TOWN OF CHAPEL HILL
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Project Fact Sheet

Project Information	**Project Name**	860 Weaver Dairy Road	***Application Number [Staff to Complete]***	**CZD-24-8**

Lot & Zoning Information	**Parcel Number(s)**	9880564638
	Property Address(es)	860 Weaver Dairy Road
	Existing Zoning District(s)	MU-OI-1, R-3
	Proposed Zoning District(s)	MU-V-CZD

						Evaluation [Staff to Complete]
Uses (LUMO Sec. 3.7 and 3.10)	**Existing Use(s)**	Vacant land				
	Proposed Use(s)	Residential and non-residential space				
	Number of Dwelling Units	**Existing**	0	**Proposed to be Removed**	0	
		Proposed New, Minimum	630	**Proposed New, Maximum**	710	
		Market-rate units	TBD	**Affordable units**	TBD	
		For sale units	105-135	**Rental units**	525-575	

					Evaluation [Staff to Complete]
Land Area	**Net Land Area (NLA) (sq. ft.)**	1970128	**Net Land Area (acres)**	45.23	

	Gross Land Area (GLA) (sq. ft.)	2,167,141 sf	**Gross Land Area (acres)**	49.75	

					Evaluation [Staff to Complete]
Setbacks & Building Height (LUMO Sec. 3.8)	**Proposed street setback (ft.)**	48’	**Required street setback (ft.)**	0’ – 22’	
	Proposed interior setback (ft.)	40’	**Required interior setback (ft.)**	0’ – 8’	
	Proposed solar setback (ft.)	80’	**Required solar setback (ft.)**	8’ – 20’	
	Proposed building height, setback (ft.)	70’	**Allowed building height, setback (ft.)**	70’	
	Proposed building height, core (ft.)	70’-80’	**Allowed building height, core (ft.)**	114’	

					Evaluation [Staff to Complete]
Land Disturbance	**Total proposed land disturbance (sq. ft.)**	1,278,040 sf	**Total proposed land disturbance (acres)**	29.34 ac	

					Evaluation [Staff to Complete]
Impervious Surface Area (ISA) (LUMO Sec. 3.8)	**Existing ISA (sq. ft.)**	0	**Removed ISA (sq. ft.)**	0	
	New ISA (sq. ft.)	780,000	**Total ISA (sq. ft.)**	780,000	
	Proposed ISA ratio (% of GLA)	36.0%	**Allowed ISA ratio (% of GLA)**	70.00	

					Evaluation [Staff to Complete]
Floor Area (LUMO Sec. 3.6, 3.8, 3.10)	**Existing floor area (sq. ft.)**	0	**Removed floor area (sq. ft.)**	0	
	New proposed floor area (sq. ft.)	742,039	**Total proposed floor area (sq. ft.)**	742,039	
	Maximum allowed floor area* (sq. ft.)	2,232,085 sf			
	*Calculated according to the floor area ratio for the proposed zoning district, plus transfer from resource conservation district and/or bonus for affordable units.				

							Evaluation [Staff to Complete]
Resource Conservation District (RCD) (LUMO 3.6)	**Total land area in RCD (sq. ft.)**	414,437 sf		**Sewered** ☒ **Unsewered** ☐			
		Streamside Zone		**Managed use zone**		**Upland Zone**	
	Land area (sq. ft.)	211,379 sf		96,245 sf		106,813 sf	
	Proposed use(s) **[Table 3.6.3-2]**	Greenway trail, road and utility crossing, sanitary sewer installation		Greenway trail, road and utility crossing, stormwater mitigation outfall, and recreation amenities		Greenway trail, road and utility crossing, stormwater mitigation facility, and recreation amenities	
		Proposed	**Allowed**	**Proposed**	**Allowed**	**Proposed**	**Allowed**
	ISA (sq. ft.)	6,800 sf	12,682 sf	8,750 sf	11,549 sf	11,250 sf	12,818 sf
	ISA ratio (%)	3.2%	6%	9.10%	12%	10.53%	12%
	Disturbed area (sq. ft.)	17,600	42,276 sf	35,710	38,498 sf	55,050	42,725 sf
	Disturbed area ratio (%)	8.28%	**20%**	37.10%	**40%**	51.54%	**40%**
	Floor area (sq. ft.)	0	0	0	0	0	0
	Floor area ratio (%)	0	**1%**	0	**1.9%**	0	

					Evaluation [Staff to Complete]
Steep Slopes (LUMO Sec. 5.3)	**Total steep slopes area (sq. ft.)**	40,426 sf	**Proposed disturbed area (sq. ft.)**	31,350 sf	
	Proposed disturbed area (%)	77.55%	**Maximum allowed disturbance (%)**	**25%**	

					Evaluation [Staff to Complete]
Recreation Space (LUMO 5.5)	**Proposed recreation space (sq. ft.)**	85,860 sf	**Required recreation space (sq. ft.)**	85,489 sf	
	Proposed payment ($)	0	**Payment-in-lieu calculation**	NA	

					Evaluation [Staff to Complete]
Landscape Buffers (LUMO Sec. 5.6 and Design Manual)		**Type**		**Width**	
	Direction *(North, South, East, West)*	**Proposed**	**Required**	**Proposed**	**Required**
	North	E	E	50'-100' w modif	100
	West	B	B	10	10
	SouthB	B	B	0-10 w modif	10
	Southwest	B	B	10	10
	South Weaver Dairy	D	D	30	30
	East	B	B	10	10

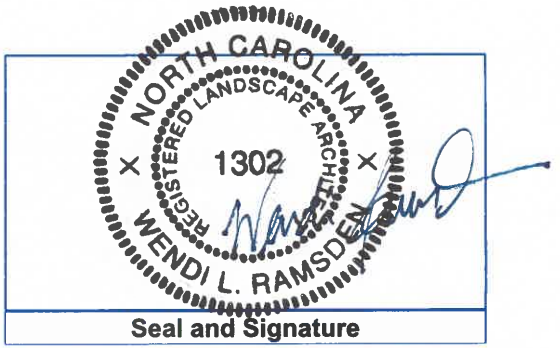
					Evaluation [Staff to Complete]
Tree Canopy Coverage (LUMO Sec. 5.7)	**Proposed tree canopy coverage (% of NLA)**	40	**Required tree canopy coverage (% of NLA)**	40	

					Evaluation [Staff to Complete]
Off-Street Vehicular Parking (LUMO Sec. 5.9)	**Existing vehicular parking spaces**	0	**Removed vehicular parking spaces**	0	
	New vehicular parking spaces	780 + townhome garages	**Total proposed vehicular parking spaces**	780 + townhome garages	
	Minimum required vehicular parking spaces	548	**Maximum allowed vehicular parking spaces**	801	
	Calculation for minimum requirement	445 studio/1 bd x 1.0 + 70 2-bd x 1.25+ 10 3-bd x 1.5 for multi-family units, townhomes will have their own garages			
	Calculation for maximum allowance	460 studio/1-bd x 1.25 + 75 2-bd x 1.75+ 20 3-bd x 2.25 + 20 4-bd x 2.5 for multi-family units, townhomes will have their own garages			

					Evaluation [Staff to Complete]
Loading Spaces (LUMO Sec. 5.9)	**Existing loading spaces**	0	**Removed loading spaces**	0	
	New loading spaces	0	**Total loading proposed spaces**	0	
	Minimum required loading spaces	0	**Calculation for minimum requirement**		

					Evaluation [Staff to Complete]
Off-Street Bicycle Parking (LUMO Sec. 5.9)	**Existing bicycle spaces**	0	**Removed bicycle spaces**	0	
	New bicycle spaces	180	**Total proposed bicycle spaces**	180	
	Minimum required bicycle spaces	178			
	Calculation for minimum requirement	1 space per 4 residential units = 710 units x .25 = 178			

Print Name	Wendi Ramsden
Date	June 5, 2025



Seal and Signature

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Climate Action Plan Worksheet

A Climate Action Plan is an integral component for Conditional Zoning Districts. The intent of this worksheet is to capture commitments made through the rezoning process to meet the Town's sustainability goals. **This is a fillable form. Please select the box for each climate action design feature that will be provided as part of this project.**

Project Name	860 Weaver Dairy Road	***Application Number [Staff to Complete]***	***CZD-24-8***
Property Address(es)	860 Weaver Dairy Road		

Energy-Efficient Building Design Features	
Commercial construction (including multifamily) will meet the New Buildings Institute's **40 Percent** Stretch Energy Standard[1]. Alternatively, commercial construction can be designed to be 40 percent better than the latest adopted version of ASHRAE 90.1 in the NC State Building Code. For the alternative option, the applicant agrees to provide supporting evidence before the Final Plan Zoning Compliance Permit can be issued.	☐
Residential construction (single-family and two-family) will meet Energy Star Certified Homes Version 3.1[2] certification requirements.	☐

❖ **Explain reasons for not providing any energy-efficient building design features identified above.**

Applicant's response	The project will design to the National Green Building Standard Silver certification.
Evaluation [Staff to Complete]	

[1] https://newbuildings.org/resource/40-stretch-energy-standard/
[2] https://www.energystar.gov/ia/partners/downloads/ES_Combined_Path_v3.1.pdf

Electric Vehicular Infrastructure	
Each ***non-residential building*** served by 10 or more on-site parking spaces will meet the following criteria: • 5 percent (rounded up) of spaces must have Level 2 electric vehicle supply equipment (EVSE) installed • 25 percent (rounded up) of total parking spaces must be EVSE-ready *EVSE-ready* means: • A parking space has one 40-amp, 208/240V branch circuit from the panel and is terminated at a receptacle or junction box. • The panel should be labeled "EVSE-Ready" or "Future EVSE" and should support any future charging stations that provide at least 6.6 kW of power.	☐
Each ***unit in a multifamily building*** (including mixed use) with on-site parking will have a minimum of 1 EVSE-capable parking space. *EVSE*-capable means • A designated parking space that is provided with continuous conduit/raceway from a panel that supports future charging stations, which provide at least 6.6 kW of power. • These spaces do not require wiring or receptacles. • For exterior surface lots, the conduit should be run underground to the parking location.	☐
Each ***single-family attached or detached unit with a garage*** will have a minimum of 1 EVSE-ready parking space. *EVSE-ready* means: • A parking space has one 40-amp, 208/240V branch circuit from the panel and is terminated at a receptacle or junction box. • The panel should be labeled "EVSE-Ready" or "Future EVSE" and should support any future charging stations that provide at least 6.6 kW of power.	☒
Designs will adhere to the U.S. Access Board's most recently updated version of the Design Recommendations for Accessible Electric Vehicle Charging Stations[3]. If the project calls for direct-current fast charging (DCFC) infrastructure, then appropriate proportional electrical and conduits should be included. Town staff review and approve all site designs for initial and future EV charging before a Zoning Compliance Permit is issued.	☐

❖ **Explain reasons for not providing any electric vehicular infrastructure not identified above. If alternative ratios are proposed, please provide justification. Please also describe how the proposed facilities will support current and future levels of electric vehicles used by residents and visitors (e.g., EV Charging Station Management Plan).**

Applicant's response	Parking spaces for multi-family will not be assigned. At final buildout of the multi-family buildings, there will be multiple EV charging stations available in the parking structure totalling coverage for a parking space for 5% of the units. The parking spaces will be available for cars to park while charging, but would need to be moved when charging is complete. The the project will also provide infrastructure to accommodate expanded EV charging station offerings as user demand grows.

[3] https://www.access-board.gov/tad/ev/

Evaluation [Staff to Complete]	

Buildings and Energy Climate Actions	
Achieves all energy-efficient building design standards for applicable development type(s) [Energy Efficient Building Design expectations above]	☐
All-electric building and site design	☒
All-electric appliances (no fossil fuel appliances)	☒
Rooftop solar (50-100 percent of available roof area)	☐
Sustainable building materials and resource use equivalent to meeting LEED standard	☐
LED lighting only for interior spaces	☒
LED lighting only for exterior spaces, including street/parking lot lighting (3000 Kelvin or lower)	☒
Meets International Dark-Sky Association's principles[4] for outdoor lighting	☒
WaterSense-rated appliances and equipment only	☐
Energy Star-rated appliances and equipment only	☒

Transportation & Land Use Climate Actions	
Achieves all EV charging station infrastructure standards for applicable development type(s) [See Electric Vehicle Infrastructure expectations above]. An EV-charging station management plan for initial and future infrastructure buildout must be provided during Final Plan Zoning Compliance Permit review.	☐
Served by Chapel Hill Transit (bus stop on-site or within ¼ mile)	☒
Supports the Town's planned bicycle/pedestrian infrastructure with improvements and connections	☒
Exceeds Town standards for on-site bicycle parking	☒
Supports environmental equity through access to greenways and parks	☒

Water, Wastewater, and Nature Resource Climate Actions	
Exceeds the Town's standard for tree canopy coverage and adds shading	☒
Exceeds the Town's standard for water feature buffer	☐
Protects existing natural habitat corridor(s)	☐
Dedicates land and new plantings to establish future habitat corridor(s)	☐

[4] https://darksky.org/resources/guides-and-how-tos/lighting-principles/

Native and drought-tolerant landscape plantings only	☐
No irrigation with potable water	☐

Resiliency Climate Actions	
Meets 100-year storm event design standard for stormwater management to address increased risk of nuisance flooding	☐
Exceeds Town standards for green infrastructure elements (trees, bioretention) to reduce extreme heat impacts	☒
Vegetative roof surface to reduce extreme heat impacts	☐
Concrete sidewalks, natural surface trails, and high-albedo coated asphalt to reduce extreme heat impacts	☒
Rooftop solar with battery storage to provide backup emergency power	☐
Shaded outdoor structures, walkways, and sitting areas to reduce extreme heat impacts	☒

❖ **Explain reasons for not providing any climate action design elements not identified above.**

Applicant's response	Level 2 EV charging stations will be provided to a quantity representing 1 parking space per 5% of the total multi-famliy units. Townhomes will have garages and will be EV- ready. There will be disturbance of wetland and stream and stream buffer areas to install utilities, roads, and greenway trails. There will not be any structures placed in these areas. The majority of plantings will be native, and constructed landscape buffers will be all native plantings. It is expected that there will be some irrigation on site in select areas. The multi-family portion of the project will offer e-bike capabilities with battery storage lockers.
Evaluation [Staff to Complete]	

Select other incentives the project will pursue.	
Duke Energy's Energy Design Assistance Program[5]	☐
Duke Energy's Electric Vehicle Incentive Programs[6]	☐
Duke Energy's Business Incentives and Rebates[7] upgrades eligible for existing structures that are part of your project)	☐
Federal 45L Tax Credit[8] for New Residential Construction (starts at $500/unit for multifamily and up to $2,500 per single-family home)	☐

❖ **Describe other incentives the project will pursue.**

Applicant's response	

[5] https://www.duke-energy.com/business/products/design-assistance
[6] https://www.duke-energy.com/energy-education/electric-vehicles/ev-initiatives
[7] https://www.duke-energy.com/business/products/energy-advisor
[8] https://www.energystar.gov/about/federal_tax_credits/federal_tax_credit_archives/tax_credits_home_builders

Evaluation [Staff to Complete]	

860 WEAVER DAIRY ROAD 5 June 2025

Conditional Zoning Application –

Response to Concept Plan Council Comments

Concept Project Scope

The concept plan was presented to the Council in October 2024 and included two multi-family buildings, a central flex space option, and a community of 120 townhomes on the east end. The plan included a parking structure for the multi-family uses, garages for the townhomes, and no large surface parking lots. It also included a greenway trail running through the project and connecting to the existing greenway at the west end, ending at Weaver Dairy Road on the east end, and extending up to a point adjacent to the Carol Woods community in the northeast corner. The plan indicated intrusion into the I-40 landscape buffer on the north side, and a spine road running through the project which would cross streams and RCD zones in completing a vehicular connection from west to east.

General comments:

Focus on buffers against existing neighbors

- *The required project buffers are 10 feet wide. The project was specifically laid out with proposed multi-family against existing multi-family, and proposed townhomes against existing townhome developments. The buffers will be planted with evergreen as well as deciduous screening and will be widened where possible. There are some locations along the southern property line where a wide electric easement precludes installation of trees and shrubs. Where possible plants will be installed between the proposed townhomes and the greenway trail/property line.*

Make flex space open and inviting to everyone

- *The non-residential space will be designed with pedestrian connections and with community green space.*

Connectivity is important

- *Specific design elements promoting connectivity:*
    - *Vehicular – there will be three points of connection for vehicles – Weaver Dairy Road at the east end, and connection to the end of Old University Station Road, and a new connection to the end of Adair Drive through the existing right of way adjacent to the project's western property line.*
    - *Pedestrian – Sidewalks will be provided throughout the project and will connect to adjacent sidewalks on Weaver Dairy Road and the sidewalk adjacent to Adair Drive. There will also be nature trails connecting to adjacent properties.*
    - *Bike/Greenway – The greenway trail will connect to the small trail parallel to Adair Drive and will extend east to both Carol Woods property at the northeast corner, and Weaver Dairy Road sidewalk at the southeast corner of the project.*

Can retail be included

- *The project is within walking distance of retail facilities. There is a possibility that retail could be included in the non-residential future phase of the project and also that retail could be incorporated into the ground floor of the multi-family residential buildings.*

Intrusion into the I-40 landscape buffer would be acceptable

- *The project will intrude into that buffer in small sections. Plantings will be installed to provide equivalent screening. Where intrusions into the I-40 landscape buffer occur, there will be a concentration of evergreen replacement plantings to provide year-round buffering and noise abatement.*

Elements the Council members supported:

- Density
- Flex space opportunity in the central portion of the project
- Greenway location in the buffers
- Addition of the non-residential uses, pop-up / ghost kitchen space.
- Intrusion into the landscape buffer against I-40
- General design direction.

Elements of concern from the Council members:

- Stormwater treatment – don't exacerbate existing problems
- Would like to see more variety of housing types
- Flex space opportunity in the central portion of the project
- Green space needs to be accessible and available for recreation

Initial review comments from Brian Peterson

Comments on 07-02-24 concept plan

1. Provide a continuous pedestrian connection across the length of the site in the form of a greenway or other trails. Tie in with the existing greenway trail that leads to Weaver Dairy Road which currently terminates at Old University Station Road.

2. Work with neighboring property owners to connect sidewalks/trails to existing developments, where possible.

3. Provide trails/pathways within preservation areas to allow these places to become amenities for the community.

4. Orient buildings to engage the street, provide stoops, porches and other architectural features that create an attractive and interesting pedestrian experience.

5. The main east/west street has been configured with shifts of alignment which enhances traffic calming and offers opportunities to create changing terminal views and other placemaking features.

6. Design the park at the western edge of the development to offer activities or features that create gathering opportunities for not only the residents of the 860 Weaver Diary Road development but for residents of neighboring residential areas as well.

7. Provide for a diversity of housing types, including the "Missing Middle", as opportunities allow.

8. In considering uses, look for ways to incorporate mixed-uses as much as possible, including small scale retail or other "retail-like" functions, to provide places of interest for those living and working in the neighboring areas.

A greenway trail is being provided as shown in the plans connecting to the existing trail west of the project and extending through the project to Carol Woods and also south to Weaver Dairy Road at the east end. Nature trails will be incorporated into the preservation areas, but paved trails will not be included.

Buildings are oriented along the street and perpendicular to the street with green spaces to provide interesting pedestrian experiences. The buildings have been pulled away from the sidewalk where possible to allow for streetside plantings between the internal sidewalks and the townhomes.

The alignment shifts in the main street have been preserved to provide better pockets of developable space and community gathering space, to minimize intrusions into environmentally sensitive areas, and also to provide traffic calming.

The park at the western entry to the project will be available to all residents.

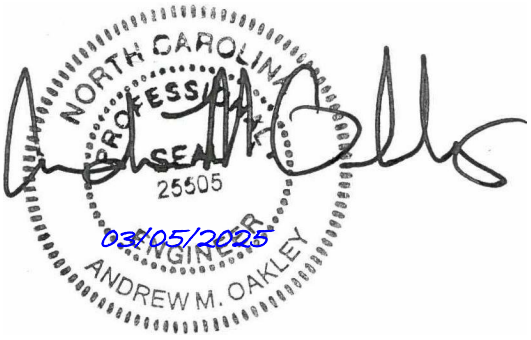
There will be various sizes of rental and for-sale units from studio up to 4-bedroom size. In this way the project will attract a diversity of residents.

The non-residential uses have not been determined but it is possible that there will be some retail uses. It is also possible that some main floor retail space will be provided in the multi-family buildings.

THOMAS & HUTTON

STORMWATER IMPACT ANALYSIS
CONDITIONAL ZONING SUBMITTAL

860 WEAVER DAIRY ROAD
CHAPEL HILL, NC



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NC BOARD OF ENGINEERS & SURVEYORS LICENSE NO. F-0871

JOB NUMBER: 32044.0000

03.05.2025

2. TABLE OF CONTENTS

3. PROJECT NARRATIVE

A. PROJECT DESCRIPTION AND SUMMARY

This residential / mixed use project will encompass 45.23 acres of multi-family and town home housing located north of Weaver Dairy Road and south of I-40 and between Chapel Hill North and Carol Woods. The project involves 425-450 apartment rental units in two 6-story apartment buildings with 700 parking spaces, all located in a parking structure behind the apartments. The project also includes 120-140 townhomes with garages to reduce surface parking.

Calculations for peak discharge, runoff volume (2-yr only), and water quality treatment (85% TSS) for all of the proposed improvements are provided. Soils on the site are mainly hydrologic soil group B with some D. The proposed site is located in the Cape Fear River Basin in the Jordan Lake Watershed.

Per the Town of Chapel Hill stormwater ordinance, the stormwater runoff rate leaving the site under post-development conditions may not exceed the stormwater runoff rate under predevelopment conditions for the 1-year, 2-year, 25-year, and 100-year storms. The additional runoff volume from the pre-development to post-development conditions for the 2-year storm must also be captured on-site. In addition, added impervious surfaces must be treated for 85% total suspended solids (TSS) removal.

B. METHODOLOGY

- The Durham County Soil Survey is used to identify the soil types located on the site.
- HydroCAD software is used to calculate pre- and post-development peak flow rates and volumes for each sub-basin. HydroCAD uses the SCS TR-20 method to develop hydrographs.
- HydroCAD software is used to calculate the composite curve number for each sub-basin. HydroCAD uses the NRCS TR-55 method for calculation composite curve numbers.

Pre- development drainage patterns are based on existing topographic information available with Survey and GIS data. Post-development drainage patterns are based on the proposed grading and development. Summary tables are included that detail pre-development and post-development peak flow rates from the proposed work, along with the percentage increase or decrease.

C. DISCUSSION OF RESULTS

Peak Flow Analysis:

For the peak discharge calculations, Q1/Q2/Q25/Q100, the site was broken into 8 drainage basins with 6 points of analysis. The post development configuration of the site redirects drainage from 5 of the basins (Basin 2A, Basin 2C, Basin 3, Basin 4, and Basin 8) into the other drainage areas, therefore decreasing the peak flow to these areas without detention.

Basin 1 receives flow from the proposed apartment building and parking deck with a discharge point at the ROW of I-40 and underground detention will be required to provide attenuation. Basin 2B receives flow from offsite which bypasses detention and receives flow from a future mid-rise structure. Basin 2B discharge at the ROW of I-40 and will require a pond to attenuate flow. Basin 5 receives flow from townhomes, associated parking and walks. Basin 5 discharges at a point on the southern property line and will require a pond to attenuate flow. Basin 6 receives flow from townhomes, associated parking and walks. Basin 6 will require a pond to attenuate flow. Basin 7 receives flow from townhomes, associated parking and walks. Basin 7 discharges into an existing storm drain in Weaver Dairy Road and will require a pond to attenuate flow.

Runoff Volume Analysis:

Per the Town of Chapel Hill Design Manual, "the post-development stormwater runoff rate leaving the site shall not exceed the pre-development (existing conditions) stormwater runoff rate leaving the site for the local 1-year, 2-year, 25-year, and 100-year storm events." In addition, "the post-development stormwater runoff volume leaving the site shall not exceed the pre-development (existing conditions) stormwater runoff volume leaving the site for the local 2-year frequency, 24-hour duration storm event." The underground detention and the wet ponds are sized to capture the increased volume to meet this requirement.

Pollutant Analysis:

The Town of Chapel Hill Design Manual states that BMP's shall be designed to remove 85% average total suspended solids from the post-development stormwater runoff. The proposed project results in an increase in impervious surface. As a result, a BMP must be installed to treat for 85% TSS removal for the additional impervious surface added.

In order to meet this requirement, a sandfilter addition is proposed to the underground detention and the ponds will be wet ponds.

D. CONCLUSIONS

Because the increase in impervious surfaces as a result of this project resulted in an increase in peak flow for the 1-year, 2-year, 25-year, and 100-year storms, and in runoff volume for the 2-year storm, detention and treatment are proposed in the form of underground detention and wet ponds to meet the requirements of the Town's stormwater ordinance. In addition, a sandfilter and wet ponds will provide an 85% TSS reduction for all of the proposed impervious areas that can be captured. Some required trail and walk areas are unable to be directed to the SCM's.

4. REFERENCE MATERIAL

BASIN 1			
	PARKING, DRIVES, WALKS	0	SF
	ROOF	0	SF
	GRASS	24,759	SF
	WOODS	342,042	SF
	POND	0	SF
	TOTAL	366,801	SF

BASIN 2A			
	PARKING, DRIVES, WALKS	0	SF
	ROOF	0	SF
	GRASS	0	SF
	WOODS	250,337	SF
	POND	0	SF
	TOTAL	250,337	SF

BASIN 2B			
	PARKING, DRIVES, WALKS	0	SF
	ROOF	0	SF
	GRASS	0	SF
	WOODS	132,113	SF
	POND	0	SF
	TOTAL	132,113	SF

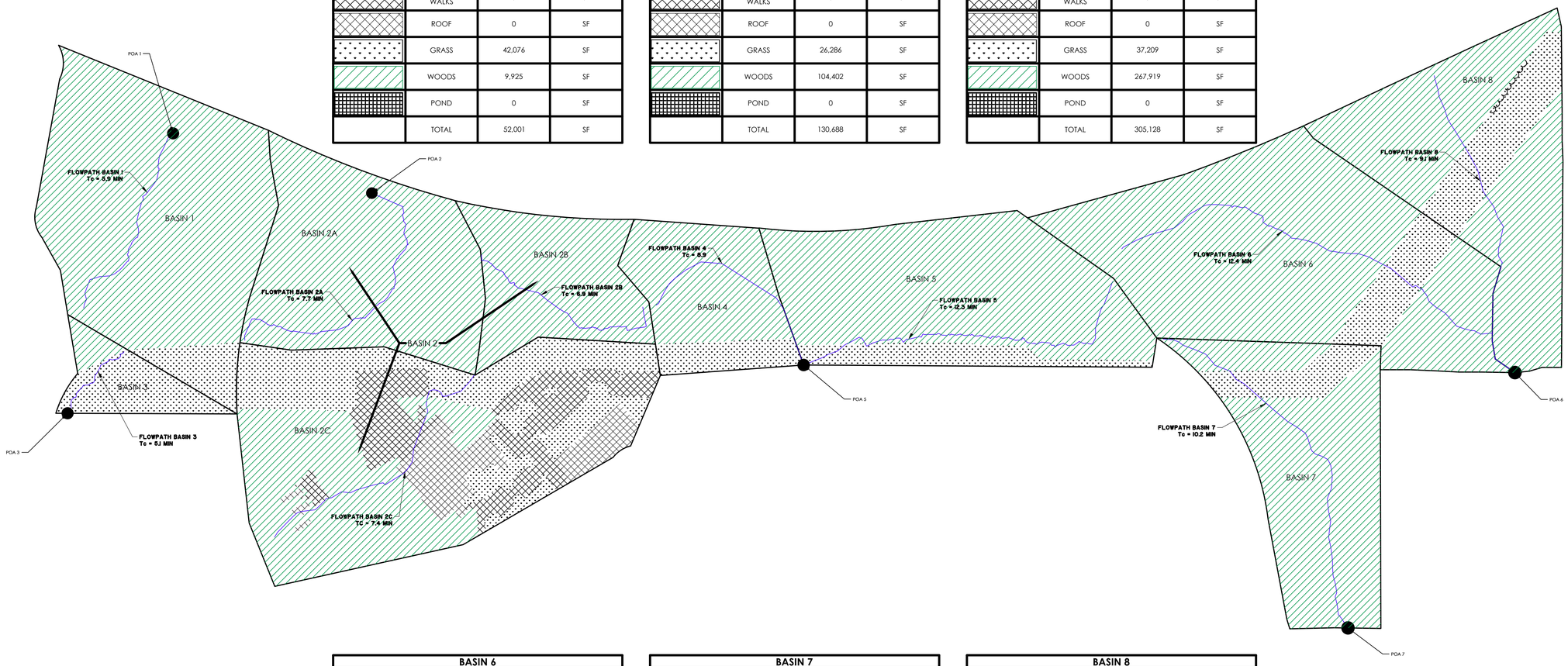
BASIN 2C			
	PARKING, DRIVES, WALKS	94,275	SF
	ROOF	55,905	SF
	GRASS	143,869	SF
	WOODS	94,275	SF
	POND	0	SF
	TOTAL	388,324	SF

BASIN 2			
	PARKING, DRIVES, WALKS	94,275	SF
	ROOF	55,905	SF
	GRASS	143,869	SF
	WOODS	476,725	SF
	POND	0	SF
	TOTAL	770,774	SF

BASIN 3			
	PARKING, DRIVES, WALKS	0	SF
	ROOF	0	SF
	GRASS	42,076	SF
	WOODS	9,925	SF
	POND	0	SF
	TOTAL	52,001	SF

BASIN 4			
	PARKING, DRIVES, WALKS	0	SF
	ROOF	0	SF
	GRASS	26,286	SF
	WOODS	104,402	SF
	POND	0	SF
	TOTAL	130,688	SF

BASIN 5			
	PARKING, DRIVES, WALKS	0	SF
	ROOF	0	SF
	GRASS	37,209	SF
	WOODS	267,919	SF
	POND	0	SF
	TOTAL	305,128	SF



BASIN 6			
	PARKING, DRIVES, WALKS	0	SF
	ROOF	0	SF
	GRASS	39,817	SF
	WOODS	401,238	SF
	POND	0	SF
	TOTAL	441,055	SF

BASIN 7			
	PARKING, DRIVES, WALKS	0	SF
	ROOF	0	SF
	GRASS	30,846	SF
	WOODS	207,447	SF
	POND	0	SF
	TOTAL	238,293	SF

BASIN 8			
	PARKING, DRIVES, WALKS	0	SF
	ROOF	0	SF
	GRASS	58,854	SF
	WOODS	217,684	SF
	POND	0	SF
	TOTAL	276,538	SF

NO.	REVISIONS	BY	DATE
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THOMAS & HUTTON
2510 Meridian Parkway • Suite 100
Durham, NC 27713 • 919.682.0368
www.thomasandhutton.com

POST DEV STUDY

####

860 WEAVER DAIRY ROAD

PROJECT LOCATION:
####
####

CLIENT/OWNER:
LAND PLANNING & ENTITLEMENTS
157 EAST FRANKLIN STREET
CHAPEL HILL, NC 27514

140 0 70 140
GRAPHIC SCALE:
1 INCH = 140 FEET

DATUM: HORIZ.: NAV 83 VERT.: NAVD 88

JOB NO:	32044.0000
DATE:	03/05/25
DRAWN:	ASL
DESIGNED:	####
REVIEWED:	AO
APPROVED:	####
SCALE:	1" = 140'

PRE

BASIN 1			
	PARKING, DRIVES, WALKS	104,903	SF
	ROOF	150,132	SF
	GRASS	72,655	SF
	WOODS	0	SF
	POND	0	SF
	TOTAL	222,892	SF

BYPASS BASIN 1			
	PARKING, DRIVES, WALKS	7,173	SF
	ROOF	0	SF
	GRASS	49,243	SF
	WOODS	124,058	SF
	POND	0	SF
	TOTAL	180,474	SF

BYPASS BASIN 2A			
	PARKING, DRIVES, WALKS	0	SF
	ROOF	0	SF
	GRASS	0	SF
	WOODS	120,581	SF
	POND	0	SF
	TOTAL	120,581	SF

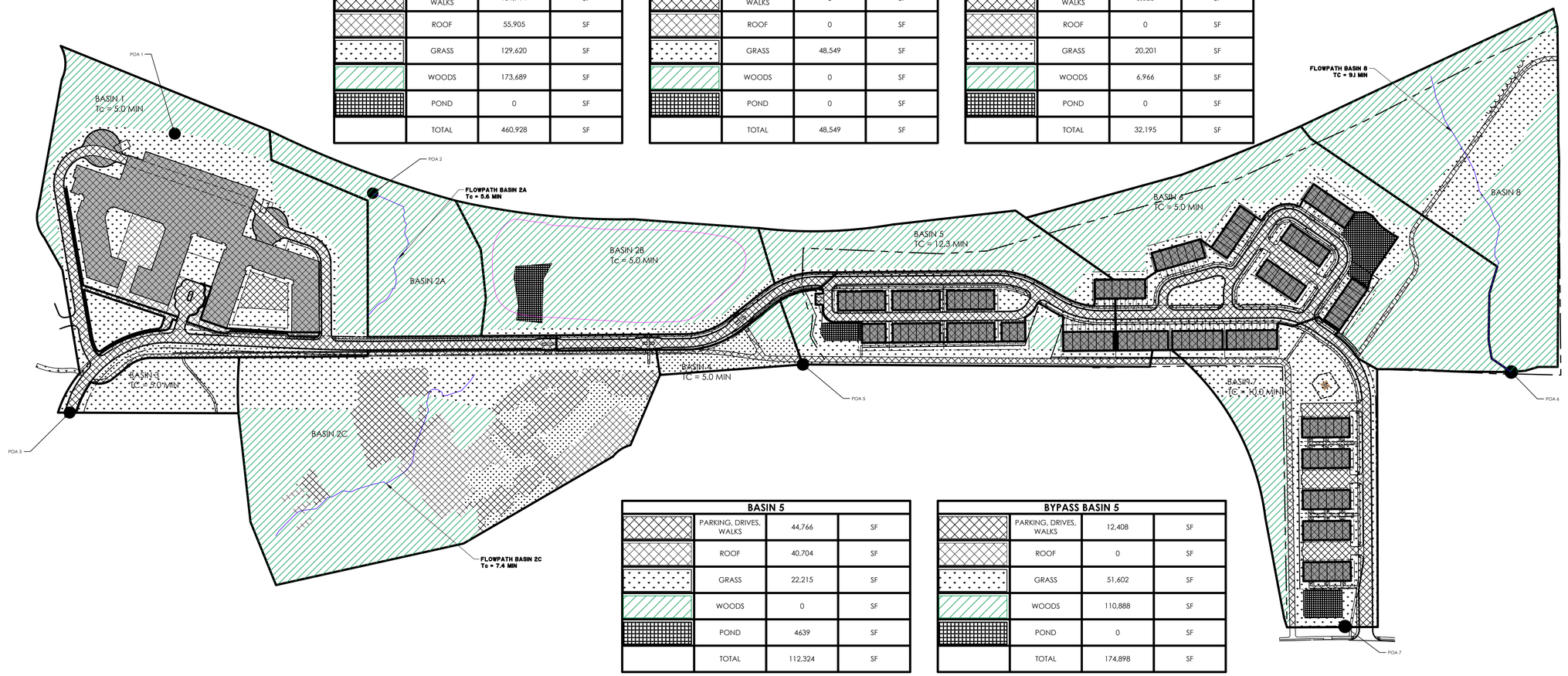
BASIN 2B			
	PARKING, DRIVES, WALKS	22,914	SF
	ROOF	95,673	SF
	GRASS	47,465	SF
	WOODS	0	SF
	POND	0	SF
	TOTAL	166,052	SF

BYPASS BASIN 2B			
	PARKING, DRIVES, WALKS	0	SF
	ROOF	0	SF
	GRASS	4,450	SF
	WOODS	54,125	SF
	POND	0	SF
	TOTAL	58,575	SF

BASIN 2C			
	PARKING, DRIVES, WALKS	101,714	SF
	ROOF	55,905	SF
	GRASS	129,620	SF
	WOODS	173,689	SF
	POND	0	SF
	TOTAL	460,928	SF

BASIN 3			
	PARKING, DRIVES, WALKS	0	SF
	ROOF	0	SF
	GRASS	48,549	SF
	WOODS	0	SF
	POND	0	SF
	TOTAL	48,549	SF

BASIN 4			
	PARKING, DRIVES, WALKS	5,028	SF
	ROOF	0	SF
	GRASS	20,201	SF
	WOODS	6,966	SF
	POND	0	SF
	TOTAL	32,195	SF



BASIN 5			
	PARKING, DRIVES, WALKS	44,766	SF
	ROOF	40,704	SF
	GRASS	22,215	SF
	WOODS	0	SF
	POND	4639	SF
	TOTAL	112,324	SF

BYPASS BASIN 5			
	PARKING, DRIVES, WALKS	12,408	SF
	ROOF	0	SF
	GRASS	51,602	SF
	WOODS	110,888	SF
	POND	0	SF
	TOTAL	174,898	SF

BASIN 6			
	PARKING, DRIVES, WALKS	54,466	SF
	ROOF	60,672	SF
	GRASS	58,385	SF
	WOODS	0	SF
	POND	15,036	SF
	TOTAL	188,559	SF

BYPASS BASIN 6			
	PARKING, DRIVES, WALKS	4,487	SF
	ROOF	0	SF
	GRASS	34,572	SF
	WOODS	215,461	SF
	POND	0	SF
	TOTAL	254,520	SF

BASIN 7			
	PARKING, DRIVES, WALKS	50,624	SF
	ROOF	28,800	SF
	GRASS	44,621	SF
	WOODS	0	SF
	POND	6,497	SF
	TOTAL	130,542	SF

BYPASS BASIN 7			
	PARKING, DRIVES, WALKS	13,422	SF
	ROOF	0	SF
	GRASS	52,486	SF
	WOODS	39,944	SF
	POND	0	SF
	TOTAL	105,852	SF

BASIN 8			
	PARKING, DRIVES, WALKS	5,416	SF
	ROOF	0	SF
	GRASS	53,439	SF
	WOODS	230,959	SF
	POND	0	SF
	TOTAL	289,814	SF

NO.	REVISIONS	BY	DATE
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SCALE:	1" = 140'

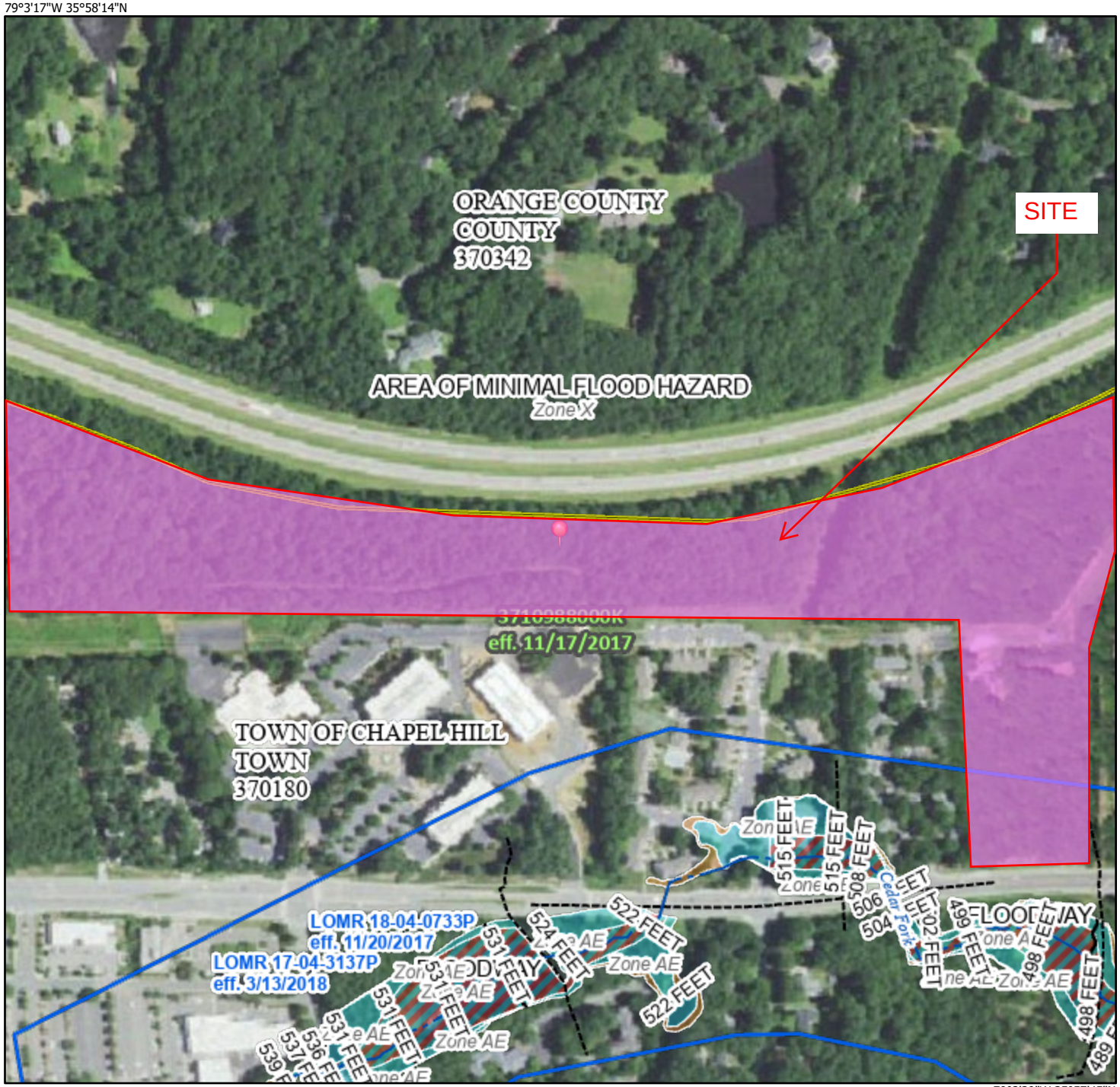
POST


SITE
WEDGEWOOD RD
SEDGEWOOD RD
FOXRIDGE RD
WHITFIELD R
550
500
40
Cedar Fork
TREMONT CIR
KINGSTON RD
WEAVER D
PO
F

National Flood Hazard Layer FIRMette

FEMA

79°3'17"W 35°58'14"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

79°2'39"W 35°57'45"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/7/2024 at 8:49 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Custom Soil Resource Report
Soil Map

Map Scale: 1:8,140 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 350 700 1400 2100

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ApB	Appling sandy loam, 2 to 6 percent slopes	9.6	4.0%
ApC	Appling sandy loam, 6 to 10 percent slopes	47.3	19.7%
CfC	Cecil fine sandy loam, 6 to 10 percent slopes	11.0	4.6%
Ch	Chewacla loam, 0 to 2 percent slopes, frequently flooded	9.7	4.0%
GeB	Georgeville silt loam, 2 to 6 percent slopes	18.0	7.5%
GeC	Georgeville silt loam, 6 to 10 percent slopes	25.7	10.7%
HeB	Helena sandy loam, 2 to 8 percent slopes	20.6	8.6%
HrB	Herndon silt loam, 2 to 6 percent slopes	23.7	9.9%
HrC	Herndon silt loam, 6 to 10 percent slopes	44.5	18.6%
Lg	Lignum silt loam, 0 to 3 percent slopes	8.0	3.3%
TaD	Tarrus silt loam, 8 to 15 percent slopes	15.9	6.6%
W	Water	1.1	0.4%
WmD	Wedowee sandy loam, 8 to 15 percent slopes	1.3	0.6%
WmE	Wedowee sandy loam, 15 to 25 percent slopes	3.6	1.5%
Totals for Area of Interest		**240.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without

5. PEAK FLOW ANALYSIS – HYDROLOGY AND HYDRAULICS MODELING

THOMAS & HUTTON

Project Name: 860 Weaver Dairy | By: ASL | Revised: AO
Project Number: 32044.0000 | Date: 3/5/2025 | Date: 3/5/2025

Peak Flow Analysis Summary

Drainage Basin 1	Tc (min)	Area (ac)	CN	Q1 (cfs)	Q2 (cfs)	Q25 (cfs)	Q100 (cfs)
Pre-Dev Basin 1	5.9	8.42	79	17.85	24.78	55.13	73.83
Post Basin 1 to SCM 1	5	7.52	89	23.92	30.61	56.50	72.49
Post Dev Bypass 1	5	4.14	60	2.02	4.04	15.11	23.00
Post 1 + Bypass 1				25.94	34.65	71.61	95.49
Post-Dev Basin 1 with Treatment (POA 1)				4.77	7.16	42.15	56.96
Percent difference between Pre-Development and Post Development with Treatment				-73%	-71%	-24%	-23%

Drainage Basin 2A	Tc (min)	Area (ac)	CN	Q1 (cfs)	Q2 (cfs)	Q25 (cfs)	Q100 (cfs)
Pre-Dev Basin 2A	7.7	5.75	79	11.86	16.53	37.06	49.72
Post-Dev Bypass 2A	5.6	2.77	79	5.86	8.13	18.08	24.21
Percent difference between Pre-Development and Post Development without Treatment				-51%	-51%	-51%	-51%

Drainage Basin 2B	Tc (min)	Area (ac)	CN	Q1 (cfs)	Q2 (cfs)	Q25 (cfs)	Q100 (cfs)
Pre-Dev Basin 2B	6.9	3.03	60	1.36	2.85	11.03	16.86
Post Basin 2B to SCM 2	5	3.81	86	10.86	14.21	28.14	35.51
Post Dev Bypass 2B	5	1.34	54	0.18	0.65	3.68	5.99
Post 2B + Bypass 2B				11.04	14.86	31.82	41.50
Post-Dev Basin 2B with Treatment (POA 2)				1.03	1.67	8.72	16.28
Percent difference between Pre-Development and Post Development with Treatment				-24%	-41%	-21%	-3%

Drainage Basin 2C	Tc (min)	Area (ac)	CN	Q1 (cfs)	Q2 (cfs)	Q25 (cfs)	Q100 (cfs)
Pre-Dev Basin 2C	7.4	10.74	86	30.55	40.05	79.55	103.18
Post-Dev Bypass 2C	7.4	10.58	86	30.10	39.47	78.39	101.68
Percent difference between Pre-Development and Post Development without Treatment				-1%	-1%	-1%	-1%

Drainage Basin 3	Tc (min)	Area (ac)	CN	Q1 (cfs)	Q2 (cfs)	Q25 (cfs)	Q100 (cfs)
Pre-Dev Basin 3	5.1	1.19	78	2.39	3.35	7.58	10.20
Post-Dev Bypass 3	5	1.11	79	2.34	3.25	7.22	9.67
Percent difference between Pre-Development and Post Development without Treatment				-2%	-3%	-5%	-5%

NOTE FOR BASIN 2B:

IN ORDER TO GENERATE A MORE REALISTIC CN FOR THE FUTURE DEVELOPMENT OF BASIN 2B, 70% OF THE INITIAL POST DEV. BYPASS AREA WAS ASSUMED TO BE DEVELOPED. WITHIN THE 70% OF DEVELOPED AREA, 70% WAS ASSUMED TO BE IMPERVIOUS AND 30% TO BE PERVIOUS AND ADDED TO THE ROAD AND GRASS AREAS DRAINING TO SCM 2.

