Drainage Report

For

Jamey South Parking Lot

Bryant, Saline County, Arkansas



August 5, 2025

Prepared by:

RICHARDSON ENGINEERING, PLLC

325 W. South St.
Benton, AR 72015
501-315-7225

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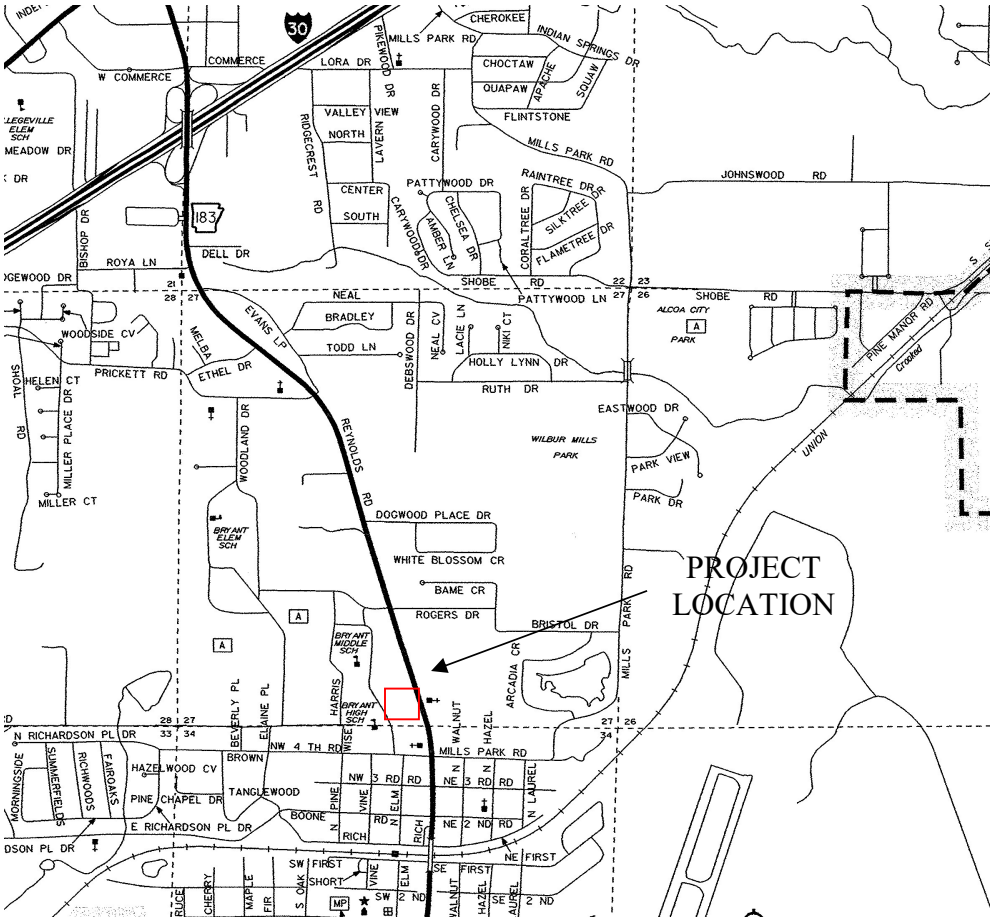
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Project Owner Information

Jamey South
515 N Reynolds Road
Bryant, AR 72022

Project Location and Description

The project is located on West side of N Reynolds Road, part of the Southwest Quater of the Southeast Quarter, Section 27, Township 1-S, Range 14-W, Saline County, Arkansas.



Vicinity Map – N.T.S

This project is a proposed Commercial Development for a parking lot, located in the City of Bryant, Saline County.

Site Drainage

Pre-Development

The pre-developed runoff for the site flows to the west. The pre-development runoff condition consists of a mix of a small commercial development as well as a portion of undeveloped wooded property.

Post-Development

The site drainage starts on the East side of the project and flows to the West. The drainage is sheet flows across the proposed driving surface and is discharged into a proposed detention basin on the West side of the project. The proposed detention basin will utilize a riser/orifice/culvert discharge structure. Post-Development Basin A is the drainage basin that discharges water into the proposed detention basin and Post-Development Basin B are the grass tie back slopes from the proposed pavement to existing grade. This area is not routed through the detention basin, so it was calculated by itself. The post-development runoff conditions changed from developed/undeveloped to commercial development.

Runoff Summary

Basin Design Point
Development Drainage Study Area = 0.56 Ac
Existing Condition runoff Coefficient: C = 0.61
Proposed runoff Coefficient: C = 0.95
Tc Undeveloped = 9 Minutes (TR55 Method)
Tc Developed = 5 Minutes
Detention Basin Required Volume: 1,685 CF
Detention Basin Volume: 2,265 CF
Maximum Storage: 963 CF
Discharge Structure: Riser/Culvert/Orifice

Design Storm	Pre-Development Flow Rate (cfs)	Post-Development Flow Rate (cfs)	Post-Development w/ Detention Flow Rate (cfs)
2-yr	1.61	2.86	1.38
10-yr	2.15	3.83	1.72
25-yr	2.47	4.39	1.88
50-yr	2.71	4.80	1.95
100-yr	2.94	5.22	2.10

Recommendations/Summary

The proposed drainage improvements include a small detention basin on the West side of the project. The proposed detention basin releases the post development runoff at a lower rate than the pre-development condition.

Appendices

Runoff Coefficient Calculations
Site Drainage Map
Pond and Post Development Hydrographs (Hydrology Studio)

Runoff Coefficient Calculations

RICHARDSON ENGINEERING
Planning ▪ Engineering ▪ Development Consulting

325 West South Street
Benton, AR 72015
(501) 315-7225

(1/1)

PROJECT 025-007 DRAINAGE CALCULATIONS DATE 05/02/2025

EXISTING C:

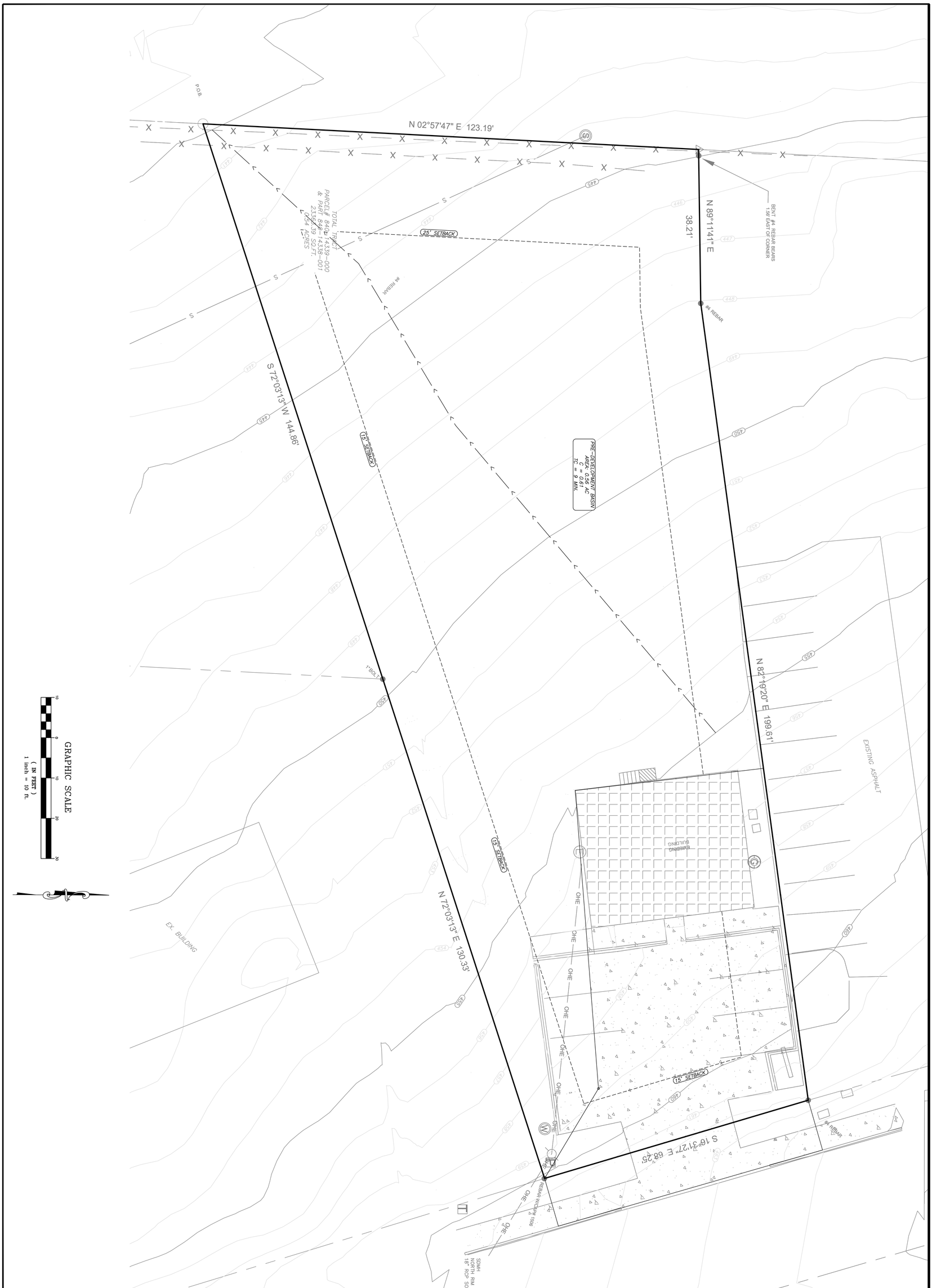
DEVELOPED: 0.16 C = 0.95

UNDEVELOPED: 0.40 C = 0.47 (AVERAGE 2-7% FOREST / WOODLANDS)

$$C = \frac{(0.16)(0.95) + (0.40)(0.47)}{0.56} = 0.61$$

POST-DEV C = 0.95

Site Drainage Basin Maps



PROJECT #: 025-007	No. / Revisions / Date	Prepared For: JAMEY SOUTH 515 N. REYNOLDS ROAD BRYANT, AR 72022	PRE-DEVELOPMENT DRAINAGE BASIN STATE FARM – JAMEY SOUTH PROPOSED PARKING LOT 515 N. REYNOLDS ROAD BRYANT, ARKANSAS
Scale: 1" = 10' Date: 08/05/2025			
Sheet: 1 of 2			

CERTIFICATE OF AUTHORIZATION
Richardson Engineering, PLLC
No. 2519
ARKANSAS

RICHARDSON ENGINEERING
Planning • Engineering • Development Consulting
325 W. SOUTH STREET, BENTON, AR 72015 (501)315-7225



PROJECT #: 025-007	No.	Revisions	Date	Prepared For: JAMEY SOUTH 515 N. REYNOLDS ROAD BRYANT, AR 72022	POST-DEVELOPMENT DRAINAGE BASIN STATE FARM – JAMEY SOUTH PROPOSED PARKING LOT 515 N. REYNOLDS ROAD BRYANT, ARKANSAS	CERTIFICATE OF AUTHORIZATION Richardson Engineering, PLLC No. 2519 ARKANSAS	RICHARDSON ENGINEERING Planning • Engineering • Development Consulting 325 W. SOUTH STREET, BENTON, AR 72015 (501)315-7225
Scale: 1" = 10' Date: 08/05/2025							
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Pre and Post Development Hydrographs (Hydrology Studio)

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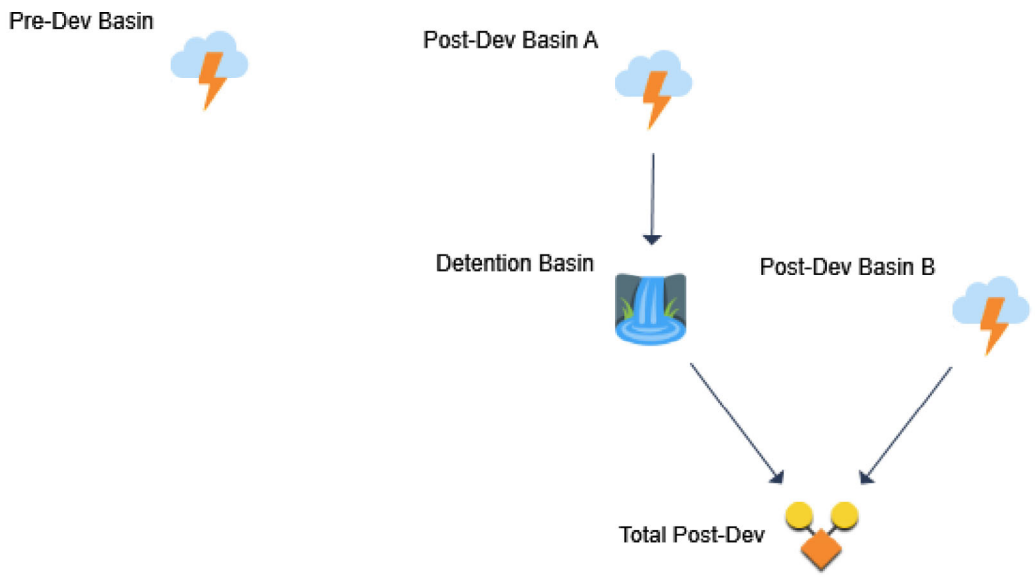
Hydrograph No. 5, Junction, Total Post-Dev 36

Basin Model

Hydrology Studio v 3.0.0.27

Project Name: Jamey South Parking Lot

08-05-2025



Hydrograph by Return Period

Project Name: Jamey South Parking Lot

08-05-2025

Hydrology Studio v 3.0.0.27

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Outflow (cfs)							
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
1	Rational	Pre-Dev Basin		1.608			2.154	2.474	2.705	2.938
2	Mod Rational	Post-Dev Basin A		1.674			2.244	2.578	2.819	3.062
3	Pond Route	Detention Basin		1.291			1.544	1.678	1.776	1.872
4	Rational	Post-Dev Basin B		0.470			0.628	0.721	0.788	0.857
5	Junction	Total Post-Dev		1.384			1.723	1.881	1.995	2.098

Hydrograph 2-yr Summary

Project Name: Jamey South Parking Lot

Hydrology Studio v 3.0.0.27

08-05-2025

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	Rational	Pre-Dev Basin	1.608	0.15	1,159	----		
2	Mod Rational	Post-Dev Basin A	1.674	0.08	1,105	----		
3	Pond Route	Detention Basin	1.291	0.20	1,102	2	444.42	432
4	Rational	Post-Dev Basin B	0.470	0.08	188	----		
5	Junction	Total Post-Dev	1.384	0.17	1,285	3, 4		

