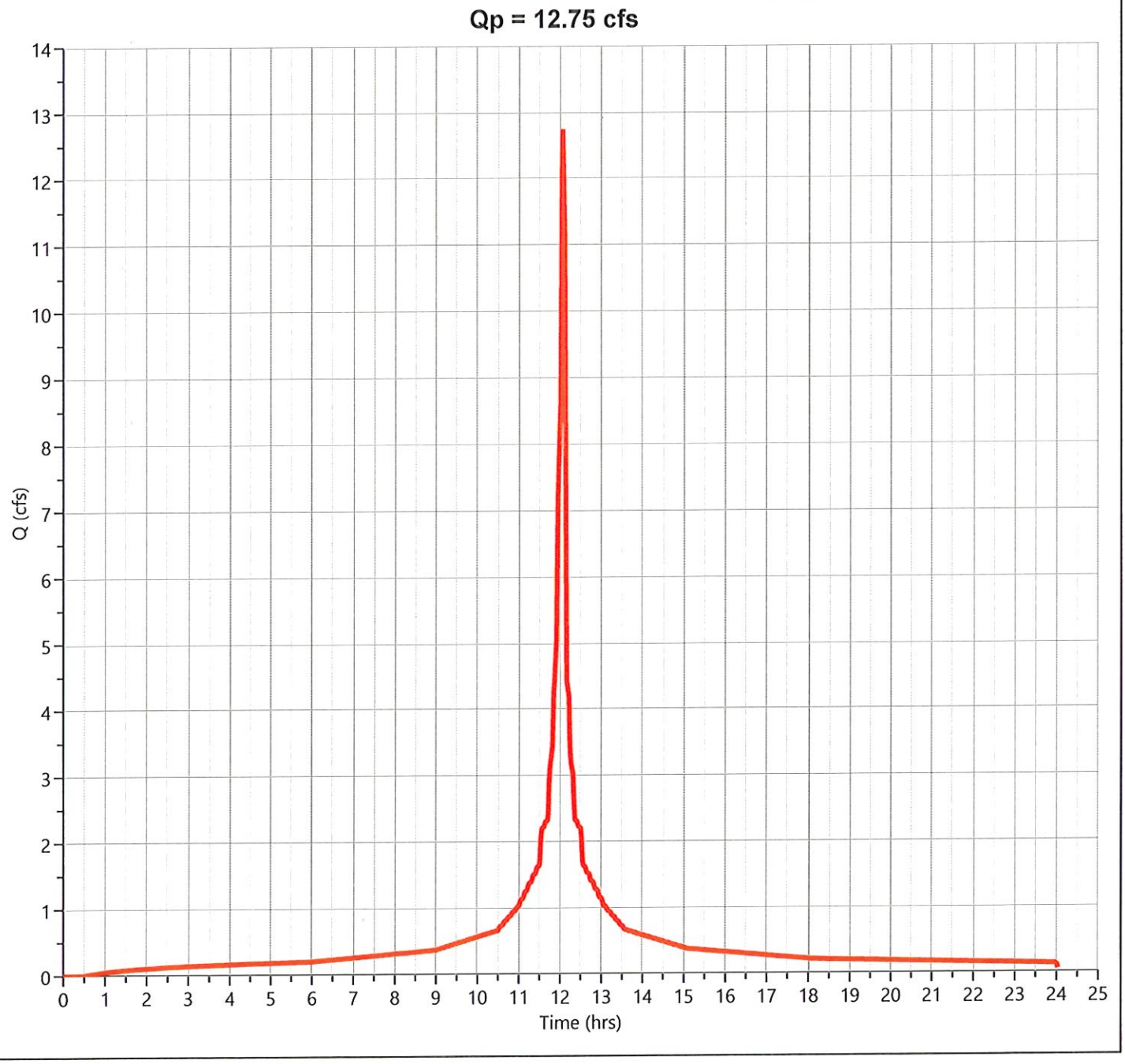
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin NE Impervious

Hyd. No. 5

Hydrograph Type	= NRCS Runoff	Peak Flow	= 12.75 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 42,779 cuft
Drainage Area	= 1.55 ac	Curve Number	= 98.00
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 2.19 min
Total Rainfall	= 8.35 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

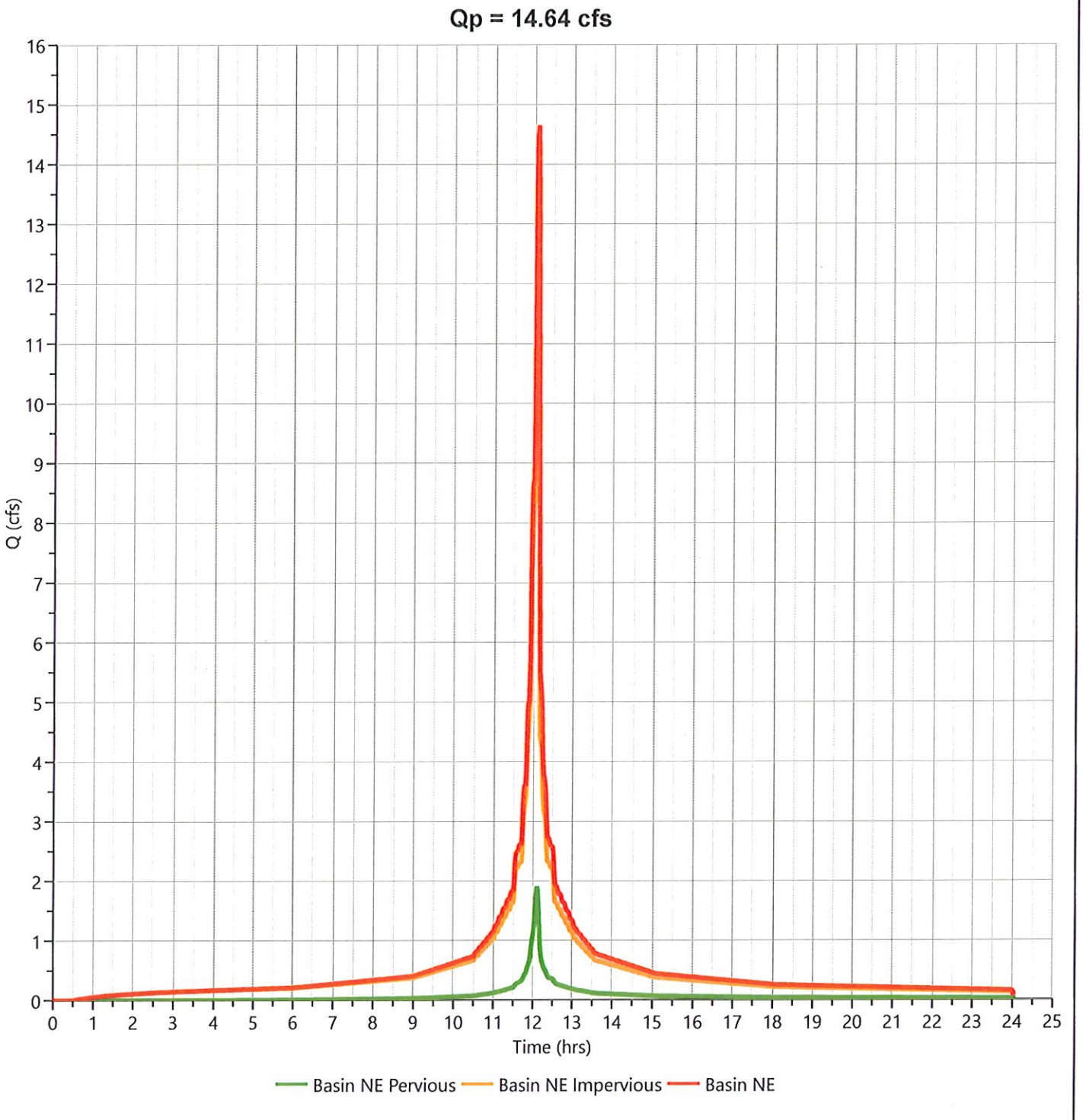
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin NE

Hyd. No. 6

Hydrograph Type	= Junction	Peak Flow	= 14.64 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 48,398 cuft
Inflow Hydrographs	= 4, 5	Total Contrib. Area	= 1.81 ac



Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

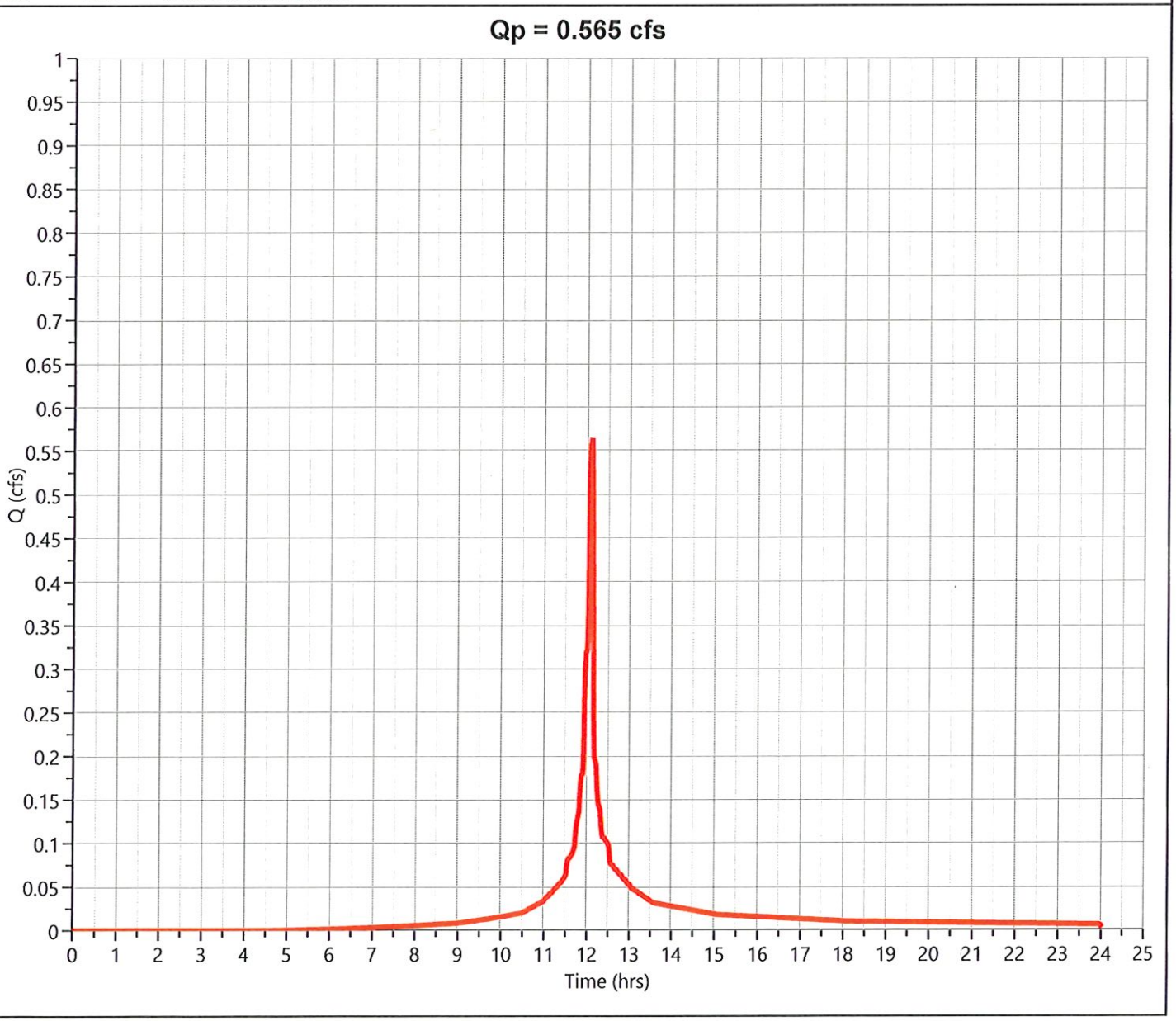
Pre Basin Lot 8 Pervious

Hyd. No. 7

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.565 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 1,621 cuft
Drainage Area	= 0.08 ac	Curve Number	= 80.00*
Tc Method	= User	Time of Conc. (Tc)	= 2.0 min
Total Rainfall	= 8.35 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.08	80.00	Open Space
0.08	**80.00**	Weighted CN Method Employed