FOR THE REMAINING 30 % IMPERVIOUS, AROUND 92% WAS ASSUMED TO BE WOODED AND 8% TO BE GRASS (BASED ON THE INITIAL GRASS AND WOODS RATIO IN THE POST DEV. BYPASS 2B)

Drainage Basin 4	**Tc** *(min)*	**Area** *(ac)*	**CN**	**Q1** *(cfs)*	**Q2** *(cfs)*	**Q25** *(cfs)*	**Q100** *(cfs)*
Pre-Dev Basin 4	8.9	2.99	59	0.97	2.26	9.71	15.12
Post-Dev Bypass 4	5	0.74	67	0.74	1.20	3.48	5.01
Percent difference between Pre-Development and Post Development without Treatment				-24%	-47%	-64%	-67%

Drainage Basin 5	**Tc** *(min)*	**Area** *(ac)*	**CN**	**Q1** *(cfs)*	**Q2** *(cfs)*	**Q25** *(cfs)*	**Q100** *(cfs)*
Pre-Dev Basin 5	12.3	7.00	59	2.07	4.56	19.31	30.39
Post Basin 5 to SCM 3	5	2.58	88	7.91	10.20	19.09	24.59
Post Dev Bypass 5	12.3	4.02	59	1.19	2.61	11.07	17.42
Post 5 + Bypass 5				9.10	12.81	30.16	42.01
Post-Dev Basin 5 with Treatment (POA 5)				1.80	3.30	19.04	30.22
Percent difference between Pre-Development and Post Development with Treatment				-13%	-28%	-1%	-1%

Drainage Basin 6	**Tc** *(min)*	**Area** *(ac)*	**CN**	**Q1** *(cfs)*	**Q2** *(cfs)*	**Q25** *(cfs)*	**Q100** *(cfs)*
Pre-Dev Basin 6	12.4	12.76	60	3.49	7.29	29.18	45.38
Post Basin 6 to SCM 4	5	4.33	87	12.81	16.63	31.55	40.81
Post Dev Bypass 6	5	5.84	61	3.25	6.21	22.20	33.49
Post 6 + Bypass 6				16.06	22.84	53.75	74.30
Post-Dev Basin 6 with Treatment (POA 6)				3.25	6.30	24.77	43.63
Percent difference between Pre-Development and Post Development with Treatment				-7%	-14%	-15%	-4%

Drainage Basin 7	**Tc** *(min)*	**Area** *(ac)*	**CN**	**Q1** *(cfs)*	**Q2** *(cfs)*	**Q25** *(cfs)*	**Q100** *(cfs)*
Pre-Dev Basin 7	10.2	5.47	57	1.16	2.89	15.08	24.16
Post Basin 7 to SCM 5	5	3.00	81	6.92	9.42	20.23	26.83
Post Dev Bypass 7	10	2.43	57	0.52	1.29	6.77	10.83
Post 7 + Bypass 7				7.44	10.71	27.00	37.66
Post-Dev Basin 7 with Treatment (POA 7)				0.96	1.80	15.03	23.82
Percent difference between Pre-Development and Post Development with Treatment				-17%	-38%	0%	-1%

Drainage Basin 8	**Tc** *(min)*	**Area** *(ac)*	**CN**	**Q1** *(cfs)*	**Q2** *(cfs)*	**Q25** *(cfs)*	**Q100** *(cfs)*
Pre-Development	9.1	6.65	62	3.40	6.67	24.39	36.89
Post-Development Basin H	9.1	6.65	62	3.40	6.67	24.39	36.89
Percent difference between Pre-Development and Post Development with Treatment				0%	0%	0%	0%

6. RUNOFF VOLUME ANALYSIS

THOMAS & HUTTON

Project Name: 860 Weaver Dairy | By: AMO | Revised:
Project Number: 32044.0000 | Date: 11/8/2024 | Date:

Runoff Volume Analysis Summary Basin 1

	V2 *af*	V2 *(cf)*
Pre-Development Basin A	1.276	55,583
Pre-Development Runoff Volume		**55,583**
Post-Development Basin A area to Sandfilter	1.664	72,484
Post-Development Basin A area to Bypass	0.233	10,149
Post-Development Basin A		**82,633**
Post Development Runoff Volume		**82,633**
Sandfilter 2-year Volume		**33,134**
		11,323
Post Development Runoff Volume with Treatment		**49,499**
Percent difference between Pre-Development and Post Development with Treatment		-11%

Runoff Volume Analysis Summary Basin 2A

	V2 *af*	V2 *(cf)*
Pre-Development Basin 2A	0.871	37,941
Pre-Development Runoff Volume		**37,941**
Post-Development Basin 2A	0.419	18,252
Post Development Runoff Volume		**18,252**
Percent difference between Pre-Development and Post		-52%

Runoff Volume Analysis Summary Basin 2B

	V2 *af*	V2 *(cf)*
Pre-Development Basin 2B	0.171	7,449
Pre-Development Runoff Volume	**0.171**	**7,449**
Post-Development Basin 2B area to SCM 2	0.757	32,975
Post-Development Basin 2B area to Bypass	0.047	2,047
Post-Development Basin 2B		**35,022**
Post Development Runoff Volume		**35,022**
Wet Pond Volume		**49,143**
Post Development Runoff Volume with Treatment		**-14,121**
Percent difference between Pre-Development and Post		-290%

Runoff Volume Analysis Summary Basin 2C

	V2 *af*	V2 *(cf)*
Pre-Development Basin 2C	2.133	92,913
Pre-Development Runoff Volume		**92,913**
Post-Development Basin 2C	2.102	91,563
Post Development Runoff Volume		**91,563**
Percent difference between Pre-Development and Post		-1%

Runoff Volume Analysis Summary Basin 3

	V2 *af*	**V2** *(cf)*
Pre-Development Basin 3	0.174	7,579
Pre-Development Runoff Volume		**7,579**
Post-Development Basin 3	0.169	7,362
Post Development Runoff Volume		**7,362**
Percent difference between Pre-Development and Post		-3%

Runoff Volume Analysis Summary Basin 4

	V2 *af*	**V2** *(cf)*
Pre-Development Basin 4	0.157	6,839
Pre-Development Runoff Volume		**6,839**
Post-Development Basin 4	0.064	2,788
Post Development Runoff Volume		**2,788**
Percent difference between Pre-Development and Post		-59%

Runoff Volume Analysis Summary Basin 5

	V2 *af*	V2 *(cf)*
Pre-Development Basin 5	0.368	16,030
Pre-Development Runoff Volume	**0.368**	**16,030**
Post-Development Basin 5 area to SCM 3	0.551	24,002
Post-Development Basin 5 area to Bypass	0.211	9,191
Post-Development Basin 5		**33,193**
Post Development Runoff Volume		**33,193**
Wet Pond Volume		**27,369**
Post Development Runoff Volume with Treatment		**5,824**
Percent difference between Pre-Development and Post		-64%

Runoff Volume Analysis Summary Basin 6

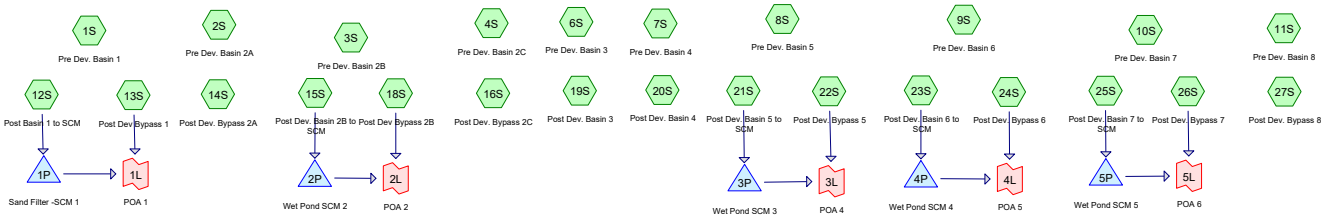
	V2 *af*	V2 *(cf)*
Pre-Development Basin 6	0.570	24,829
Pre-Development Runoff Volume	**0.570**	**24,829**
Post-Development Basin 6 area to SCM 4	0.892	38,856
Post-Development Basin 6 area to Bypass	0.352	15,333
Post-Development Basin 6		**54,189**
Post Development Runoff Volume		**54,189**
Wet Pond Volume		**29,958**
Post Development Runoff Volume with Treatment		**24,231**
Percent difference between Pre-Development and Post		-2%

Runoff Volume Analysis Summary Basin 7

	V2 *af*	V2 *(cf)*
Pre-Development Basin 7	0.247	10,759
Pre-Development Runoff Volume	**0.247**	**10,759**
Post-Development Basin 7 area to SCM 5	0.492	21,432
Post-Development Basin 7 area to Bypass	0.110	4,792
Post-Development Basin 7		**26,223**
Post Development Runoff Volume		**26,223**
Wet Pond Volume		**24,189**
Post Development Runoff Volume with Treatment		**2,034**
Percent difference between Pre-Development and Post		-81%

Runoff Volume Analysis Summary Basin 8

	V2 *af*	V2 *(cf)*
Pre-Development Basin 4	0.428	18,644
Pre-Development Runoff Volume		**18,644**
Post-Development Basin 4	0.428	18,644
Post Development Runoff Volume		**18,644**
Percent difference between Pre-Development and Post		0%



Subcat Reach Pond Link

Routing Diagram for 32044.0000 - CZ

Prepared by Thomas & Hutton, Printed 3/4/2025

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-yr	Type II 24-hr		Default	24.00	1	3.16	2
2	2-yr	Type II 24-hr		Default	24.00	1	3.82	2
3	25-yr	Type II 24-hr		Default	24.00	1	6.53	2
4	100-yr	Type II 24-hr		Default	24.00	1	8.16	2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.454	69	50-75% Grass cover, Fair, HSG B (11S, 27S)
2.080	79	50-75% Grass cover, Fair, HSG C (6S, 19S)
2.598	61	>75% Grass cover, Good, HSG B (20S, 23S, 24S)
4.316	56	Brush, Fair, HSG B (7S, 9S, 12S, 13S)
5.029	48	Brush, Good, HSG B (8S, 15S, 18S, 21S, 22S, 25S, 26S)
0.568	73	Brush, Good, HSG D (1S)
0.708	69	Pasture/grassland/range, Fair, HSG B (10S)
2.408	98	Paved parking, HSG A (12S)
5.191	98	Paved parking, HSG B (11S, 13S, 15S, 20S, 21S, 22S, 23S, 24S, 25S, 26S, 27S)
4.499	98	Paved parking, HSG D (4S, 16S)
8.631	98	Roofs, HSG B (12S, 15S, 21S, 23S, 25S)
2.567	98	Roofs, HSG D (4S, 16S)
0.601	98	Water Surface, 0% imp, HSG B (21S, 23S, 25S)
41.888	60	Woods, Fair, HSG B (3S, 7S, 8S, 9S, 11S, 13S, 20S, 22S, 24S, 27S)
0.228	73	Woods, Fair, HSG C (6S)
24.342	79	Woods, Fair, HSG D (1S, 2S, 4S, 14S, 16S)
6.922	55	Woods, Good, HSG B (10S, 18S, 26S)
6.278	82	Woods/grass comb., Fair, HSG D (4S, 16S)
0.941	58	Woods/grass comb., Good, HSG B (15S)
122.250	**72**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
2.408	HSG A	12S
79.279	HSG B	3S, 7S, 8S, 9S, 10S, 11S, 12S, 13S, 15S, 18S, 20S, 21S, 22S, 23S, 24S, 25S, 26S, 27S
2.308	HSG C	6S, 19S
38.255	HSG D	1S, 2S, 4S, 14S, 16S
0.000	Other	
122.250		**TOTAL AREA**

Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	1P	524.00	523.00	85.0	0.0118	0.011	0.0	36.0	0.0	
2	2P	526.00	525.55	45.0	0.0100	0.010	0.0	36.0	0.0	
3	3P	534.00	533.56	44.0	0.0100	0.013	0.0	30.0	0.0	
4	4P	523.00	521.50	45.0	0.0333	0.011	0.0	36.0	0.0	
5	5P	513.00	512.00	79.0	0.0127	0.013	0.0	36.0	0.0	

Time span=1.00-200.00 hrs, dt=0.10 hrs, 1991 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Pre Dev. Basin 1 Runoff Area=366,801 sf 0.00% Impervious Runoff Depth=1.31"
Flow Length=560' Slope=0.0630 '/' Tc=5.9 min CN=79 Runoff=17.85 cfs 0.917 af

Subcatchment2S: Pre Dev. Basin 2A Runoff Area=250,337 sf 0.00% Impervious Runoff Depth=1.31"
Flow Length=803' Slope=0.0650 '/' Tc=7.7 min CN=79 Runoff=11.86 cfs 0.626 af

Subcatchment3S: Pre Dev. Basin 2B Runoff Area=132,113 sf 0.00% Impervious Runoff Depth=0.39"
Flow Length=577' Slope=0.0451 '/' Tc=6.9 min CN=60 Runoff=1.36 cfs 0.099 af

Subcatchment4S: Pre Dev. Basin 2C Runoff Area=467,738 sf 32.11% Impervious Runoff Depth=1.80"
Flow Length=753' Slope=0.0633 '/' Tc=7.4 min CN=86 Runoff=30.55 cfs 1.611 af

Subcatchment6S: Pre Dev. Basin 3 Runoff Area=52,001 sf 0.00% Impervious Runoff Depth=1.24"
Flow Length=243' Slope=0.0170 '/' Tc=5.1 min CN=78 Runoff=2.39 cfs 0.124 af

Subcatchment7S: Pre Dev. Basin 4 Runoff Area=130,388 sf 0.00% Impervious Runoff Depth=0.36"
Flow Length=561' Slope=0.0221 '/' Tc=8.9 min CN=59 Runoff=0.97 cfs 0.090 af

Subcatchment8S: Pre Dev. Basin 5 Runoff Area=305,128 sf 0.00% Impervious Runoff Depth=0.36"
Flow Length=998' Slope=0.0301 '/' Tc=12.3 min CN=59 Runoff=2.07 cfs 0.210 af

Subcatchment9S: Pre Dev. Basin 6 Runoff Area=441,055 sf 0.00% Impervious Runoff Depth=0.39"
Flow Length=1,222' Slope=0.0441 '/' Tc=12.4 min CN=60 Runoff=3.49 cfs 0.331 af

Subcatchment10S: Pre Dev. Basin 7 Runoff Area=238,293 sf 0.00% Impervious Runoff Depth=0.30"
Flow Length=977' Slope=0.0468 '/' Tc=10.2 min CN=57 Runoff=1.16 cfs 0.135 af

Subcatchment11S: Pre Dev. Basin 8 Runoff Area=289,814 sf 1.87% Impervious Runoff Depth=0.46"
Flow Length=826' Slope=0.0447 '/' Tc=9.1 min CN=62 Runoff=3.40 cfs 0.257 af

Subcatchment12S: Post Basin 1 to SCM Runoff Area=327,690 sf 77.83% Impervious Runoff Depth=2.05"
Tc=5.0 min CN=89 Runoff=23.92 cfs 1.282 af

Subcatchment13S: Post Dev Bypass 1 Runoff Area=180,474 sf 3.97% Impervious Runoff Depth=0.39"
Tc=5.0 min CN=60 Runoff=2.02 cfs 0.136 af

Subcatchment14S: Post Dev. Bypass 2A Runoff Area=120,581 sf 0.00% Impervious Runoff Depth=1.31"
Flow Length=421' Slope=0.0411 '/' Tc=5.6 min CN=79 Runoff=5.86 cfs 0.301 af

Subcatchment15S: Post Dev. Basin 2B Runoff Area=166,052 sf 71.42% Impervious Runoff Depth=1.80"
Tc=5.0 min CN=86 Runoff=10.86 cfs 0.572 af

Subcatchment16S: Post Dev. Bypass 2C Runoff Area=460,928 sf 34.20% Impervious Runoff Depth=1.80"
Flow Length=753' Slope=0.0633 '/' Tc=7.4 min CN=86 Runoff=30.10 cfs 1.588 af

Subcatchment18S: Post Dev Bypass 2B Runoff Area=58,575 sf 0.00% Impervious Runoff Depth=0.21"
Tc=5.0 min CN=54 Runoff=0.18 cfs 0.024 af

Subcatchment19S: Post Dev. Basin 3 Runoff Area=48,549 sf 0.00% Impervious Runoff Depth=1.31"
Tc=5.0 min CN=79 Runoff=2.34 cfs 0.121 af

Subcatchment20S: Post Dev. Basin 4 Runoff Area=32,195 sf 15.62% Impervious Runoff Depth=0.67"
Tc=5.0 min CN=67 Runoff=0.74 cfs 0.041 af

Subcatchment21S: Post Dev. Basin 5 to Runoff Area=112,324 sf 76.09% Impervious Runoff Depth=1.96"
Tc=5.0 min CN=88 Runoff=7.91 cfs 0.421 af

Subcatchment22S: Post Dev. Bypass 5 Runoff Area=174,898 sf 7.09% Impervious Runoff Depth=0.36"
Tc=12.3 min CN=59 Runoff=1.19 cfs 0.120 af

Subcatchment23S: Post Dev. Basin 6 to Runoff Area=188,559 sf 61.06% Impervious Runoff Depth=1.88"
Tc=5.0 min CN=87 Runoff=12.81 cfs 0.678 af

Subcatchment24S: Post Dev. Bypass 6 Runoff Area=254,520 sf 1.76% Impervious Runoff Depth=0.43"
Tc=5.0 min CN=61 Runoff=3.25 cfs 0.208 af

Subcatchment25S: Post Dev. Basin 7 to Runoff Area=130,542 sf 60.84% Impervious Runoff Depth=1.44"
Tc=5.0 min CN=81 Runoff=6.92 cfs 0.359 af

Subcatchment26S: Post Dev. Bypass 7 Runoff Area=105,852 sf 12.68% Impervious Runoff Depth=0.30"
Tc=10.0 min CN=57 Runoff=0.52 cfs 0.060 af

Subcatchment27S: Post Dev. Bypass 8 Runoff Area=289,814 sf 1.87% Impervious Runoff Depth=0.46"
Flow Length=826' Slope=0.0447 '/' Tc=9.1 min CN=62 Runoff=3.40 cfs 0.257 af

Pond 1P: Sand Filter -SCM 1 Peak Elev=527.67' Storage=25,039 cf Inflow=23.92 cfs 1.282 af
Outflow=3.07 cfs 1.282 af

Pond 2P: Wet Pond SCM 2 Peak Elev=527.04' Storage=44,570 cf Inflow=10.86 cfs 0.572 af
Outflow=0.97 cfs 0.572 af

Pond 3P: Wet Pond SCM 3 Peak Elev=535.62' Storage=24,226 cf Inflow=7.91 cfs 0.421 af
Outflow=0.64 cfs 0.421 af

Pond 4P: Wet Pond SCM 4 Peak Elev=524.24' Storage=22,875 cf Inflow=12.81 cfs 0.678 af
Outflow=0.17 cfs 0.353 af

Pond 5P: Wet Pond SCM 5 Peak Elev=514.44' Storage=20,772 cf Inflow=6.92 cfs 0.359 af
Outflow=0.47 cfs 0.359 af

Link 1L: POA 1 Inflow=4.77 cfs 1.418 af
Primary=4.77 cfs 1.418 af

Link 2L: POA 2 Inflow=1.03 cfs 0.596 af
Primary=1.03 cfs 0.596 af

Link 3L: POA 4 Inflow=1.80 cfs 0.542 af
Primary=1.80 cfs 0.542 af

Link 4L: POA 5 Inflow=3.25 cfs 0.561 af
Primary=3.25 cfs 0.561 af

Link 5L: POA 6 Inflow=0.96 cfs 0.419 af
Primary=0.96 cfs 0.419 af

Total Runoff Area = 122.250 ac Runoff Volume = 10.569 af Average Runoff Depth = 1.04"
80.94% Pervious = 98.954 ac 19.06% Impervious = 23.297 ac

Summary for Subcatchment 1S: Pre Dev. Basin 1

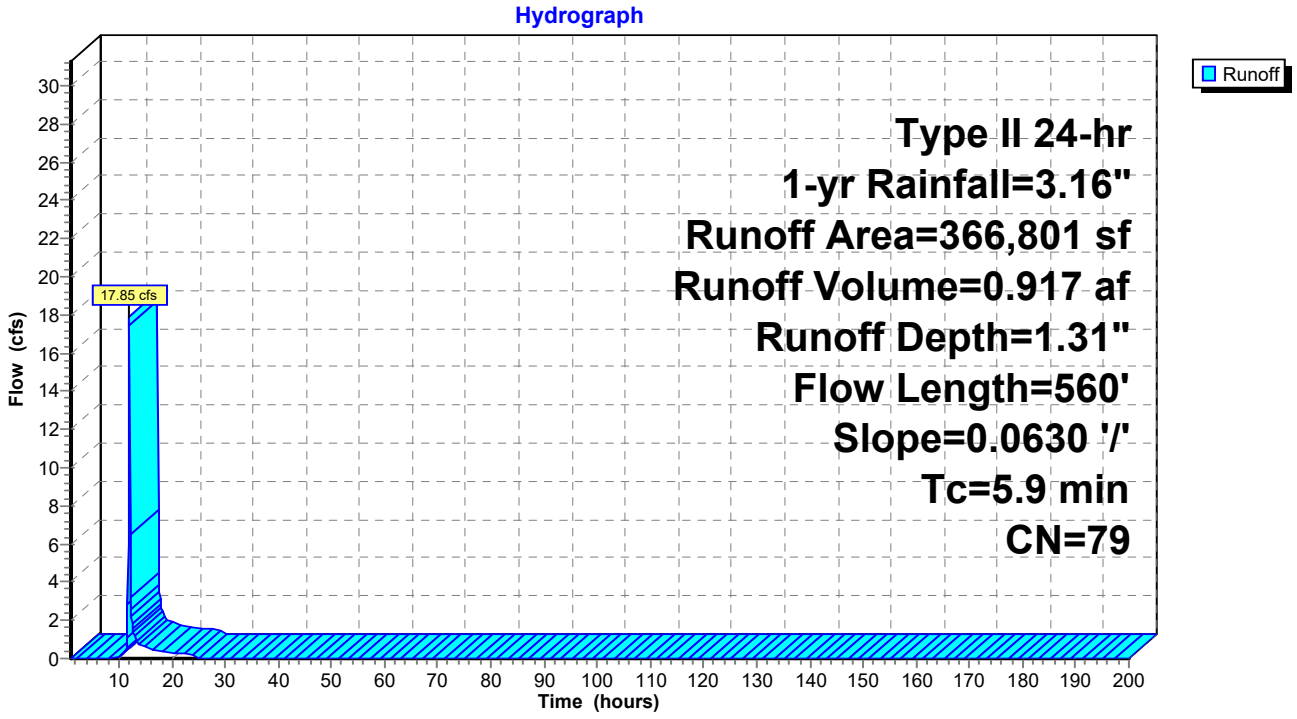
Runoff = 17.85 cfs @ 11.98 hrs, Volume= 0.917 af, Depth= 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
342,042	79	Woods, Fair, HSG D
24,759	73	Brush, Good, HSG D
366,801	79	Weighted Average
366,801		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	560	0.0630	1.58		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 1S: Pre Dev. Basin 1



Summary for Subcatchment 2S: Pre Dev. Basin 2A

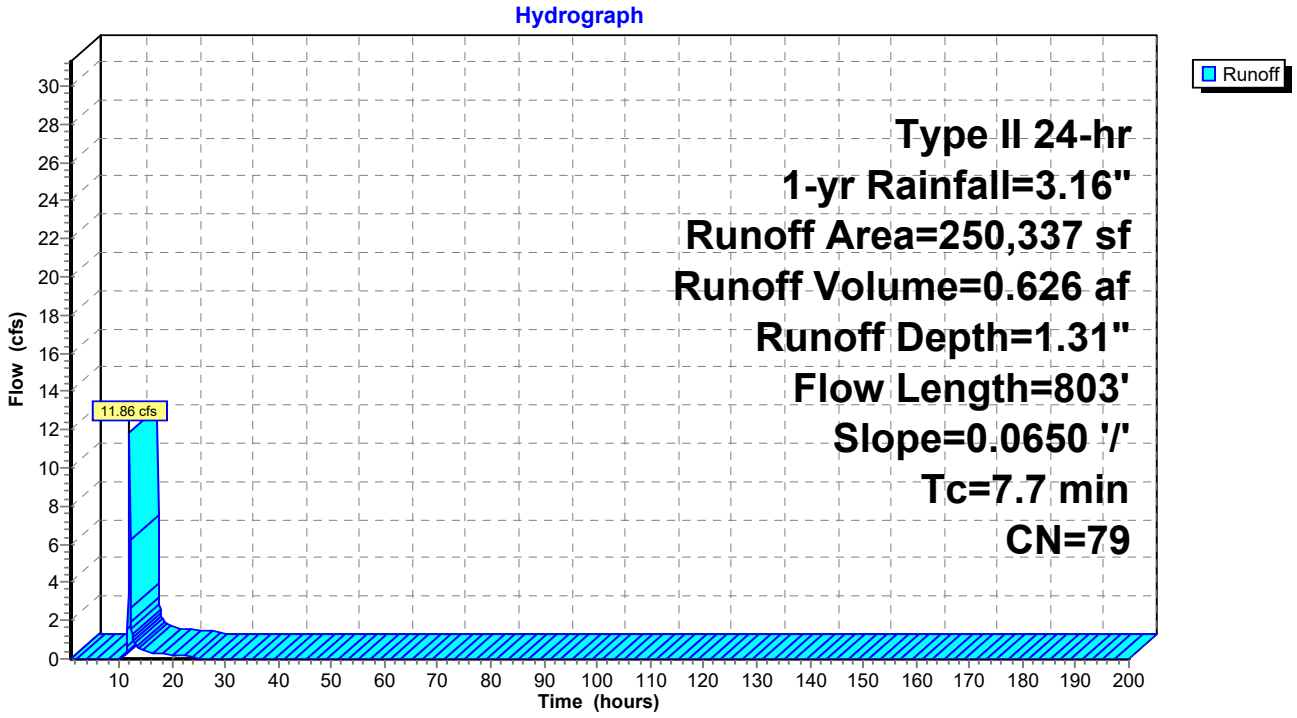
Runoff = 11.86 cfs @ 11.99 hrs, Volume= 0.626 af, Depth= 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
250,337	79	Woods, Fair, HSG D
250,337		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	803	0.0650	1.74		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 2S: Pre Dev. Basin 2A



Summary for Subcatchment 3S: Pre Dev. Basin 2B

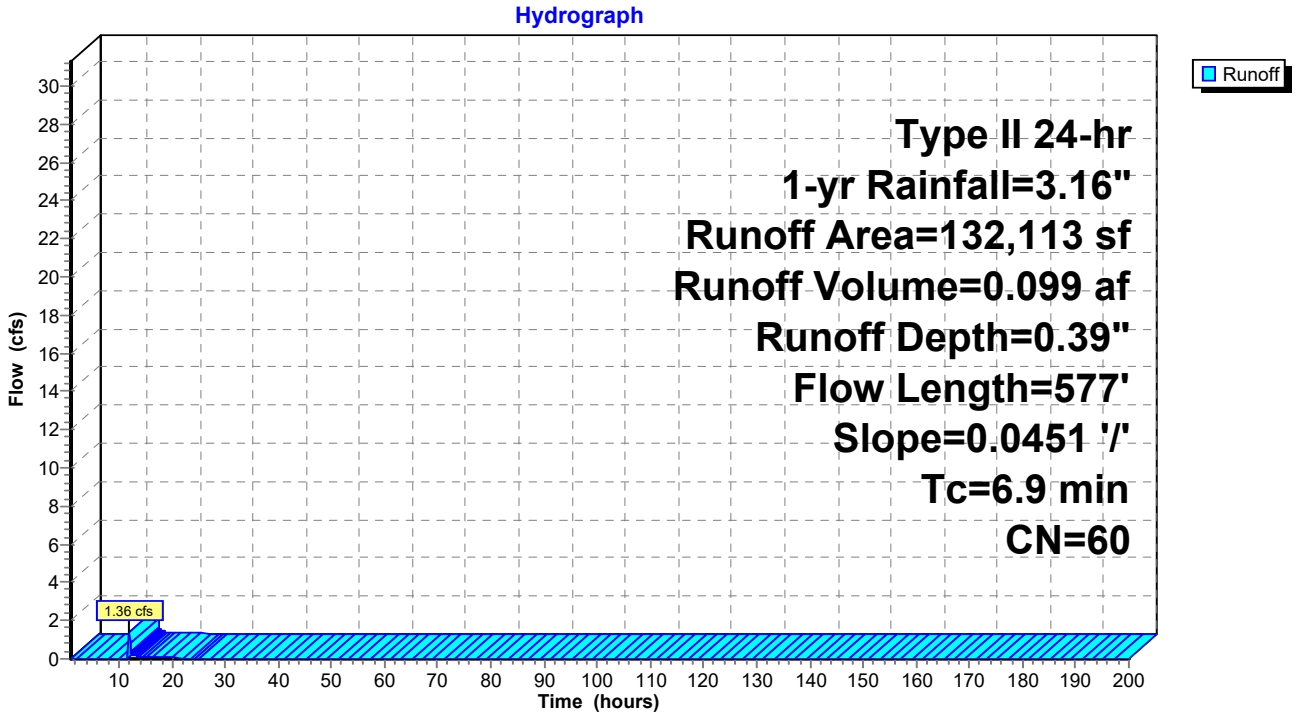
Runoff = 1.36 cfs @ 12.01 hrs, Volume= 0.099 af, Depth= 0.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
132,113	60	Woods, Fair, HSG B
132,113		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	577	0.0451	1.40		**Kirpich Method, Estimated Tc** General overland flow k= 2.00

Subcatchment 3S: Pre Dev. Basin 2B



Summary for Subcatchment 4S: Pre Dev. Basin 2C

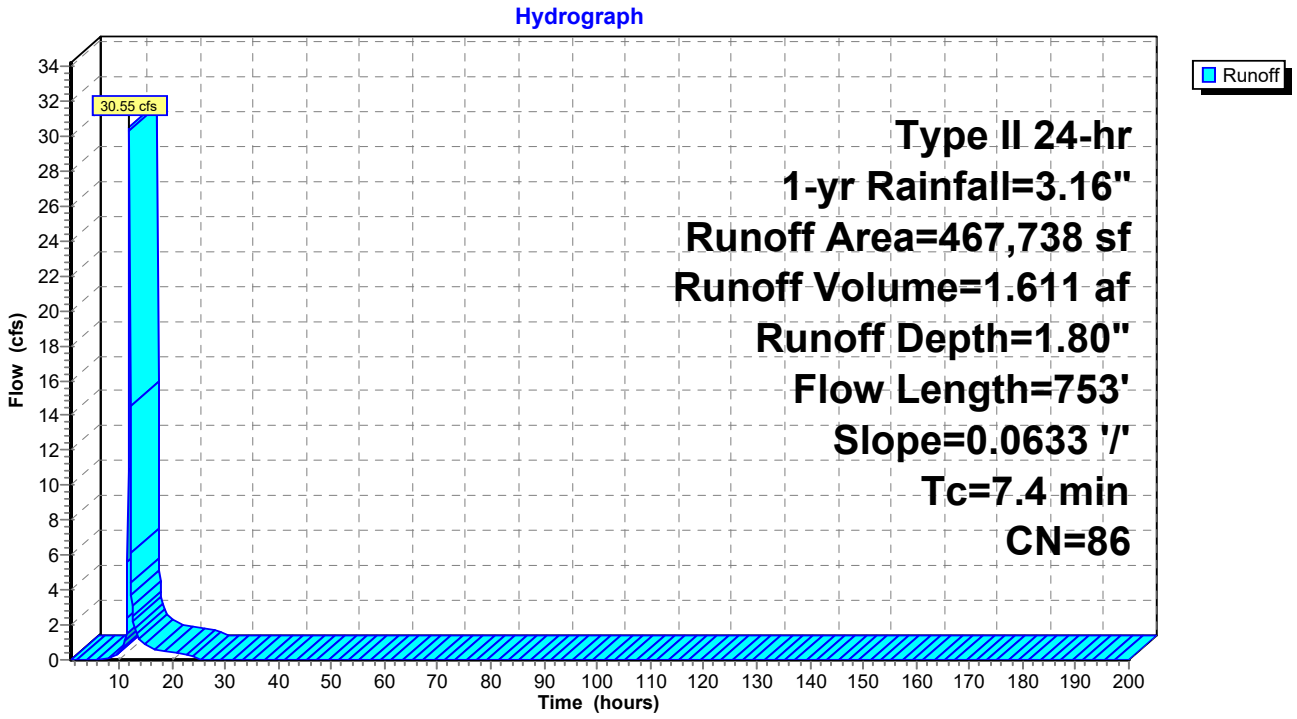
Runoff = 30.55 cfs @ 11.99 hrs, Volume= 1.611 af, Depth= 1.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
173,689	79	Woods, Fair, HSG D
94,275	98	Paved parking, HSG D
143,869	82	Woods/grass comb., Fair, HSG D
55,905	98	Roofs, HSG D
467,738	86	Weighted Average
317,558		67.89% Pervious Area
150,180		32.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	753	0.0633	1.69		**Kirpich Method, Estimated Tc** General overland flow k= 2.00

Subcatchment 4S: Pre Dev. Basin 2C



Summary for Subcatchment 6S: Pre Dev. Basin 3

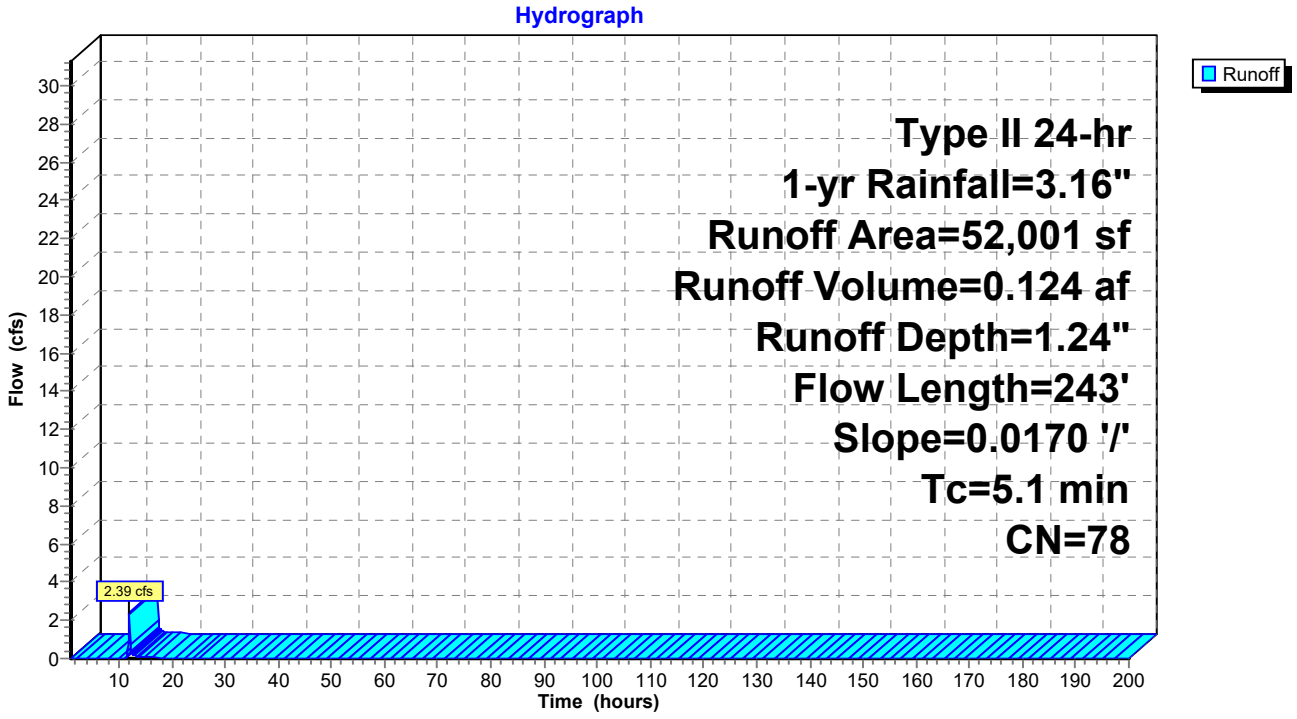
Runoff = 2.39 cfs @ 11.97 hrs, Volume= 0.124 af, Depth= 1.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
9,925	73	Woods, Fair, HSG C
42,076	79	50-75% Grass cover, Fair, HSG C
52,001	78	Weighted Average
52,001		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.1	243	0.0170	0.79		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 6S: Pre Dev. Basin 3



Summary for Subcatchment 7S: Pre Dev. Basin 4

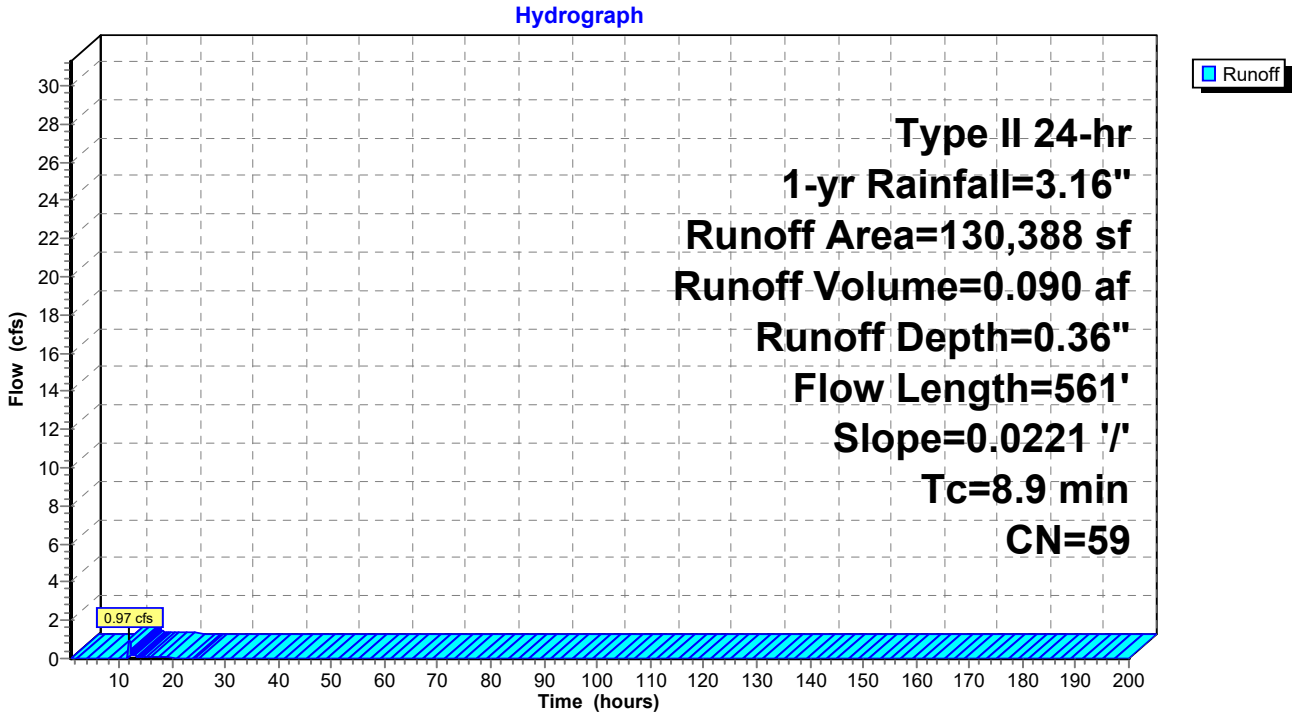
Runoff = 0.97 cfs @ 12.04 hrs, Volume= 0.090 af, Depth= 0.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
104,102	60	Woods, Fair, HSG B
26,286	56	Brush, Fair, HSG B
130,388	59	Weighted Average
130,388		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	561	0.0221	1.06		**Kirpich Method,** General overland flow k= 2.00

Subcatchment 7S: Pre Dev. Basin 4



Summary for Subcatchment 8S: Pre Dev. Basin 5

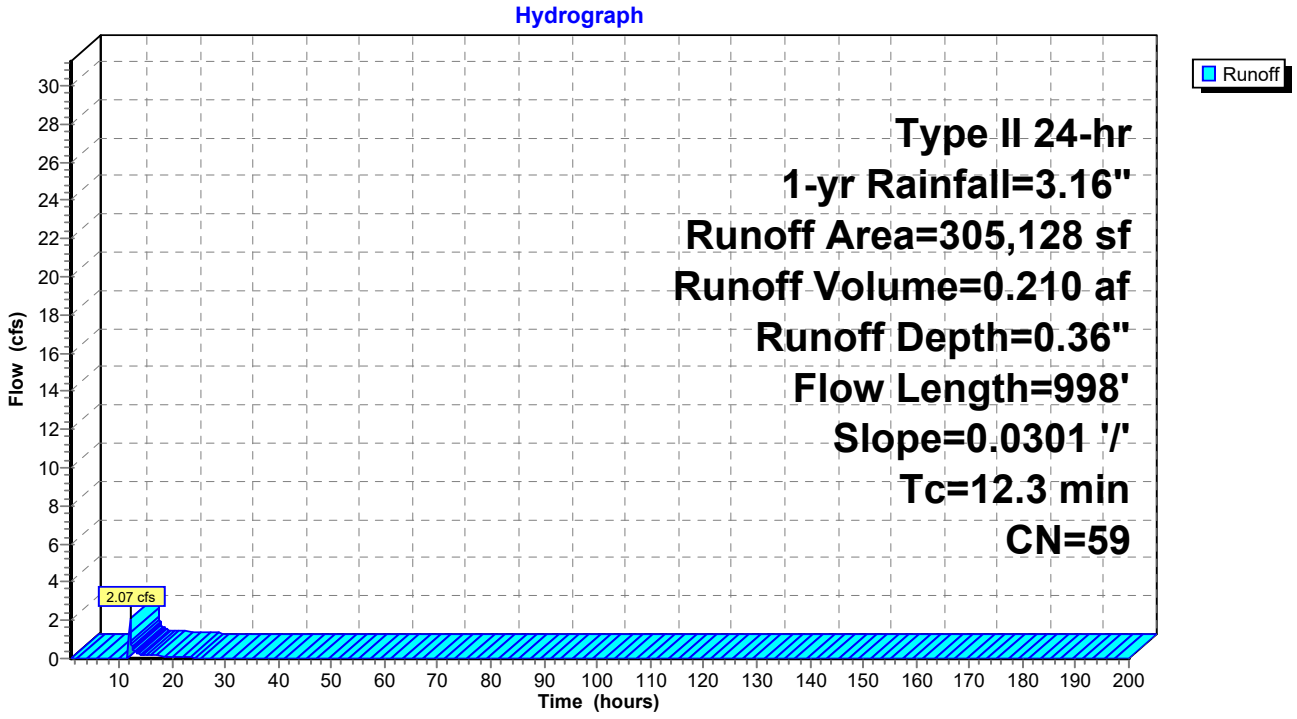
Runoff = 2.07 cfs @ 12.10 hrs, Volume= 0.210 af, Depth= 0.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
267,919	60	Woods, Fair, HSG B
37,209	48	Brush, Good, HSG B
305,128	59	Weighted Average
305,128		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	998	0.0301	1.36		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 8S: Pre Dev. Basin 5