Hydrograph Report

Project Name: Jamey South Parking Lot

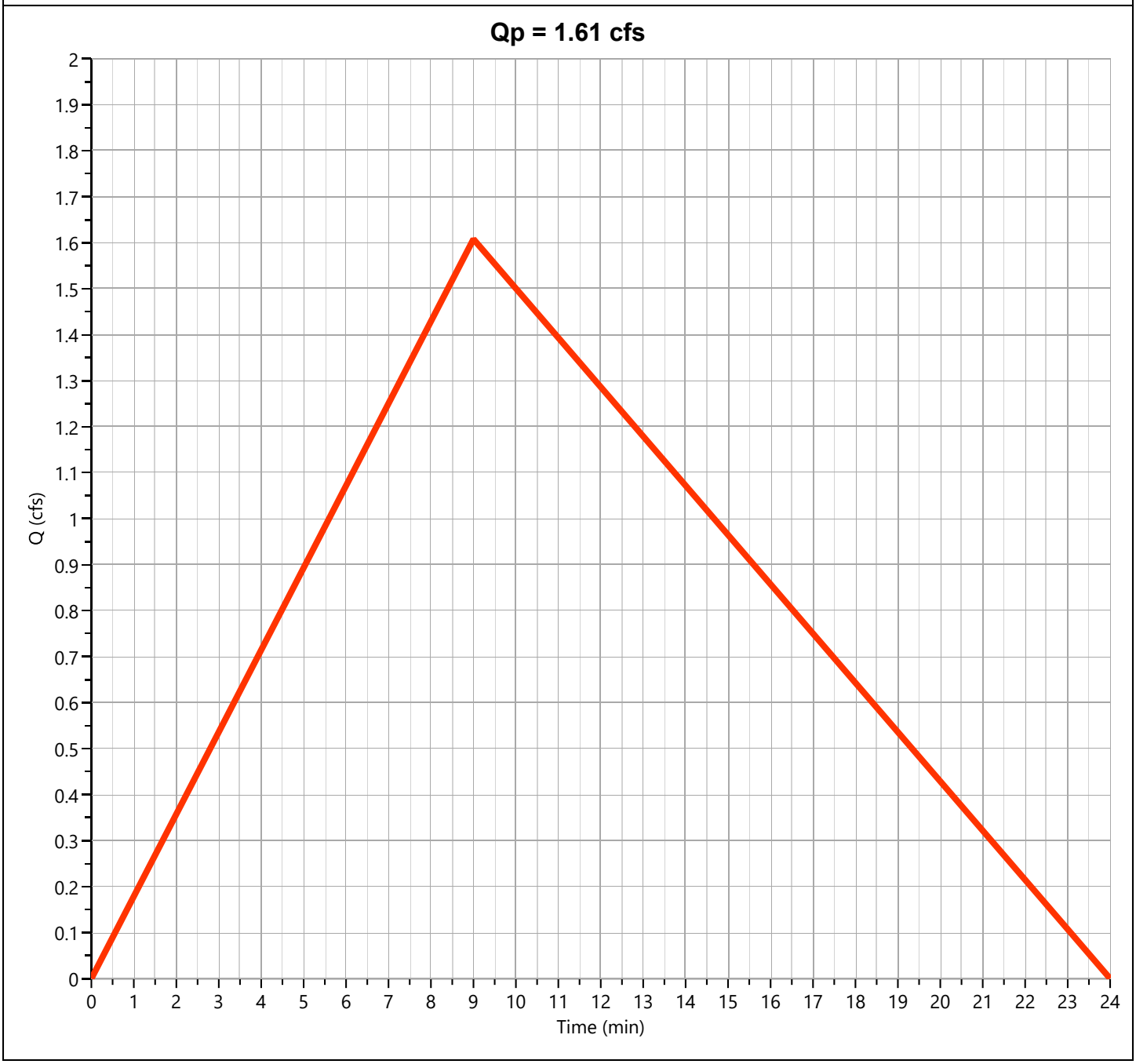
Hydrology Studio v 3.0.0.27

08-05-2025

Pre-Dev Basin

Hyd. No. 1

Hydrograph Type	= Rational	Peak Flow	= 1.608 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.15 hrs
Time Interval	= 1 min	Runoff Volume	= 1,159 cuft
Drainage Area	= 0.56 ac	Runoff Coeff.	= 0.61
Tc Method	= TR55	Time of Conc. (Tc)	= 9.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 4.71 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Jamey South Parking Lot

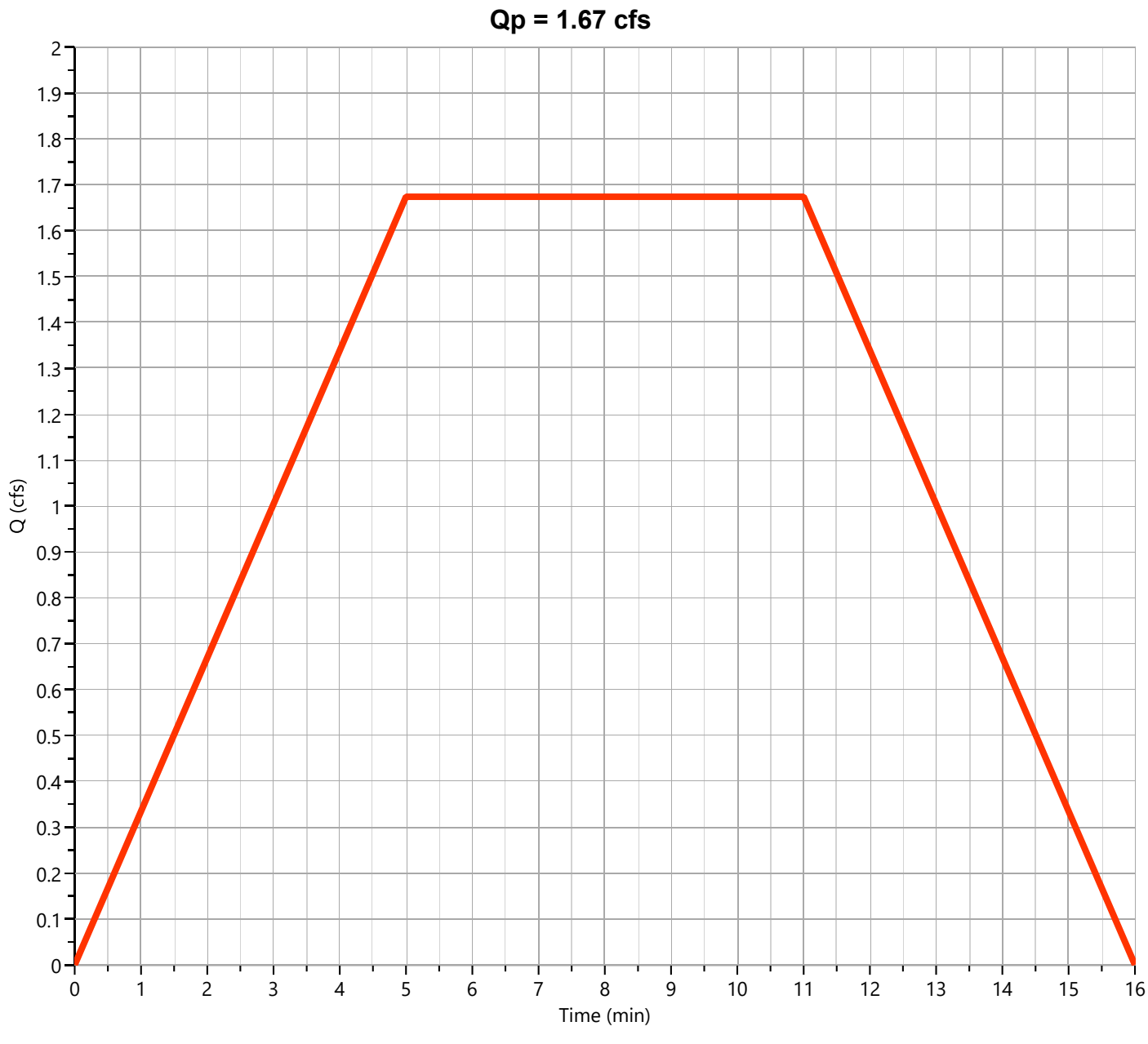
Hydrology Studio v 3.0.0.27

08-05-2025

Post-Dev Basin A

Hyd. No. 2

Hydrograph Type	= Mod Rational	Peak Flow	= 1.674 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 1,105 cuft
Drainage Area	= 0.41 ac	Runoff Coeff.	= 0.95
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 4.30 in/hr
Freq. Corr. Factor	= 1.00	Storm Duration	= 2.2 x Tc
Target Q	= 0.000 cfs	Required Storage	= 0.000 cuft



Hydrograph Report

Hydrology Studio v 3.0.0.27

08-05-2025

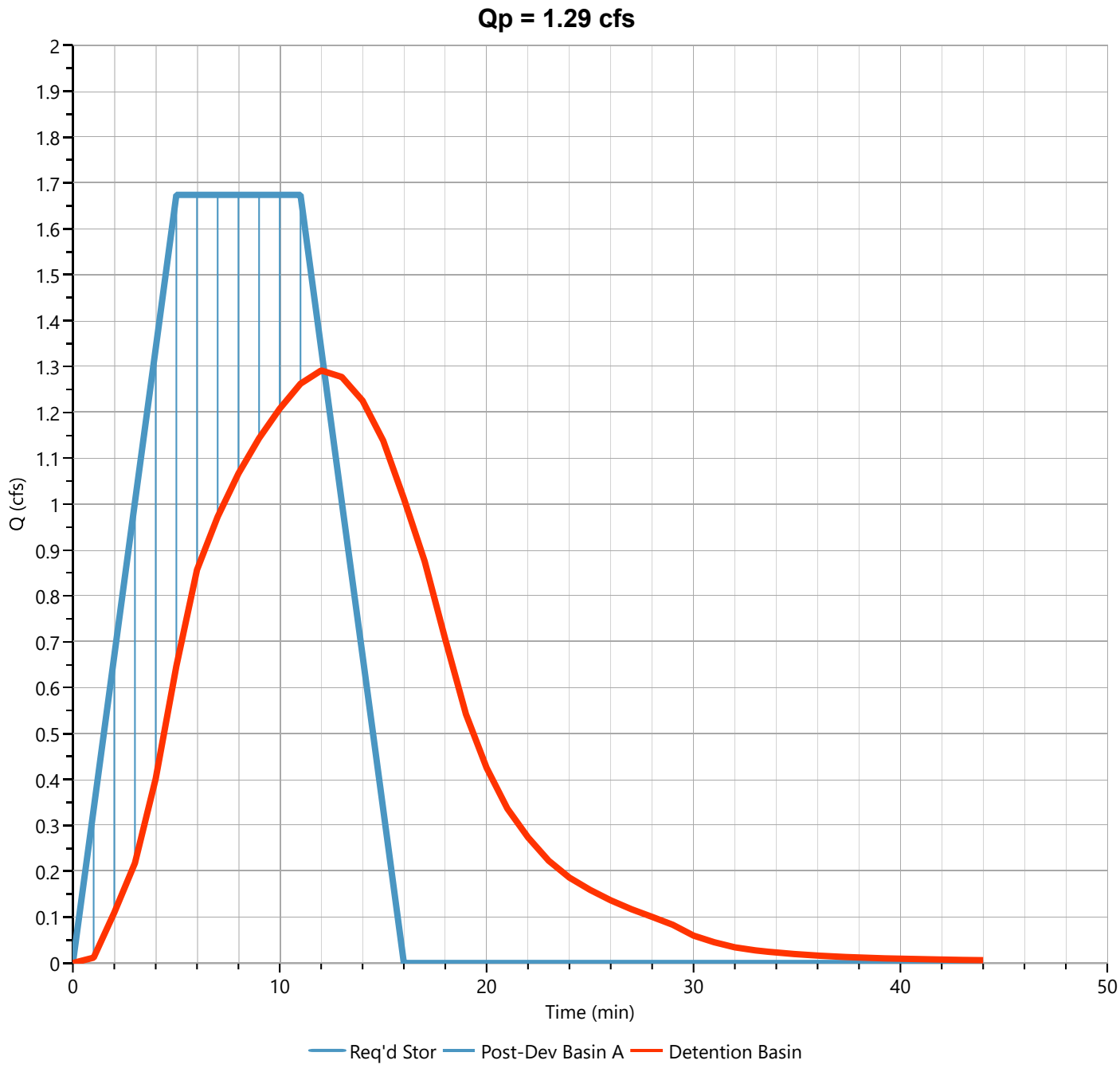
Detention Basin

Hyd. No. 3

Hydrograph Type	= Pond Route	Peak Flow	= 1.291 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.20 hrs
Time Interval	= 1 min	Hydrograph Volume	= 1,102 cuft
Inflow Hydrograph	= 2 - Post-Dev Basin A	Max. Elevation	= 444.42 ft
Pond Name	= Jamey South Detention Pond	Max. Storage	= 432 cuft

Pond Routing by Storage Indication Method

Center of mass detention time = 5 min



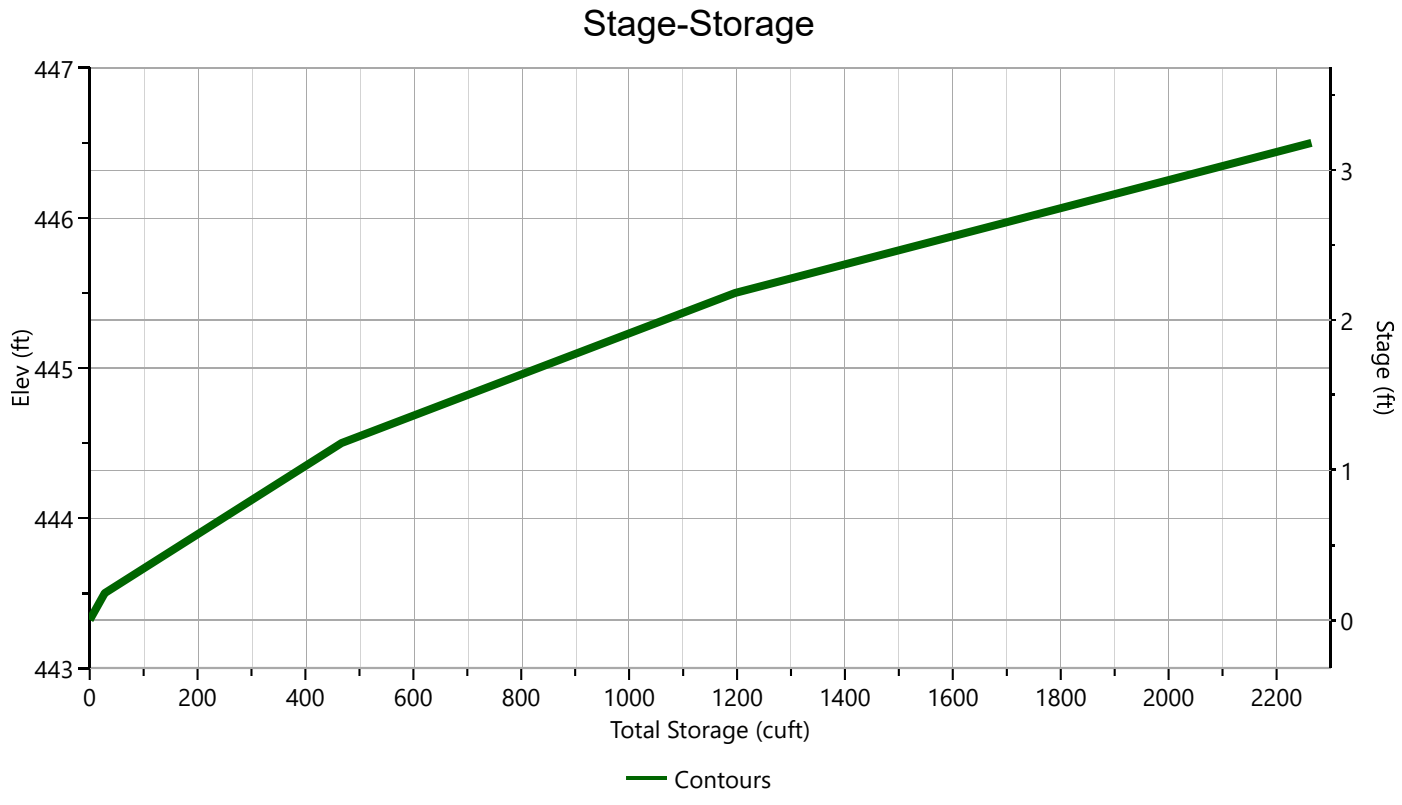
Jamey South Detention Pond

Stage-Storage

User Defined Contours	
Description	**Input**
Bottom Elevation, ft	443.32
Voids (%)	100.00
Volume Calc	None

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour Area (sqft)	Incr. Storage (cuft)	Total Storage (cuft)
0.00	443.32	4	0.000	0.000
0.18	443.50	306	27.9	27.9
1.18	444.50	572	439	467
2.18	445.50	887	730	1,196
3.18	446.50	1,250	1,069	2,265