Hydrograph Report

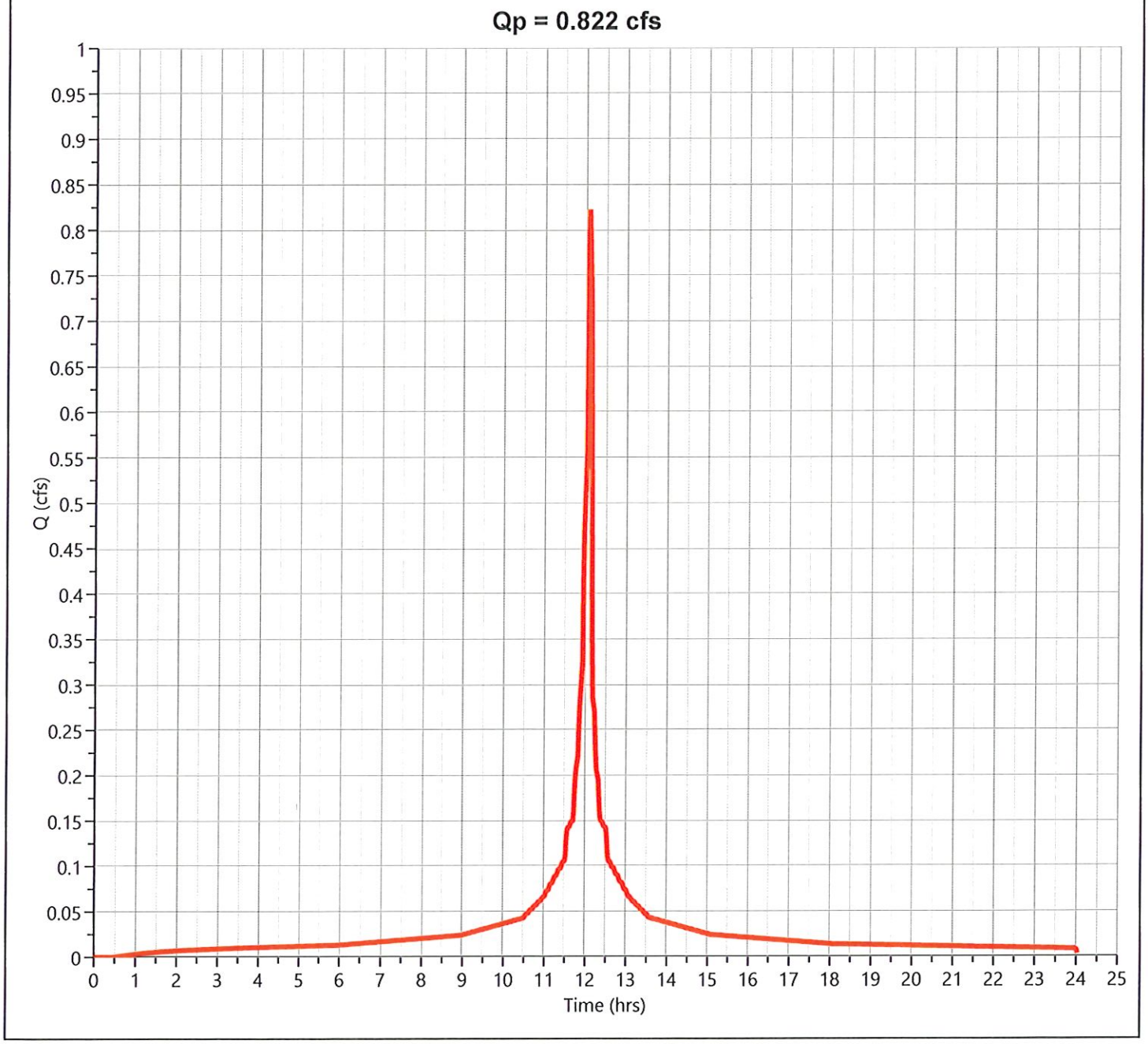
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin Lot 8 Imp.

Hyd. No. 8

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.822 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 2,760 cuft
Drainage Area	= 0.1 ac	Curve Number	= 98.00
Tc Method	= User	Time of Conc. (Tc)	= 2.0 min
Total Rainfall	= 8.35 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

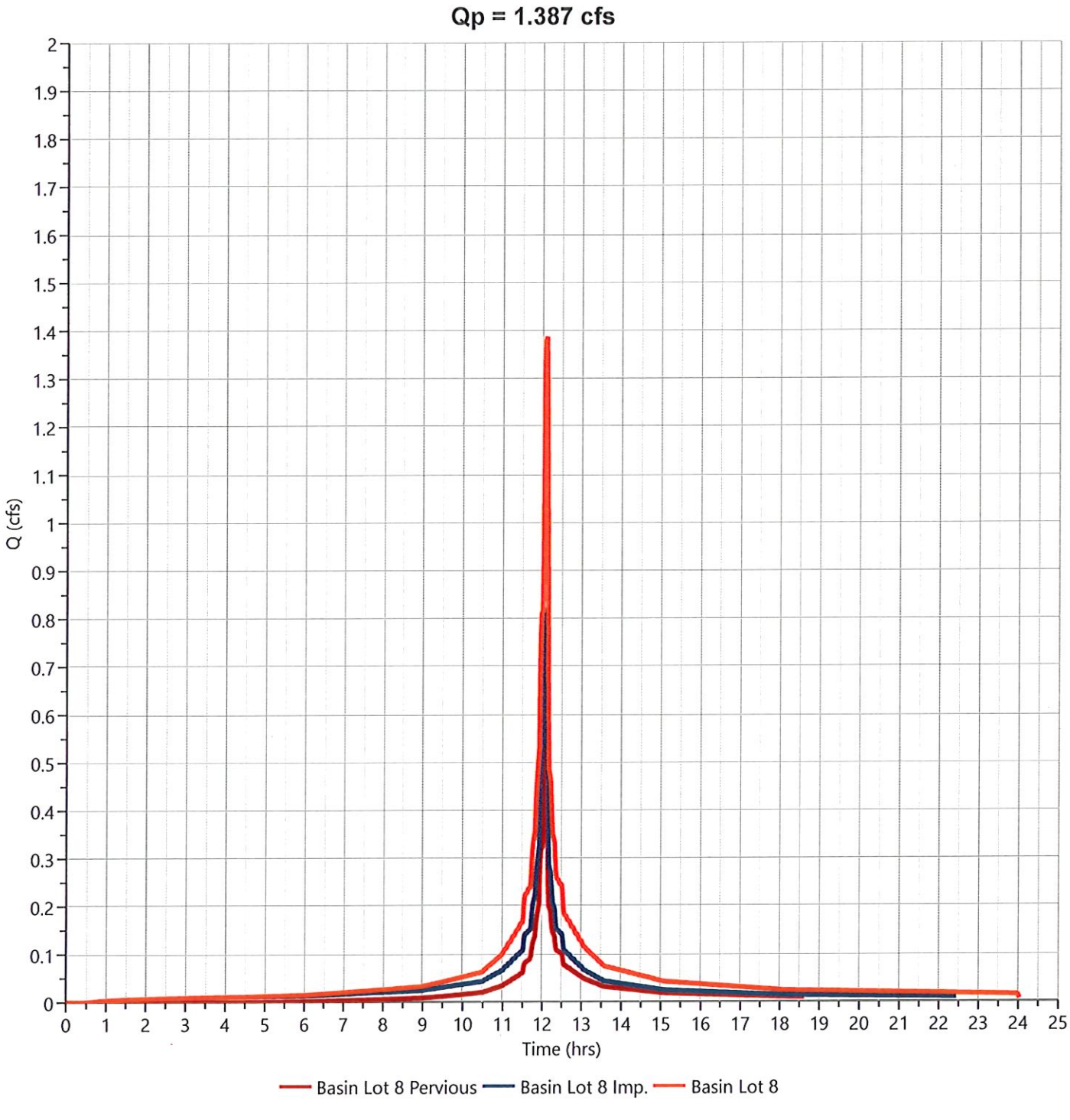
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin Lot 8

Hyd. No. 9

Hydrograph Type	= Junction	Peak Flow	= 1.387 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 4,381 cuft
Inflow Hydrographs	= 7, 8	Total Contrib. Area	= 0.18 ac



Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

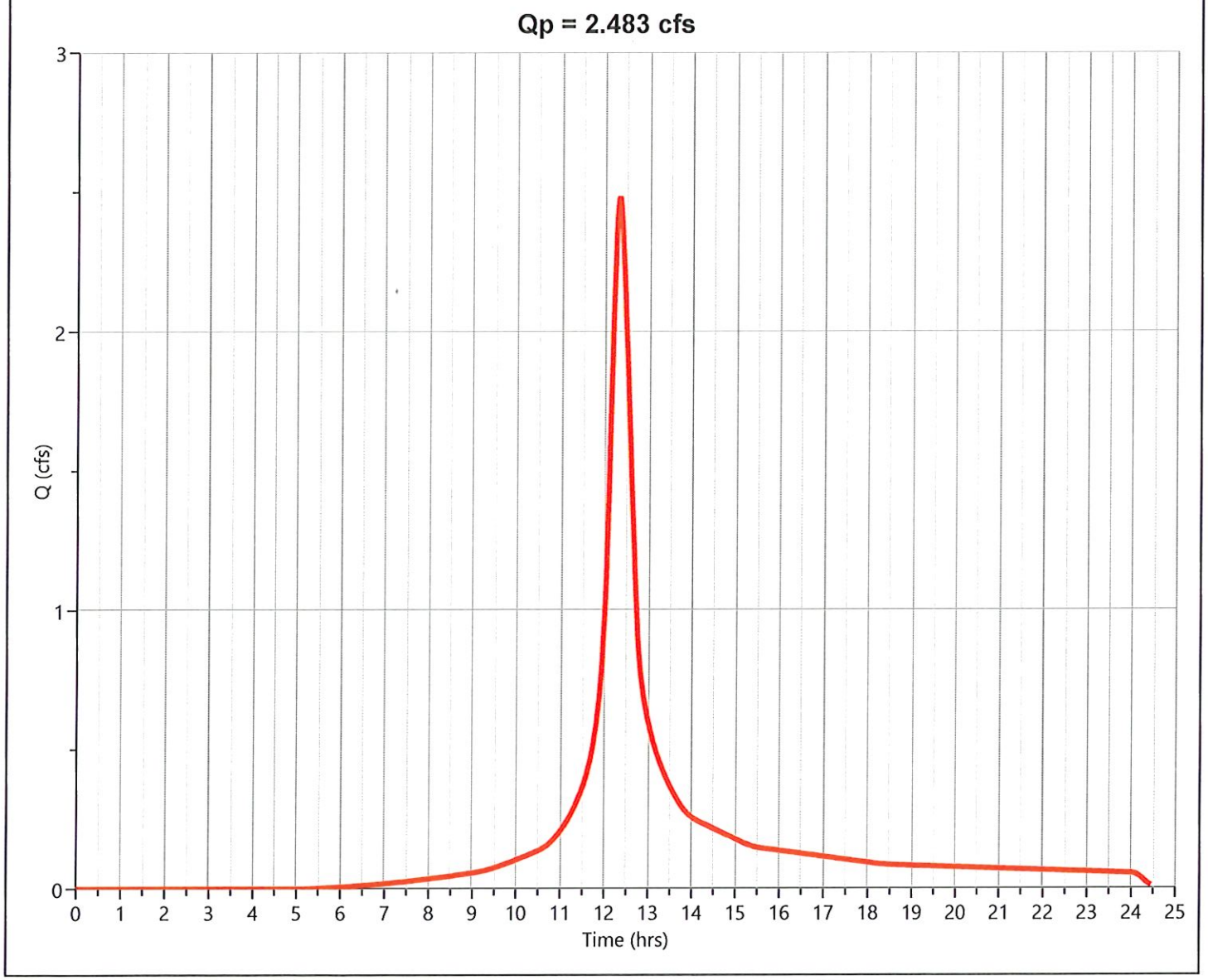
Pre Basin N Pervious

Hyd. No. 10

Hydrograph Type	= NRCS Runoff	Peak Flow	= 2.483 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.32 hrs
Time Interval	= 1 min	Runoff Volume	= 13,277 cuft
Drainage Area	= 0.63 ac	Curve Number	= 78.38*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 26.45 min
Total Rainfall	= 8.35 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.34	77.00	Woods
0.29	80.00	Open Space
0.63	**78.38**	Weighted CN Method Employed