Summary for Subcatchment 9S: Pre Dev. Basin 6

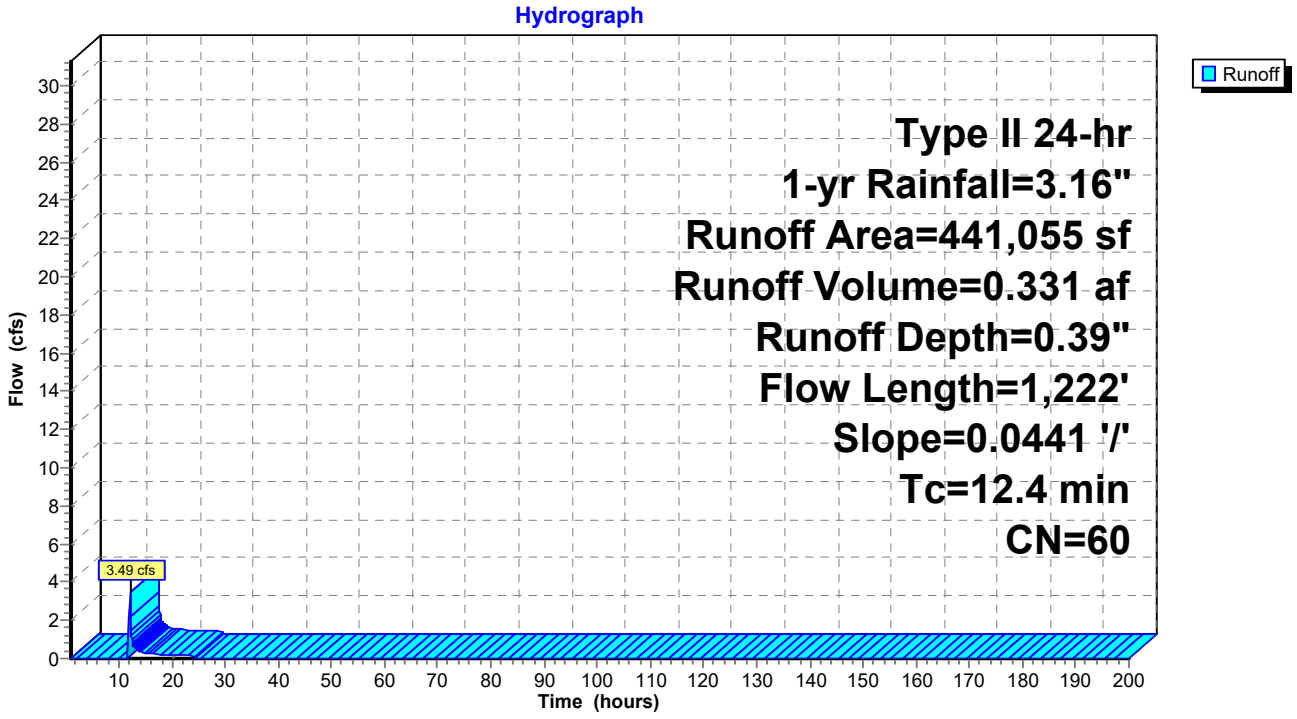
Runoff = 3.49 cfs @ 12.10 hrs, Volume= 0.331 af, Depth= 0.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
401,238	60	Woods, Fair, HSG B
39,817	56	Brush, Fair, HSG B
441,055	60	Weighted Average
441,055		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	1,222	0.0441	1.65		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 9S: Pre Dev. Basin 6



Summary for Subcatchment 10S: Pre Dev. Basin 7

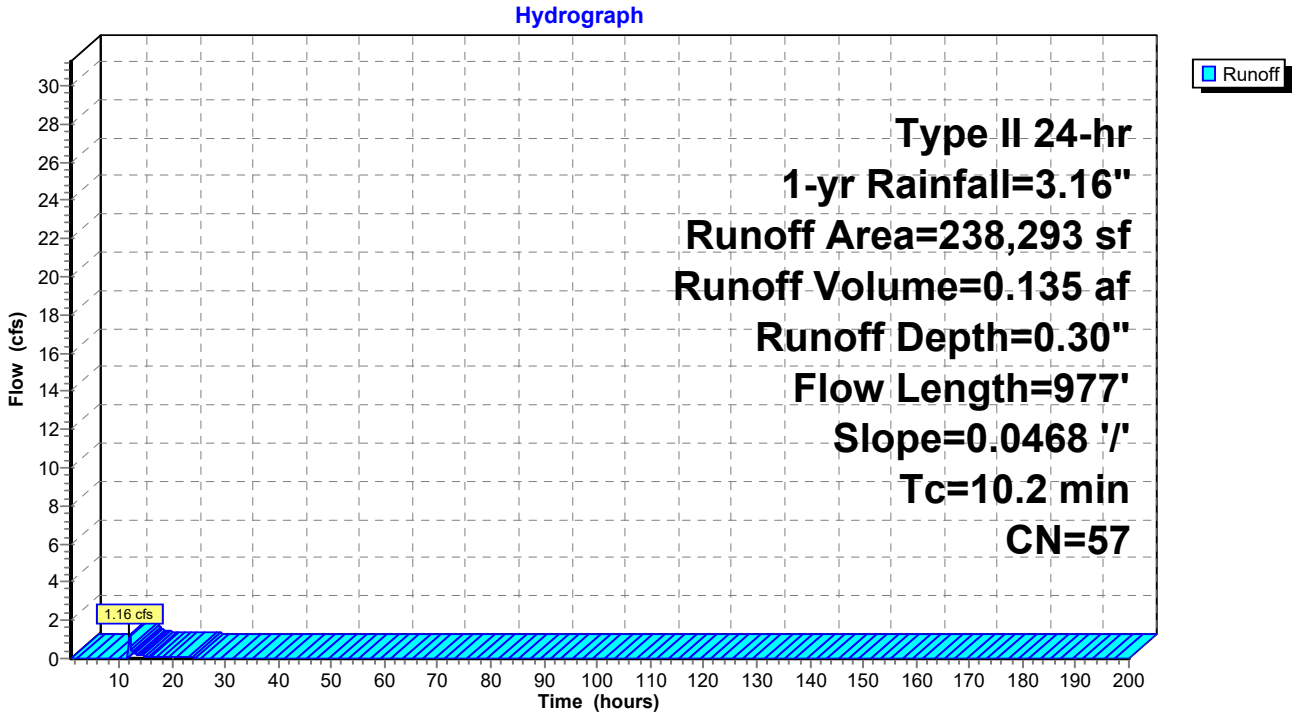
Runoff = 1.16 cfs @ 12.09 hrs, Volume= 0.135 af, Depth= 0.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
207,447	55	Woods, Good, HSG B
30,846	69	Pasture/grassland/range, Fair, HSG B
238,293	57	Weighted Average
238,293		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	977	0.0468	1.60		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 10S: Pre Dev. Basin 7



Summary for Subcatchment 11S: Pre Dev. Basin 8

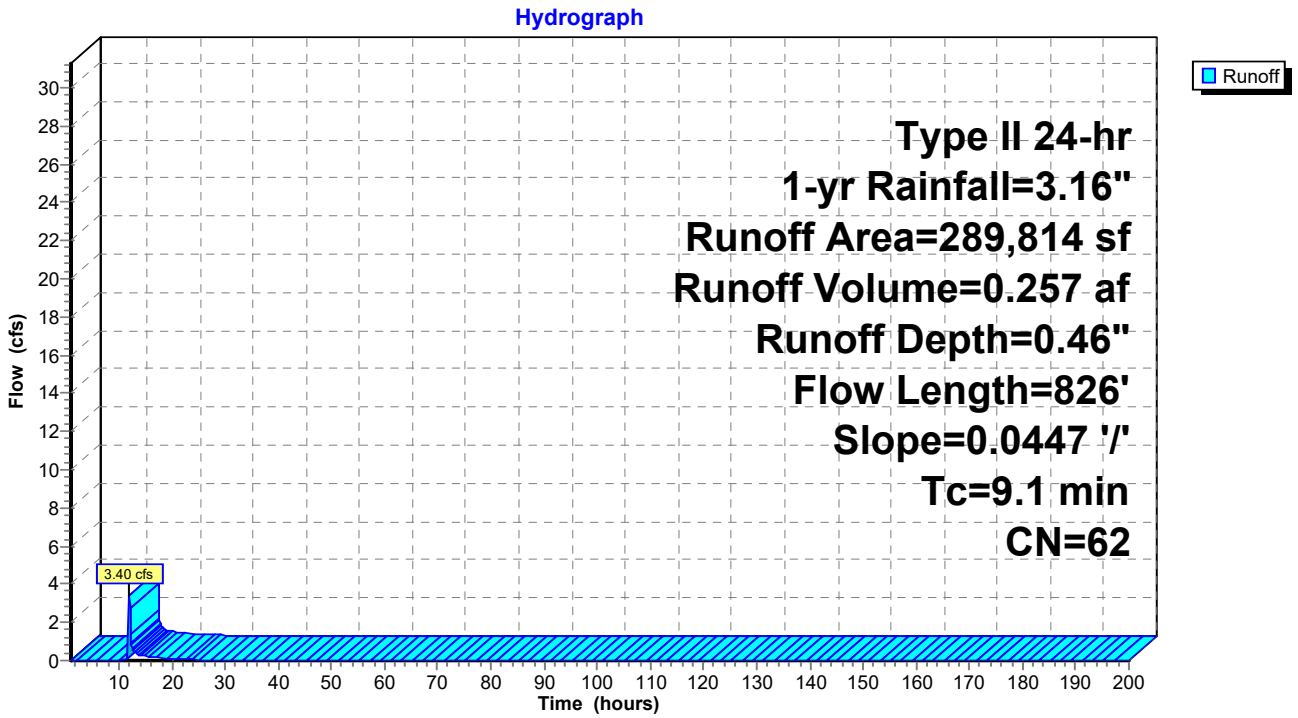
Runoff = 3.40 cfs @ 12.03 hrs, Volume= 0.257 af, Depth= 0.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
230,959	60	Woods, Fair, HSG B
53,439	69	50-75% Grass cover, Fair, HSG B
5,416	98	Paved parking, HSG B
289,814	62	Weighted Average
284,398		98.13% Pervious Area
5,416		1.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	826	0.0447	1.51		**Kirpich Method,** General overland flow k= 2.00

Subcatchment 11S: Pre Dev. Basin 8



Summary for Subcatchment 12S: Post Basin 1 to SCM

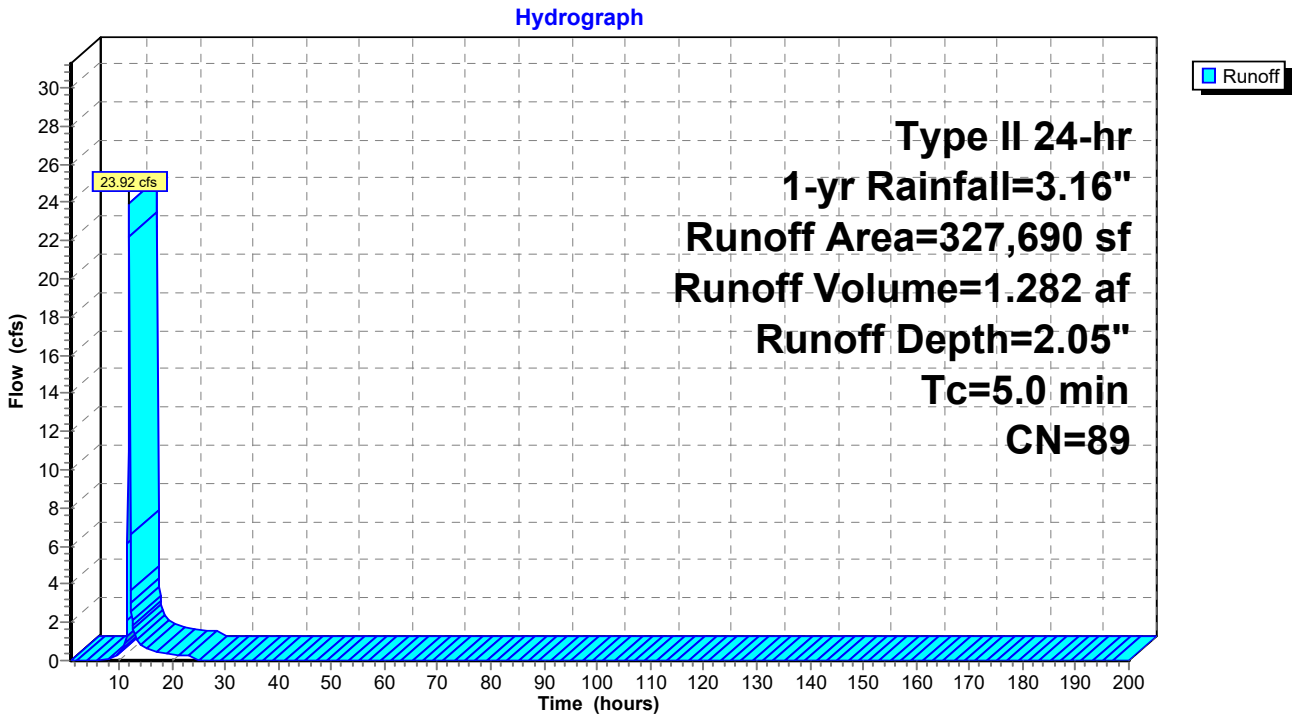
Runoff = 23.92 cfs @ 11.95 hrs, Volume= 1.282 af, Depth= 2.05"
Routed to Pond 1P : Sand Filter -SCM 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
104,903	98	Paved parking, HSG A
72,655	56	Brush, Fair, HSG B
150,132	98	Roofs, HSG B
327,690	89	Weighted Average
72,655		22.17% Pervious Area
255,035		77.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 12S: Post Basin 1 to SCM



Summary for Subcatchment 13S: Post Dev Bypass 1

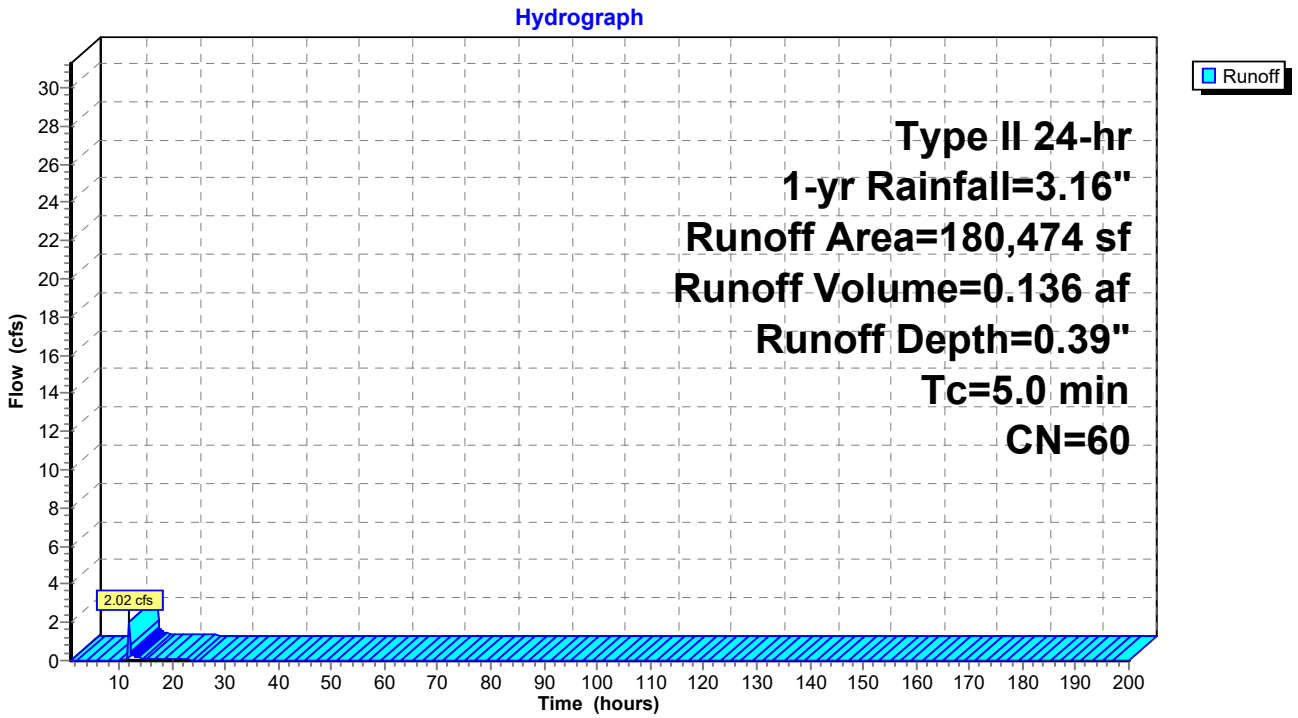
Runoff = 2.02 cfs @ 12.00 hrs, Volume= 0.136 af, Depth= 0.39"
Routed to Link 1L : POA 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
124,058	60	Woods, Fair, HSG B
49,243	56	Brush, Fair, HSG B
7,173	98	Paved parking, HSG B
180,474	60	Weighted Average
173,301		96.03% Pervious Area
7,173		3.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 13S: Post Dev Bypass 1



Summary for Subcatchment 14S: Post Dev. Bypass 2A

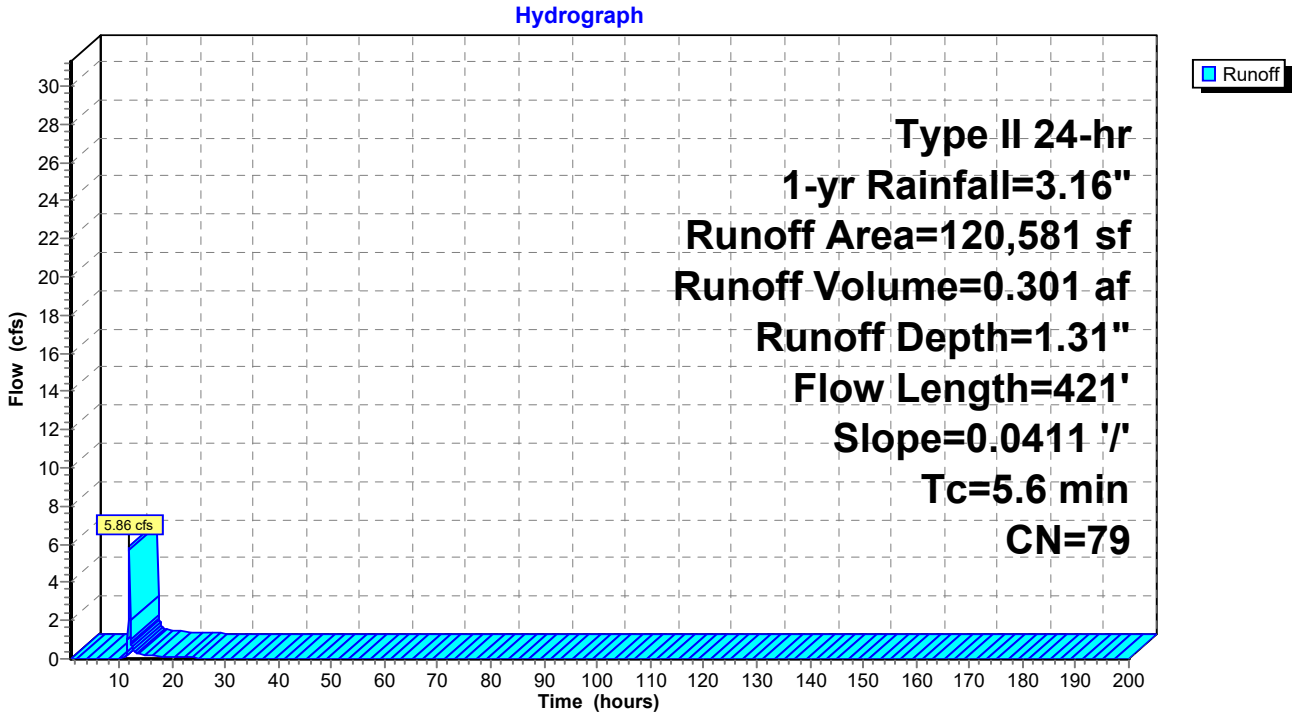
Runoff = 5.86 cfs @ 11.97 hrs, Volume= 0.301 af, Depth= 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
120,581	79	Woods, Fair, HSG D
120,581		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	421	0.0411	1.25		**Kirpich Method, Estimated Tc** General overland flow k= 2.00

Subcatchment 14S: Post Dev. Bypass 2A



Summary for Subcatchment 15S: Post Dev. Basin 2B to SCM

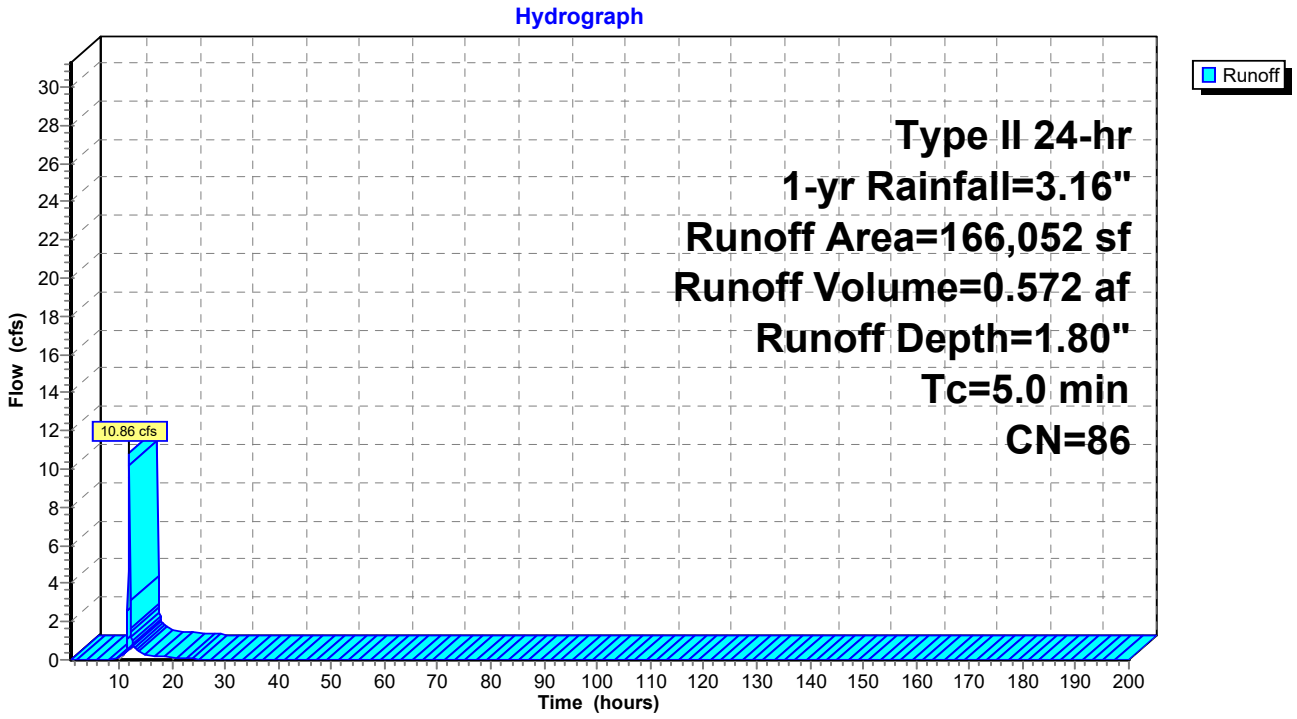
Runoff = 10.86 cfs @ 11.96 hrs, Volume= 0.572 af, Depth= 1.80"
Routed to Pond 2P : Wet Pond SCM 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
22,914	98	Paved parking, HSG B
6,465	48	Brush, Good, HSG B
95,673	98	Roofs, HSG B
41,000	58	Woods/grass comb., Good, HSG B
166,052	86	Weighted Average
47,465		28.58% Pervious Area
118,587		71.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 15S: Post Dev. Basin 2B to SCM



Summary for Subcatchment 16S: Post Dev. Bypass 2C

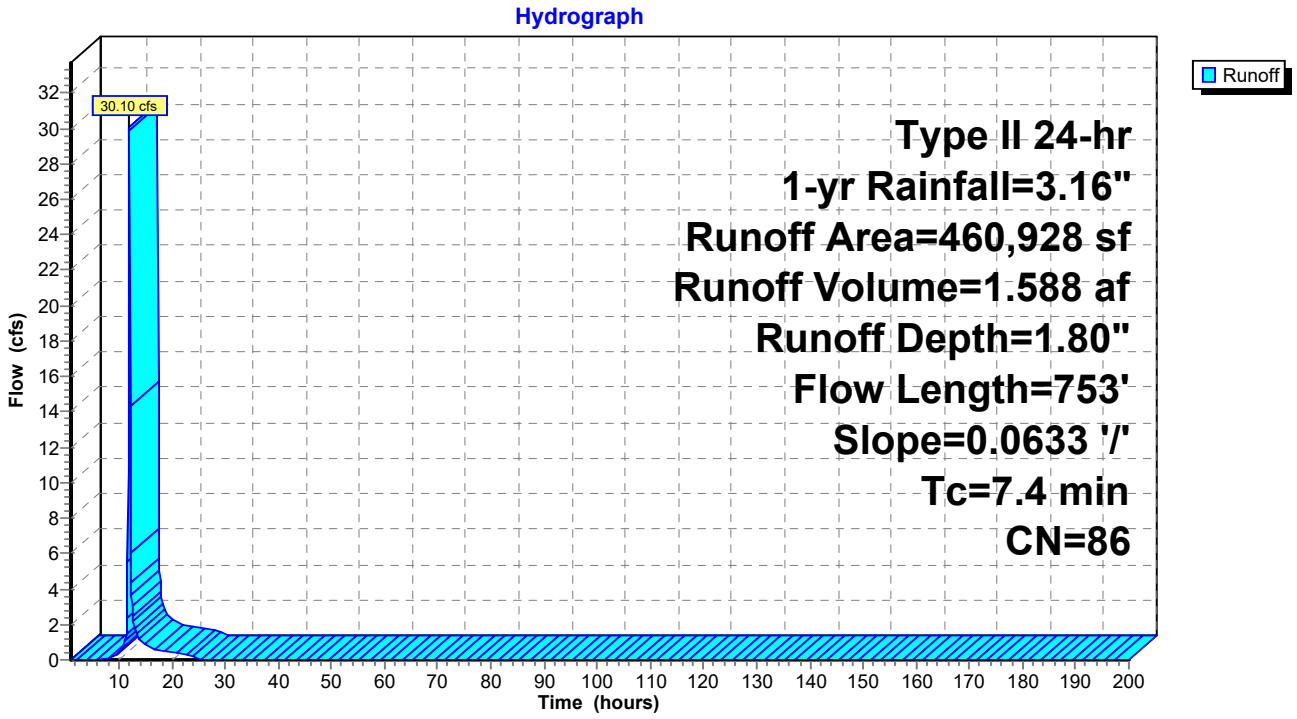
Runoff = 30.10 cfs @ 11.99 hrs, Volume= 1.588 af, Depth= 1.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
173,689	79	Woods, Fair, HSG D
101,714	98	Paved parking, HSG D
129,620	82	Woods/grass comb., Fair, HSG D
55,905	98	Roofs, HSG D
460,928	86	Weighted Average
303,309		65.80% Pervious Area
157,619		34.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	753	0.0633	1.69		**Kirpich Method, Estimated Tc** General overland flow k= 2.00

Subcatchment 16S: Post Dev. Bypass 2C



Summary for Subcatchment 18S: Post Dev Bypass 2B

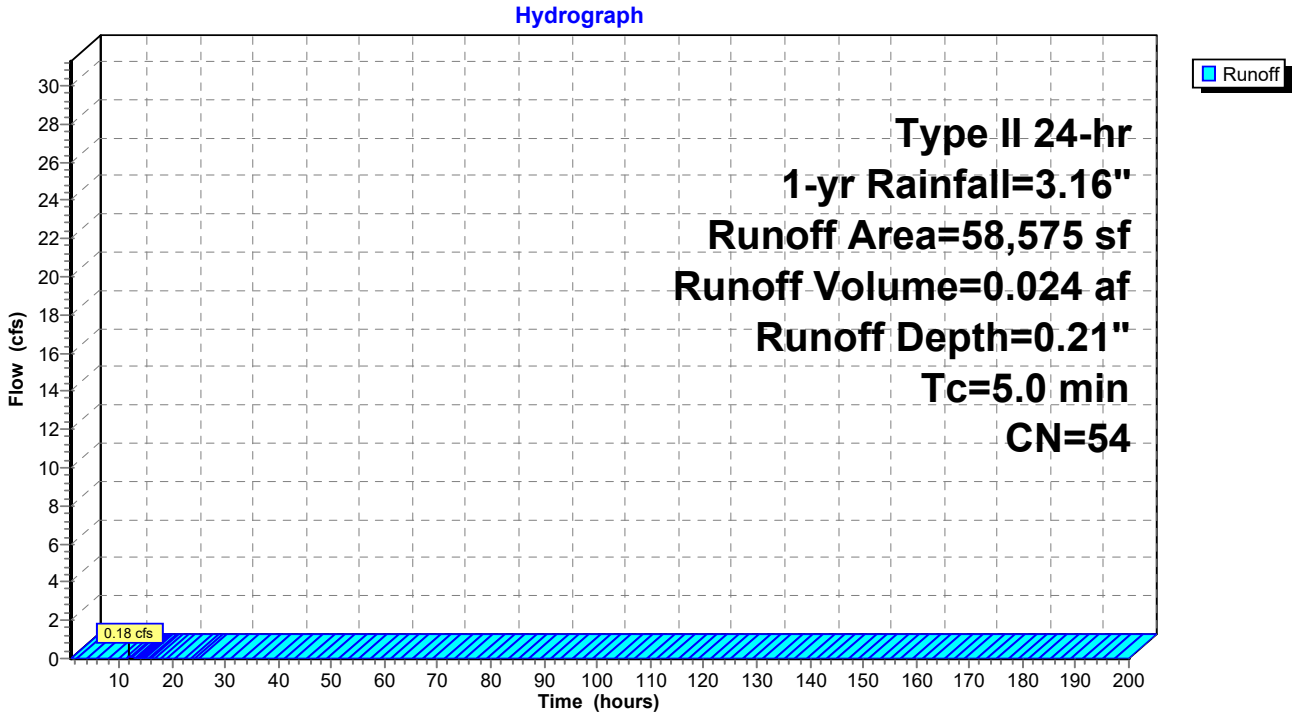
Runoff = 0.18 cfs @ 12.02 hrs, Volume= 0.024 af, Depth= 0.21"
Routed to Link 2L : POA 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
54,125	55	Woods, Good, HSG B
4,450	48	Brush, Good, HSG B
58,575	54	Weighted Average
58,575		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 18S: Post Dev Bypass 2B



Summary for Subcatchment 19S: Post Dev. Basin 3

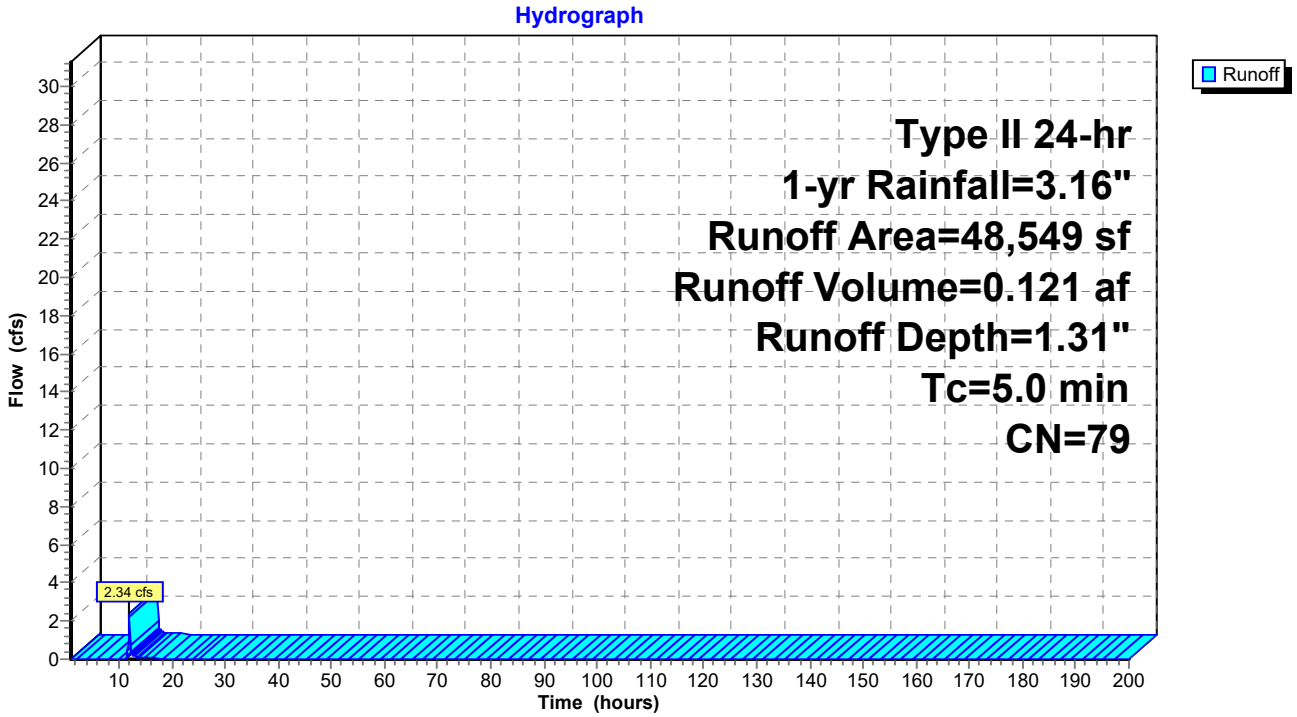
Runoff = 2.34 cfs @ 11.97 hrs, Volume= 0.121 af, Depth= 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
48,549	79	50-75% Grass cover, Fair, HSG C
48,549		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 19S: Post Dev. Basin 3



Summary for Subcatchment 20S: Post Dev. Basin 4

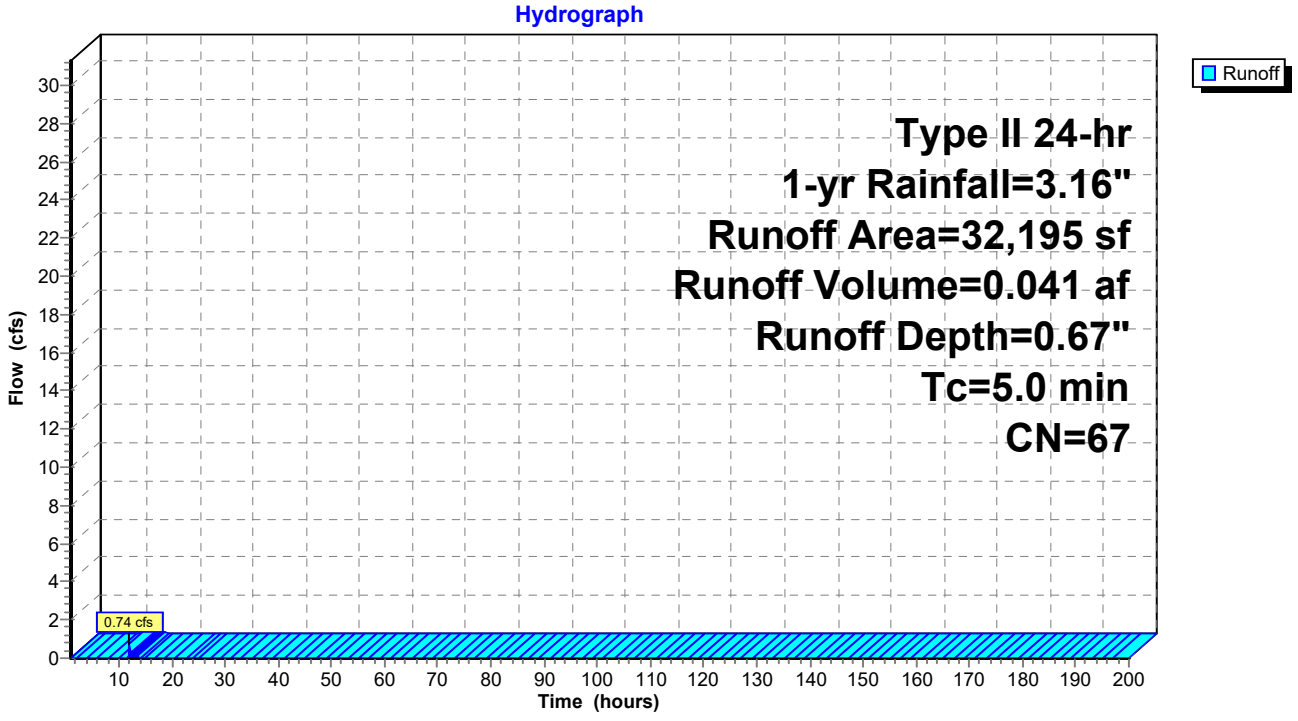
Runoff = 0.74 cfs @ 11.98 hrs, Volume= 0.041 af, Depth= 0.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
6,966	60	Woods, Fair, HSG B
20,201	61	>75% Grass cover, Good, HSG B
5,028	98	Paved parking, HSG B
32,195	67	Weighted Average
27,167		84.38% Pervious Area
5,028		15.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 20S: Post Dev. Basin 4



Summary for Subcatchment 21S: Post Dev. Basin 5 to SCM

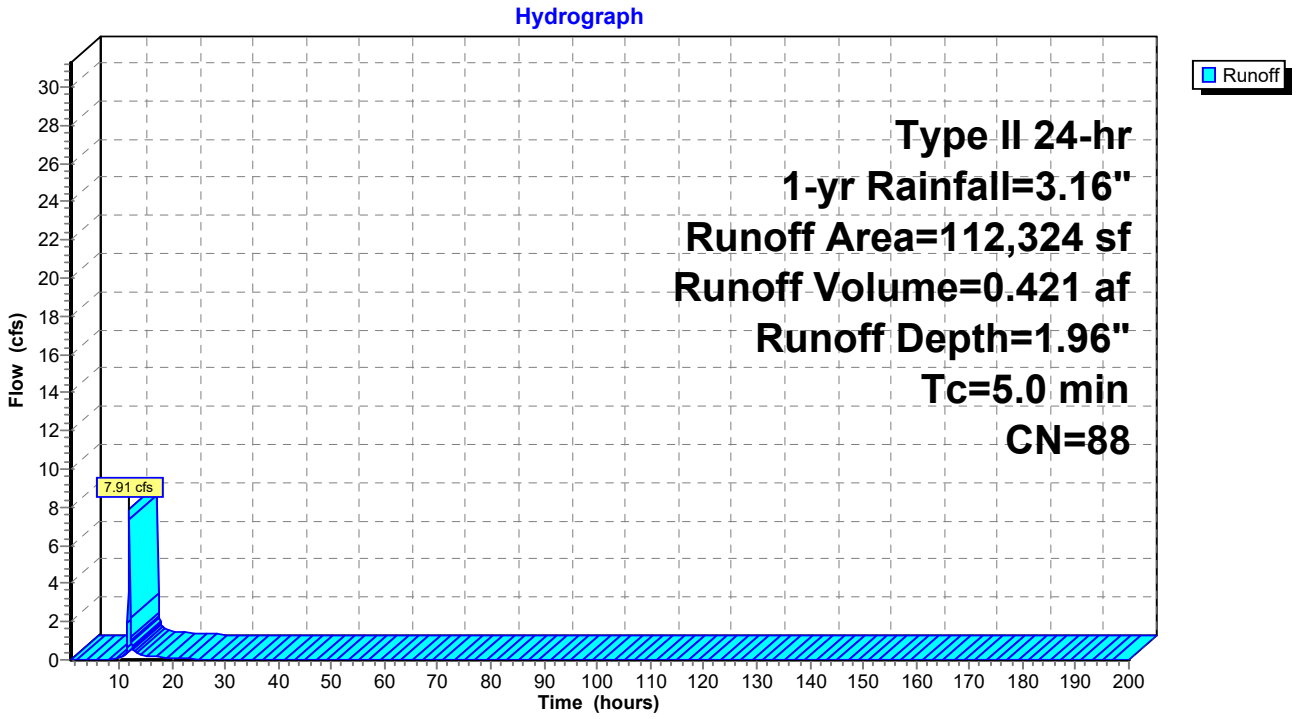
Runoff = 7.91 cfs @ 11.96 hrs, Volume= 0.421 af, Depth= 1.96"
Routed to Pond 3P : Wet Pond SCM 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
40,704	98	Roofs, HSG B
22,215	48	Brush, Good, HSG B
44,766	98	Paved parking, HSG B
4,639	98	Water Surface, 0% imp, HSG B
112,324	88	Weighted Average
26,854		23.91% Pervious Area
85,470		76.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 21S: Post Dev. Basin 5 to SCM



Summary for Subcatchment 22S: Post Dev. Bypass 5

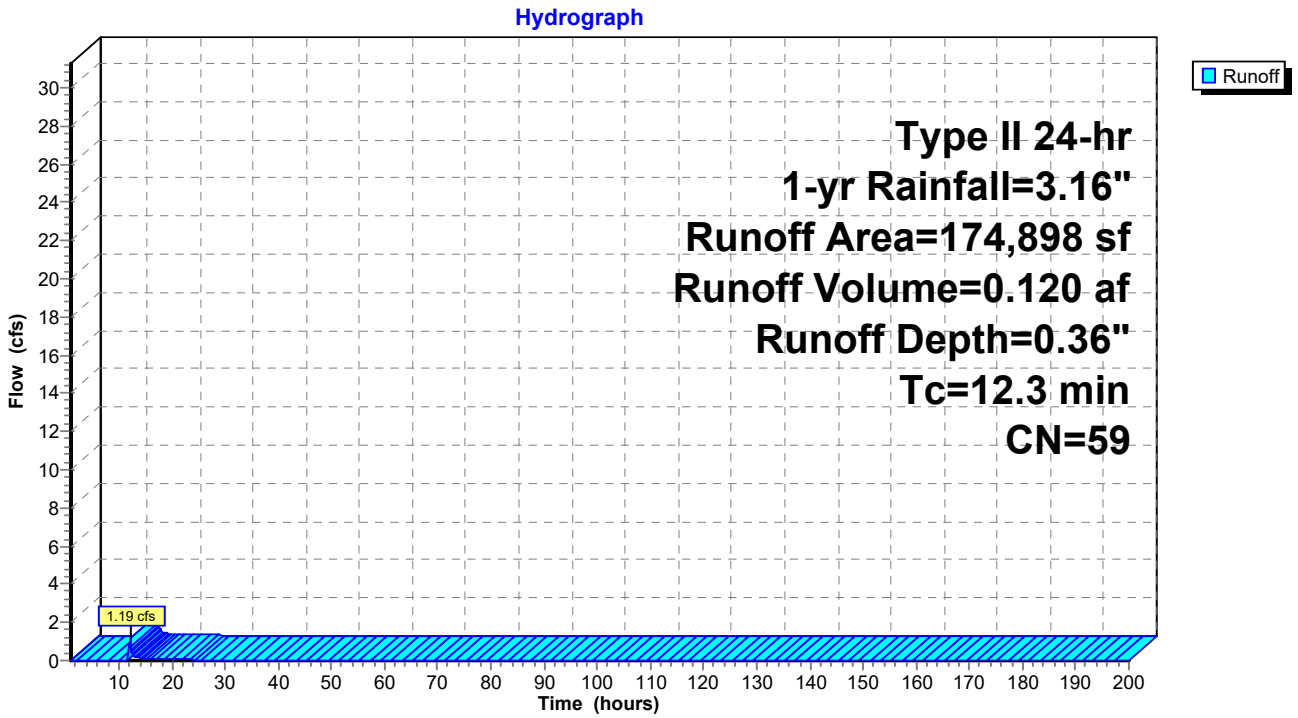
Runoff = 1.19 cfs @ 12.10 hrs, Volume= 0.120 af, Depth= 0.36"
Routed to Link 3L : POA 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
110,888	60	Woods, Fair, HSG B
51,602	48	Brush, Good, HSG B
12,408	98	Paved parking, HSG B
174,898	59	Weighted Average
162,490		92.91% Pervious Area
12,408		7.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3					**Direct Entry,**

Subcatchment 22S: Post Dev. Bypass 5



Summary for Subcatchment 23S: Post Dev. Basin 6 to SCM

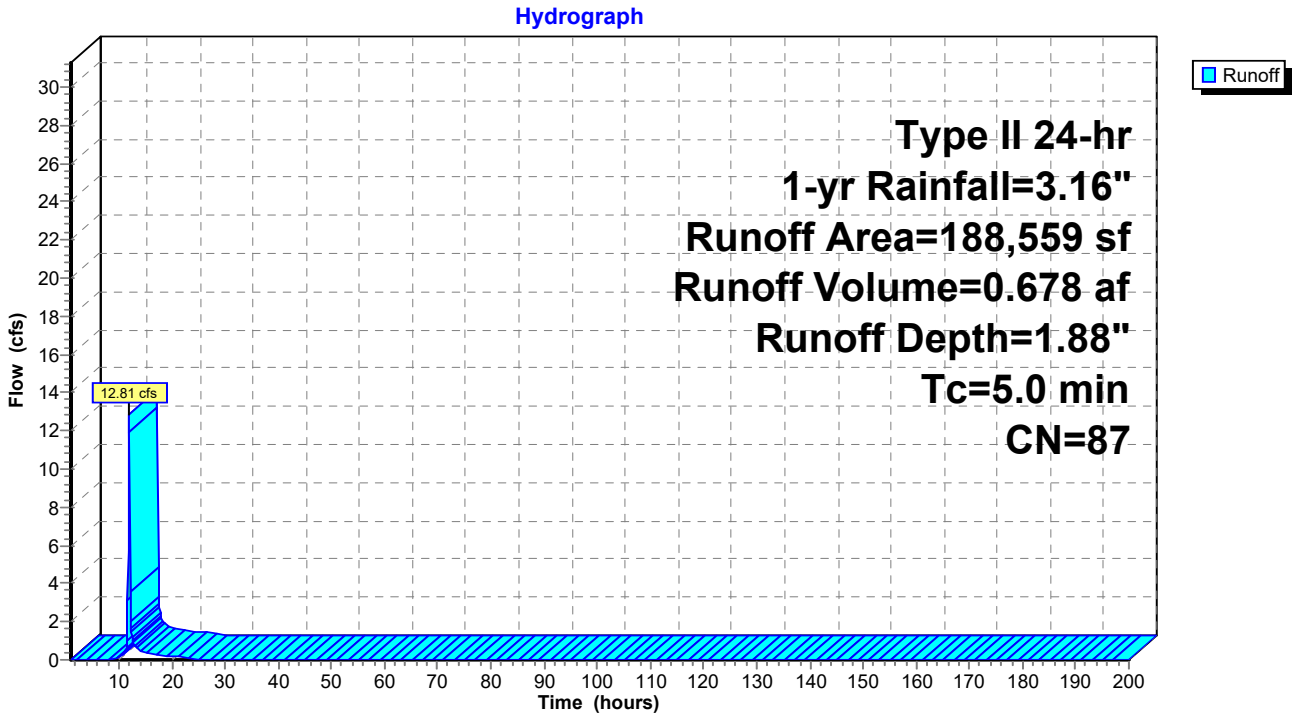
Runoff = 12.81 cfs @ 11.96 hrs, Volume= 0.678 af, Depth= 1.88"
Routed to Pond 4P : Wet Pond SCM 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
54,466	98	Paved parking, HSG B
58,385	61	>75% Grass cover, Good, HSG B
60,672	98	Roofs, HSG B
15,036	98	Water Surface, 0% imp, HSG B
188,559	87	Weighted Average
73,421		38.94% Pervious Area
115,138		61.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 23S: Post Dev. Basin 6 to SCM