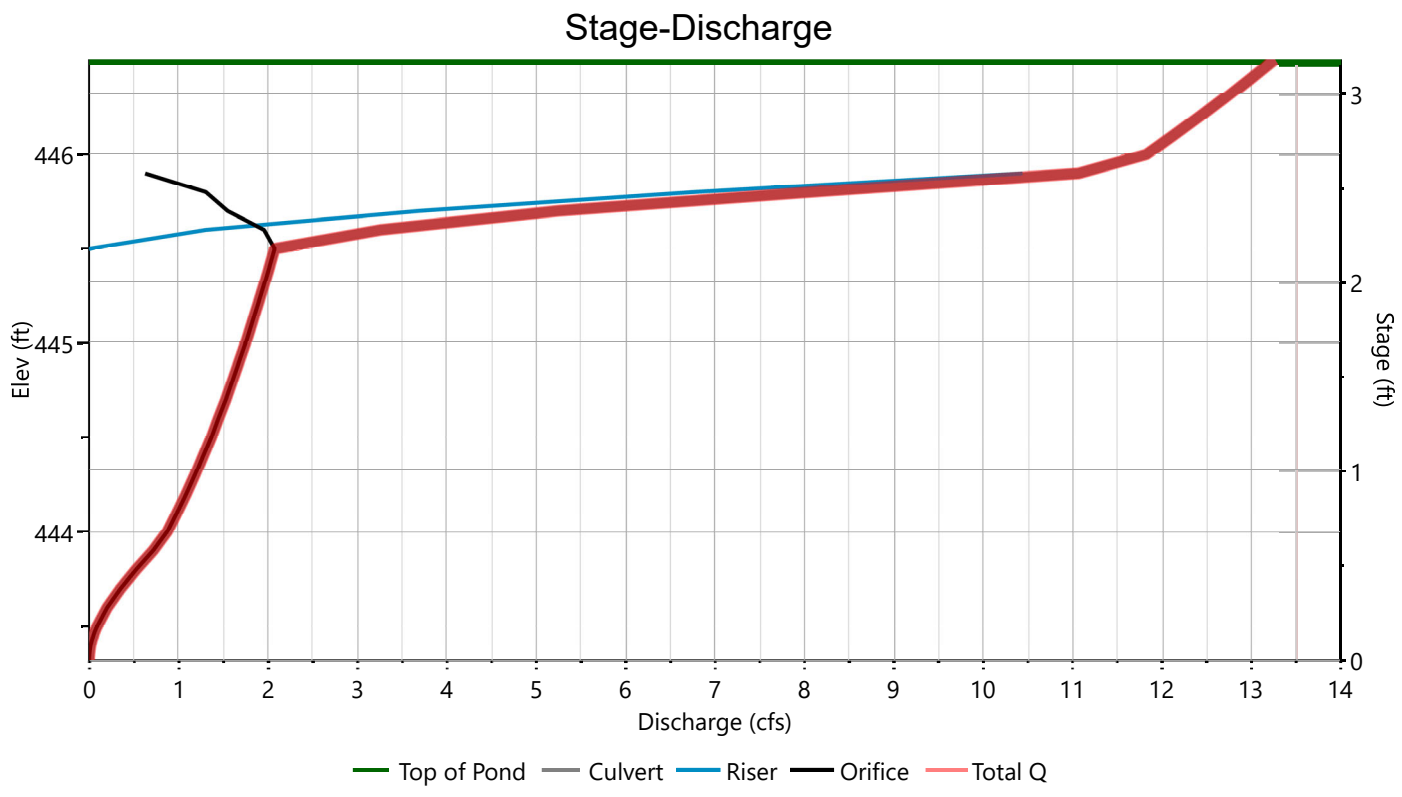


Jamey South Detention Pond

Stage-Discharge

Culvert / Orifices	Culvert	Orifices			Orifice Plate	
		1*	2	3		
Rise, in	18	8			Orifice Dia, in	
Span, in	18	8			No. Orifices	
No. Barrels	1	1			Invert Elevation, ft	
Invert Elevation, ft	443.32	443.32			Height, ft	
Orifice Coefficient, Co	0.60	0.60			Orifice Coefficient, Co	
Length, ft	22					
Barrel Slope, %	1					
N-Value, n	0.012					
Weirs	**Riser***	**Weirs**			**Ancillary**	
		1	2	3		
Shape / Type	Circular				Exfiltration, in/hr	
Crest Elevation, ft	445.5					
Crest Length, ft	12.5					
Angle, deg						
Weir Coefficient, Cw	3.3					

*Routes through Culvert.



Jamey South Detention Pond

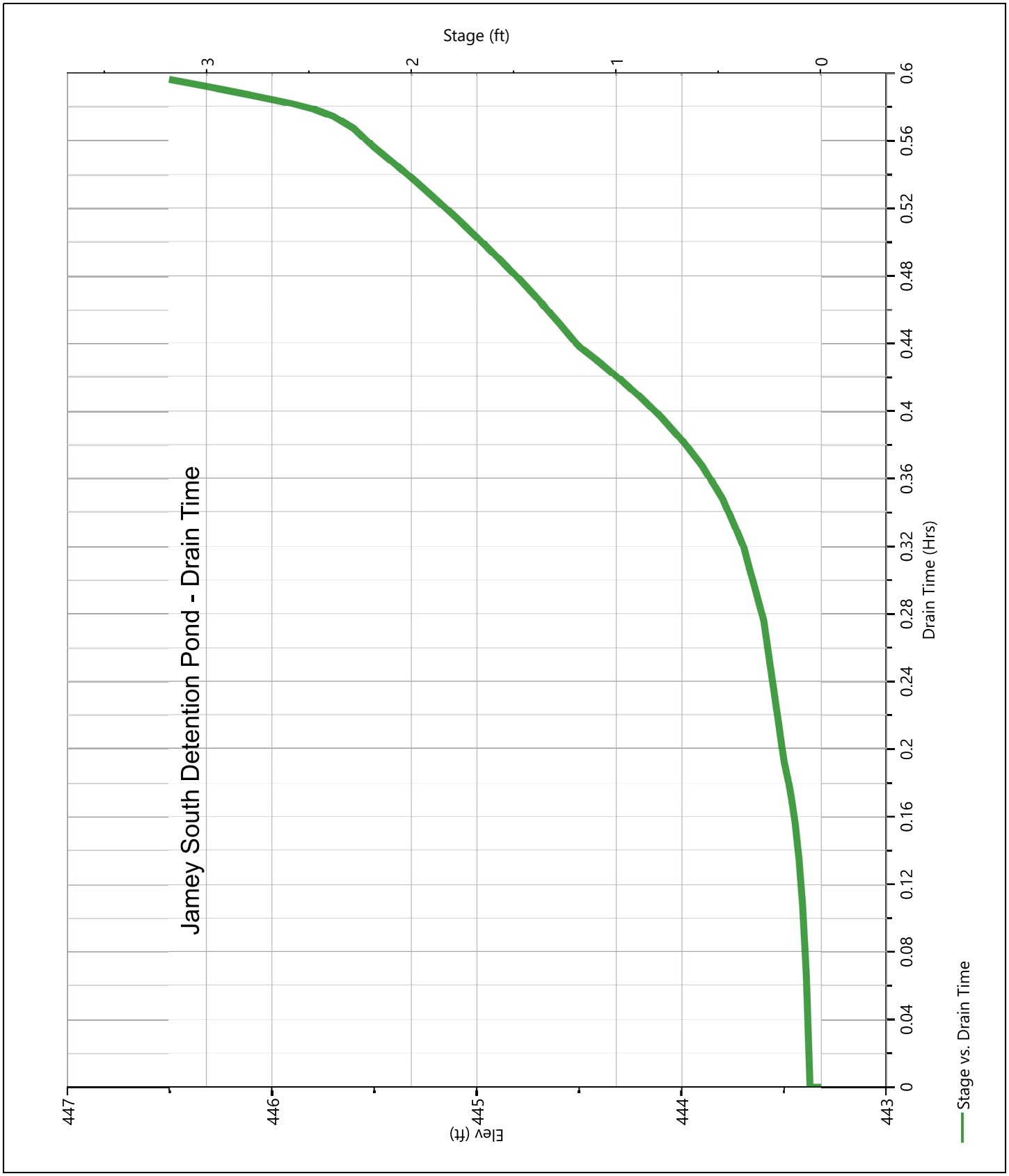
Stage-Storage-Discharge Summary

Stage (ft)	Elev. (ft)	Storage (cuft)	Culvert (cfs)	Orifices, cfs			Riser (cfs)	Weirs, cfs			Pf Riser (cfs)	Exfil (cfs)	User (cfs)	Total (cfs)
				1	2	3		1	2	3				
0.00	443.32	0.000	0.000	0.000			0.000							0.000
0.18	443.50	27.9	0.089 ic	0.089			0.000							0.089
1.18	444.50	467	1.367 ic	1.367			0.000							1.367
2.18	445.50	1,196	2.075 oc	2.075			0.000							2.075
3.18	446.50	2,265	13.26 ic	0.000			0.000							13.26

Suffix key: ic = inlet control, oc = outlet control, s = submerged weir

Jamey South Detention Pond

Pond Drawdown



Hydrograph Report

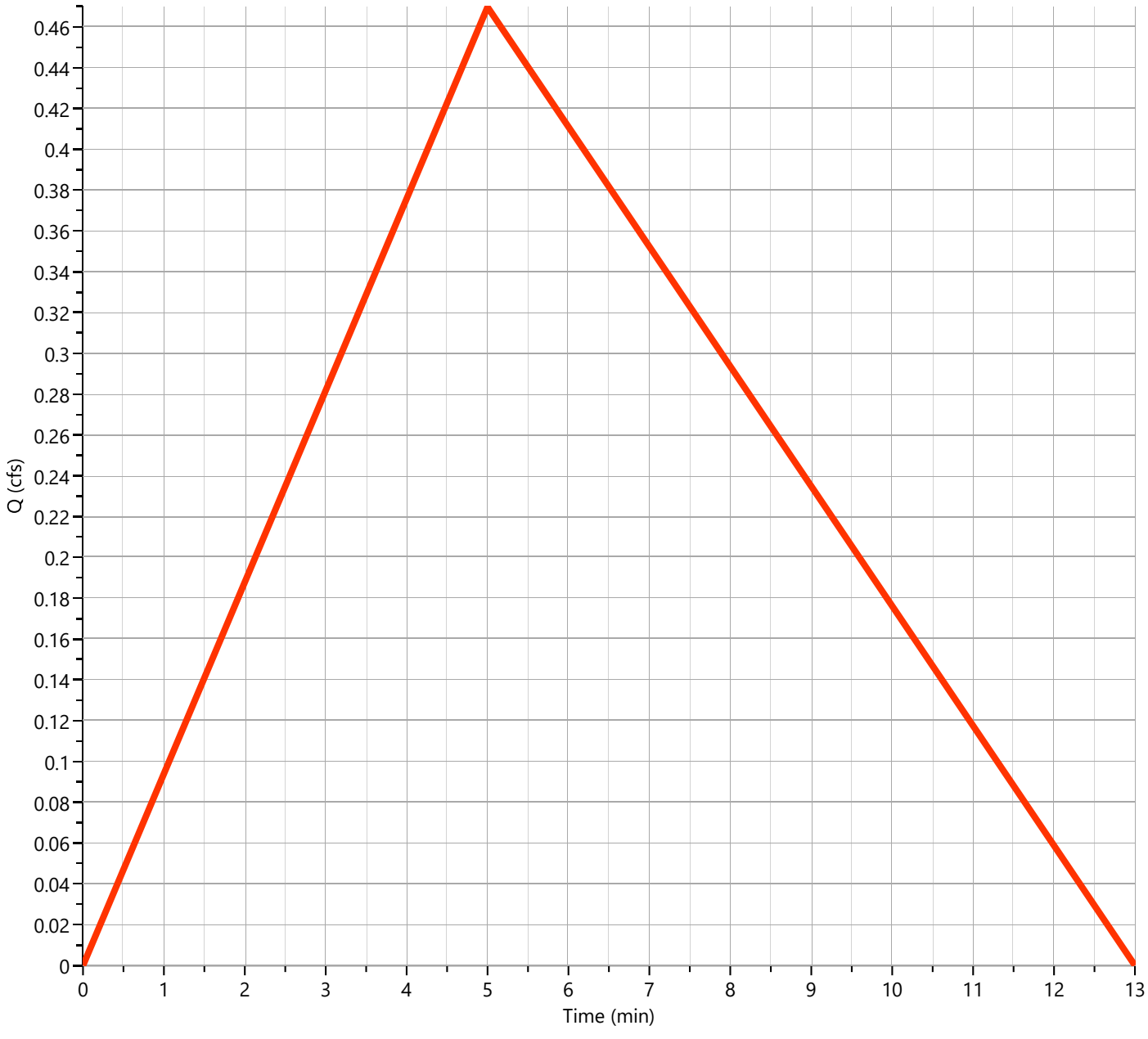
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08-05-2025

Post-Dev Basin B

Hyd. No. 4

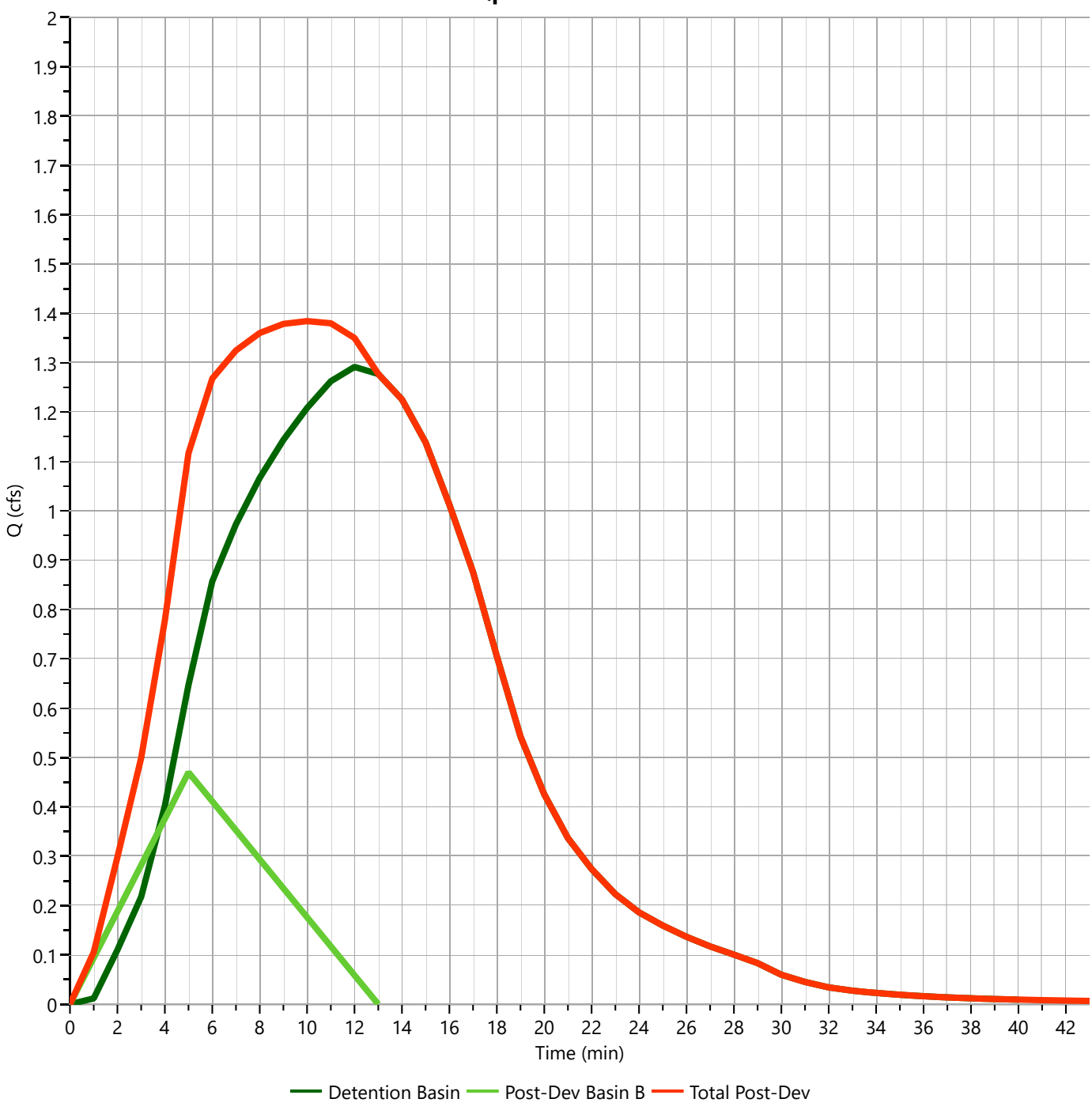
Hydrograph Type	= Rational	Peak Flow	= 0.470 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 188 cuft
Drainage Area	= 0.15 ac	Runoff Coeff.	= 0.51
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 6.14 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Total Post-Dev

Hyd. No. 5

Hydrograph Type	= Junction	Peak Flow	= 1.384 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.17 hrs
Time Interval	= 1 min	Hydrograph Volume	= 1,285 cuft
Inflow Hydrographs	= 3, 4	Total Contrib. Area	= 0.15 ac



Hydrograph 10-yr Summary

Project Name: Jamey South Parking Lot

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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	Rational	Pre-Dev Basin	2.154	0.15	1,552	----		
2	Mod Rational	Post-Dev Basin A	2.244	0.08	1,481	----		
3	Pond Route	Detention Basin	1.544	0.22	1,478	2	444.73	628
4	Rational	Post-Dev Basin B	0.628	0.08	252	----		
5	Junction	Total Post-Dev	1.723	0.13	1,723	3, 4		