Hydrograph Report

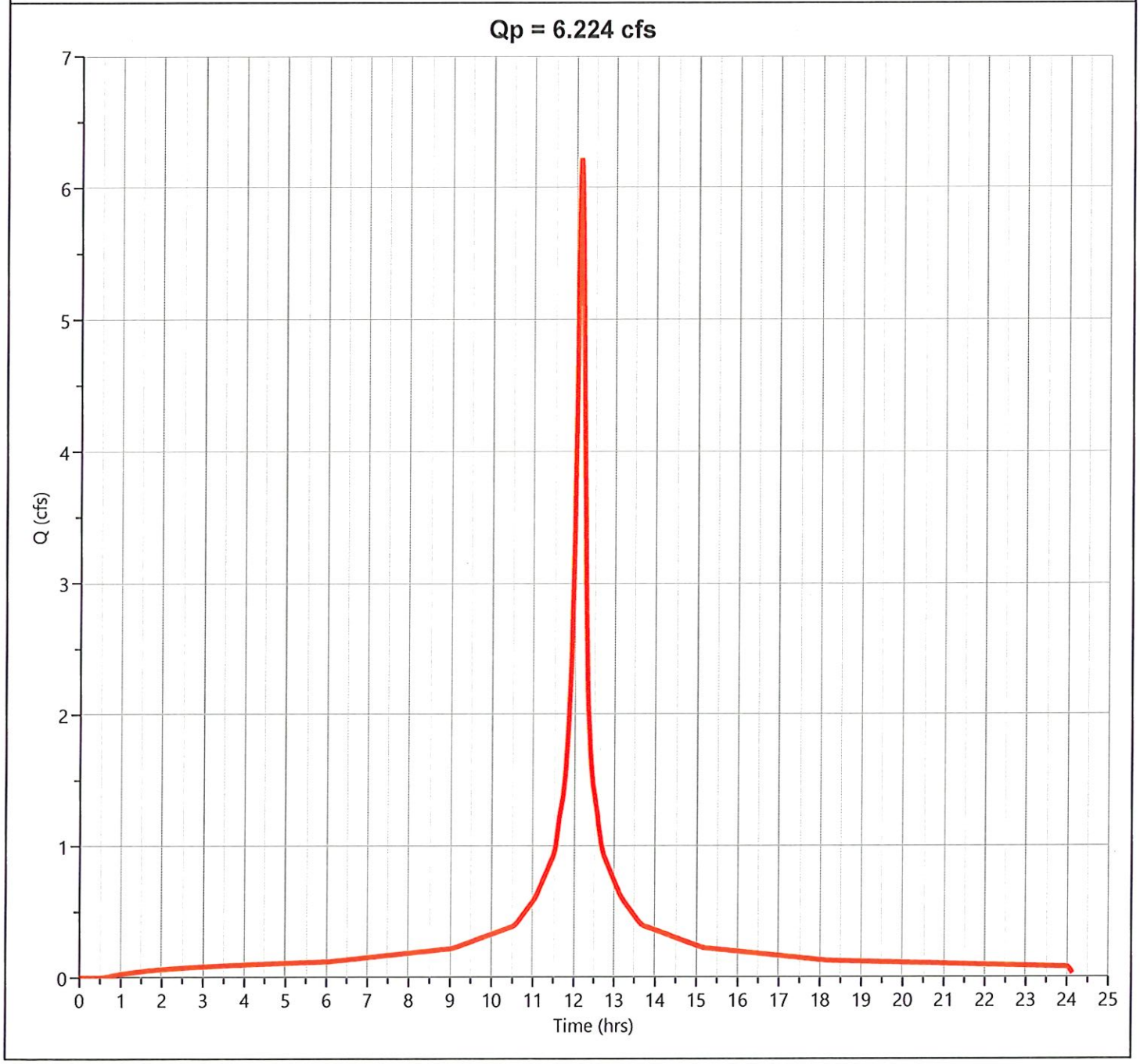
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin N Impervious

Hyd. No. 11

Hydrograph Type	= NRCS Runoff	Peak Flow	= 6.224 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.13 hrs
Time Interval	= 1 min	Runoff Volume	= 25,612 cuft
Drainage Area	= 0.87 ac	Curve Number	= 98.00
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 8.65 min
Total Rainfall	= 8.35 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

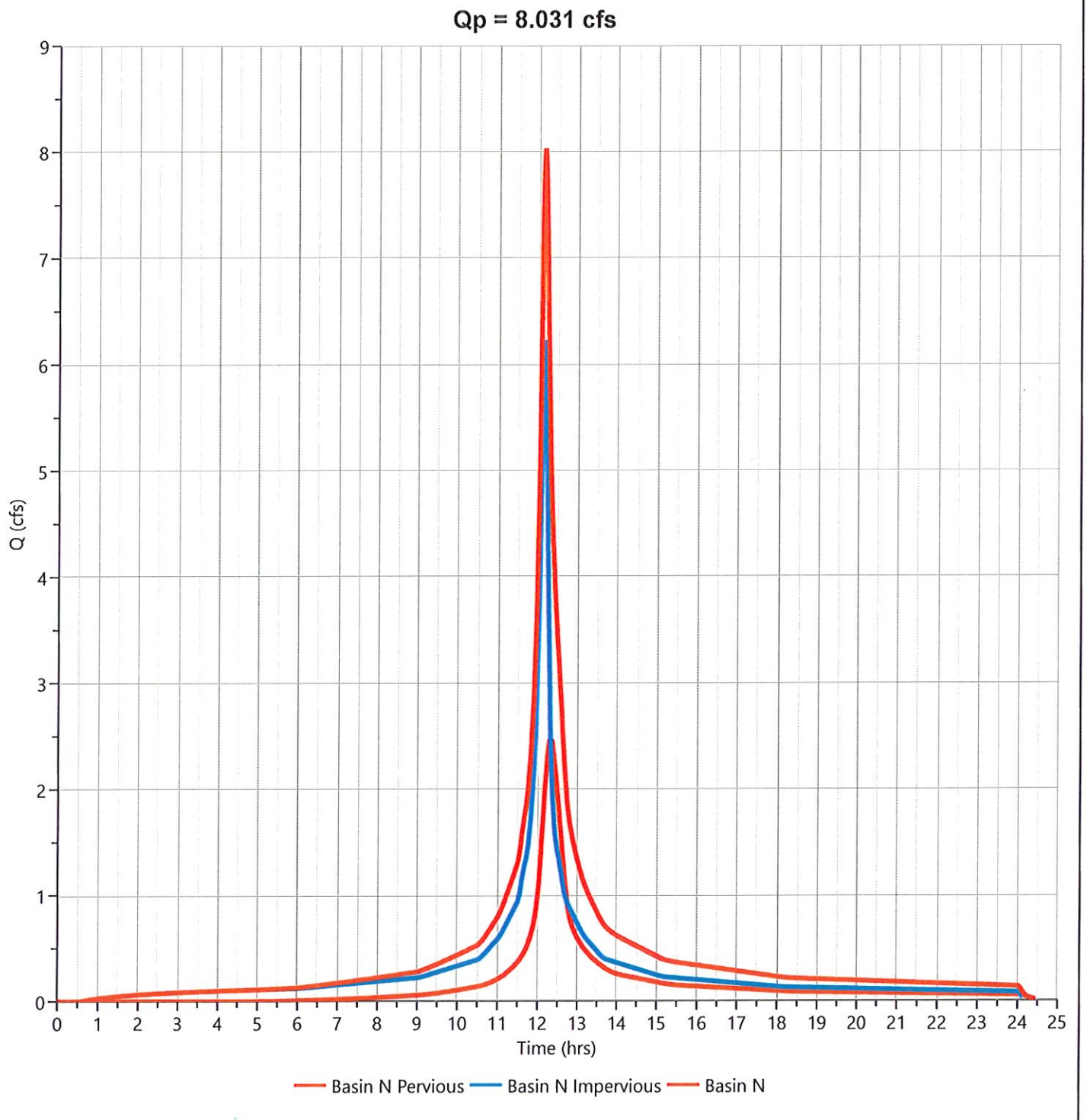
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Pre Basin N

Hyd. No. 12

Hydrograph Type	= Junction	Peak Flow	= 8.031 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.15 hrs
Time Interval	= 1 min	Hydrograph Volume	= 38,889 cuft
Inflow Hydrographs	= 10, 11	Total Contrib. Area	= 1.5 ac



Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

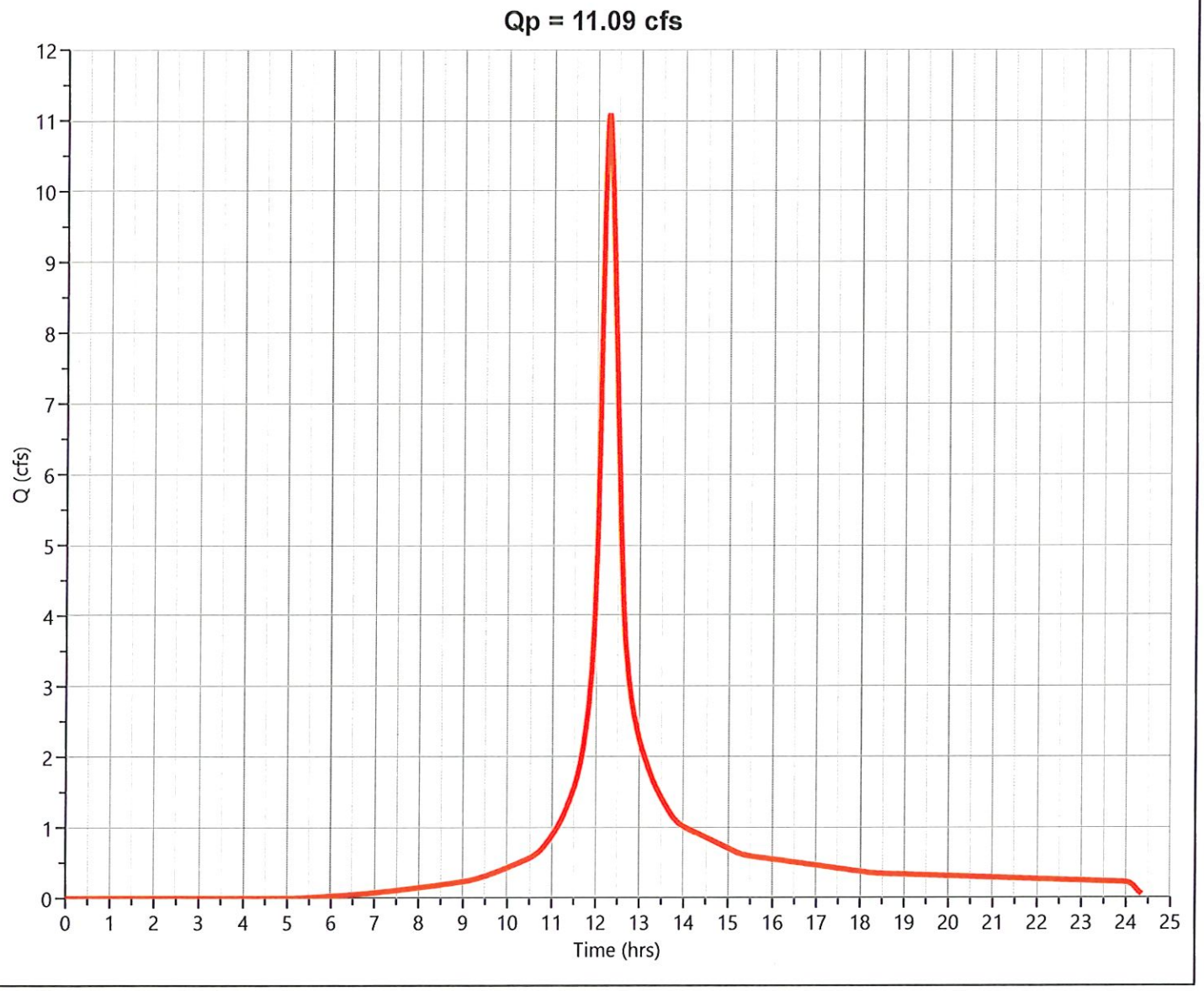
Post Basin S Pervious

Hyd. No. 13

Hydrograph Type	= NRCS Runoff	Peak Flow	= 11.09 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.27 hrs
Time Interval	= 1 min	Runoff Volume	= 53,813 cuft
Drainage Area	= 2.56 ac	Curve Number	= 78.17*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 20.4 min
Total Rainfall	= 8.35 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
1.56	77.00	Woods
1.0	80.00	Open Space
2.56	**78.17**	Weighted CN Method Employed



Hydrograph Report

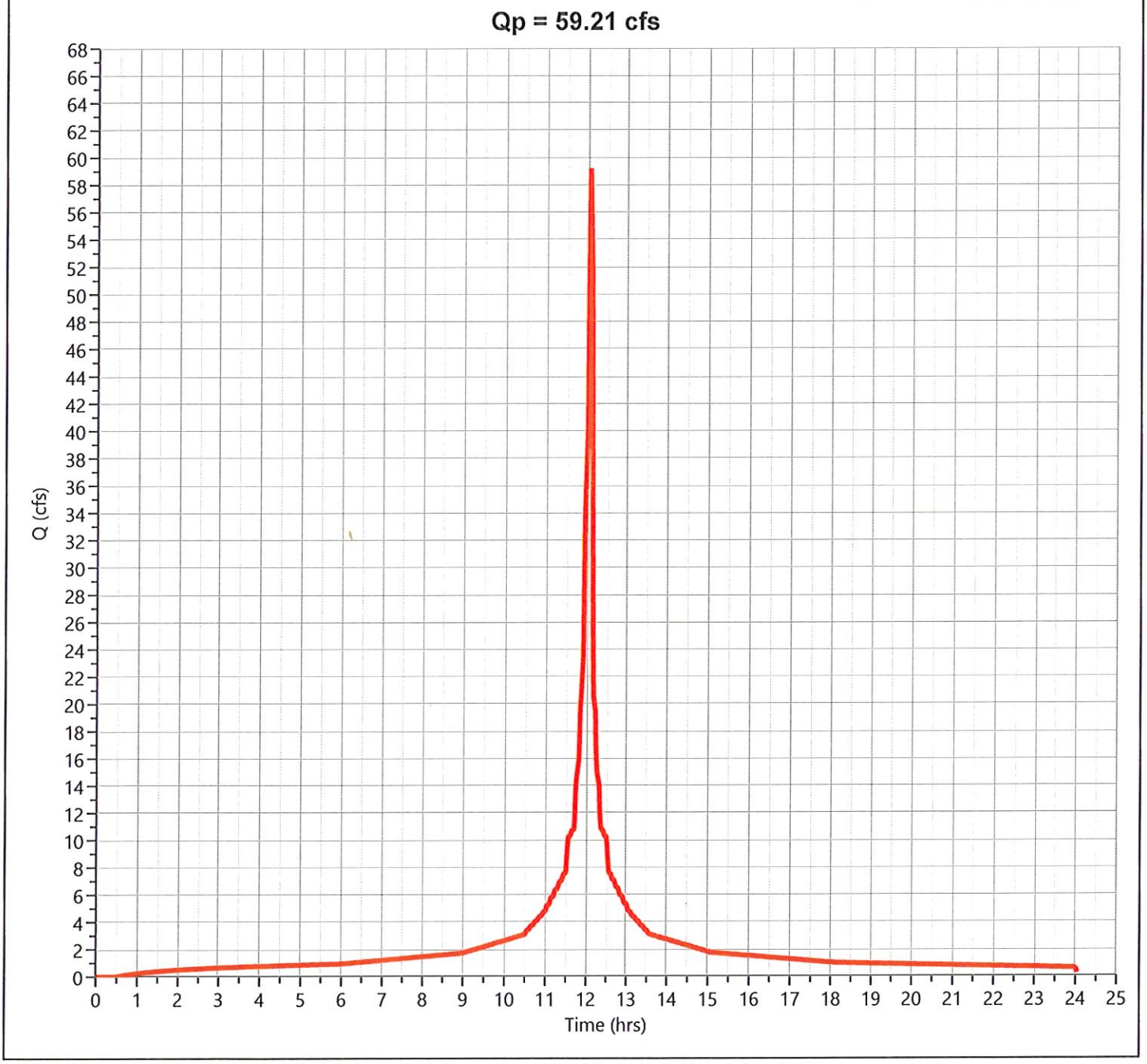
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin S Impervious