Summary for Subcatchment 24S: Post Dev. Bypass 6

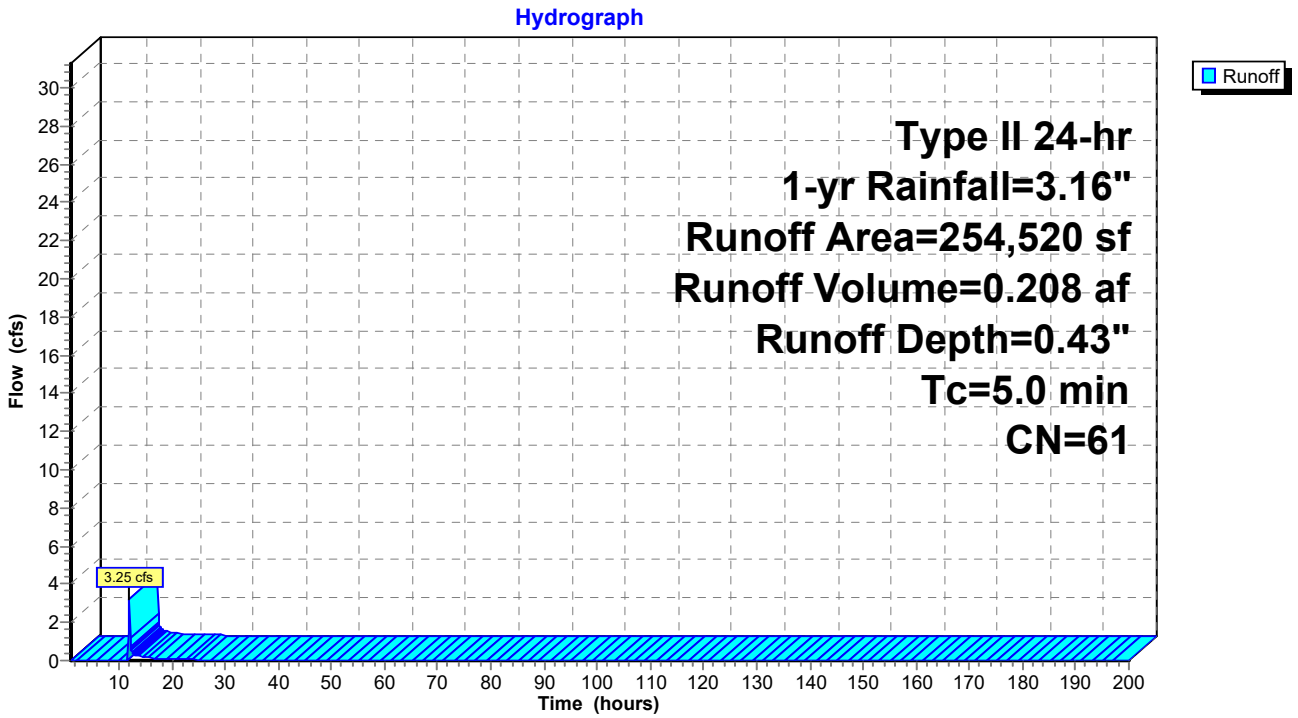
Runoff = 3.25 cfs @ 12.00 hrs, Volume= 0.208 af, Depth= 0.43"
Routed to Link 4L : POA 5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
215,461	60	Woods, Fair, HSG B
34,572	61	>75% Grass cover, Good, HSG B
4,487	98	Paved parking, HSG B
254,520	61	Weighted Average
250,033		98.24% Pervious Area
4,487		1.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 24S: Post Dev. Bypass 6



Summary for Subcatchment 25S: Post Dev. Basin 7 to SCM

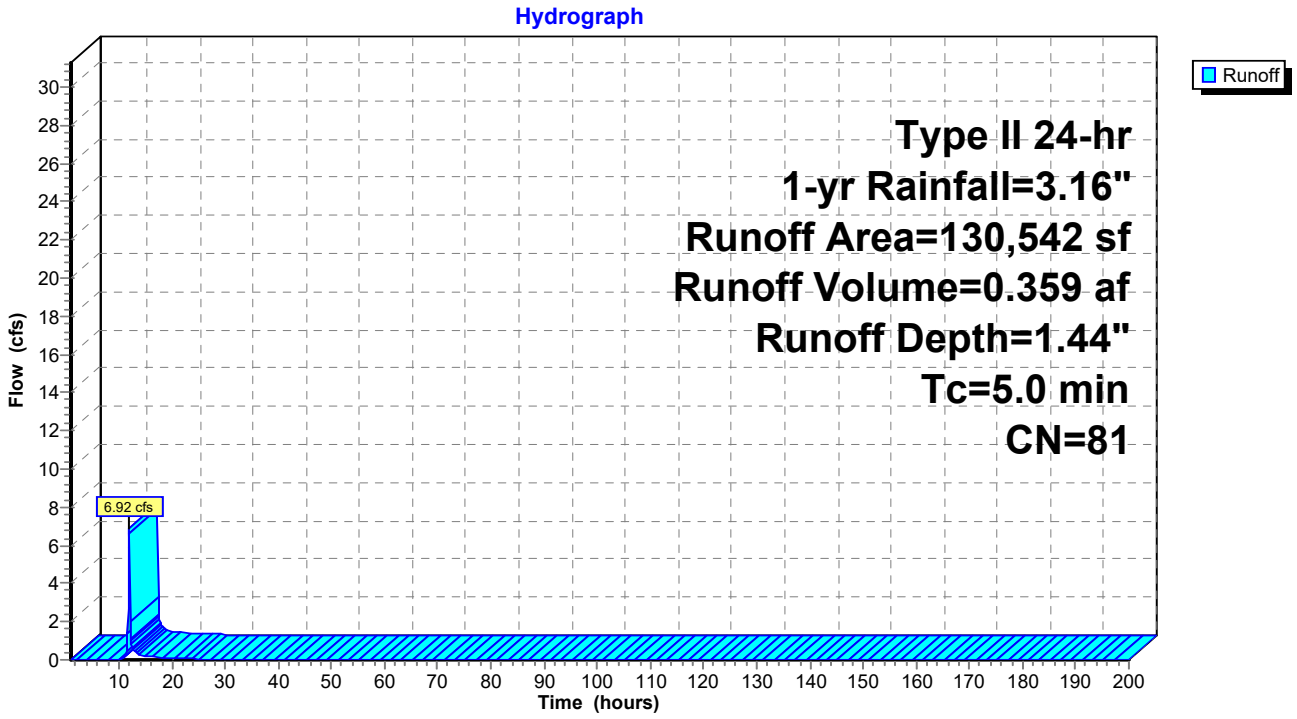
Runoff = 6.92 cfs @ 11.96 hrs, Volume= 0.359 af, Depth= 1.44"
Routed to Pond 5P : Wet Pond SCM 5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
50,624	98	Paved parking, HSG B
44,621	48	Brush, Good, HSG B
28,800	98	Roofs, HSG B
6,497	98	Water Surface, 0% imp, HSG B
130,542	81	Weighted Average
51,118		39.16% Pervious Area
79,424		60.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 25S: Post Dev. Basin 7 to SCM



Summary for Subcatchment 26S: Post Dev. Bypass 7

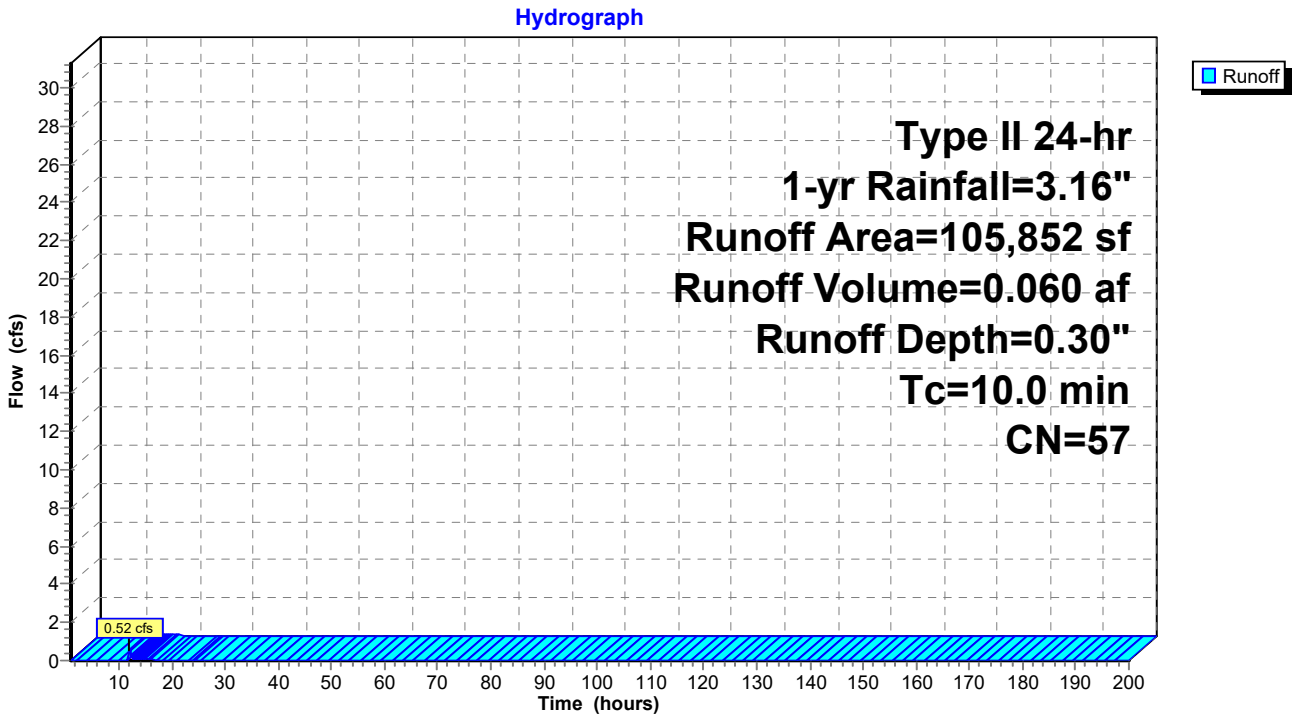
Runoff = 0.52 cfs @ 12.09 hrs, Volume= 0.060 af, Depth= 0.30"
Routed to Link 5L : POA 6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
39,944	55	Woods, Good, HSG B
52,486	48	Brush, Good, HSG B
13,422	98	Paved parking, HSG B
105,852	57	Weighted Average
92,430		87.32% Pervious Area
13,422		12.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 26S: Post Dev. Bypass 7



Summary for Subcatchment 27S: Post Dev. Bypass 8

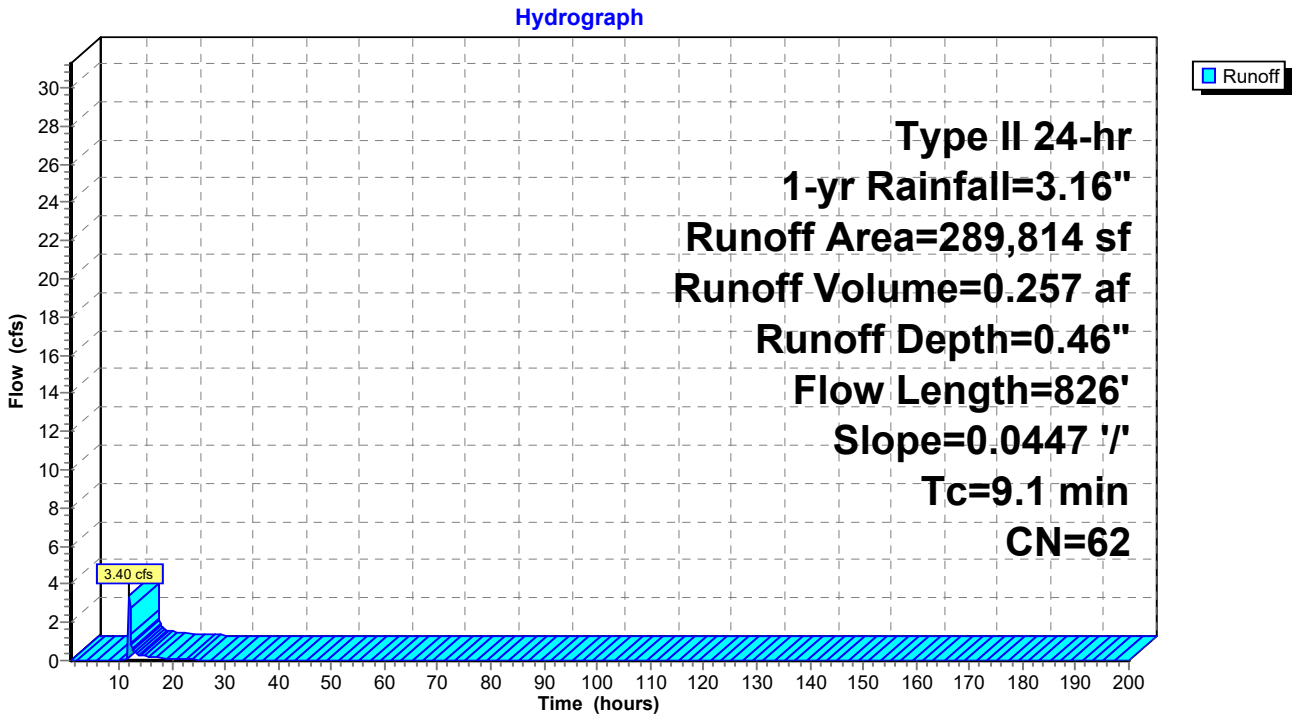
Runoff = 3.40 cfs @ 12.03 hrs, Volume= 0.257 af, Depth= 0.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 1-yr Rainfall=3.16"

Area (sf)	CN	Description
230,959	60	Woods, Fair, HSG B
53,439	69	50-75% Grass cover, Fair, HSG B
5,416	98	Paved parking, HSG B
289,814	62	Weighted Average
284,398		98.13% Pervious Area
5,416		1.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	826	0.0447	1.51		**Kirpich Method,** General overland flow k= 2.00

Subcatchment 27S: Post Dev. Bypass 8



Summary for Pond 1P: Sand Filter -SCM 1

Inflow Area = 7.523 ac, 77.83% Impervious, Inflow Depth = 2.05" for 1-yr event
Inflow = 23.92 cfs @ 11.95 hrs, Volume= 1.282 af
Outflow = 3.07 cfs @ 12.31 hrs, Volume= 1.282 af, Atten= 87%, Lag= 21.0 min
Primary = 3.07 cfs @ 12.31 hrs, Volume= 1.282 af
Routed to Link 1L : POA 1

Routing by Stor-Ind method, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Peak Elev= 527.67' @ 12.31 hrs Surf.Area= 6,825 sf Storage= 25,039 cf

Plug-Flow detention time= 113.6 min calculated for 1.281 af (100% of inflow)
Center-of-Mass det. time= 114.3 min (921.9 - 807.6)

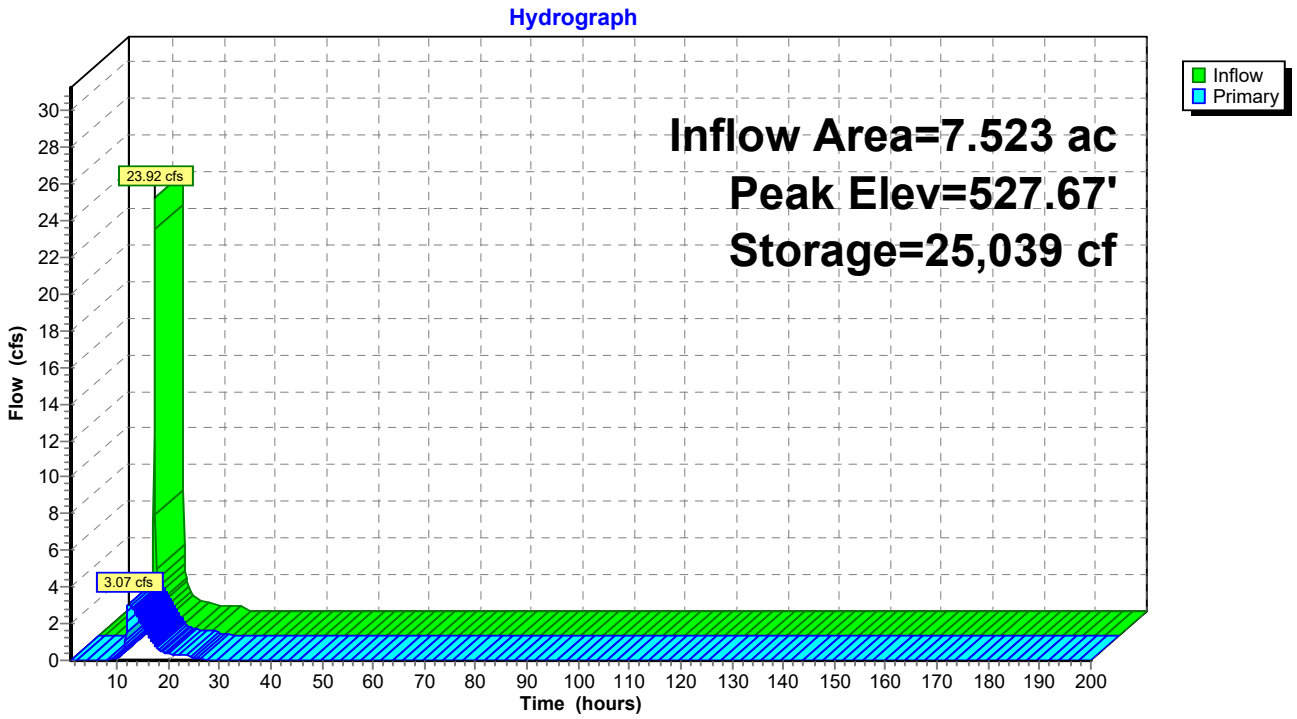
Volume	Invert	Avail.Storage	Storage Description
#1	524.00'	68,250 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) x 65

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
524.00	105	0	0
534.00	105	1,050	1,050

Device	Routing	Invert	Outlet Devices
#1	Primary	524.00'	**36.0" Round Culvert** L= 85.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 524.00' / 523.00' S= 0.0118 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	524.00'	**8.0" Vert. Drawdown** C= 0.600 Limited to weir flow at low heads
#3	Device 1	528.90'	**60.0" W x 8.0" H Vert. Main Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 1	533.00'	**25.0' long Overflow** 2 End Contraction(s)

Primary OutFlow Max=3.07 cfs @ 12.31 hrs HW=527.67' (Free Discharge)
└**1=Culvert** (Passes 3.07 cfs of 50.11 cfs potential flow)
├**2=Drawdown** (Orifice Controls 3.07 cfs @ 8.79 fps)
├**3=Main Orifice** (Controls 0.00 cfs)
└**4=Overflow** (Controls 0.00 cfs)

Pond 1P: Sand Filter -SCM 1



Summary for Pond 2P: Wet Pond SCM 2

Inflow Area = 3.812 ac, 71.42% Impervious, Inflow Depth = 1.80" for 1-yr event
Inflow = 10.86 cfs @ 11.96 hrs, Volume= 0.572 af
Outflow = 0.97 cfs @ 12.53 hrs, Volume= 0.572 af, Atten= 91%, Lag= 34.2 min
Primary = 0.97 cfs @ 12.53 hrs, Volume= 0.572 af
Routed to Link 2L : POA 2

Routing by Stor-Ind method, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Starting Elev= 526.00' Surf.Area= 11,086 sf Storage= 32,033 cf
Peak Elev= 527.04' @ 12.53 hrs Surf.Area= 13,101 sf Storage= 44,570 cf (12,538 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 241.7 min (1,060.7 - 819.1)

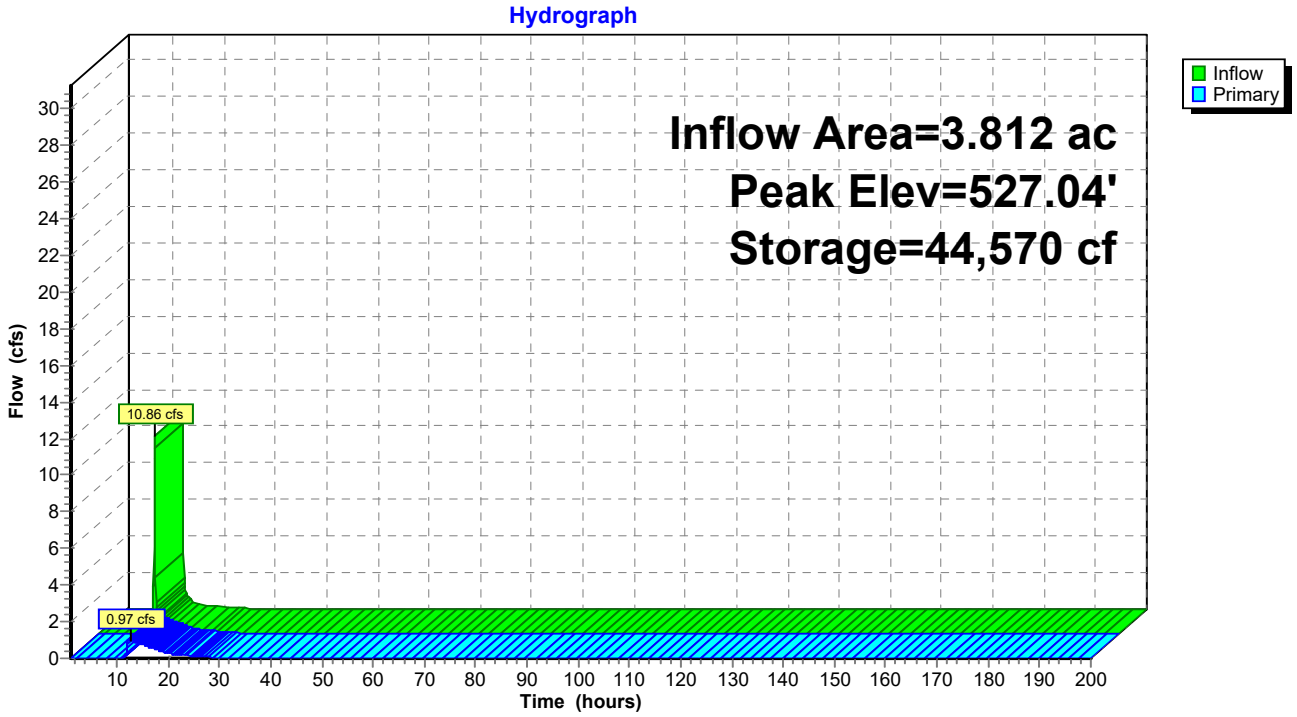
Volume	Invert	Avail.Storage	Storage Description
#1	522.00'	92,429 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
522.00	5,067	0	0
523.00	7,010	6,039	6,039
524.00	7,727	7,369	13,407
525.00	9,219	8,473	21,880
526.00	11,086	10,153	32,033
527.00	13,027	12,057	44,089
528.00	15,043	14,035	58,124
529.00	17,134	16,089	74,213
530.00	19,299	18,217	92,429

Device	Routing	Invert	Outlet Devices
#1	Primary	526.00'	**36.0" Round Culvert** L= 45.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 526.00' / 525.55' S= 0.0100 '/' Cc= 0.900 n= 0.010 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	526.00'	**6.5" Vert. Drawdown** C= 0.600 Limited to weir flow at low heads
#3	Device 1	527.40'	**34.0" W x 2.0" H Vert. Peakflow Orifice X 2.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	528.60'	**48.0" x 48.0" Horiz. Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.97 cfs @ 12.53 hrs HW=527.04' (Free Discharge)
└**1=Culvert** (Passes 0.97 cfs of 7.17 cfs potential flow)
├**2=Drawdown** (Orifice Controls 0.97 cfs @ 4.21 fps)
├**3=Peakflow Orifice** (Controls 0.00 cfs)
└**4=Overflow** (Controls 0.00 cfs)

Pond 2P: Wet Pond SCM 2



Summary for Pond 3P: Wet Pond SCM 3

Inflow Area = 2.579 ac, 76.09% Impervious, Inflow Depth = 1.96" for 1-yr event
Inflow = 7.91 cfs @ 11.96 hrs, Volume= 0.421 af
Outflow = 0.64 cfs @ 12.58 hrs, Volume= 0.421 af, Atten= 92%, Lag= 37.6 min
Primary = 0.64 cfs @ 12.58 hrs, Volume= 0.421 af
Routed to Link 3L : POA 4

Routing by Stor-Ind method, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Starting Elev= 534.00' Surf.Area= 3,130 sf Storage= 15,183 cf
Peak Elev= 535.62' @ 12.58 hrs Surf.Area= 7,739 sf Storage= 24,226 cf (9,043 cf above start)

Plug-Flow detention time= 718.3 min calculated for 0.073 af (17% of inflow)
Center-of-Mass det. time= 175.1 min (986.7 - 811.6)

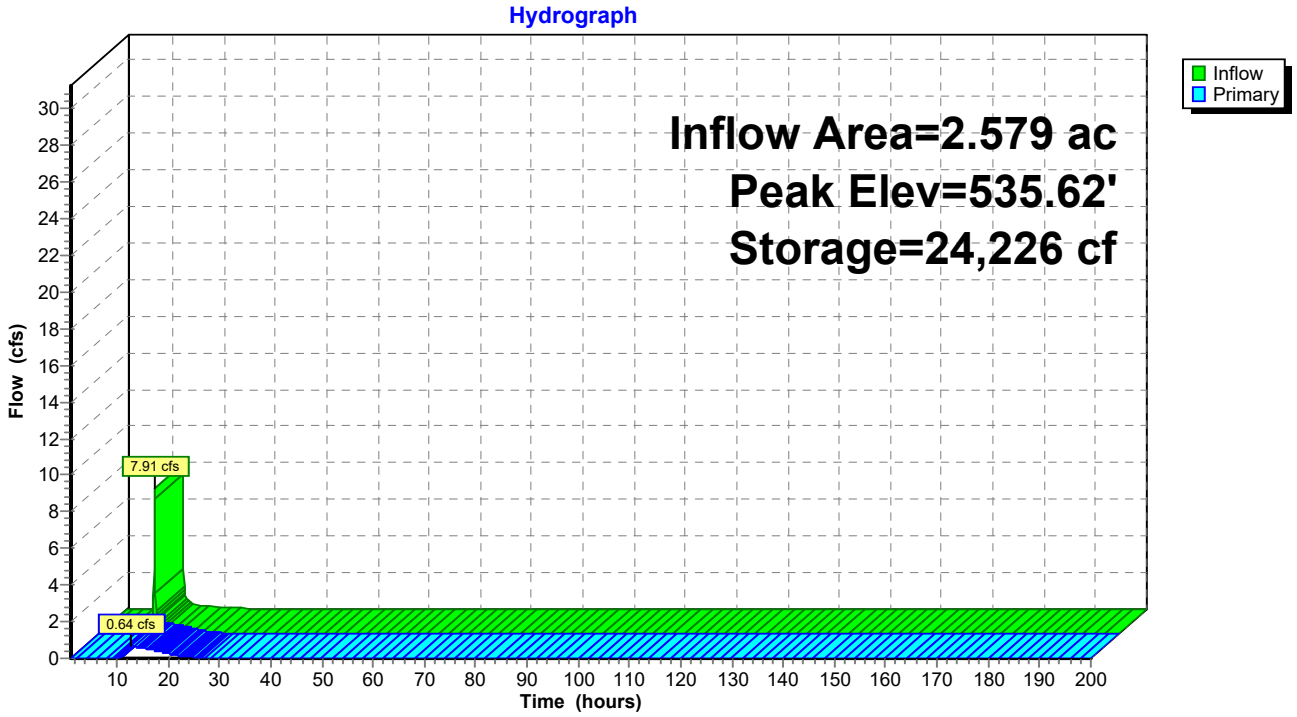
Volume	Invert	Avail.Storage	Storage Description
#1	530.00'	52,862 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
530.00	2,212	0	0
531.00	3,200	2,706	2,706
532.00	4,144	3,672	6,378
533.00	5,168	4,656	11,034
534.00	3,130	4,149	15,183
535.00	6,262	4,696	19,879
536.00	8,640	7,451	27,330
537.00	4,960	6,800	34,130
538.00	9,920	7,440	41,570
539.00	12,664	11,292	52,862

Device	Routing	Invert	Outlet Devices
#1	Primary	534.00'	**30.0" Round Culvert** L= 44.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 534.00' / 533.56' S= 0.0100 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 4.91 sf
#2	Device 1	534.00'	**4.5" Vert. Drawdown** C= 0.600 Limited to weir flow at low heads
#3	Device 1	536.30'	**42.0" W x 3.0" H Vert. Peak Flow X 2.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	537.60'	**48.0" x 48.0" Horiz. Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.64 cfs @ 12.58 hrs HW=535.62' (Free Discharge)
└**1=Culvert** (Passes 0.64 cfs of 12.62 cfs potential flow)
  ├**2=Drawdown** (Orifice Controls 0.64 cfs @ 5.76 fps)
  ├**3=Peak Flow** (Controls 0.00 cfs)
  └**4=Overflow** (Controls 0.00 cfs)

Pond 3P: Wet Pond SCM 3



Summary for Pond 4P: Wet Pond SCM 4

Inflow Area = 4.329 ac, 61.06% Impervious, Inflow Depth = 1.88" for 1-yr event
Inflow = 12.81 cfs @ 11.96 hrs, Volume= 0.678 af
Outflow = 0.17 cfs @ 19.46 hrs, Volume= 0.353 af, Atten= 99%, Lag= 450.5 min
Primary = 0.17 cfs @ 19.46 hrs, Volume= 0.353 af
Routed to Link 4L : POA 5

Routing by Stor-Ind method, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Peak Elev= 524.24' @ 19.46 hrs Surf.Area= 8,083 sf Storage= 22,875 cf

Plug-Flow detention time= 917.8 min calculated for 0.353 af (52% of inflow)
Center-of-Mass det. time= 805.9 min (1,621.3 - 815.4)

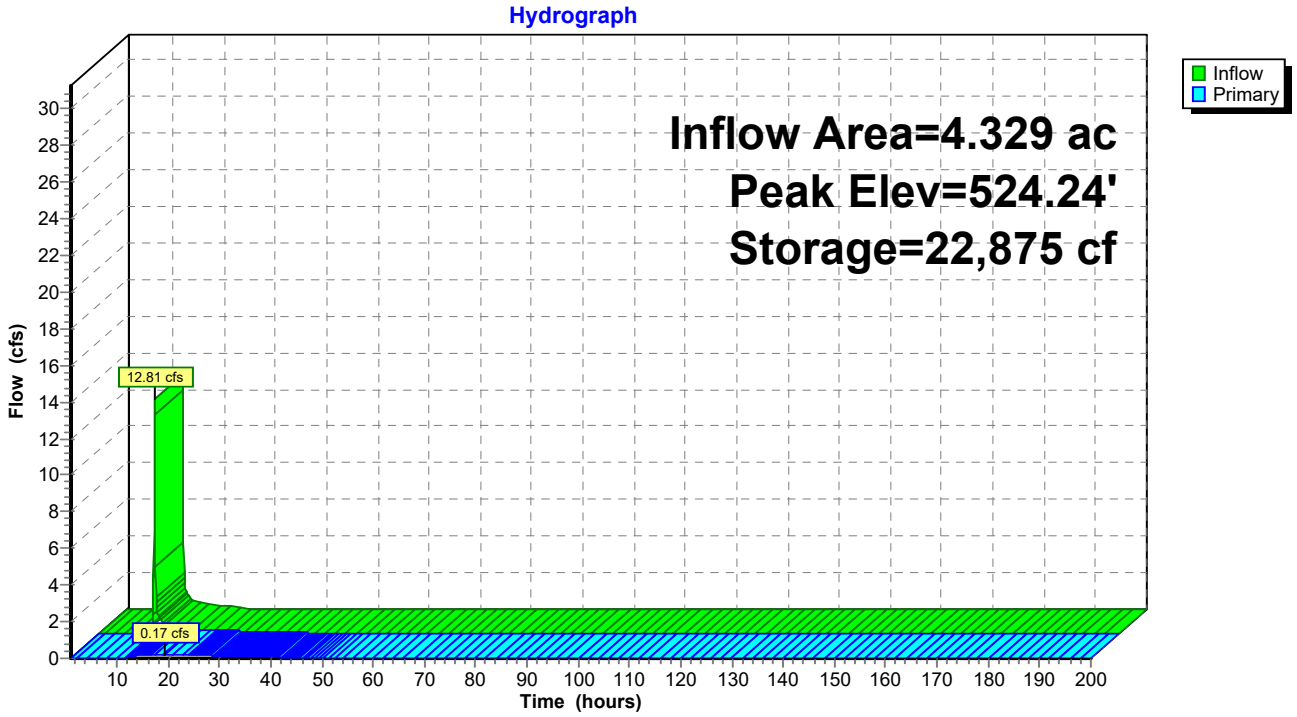
Volume	Invert	Avail.Storage	Storage Description
#1	519.00'	67,235 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
519.00	1,472	0	0
520.00	2,352	1,912	1,912
521.00	3,406	2,879	4,791
522.00	4,636	4,021	8,812
523.00	6,046	5,341	14,153
524.00	7,648	6,847	21,000
525.00	9,474	8,561	29,561
526.00	11,446	10,460	40,021
527.00	13,570	12,508	52,529
528.00	15,842	14,706	67,235

Device	Routing	Invert	Outlet Devices
#1	Primary	523.00'	**36.0" Round Culvert** L= 45.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 523.00' / 521.50' S= 0.0333 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	523.00'	**2.5" Vert. Drawdown** C= 0.600 Limited to weir flow at low heads
#3	Device 1	525.10'	**36.0" W x 3.0" H Vert. Peakflow** C= 0.600 Limited to weir flow at low heads
#4	Device 1	526.50'	**48.0" x 48.0" Horiz. Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.17 cfs @ 19.46 hrs HW=524.24' (Free Discharge)
└**1=Culvert** (Passes 0.17 cfs of 10.43 cfs potential flow)
├**2=Drawdown** (Orifice Controls 0.17 cfs @ 5.13 fps)
├**3=Peakflow** (Controls 0.00 cfs)
└**4=Overflow** (Controls 0.00 cfs)

Pond 4P: Wet Pond SCM 4



Summary for Pond 5P: Wet Pond SCM 5

Inflow Area = 2.997 ac, 60.84% Impervious, Inflow Depth = 1.44" for 1-yr event
Inflow = 6.92 cfs @ 11.96 hrs, Volume= 0.359 af
Outflow = 0.47 cfs @ 12.88 hrs, Volume= 0.359 af, Atten= 93%, Lag= 55.2 min
Primary = 0.47 cfs @ 12.88 hrs, Volume= 0.359 af
Routed to Link 5L : POA 6

Routing by Stor-Ind method, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Starting Elev= 513.00' Surf.Area= 4,340 sf Storage= 13,131 cf
Peak Elev= 514.44' @ 12.88 hrs Surf.Area= 5,982 sf Storage= 20,772 cf (7,641 cf above start)

Plug-Flow detention time= 854.2 min calculated for 0.058 af (16% of inflow)
Center-of-Mass det. time= 222.6 min (1,058.6 - 836.0)

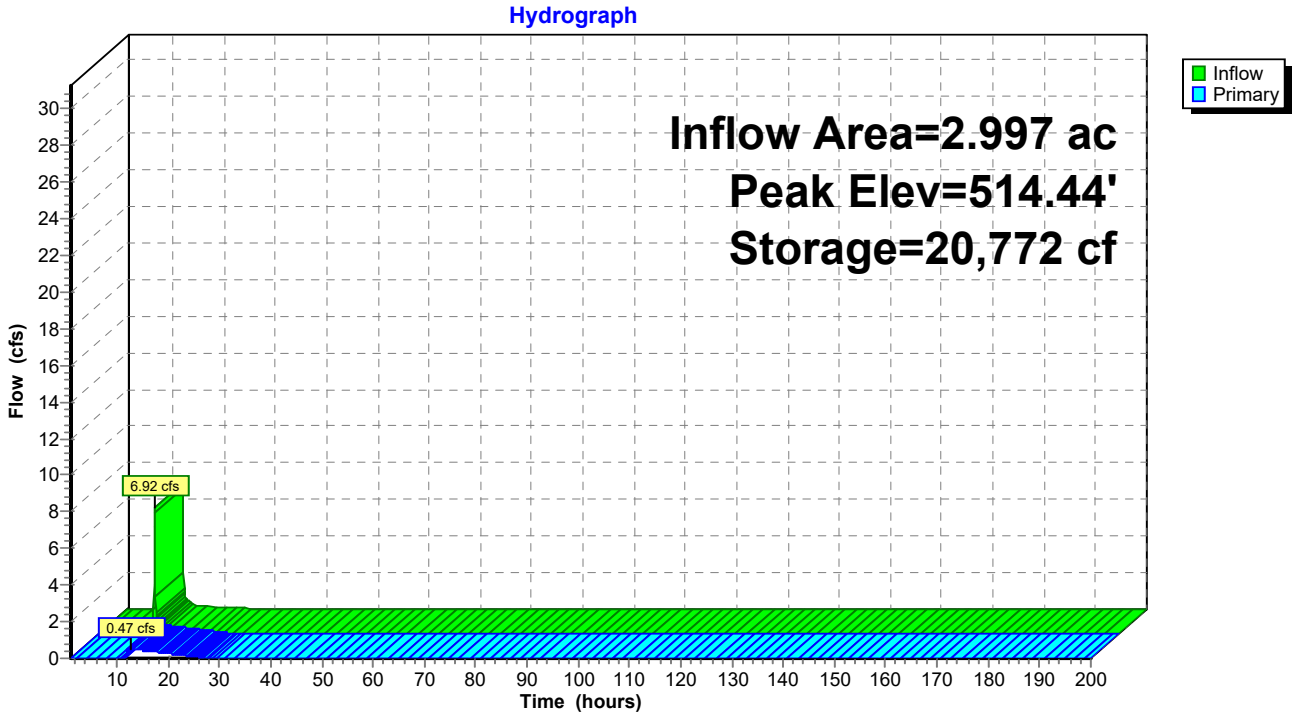
Volume	Invert	Avail.Storage	Storage Description
#1	509.00'	45,475 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
509.00	2,355	0	0
510.00	2,789	2,572	2,572
511.00	3,517	3,153	5,725
512.00	3,477	3,497	9,222
513.00	4,340	3,909	13,131
514.00	5,752	5,046	18,177
515.00	6,271	6,012	24,188
516.00	6,813	6,542	30,730
517.00	7,377	7,095	37,825
518.00	7,922	7,650	45,475

Device	Routing	Invert	Outlet Devices
#1	Primary	513.00'	**36.0" Round Culvert** L= 79.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 513.00' / 512.00' S= 0.0127 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf
#2	Device 1	513.00'	**4.0" Vert. Drawdown** C= 0.600 Limited to weir flow at low heads
#3	Device 1	515.10'	**38.0" W x 3.0" H Vert. Peakflow Orifice X 2.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	516.70'	**48.0" x 48.0" Horiz. Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.47 cfs @ 12.88 hrs HW=514.44' (Free Discharge)
└**1=Culvert** (Passes 0.47 cfs of 13.74 cfs potential flow)
  ├**2=Drawdown** (Orifice Controls 0.47 cfs @ 5.44 fps)
  ├**3=Peakflow Orifice** (Controls 0.00 cfs)
  └**4=Overflow** (Controls 0.00 cfs)

Pond 5P: Wet Pond SCM 5

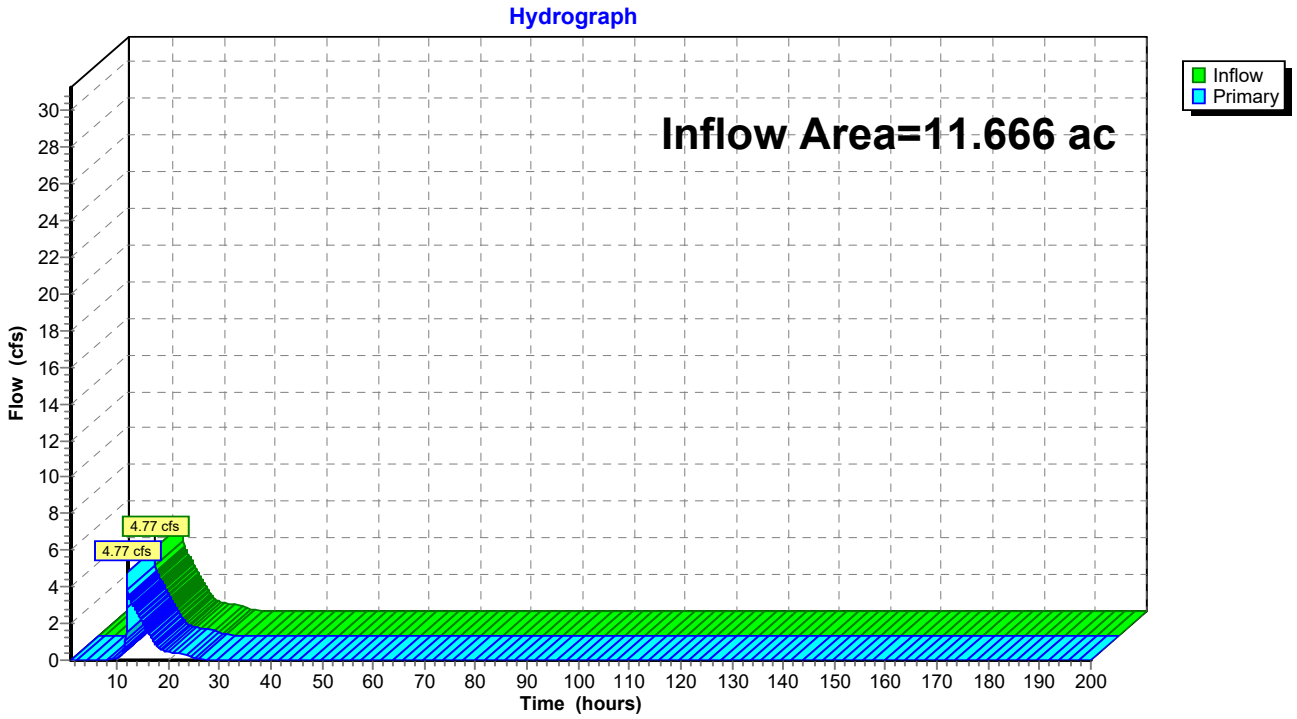


Summary for Link 1L: POA 1

Inflow Area = 11.666 ac, 51.60% Impervious, Inflow Depth = 1.46" for 1-yr event
Inflow = 4.77 cfs @ 12.02 hrs, Volume= 1.418 af
Primary = 4.77 cfs @ 12.02 hrs, Volume= 1.418 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs

Link 1L: POA 1

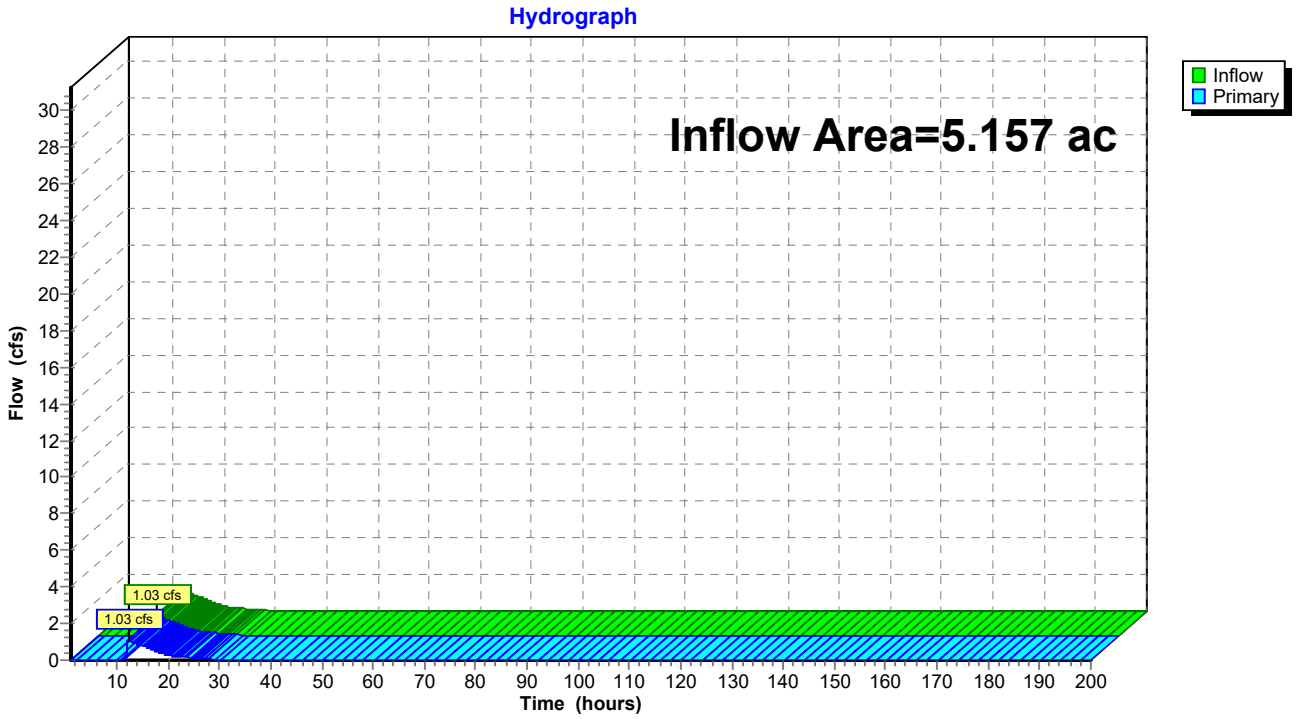


Summary for Link 2L: POA 2

Inflow Area = 5.157 ac, 52.79% Impervious, Inflow Depth = 1.39" for 1-yr event
Inflow = 1.03 cfs @ 12.36 hrs, Volume= 0.596 af
Primary = 1.03 cfs @ 12.36 hrs, Volume= 0.596 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs

Link 2L: POA 2

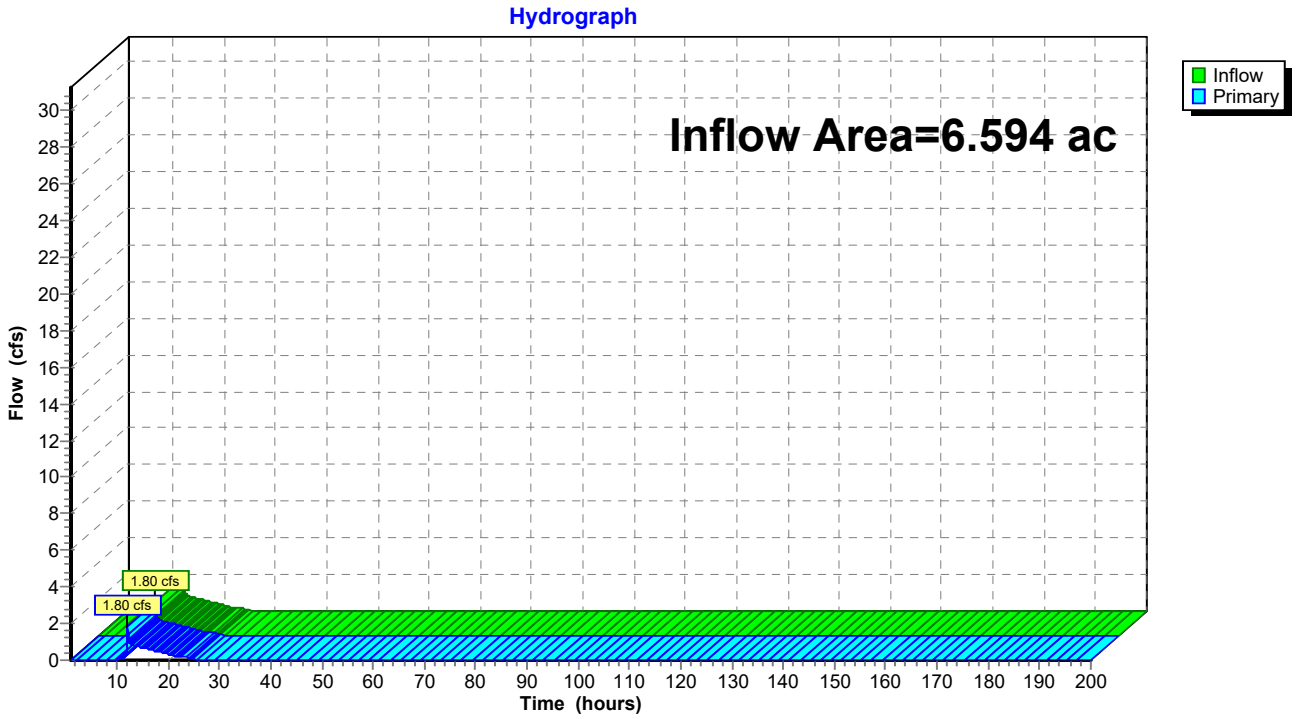


Summary for Link 3L: POA 4

Inflow Area = 6.594 ac, 34.08% Impervious, Inflow Depth = 0.99" for 1-yr event
Inflow = 1.80 cfs @ 12.11 hrs, Volume= 0.542 af
Primary = 1.80 cfs @ 12.11 hrs, Volume= 0.542 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs

Link 3L: POA 4

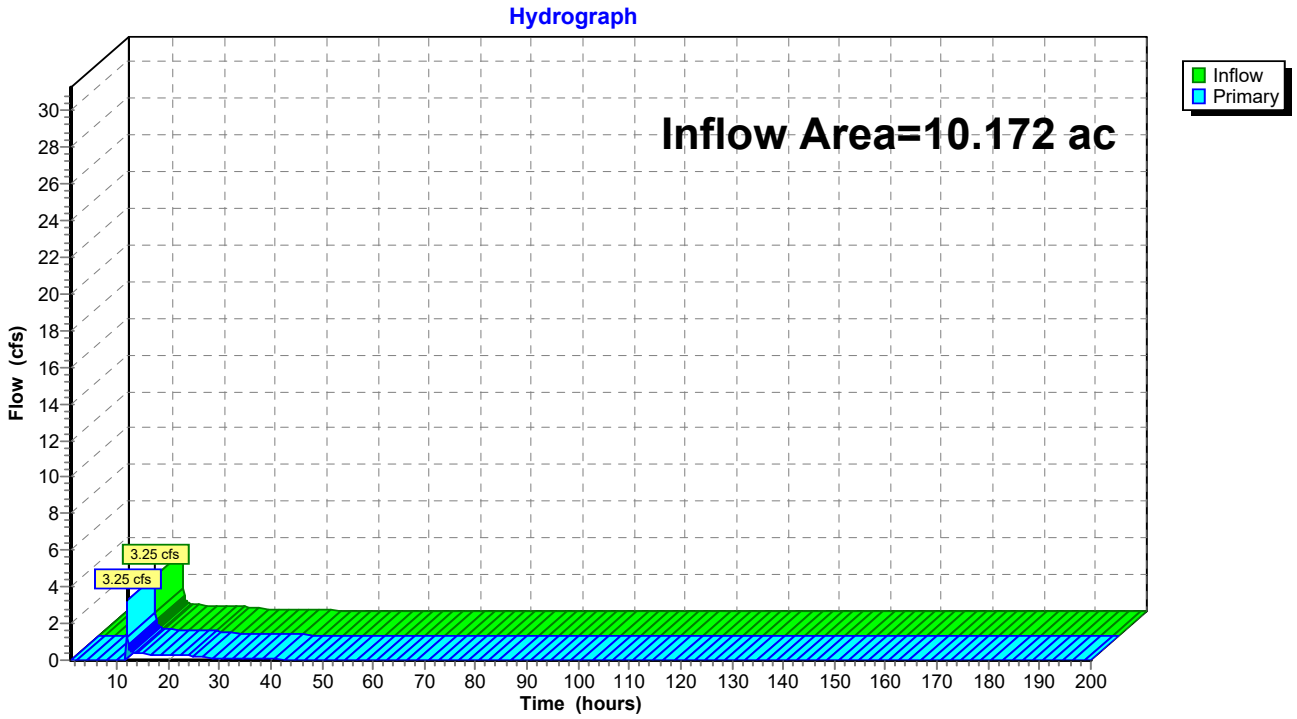


Summary for Link 4L: POA 5

Inflow Area = 10.172 ac, 27.00% Impervious, Inflow Depth = 0.66" for 1-yr event
Inflow = 3.25 cfs @ 12.00 hrs, Volume= 0.561 af
Primary = 3.25 cfs @ 12.00 hrs, Volume= 0.561 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs

Link 4L: POA 5

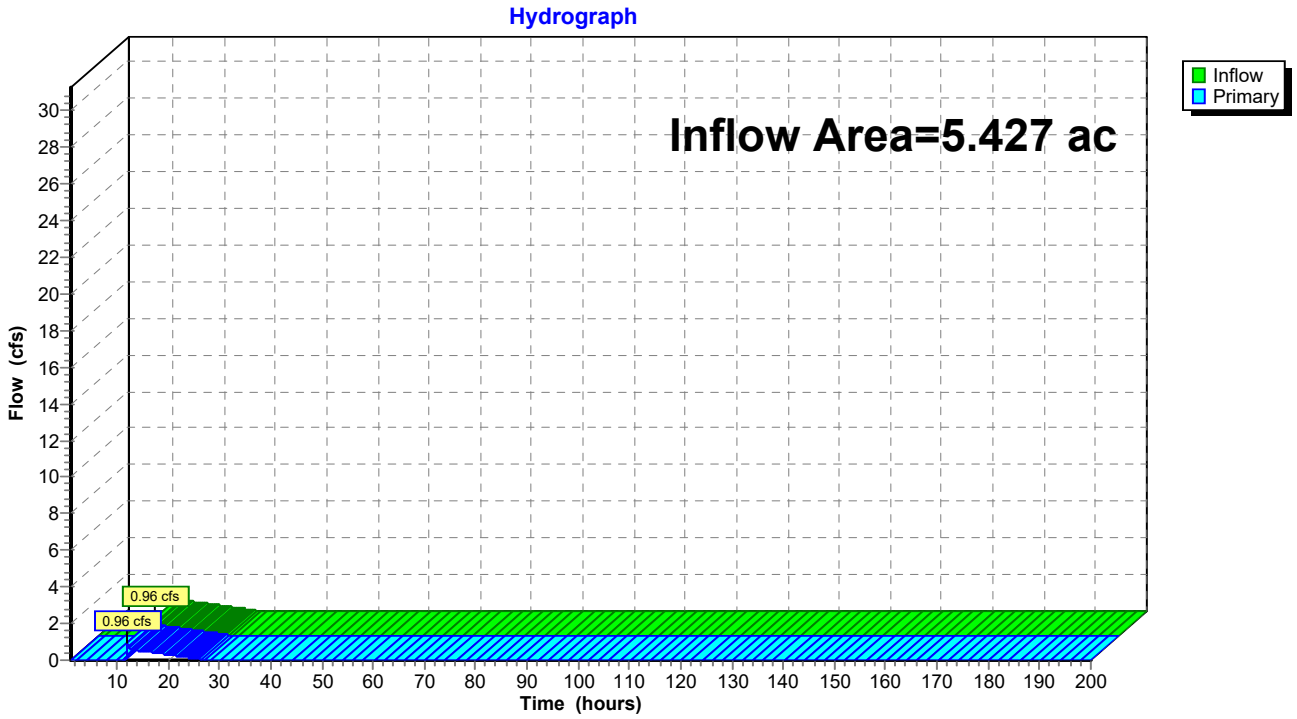


Summary for Link 5L: POA 6

Inflow Area = 5.427 ac, 39.28% Impervious, Inflow Depth = 0.93" for 1-yr event
Inflow = 0.96 cfs @ 12.10 hrs, Volume= 0.419 af
Primary = 0.96 cfs @ 12.10 hrs, Volume= 0.419 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs

Link 5L: POA 6



Time span=1.00-200.00 hrs, dt=0.10 hrs, 1991 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Pre Dev. Basin 1 Runoff Area=366,801 sf 0.00% Impervious Runoff Depth=1.82"
Flow Length=560' Slope=0.0630 '/' Tc=5.9 min CN=79 Runoff=24.78 cfs 1.276 af

Subcatchment2S: Pre Dev. Basin 2A Runoff Area=250,337 sf 0.00% Impervious Runoff Depth=1.82"
Flow Length=803' Slope=0.0650 '/' Tc=7.7 min CN=79 Runoff=16.53 cfs 0.871 af

Subcatchment3S: Pre Dev. Basin 2B Runoff Area=132,113 sf 0.00% Impervious Runoff Depth=0.68"
Flow Length=577' Slope=0.0451 '/' Tc=6.9 min CN=60 Runoff=2.85 cfs 0.171 af

Subcatchment4S: Pre Dev. Basin 2C Runoff Area=467,738 sf 32.11% Impervious Runoff Depth=2.38"
Flow Length=753' Slope=0.0633 '/' Tc=7.4 min CN=86 Runoff=40.05 cfs 2.133 af

Subcatchment6S: Pre Dev. Basin 3 Runoff Area=52,001 sf 0.00% Impervious Runoff Depth=1.74"
Flow Length=243' Slope=0.0170 '/' Tc=5.1 min CN=78 Runoff=3.35 cfs 0.174 af

Subcatchment7S: Pre Dev. Basin 4 Runoff Area=130,388 sf 0.00% Impervious Runoff Depth=0.63"
Flow Length=561' Slope=0.0221 '/' Tc=8.9 min CN=59 Runoff=2.26 cfs 0.157 af

Subcatchment8S: Pre Dev. Basin 5 Runoff Area=305,128 sf 0.00% Impervious Runoff Depth=0.63"
Flow Length=998' Slope=0.0301 '/' Tc=12.3 min CN=59 Runoff=4.56 cfs 0.368 af

Subcatchment9S: Pre Dev. Basin 6 Runoff Area=441,055 sf 0.00% Impervious Runoff Depth=0.68"
Flow Length=1,222' Slope=0.0441 '/' Tc=12.4 min CN=60 Runoff=7.29 cfs 0.570 af

Subcatchment10S: Pre Dev. Basin 7 Runoff Area=238,293 sf 0.00% Impervious Runoff Depth=0.54"
Flow Length=977' Slope=0.0468 '/' Tc=10.2 min CN=57 Runoff=2.89 cfs 0.247 af

Subcatchment11S: Pre Dev. Basin 8 Runoff Area=289,814 sf 1.87% Impervious Runoff Depth=0.77"
Flow Length=826' Slope=0.0447 '/' Tc=9.1 min CN=62 Runoff=6.67 cfs 0.428 af

Subcatchment12S: Post Basin 1 to SCM Runoff Area=327,690 sf 77.83% Impervious Runoff Depth=2.65"
Tc=5.0 min CN=89 Runoff=30.61 cfs 1.664 af

Subcatchment13S: Post Dev Bypass 1 Runoff Area=180,474 sf 3.97% Impervious Runoff Depth=0.68"
Tc=5.0 min CN=60 Runoff=4.04 cfs 0.233 af

Subcatchment14S: Post Dev. Bypass 2A Runoff Area=120,581 sf 0.00% Impervious Runoff Depth=1.82"
Flow Length=421' Slope=0.0411 '/' Tc=5.6 min CN=79 Runoff=8.13 cfs 0.419 af

Subcatchment15S: Post Dev. Basin 2B Runoff Area=166,052 sf 71.42% Impervious Runoff Depth=2.38"
Tc=5.0 min CN=86 Runoff=14.21 cfs 0.757 af

Subcatchment16S: Post Dev. Bypass 2C Runoff Area=460,928 sf 34.20% Impervious Runoff Depth=2.38"
Flow Length=753' Slope=0.0633 '/' Tc=7.4 min CN=86 Runoff=39.47 cfs 2.102 af

Subcatchment18S: Post Dev Bypass 2B Runoff Area=58,575 sf 0.00% Impervious Runoff Depth=0.42"
Tc=5.0 min CN=54 Runoff=0.65 cfs 0.047 af

Subcatchment19S: Post Dev. Basin 3 Runoff Area=48,549 sf 0.00% Impervious Runoff Depth=1.82"
Tc=5.0 min CN=79 Runoff=3.25 cfs 0.169 af

Subcatchment20S: Post Dev. Basin 4 Runoff Area=32,195 sf 15.62% Impervious Runoff Depth=1.04"
Tc=5.0 min CN=67 Runoff=1.20 cfs 0.064 af

Subcatchment21S: Post Dev. Basin 5 to Runoff Area=112,324 sf 76.09% Impervious Runoff Depth=2.56"
Tc=5.0 min CN=88 Runoff=10.20 cfs 0.551 af

Subcatchment22S: Post Dev. Bypass 5 Runoff Area=174,898 sf 7.09% Impervious Runoff Depth=0.63"
Tc=12.3 min CN=59 Runoff=2.61 cfs 0.211 af

Subcatchment23S: Post Dev. Basin 6 to Runoff Area=188,559 sf 61.06% Impervious Runoff Depth=2.47"
Tc=5.0 min CN=87 Runoff=16.63 cfs 0.892 af

Subcatchment24S: Post Dev. Bypass 6 Runoff Area=254,520 sf 1.76% Impervious Runoff Depth=0.72"
Tc=5.0 min CN=61 Runoff=6.21 cfs 0.352 af

Subcatchment25S: Post Dev. Basin 7 to Runoff Area=130,542 sf 60.84% Impervious Runoff Depth=1.97"
Tc=5.0 min CN=81 Runoff=9.42 cfs 0.492 af

Subcatchment26S: Post Dev. Bypass 7 Runoff Area=105,852 sf 12.68% Impervious Runoff Depth=0.54"
Tc=10.0 min CN=57 Runoff=1.29 cfs 0.110 af

Subcatchment27S: Post Dev. Bypass 8 Runoff Area=289,814 sf 1.87% Impervious Runoff Depth=0.77"
Flow Length=826' Slope=0.0447 '/' Tc=9.1 min CN=62 Runoff=6.67 cfs 0.428 af

Pond 1P: Sand Filter -SCM 1 Peak Elev=528.85' Storage=33,134 cf Inflow=30.61 cfs 1.664 af
Outflow=3.57 cfs 1.664 af

Pond 2P: Wet Pond SCM 2 Peak Elev=527.38' Storage=49,143 cf Inflow=14.21 cfs 0.757 af
Outflow=1.17 cfs 0.757 af

Pond 3P: Wet Pond SCM 3 Peak Elev=536.00' Storage=27,369 cf Inflow=10.20 cfs 0.551 af
Outflow=0.72 cfs 0.551 af

Pond 4P: Wet Pond SCM 4 Peak Elev=525.04' Storage=29,958 cf Inflow=16.63 cfs 0.892 af
Outflow=0.23 cfs 0.567 af

Pond 5P: Wet Pond SCM 5 Peak Elev=515.00' Storage=24,189 cf Inflow=9.42 cfs 0.492 af
Outflow=0.57 cfs 0.492 af

Link 1L: POA 1 Inflow=7.16 cfs 1.897 af
Primary=7.16 cfs 1.897 af

Link 2L: POA 2 Inflow=1.67 cfs 0.804 af
Primary=1.67 cfs 0.804 af

Link 3L: POA 4 Inflow=3.30 cfs 0.761 af
Primary=3.30 cfs 0.761 af

Link 4L: POA 5 Inflow=6.30 cfs 0.919 af
Primary=6.30 cfs 0.919 af

Link 5L: POA 6 Inflow=1.80 cfs 0.602 af
Primary=1.80 cfs 0.602 af

Total Runoff Area = 122.250 ac Runoff Volume = 14.884 af Average Runoff Depth = 1.46"
80.94% Pervious = 98.954 ac 19.06% Impervious = 23.297 ac

Summary for Subcatchment 1S: Pre Dev. Basin 1

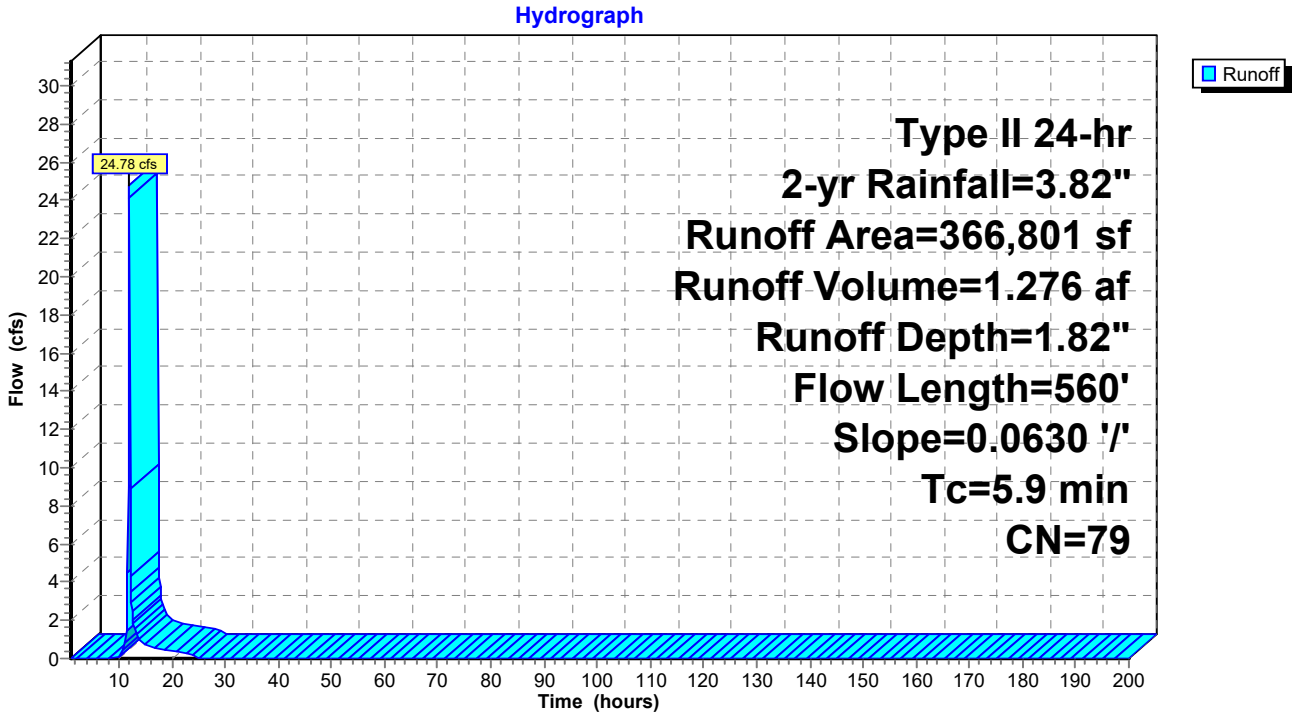
Runoff = 24.78 cfs @ 11.97 hrs, Volume= 1.276 af, Depth= 1.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
342,042	79	Woods, Fair, HSG D
24,759	73	Brush, Good, HSG D
366,801	79	Weighted Average
366,801		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	560	0.0630	1.58		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 1S: Pre Dev. Basin 1



Summary for Subcatchment 2S: Pre Dev. Basin 2A

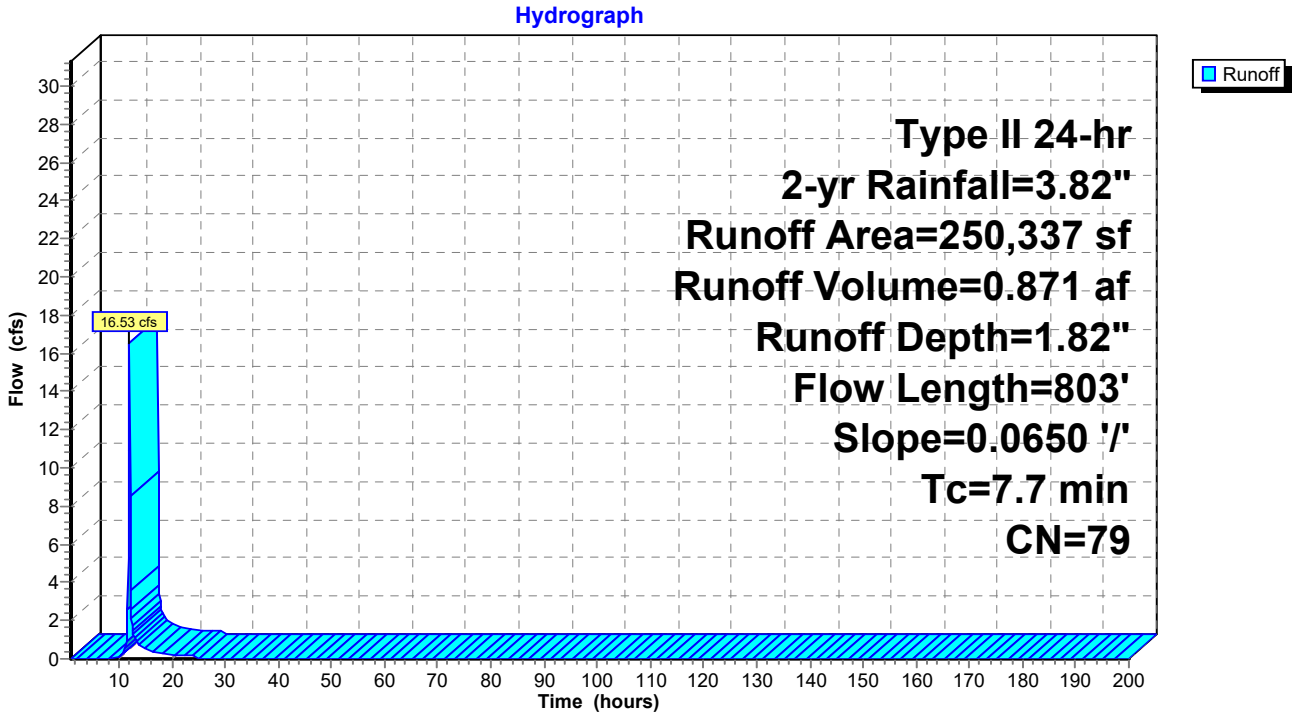
Runoff = 16.53 cfs @ 11.99 hrs, Volume= 0.871 af, Depth= 1.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
250,337	79	Woods, Fair, HSG D
250,337		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	803	0.0650	1.74		**Kirpich Method, Estimated Tc** General overland flow k= 2.00

Subcatchment 2S: Pre Dev. Basin 2A



Summary for Subcatchment 3S: Pre Dev. Basin 2B

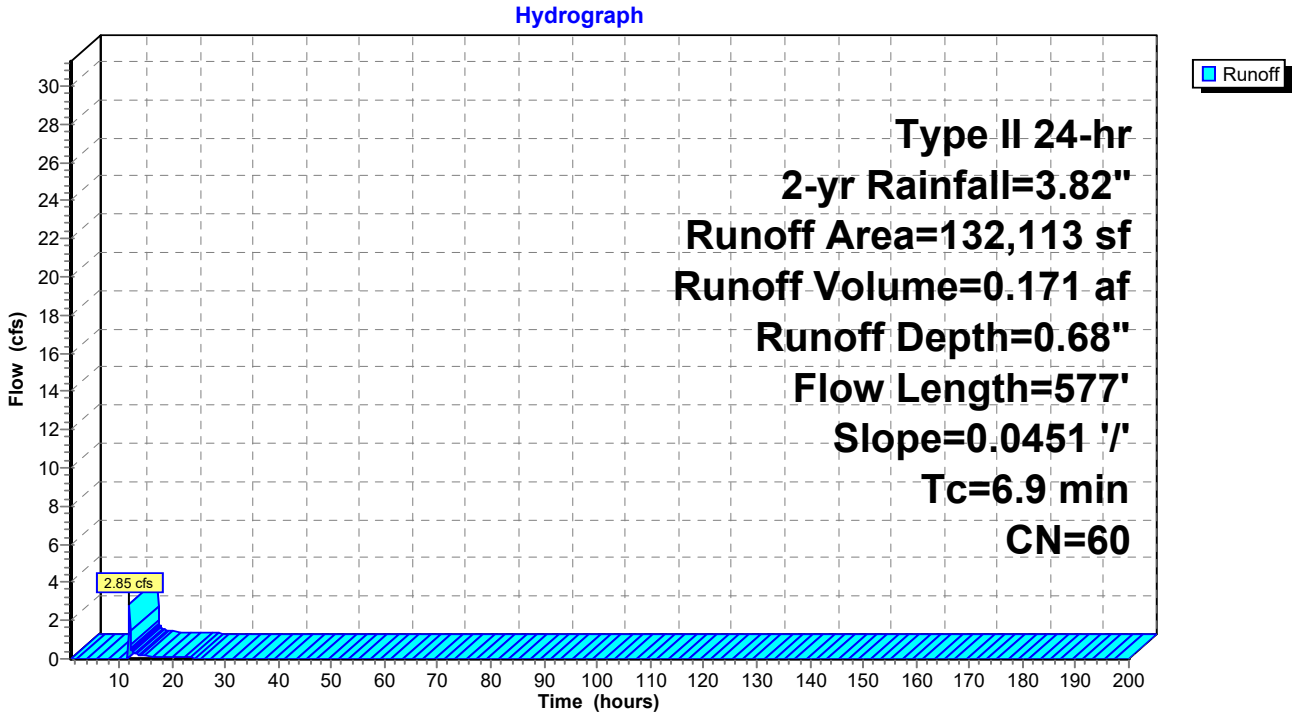
Runoff = 2.85 cfs @ 12.00 hrs, Volume= 0.171 af, Depth= 0.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
132,113	60	Woods, Fair, HSG B
132,113		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	577	0.0451	1.40		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 3S: Pre Dev. Basin 2B



Summary for Subcatchment 4S: Pre Dev. Basin 2C

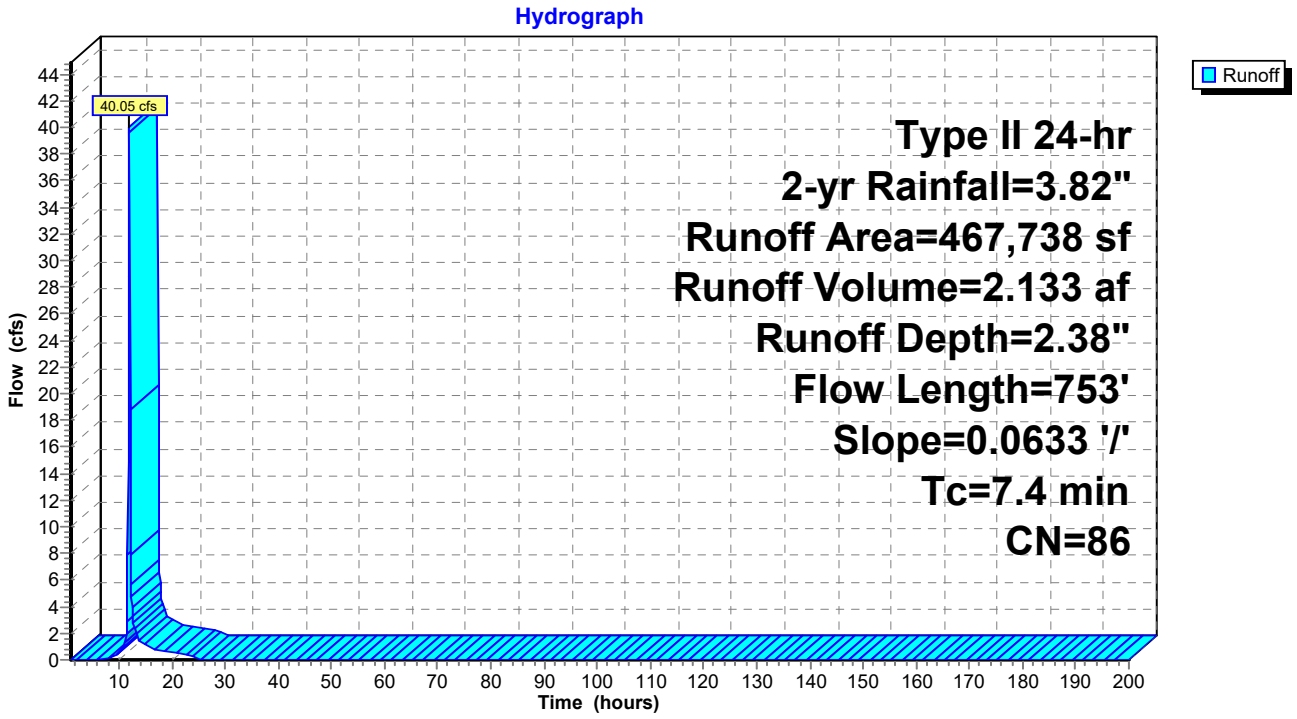
Runoff = 40.05 cfs @ 11.98 hrs, Volume= 2.133 af, Depth= 2.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
173,689	79	Woods, Fair, HSG D
94,275	98	Paved parking, HSG D
143,869	82	Woods/grass comb., Fair, HSG D
55,905	98	Roofs, HSG D
467,738	86	Weighted Average
317,558		67.89% Pervious Area
150,180		32.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	753	0.0633	1.69		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 4S: Pre Dev. Basin 2C



Summary for Subcatchment 6S: Pre Dev. Basin 3

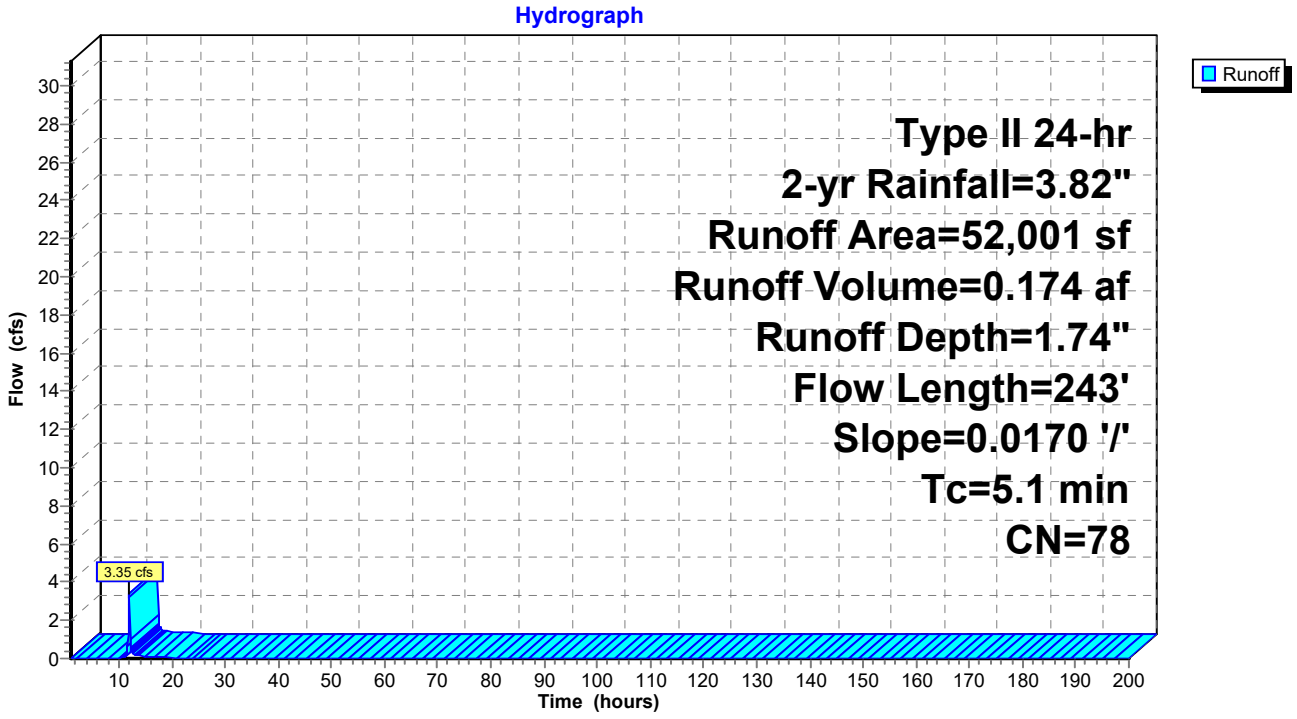
Runoff = 3.35 cfs @ 11.96 hrs, Volume= 0.174 af, Depth= 1.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
9,925	73	Woods, Fair, HSG C
42,076	79	50-75% Grass cover, Fair, HSG C
52,001	78	Weighted Average
52,001		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.1	243	0.0170	0.79		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 6S: Pre Dev. Basin 3



Summary for Subcatchment 7S: Pre Dev. Basin 4

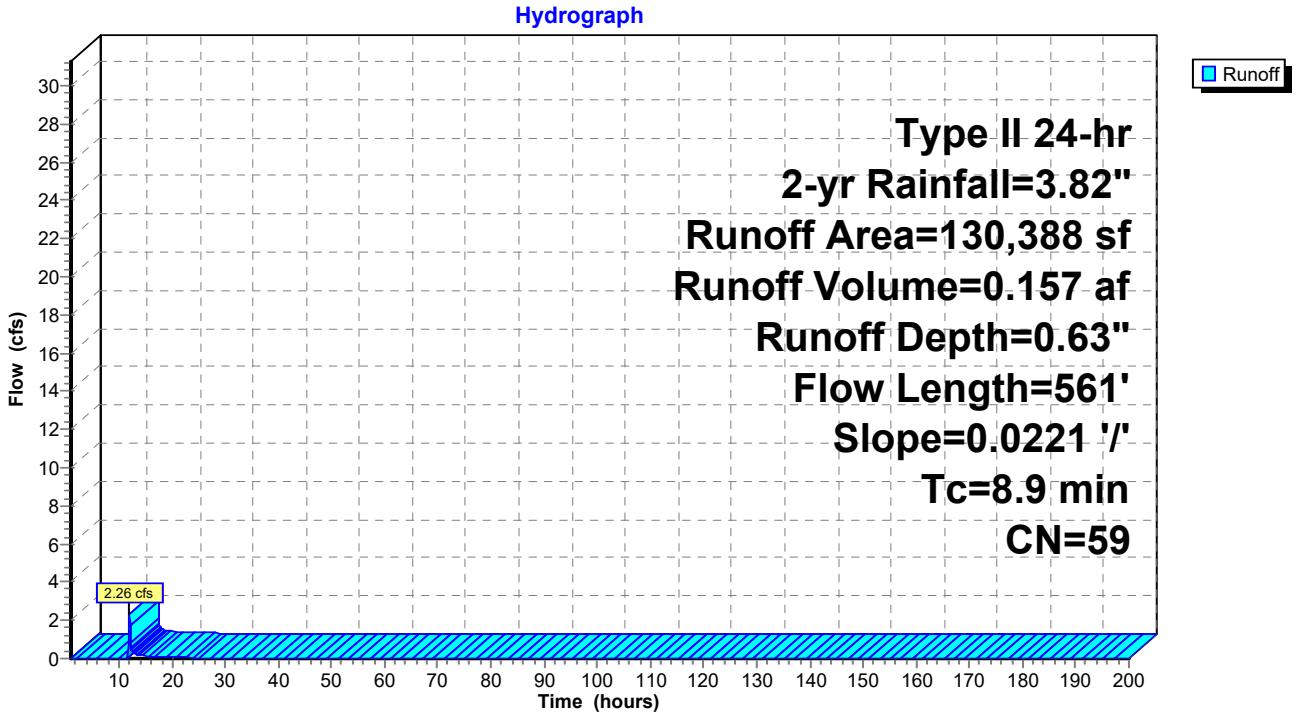
Runoff = 2.26 cfs @ 12.03 hrs, Volume= 0.157 af, Depth= 0.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
104,102	60	Woods, Fair, HSG B
26,286	56	Brush, Fair, HSG B
130,388	59	Weighted Average
130,388		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	561	0.0221	1.06		**Kirpich Method,** General overland flow k= 2.00

Subcatchment 7S: Pre Dev. Basin 4



Summary for Subcatchment 8S: Pre Dev. Basin 5

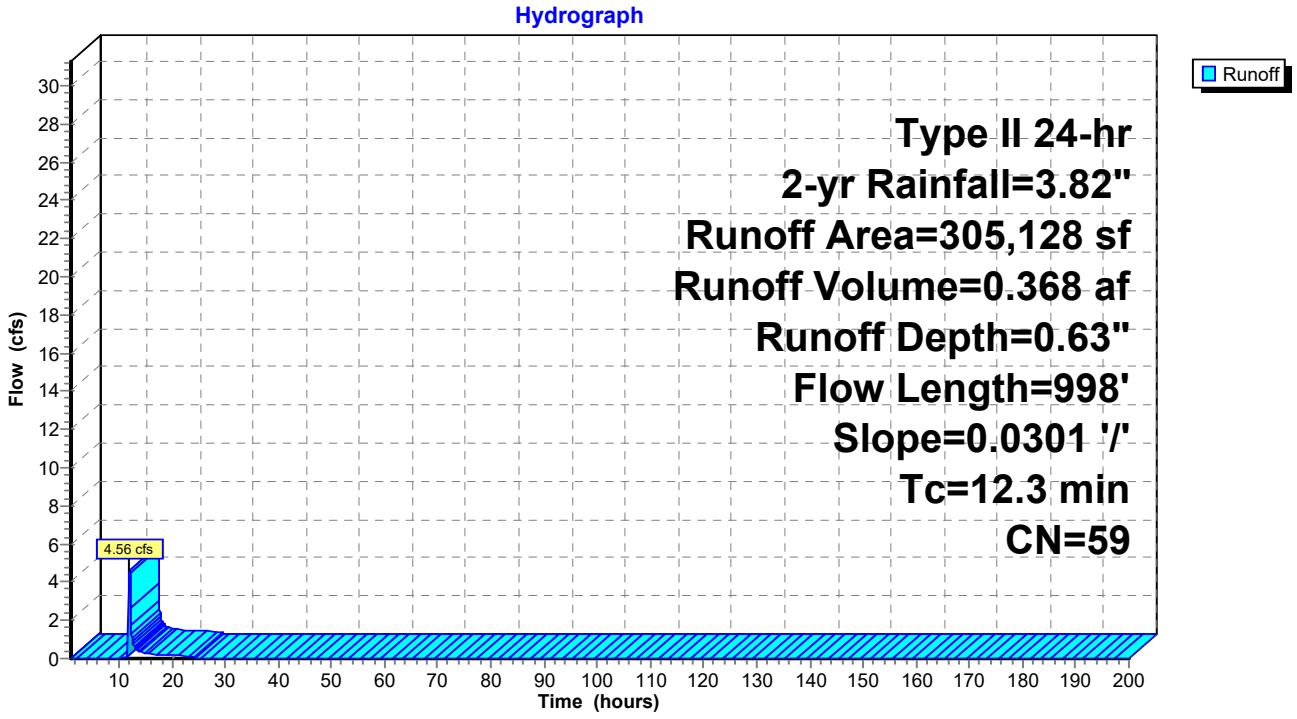
Runoff = 4.56 cfs @ 12.09 hrs, Volume= 0.368 af, Depth= 0.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
267,919	60	Woods, Fair, HSG B
37,209	48	Brush, Good, HSG B
305,128	59	Weighted Average
305,128		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	998	0.0301	1.36		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 8S: Pre Dev. Basin 5



Summary for Subcatchment 9S: Pre Dev. Basin 6

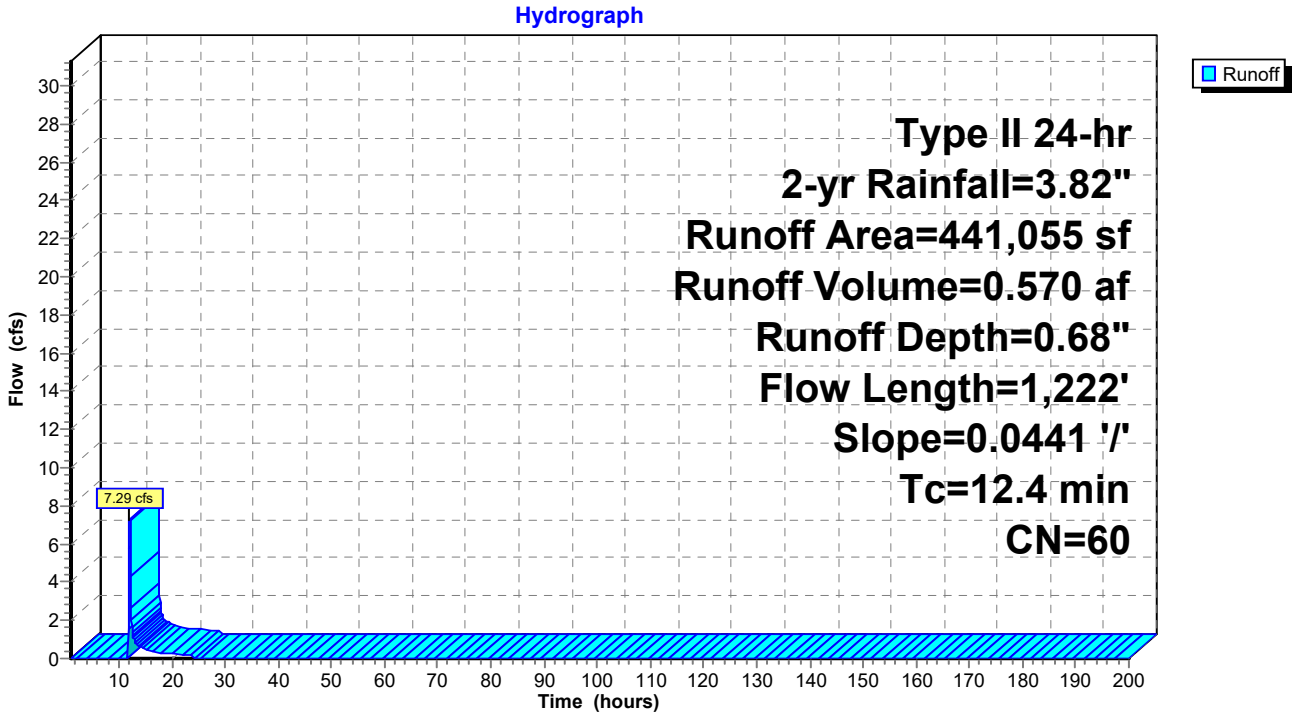
Runoff = 7.29 cfs @ 12.08 hrs, Volume= 0.570 af, Depth= 0.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
401,238	60	Woods, Fair, HSG B
39,817	56	Brush, Fair, HSG B
441,055	60	Weighted Average
441,055		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	1,222	0.0441	1.65		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 9S: Pre Dev. Basin 6



