

Hydrograph 10-yr Summary

Hydrology Studio v 3.0.0.32

07-11-2024

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 Point A	0.963	12.20	4,342	----		
2	NRCS Runoff	Post Point A	0.830	12.23	3,970	----		
3	NRCS Runoff	Pre Point B	1.860	12.20	8,163	----		
4	NRCS Runoff	Post Point B-Up	1.596	12.17	6,333	----		
5	NRCS Runoff	Pre Point C	1.361	12.20	5,907	----		
6	NRCS Runoff	Post Point C-Up	1.736	12.10	6,116	----		
7	NRCS Runoff	Post Point B - Low	0.899	12.23	4,246	----		
8	Pond Route	R.G. - B	0.153	13.63	1,707	4	453.33	3,457
9	Junction	Post Point B Total	0.899	12.23	5,954	7, 8		
10	NRCS Runoff	Post Post C - Low	0.392	12.17	1,665	----		
11	Pond Route	R.G.-C	0.101	14.43	1,123	6	443.33	3,737
12	Junction	Post Point C Total	0.392	12.17	2,788	10, 11		

Hydrograph Report

Hydrology Studio v 3.0.0.32

07-10-2024

Pre Point A

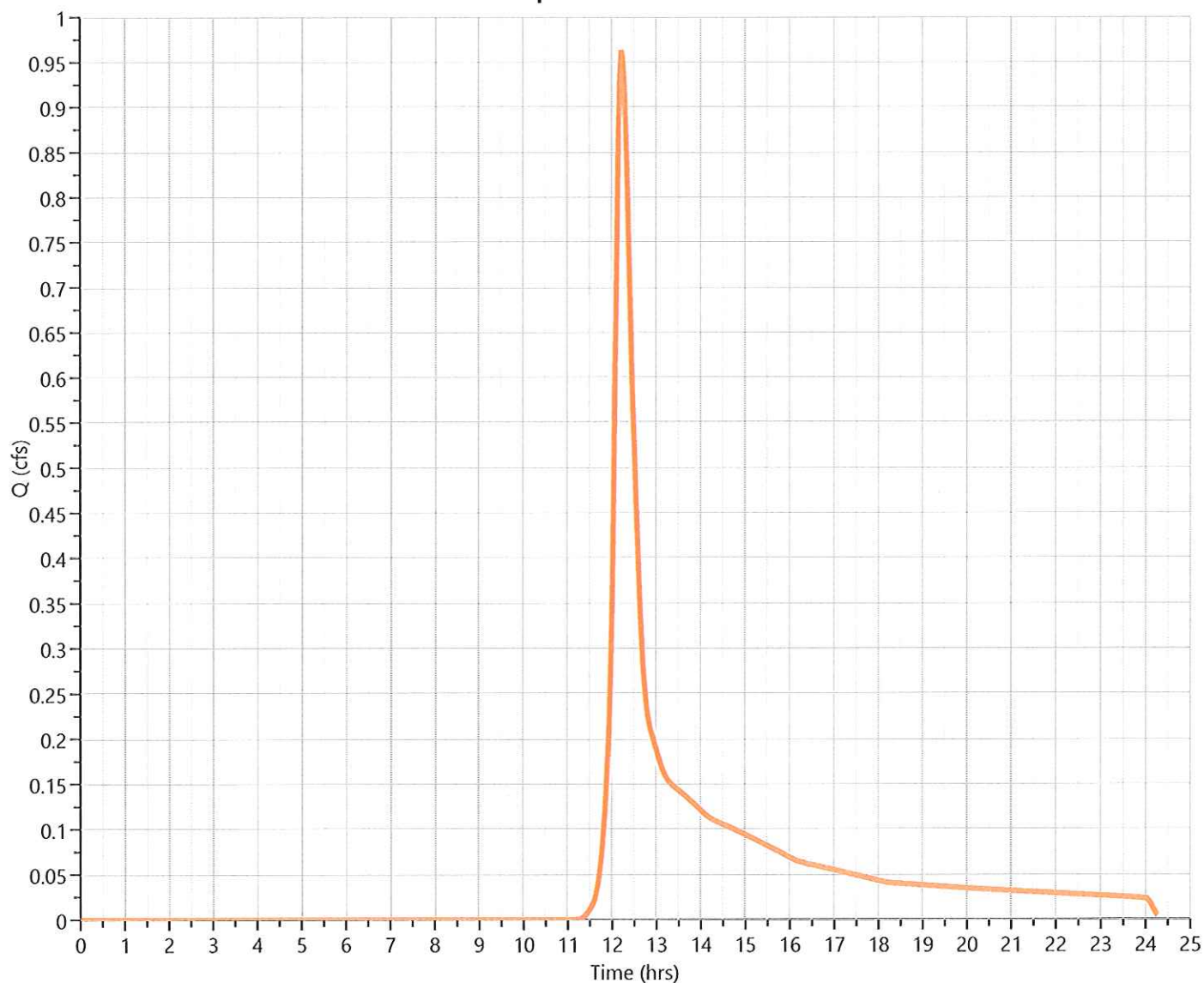
Hyd. No. 1

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.963 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.20 hrs
Time Interval	= 2 min	Runoff Volume	= 4,342 cuft
Drainage Area	= 0.91 ac	Curve Number	= 60*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 14.84 min
Total Rainfall	= 5.08 in	Design Storm	= Type III
Storm Duration	= 24 hrs	Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
0.91	60	Soil B/Wooded
0.91	60	Weighted CN Method Employed

$Q_p = 0.96 \text{ cfs}$



Hydrograph Report

Hydrology Studio v 3.0.0.32

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Post Point A

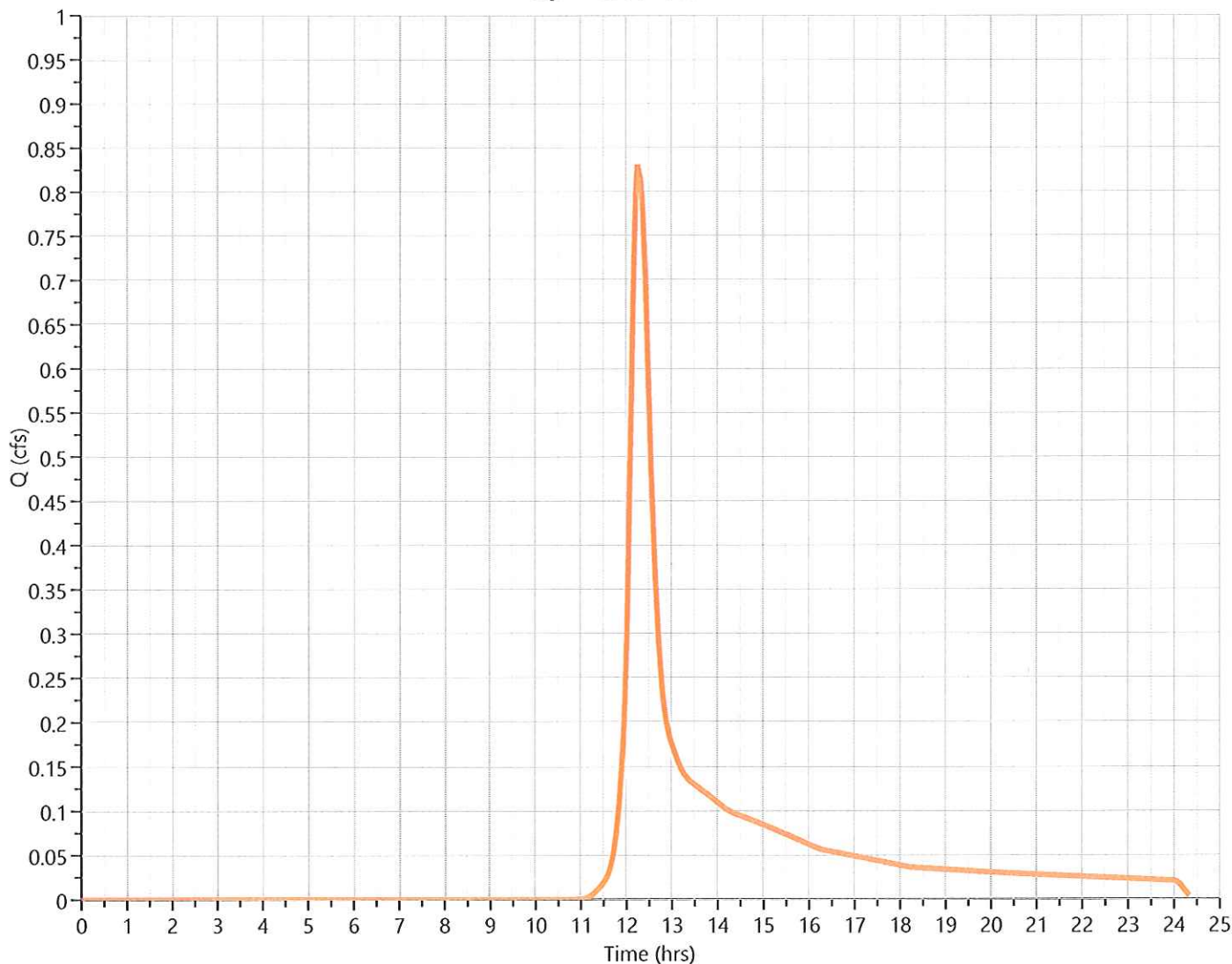
Hyd. No. 2

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.830 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.23 hrs
Time Interval	= 2 min	Runoff Volume	= 3,970 cuft
Drainage Area	= 0.735 ac	Curve Number	= 62*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 18.77 min
Total Rainfall	= 5.08 in	Design Storm	= Type III
Storm Duration	= 24 hrs	Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
0.025	98	Roof
0.38	61	Soil B / Grass
0.33	60	Soil B / Wooded
0.735	62	Weighted CN Method Employed

Qp = 0.83 cfs



Hydrograph Report

Hydrology Studio v 3.0.0.32

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Pre Point B

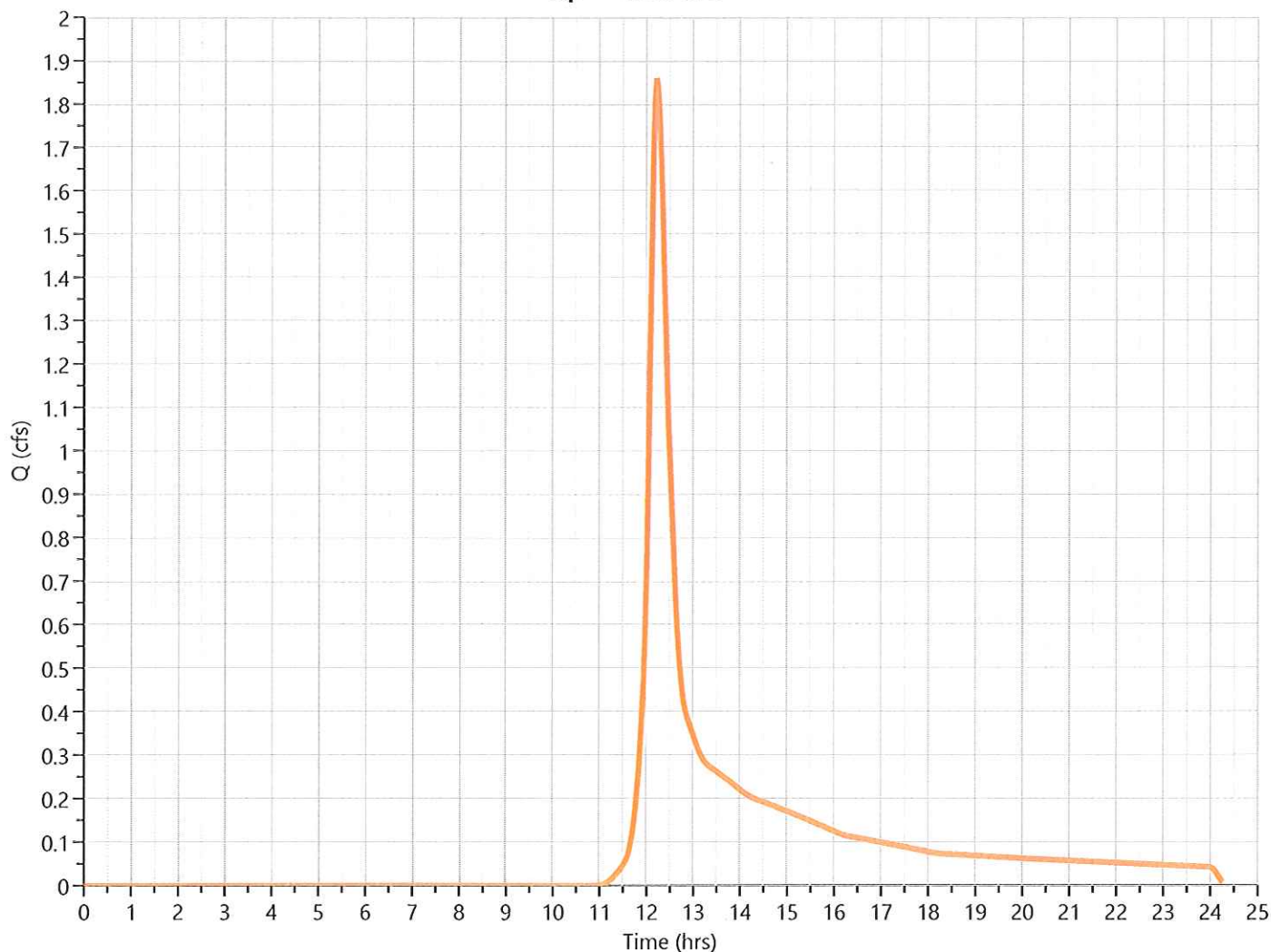
Hyd. No. 3

Hydrograph Type	= NRCS Runoff	Peak Flow	= 1.860 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.20 hrs
Time Interval	= 2 min	Runoff Volume	= 8,163 cuft
Drainage Area	= 1.55 ac	Curve Number	= 62*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 16.28 min
Total Rainfall	= 5.08 in	Design Storm	= Type III
Storm Duration	= 24 hrs	Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
0.01	98	Bit / Roof
1.23	60	Soil B / Woods
0.08	56	Soil B / Brush
0.23	70	Soil C / Woods
1.55	62	Weighted CN Method Employed