Hyd. No. 14

Hydrograph Type	= NRCS Runoff	Peak Flow	= 59.21 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 198,715 cuft
Drainage Area	= 7.2 ac	Curve Number	= 98.00
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 2.68 min
Total Rainfall	= 8.35 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

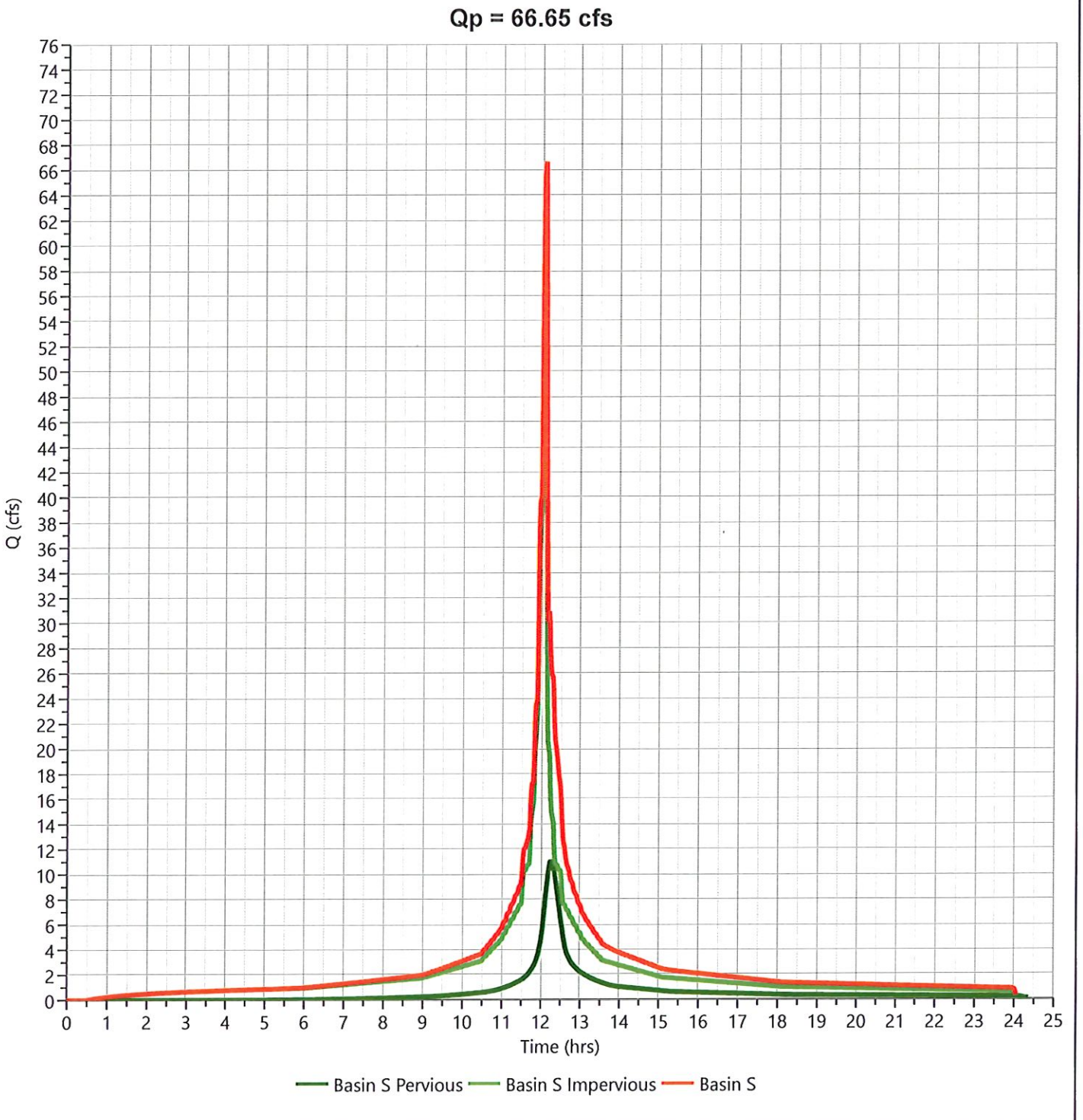
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin S

Hyd. No. 15

Hydrograph Type	= Junction	Peak Flow	= 66.65 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 252,528 cuft
Inflow Hydrographs	= 13, 14	Total Contrib. Area	= 9.76 ac



Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

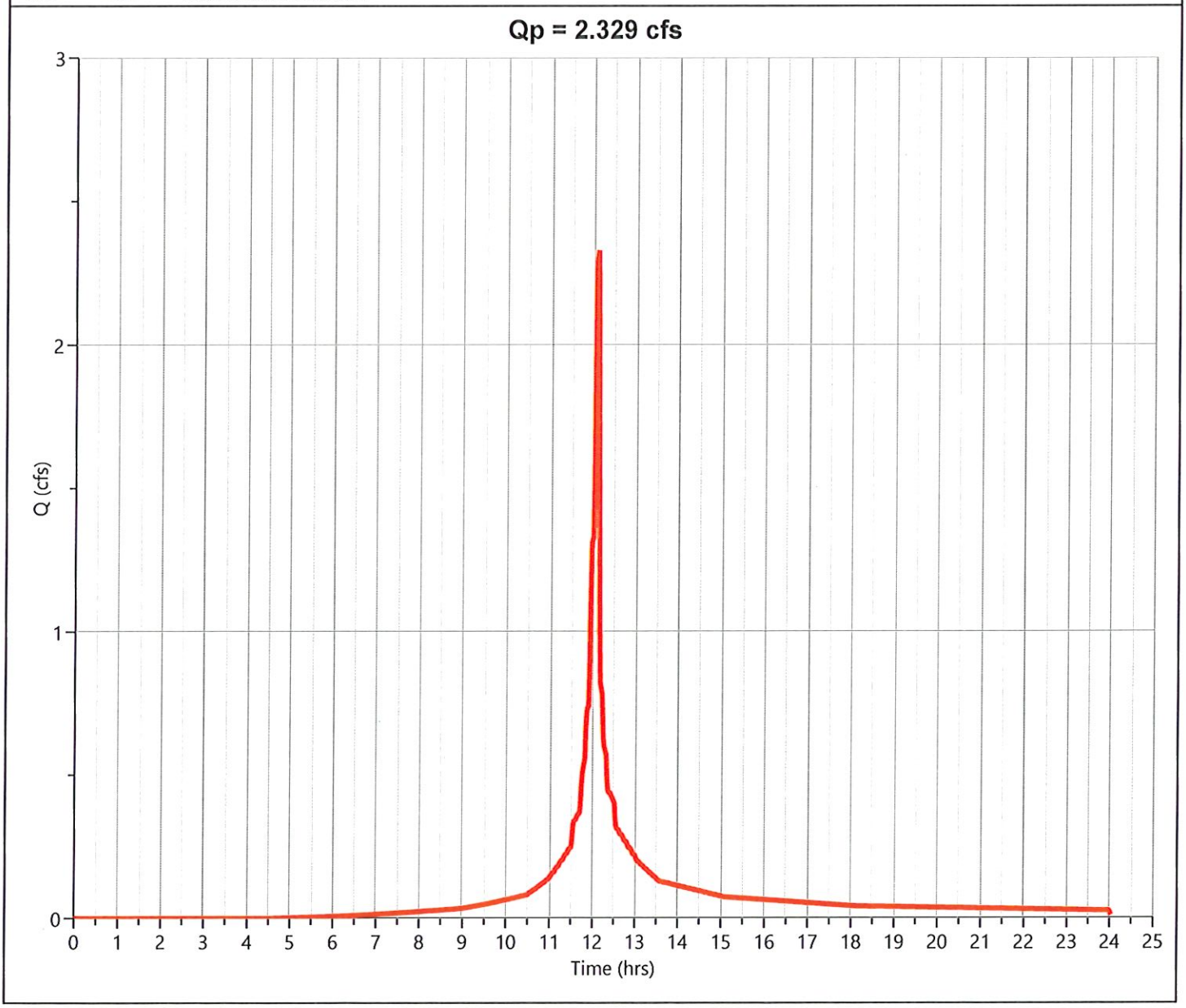
Post Basin NE Pervious

Hyd. No. 16

Hydrograph Type	= NRCS Runoff	Peak Flow	= 2.329 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 6,686 cuft
Drainage Area	= 0.33 ac	Curve Number	= 80.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 2.96 min
Total Rainfall	= 8.35 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.33	80.00	Open Space
0.33	**80.00**	Weighted CN Method Employed



Hydrograph Report

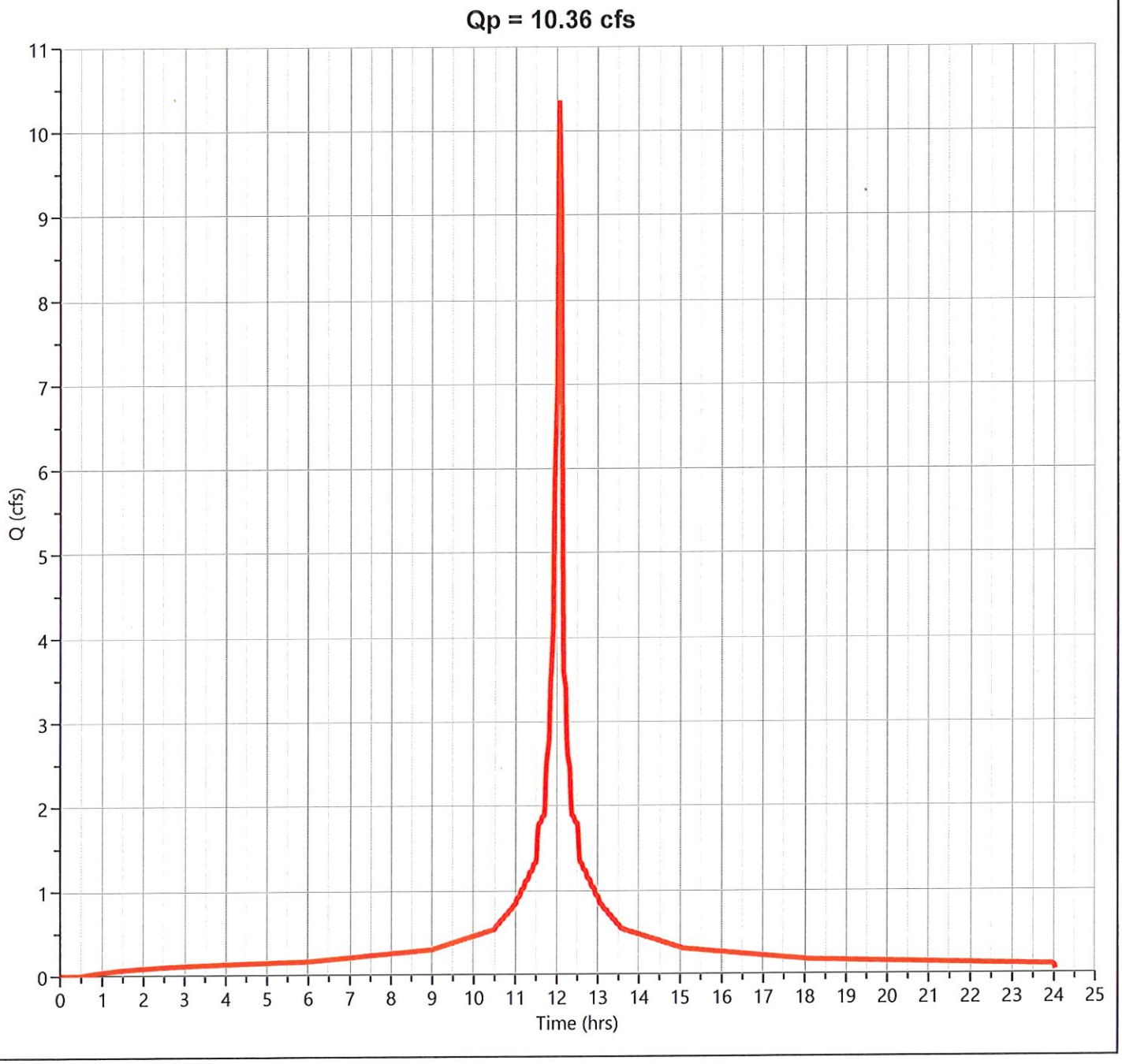
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin NE Impervious