Hydrograph Report

Project Name: Jamey South Parking Lot

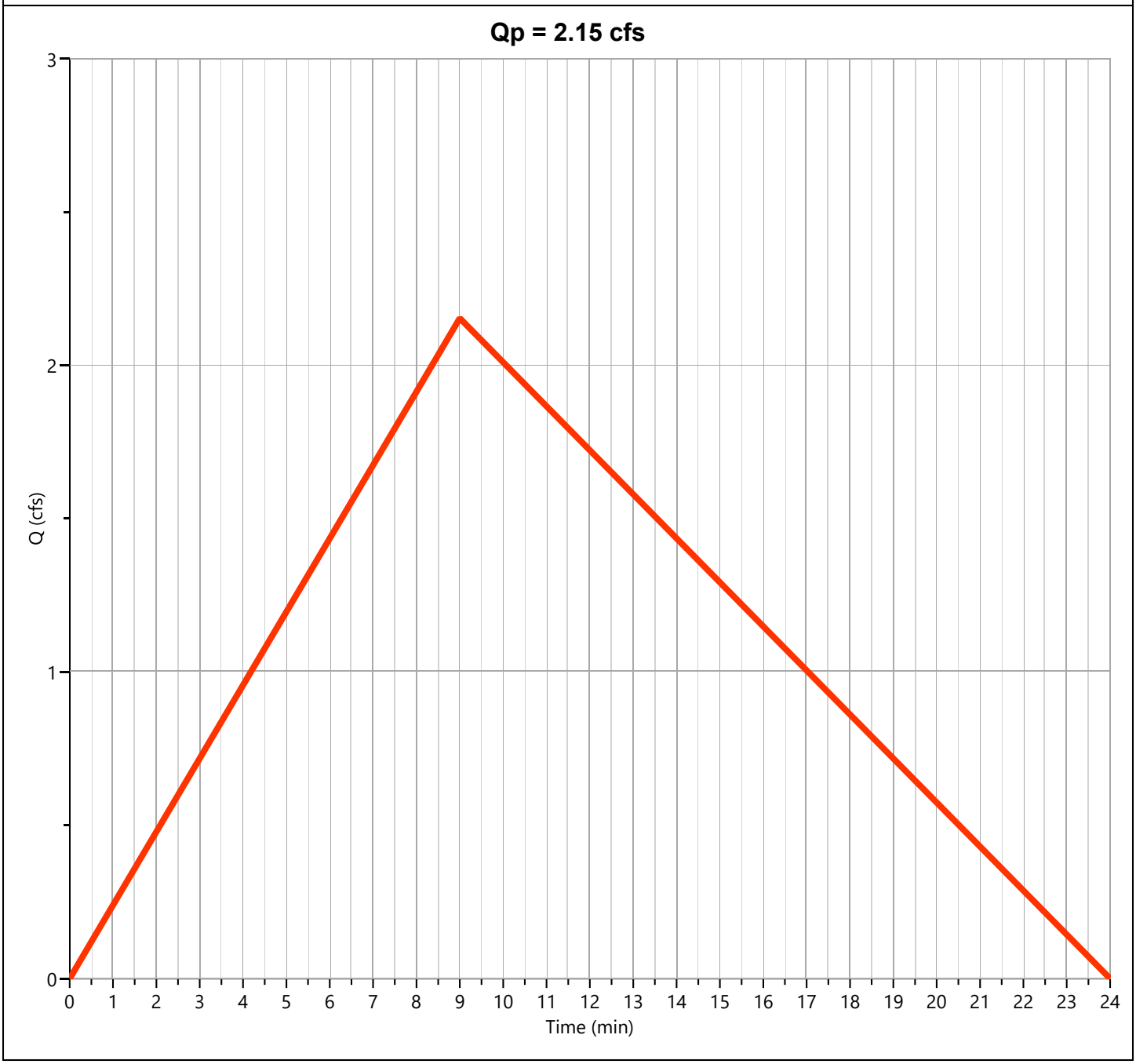
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08-05-2025

Pre-Dev Basin

Hyd. No. 1

Hydrograph Type	= Rational	Peak Flow	= 2.154 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.15 hrs
Time Interval	= 1 min	Runoff Volume	= 1,552 cuft
Drainage Area	= 0.56 ac	Runoff Coeff.	= 0.61
Tc Method	= TR55	Time of Conc. (Tc)	= 9.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 6.30 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Jamey South Parking Lot

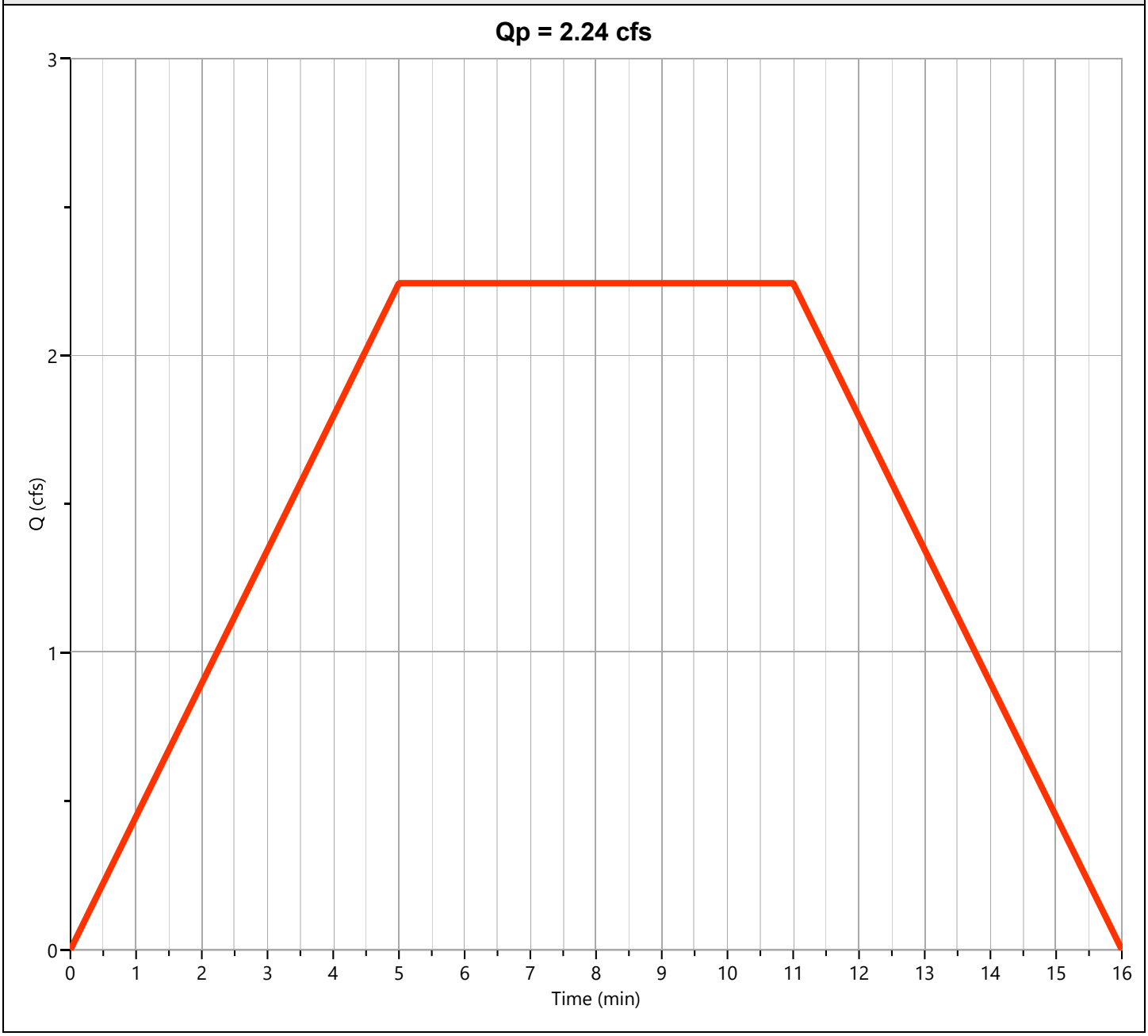
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Post-Dev Basin A

Hyd. No. 2

Hydrograph Type	= Mod Rational	Peak Flow	= 2.244 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 1,481 cuft
Drainage Area	= 0.41 ac	Runoff Coeff.	= 0.95
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 5.76 in/hr
Freq. Corr. Factor	= 1.00	Storm Duration	= 2.2 x Tc
Target Q	= 0.000 cfs	Required Storage	= 0.000 cuft



Hydrograph Report

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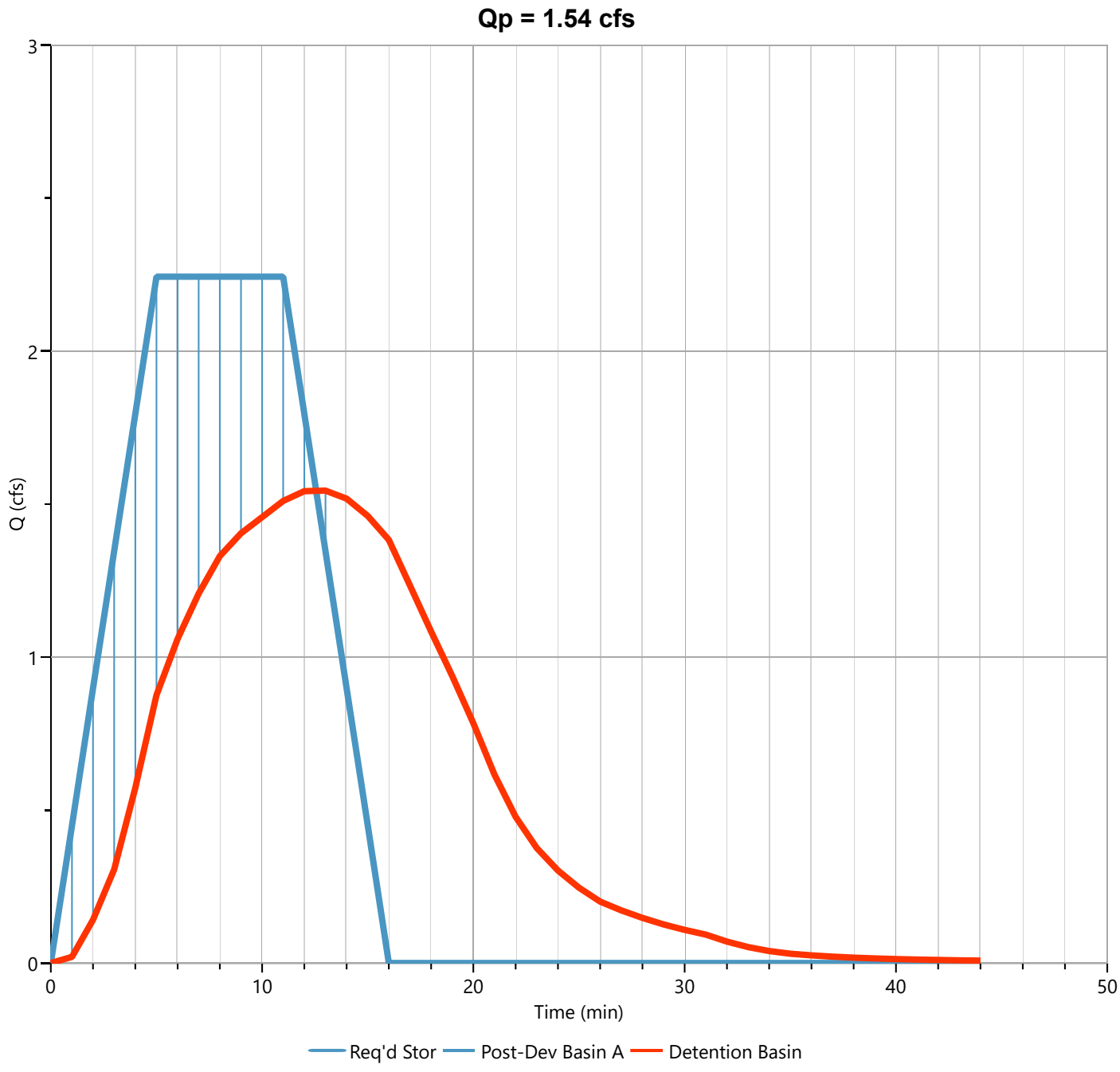
Detention Basin

Hyd. No. 3

Hydrograph Type	= Pond Route	Peak Flow	= 1.544 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.22 hrs
Time Interval	= 1 min	Hydrograph Volume	= 1,478 cuft
Inflow Hydrograph	= 2 - Post-Dev Basin A	Max. Elevation	= 444.73 ft
Pond Name	= Jamey South Detention Pond	Max. Storage	= 628 cuft