$Q_p = 1.86 \text{ cfs}$



Hydrograph Report

Hydrology Studio v 3.0.0.32

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Post Point B-Up

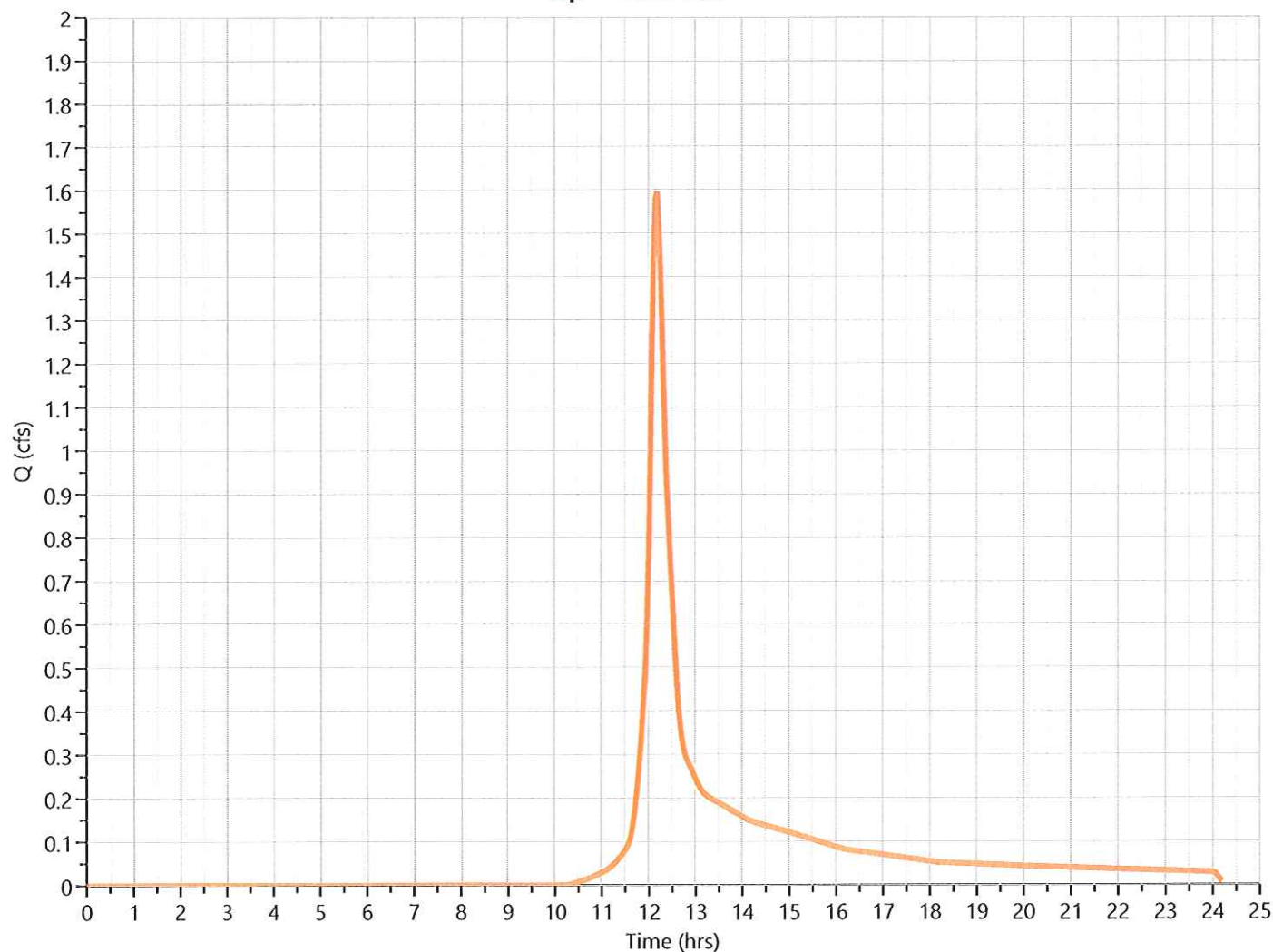
Hyd. No. 4

Hydrograph Type	= NRCS Runoff	Peak Flow	= 1.596 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.17 hrs
Time Interval	= 2 min	Runoff Volume	= 6,333 cuft
Drainage Area	= 0.91 ac	Curve Number	= 67*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 12.7 min
Total Rainfall	= 5.08 in	Design Storm	= Type III
Storm Duration	= 24 hrs	Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
0.12	98	Bit / Roof
0.32	61	Soil B / Lawn
0.12	56	Soil B / Brush
0.11	60	Soil B / Woods
0.24	70	Soil C / Brush
0.91	67	Weighted CN Method Employed

$Q_p = 1.60$ cfs



Hydrograph Report

Hydrology Studio v 3.0.0.32

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Post Point B - Low

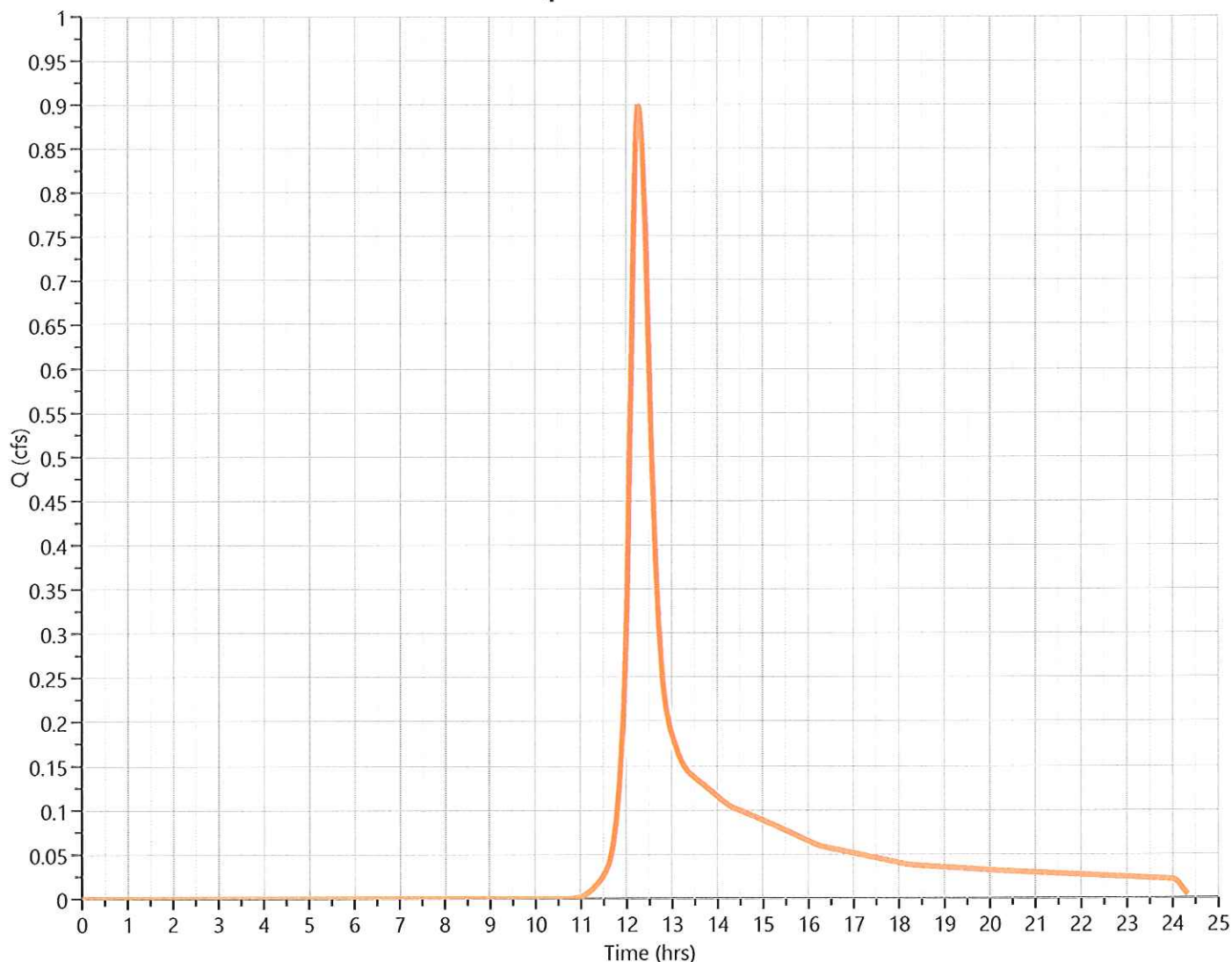
Hyd. No. 7

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.899 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.23 hrs
Time Interval	= 2 min	Runoff Volume	= 4,246 cuft
Drainage Area	= 0.75 ac	Curve Number	= 63*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 18.52 min
Total Rainfall	= 5.08 in	Design Storm	= Type III
Storm Duration	= 24 hrs	Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
0.05	98	Roof
0.32	61	Soil B / Lawn
0.38	60	Soil B / Wood
0.75	63	Weighted CN Method Employed