Hyd. No. 17

Hydrograph Type	= NRCS Runoff	Peak Flow	= 10.36 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 34,775 cuft
Drainage Area	= 1.26 ac	Curve Number	= 98.00
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 2.55 min
Total Rainfall	= 8.35 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

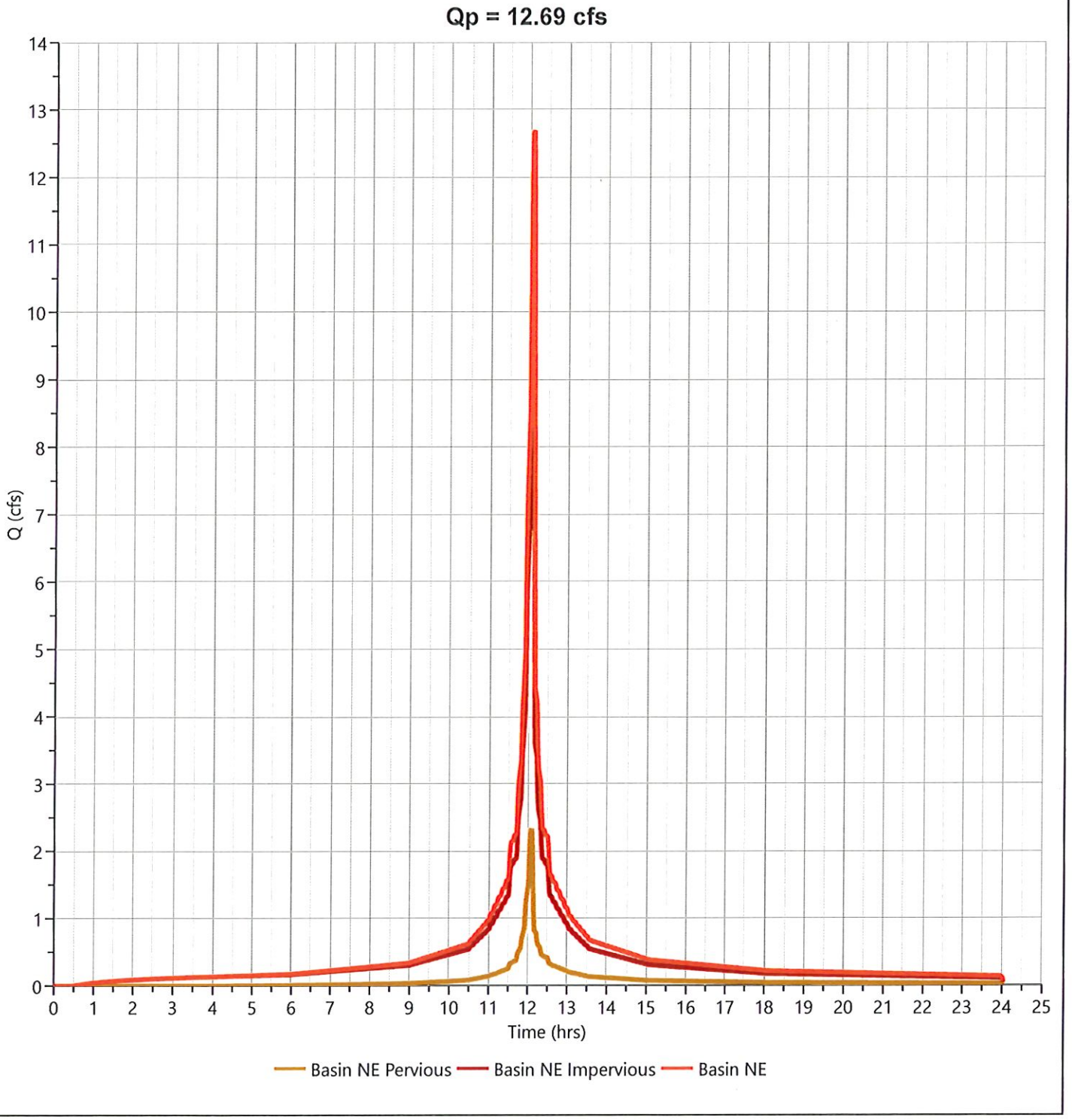
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin NE

Hyd. No. 18

Hydrograph Type	= Junction	Peak Flow	= 12.69 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 41,462 cuft
Inflow Hydrographs	= 16, 17	Total Contrib. Area	= 1.59 ac



Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

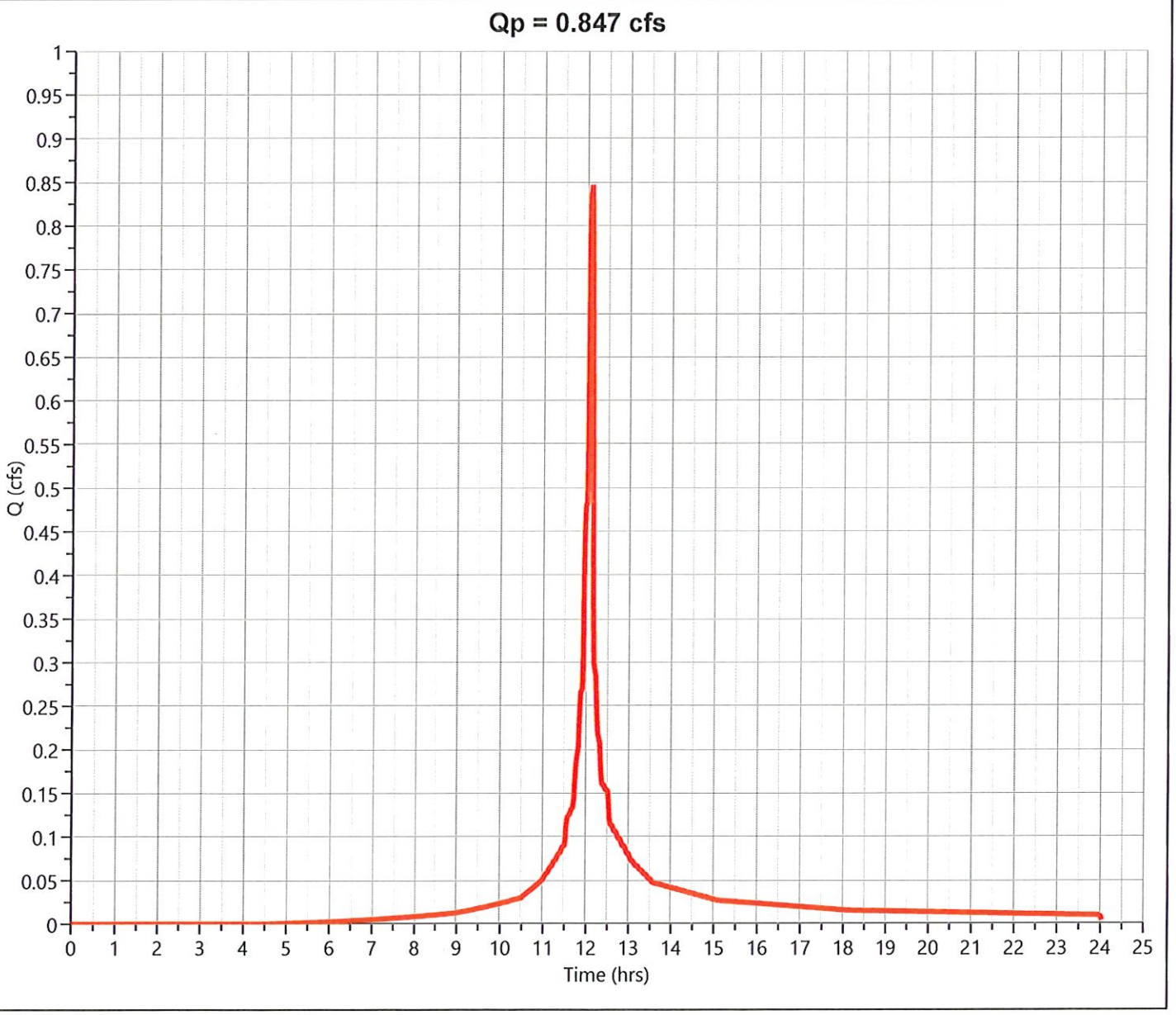
Post Basin Lot 8 Pervious

Hyd. No. 19

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.847 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 2,431 cuft
Drainage Area	= 0.12 ac	Curve Number	= 80.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 2.62 min
Total Rainfall	= 8.35 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.12	80.00	Open Space
0.12	**80.00**	Weighted CN Method Employed



Hydrograph Report

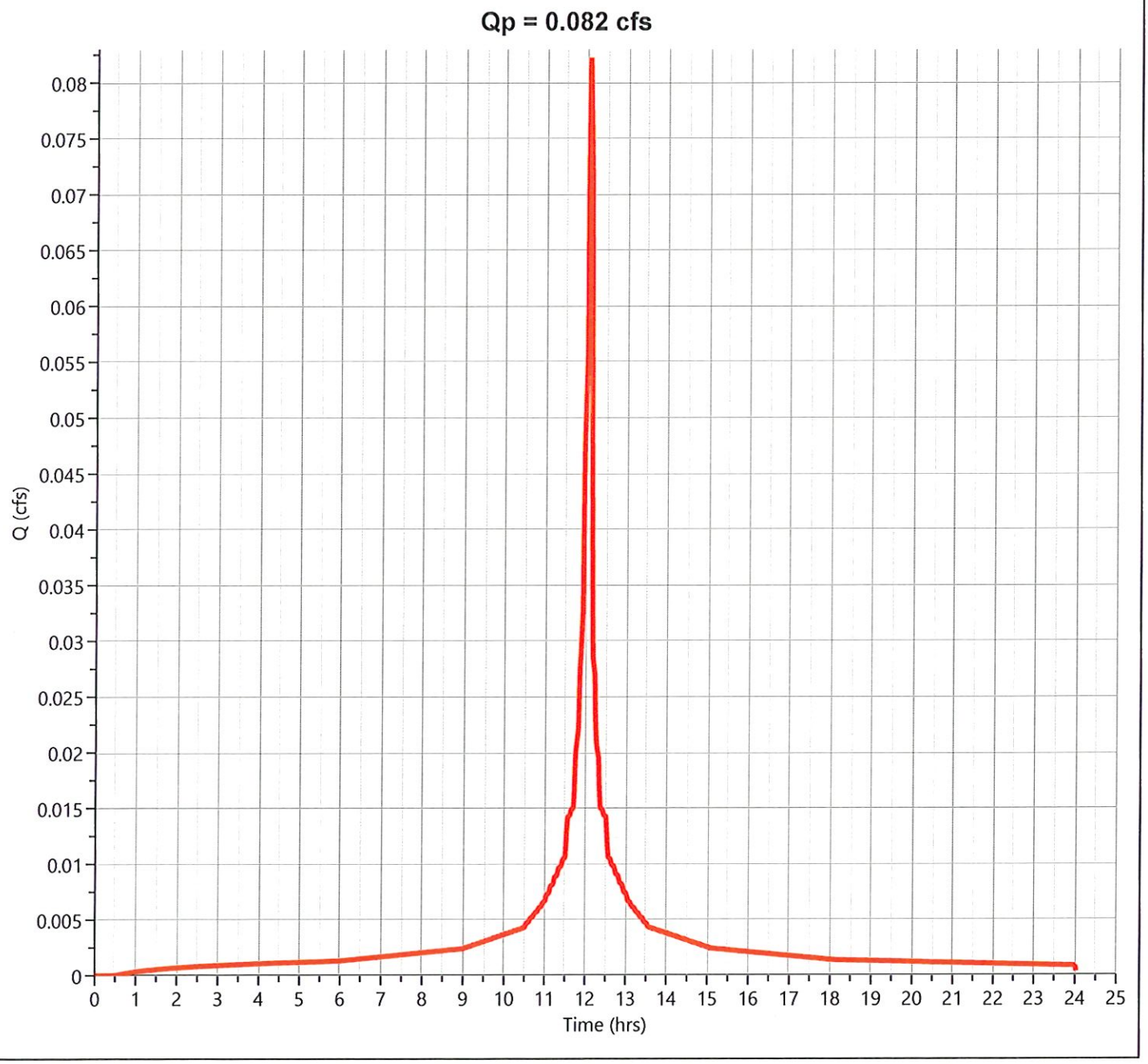
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin Lot 8 Imp.