Pond Routing by Storage Indication Method

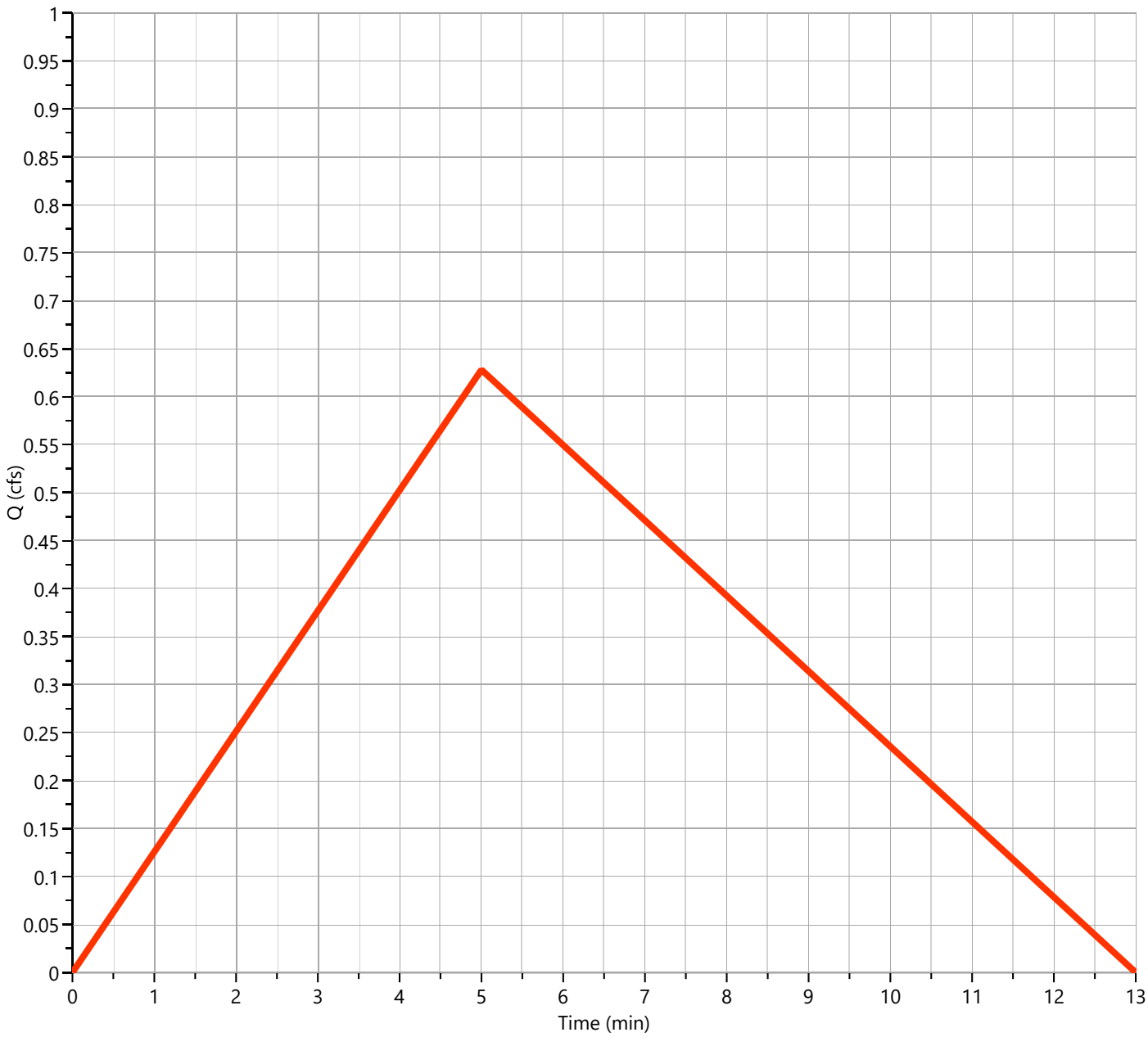
Center of mass detention time = 6 min



Post-Dev Basin B

Hyd. No. 4

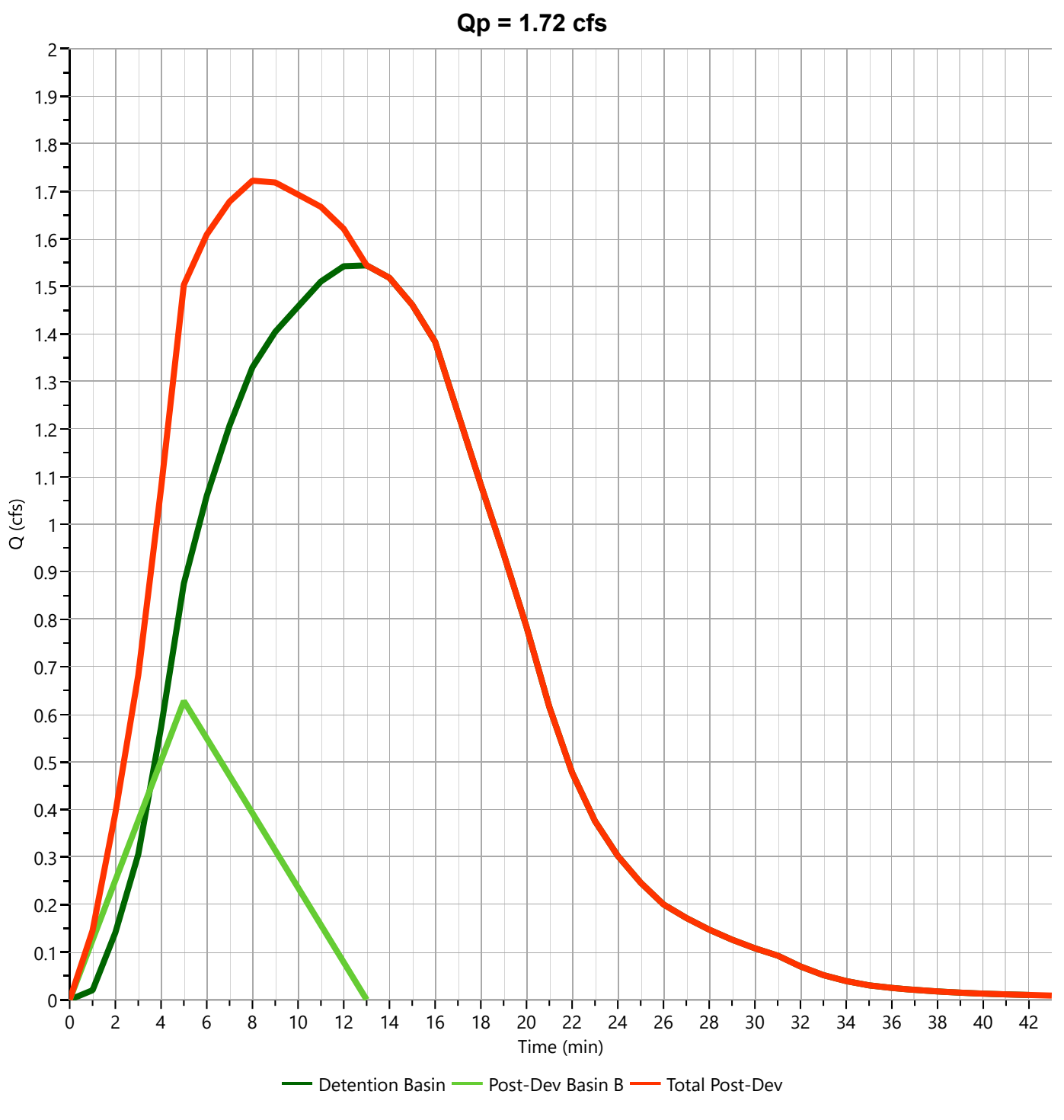
Hydrograph Type	= Rational	Peak Flow	= 0.628 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 252 cuft
Drainage Area	= 0.15 ac	Runoff Coeff.	= 0.51
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 8.21 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Total Post-Dev

Hyd. No. 5

Hydrograph Type	= Junction	Peak Flow	= 1.723 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.13 hrs
Time Interval	= 1 min	Hydrograph Volume	= 1,723 cuft
Inflow Hydrographs	= 3, 4	Total Contrib. Area	= 0.15 ac



Hydrograph 25-yr Summary

Project Name: Jamey South Parking Lot

08-05-2025

Hydrology Studio v 3.0.0.27

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	Rational	Pre-Dev Basin	2.474	0.15	1,784	----		
2	Mod Rational	Post-Dev Basin A	2.578	0.08	1,702	----		
3	Pond Route	Detention Basin	1.678	0.22	1,699	2	444.91	762
4	Rational	Post-Dev Basin B	0.721	0.08	289	----		
5	Junction	Total Post-Dev	1.881	0.12	1,980	3, 4		

Hydrograph Report

Project Name: Jamey South Parking Lot

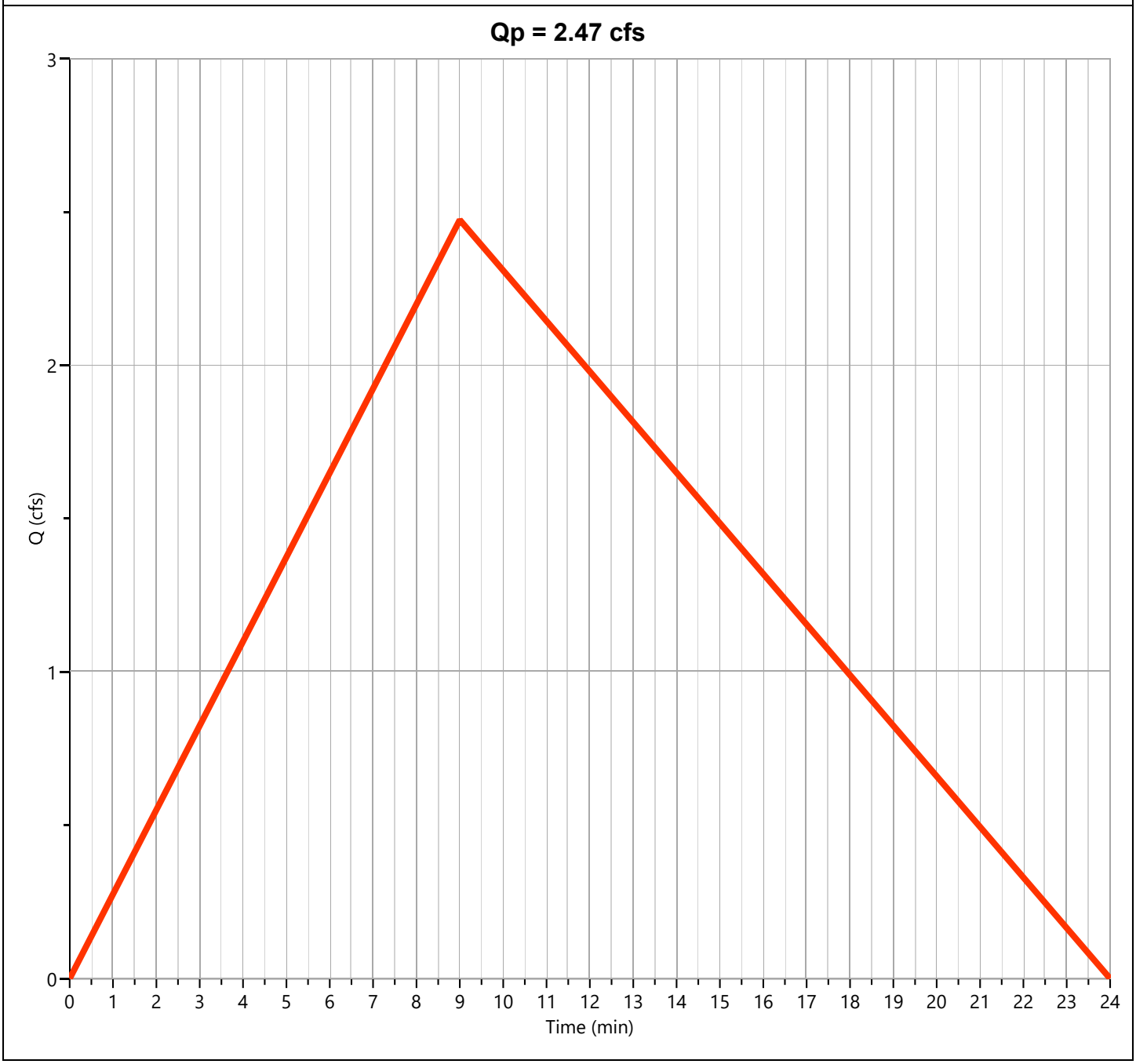
Hydrology Studio v 3.0.0.27

08-05-2025

Pre-Dev Basin

Hyd. No. 1

Hydrograph Type	= Rational	Peak Flow	= 2.474 cfs
Storm Frequency	= 25-yr	Time to Peak	= 0.15 hrs
Time Interval	= 1 min	Runoff Volume	= 1,784 cuft
Drainage Area	= 0.56 ac	Runoff Coeff.	= 0.61
Tc Method	= TR55	Time of Conc. (Tc)	= 9.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 7.24 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Jamey South Parking Lot

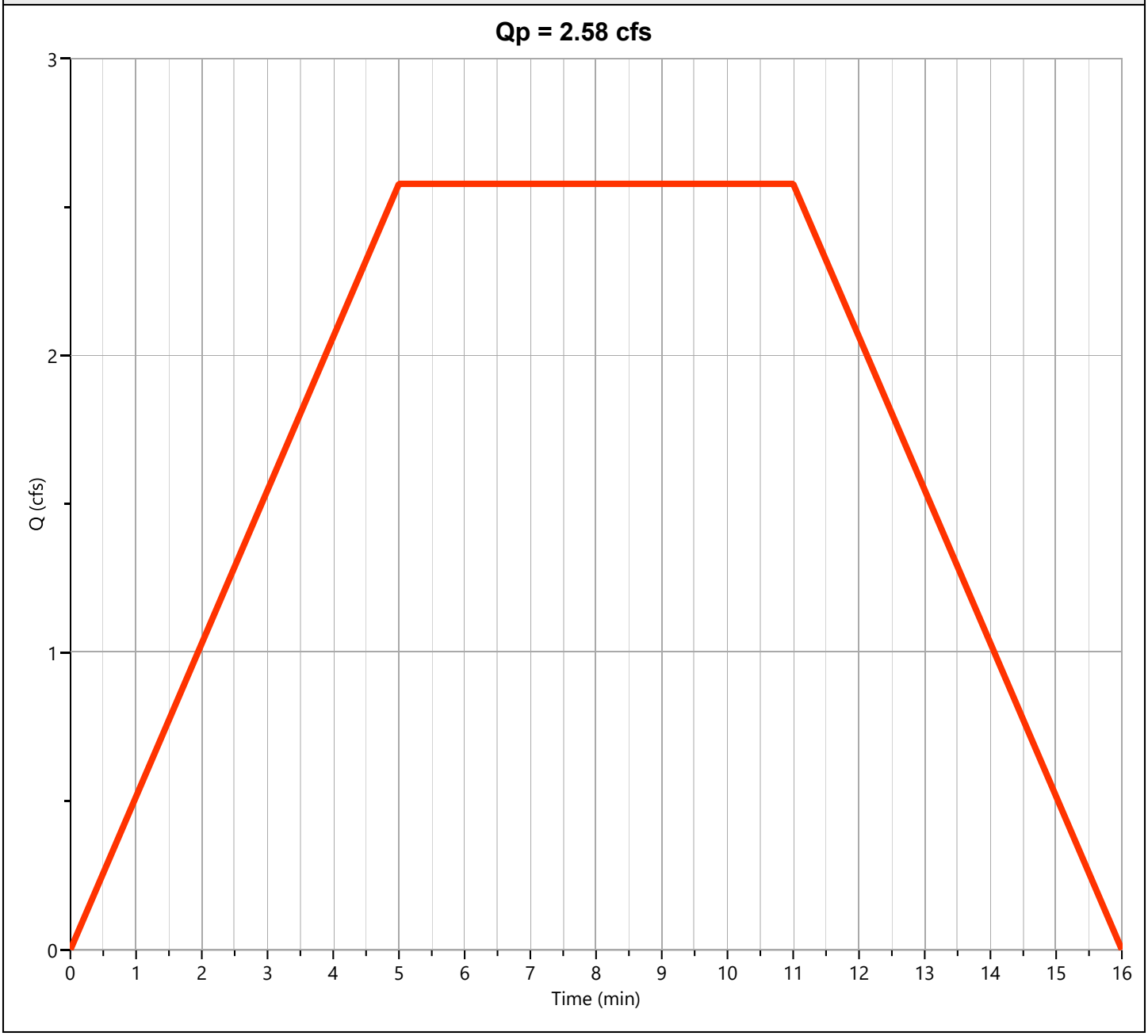
Hydrology Studio v 3.0.0.27

08-05-2025

Post-Dev Basin A

Hyd. No. 2

Hydrograph Type	= Mod Rational	Peak Flow	= 2.578 cfs
Storm Frequency	= 25-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 1,702 cuft
Drainage Area	= 0.41 ac	Runoff Coeff.	= 0.95
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 6.62 in/hr
Freq. Corr. Factor	= 1.00	Storm Duration	= 2.2 x Tc
Target Q	= 0.000 cfs	Required Storage	= 0.000 cuft



Hydrograph Report

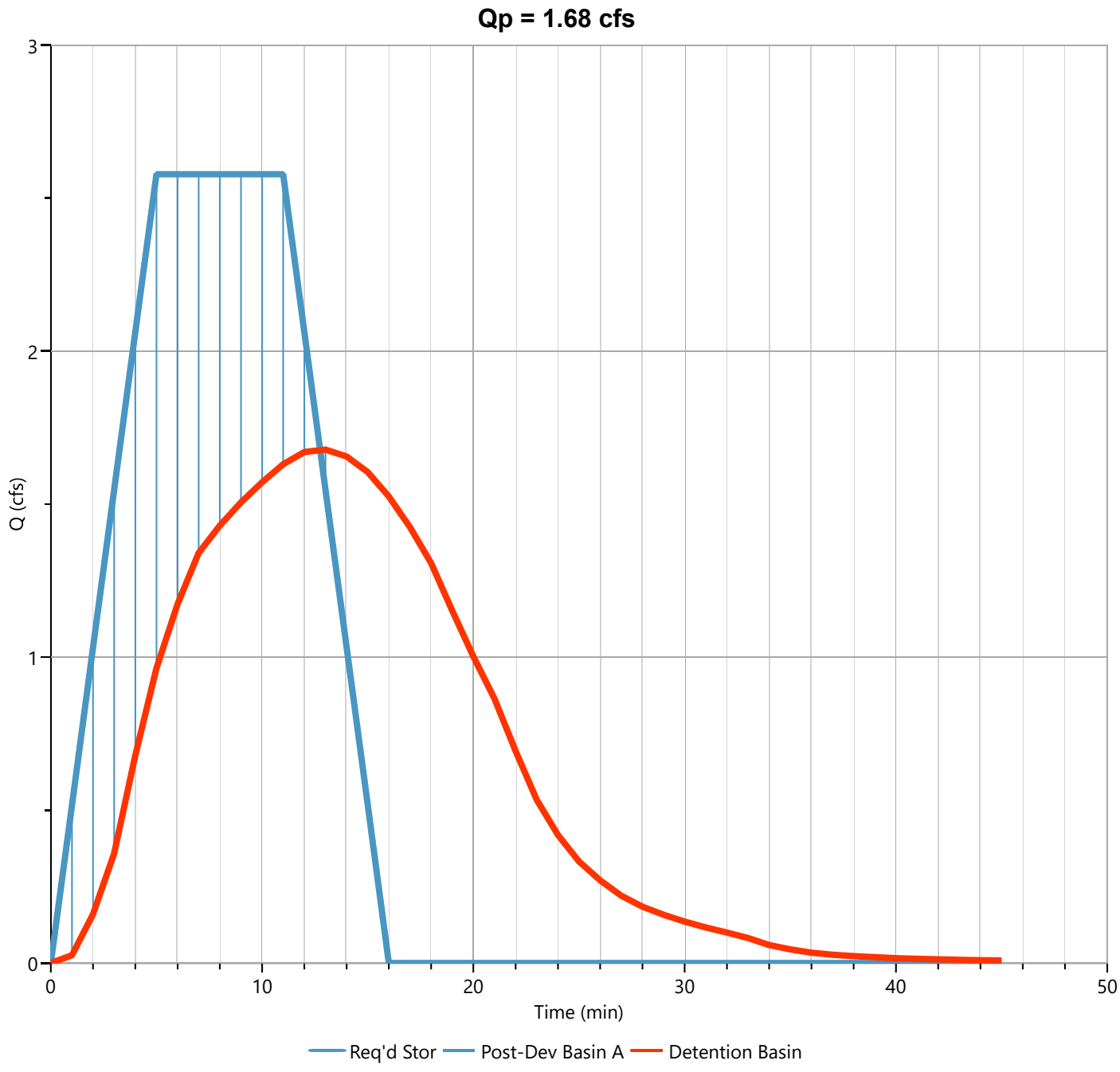
Detention Basin

Hyd. No. 3

Hydrograph Type	= Pond Route	Peak Flow	= 1.678 cfs
Storm Frequency	= 25-yr	Time to Peak	= 0.22 hrs
Time Interval	= 1 min	Hydrograph Volume	= 1,699 cuft
Inflow Hydrograph	= 2 - Post-Dev Basin A	Max. Elevation	= 444.91 ft
Pond Name	= Jamey South Detention Pond	Max. Storage	= 762 cuft