Qp = 0.90 cfs



Hydrograph Report

Hydrology Studio v 3.0.0.32

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Post Point B Total

Hyd. No. 9

Hydrograph Type = Junction

Storm Frequency = 10-yr

Time Interval = 2 min

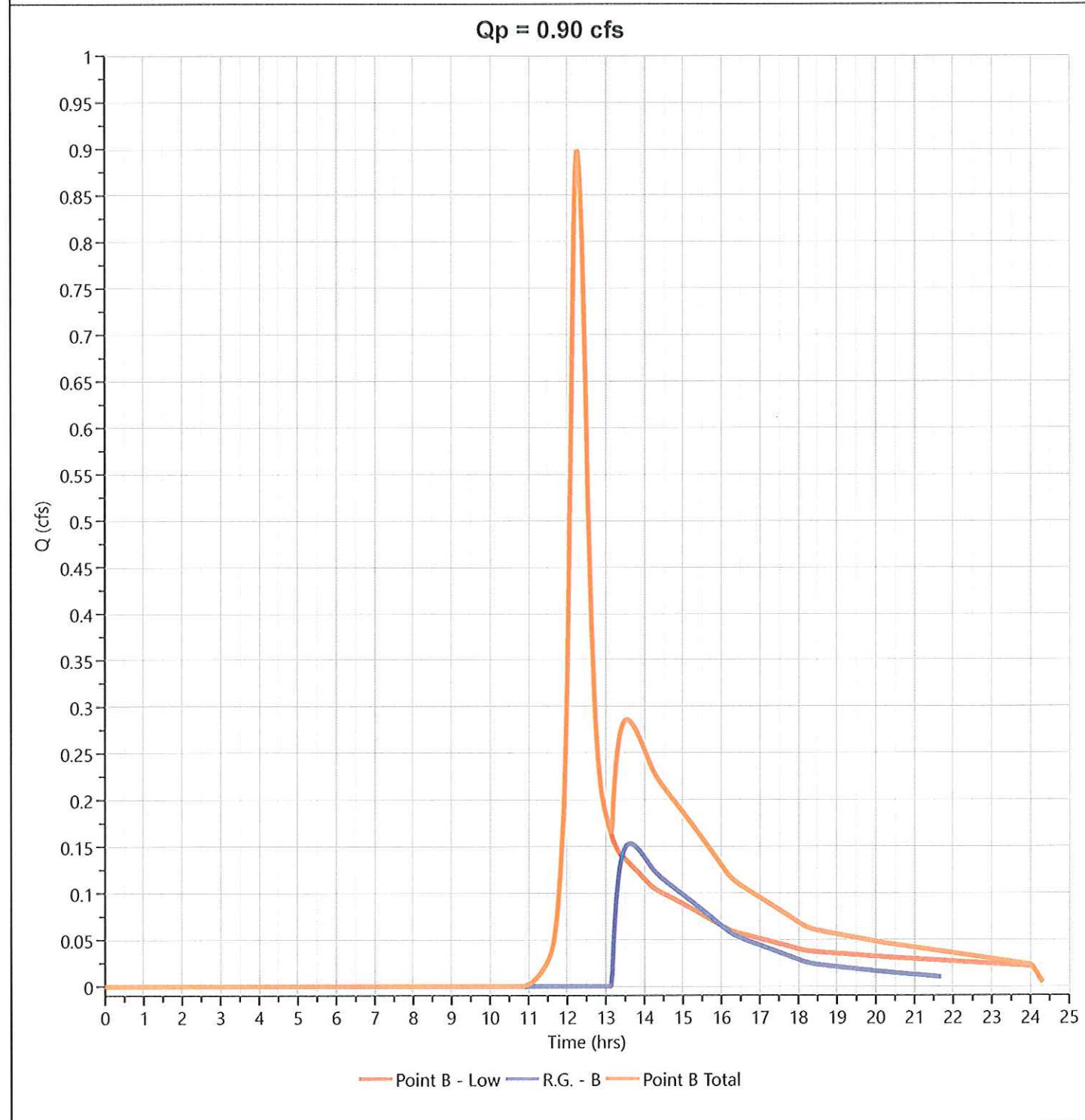
Inflow Hydrographs = 7, 8

Peak Flow = 0.899 cfs

Time to Peak = 12.23 hrs

Hydrograph Volume = 5,954 cuft

Total Contrib. Area = 0.75 ac



Hydrograph Report

Hydrology Studio v 3.0.0.32

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Pre Point C

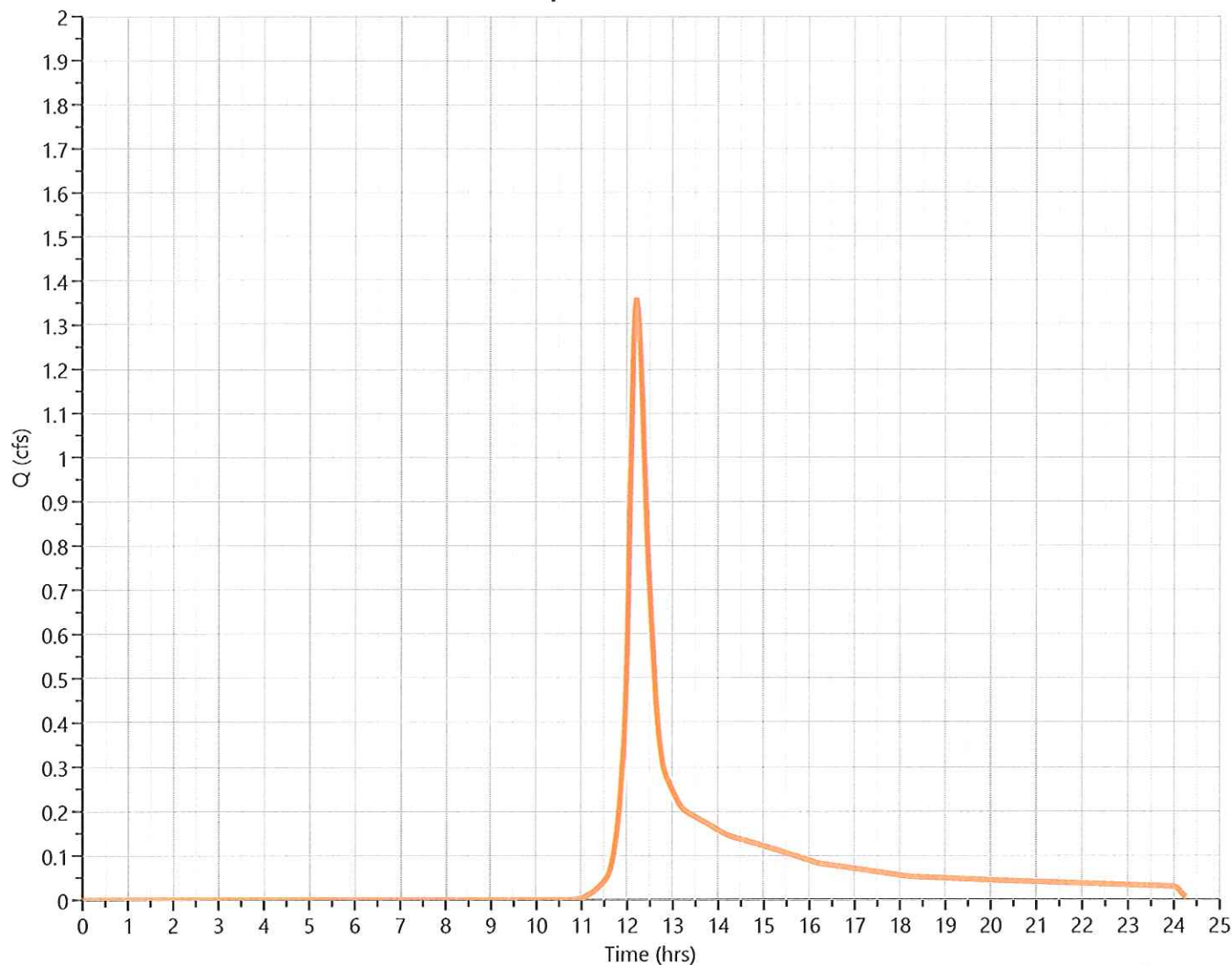
Hyd. No. 5

Hydrograph Type	= NRCS Runoff	Peak Flow	= 1.361 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.20 hrs
Time Interval	= 2 min	Runoff Volume	= 5,907 cuft
Drainage Area	= 1.07 ac	Curve Number	= 63*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 14.57 min
Total Rainfall	= 5.08 in	Design Storm	= Type III
Storm Duration	= 24 hrs	Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
0.82	60	Soil B / Woods
0.06	70	Soil C / Brush
0.19	73	Soil C / Woods
1.07	63	Weighted CN Method Employed

Qp = 1.36 cfs



Hydrograph Report

Hydrology Studio v 3.0.0.32

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Post Point C-Up

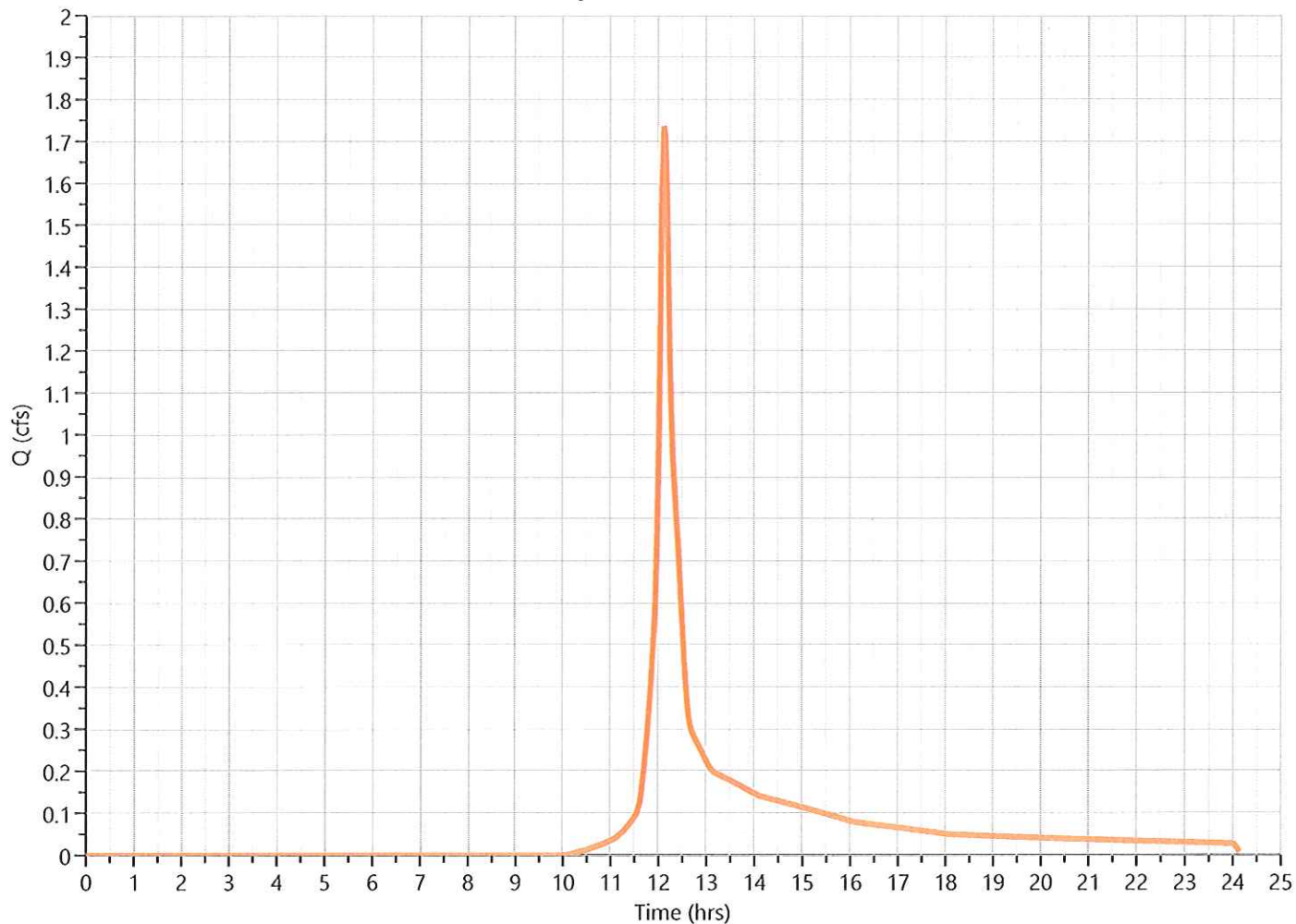
Hyd. No. 6

Hydrograph Type	= NRCS Runoff	Peak Flow	= 1.736 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.10 hrs
Time Interval	= 2 min	Runoff Volume	= 6,116 cuft
Drainage Area	= 0.87 ac	Curve Number	= 68*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 8.98 min
Total Rainfall	= 5.08 in	Design Storm	= Type III
Storm Duration	= 24 hrs	Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
0.11	98	Bit
0.44	61	Soil B / Lawn
0.12	60	Soil B / Woods
0.12	74	Soil C / Lawn
0.06	70	Soil C / Brush
0.02	73	Soil C / Woods
0.87	68	Weighted CN Method Employed

$Q_p = 1.74 \text{ cfs}$



Hydrograph Report

Hydrology Studio v 3.0.0.32

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Project Name:

07-10-2024

Post Post C - Low

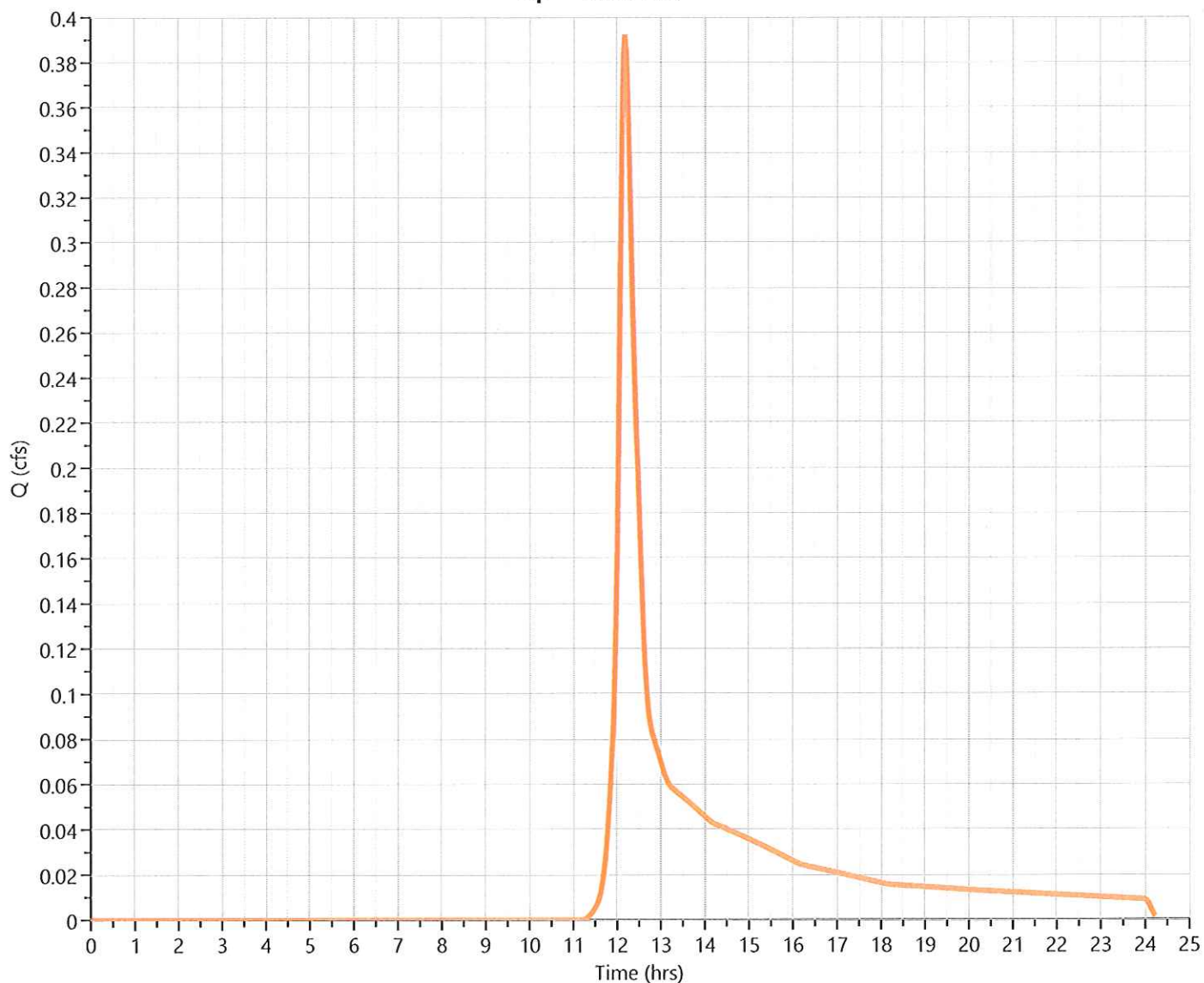
Hyd. No. 10

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.392 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.17 hrs
Time Interval	= 2 min	Runoff Volume	= 1,665 cuft
Drainage Area	= 0.33 ac	Curve Number	= 60*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 11.26 min
Total Rainfall	= 5.08 in	Design Storm	= Type III
Storm Duration	= 24 hrs	Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
0.33	60	Soil B / Woods
0.33	60	Weighted CN Method Employed

Qp = 0.39 cfs



Hydrograph Report

Hydrology Studio v 3.0.0.32

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Project Name:

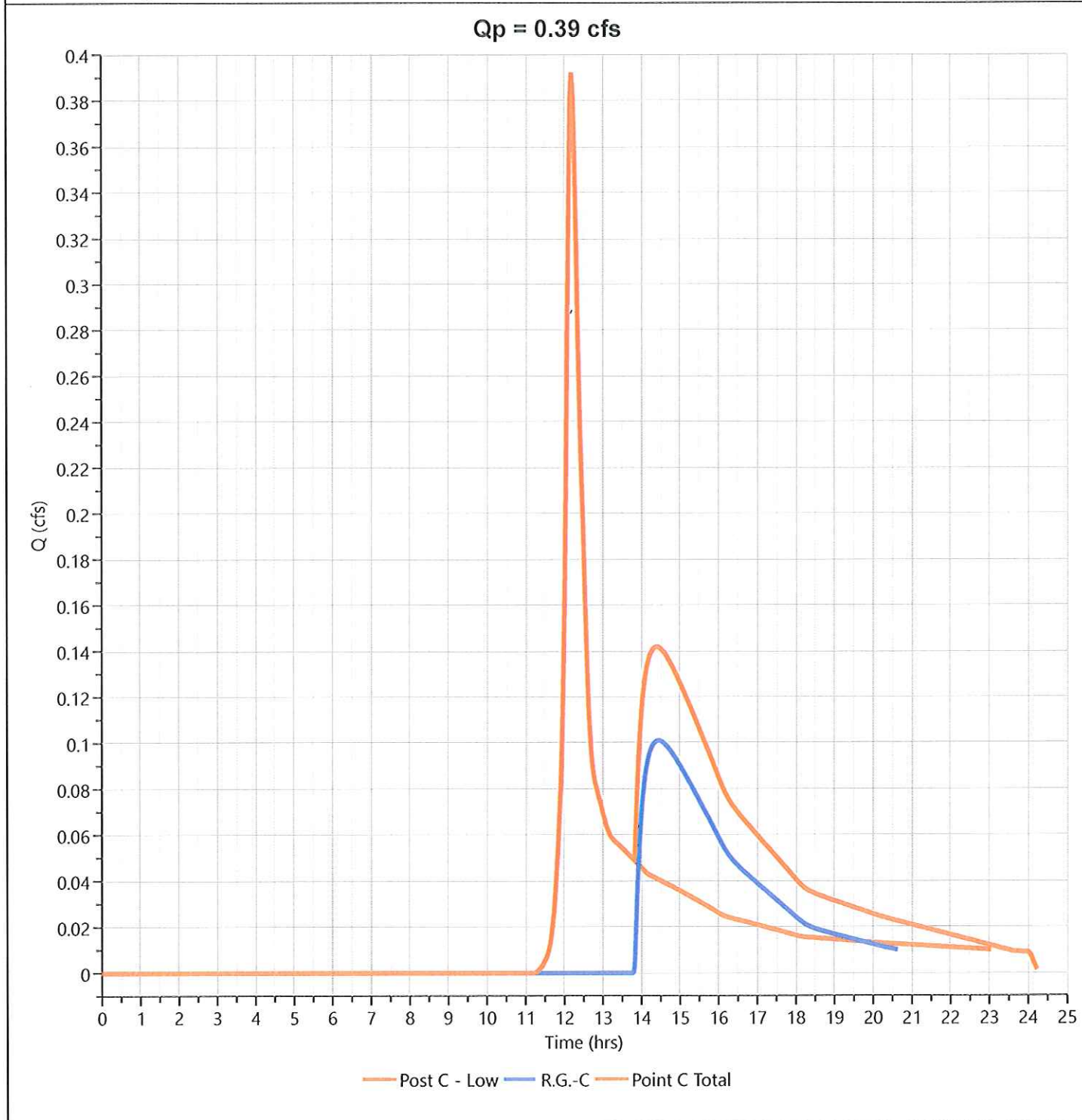
07-11-2024

Post Point C Total

Hyd. No. 12

Hydrograph Type = Junction
Storm Frequency = 10-yr
Time Interval = 2 min
Inflow Hydrographs = 10, 11

Peak Flow = 0.392 cfs
Time to Peak = 12.17 hrs
Hydrograph Volume = 2,788 cuft
Total Contrib. Area = 0.33 ac



Hydrograph 25-yr Summary

Hydrology Studio v 3.0.0.32

07-11-2024

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 Point A	1.492	12.20	6,400	----		
2	NRCS Runoff	Post Point A	1.255	12.23	5,761	----		
3	NRCS Runoff	Pre Point B	2.802	12.20	11,845	----		
4	NRCS Runoff	Post Point B-Up	2.277	12.17	8,877	----		
5	NRCS Runoff	Pre Point C	2.024	12.20	8,508	----		
6	NRCS Runoff	Post Point C-Up	2.465	12.10	8,520	----		
7	NRCS Runoff	Post Point B - Low	1.341	12.23	6,116	----		
8	Pond Route	R.G. - B	0.865	12.50	4,205	4	453.42	3,679
9	Junction	Post Point B Total	1.744	12.47	10,321	7, 8		
10	NRCS Runoff	Post Post C - Low	0.607	12.17	2,455	----		
11	Pond Route	R.G.-C	0.426	12.63	3,464	6	443.44	3,984
12	Junction	Post Point C Total	0.621	12.53	5,919	10, 11		

Hydrograph Report

Hydrology Studio v 3.0.0.32

07-10-2024

Pre Point A

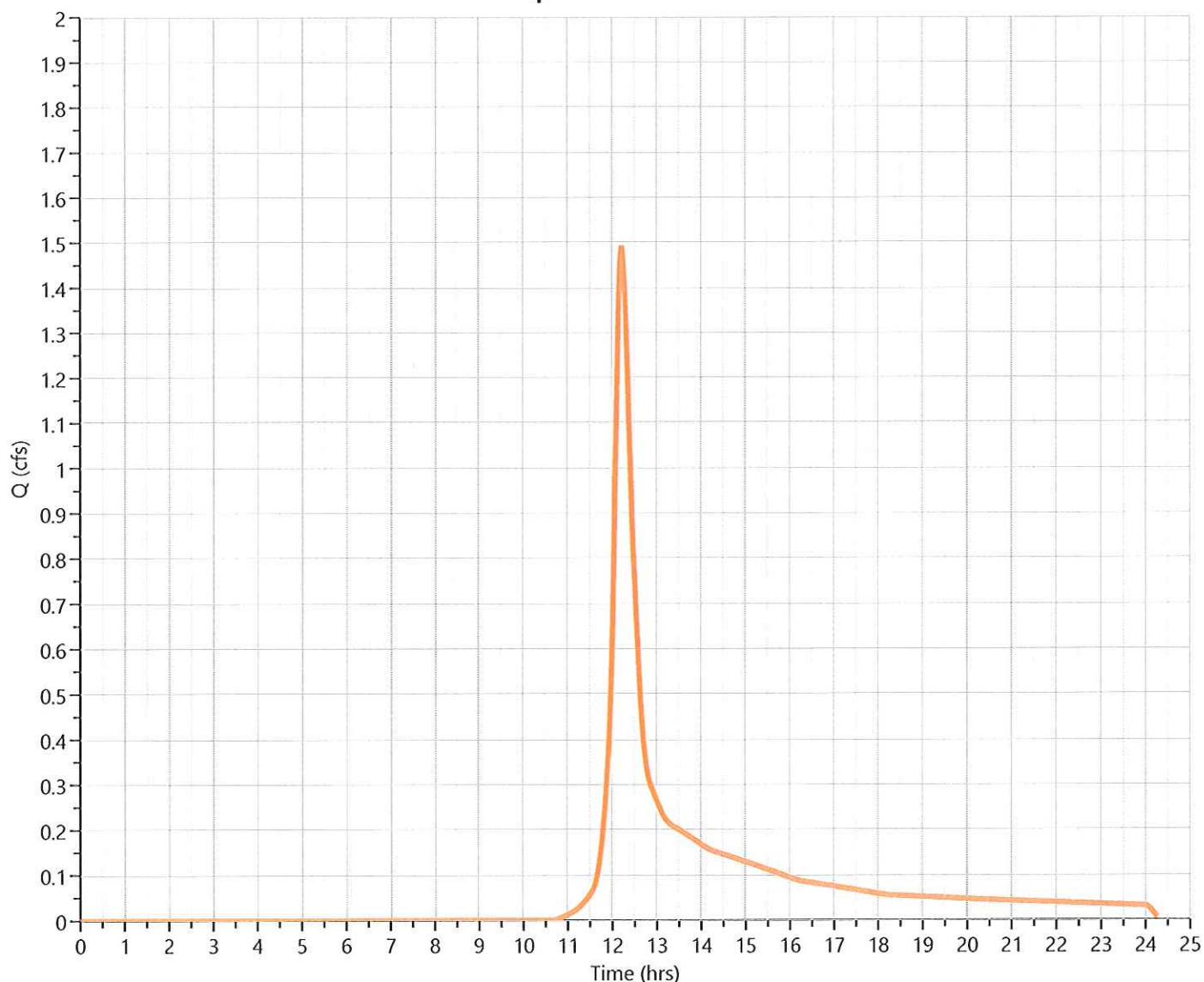
Hyd. No. 1

Hydrograph Type	= NRCS Runoff	Peak Flow	= 1.492 cfs
Storm Frequency	= 25-yr	Time to Peak	= 12.20 hrs
Time Interval	= 2 min	Runoff Volume	= 6,400 cuft
Drainage Area	= 0.91 ac	Curve Number	= 60*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 14.84 min
Total Rainfall	= 6.10 in	Design Storm	= Type III
Storm Duration	= 24 hrs	Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
0.91	60	Soil B/Wooded
0.91	60	Weighted CN Method Employed