Hyd. No. 20

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.082 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Runoff Volume	= 276 cuft
Drainage Area	= 0.01 ac	Curve Number	= 98.00
Tc Method	= User	Time of Conc. (Tc)	= 2.0 min
Total Rainfall	= 8.35 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

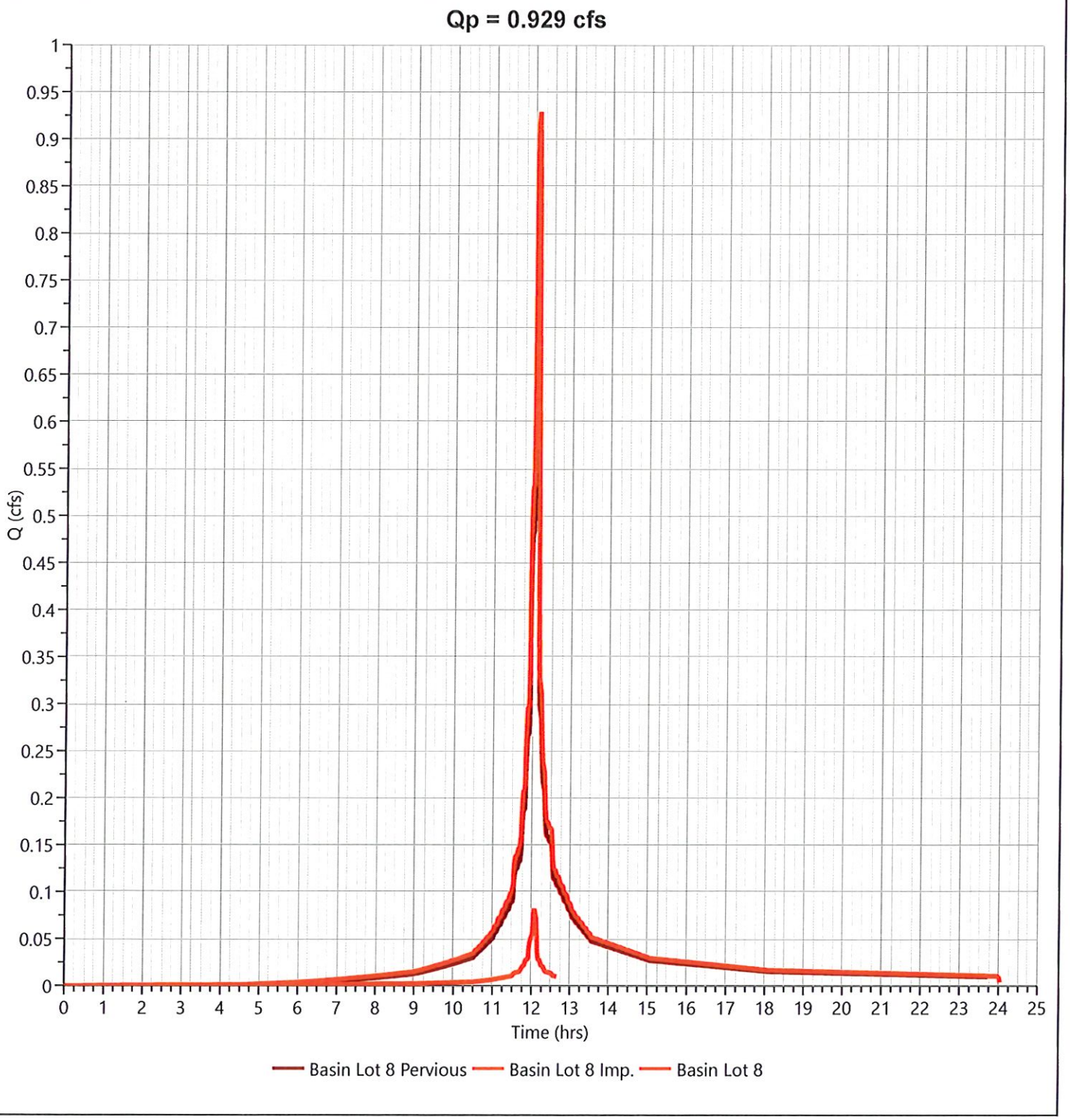
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin Lot 8

Hyd. No. 21

Hydrograph Type	= Junction	Peak Flow	= 0.929 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 2,707 cuft
Inflow Hydrographs	= 19, 20	Total Contrib. Area	= 0.13 ac



Hydrograph Report

Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

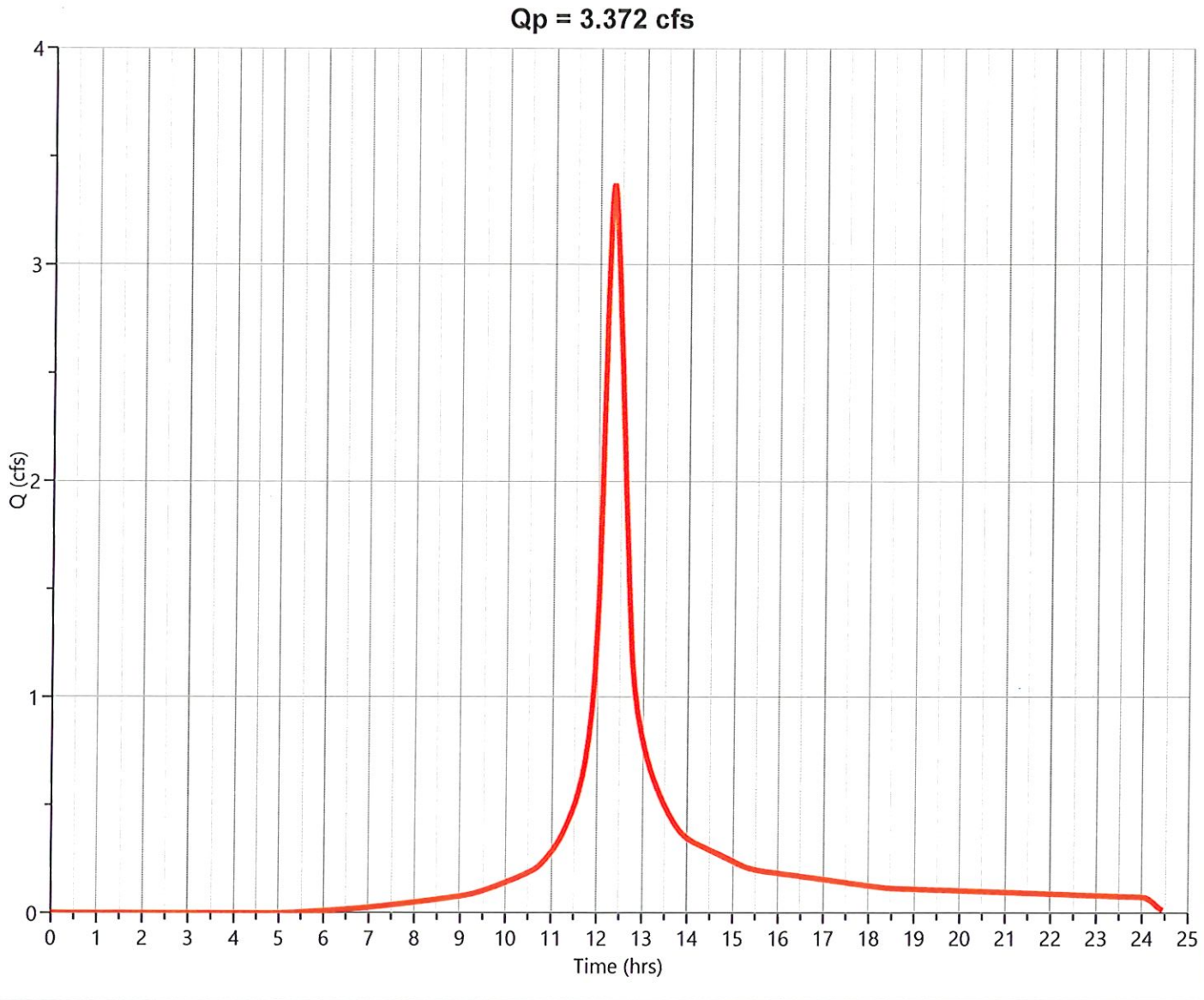
Post Basin N Pervious

Hyd. No. 22

Hydrograph Type	= NRCS Runoff	Peak Flow	= 3.372 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.32 hrs
Time Interval	= 1 min	Runoff Volume	= 18,054 cuft
Drainage Area	= 0.85 ac	Curve Number	= 78.76*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 26.77 min
Total Rainfall	= 8.35 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.35	77.00	Woods
0.5	80.00	Open Space
0.85	**78.76**	Weighted CN Method Employed



Hydrograph Report

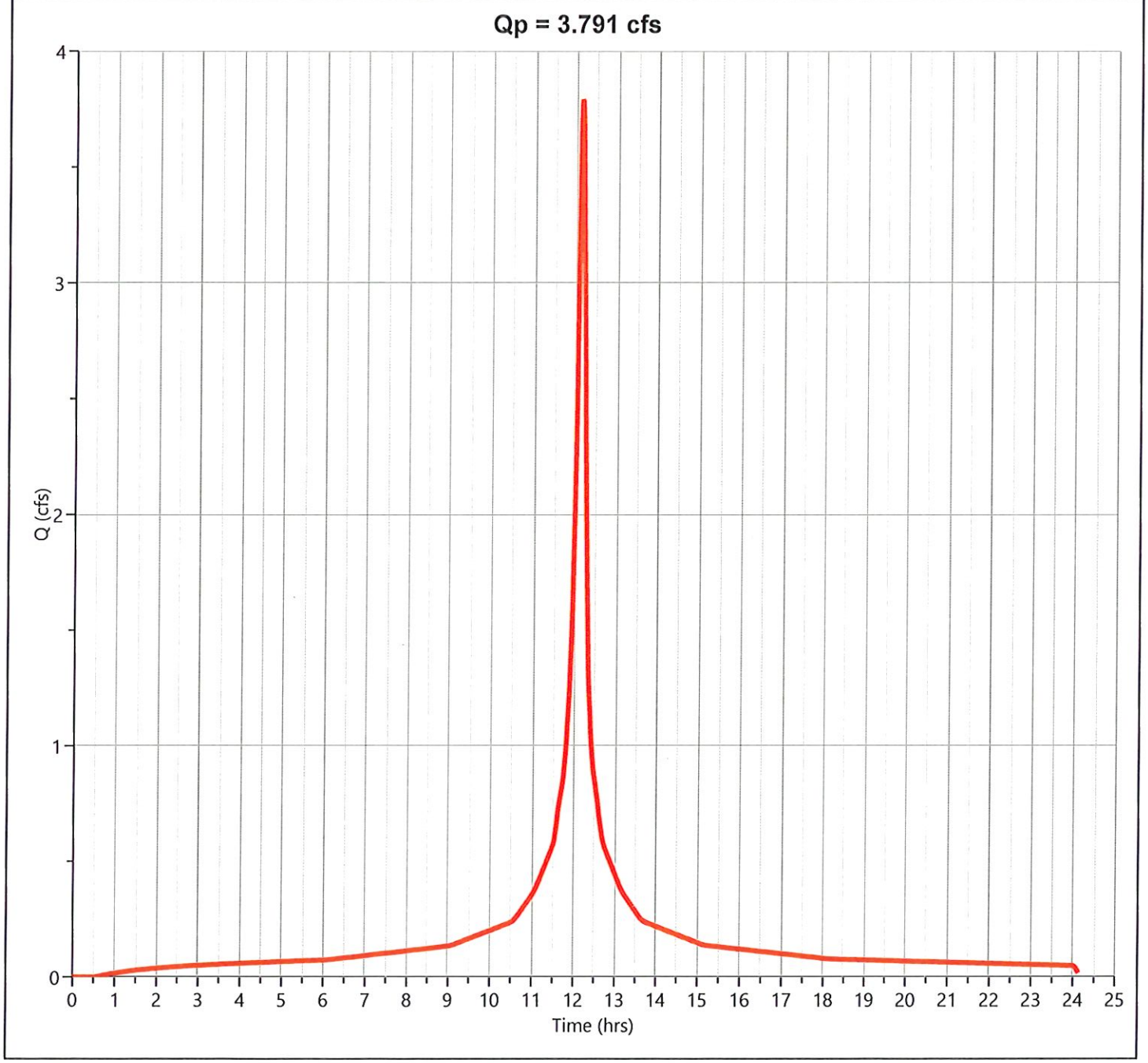
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin N Impervious

Hyd. No. 23

Hydrograph Type	= NRCS Runoff	Peak Flow	= 3.791 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.13 hrs
Time Interval	= 1 min	Runoff Volume	= 15,603 cuft
Drainage Area	= 0.53 ac	Curve Number	= 98.00
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 8.8 min
Total Rainfall	= 8.35 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484