Pond Routing by Storage Indication Method

Center of mass detention time = 6 min



Hydrograph Report

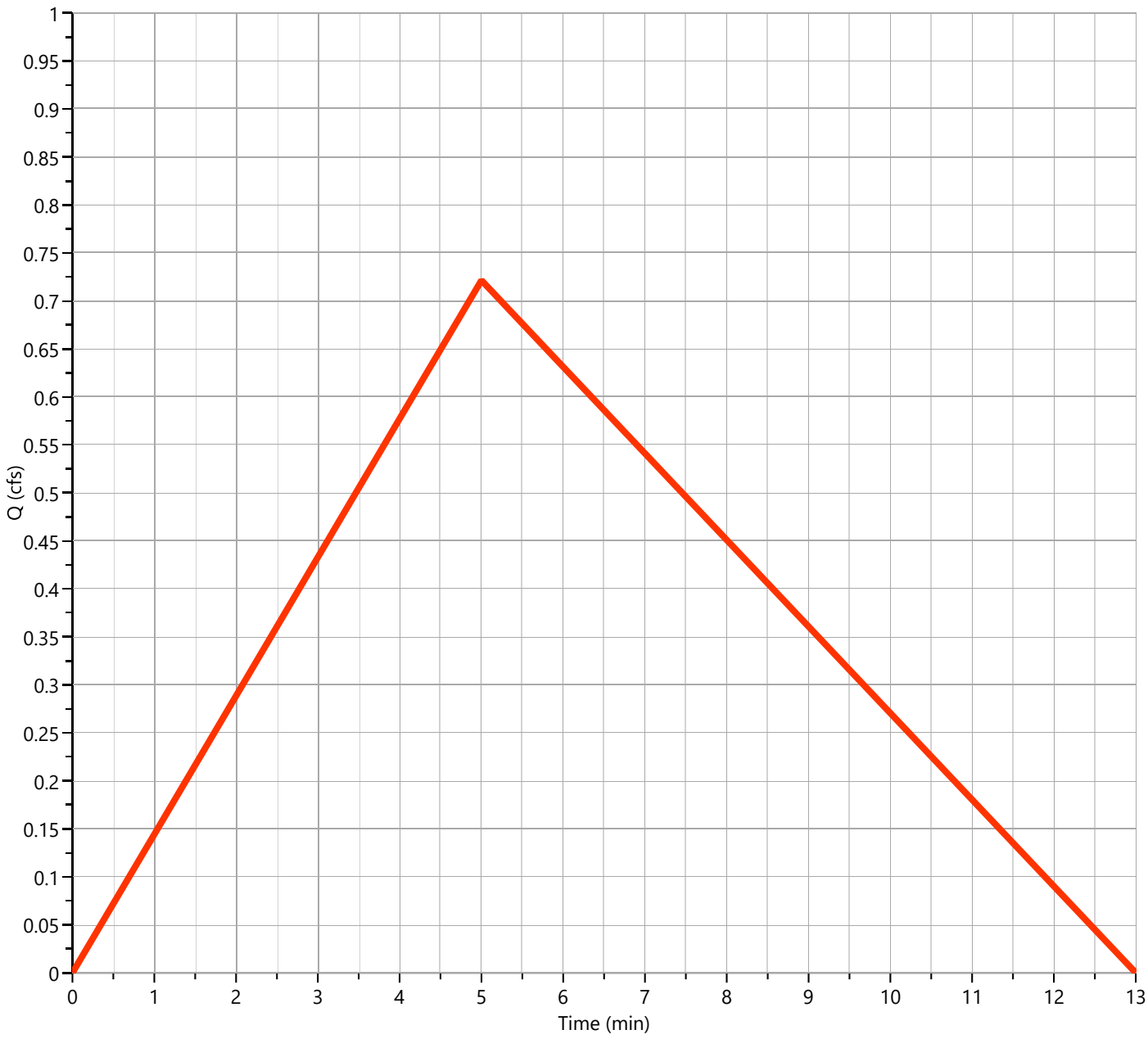
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08-05-2025

Post-Dev Basin B

Hyd. No. 4

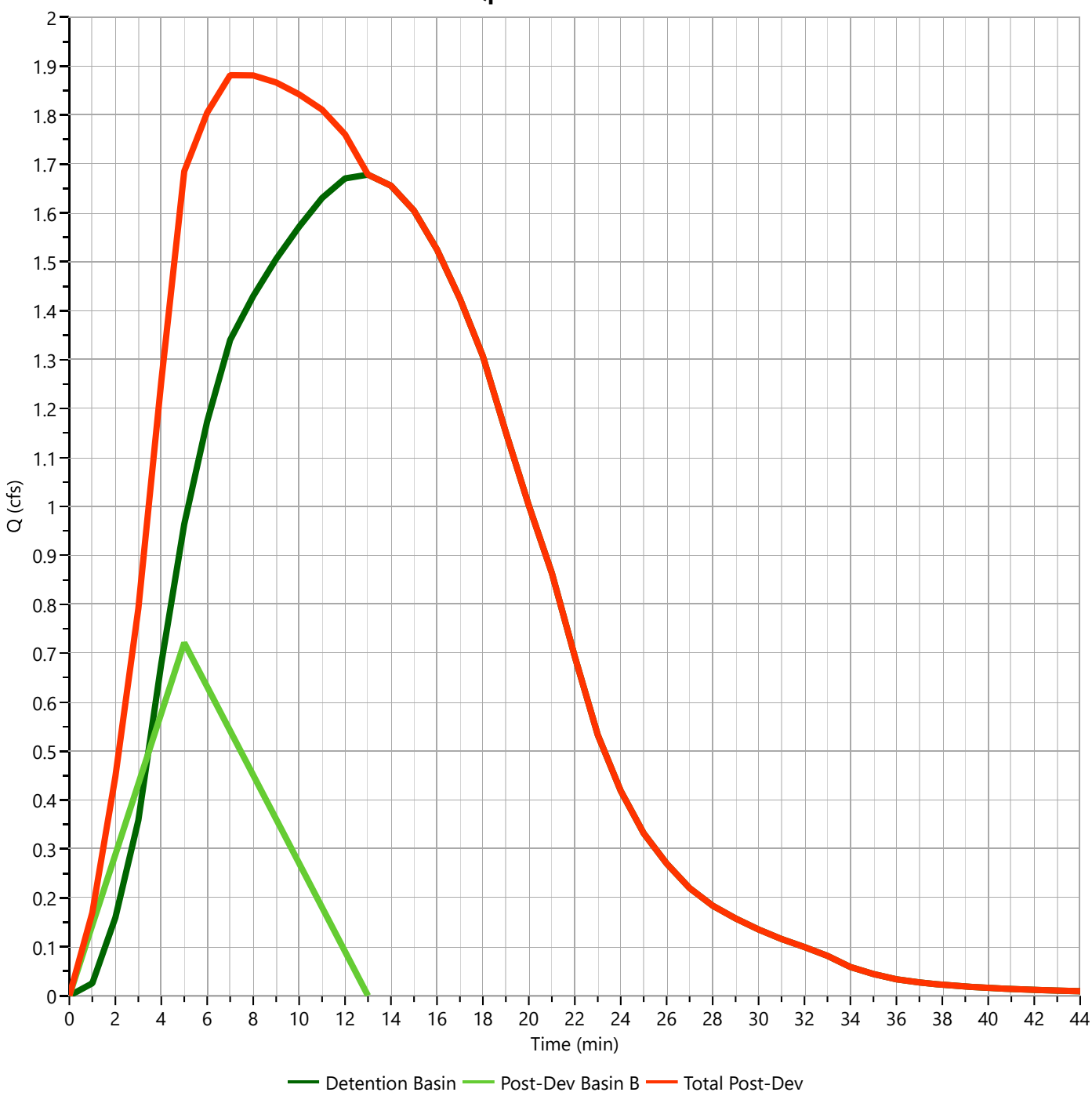
Hydrograph Type	= Rational	Peak Flow	= 0.721 cfs
Storm Frequency	= 25-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 289 cuft
Drainage Area	= 0.15 ac	Runoff Coeff.	= 0.51
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 9.43 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Total Post-Dev

Hyd. No. 5

Hydrograph Type	= Junction	Peak Flow	= 1.881 cfs
Storm Frequency	= 25-yr	Time to Peak	= 0.12 hrs
Time Interval	= 1 min	Hydrograph Volume	= 1,980 cuft
Inflow Hydrographs	= 3, 4	Total Contrib. Area	= 0.15 ac



Hydrograph 50-yr Summary

Project Name: Jamey South Parking Lot

08-05-2025

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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	Rational	Pre-Dev Basin	2.705	0.15	1,950	----		
2	Mod Rational	Post-Dev Basin A	2.819	0.08	1,861	----		
3	Pond Route	Detention Basin	1.776	0.22	1,858	2	445.04	861
4	Rational	Post-Dev Basin B	0.788	0.08	316	----		
5	Junction	Total Post-Dev	1.995	0.12	2,165	3, 4		

Hydrograph Report

Project Name: Jamey South Parking Lot

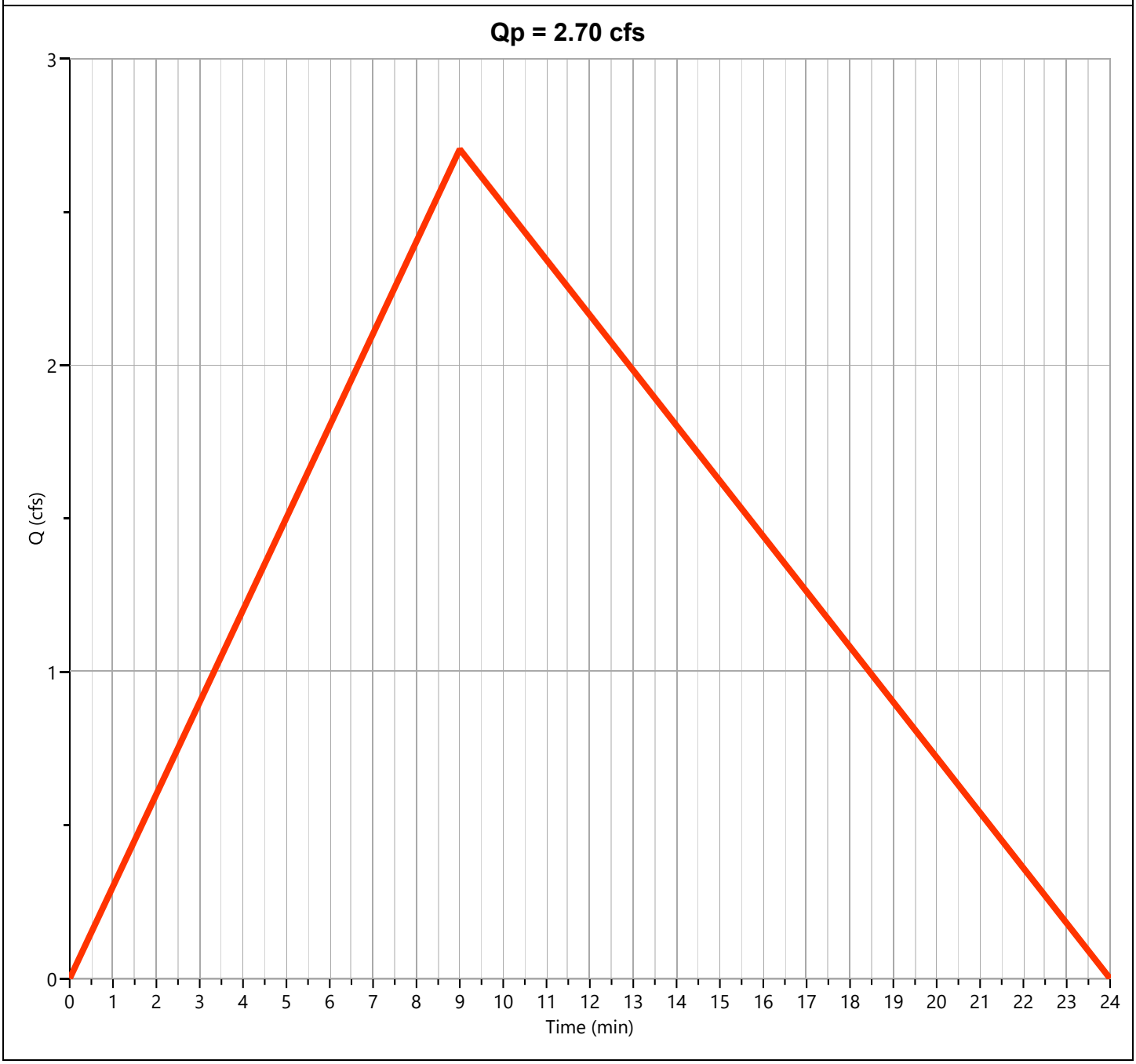
Hydrology Studio v 3.0.0.27

08-05-2025

Pre-Dev Basin

Hyd. No. 1

Hydrograph Type	= Rational	Peak Flow	= 2.705 cfs
Storm Frequency	= 50-yr	Time to Peak	= 0.15 hrs
Time Interval	= 1 min	Runoff Volume	= 1,950 cuft
Drainage Area	= 0.56 ac	Runoff Coeff.	= 0.61
Tc Method	= TR55	Time of Conc. (Tc)	= 9.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 7.92 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Jamey South Parking Lot