$Q_p = 1.49 \text{ cfs}$



Hydrograph Report

Hydrology Studio v 3.0.0.32

07-10-2024

Post Point A

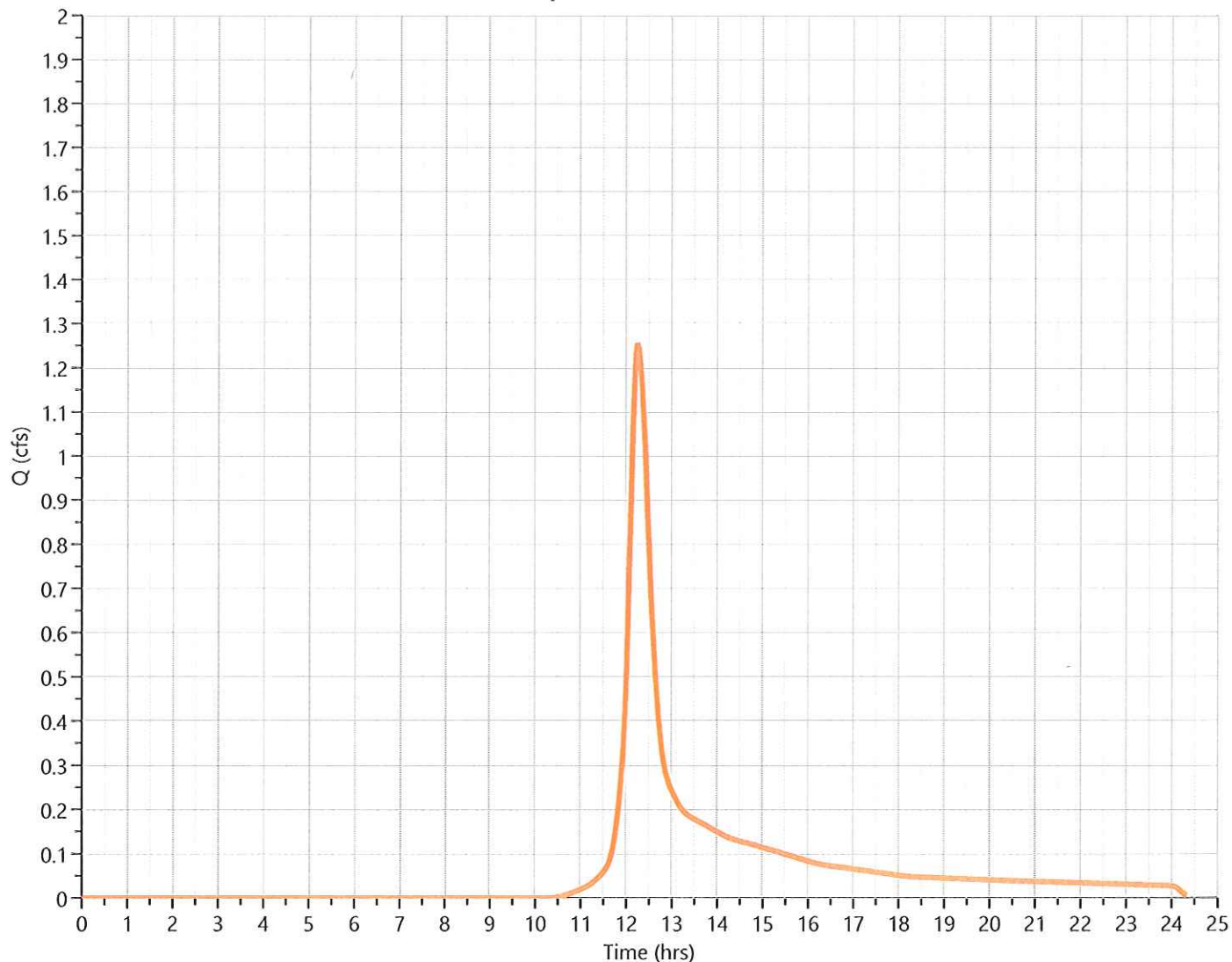
Hyd. No. 2

Hydrograph Type	= NRCS Runoff	Peak Flow	= 1.255 cfs
Storm Frequency	= 25-yr	Time to Peak	= 12.23 hrs
Time Interval	= 2 min	Runoff Volume	= 5,761 cuft
Drainage Area	= 0.735 ac	Curve Number	= 62*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 18.77 min
Total Rainfall	= 6.10 in	Design Storm	= Type III
Storm Duration	= 24 hrs	Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
0.025	98	Roof
0.38	61	Soil B / Grass
0.33	60	Soil B / Wooded
0.735	62	Weighted CN Method Employed

Qp = 1.26 cfs



Hydrograph Report

Hydrology Studio v 3.0.0.32

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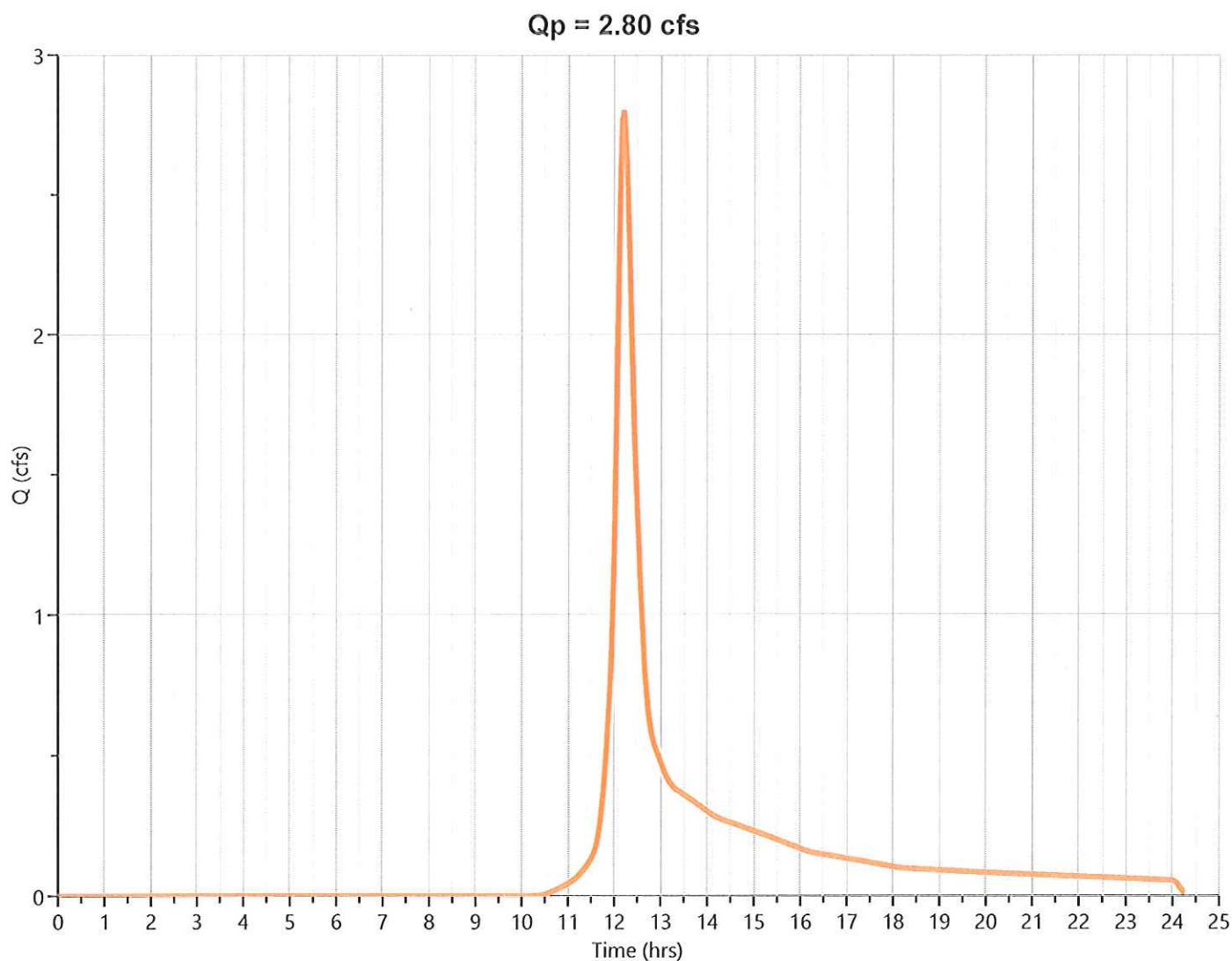
Pre Point B

Hyd. No. 3

Hydrograph Type	= NRCS Runoff	Peak Flow	= 2.802 cfs
Storm Frequency	= 25-yr	Time to Peak	= 12.20 hrs
Time Interval	= 2 min	Runoff Volume	= 11,845 cuft
Drainage Area	= 1.55 ac	Curve Number	= 62*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 16.28 min
Total Rainfall	= 6.10 in	Design Storm	= Type III
Storm Duration	= 24 hrs	Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
0.01	98	Bit / Roof
1.23	60	Soil B / Woods
0.08	56	Soil B / Brush
0.23	70	Soil C / Woods
1.55	62	Weighted CN Method Employed



Hydrograph Report

Hydrology Studio v 3.0.0.32

07-10-2024

Post Point B-Up

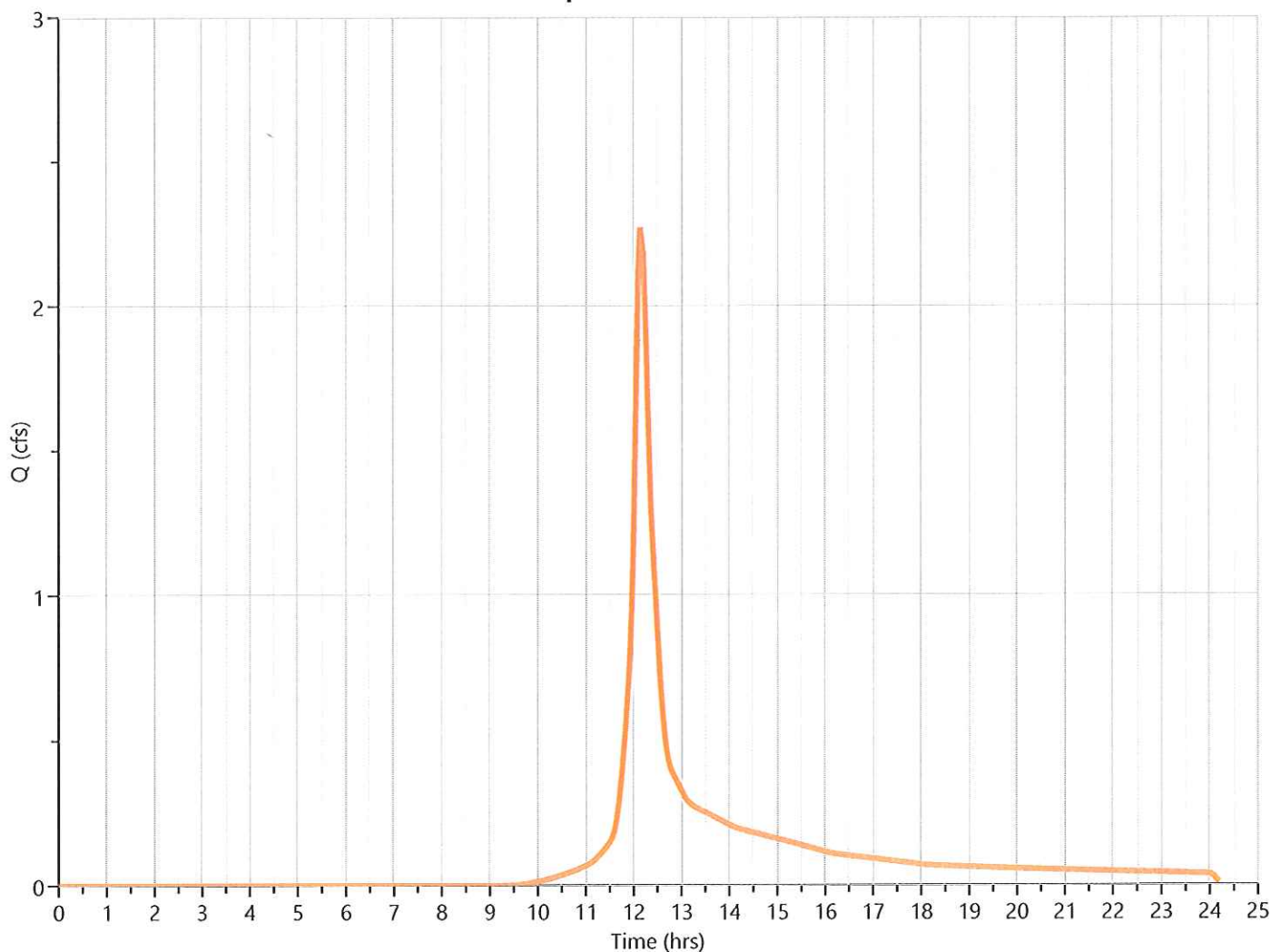
Hyd. No. 4

Hydrograph Type	= NRCS Runoff	Peak Flow	= 2.277 cfs
Storm Frequency	= 25-yr	Time to Peak	= 12.17 hrs
Time Interval	= 2 min	Runoff Volume	= 8,877 cuft
Drainage Area	= 0.91 ac	Curve Number	= 67*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 12.7 min
Total Rainfall	= 6.10 in	Design Storm	= Type III
Storm Duration	= 24 hrs	Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
0.12	98	Bit / Roof
0.32	61	Soil B / Lawn
0.12	56	Soil B / Brush
0.11	60	Soil B / Woods
0.24	70	Soil C / Brush
0.91	67	Weighted CN Method Employed