Hydrograph Report

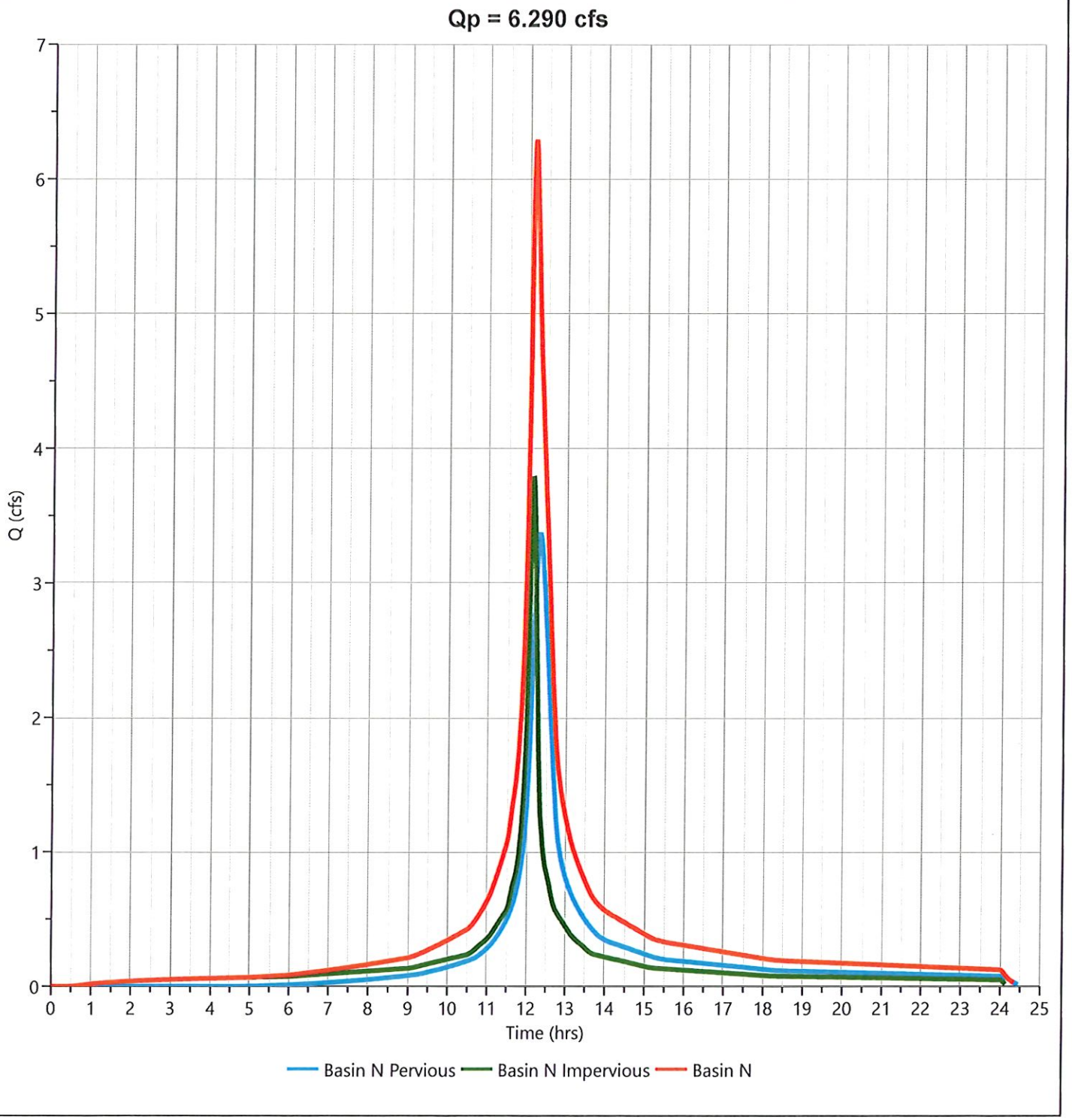
Hydrology Studio v 3.0.0.38

Project Name: MT-7
File: MT-7.hys
07-03-2025

Post Basin N

Hyd. No. 24

Hydrograph Type	= Junction	Peak Flow	= 6.290 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.17 hrs
Time Interval	= 1 min	Hydrograph Volume	= 33,657 cuft
Inflow Hydrographs	= 22, 23	Total Contrib. Area	= 1.38 ac



APPENDIX B

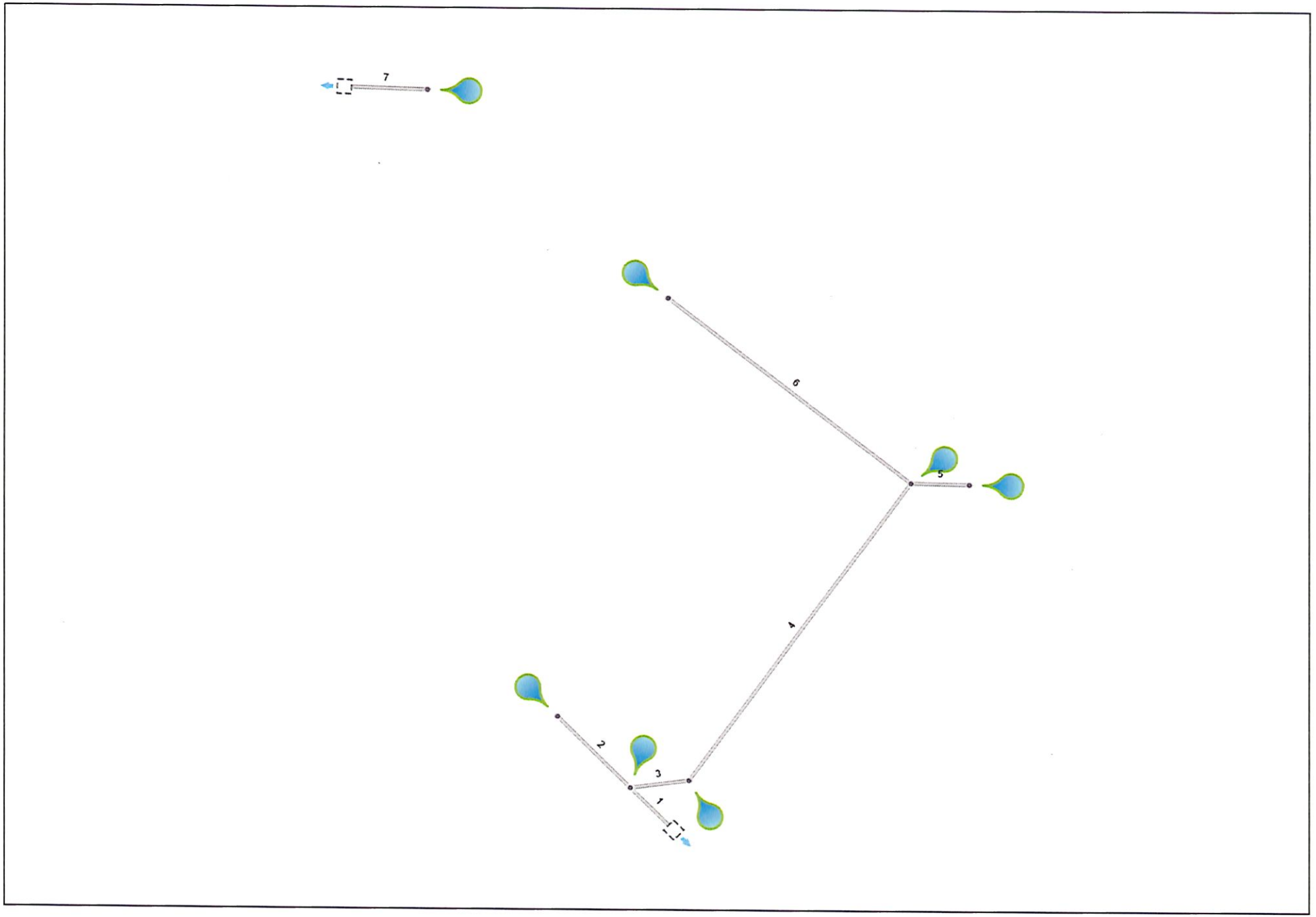
PIPE CHART

Plan View

Stormwater Studio 2025 v 3.0.0.38

Project Name: MT-7

07-03-2025



Project File: MT-7.sws

Storm Sewer Tabulation

Project Name: MT-7

Stormwater Studio 2025 v 3.0.0.38

07-03-2025

Line ID	Length	Drng Area		Rational	C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
	(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
Pipe 1	31.61	0.080	2.090	0.90	0.07	1.68	6.0	7.07	6.52	10.98	11.81	6.35	18	1.27	341.65	341.25	343.02	342.75	345.15	344.00	1
Pipe 2	53.30	0.330	0.330	0.90	0.30	0.30	6.0	6.00	6.83	2.03	12.03	1.93	15	3.47	343.75	341.90	344.63	344.60	347.00	345.15	2
Pipe 3	30.93	0.850	1.680	0.73	0.62	1.32	6.0	7.01	6.53	8.60	11.02	7.01	15	2.91	342.80	341.90	344.43	343.88	346.15	345.15	3
Pipe 4	195.33	0.120	0.830	0.90	0.11	0.70	6.0	6.64	6.64	4.61	11.50	4.44	15	3.17	349.10	342.90	349.96	345.35	357.50	346.15	4
Pipe 5	30.54	0.060	0.060	0.90	0.05	0.05	6.0	6.00	6.83	0.37	5.23	2.31	15	0.65	354.20	354.00	354.44	354.23	357.45	357.50	5
Pipe 6	159.84	0.650	0.650	0.82	0.53	0.53	6.0	6.00	6.83	3.64	4.57	4.13	15	0.50	354.25	353.45	355.09	354.29	357.50	357.50	6
Pipe 7	43.54	0.480	0.480	0.79	0.38	0.38	6.0	6.00	6.83	2.59	17.09	3.09	15	7.01	353.95	350.90	354.59	352.15	357.20	353.65	7

Notes: IDF File = MORRIS.idf, Return Period = 25-yrs.

Project File: MT-7.sws

Composite C Worksheet

Project Name: MT-7

Stormwater Studio 2025 v 3.0.0.38

07-03-2025

Line No	Description	Drainage Area (ac)	Runoff Coeff (C)	C x A	Composite (C)	Structure ID
1	Impervious	0.080	0.90	0.072		
	Totals	**0.080**		**0.072**	**0.90**	
2	Impervious	0.330	0.90	0.297		
	Totals	**0.330**		**0.297**	**0.90**	
3	Impervious	0.610	0.90	0.549		
	Pervious	0.240	0.30	0.072		
	Totals	**0.850**		**0.621**	**0.73**	
4	Impervious	0.120	0.90	0.108		
	Totals	**0.120**		**0.108**	**0.90**	
5	Impervious	0.060	0.90	0.054		
	Totals	**0.060**		**0.054**	**0.90**	
6	Impervious	0.560	0.90	0.504		
	Pervious	0.090	0.30	0.027		
	Totals	**0.650**		**0.531**	**0.82**	
7	Impervious	0.390	0.90	0.351		
	Pervious	0.090	0.30	0.027		
	Totals	**0.480**		**0.378**	**0.79**	

APPENDIX C

OPERATION AND MAINTENANCE MANUAL

Operation and Maintenance Manual
For Drainage System On
Tax Lots 5, 9, 11 & 12, Block 10201
Morris Township,
Morris County, N.J.

DATED: July 3, 2025

PREPARED BY:
DYKSTRA ASSOCIATES, PC
11 LAWRENCE ROAD
NEWTON, NEW JERSEY 07860
PHONE: 973-579-2177

Table of Contents

Tax Lots 5, 9, 11 & 12, Block 10201

Owner: Evergreen Cemetery
65 Monroe Street, Morris Township, NJ 07960

Introduction:

The drainage system on the above referenced property includes catch basins and storm sewer pipes which collect storm water run off from the developed portions of the property. Because ongoing operation of the drainage system is critical in meeting the standards at NJAC 7:8 to provide groundwater recharge, stormwater control and water quality, it is important that the drainage system be regularly inspected and maintained.

Maintenance Responsibility:

The drainage facilities maintenance will be the sole responsibility of Guaranteed Services, LLC. Upon any change in ownership, a copy of this Operations and Maintenance Manual shall be provided to the new owner.

Summary of Equipment and Tools

The following equipment and tools will be typically required to perform the subsequent maintenance procedures:

- Hand tools such as shovel, bucket, rake.
- Dump truck to haul away the sediment/debris

Preventative Maintenance:

Preventative maintenance will be performed on a regular basis, and is intended to keep the facility operational at all times. Preventative Maintenance includes the following procedures:

1. Lawn Maintenance. Vegetated areas in and around the parking areas shall be mown at least twice per month during the growing season. Lawn areas on site shall be inspected for puddling after significant storm events to insure that there is positive drainage to the catch basins on site.

2. Catch Basin and Storm Sewer Cleaning. The catch basins and storm sewers shall be cleared of all debris twice annually. Additional cleaning will be performed if necessary to minimize debris from clogging the catch basins and storm sewers. **Do not enter catch basins and/or storm sewers unless properly trained, equipped and qualified to enter a confined space as identified by Occupational Safety and Health Regulations.**

Corrective Maintenance:

Corrective maintenance should be provided as soon as practicable after a situation that requires attention is noted or reported. Corrective maintenance includes repair of damage caused by any problems that jeopardize the safety or operation of the draiange system.

Records:

Attached to this report is the Maintenance and Inspection Checklists for use by the property owner. These should be utilized every time maintenance or inspection is performed at the facility. The reports should be appropriately filed, and used to determine the effectiveness of the existing maintenance and inspection schedules, and also used as a guide to revising the schedules as necessary to effectively maintain the operational integrity of the facility.