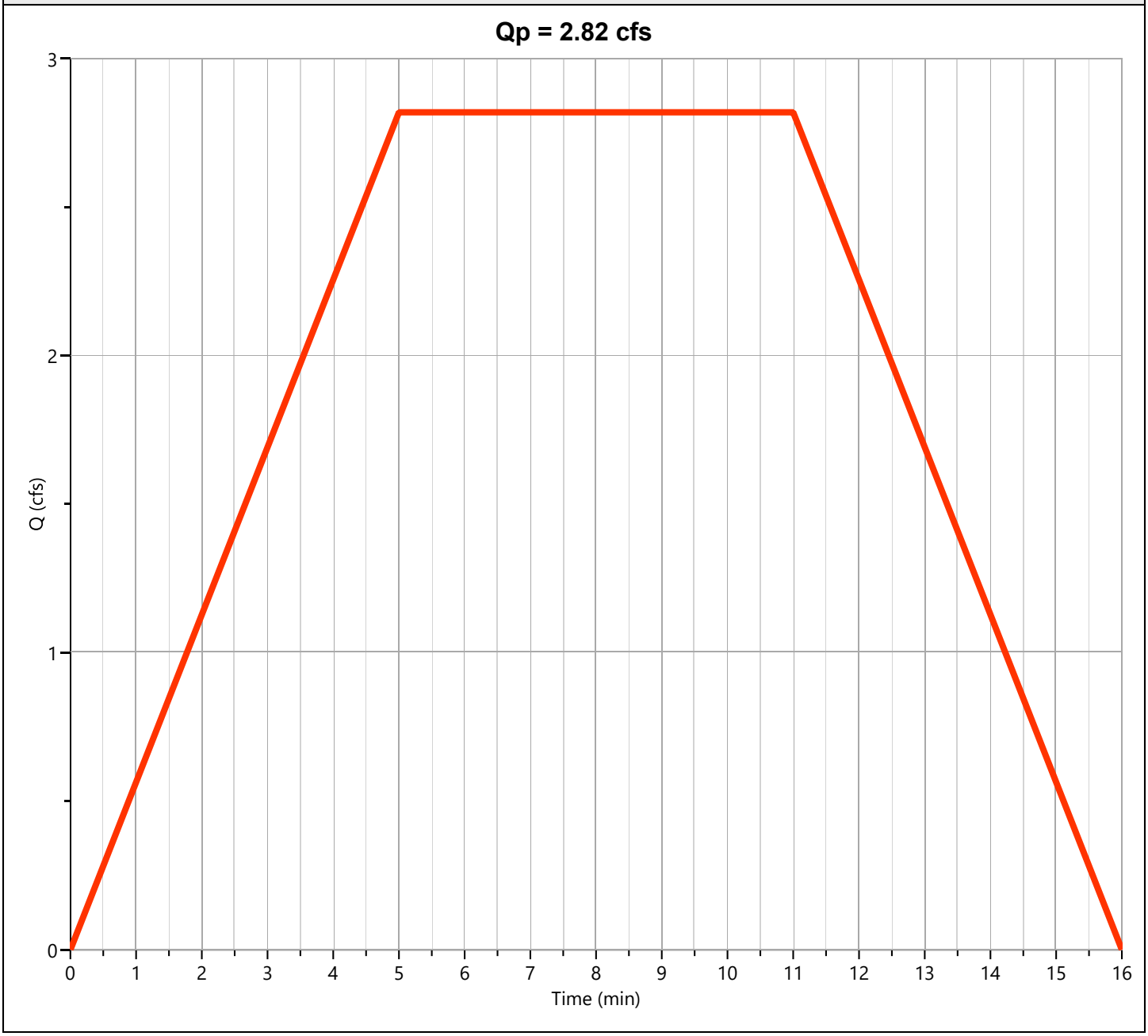
Hydrology Studio v 3.0.0.27

08-05-2025

Post-Dev Basin A

Hyd. No. 2

Hydrograph Type	= Mod Rational	Peak Flow	= 2.819 cfs
Storm Frequency	= 50-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 1,861 cuft
Drainage Area	= 0.41 ac	Runoff Coeff.	= 0.95
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 7.24 in/hr
Freq. Corr. Factor	= 1.00	Storm Duration	= 2.2 x Tc
Target Q	= 0.000 cfs	Required Storage	= 0.000 cuft



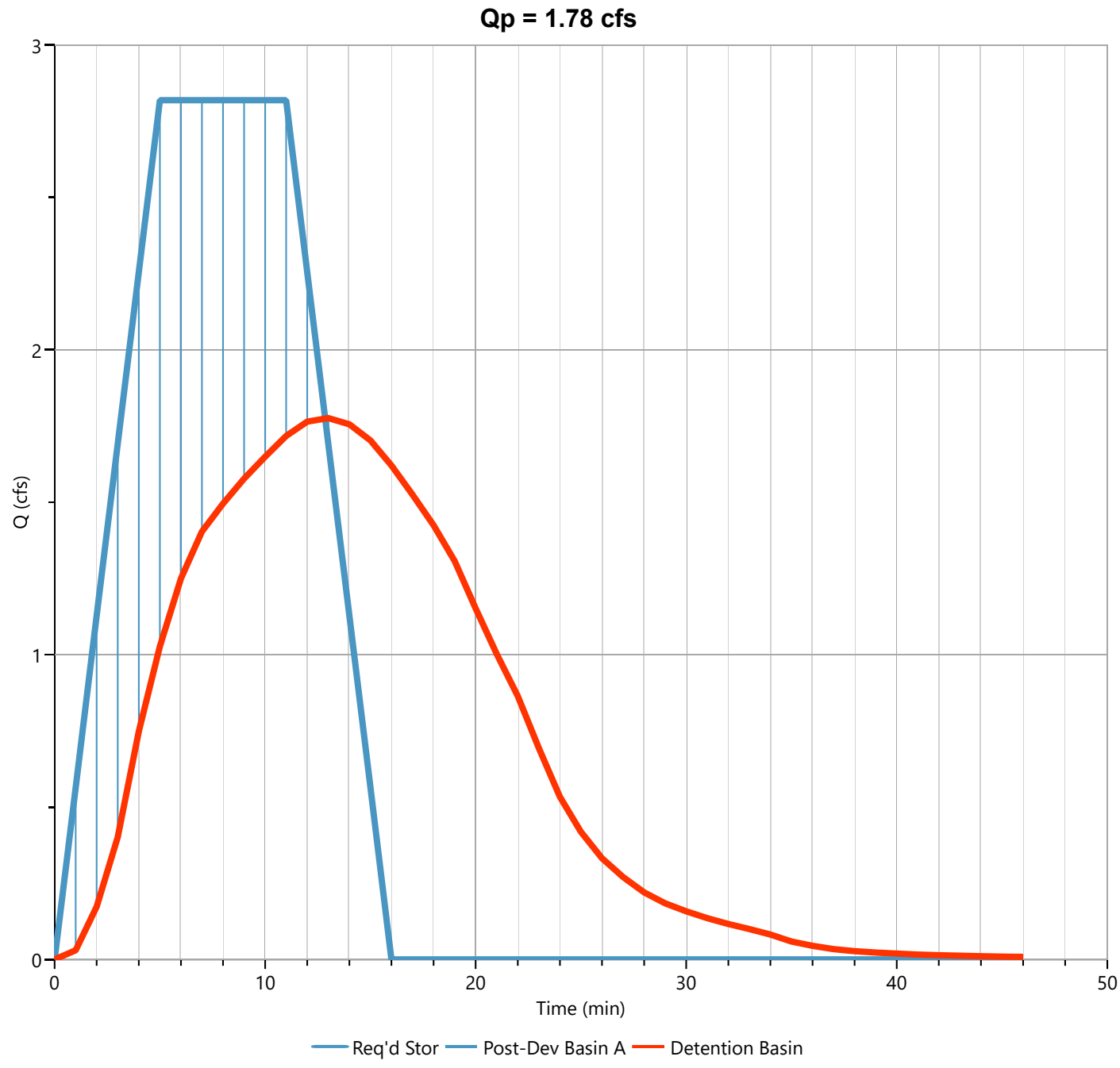
Detention Basin

Hyd. No. 3

Hydrograph Type	= Pond Route	Peak Flow	= 1.776 cfs
Storm Frequency	= 50-yr	Time to Peak	= 0.22 hrs
Time Interval	= 1 min	Hydrograph Volume	= 1,858 cuft
Inflow Hydrograph	= 2 - Post-Dev Basin A	Max. Elevation	= 445.04 ft
Pond Name	= Jamey South Detention Pond	Max. Storage	= 861 cuft

Pond Routing by Storage Indication Method

Center of mass detention time = 6 min



Hydrograph Report

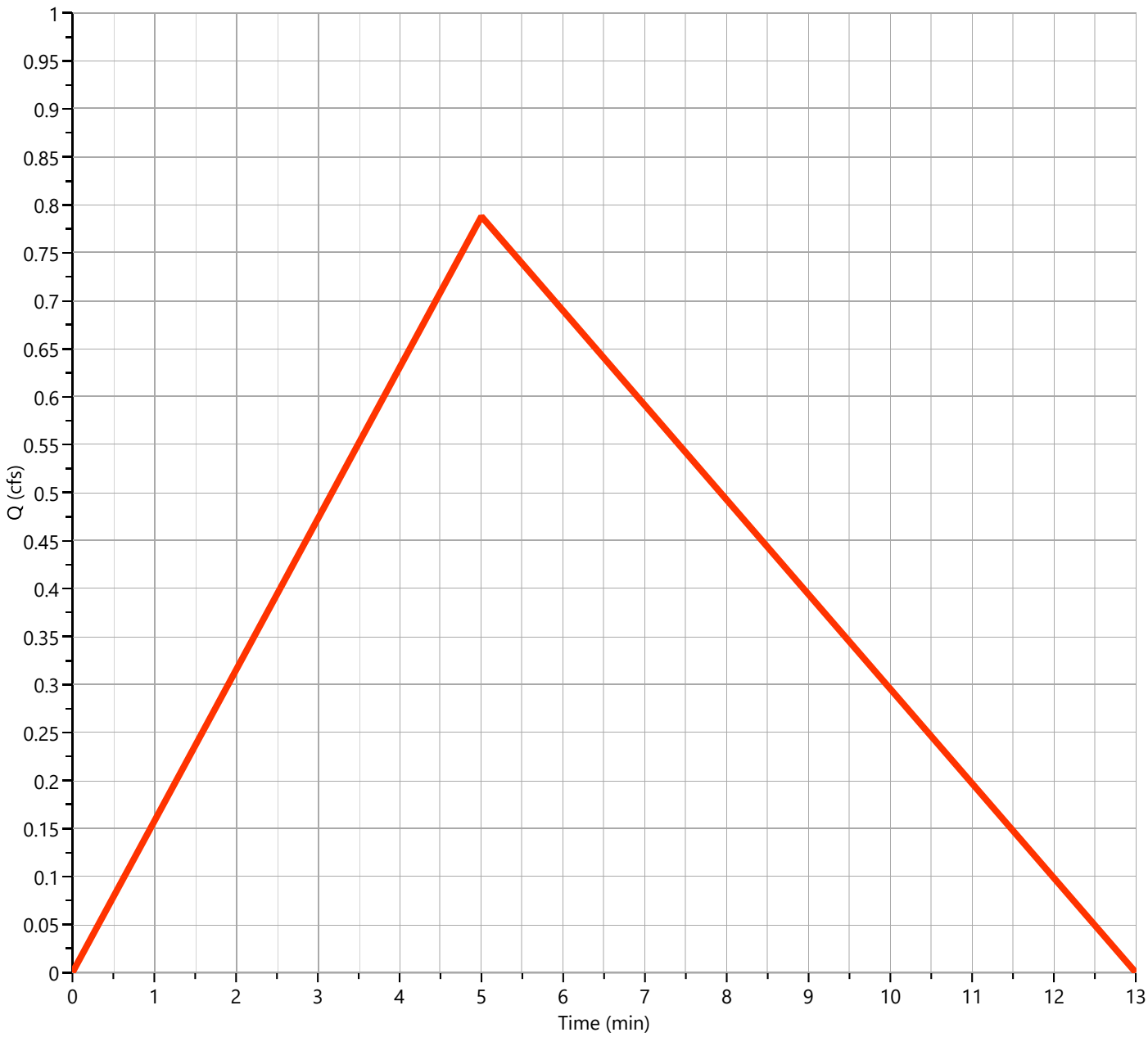
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08-05-2025

Post-Dev Basin B

Hyd. No. 4

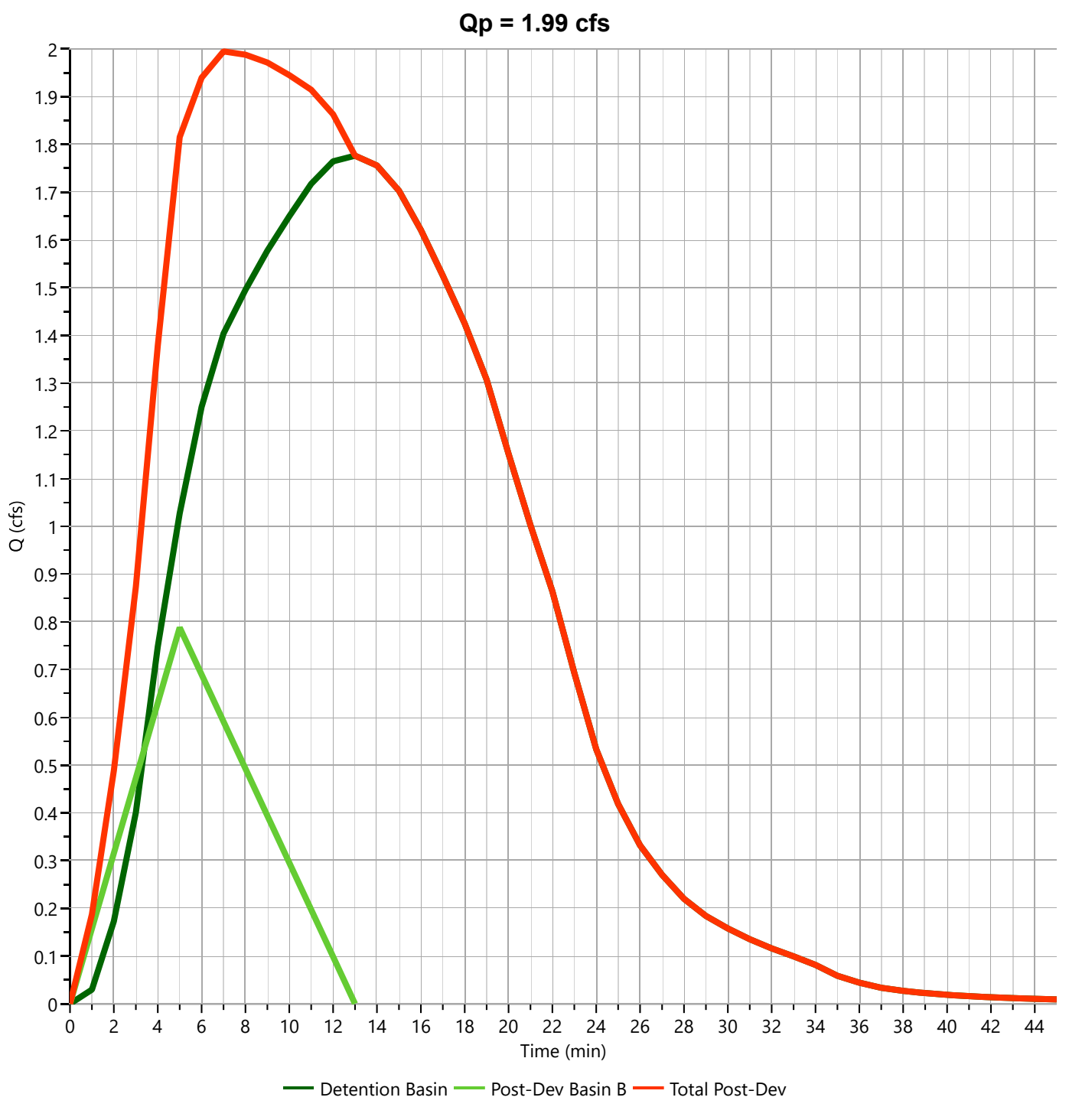
Hydrograph Type	= Rational	Peak Flow	= 0.788 cfs
Storm Frequency	= 50-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 316 cuft
Drainage Area	= 0.15 ac	Runoff Coeff.	= 0.51
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 10.30 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Total Post-Dev

Hyd. No. 5

Hydrograph Type	= Junction	Peak Flow	= 1.995 cfs
Storm Frequency	= 50-yr	Time to Peak	= 0.12 hrs
Time Interval	= 1 min	Hydrograph Volume	= 2,165 cuft
Inflow Hydrographs	= 3, 4	Total Contrib. Area	= 0.15 ac



Hydrograph 100-yr Summary

Project Name: Jamey South Parking Lot

08-05-2025

Hydrology Studio v 3.0.0.27

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	Rational	Pre-Dev Basin	2.938	0.15	2,118	----		
2	Mod Rational	Post-Dev Basin A	3.062	0.08	2,021	----		
3	Pond Route	Detention Basin	1.872	0.22	2,018	2	445.18	963
4	Rational	Post-Dev Basin B	0.857	0.08	343	----		
5	Junction	Total Post-Dev	2.098	0.12	2,352	3, 4		