$Q_p = 2.28 \text{ cfs}$



Hydrograph Report

Hydrology Studio v 3.0.0.32

07-10-2024

Post Point B - Low

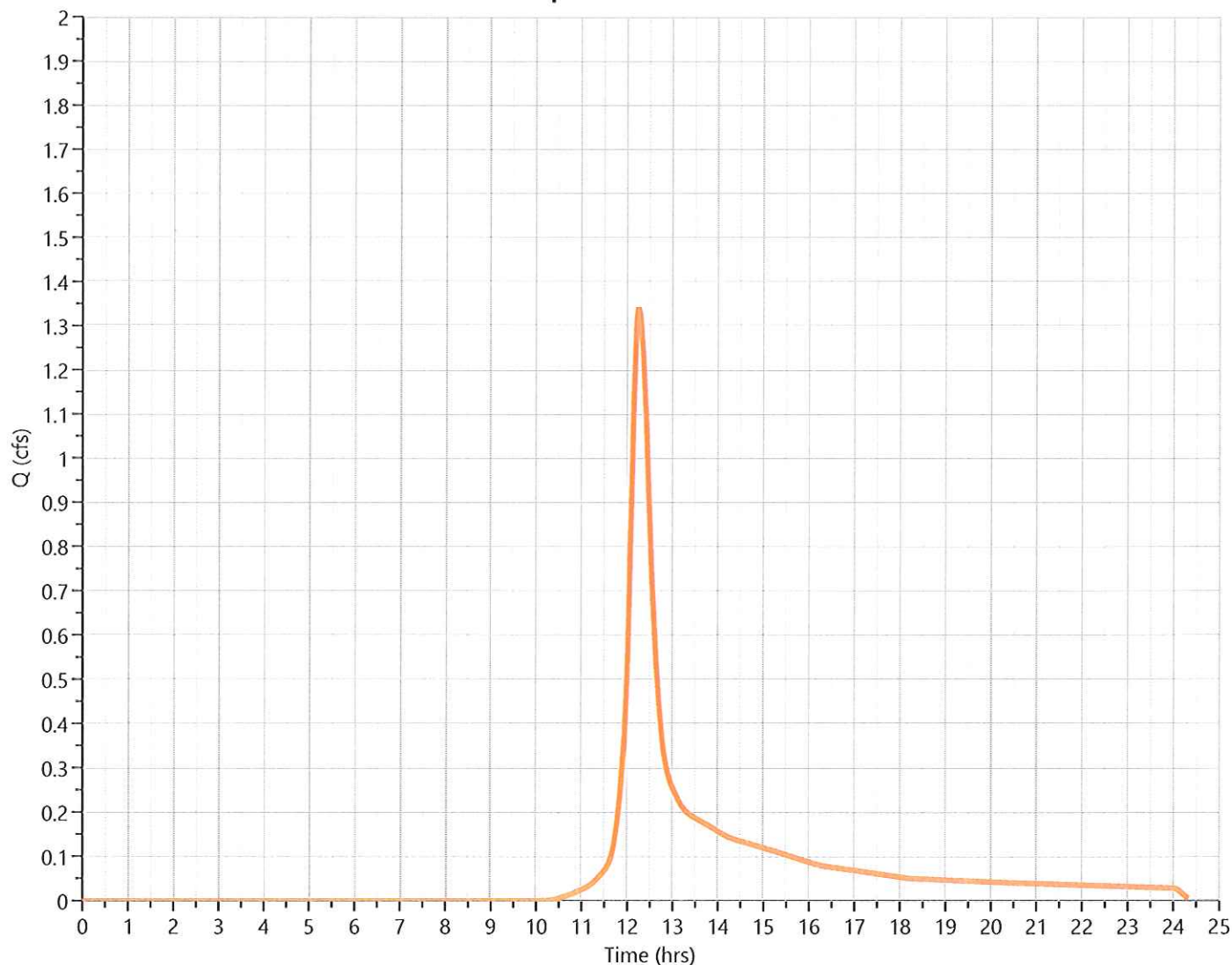
Hyd. No. 7

Hydrograph Type	= NRCS Runoff	Peak Flow	= 1.341 cfs
Storm Frequency	= 25-yr	Time to Peak	= 12.23 hrs
Time Interval	= 2 min	Runoff Volume	= 6,116 cuft
Drainage Area	= 0.75 ac	Curve Number	= 63*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 18.52 min
Total Rainfall	= 6.10 in	Design Storm	= Type III
Storm Duration	= 24 hrs	Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
0.05	98	Roof
0.32	61	Soil B / Lawn
0.38	60	Soil B / Wood
0.75	63	Weighted CN Method Employed

$Q_p = 1.34 \text{ cfs}$



Hydrograph Report

Hydrology Studio v 3.0.0.32

07-10-2024

Post Point B Total

Hyd. No. 9

Hydrograph Type = Junction

Storm Frequency = 25-yr

Time Interval = 2 min

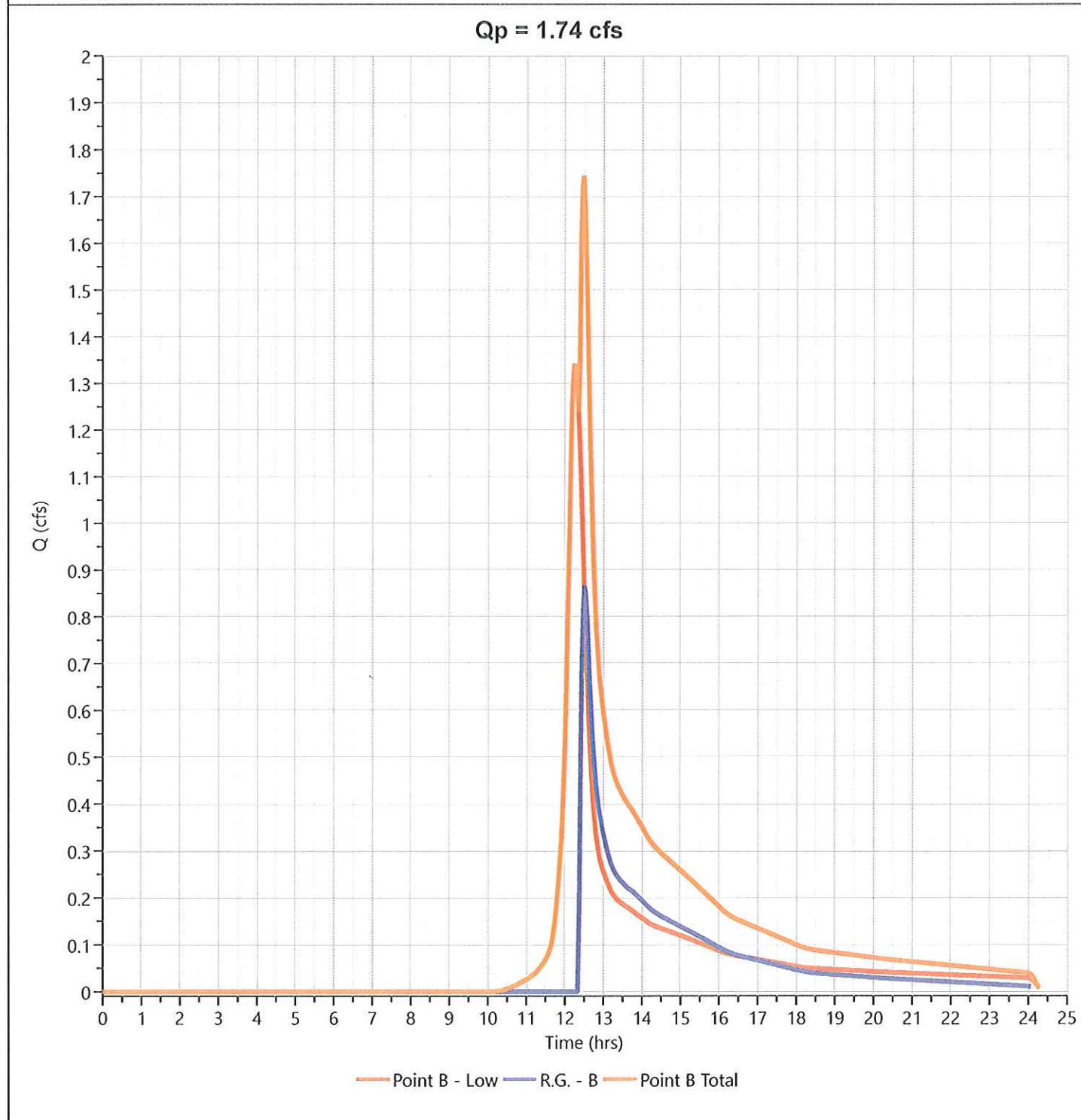
Inflow Hydrographs = 7, 8

Peak Flow = 1.744 cfs

Time to Peak = 12.47 hrs

Hydrograph Volume = 10,321 cuft

Total Contrib. Area = 0.75 ac



Hydrograph Report

Hydrology Studio v 3.0.0.32

07-10-2024

Pre Point C

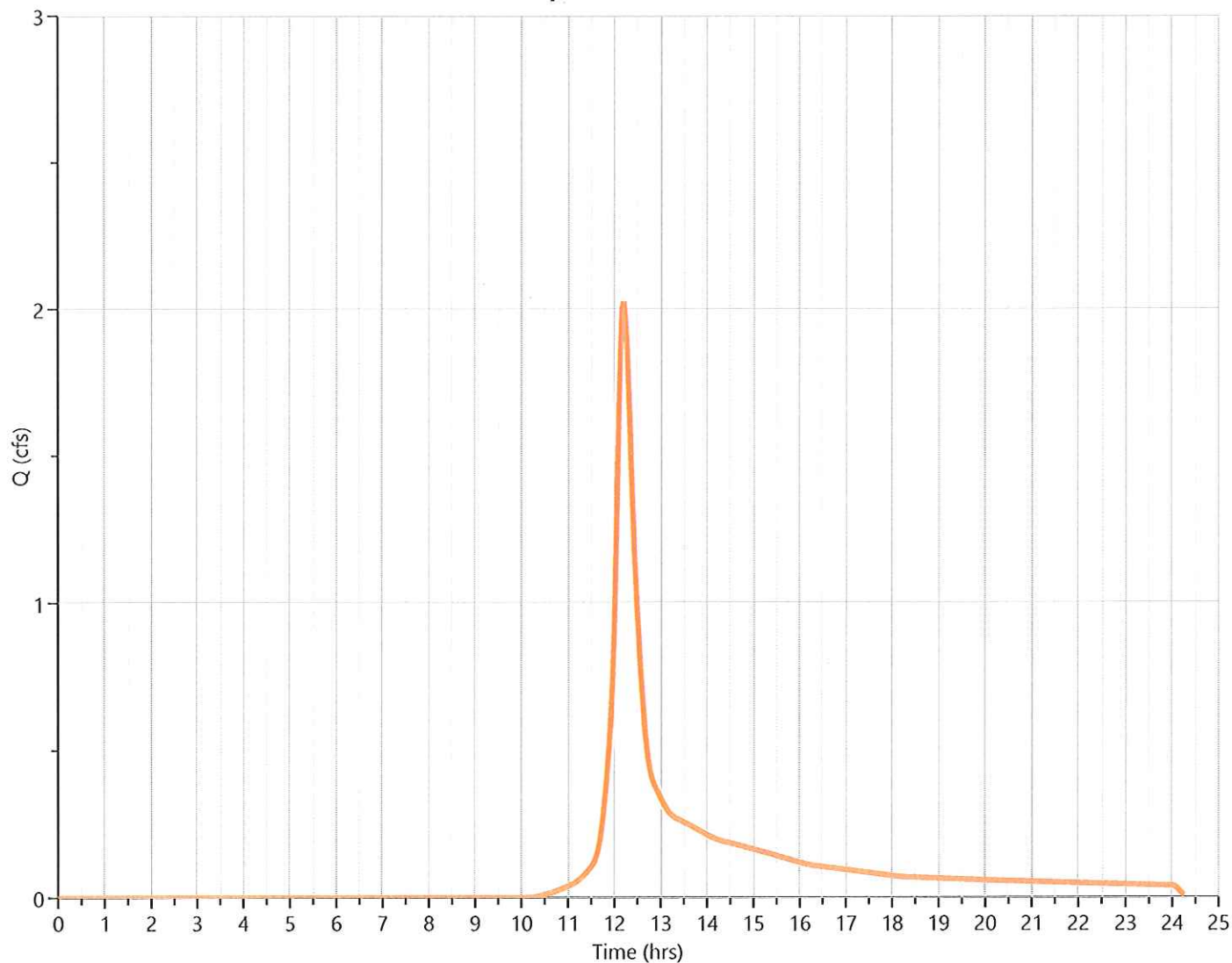
Hyd. No. 5

Hydrograph Type	= NRCS Runoff	Peak Flow	= 2.024 cfs
Storm Frequency	= 25-yr	Time to Peak	= 12.20 hrs
Time Interval	= 2 min	Runoff Volume	= 8,508 cuft
Drainage Area	= 1.07 ac	Curve Number	= 63*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 14.57 min
Total Rainfall	= 6.10 in	Design Storm	= Type III
Storm Duration	= 24 hrs	Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
0.82	60	Soil B / Woods
0.06	70	Soil C / Brush
0.19	73	Soil C / Woods
1.07	63	Weighted CN Method Employed