Inspection and Maintenance Schedule:

An inspection of the facility should be made a minimum of every three months and after every rainfall event in excess of one inch in order to determine the effectiveness of the maintenance work and the condition of the facility. Inspection for erosion and scour shall be performed annually.

The following is the proposed annual inspection schedule:

January

- Inspect all structures and remove debris as necessary from catch basins.

April

- Inspect all structures and remove debris as necessary from catch basins.

July

- Inspect all structures and remove debris as necessary from catch basins.

October

- Inspect all structures and remove debris as necessary from catch basins.

Approved Disposal and Recycling Sites:

All disposal of sediment and materials removed from the site shall be recycled or disposed of at a licenced facility that accepts refuse. The following is an approved disposal and recycling site:

Sussex County MUA, Lafayette, NJ.

Maintenance Checklist

For Guaranteed Services, LLC

Date of Inspection: _____

A: Preventative Maintenance:

Work Item	Items Required	Items Done	Comments and Special Conditions
1. Trash and Debris Removal	_____	_____	_____
A. Pipes	_____	_____	_____
B. Catch Basins	_____	_____	_____
2. Sediment Removal			
A. Pipes	_____	_____	_____
B. Catch Basins	_____	_____	_____

B: Corrective Maintenance

1. General Maintenance			
A. Elimination holes	_____	_____	_____
B. Elimination Sink Holes	_____	_____	_____
2. Removal of Debris & Sediment	_____	_____	_____
3. Structural Repairs	_____	_____	_____
4. Engineer Recommended Maint.	_____	_____	_____

Inspection Report
For Guaranteed Services, LLC

Date of Inspection: _____

Inspection Item	Item Inspected	Comments and Special Conditions
1. Pipes	_____	_____
2. Catch Basins	_____	_____
3. Lawn Areas	_____	_____

NOTES:

_____

_____

_____

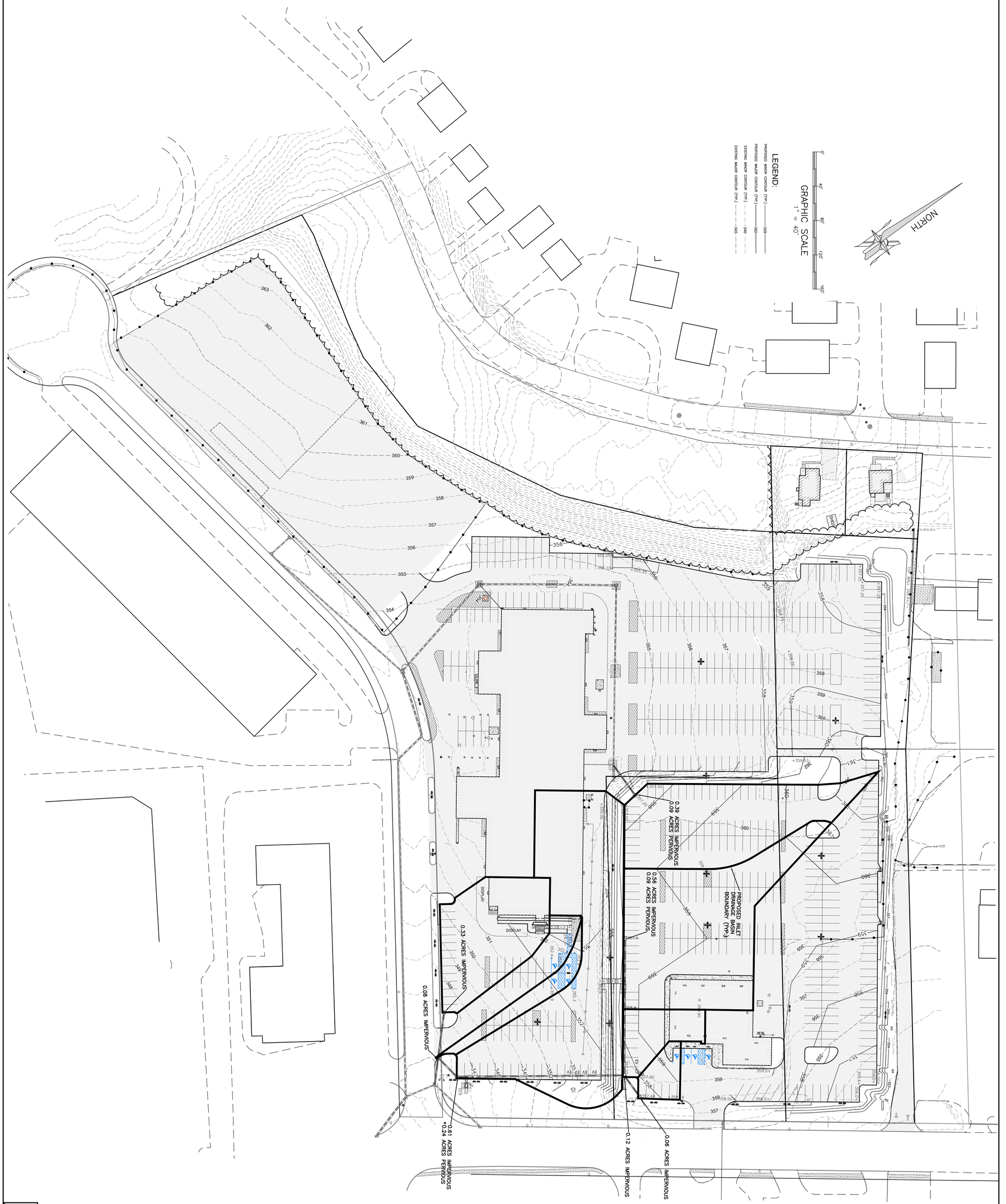
_____

_____

_____

_____

_____



1
1

PROPOSED CATCH BASIN DRAINAGE AREA MAP

SITE PLAN FOR
NIELSEN FORD DEALERSHIP
& NIELSEN CHRYSLER, DODGE, JEEP AND RAM DEALERSHIP
TAX BLOCK 10201, LOTS 5, 9, 11, AND 12
TOWNSHIP OF MORRIS, MORRIS COUNTY, NJ

DYKSTRA ASSOCIATES, PC
11 LAWRENCE ROAD
NEWTON, NJ 07860
(973) 579-2177

OWEN D. DYKSTRA
PROFESSIONAL ENGINEER
N.J. LIC. No. 39920

PROJECT NO.:	MT-07
CONTOUR INT.:	1 FT
SCALE:	1"=40'
DATE:	07/03/2025
SHEET	1 OF 1

DYKSTRA ASSOCIATES

CIVIL ENGINEERS
•
LAND SURVEYORS
•
LANDSCAPE ARCHITECTS
•
PLANNERS

DATE	REVISION

EXISTING DRAINAGE BASINS MAP

SITE PLAN FOR
NIELSEN FORD DEALERSHIP
& NIELSEN CHRYSLER, DODGE, JEEP
AND RAM DEALERSHIP
TAX BLOCK 10201, LOTS 5, 9, 11, AND 12
TOWNSHIP OF MORRIS, MORRIS COUNTY, NJ

DYKSTRA ASSOCIATES, PC
11 LAWRENCE ROAD
NEWTON, NJ 07860
(973) 579-2177
PROFESSIONAL ENGINEER
N.J. LIC. No. 39920
OWEN D. DYKSTRA

SHEET	1 OF 1
DATE:	07/03/2025
SCALE:	1"=40'
CONTOUR INT.:	1 FT
PROJECT NO.:	MT-07

DYKSTRA ASSOCIATES

CIVIL ENGINEERS
LAND SURVEYORS
LANDSCAPE ARCHITECTS
PLANNERS

DATE	REVISION

1 / 1

RIDGEDALE AVENUE
66' WIDE RIGHT OF WAY

EVERGREEN PLACE
50' WIDE RIGHT OF WAY

PORTION OF TAX LOT 9 BLOCK 10201
1.511 ACRES

PRE BASIN NE
0.26 ACRES PERVIOUS (CN=80)
1.55 ACRES IMPERVIOUS (CN=98)

BASIN NE PERVIOUS TC LINE

BASIN NE IMPERVIOUS TC LINE

TAX LOT 11 BLOCK 10201
1.835 ACRES

TAX LOT 12 BLOCK 10201
6.984 ACRES

NOTE:
LIGHT SOLID HATCH DENOTES IMPERVIOUS SURFACES

PRE BASIN S
2.28 ACRES PERVIOUS (CN=78)
7.09 ACRES IMPERVIOUS (CN=98)

BASIN S IMPERVIOUS TC LINE

PRE BASIN LOT 8
0.08 ACRES PERVIOUS (CN=80)
0.10 ACRES IMPERVIOUS (CN=98)

BASIN LOT 8 IMPERVIOUS TC LINE

BASIN LOT 8 PERVIOUS TC LINE

DRAINAGE BASIN BOUNDARY LINE (TYP.)

TAX LOT 5 BLOCK 10201
0.912 ACRES

PRE BASIN N
0.63 ACRES PERVIOUS (CN=78)
0.87 ACRES IMPERVIOUS (CN=98)

BASIN N IMPERVIOUS TC LINE

BASIN N PERVIOUS TC LINE

DENOTES CHANGE IN FLOW OR GROUND COVER (TYP.)

TAX LOT 4 BLOCK 10201
0.190 ACRES

SHED

TAX LOT 3 BLOCK 10201
0.190 ACRES

BASIN S PERVIOUS TC LINE

DENOTES EXISTING TREE LINE

LOT 8 BLOCK 10201

LOT 7 BLOCK 10201

LOT 6 BLOCK 10201

NORTH

GRAPHIC SCALE
1" = 40'
0' 40' 80' 120' 160'

LEGEND:
EXISTING MINOR CONTOUR (TYP.) ——346——
EXISTING MAJOR CONTOUR (TYP.) ——345——

PROPOSED DRAINAGE BASINS MAP

SITE PLAN FOR
NIELSEN FORD DEALERSHIP
& NIELSEN CHRYSLER, DODGE, JEEP
AND RAM DEALERSHIP
TAX BLOCK 10201, LOTS 5, 9, 11, AND 12
TOWNSHIP OF MORRIS, MORRIS COUNTY, NJ

DYKSTRA ASSOCIATES, PC
11 LAWRENCE ROAD
NEWTON, NJ 07860
(973) 579-2177

OWEN D. DYKSTRA
PROFESSIONAL ENGINEER
N.J. LIC. No. 39920

SHEET	1 OF 1
DATE:	07/03/2025
SCALE:	1"=40'
CONTOUR INT.:	1 FT
PROJECT NO.:	MT-07

DYKSTRA ASSOCIATES

CIVIL ENGINEERS
LAND SURVEYORS
LANDSCAPE ARCHITECTS
PLANNERS

DATE	REVISION

1 / 1

RIDGEDALE AVENUE
66' WIDE RIGHT OF WAY

EVERGREEN PLACE
50' WIDE RIGHT OF WAY

PORTION OF TAX LOT 9 BLOCK 10201 1.511 ACRES

TAX LOT 11 BLOCK 10201 1.835 ACRES

TAX LOT 12 BLOCK 10201 6.984 ACRES

TAX LOT 5 BLOCK 10201 0.912 ACRES

TAX LOT 4 BLOCK 10201 0.199 ACRES

TAX LOT 3 BLOCK 10201 0.198 ACRES

LOT 8 BLOCK 10201

LOT 7 BLOCK 10201

LOT 6 BLOCK 10201

POST BASIN LOT 8
0.12 ACRES PERVIOUS (CN=80)
0.01 ACRES IMPERVIOUS (CN=98)

POST BASIN NE
0.33 ACRES PERVIOUS (CN=80)
1.26 ACRES IMPERVIOUS (CN=98)

POST BASIN S
2.56 ACRES PERVIOUS (CN=79)
7.20 ACRES IMPERVIOUS (CN=98)

POST BASIN N
0.85 ACRES PERVIOUS (CN=79)
0.53 ACRES IMPERVIOUS (CN=98)

BASIN NE IMPERVIOUS TC LINE

BASIN NE PERVIOUS TC LINE

BASIN LOT 8 IMPERVIOUS TC LINE

BASIN LOT 8 PERVIOUS TC LINE

BASIN S IMPERVIOUS TC LINE

BASIN S PERVIOUS TC LINE

BASIN N IMPERVIOUS TC LINE

BASIN N PERVIOUS TC LINE

DRAINAGE BASIN BOUNDARY LINE (TYP.)

DENOTES CHANGE IN FLOW TYPE OR GROUND COVER (TYP.)

NOTE: LIGHT SOLID HATCH DENOTES IMPERVIOUS SURFACES

DENOTES EXISTING TREE LINE

DISPLAY

NORTH

GRAPHIC SCALE
1" = 40'
0' 40' 80' 120' 160'

LEGEND:
- PROPOSED MINOR CONTOUR (TYP.) — 359
- PROPOSED MAJOR CONTOUR (TYP.) — 360
- EXISTING MINOR CONTOUR (TYP.) — 346
- EXISTING MAJOR CONTOUR (TYP.) — 345