Hydrograph Report

Project Name: Jamey South Parking Lot

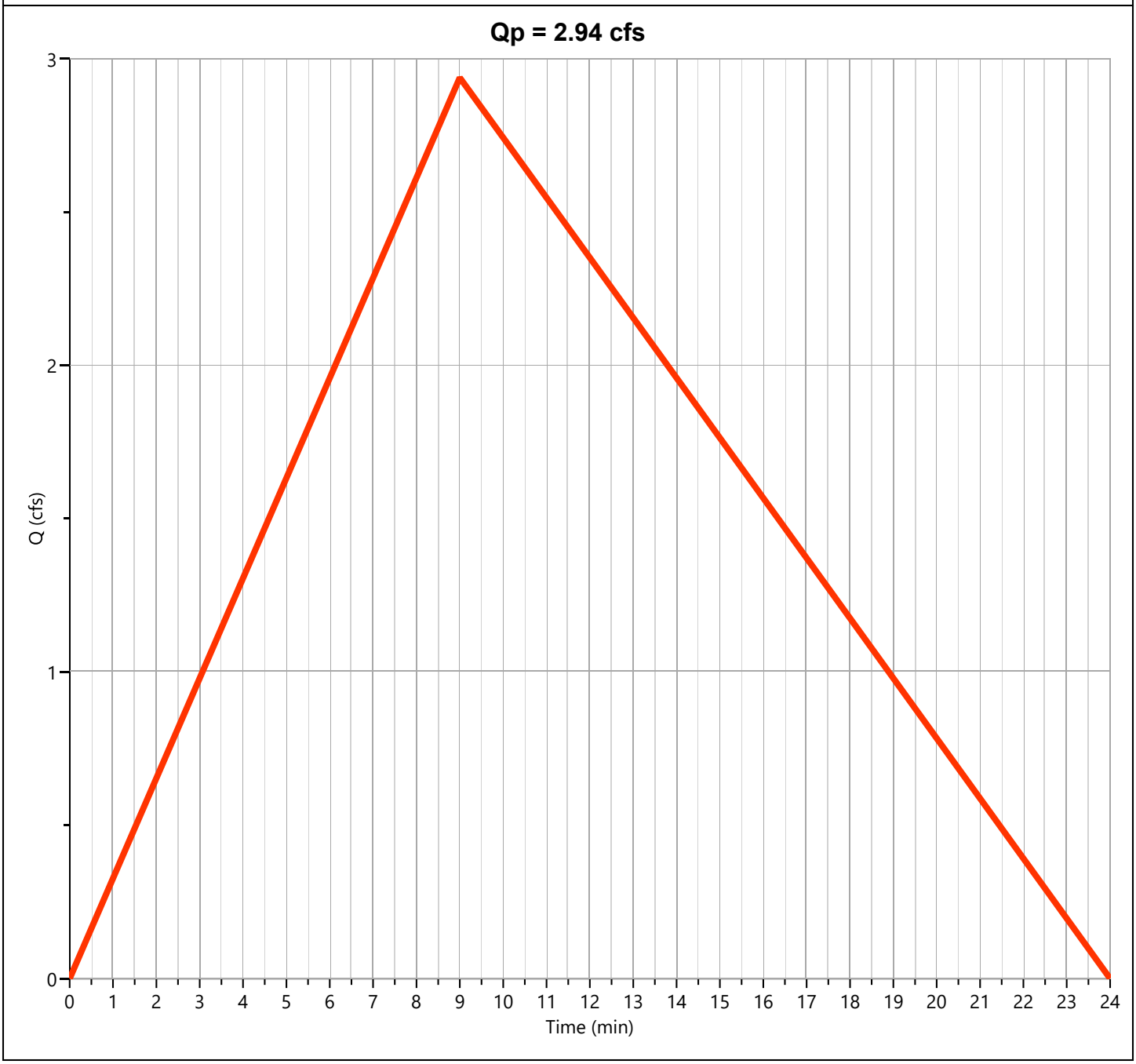
Hydrology Studio v 3.0.0.27

08-05-2025

Pre-Dev Basin

Hyd. No. 1

Hydrograph Type	= Rational	Peak Flow	= 2.938 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.15 hrs
Time Interval	= 1 min	Runoff Volume	= 2,118 cuft
Drainage Area	= 0.56 ac	Runoff Coeff.	= 0.61
Tc Method	= TR55	Time of Conc. (Tc)	= 9.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 8.60 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Jamey South Parking Lot

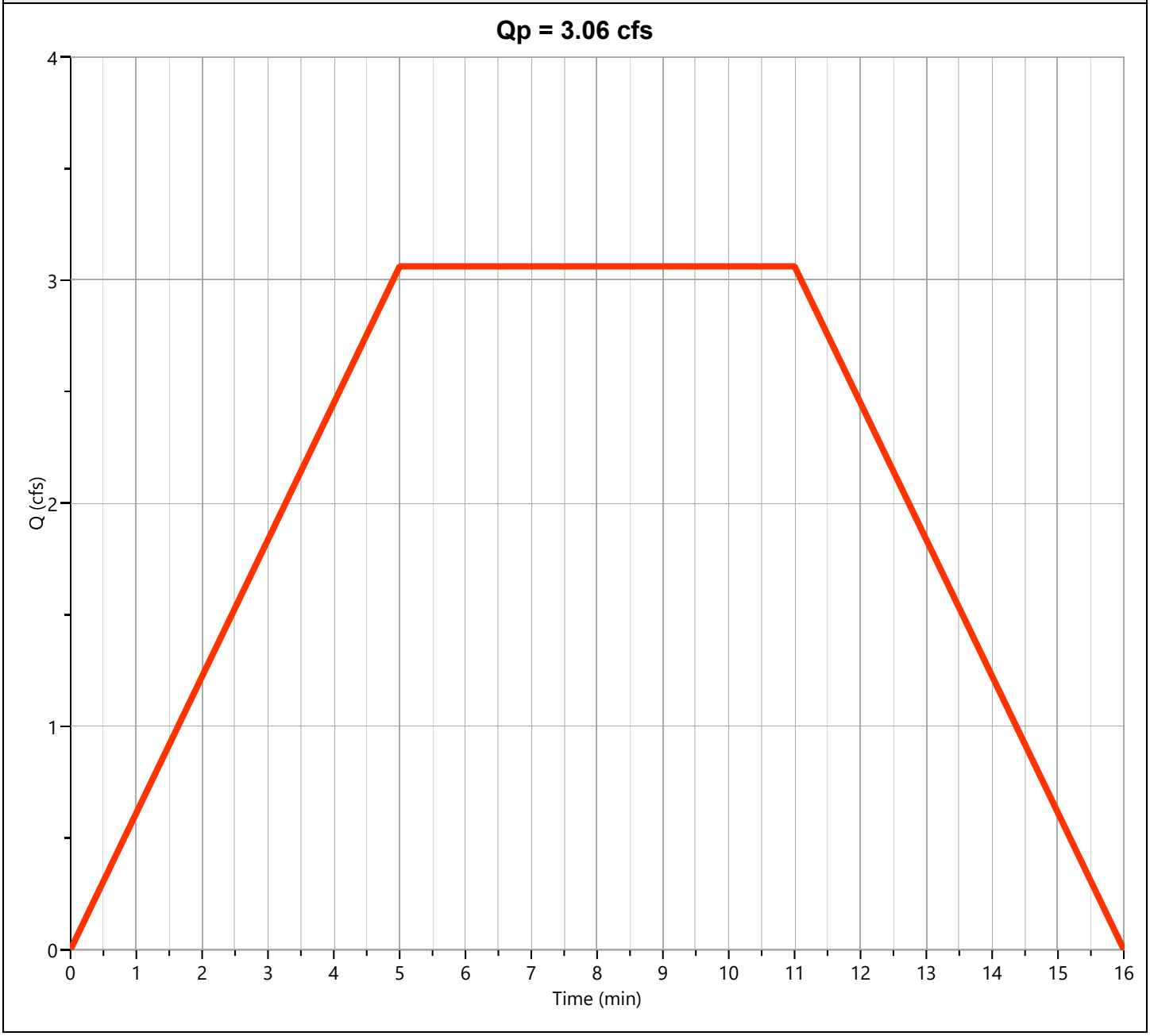
Hydrology Studio v 3.0.0.27

08-05-2025

Post-Dev Basin A

Hyd. No. 2

Hydrograph Type	= Mod Rational	Peak Flow	= 3.062 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 2,021 cuft
Drainage Area	= 0.41 ac	Runoff Coeff.	= 0.95
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 7.86 in/hr
Freq. Corr. Factor	= 1.00	Storm Duration	= 2.2 x Tc
Target Q	= 0.000 cfs	Required Storage	= 0.000 cuft



Hydrograph Report

Hydrology Studio v 3.0.0.27

08-05-2025

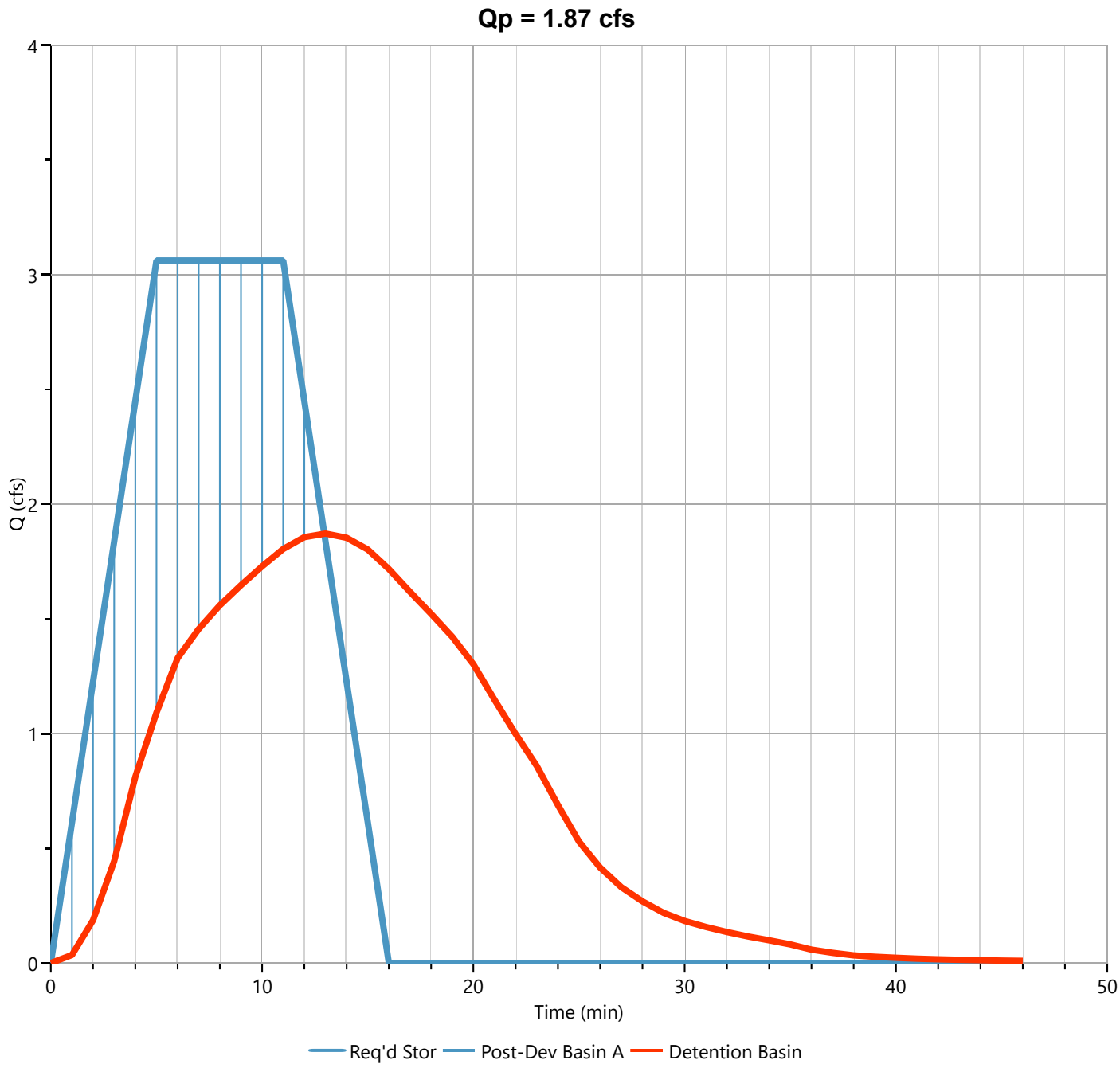
Detention Basin

Hyd. No. 3

Hydrograph Type	= Pond Route	Peak Flow	= 1.872 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.22 hrs
Time Interval	= 1 min	Hydrograph Volume	= 2,018 cuft
Inflow Hydrograph	= 2 - Post-Dev Basin A	Max. Elevation	= 445.18 ft
Pond Name	= Jamey South Detention Pond	Max. Storage	= 963 cuft

Pond Routing by Storage Indication Method

Center of mass detention time = 7 min



Hydrograph Report

Project Name: Jamey South Parking Lot

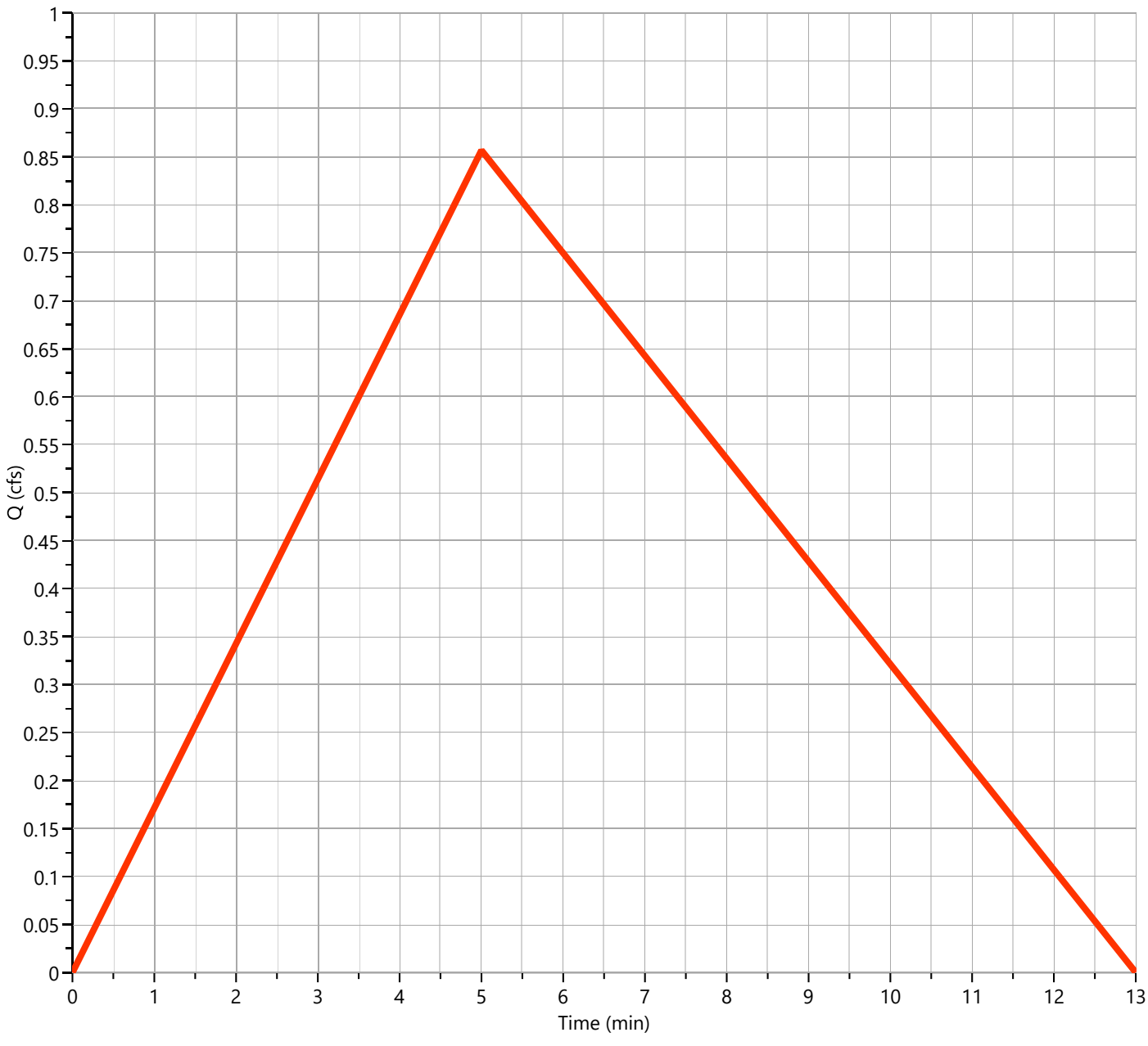
Hydrology Studio v 3.0.0.27

08-05-2025

Post-Dev Basin B

Hyd. No. 4

Hydrograph Type	= Rational	Peak Flow	= 0.857 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 343 cuft
Drainage Area	= 0.15 ac	Runoff Coeff.	= 0.51
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 11.20 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Hydrology Studio v 3.0.0.27

08-05-2025

Total Post-Dev

Hyd. No. 5

Hydrograph Type	= Junction	Peak Flow	= 2.098 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.12 hrs
Time Interval	= 1 min	Hydrograph Volume	= 2,352 cuft
Inflow Hydrographs	= 3, 4	Total Contrib. Area	= 0.15 ac