Summary for Subcatchment 10S: Pre Dev. Basin 7

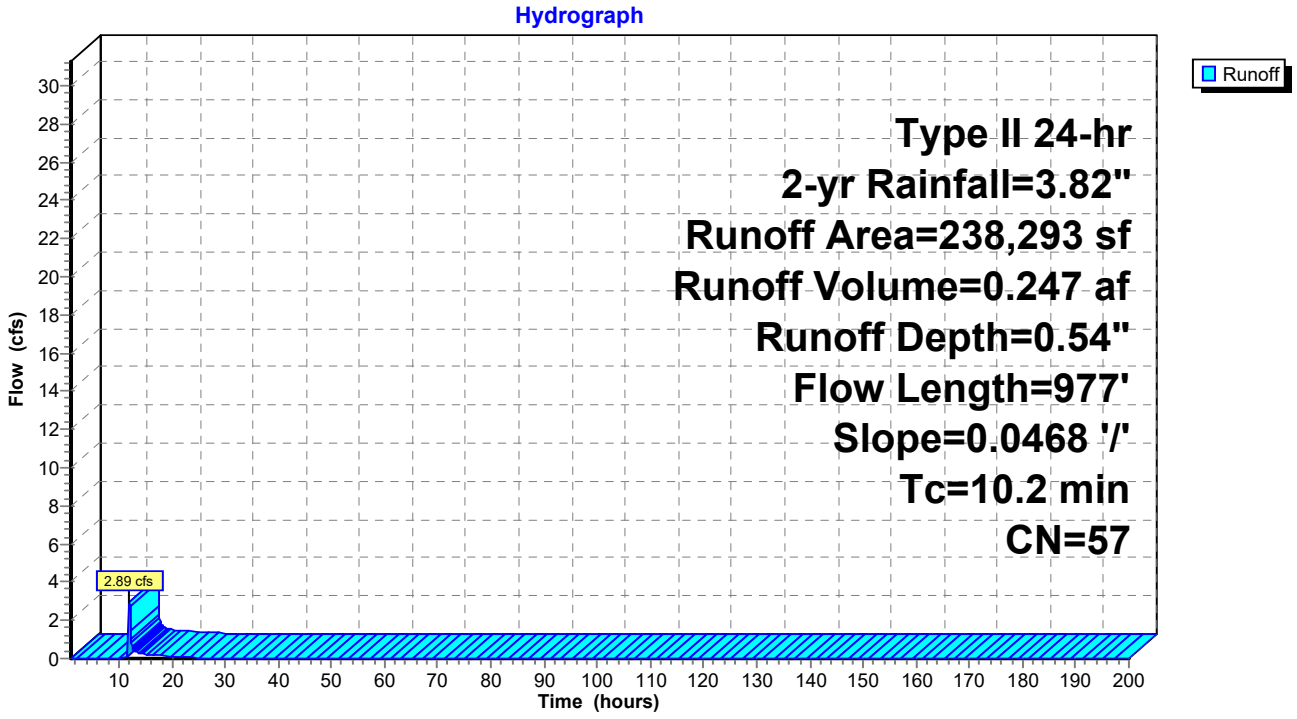
Runoff = 2.89 cfs @ 12.06 hrs, Volume= 0.247 af, Depth= 0.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
207,447	55	Woods, Good, HSG B
30,846	69	Pasture/grassland/range, Fair, HSG B
238,293	57	Weighted Average
238,293		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	977	0.0468	1.60		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 10S: Pre Dev. Basin 7



Summary for Subcatchment 11S: Pre Dev. Basin 8

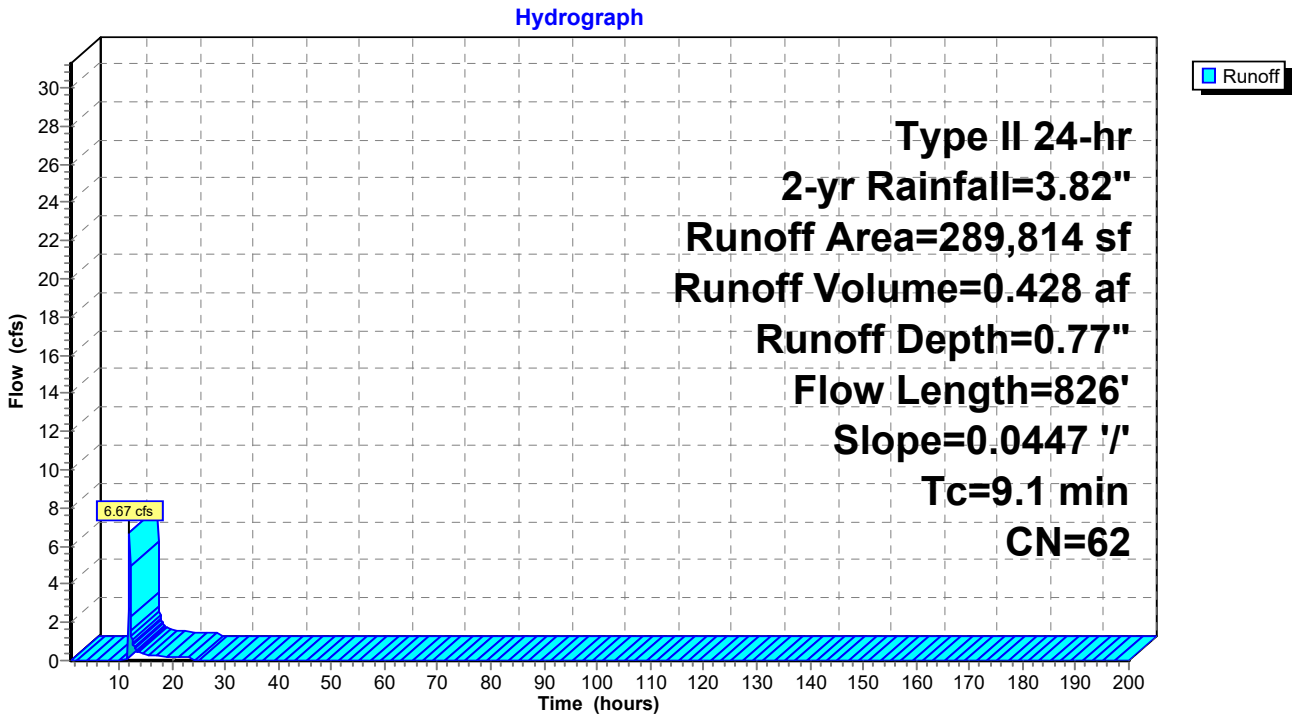
Runoff = 6.67 cfs @ 12.02 hrs, Volume= 0.428 af, Depth= 0.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
230,959	60	Woods, Fair, HSG B
53,439	69	50-75% Grass cover, Fair, HSG B
5,416	98	Paved parking, HSG B
289,814	62	Weighted Average
284,398		98.13% Pervious Area
5,416		1.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	826	0.0447	1.51		**Kirpich Method,** General overland flow k= 2.00

Subcatchment 11S: Pre Dev. Basin 8



Summary for Subcatchment 12S: Post Basin 1 to SCM

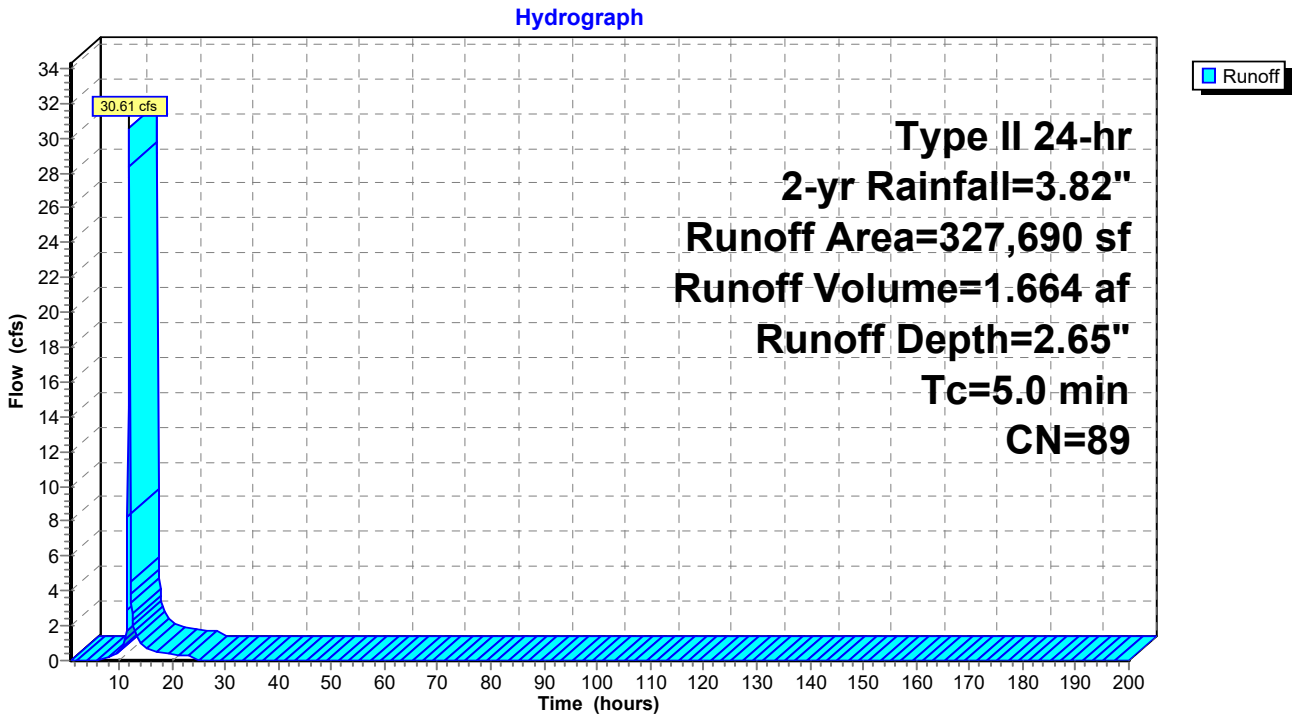
Runoff = 30.61 cfs @ 11.95 hrs, Volume= 1.664 af, Depth= 2.65"
Routed to Pond 1P : Sand Filter -SCM 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
104,903	98	Paved parking, HSG A
72,655	56	Brush, Fair, HSG B
150,132	98	Roofs, HSG B
327,690	89	Weighted Average
72,655		22.17% Pervious Area
255,035		77.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 12S: Post Basin 1 to SCM



Summary for Subcatchment 13S: Post Dev Bypass 1

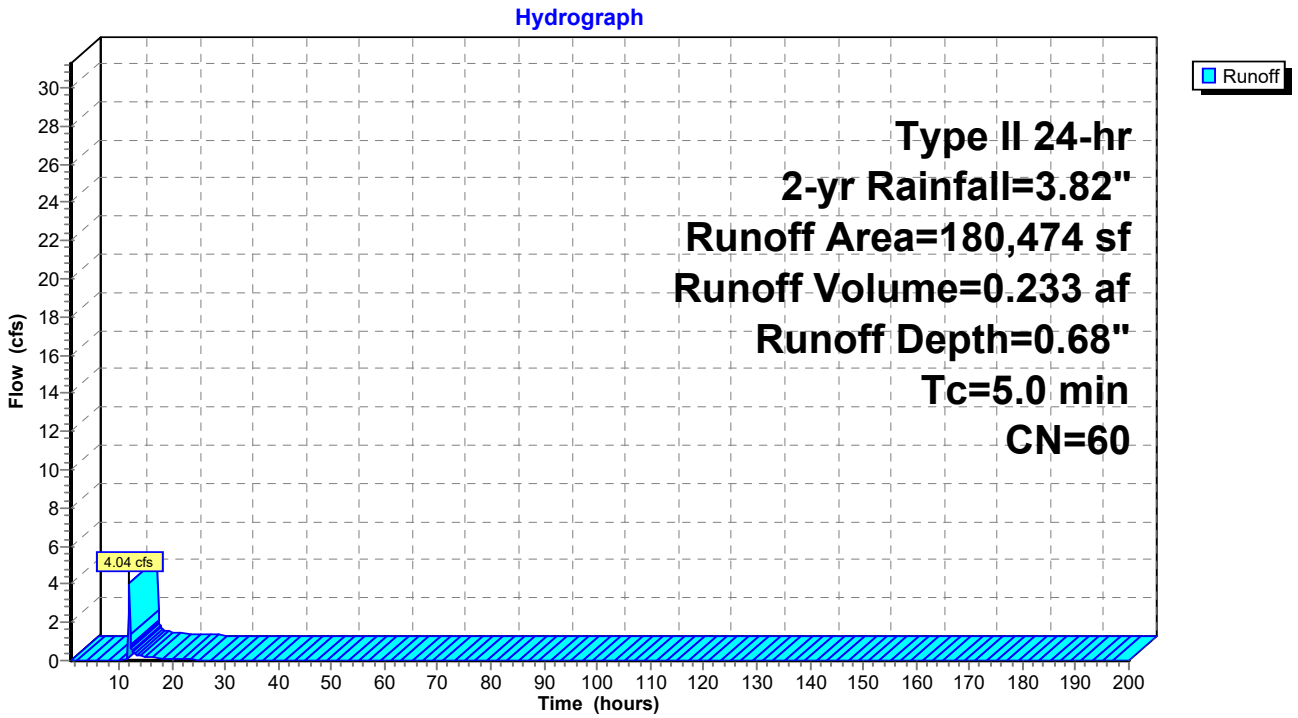
Runoff = 4.04 cfs @ 11.99 hrs, Volume= 0.233 af, Depth= 0.68"
Routed to Link 1L : POA 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
124,058	60	Woods, Fair, HSG B
49,243	56	Brush, Fair, HSG B
7,173	98	Paved parking, HSG B
180,474	60	Weighted Average
173,301		96.03% Pervious Area
7,173		3.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 13S: Post Dev Bypass 1



Summary for Subcatchment 14S: Post Dev. Bypass 2A

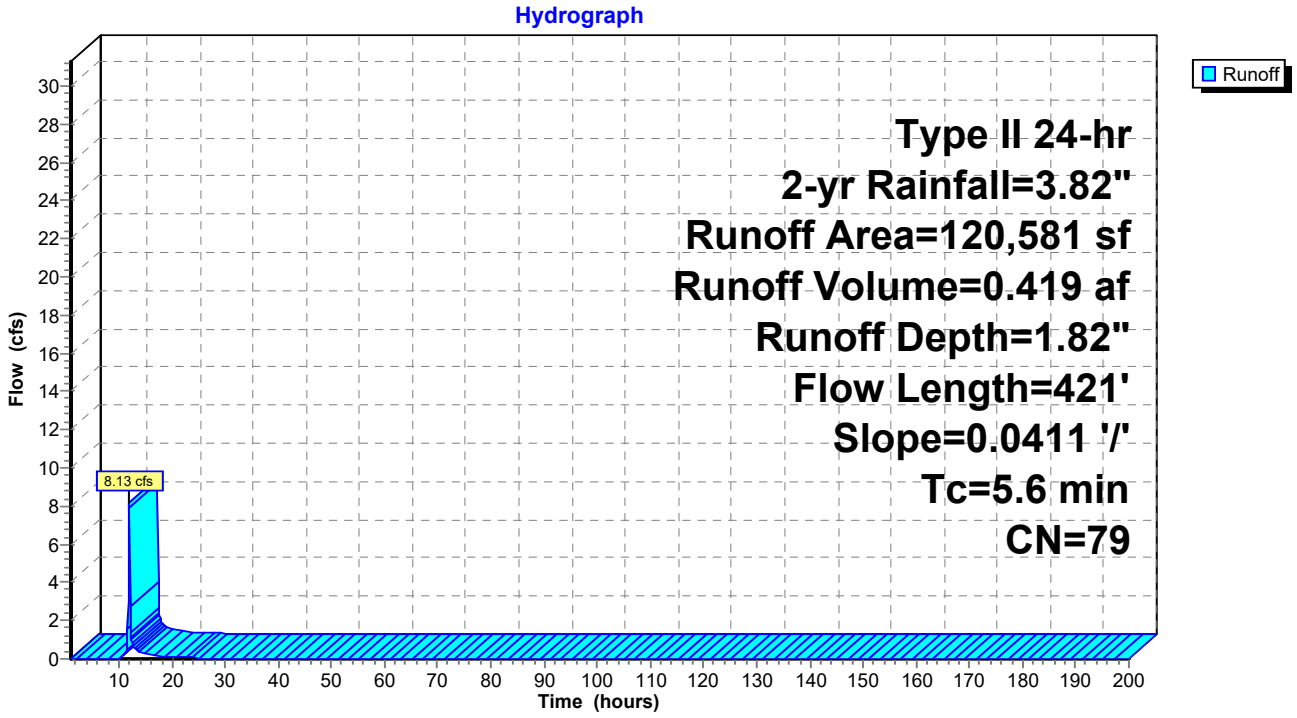
Runoff = 8.13 cfs @ 11.97 hrs, Volume= 0.419 af, Depth= 1.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
120,581	79	Woods, Fair, HSG D
120,581		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	421	0.0411	1.25		**Kirpich Method, Estimated Tc** General overland flow k= 2.00

Subcatchment 14S: Post Dev. Bypass 2A



Summary for Subcatchment 15S: Post Dev. Basin 2B to SCM

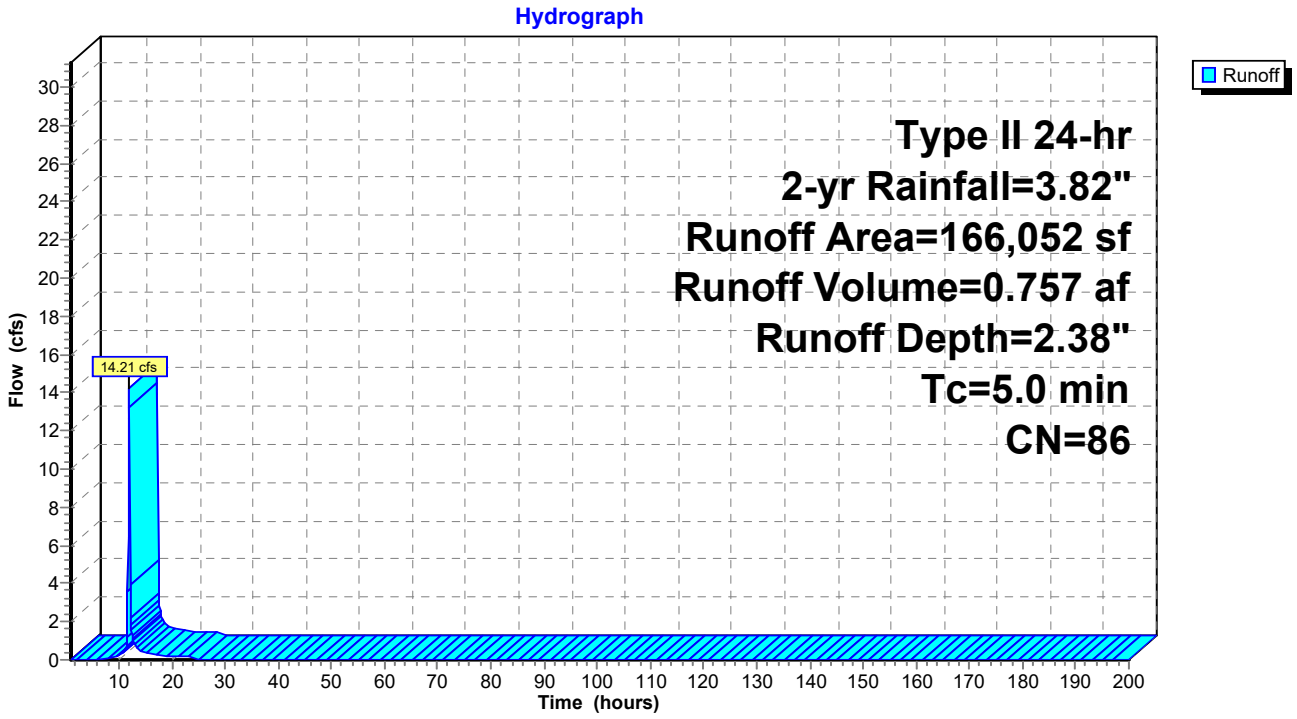
Runoff = 14.21 cfs @ 11.96 hrs, Volume= 0.757 af, Depth= 2.38"
Routed to Pond 2P : Wet Pond SCM 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
22,914	98	Paved parking, HSG B
6,465	48	Brush, Good, HSG B
95,673	98	Roofs, HSG B
41,000	58	Woods/grass comb., Good, HSG B
166,052	86	Weighted Average
47,465		28.58% Pervious Area
118,587		71.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 15S: Post Dev. Basin 2B to SCM



Summary for Subcatchment 16S: Post Dev. Bypass 2C

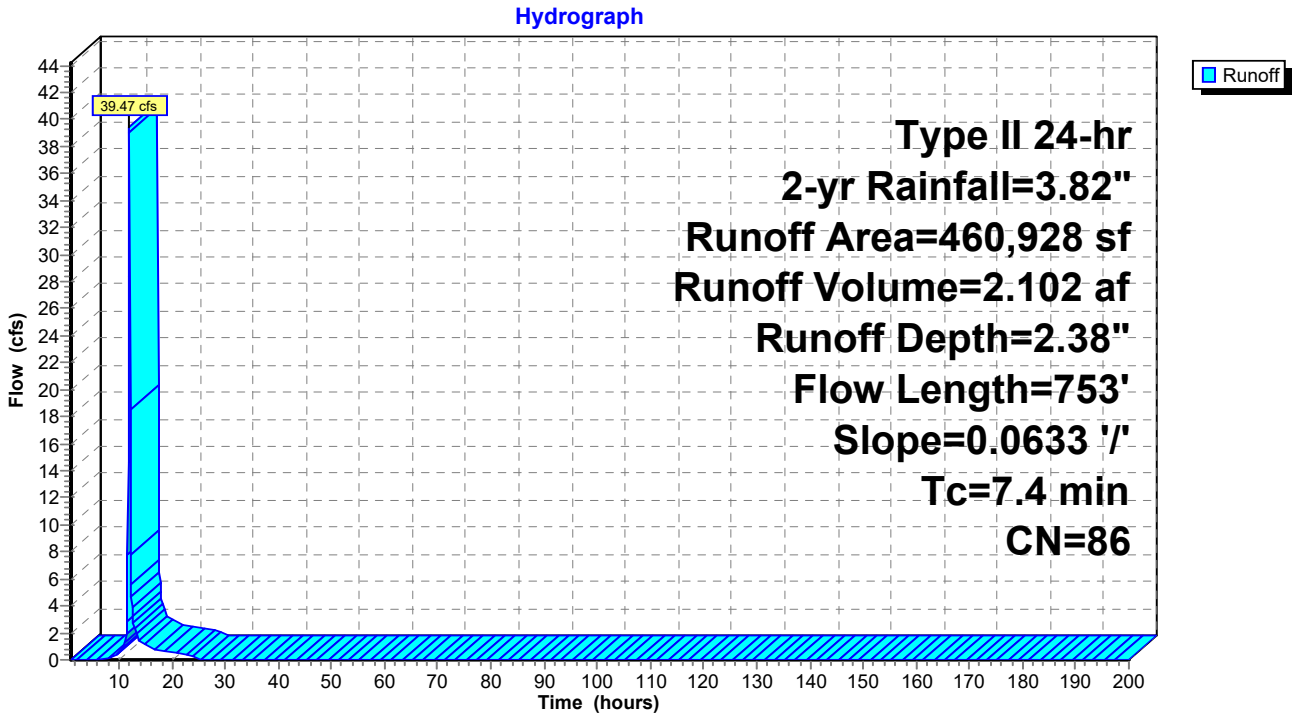
Runoff = 39.47 cfs @ 11.98 hrs, Volume= 2.102 af, Depth= 2.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
173,689	79	Woods, Fair, HSG D
101,714	98	Paved parking, HSG D
129,620	82	Woods/grass comb., Fair, HSG D
55,905	98	Roofs, HSG D
460,928	86	Weighted Average
303,309		65.80% Pervious Area
157,619		34.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	753	0.0633	1.69		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 16S: Post Dev. Bypass 2C



Summary for Subcatchment 18S: Post Dev Bypass 2B

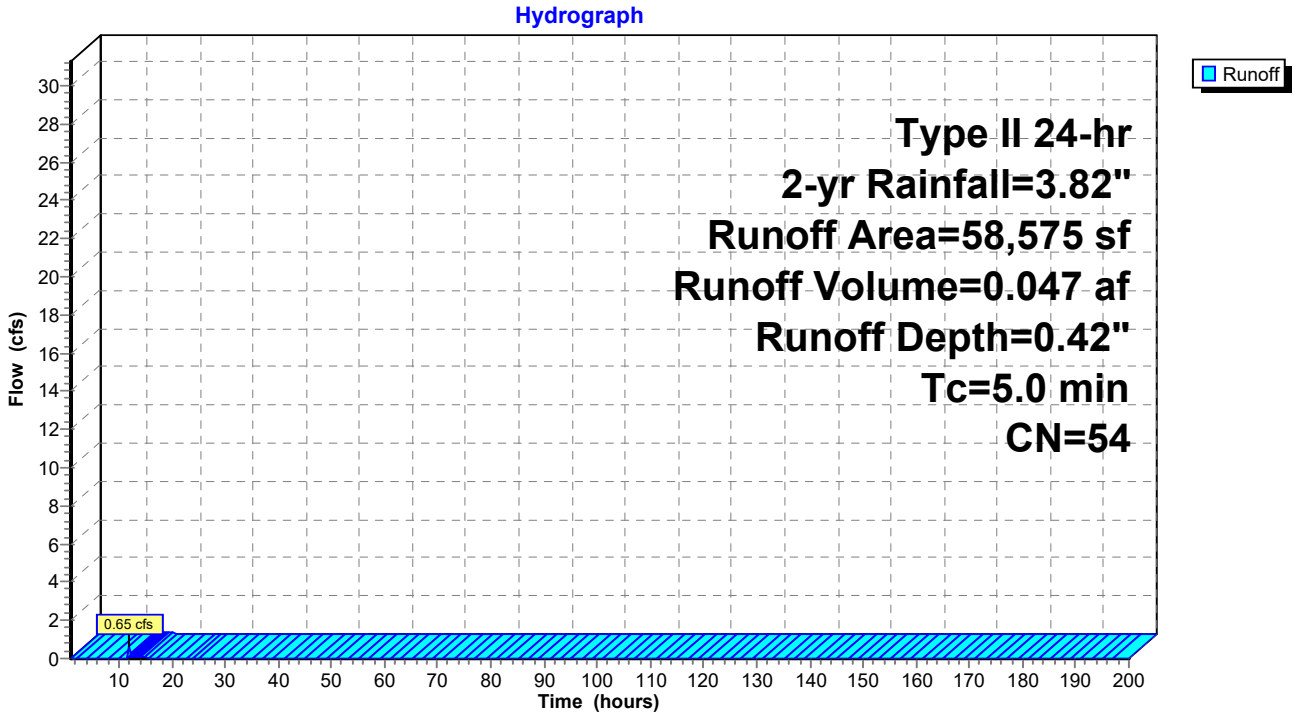
Runoff = 0.65 cfs @ 12.00 hrs, Volume= 0.047 af, Depth= 0.42"
Routed to Link 2L : POA 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
54,125	55	Woods, Good, HSG B
4,450	48	Brush, Good, HSG B
58,575	54	Weighted Average
58,575		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 18S: Post Dev Bypass 2B



Summary for Subcatchment 19S: Post Dev. Basin 3

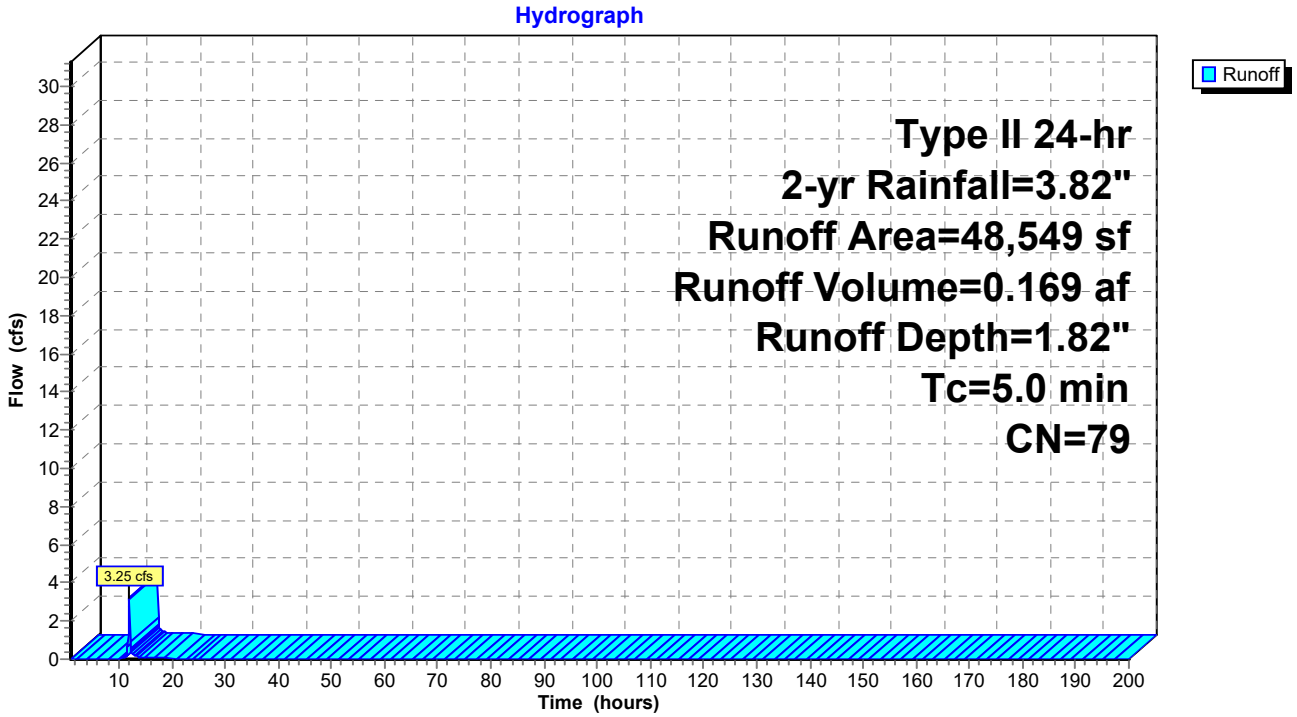
Runoff = 3.25 cfs @ 11.96 hrs, Volume= 0.169 af, Depth= 1.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
48,549	79	50-75% Grass cover, Fair, HSG C
48,549		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 19S: Post Dev. Basin 3



Summary for Subcatchment 20S: Post Dev. Basin 4

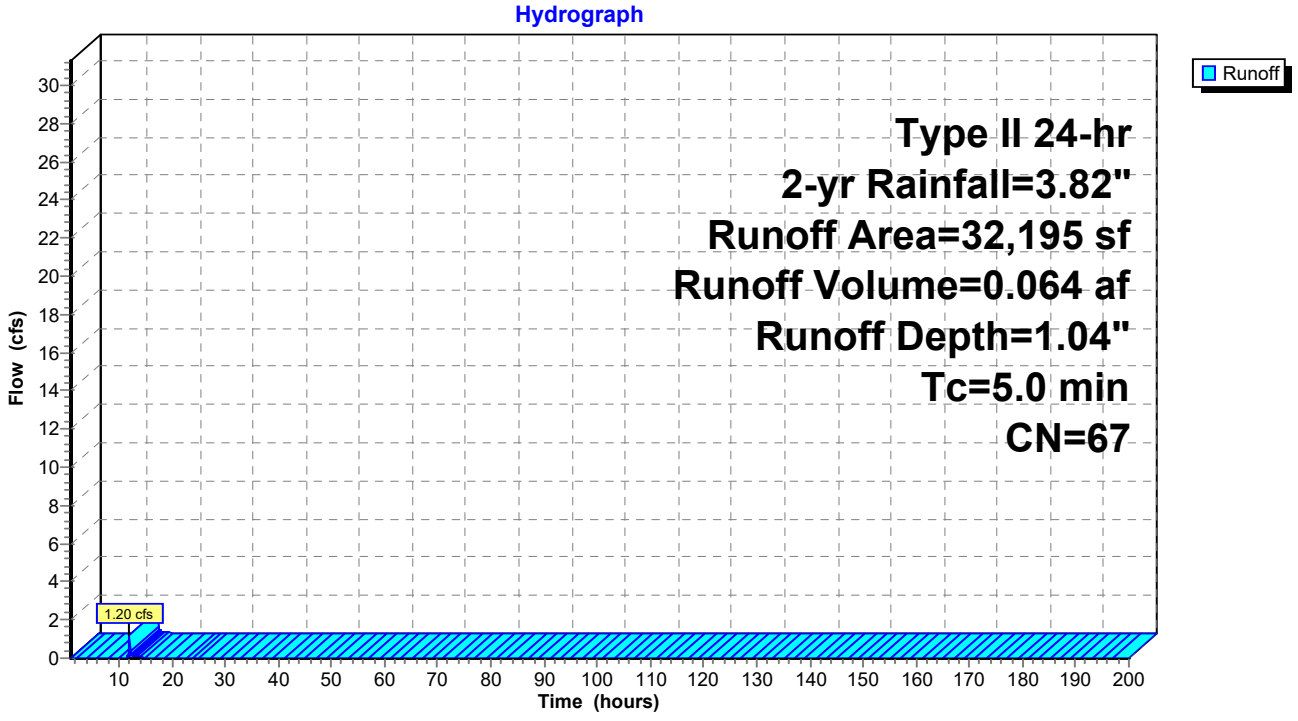
Runoff = 1.20 cfs @ 11.98 hrs, Volume= 0.064 af, Depth= 1.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
6,966	60	Woods, Fair, HSG B
20,201	61	>75% Grass cover, Good, HSG B
5,028	98	Paved parking, HSG B
32,195	67	Weighted Average
27,167		84.38% Pervious Area
5,028		15.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 20S: Post Dev. Basin 4



Summary for Subcatchment 21S: Post Dev. Basin 5 to SCM

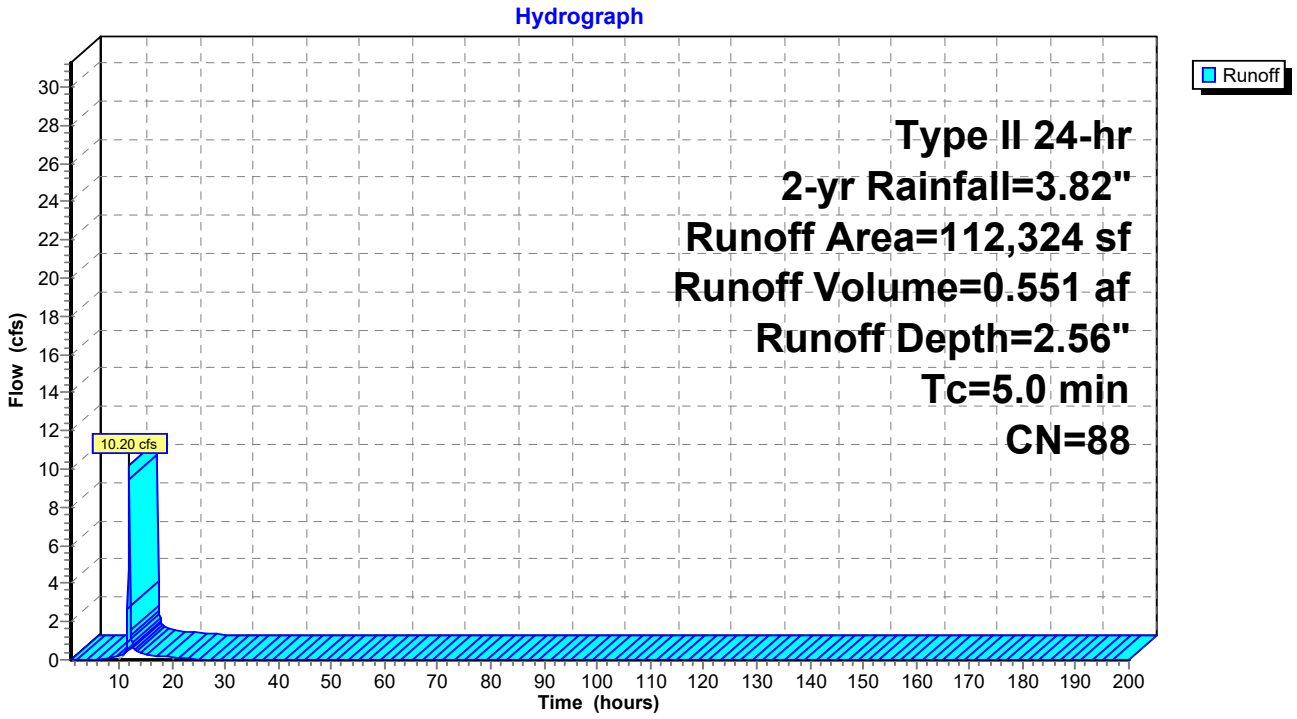
Runoff = 10.20 cfs @ 11.95 hrs, Volume= 0.551 af, Depth= 2.56"
Routed to Pond 3P : Wet Pond SCM 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
40,704	98	Roofs, HSG B
22,215	48	Brush, Good, HSG B
44,766	98	Paved parking, HSG B
4,639	98	Water Surface, 0% imp, HSG B
112,324	88	Weighted Average
26,854		23.91% Pervious Area
85,470		76.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 21S: Post Dev. Basin 5 to SCM



Summary for Subcatchment 22S: Post Dev. Bypass 5

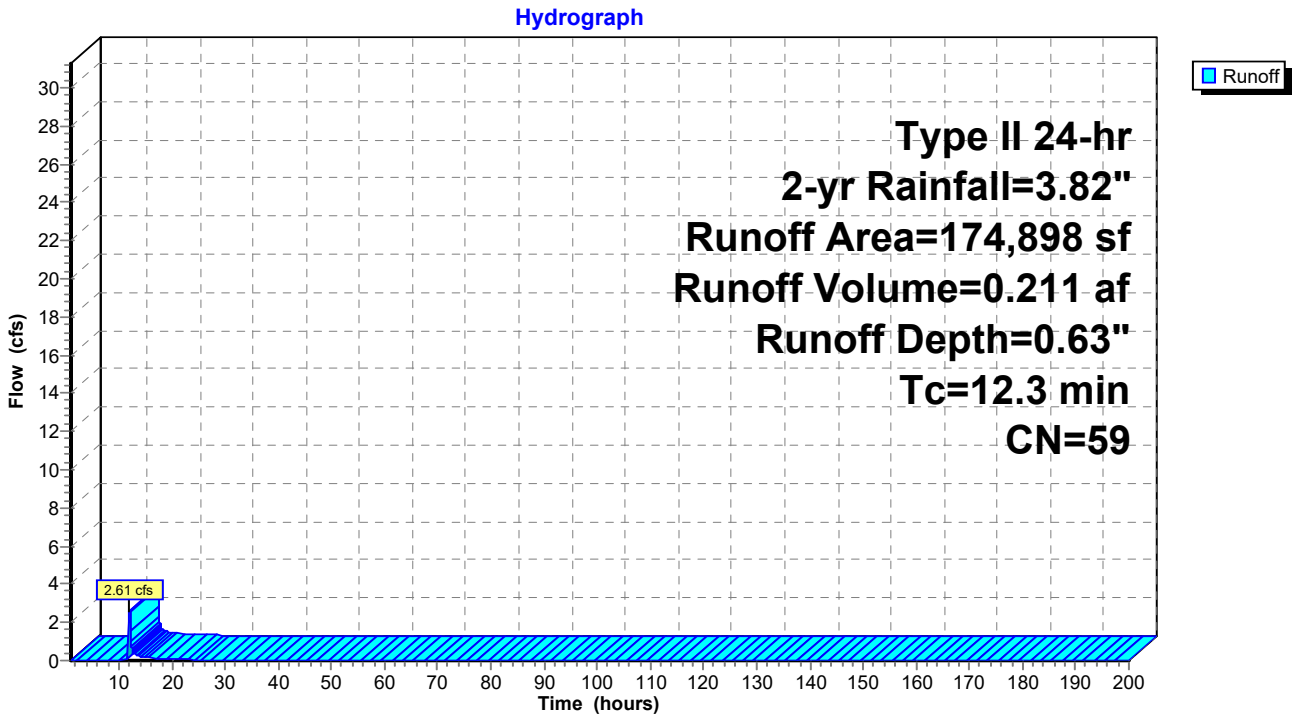
Runoff = 2.61 cfs @ 12.09 hrs, Volume= 0.211 af, Depth= 0.63"
Routed to Link 3L : POA 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
110,888	60	Woods, Fair, HSG B
51,602	48	Brush, Good, HSG B
12,408	98	Paved parking, HSG B
174,898	59	Weighted Average
162,490		92.91% Pervious Area
12,408		7.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3					**Direct Entry,**

Subcatchment 22S: Post Dev. Bypass 5



Summary for Subcatchment 23S: Post Dev. Basin 6 to SCM

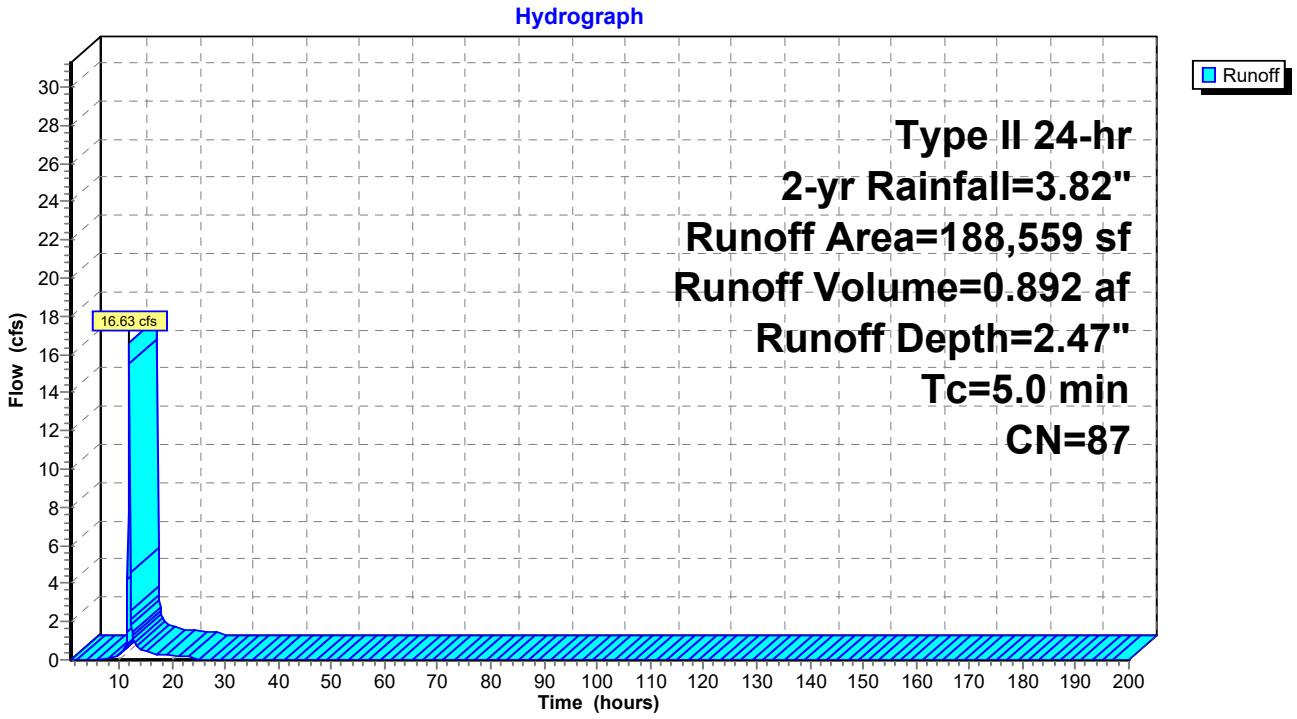
Runoff = 16.63 cfs @ 11.95 hrs, Volume= 0.892 af, Depth= 2.47"
Routed to Pond 4P : Wet Pond SCM 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
54,466	98	Paved parking, HSG B
58,385	61	>75% Grass cover, Good, HSG B
60,672	98	Roofs, HSG B
15,036	98	Water Surface, 0% imp, HSG B
188,559	87	Weighted Average
73,421		38.94% Pervious Area
115,138		61.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 23S: Post Dev. Basin 6 to SCM



Summary for Subcatchment 24S: Post Dev. Bypass 6

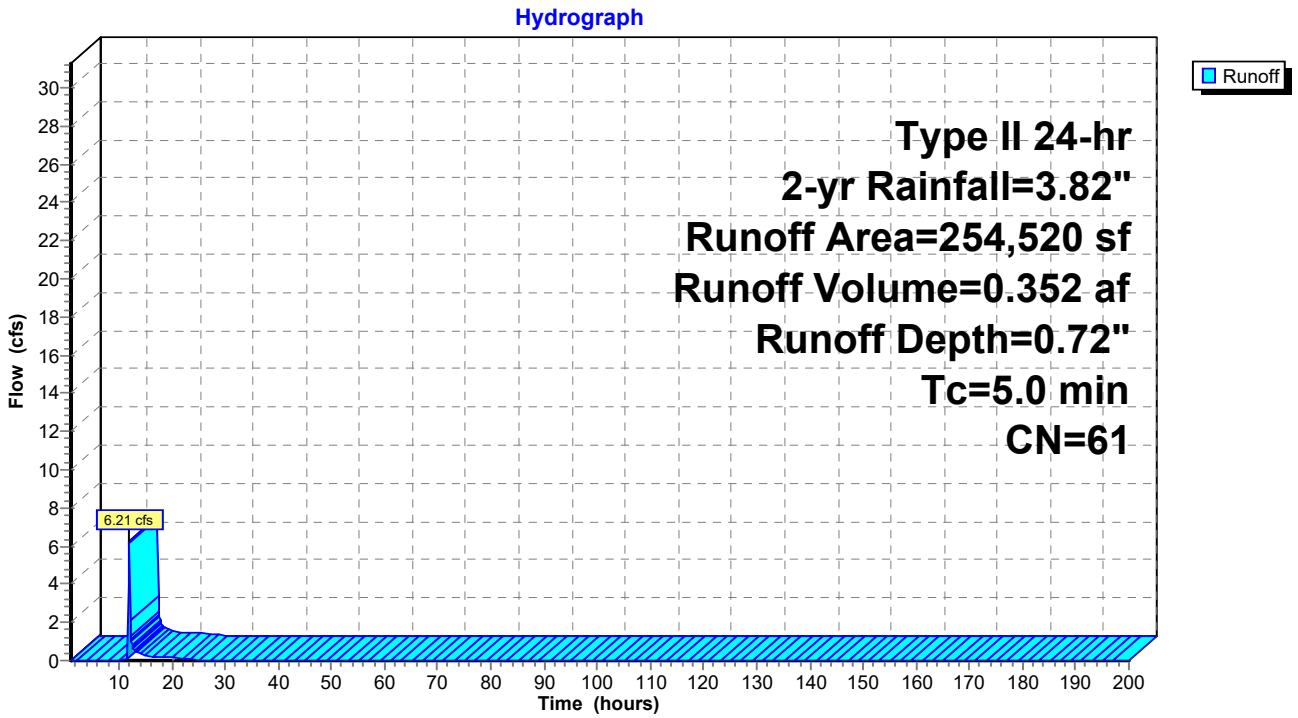
Runoff = 6.21 cfs @ 11.99 hrs, Volume= 0.352 af, Depth= 0.72"
Routed to Link 4L : POA 5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
215,461	60	Woods, Fair, HSG B
34,572	61	>75% Grass cover, Good, HSG B
4,487	98	Paved parking, HSG B
254,520	61	Weighted Average
250,033		98.24% Pervious Area
4,487		1.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 24S: Post Dev. Bypass 6