$Q_p = 2.02 \text{ cfs}$



Hydrograph Report

Hydrology Studio v 3.0.0.32

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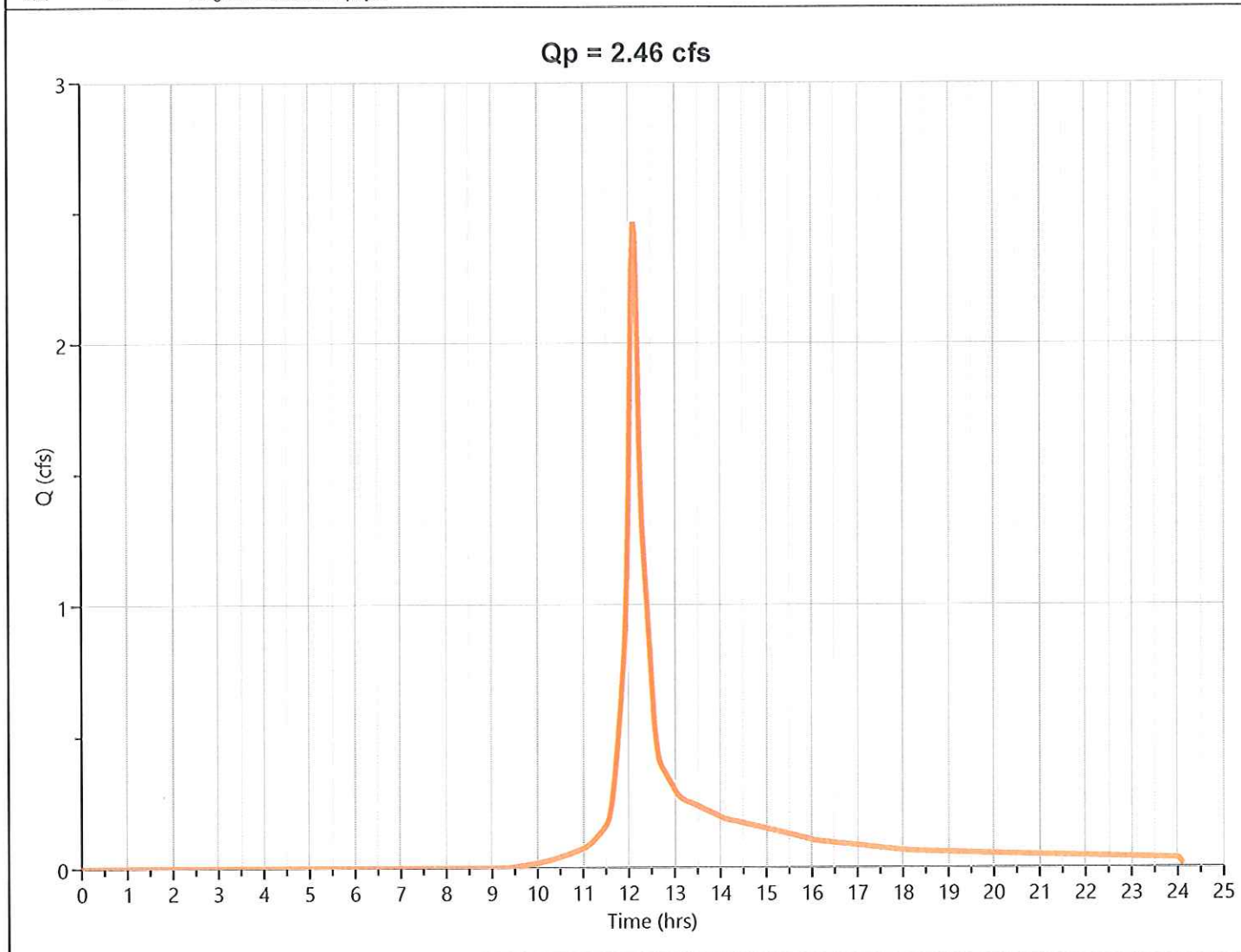
Post Point C-Up

Hyd. No. 6

Hydrograph Type	= NRCS Runoff	Peak Flow	= 2.465 cfs
Storm Frequency	= 25-yr	Time to Peak	= 12.10 hrs
Time Interval	= 2 min	Runoff Volume	= 8,520 cuft
Drainage Area	= 0.87 ac	Curve Number	= 68*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 8.98 min
Total Rainfall	= 6.10 in	Design Storm	= Type III
Storm Duration	= 24 hrs	Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
0.11	98	Bit
0.44	61	Soil B / Lawn
0.12	60	Soil B / Woods
0.12	74	Soil C / Lawn
0.06	70	Soil C / Brush
0.02	73	Soil C / Woods
0.87	68	Weighted CN Method Employed



Hydrograph Report

Hydrology Studio v 3.0.0.32

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Post Post C - Low

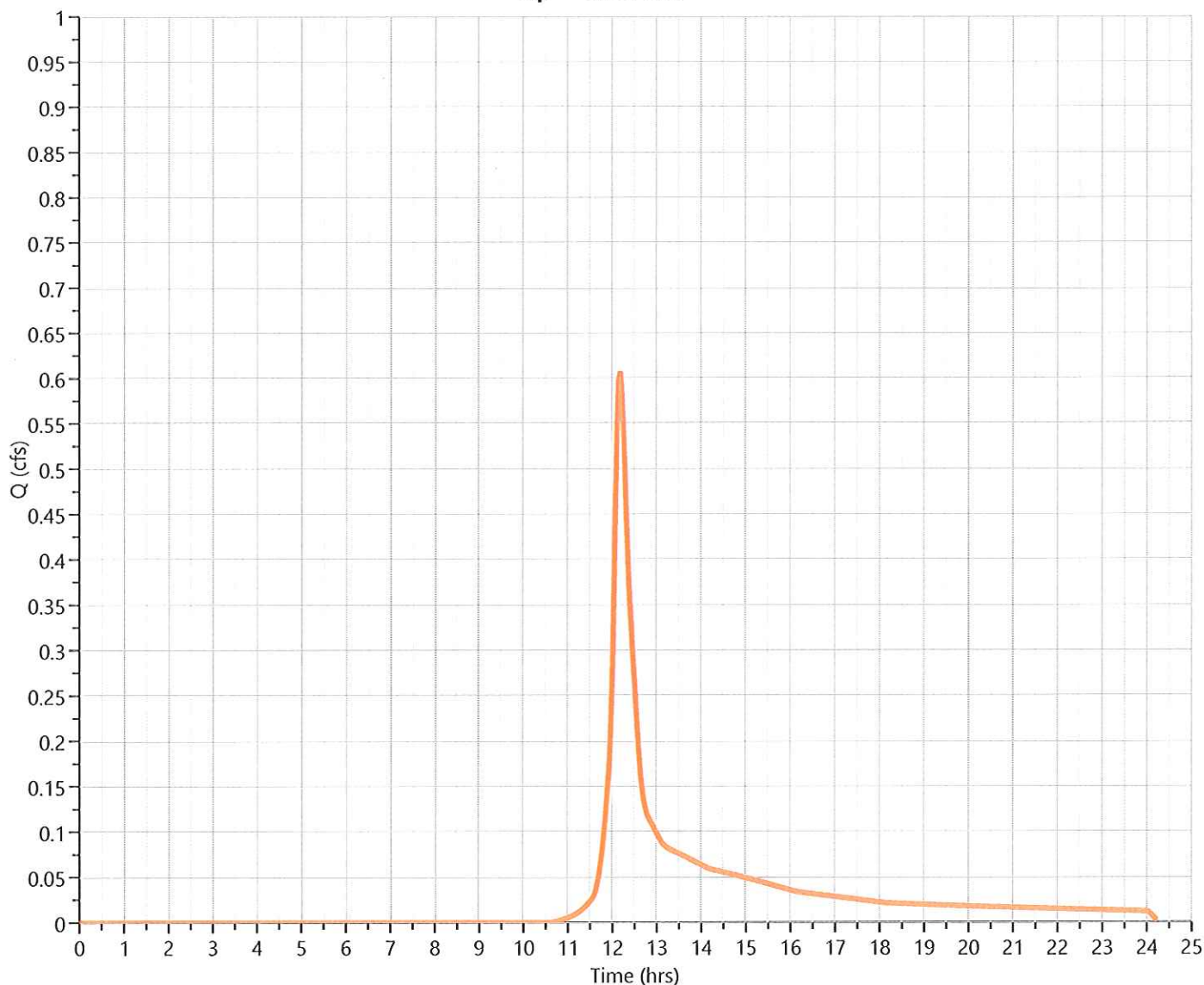
Hyd. No. 10

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.607 cfs
Storm Frequency	= 25-yr	Time to Peak	= 12.17 hrs
Time Interval	= 2 min	Runoff Volume	= 2,455 cuft
Drainage Area	= 0.33 ac	Curve Number	= 60*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 11.26 min
Total Rainfall	= 6.10 in	Design Storm	= Type III
Storm Duration	= 24 hrs	Shape Factor	= 484

* Composite CN Worksheet

AREA (ac)	CN	DESCRIPTION
0.33	60	Soil B / Woods
0.33	60	Weighted CN Method Employed

$Q_p = 0.61 \text{ cfs}$



Hydrograph Report

Hydrology Studio v 3.0.0.32

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Project Name:

07-11-2024

Post Point C Total

Hyd. No. 12

Hydrograph Type = Junction

Storm Frequency = 25-yr

Time Interval = 2 min

Inflow Hydrographs = 10, 11

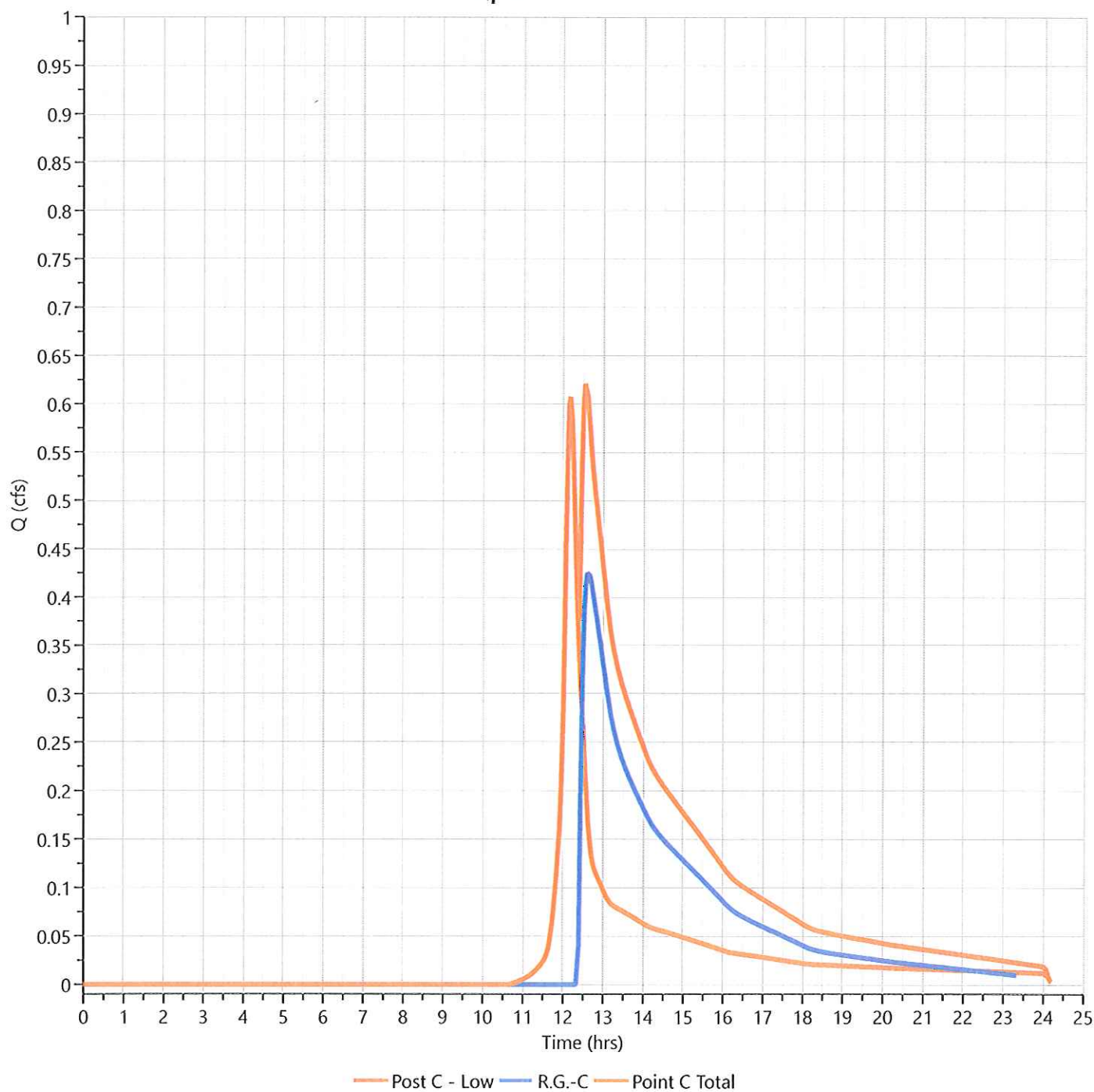
Peak Flow = 0.621 cfs

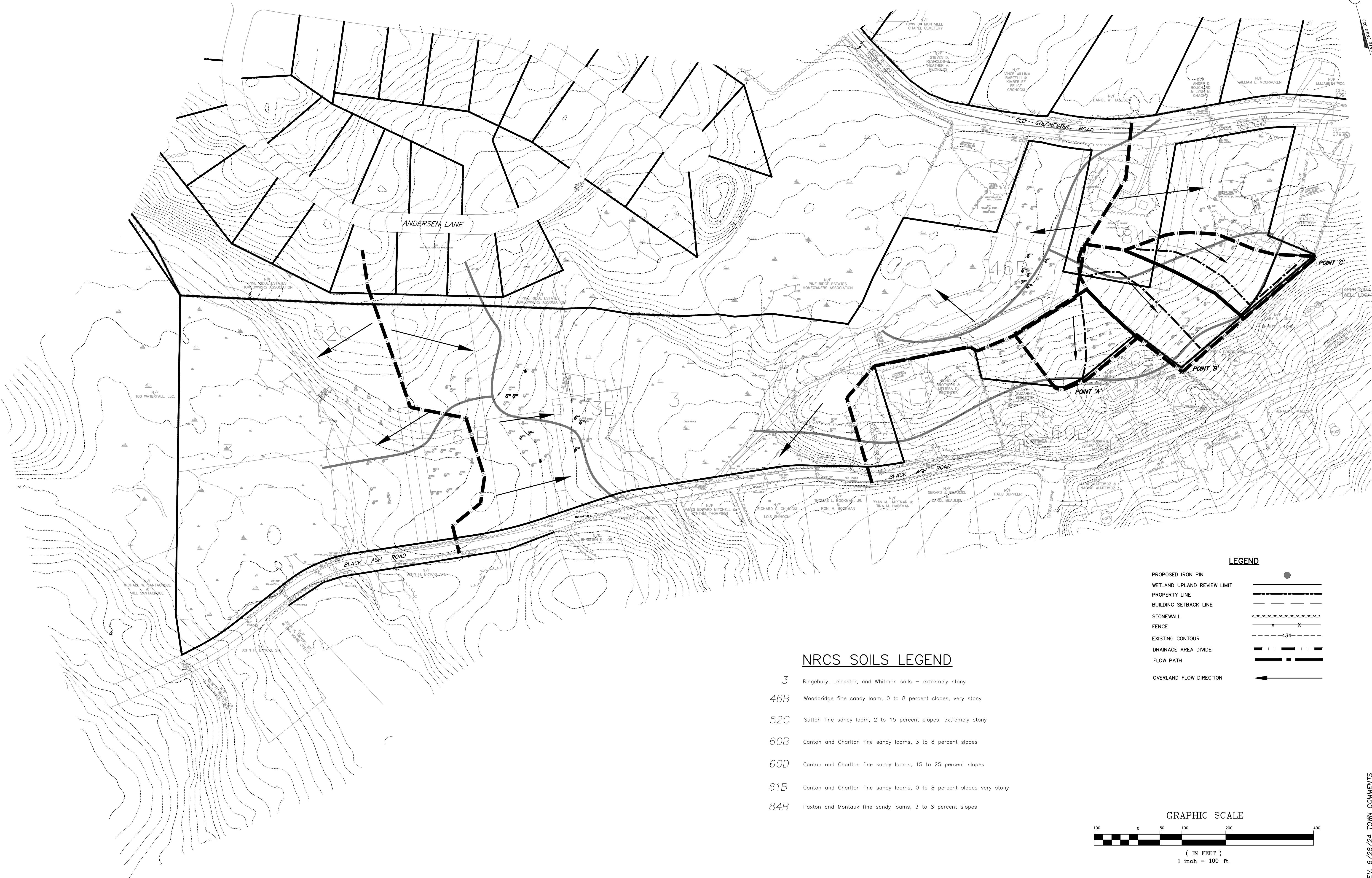
Time to Peak = 12.53 hrs

Hydrograph Volume = 5,919 cuft

Total Contrib. Area = 0.33 ac

Qp = 0.62 cfs



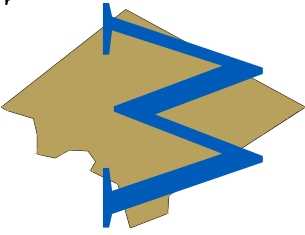
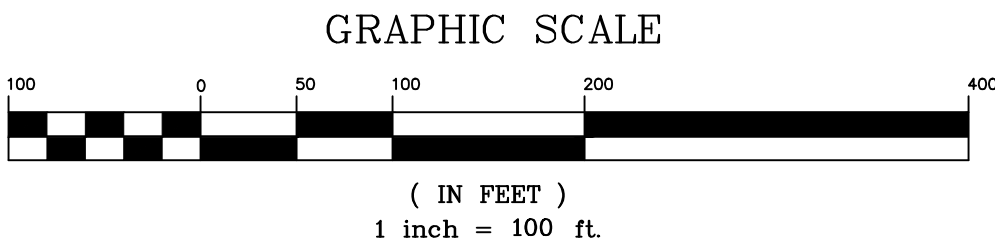


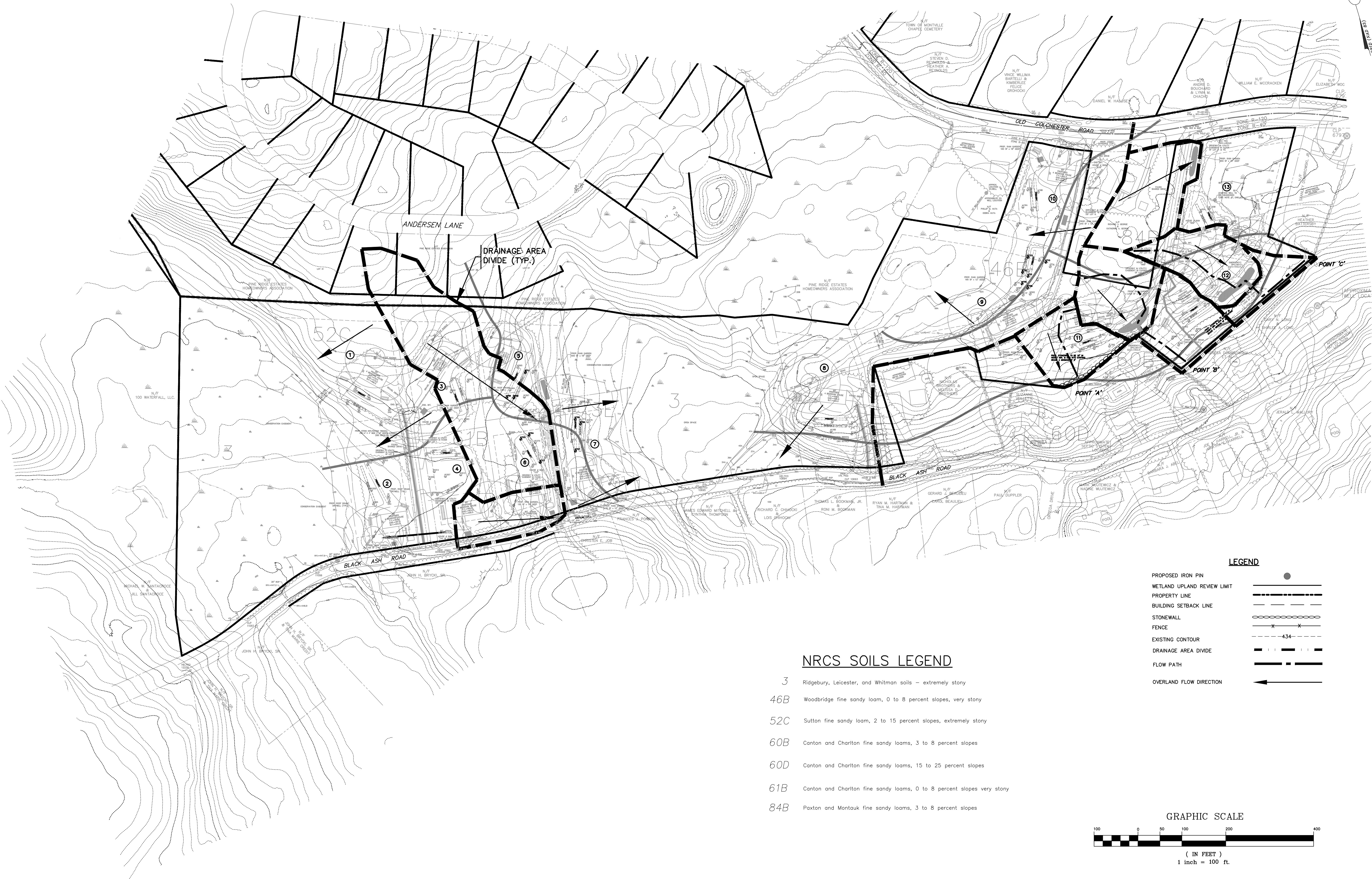
NRCS SOILS LEGEND

- 3 Ridgebury, Leicester, and Whitman soils – extremely stony
- 46B Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony
- 52C Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony
- 60B Canton and Charlton fine sandy loams, 3 to 8 percent slopes
- 60D Canton and Charlton fine sandy loams, 15 to 25 percent slopes
- 61B Canton and Charlton fine sandy loams, 0 to 8 percent slopes very stony
- 84B Paxton and Montauk fine sandy loams, 3 to 8 percent slopes

LEGEND

- PROPOSED IRON PIN
- WETLAND UPLAND REVIEW LIMIT
- PROPERTY LINE
- BUILDING SETBACK LINE
- STONEWALL
- FENCE
- EXISTING CONTOUR
- DRAINAGE AREA DIVIDE
- FLOW PATH
- OVERLAND FLOW DIRECTION





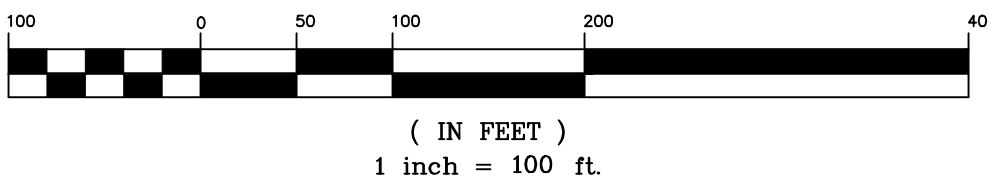
NRCS SOILS LEGEND

- 3 Ridgebury, Leicester, and Whitman soils – extremely stony
- 46B Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony
- 52C Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony
- 60B Canton and Charlton fine sandy loams, 3 to 8 percent slopes
- 60D Canton and Charlton fine sandy loams, 15 to 25 percent slopes
- 61B Canton and Charlton fine sandy loams, 0 to 8 percent slopes very stony
- 84B Paxton and Montauk fine sandy loams, 3 to 8 percent slopes

LEGEND

- PROPOSED IRON PIN
- WETLAND UPLAND REVIEW LIMIT
- PROPERTY LINE
- BUILDING SETBACK LINE
- STONEWALL
- FENCE
- EXISTING CONTOUR
- DRAINAGE AREA DIVIDE
- FLOW PATH
- OVERLAND FLOW DIRECTION

GRAPHIC SCALE



REV. 5-28-24 TOWN COMMENTS

OVERALL DRAINAGE MAP – DEVELOPED CONDITIONS
BLACK ASH ESTATES RESUBDIVISION
PREPARED FOR
PACHAUG CAPITAL, LLC
BLACK ASH ROAD & OLD COLCHESTER ROAD
MONTVILLE, CONNECTICUT

DATE: 8-22-23
SCALE: 1"=100'
SHEET 1 OF 1
MAP NO. 23-024-1DC

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I HEREBY DECLARE TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS PLAN IS SUBSTANTIALLY CORRECT.

Wesley J. Wentworth
WESLEY J. WENTWORTH
P.E. # 20360