Summary for Subcatchment 25S: Post Dev. Basin 7 to SCM

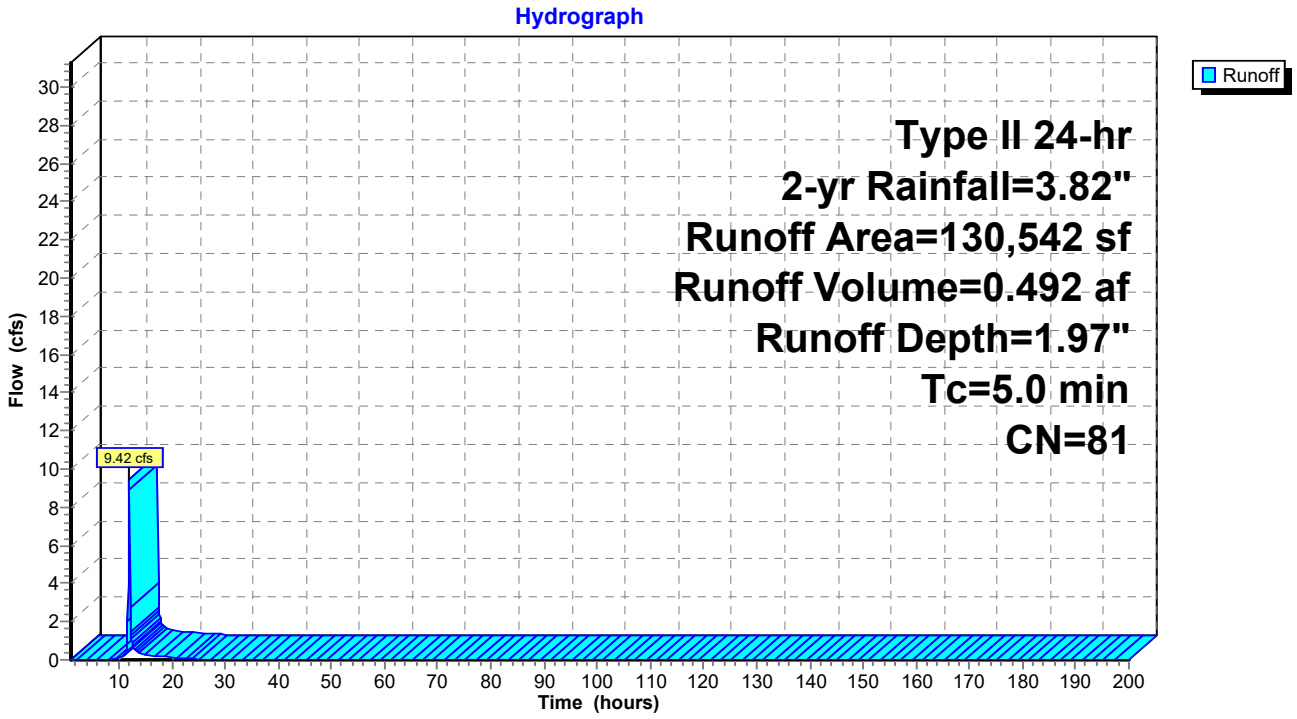
Runoff = 9.42 cfs @ 11.96 hrs, Volume= 0.492 af, Depth= 1.97"
Routed to Pond 5P : Wet Pond SCM 5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
50,624	98	Paved parking, HSG B
44,621	48	Brush, Good, HSG B
28,800	98	Roofs, HSG B
6,497	98	Water Surface, 0% imp, HSG B
130,542	81	Weighted Average
51,118		39.16% Pervious Area
79,424		60.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 25S: Post Dev. Basin 7 to SCM



Summary for Subcatchment 26S: Post Dev. Bypass 7

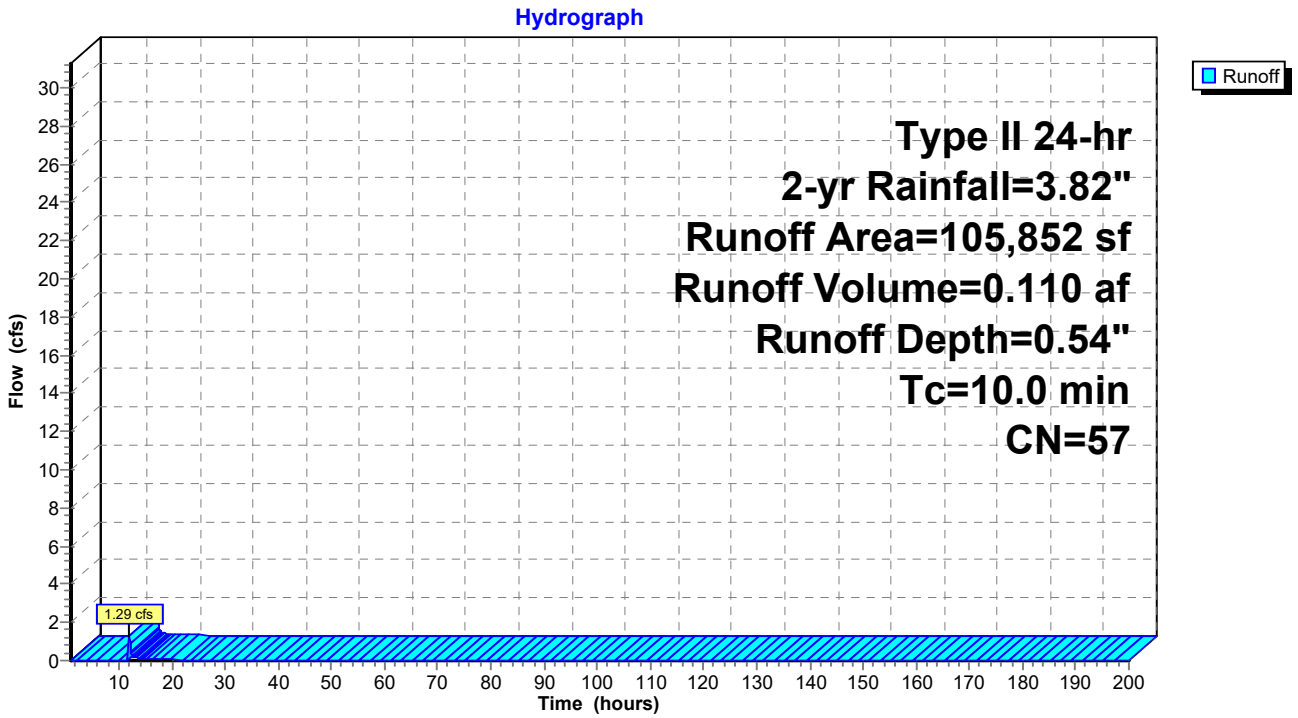
Runoff = 1.29 cfs @ 12.05 hrs, Volume= 0.110 af, Depth= 0.54"
Routed to Link 5L : POA 6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
39,944	55	Woods, Good, HSG B
52,486	48	Brush, Good, HSG B
13,422	98	Paved parking, HSG B
105,852	57	Weighted Average
92,430		87.32% Pervious Area
13,422		12.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 26S: Post Dev. Bypass 7



Summary for Subcatchment 27S: Post Dev. Bypass 8

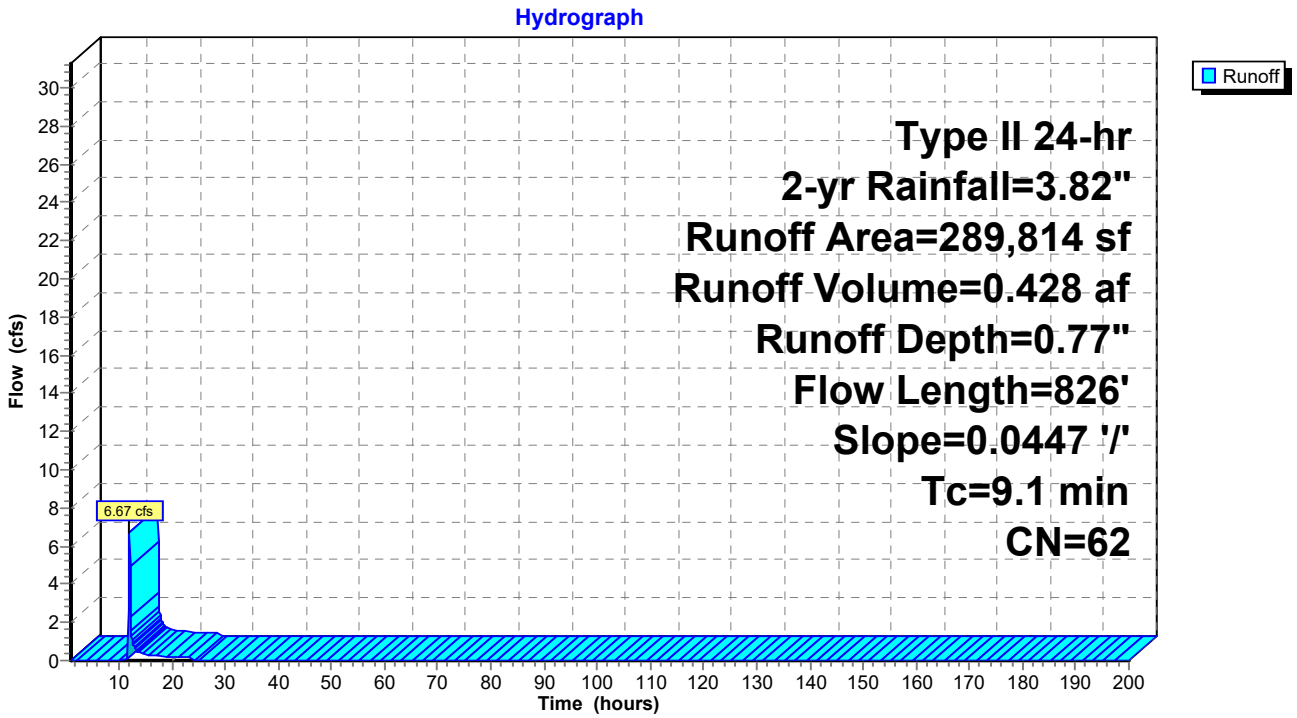
Runoff = 6.67 cfs @ 12.02 hrs, Volume= 0.428 af, Depth= 0.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-yr Rainfall=3.82"

Area (sf)	CN	Description
230,959	60	Woods, Fair, HSG B
53,439	69	50-75% Grass cover, Fair, HSG B
5,416	98	Paved parking, HSG B
289,814	62	Weighted Average
284,398		98.13% Pervious Area
5,416		1.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	826	0.0447	1.51		**Kirpich Method,** General overland flow k= 2.00

Subcatchment 27S: Post Dev. Bypass 8



Summary for Pond 1P: Sand Filter -SCM 1

Inflow Area = 7.523 ac, 77.83% Impervious, Inflow Depth = 2.65" for 2-yr event
Inflow = 30.61 cfs @ 11.95 hrs, Volume= 1.664 af
Outflow = 3.57 cfs @ 12.35 hrs, Volume= 1.664 af, Atten= 88%, Lag= 23.8 min
Primary = 3.57 cfs @ 12.35 hrs, Volume= 1.664 af
Routed to Link 1L : POA 1

Routing by Stor-Ind method, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Peak Elev= 528.85' @ 12.35 hrs Surf.Area= 6,825 sf Storage= 33,134 cf

Plug-Flow detention time= 123.2 min calculated for 1.664 af (100% of inflow)
Center-of-Mass det. time= 121.5 min (921.6 - 800.2)

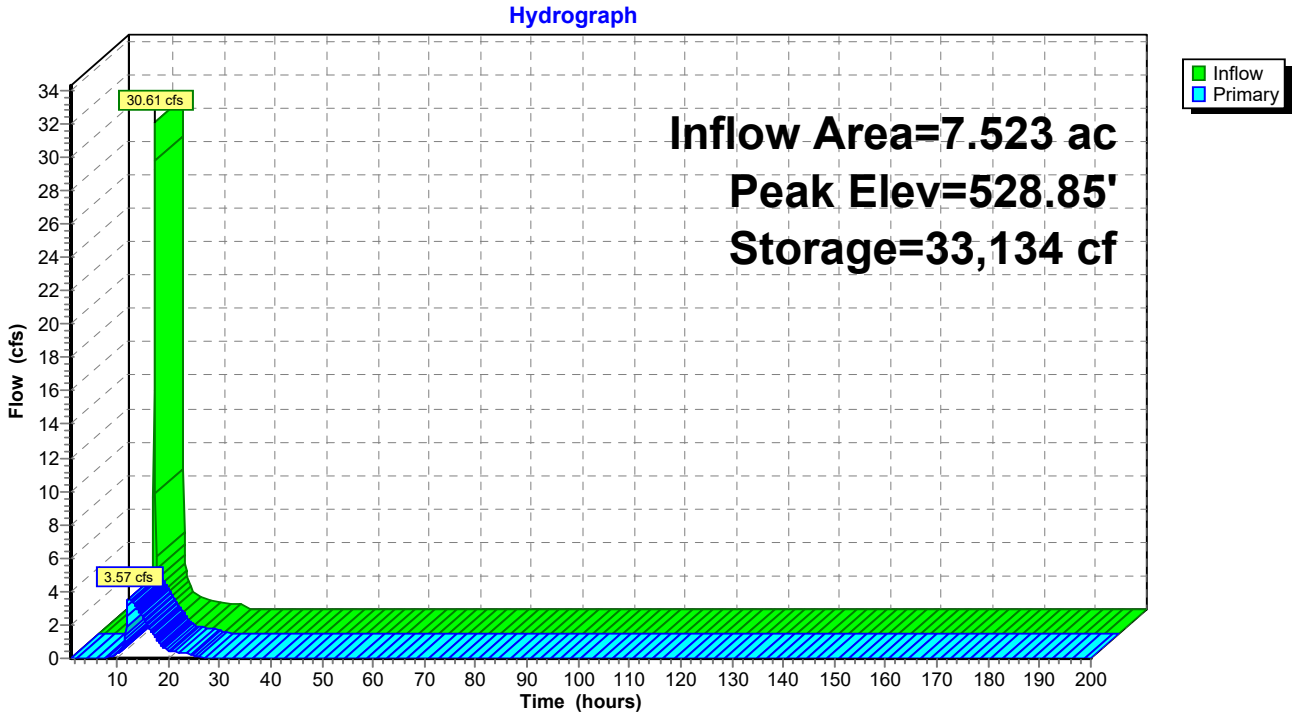
Volume	Invert	Avail.Storage	Storage Description
#1	524.00'	68,250 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) x 65

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
524.00	105	0	0
534.00	105	1,050	1,050

Device	Routing	Invert	Outlet Devices
#1	Primary	524.00'	**36.0" Round Culvert** L= 85.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 524.00' / 523.00' S= 0.0118 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	524.00'	**8.0" Vert. Drawdown** C= 0.600 Limited to weir flow at low heads
#3	Device 1	528.90'	**60.0" W x 8.0" H Vert. Main Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 1	533.00'	**25.0' long Overflow** 2 End Contraction(s)

Primary OutFlow Max=3.57 cfs @ 12.35 hrs HW=528.85' (Free Discharge)
└**1=Culvert** (Passes 3.57 cfs of 62.30 cfs potential flow)
  ├**2=Drawdown** (Orifice Controls 3.57 cfs @ 10.23 fps)
  ├**3=Main Orifice** (Controls 0.00 cfs)
  └**4=Overflow** (Controls 0.00 cfs)

Pond 1P: Sand Filter -SCM 1



Summary for Pond 2P: Wet Pond SCM 2

Inflow Area = 3.812 ac, 71.42% Impervious, Inflow Depth = 2.38" for 2-yr event
Inflow = 14.21 cfs @ 11.96 hrs, Volume= 0.757 af
Outflow = 1.17 cfs @ 12.57 hrs, Volume= 0.757 af, Atten= 92%, Lag= 36.6 min
Primary = 1.17 cfs @ 12.57 hrs, Volume= 0.757 af
Routed to Link 2L : POA 2

Routing by Stor-Ind method, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Starting Elev= 526.00' Surf.Area= 11,086 sf Storage= 32,033 cf
Peak Elev= 527.38' @ 12.57 hrs Surf.Area= 13,787 sf Storage= 49,143 cf (17,111 cf above start)

Plug-Flow detention time= 2,092.3 min calculated for 0.022 af (3% of inflow)
Center-of-Mass det. time= 242.3 min (1,053.4 - 811.1)

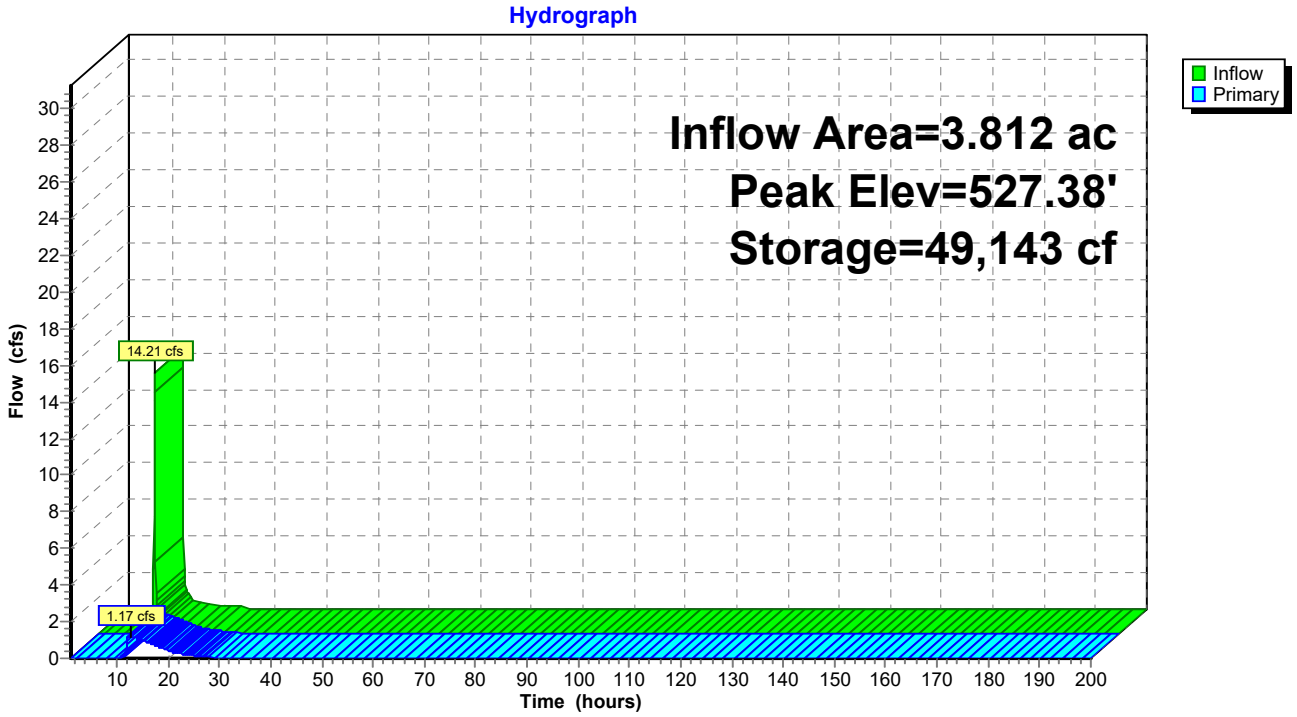
Volume	Invert	Avail.Storage	Storage Description
#1	522.00'	92,429 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
522.00	5,067	0	0
523.00	7,010	6,039	6,039
524.00	7,727	7,369	13,407
525.00	9,219	8,473	21,880
526.00	11,086	10,153	32,033
527.00	13,027	12,057	44,089
528.00	15,043	14,035	58,124
529.00	17,134	16,089	74,213
530.00	19,299	18,217	92,429

Device	Routing	Invert	Outlet Devices
#1	Primary	526.00'	**36.0" Round Culvert** L= 45.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 526.00' / 525.55' S= 0.0100 '/' Cc= 0.900 n= 0.010 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	526.00'	**6.5" Vert. Drawdown** C= 0.600 Limited to weir flow at low heads
#3	Device 1	527.40'	**34.0" W x 2.0" H Vert. Peakflow Orifice X 2.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	528.60'	**48.0" x 48.0" Horiz. Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.17 cfs @ 12.57 hrs HW=527.38' (Free Discharge)
└**1=Culvert** (Passes 1.17 cfs of 11.56 cfs potential flow)
├**2=Drawdown** (Orifice Controls 1.17 cfs @ 5.06 fps)
├**3=Peakflow Orifice** (Controls 0.00 cfs)
└**4=Overflow** (Controls 0.00 cfs)

Pond 2P: Wet Pond SCM 2



Summary for Pond 3P: Wet Pond SCM 3

Inflow Area = 2.579 ac, 76.09% Impervious, Inflow Depth = 2.56" for 2-yr event
Inflow = 10.20 cfs @ 11.95 hrs, Volume= 0.551 af
Outflow = 0.72 cfs @ 12.68 hrs, Volume= 0.551 af, Atten= 93%, Lag= 43.8 min
Primary = 0.72 cfs @ 12.68 hrs, Volume= 0.551 af
Routed to Link 3L : POA 4

Routing by Stor-Ind method, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Starting Elev= 534.00' Surf.Area= 3,130 sf Storage= 15,183 cf
Peak Elev= 536.00' @ 12.68 hrs Surf.Area= 8,624 sf Storage= 27,369 cf (12,186 cf above start)

Plug-Flow detention time= 582.5 min calculated for 0.202 af (37% of inflow)
Center-of-Mass det. time= 202.2 min (1,006.2 - 804.0)

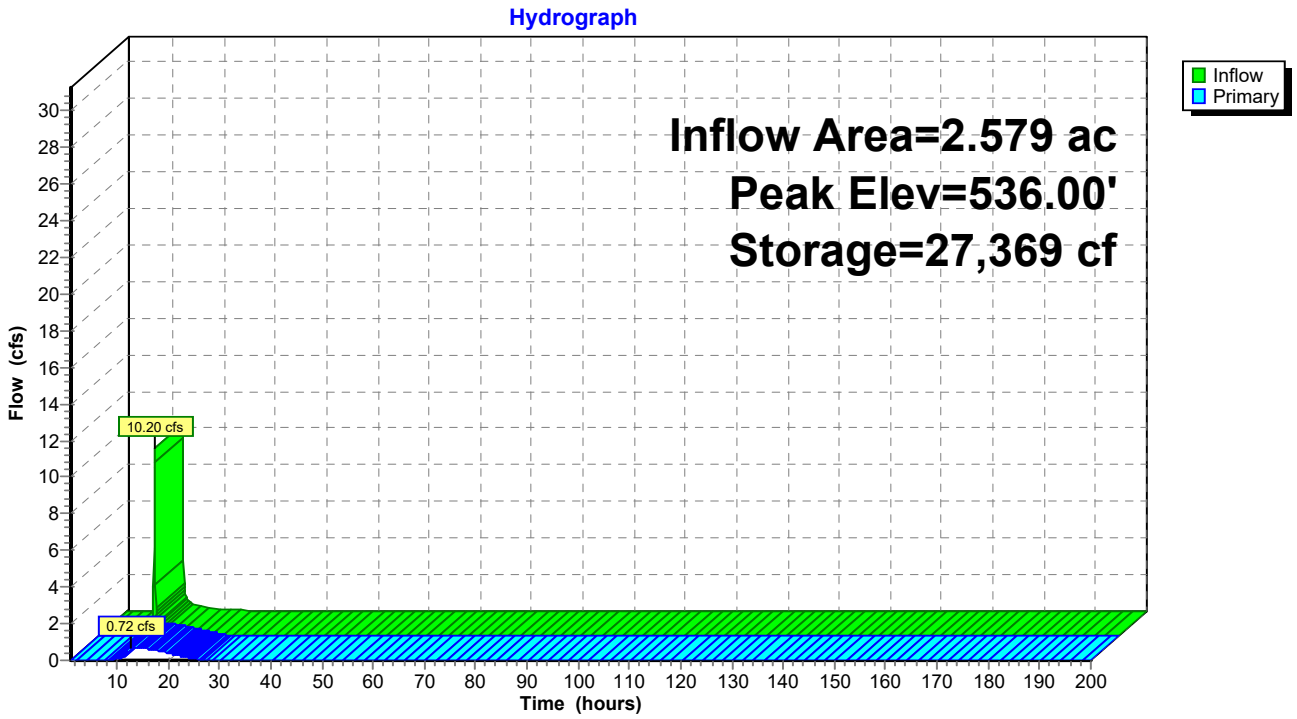
Volume	Invert	Avail.Storage	Storage Description
#1	530.00'	52,862 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
530.00	2,212	0	0
531.00	3,200	2,706	2,706
532.00	4,144	3,672	6,378
533.00	5,168	4,656	11,034
534.00	3,130	4,149	15,183
535.00	6,262	4,696	19,879
536.00	8,640	7,451	27,330
537.00	4,960	6,800	34,130
538.00	9,920	7,440	41,570
539.00	12,664	11,292	52,862

Device	Routing	Invert	Outlet Devices
#1	Primary	534.00'	**30.0" Round Culvert** L= 44.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 534.00' / 533.56' S= 0.0100 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 4.91 sf
#2	Device 1	534.00'	**4.5" Vert. Drawdown** C= 0.600 Limited to weir flow at low heads
#3	Device 1	536.30'	**42.0" W x 3.0" H Vert. Peak Flow X 2.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	537.60'	**48.0" x 48.0" Horiz. Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.72 cfs @ 12.68 hrs HW=536.00' (Free Discharge)
└**1=Culvert** (Passes 0.72 cfs of 17.63 cfs potential flow)
  ├**2=Drawdown** (Orifice Controls 0.72 cfs @ 6.49 fps)
  ├**3=Peak Flow** (Controls 0.00 cfs)
  └**4=Overflow** (Controls 0.00 cfs)

Pond 3P: Wet Pond SCM 3



Summary for Pond 4P: Wet Pond SCM 4

Inflow Area = 4.329 ac, 61.06% Impervious, Inflow Depth = 2.47" for 2-yr event
Inflow = 16.63 cfs @ 11.95 hrs, Volume= 0.892 af
Outflow = 0.23 cfs @ 19.20 hrs, Volume= 0.567 af, Atten= 99%, Lag= 435.0 min
Primary = 0.23 cfs @ 19.20 hrs, Volume= 0.567 af
Routed to Link 4L : POA 5

Routing by Stor-Ind method, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Peak Elev= 525.04' @ 19.20 hrs Surf.Area= 9,556 sf Storage= 29,958 cf

Plug-Flow detention time= 1,078.5 min calculated for 0.567 af (64% of inflow)
Center-of-Mass det. time= 976.0 min (1,783.6 - 807.6)

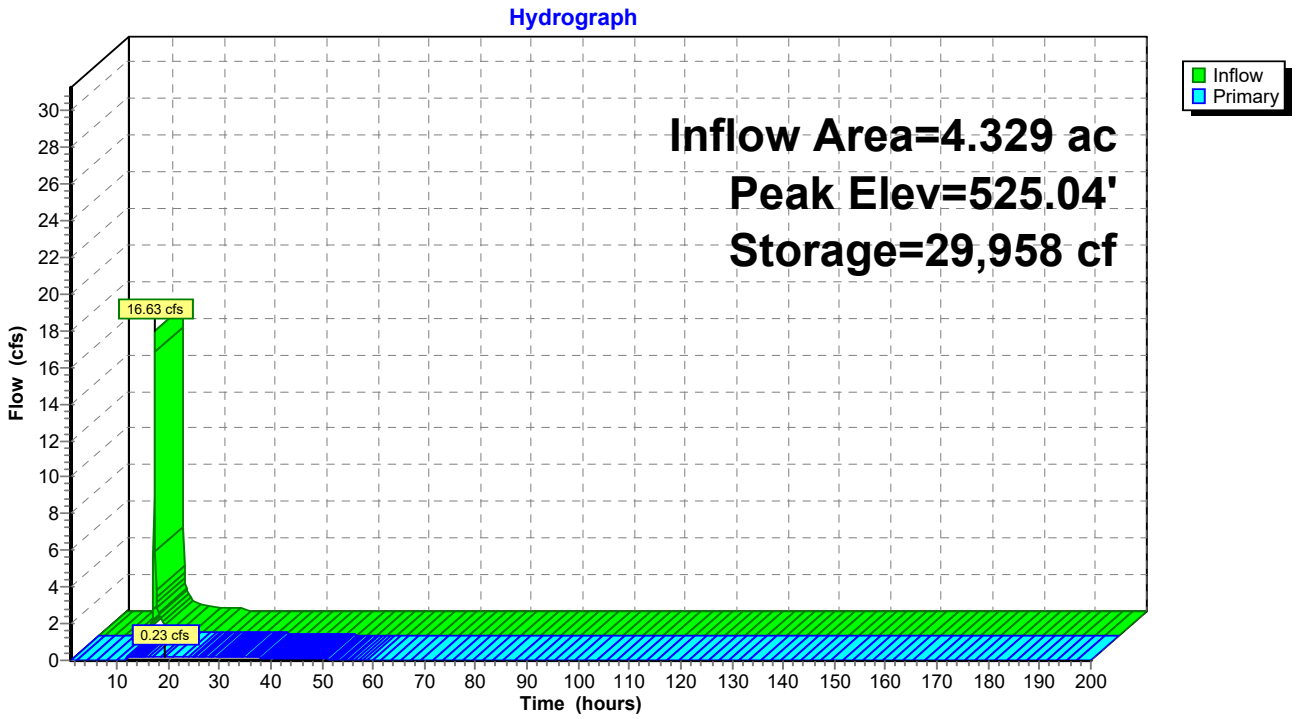
Volume	Invert	Avail.Storage	Storage Description
#1	519.00'	67,235 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
519.00	1,472	0	0
520.00	2,352	1,912	1,912
521.00	3,406	2,879	4,791
522.00	4,636	4,021	8,812
523.00	6,046	5,341	14,153
524.00	7,648	6,847	21,000
525.00	9,474	8,561	29,561
526.00	11,446	10,460	40,021
527.00	13,570	12,508	52,529
528.00	15,842	14,706	67,235

Device	Routing	Invert	Outlet Devices
#1	Primary	523.00'	**36.0" Round Culvert** L= 45.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 523.00' / 521.50' S= 0.0333 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	523.00'	**2.5" Vert. Drawdown** C= 0.600 Limited to weir flow at low heads
#3	Device 1	525.10'	**36.0" W x 3.0" H Vert. Peakflow** C= 0.600 Limited to weir flow at low heads
#4	Device 1	526.50'	**48.0" x 48.0" Horiz. Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.23 cfs @ 19.20 hrs HW=525.04' (Free Discharge)
└**1=Culvert** (Passes 0.23 cfs of 24.92 cfs potential flow)
├**2=Drawdown** (Orifice Controls 0.23 cfs @ 6.70 fps)
├**3=Peakflow** (Controls 0.00 cfs)
└**4=Overflow** (Controls 0.00 cfs)

Pond 4P: Wet Pond SCM 4



Summary for Pond 5P: Wet Pond SCM 5

Inflow Area = 2.997 ac, 60.84% Impervious, Inflow Depth = 1.97" for 2-yr event
Inflow = 9.42 cfs @ 11.96 hrs, Volume= 0.492 af
Outflow = 0.57 cfs @ 13.01 hrs, Volume= 0.492 af, Atten= 94%, Lag= 63.1 min
Primary = 0.57 cfs @ 13.01 hrs, Volume= 0.492 af
Routed to Link 5L : POA 6

Routing by Stor-Ind method, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Starting Elev= 513.00' Surf.Area= 4,340 sf Storage= 13,131 cf
Peak Elev= 515.00' @ 13.01 hrs Surf.Area= 6,271 sf Storage= 24,189 cf (11,059 cf above start)

Plug-Flow detention time= 670.1 min calculated for 0.191 af (39% of inflow)
Center-of-Mass det. time= 257.6 min (1,084.5 - 826.9)

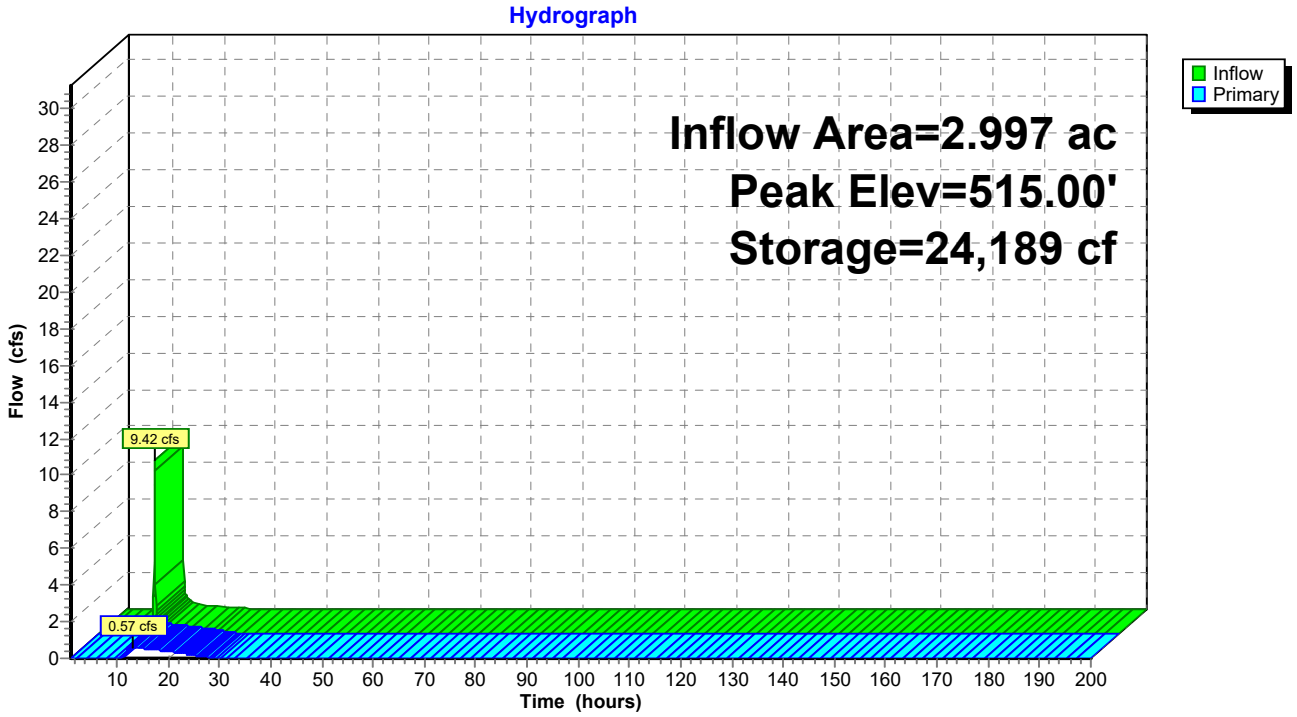
Volume	Invert	Avail.Storage	Storage Description
#1	509.00'	45,475 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
509.00	2,355	0	0
510.00	2,789	2,572	2,572
511.00	3,517	3,153	5,725
512.00	3,477	3,497	9,222
513.00	4,340	3,909	13,131
514.00	5,752	5,046	18,177
515.00	6,271	6,012	24,188
516.00	6,813	6,542	30,730
517.00	7,377	7,095	37,825
518.00	7,922	7,650	45,475

Device	Routing	Invert	Outlet Devices
#1	Primary	513.00'	**36.0" Round Culvert** L= 79.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 513.00' / 512.00' S= 0.0127 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf
#2	Device 1	513.00'	**4.0" Vert. Drawdown** C= 0.600 Limited to weir flow at low heads
#3	Device 1	515.10'	**38.0" W x 3.0" H Vert. Peakflow Orifice X 2.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	516.70'	**48.0" x 48.0" Horiz. Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.57 cfs @ 13.01 hrs HW=515.00' (Free Discharge)
└**1=Culvert** (Passes 0.57 cfs of 24.10 cfs potential flow)
  ├**2=Drawdown** (Orifice Controls 0.57 cfs @ 6.52 fps)
  ├**3=Peakflow Orifice** (Controls 0.00 cfs)
  └**4=Overflow** (Controls 0.00 cfs)

Pond 5P: Wet Pond SCM 5

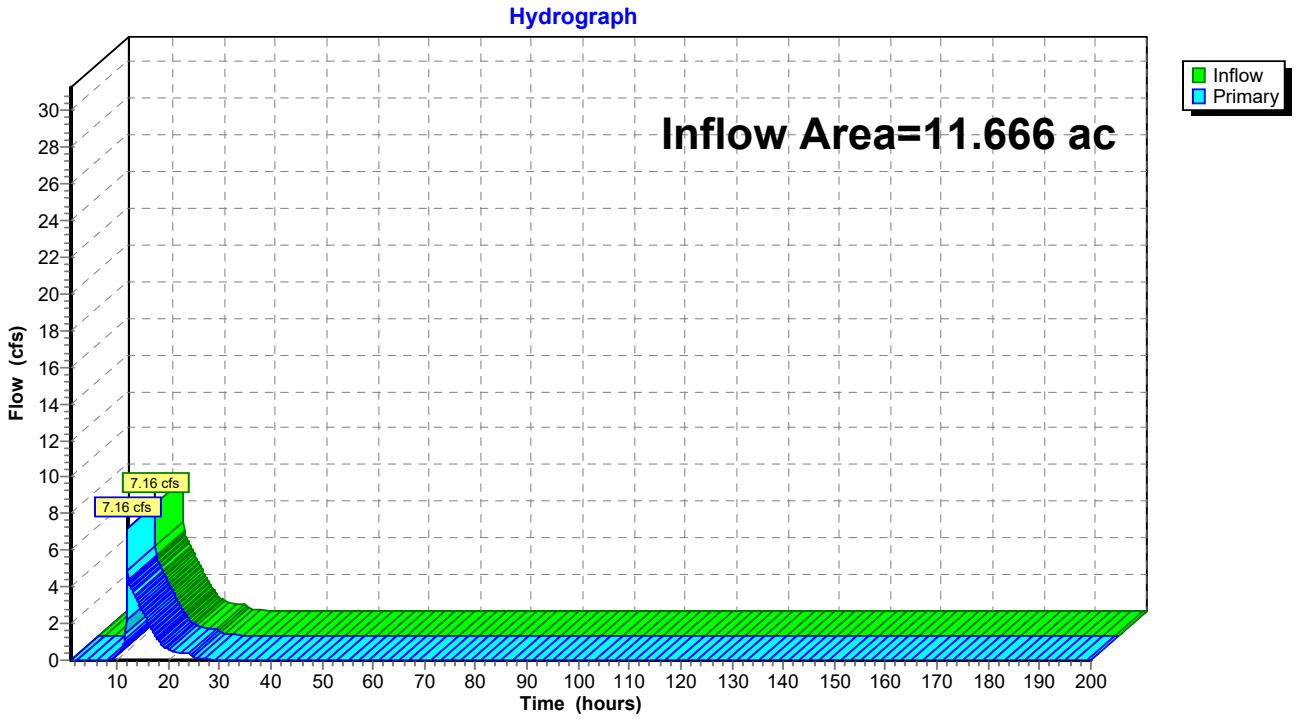


Summary for Link 1L: POA 1

Inflow Area = 11.666 ac, 51.60% Impervious, Inflow Depth = 1.95" for 2-yr event
Inflow = 7.16 cfs @ 12.00 hrs, Volume= 1.897 af
Primary = 7.16 cfs @ 12.00 hrs, Volume= 1.897 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs

Link 1L: POA 1

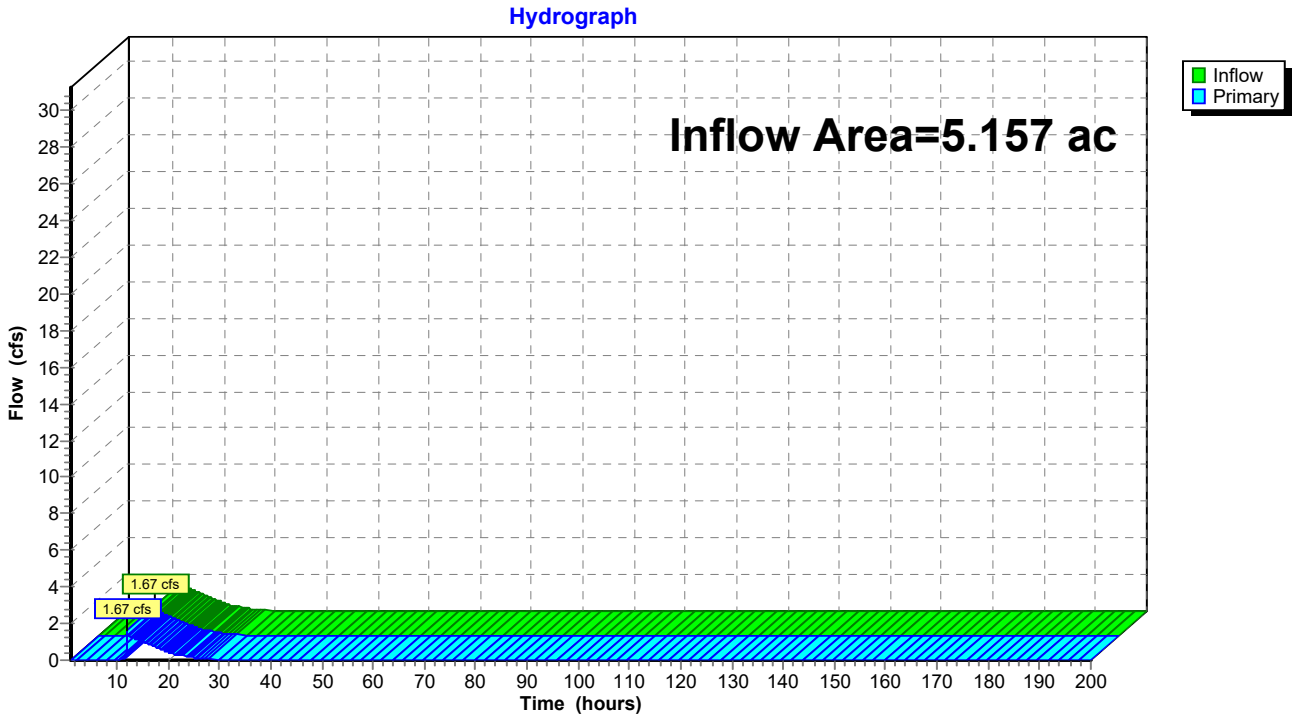


Summary for Link 2L: POA 2

Inflow Area = 5.157 ac, 52.79% Impervious, Inflow Depth = 1.87" for 2-yr event
Inflow = 1.67 cfs @ 12.02 hrs, Volume= 0.804 af
Primary = 1.67 cfs @ 12.02 hrs, Volume= 0.804 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs

Link 2L: POA 2

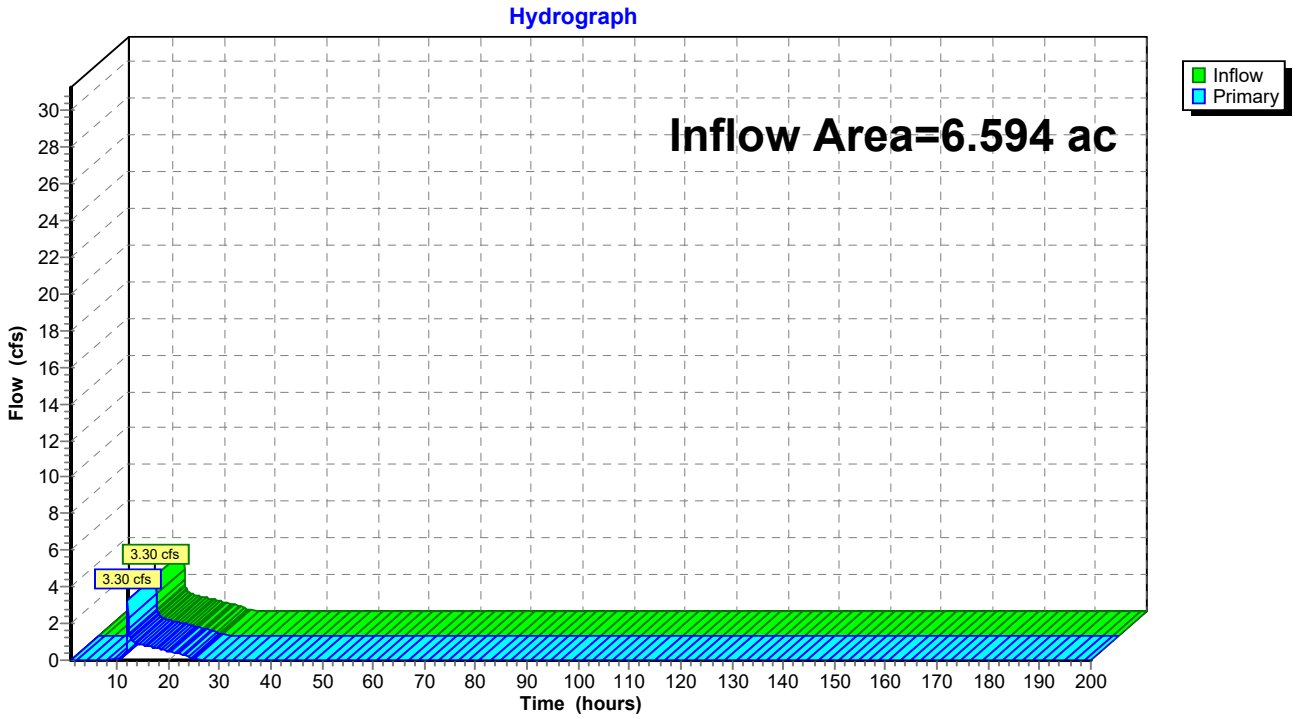


Summary for Link 3L: POA 4

Inflow Area = 6.594 ac, 34.08% Impervious, Inflow Depth = 1.39" for 2-yr event
Inflow = 3.30 cfs @ 12.09 hrs, Volume= 0.761 af
Primary = 3.30 cfs @ 12.09 hrs, Volume= 0.761 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs

Link 3L: POA 4

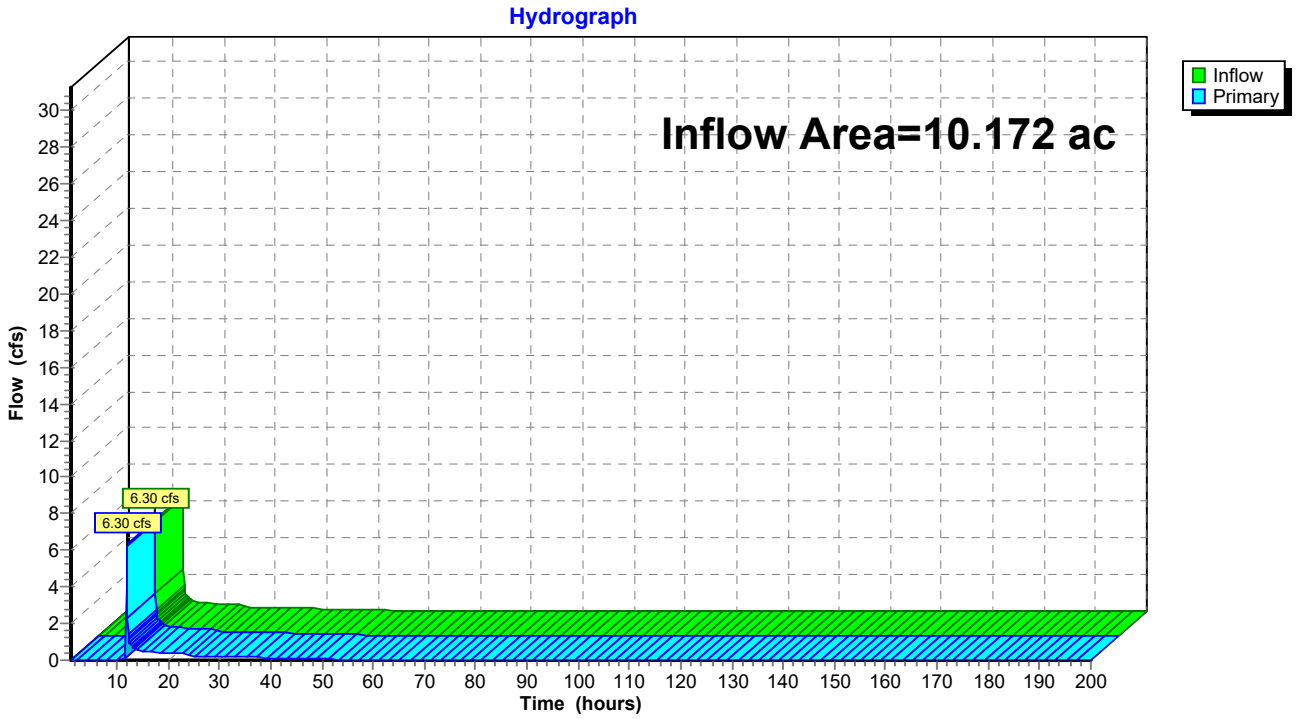


Summary for Link 4L: POA 5

Inflow Area = 10.172 ac, 27.00% Impervious, Inflow Depth = 1.08" for 2-yr event
Inflow = 6.30 cfs @ 11.99 hrs, Volume= 0.919 af
Primary = 6.30 cfs @ 11.99 hrs, Volume= 0.919 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs

Link 4L: POA 5

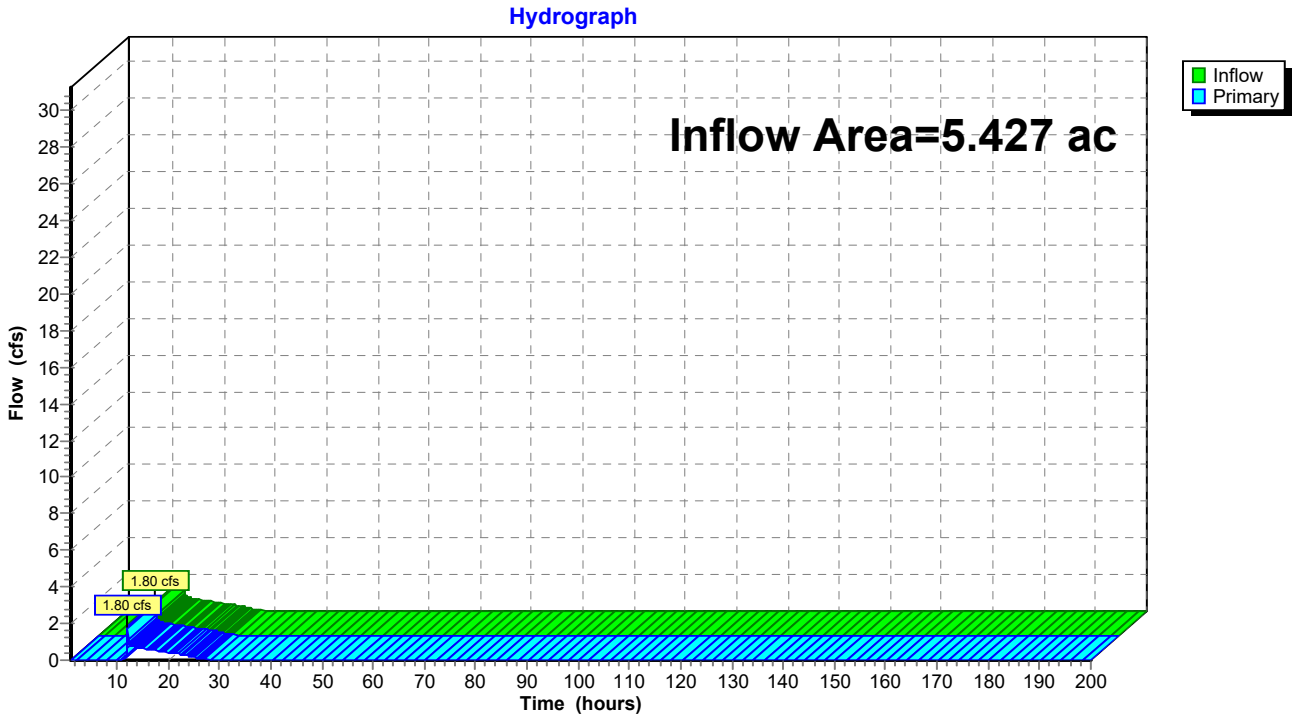


Summary for Link 5L: POA 6

Inflow Area = 5.427 ac, 39.28% Impervious, Inflow Depth = 1.33" for 2-yr event
Inflow = 1.80 cfs @ 12.06 hrs, Volume= 0.602 af
Primary = 1.80 cfs @ 12.06 hrs, Volume= 0.602 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs

Link 5L: POA 6



Time span=1.00-200.00 hrs, dt=0.10 hrs, 1991 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Pre Dev. Basin 1 Runoff Area=366,801 sf 0.00% Impervious Runoff Depth=4.16"
Flow Length=560' Slope=0.0630 '/' Tc=5.9 min CN=79 Runoff=55.13 cfs 2.917 af

Subcatchment2S: Pre Dev. Basin 2A Runoff Area=250,337 sf 0.00% Impervious Runoff Depth=4.16"
Flow Length=803' Slope=0.0650 '/' Tc=7.7 min CN=79 Runoff=37.06 cfs 1.991 af

Subcatchment3S: Pre Dev. Basin 2B Runoff Area=132,113 sf 0.00% Impervious Runoff Depth=2.28"
Flow Length=577' Slope=0.0451 '/' Tc=6.9 min CN=60 Runoff=11.03 cfs 0.575 af

Subcatchment4S: Pre Dev. Basin 2C Runoff Area=467,738 sf 32.11% Impervious Runoff Depth=4.91"
Flow Length=753' Slope=0.0633 '/' Tc=7.4 min CN=86 Runoff=79.55 cfs 4.398 af

Subcatchment6S: Pre Dev. Basin 3 Runoff Area=52,001 sf 0.00% Impervious Runoff Depth=4.05"
Flow Length=243' Slope=0.0170 '/' Tc=5.1 min CN=78 Runoff=7.58 cfs 0.403 af

Subcatchment7S: Pre Dev. Basin 4 Runoff Area=130,388 sf 0.00% Impervious Runoff Depth=2.19"
Flow Length=561' Slope=0.0221 '/' Tc=8.9 min CN=59 Runoff=9.71 cfs 0.545 af

Subcatchment8S: Pre Dev. Basin 5 Runoff Area=305,128 sf 0.00% Impervious Runoff Depth=2.19"
Flow Length=998' Slope=0.0301 '/' Tc=12.3 min CN=59 Runoff=19.31 cfs 1.276 af

Subcatchment9S: Pre Dev. Basin 6 Runoff Area=441,055 sf 0.00% Impervious Runoff Depth=2.28"
Flow Length=1,222' Slope=0.0441 '/' Tc=12.4 min CN=60 Runoff=29.18 cfs 1.921 af

Subcatchment10S: Pre Dev. Basin 7 Runoff Area=238,293 sf 0.00% Impervious Runoff Depth=2.01"
Flow Length=977' Slope=0.0468 '/' Tc=10.2 min CN=57 Runoff=15.08 cfs 0.915 af

Subcatchment11S: Pre Dev. Basin 8 Runoff Area=289,814 sf 1.87% Impervious Runoff Depth=2.46"
Flow Length=826' Slope=0.0447 '/' Tc=9.1 min CN=62 Runoff=24.39 cfs 1.364 af

Subcatchment12S: Post Basin 1 to SCM Runoff Area=327,690 sf 77.83% Impervious Runoff Depth=5.25"
Tc=5.0 min CN=89 Runoff=56.50 cfs 3.291 af

Subcatchment13S: Post Dev Bypass 1 Runoff Area=180,474 sf 3.97% Impervious Runoff Depth=2.28"
Tc=5.0 min CN=60 Runoff=15.11 cfs 0.786 af

Subcatchment14S: Post Dev. Bypass 2A Runoff Area=120,581 sf 0.00% Impervious Runoff Depth=4.16"
Flow Length=421' Slope=0.0411 '/' Tc=5.6 min CN=79 Runoff=18.08 cfs 0.959 af

Subcatchment15S: Post Dev. Basin 2B Runoff Area=166,052 sf 71.42% Impervious Runoff Depth=4.91"
Tc=5.0 min CN=86 Runoff=28.14 cfs 1.561 af

Subcatchment16S: Post Dev. Bypass 2C Runoff Area=460,928 sf 34.20% Impervious Runoff Depth=4.91"
Flow Length=753' Slope=0.0633 '/' Tc=7.4 min CN=86 Runoff=78.39 cfs 4.334 af

Subcatchment18S: Post Dev Bypass 2B Runoff Area=58,575 sf 0.00% Impervious Runoff Depth=1.75"
Tc=5.0 min CN=54 Runoff=3.68 cfs 0.196 af

Subcatchment19S: Post Dev. Basin 3 Runoff Area=48,549 sf 0.00% Impervious Runoff Depth=4.16"
Tc=5.0 min CN=79 Runoff=7.22 cfs 0.386 af

Subcatchment20S: Post Dev. Basin 4 Runoff Area=32,195 sf 15.62% Impervious Runoff Depth=2.94"
Tc=5.0 min CN=67 Runoff=3.48 cfs 0.181 af

Subcatchment21S: Post Dev. Basin 5 to Runoff Area=112,324 sf 76.09% Impervious Runoff Depth=5.14"
Tc=5.0 min CN=88 Runoff=19.09 cfs 1.104 af

Subcatchment22S: Post Dev. Bypass 5 Runoff Area=174,898 sf 7.09% Impervious Runoff Depth=2.19"
Tc=12.3 min CN=59 Runoff=11.07 cfs 0.731 af

Subcatchment23S: Post Dev. Basin 6 to Runoff Area=188,559 sf 61.06% Impervious Runoff Depth=5.03"
Tc=5.0 min CN=87 Runoff=31.55 cfs 1.813 af

Subcatchment24S: Post Dev. Bypass 6 Runoff Area=254,520 sf 1.76% Impervious Runoff Depth=2.37"
Tc=5.0 min CN=61 Runoff=22.20 cfs 1.153 af

Subcatchment25S: Post Dev. Basin 7 to Runoff Area=130,542 sf 60.84% Impervious Runoff Depth=4.37"
Tc=5.0 min CN=81 Runoff=20.23 cfs 1.091 af

Subcatchment26S: Post Dev. Bypass 7 Runoff Area=105,852 sf 12.68% Impervious Runoff Depth=2.01"
Tc=10.0 min CN=57 Runoff=6.77 cfs 0.406 af

Subcatchment27S: Post Dev. Bypass 8 Runoff Area=289,814 sf 1.87% Impervious Runoff Depth=2.46"
Flow Length=826' Slope=0.0447 '/' Tc=9.1 min CN=62 Runoff=24.39 cfs 1.364 af

Pond 1P: Sand Filter -SCM 1 Peak Elev=531.55' Storage=51,523 cf Inflow=56.50 cfs 3.291 af
Outflow=28.94 cfs 3.291 af

Pond 2P: Wet Pond SCM 2 Peak Elev=528.36' Storage=63,678 cf Inflow=28.14 cfs 1.561 af
Outflow=5.86 cfs 1.561 af

Pond 3P: Wet Pond SCM 3 Peak Elev=537.18' Storage=35,089 cf Inflow=19.09 cfs 1.104 af
Outflow=8.22 cfs 1.104 af

Pond 4P: Wet Pond SCM 4 Peak Elev=526.41' Storage=44,889 cf Inflow=31.55 cfs 1.813 af
Outflow=4.23 cfs 1.488 af

Pond 5P: Wet Pond SCM 5 Peak Elev=516.22' Storage=32,230 cf Inflow=20.23 cfs 1.091 af
Outflow=8.33 cfs 1.091 af

Link 1L: POA 1 Inflow=42.15 cfs 4.077 af
Primary=42.15 cfs 4.077 af

Link 2L: POA 2 Inflow=8.72 cfs 1.757 af
Primary=8.72 cfs 1.757 af

Link 3L: POA 4 Inflow=19.04 cfs 1.835 af
Primary=19.04 cfs 1.835 af

Link 4L: POA 5 Inflow=24.77 cfs 2.641 af
Primary=24.77 cfs 2.641 af

Link 5L: POA 6 Inflow=15.03 cfs 1.498 af
Primary=15.03 cfs 1.498 af

Total Runoff Area = 122.250 ac Runoff Volume = 35.661 af Average Runoff Depth = 3.50"
80.94% Pervious = 98.954 ac 19.06% Impervious = 23.297 ac

Summary for Subcatchment 1S: Pre Dev. Basin 1

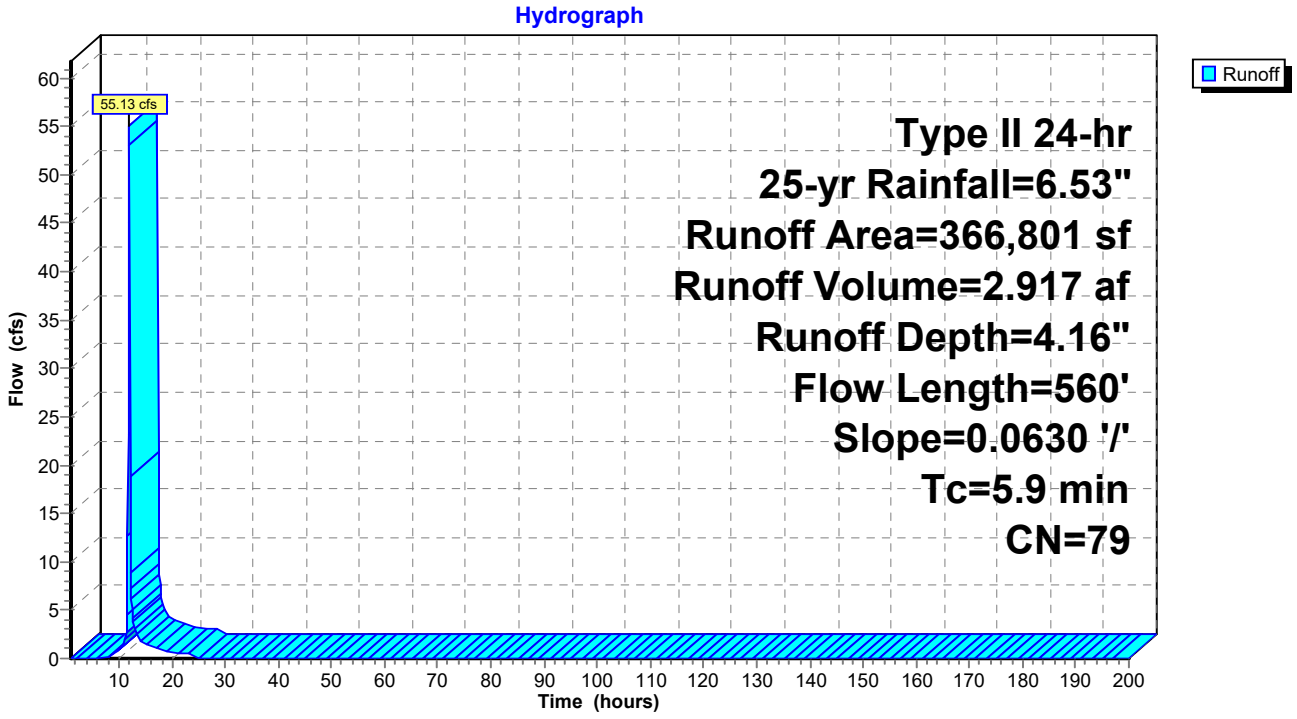
Runoff = 55.13 cfs @ 11.97 hrs, Volume= 2.917 af, Depth= 4.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
342,042	79	Woods, Fair, HSG D
24,759	73	Brush, Good, HSG D
366,801	79	Weighted Average
366,801		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	560	0.0630	1.58		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 1S: Pre Dev. Basin 1



Summary for Subcatchment 2S: Pre Dev. Basin 2A

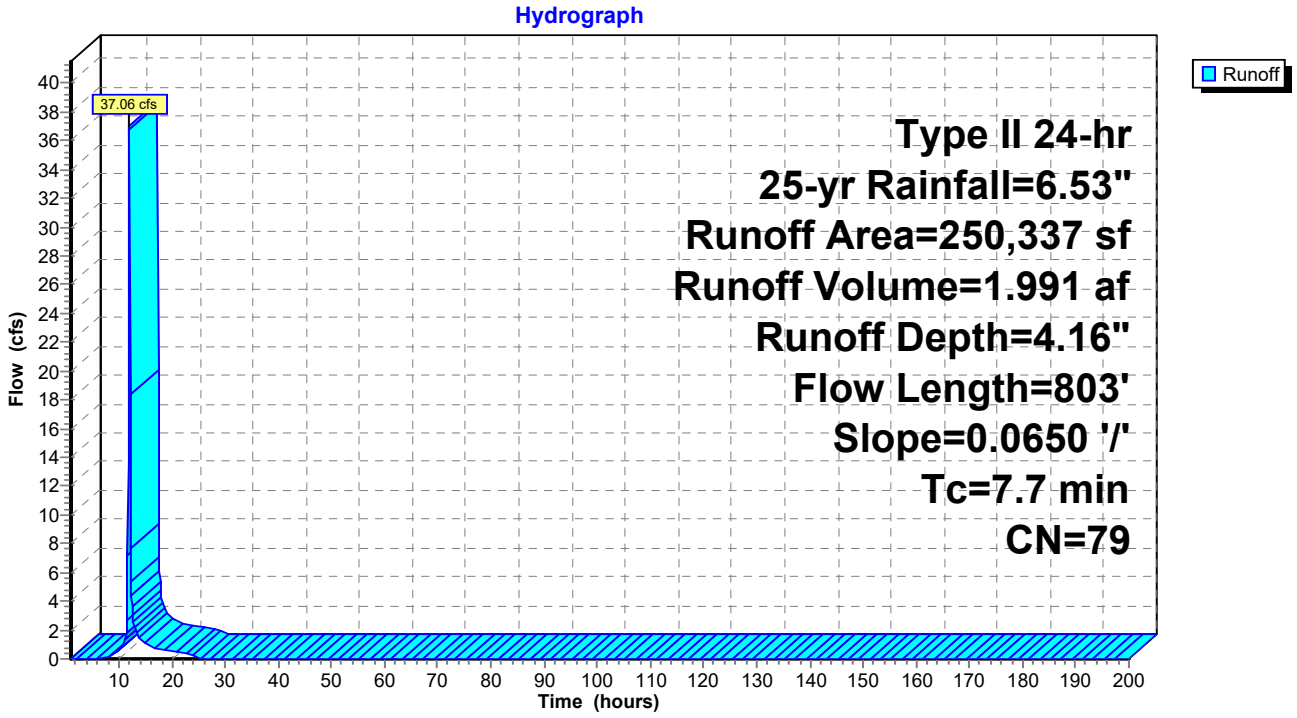
Runoff = 37.06 cfs @ 11.99 hrs, Volume= 1.991 af, Depth= 4.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
250,337	79	Woods, Fair, HSG D
250,337		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	803	0.0650	1.74		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 2S: Pre Dev. Basin 2A



Summary for Subcatchment 3S: Pre Dev. Basin 2B

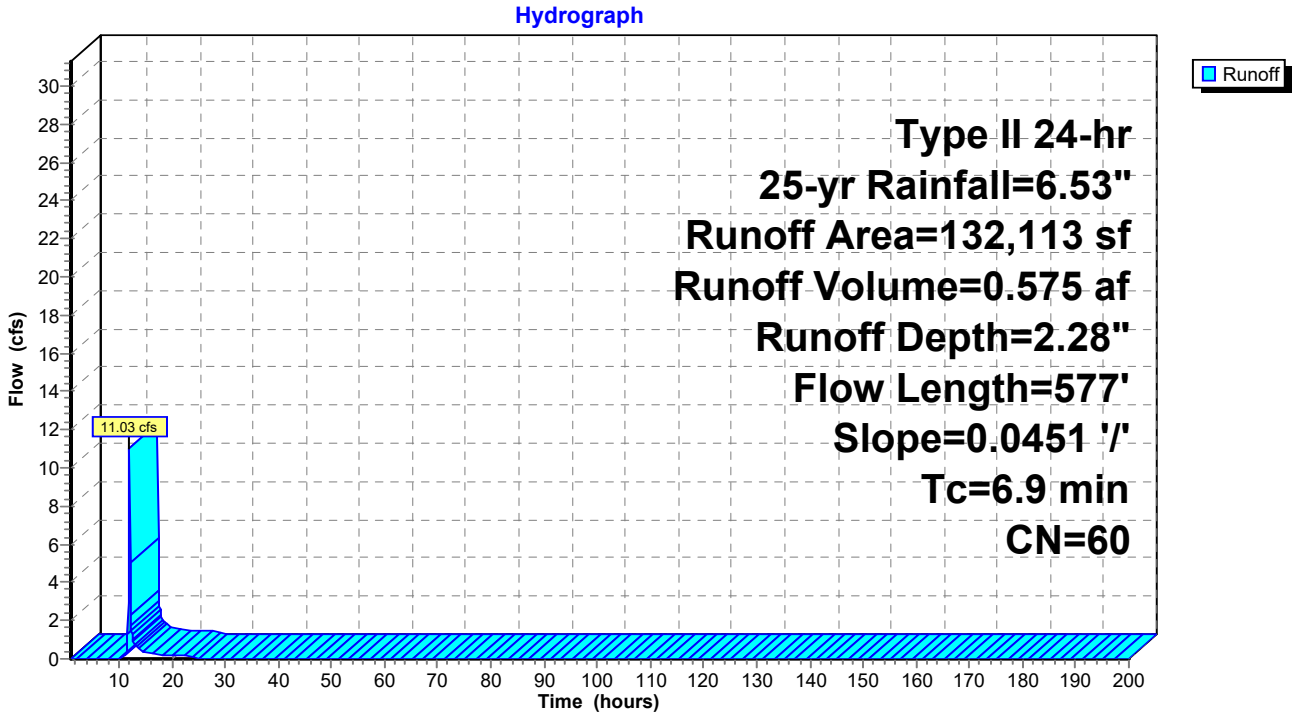
Runoff = 11.03 cfs @ 11.99 hrs, Volume= 0.575 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
132,113	60	Woods, Fair, HSG B
132,113		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	577	0.0451	1.40		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 3S: Pre Dev. Basin 2B



Summary for Subcatchment 4S: Pre Dev. Basin 2C

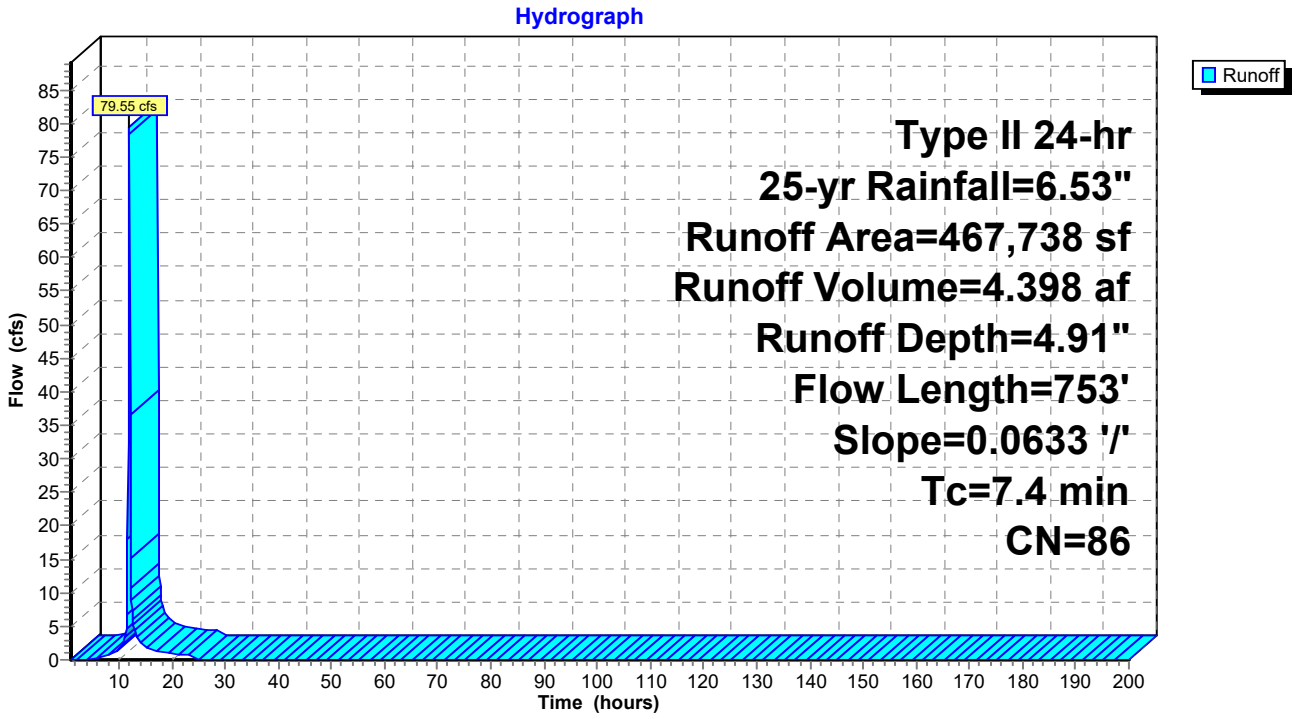
Runoff = 79.55 cfs @ 11.98 hrs, Volume= 4.398 af, Depth= 4.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
173,689	79	Woods, Fair, HSG D
94,275	98	Paved parking, HSG D
143,869	82	Woods/grass comb., Fair, HSG D
55,905	98	Roofs, HSG D
467,738	86	Weighted Average
317,558		67.89% Pervious Area
150,180		32.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	753	0.0633	1.69		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 4S: Pre Dev. Basin 2C



Summary for Subcatchment 6S: Pre Dev. Basin 3

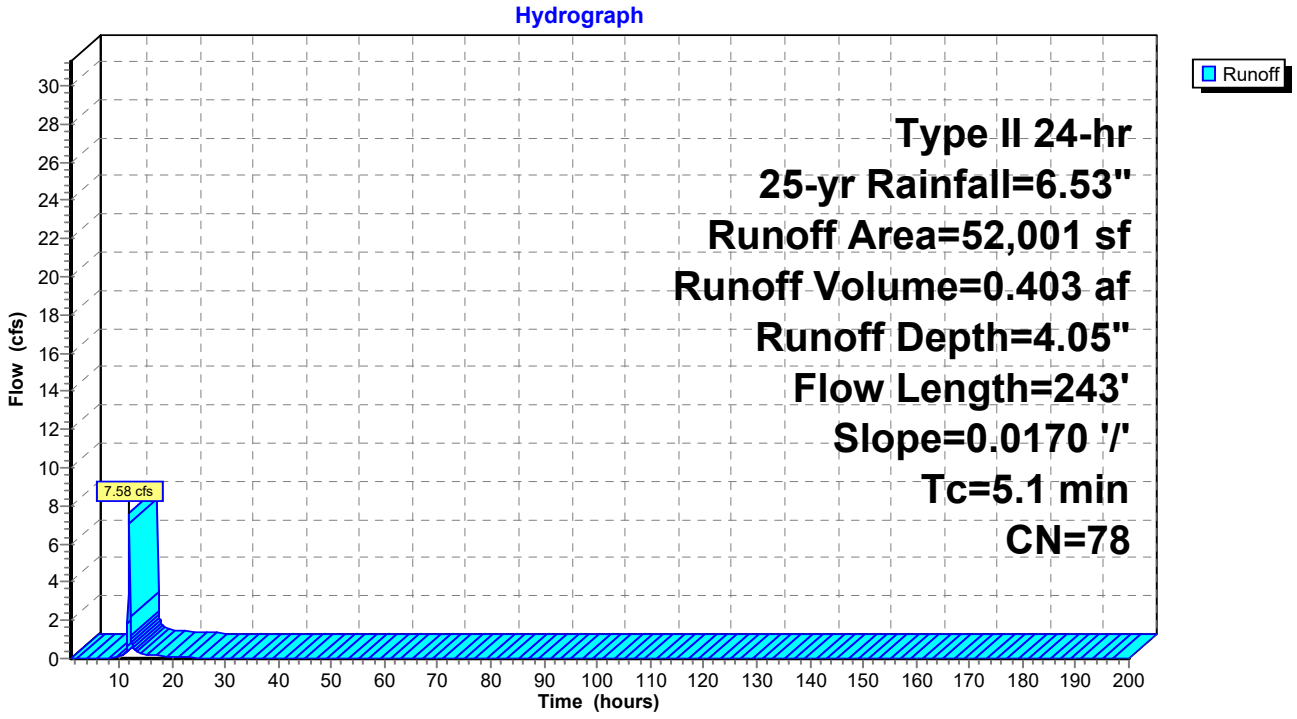
Runoff = 7.58 cfs @ 11.96 hrs, Volume= 0.403 af, Depth= 4.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
9,925	73	Woods, Fair, HSG C
42,076	79	50-75% Grass cover, Fair, HSG C
52,001	78	Weighted Average
52,001		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.1	243	0.0170	0.79		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 6S: Pre Dev. Basin 3



Summary for Subcatchment 7S: Pre Dev. Basin 4

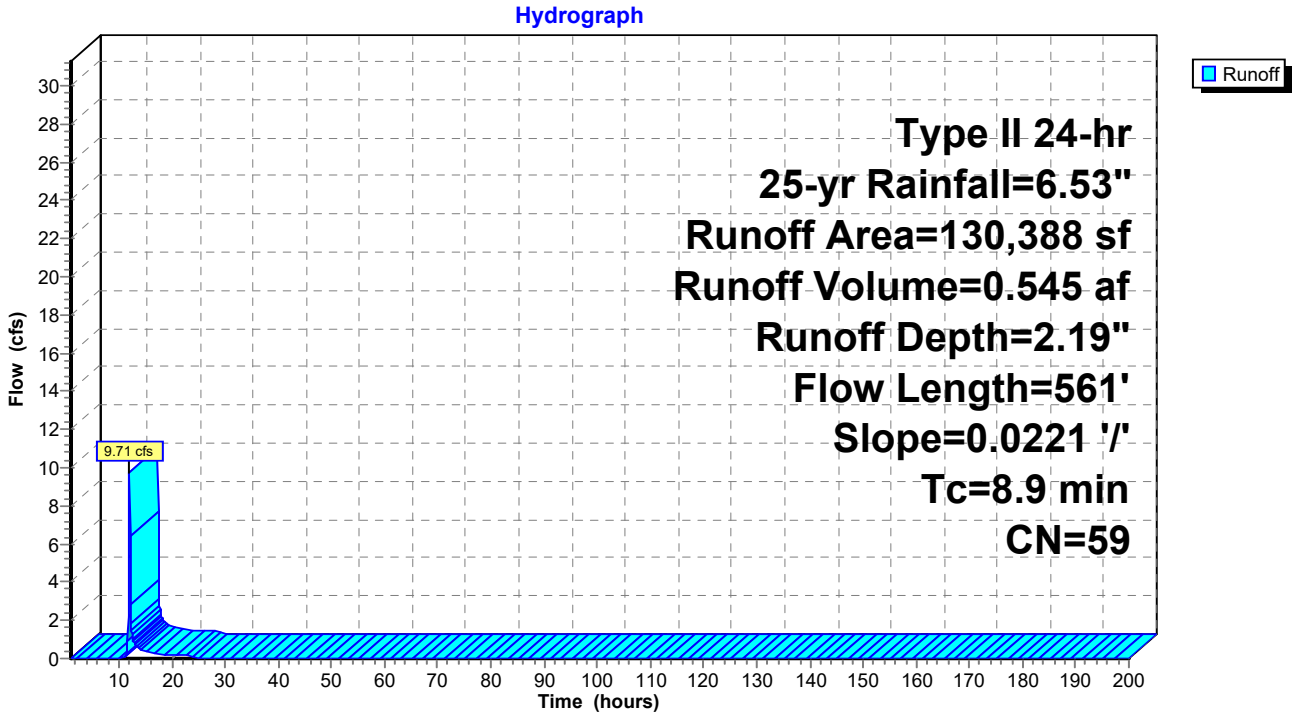
Runoff = 9.71 cfs @ 12.01 hrs, Volume= 0.545 af, Depth= 2.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
104,102	60	Woods, Fair, HSG B
26,286	56	Brush, Fair, HSG B
130,388	59	Weighted Average
130,388		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	561	0.0221	1.06		**Kirpich Method,** General overland flow k= 2.00

Subcatchment 7S: Pre Dev. Basin 4



Summary for Subcatchment 8S: Pre Dev. Basin 5

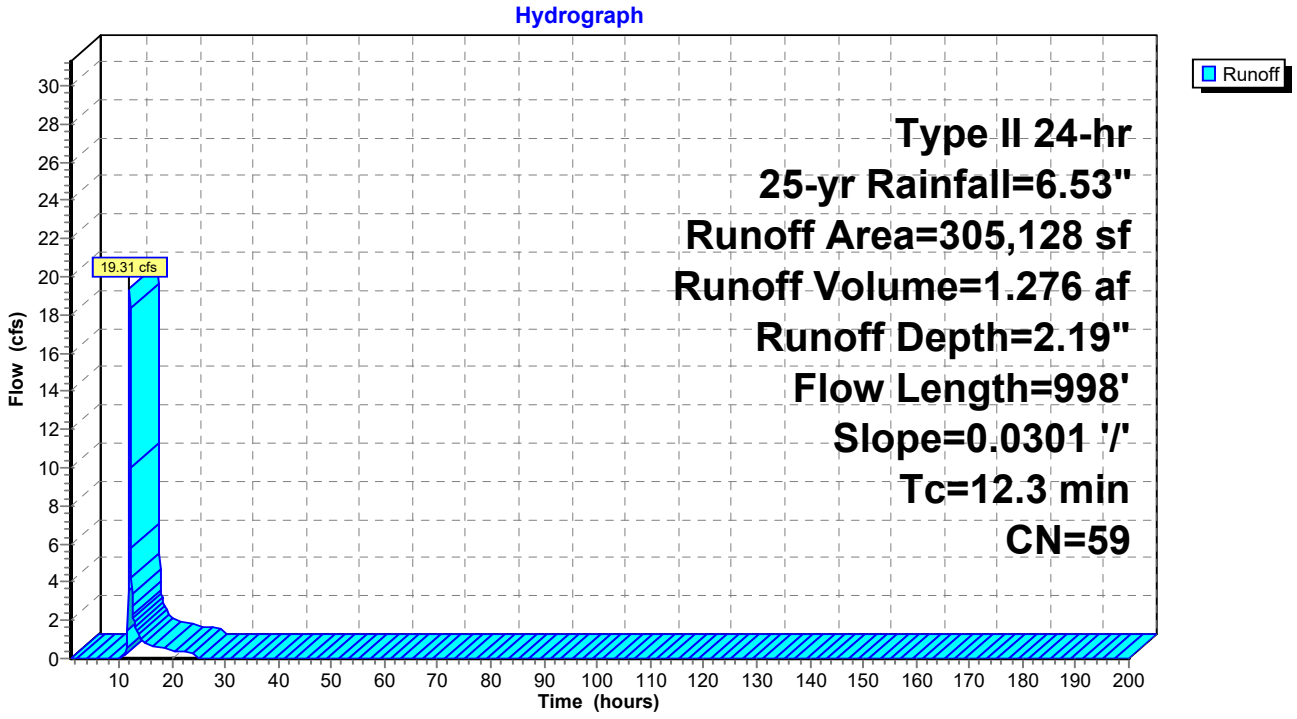
Runoff = 19.31 cfs @ 12.05 hrs, Volume= 1.276 af, Depth= 2.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
267,919	60	Woods, Fair, HSG B
37,209	48	Brush, Good, HSG B
305,128	59	Weighted Average
305,128		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	998	0.0301	1.36		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 8S: Pre Dev. Basin 5



Summary for Subcatchment 9S: Pre Dev. Basin 6

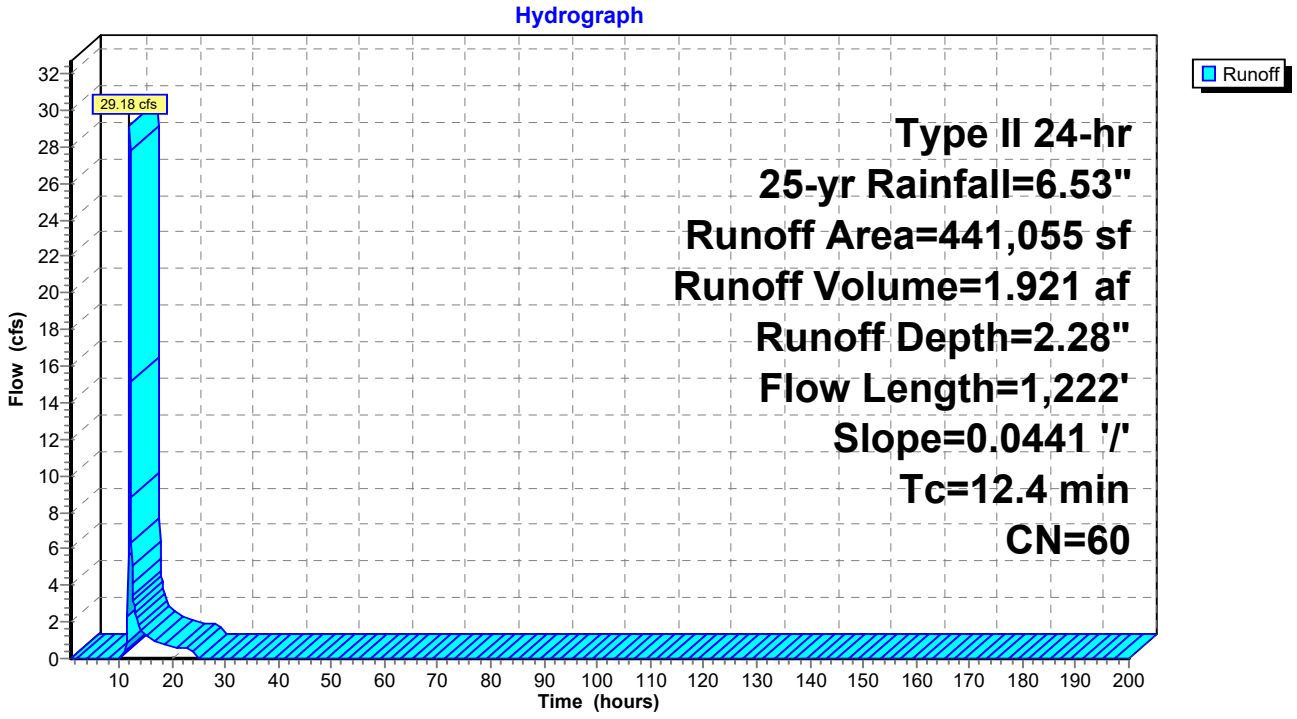
Runoff = 29.18 cfs @ 12.05 hrs, Volume= 1.921 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
401,238	60	Woods, Fair, HSG B
39,817	56	Brush, Fair, HSG B
441,055	60	Weighted Average
441,055		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	1,222	0.0441	1.65		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 9S: Pre Dev. Basin 6



Summary for Subcatchment 10S: Pre Dev. Basin 7

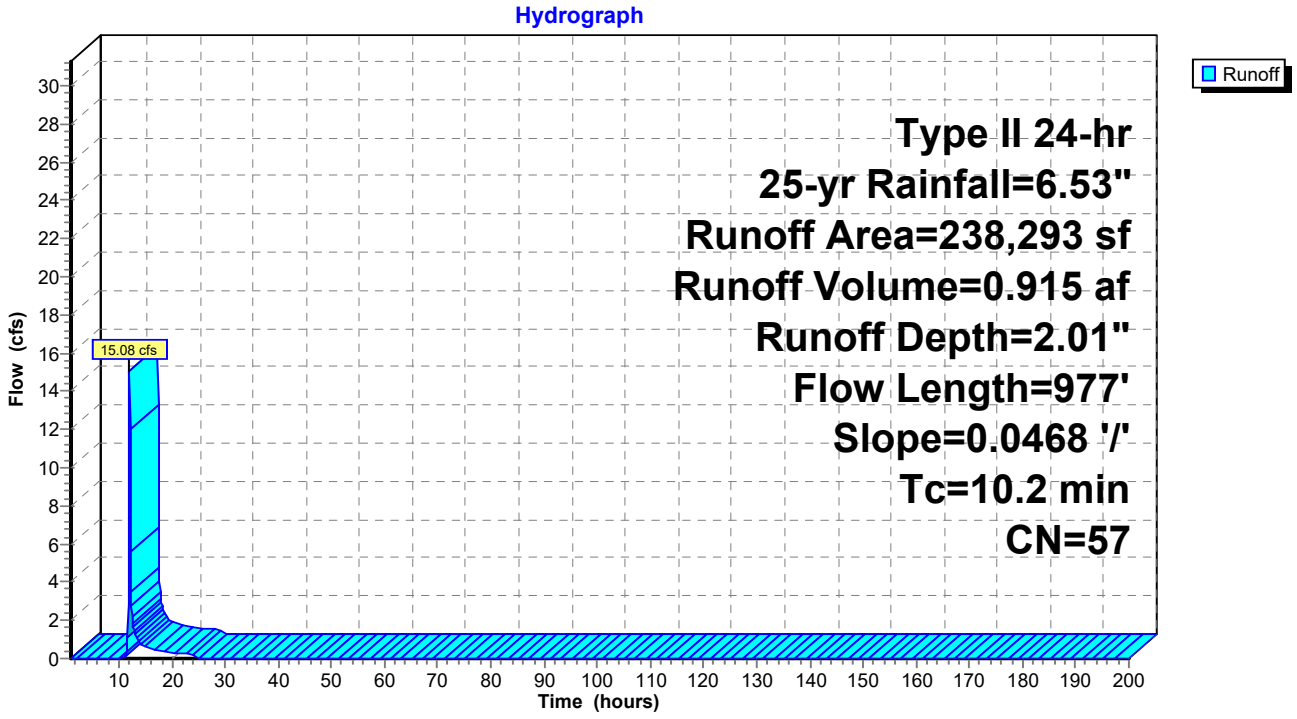
Runoff = 15.08 cfs @ 12.02 hrs, Volume= 0.915 af, Depth= 2.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
207,447	55	Woods, Good, HSG B
30,846	69	Pasture/grassland/range, Fair, HSG B
238,293	57	Weighted Average
238,293		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	977	0.0468	1.60		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 10S: Pre Dev. Basin 7



Summary for Subcatchment 11S: Pre Dev. Basin 8

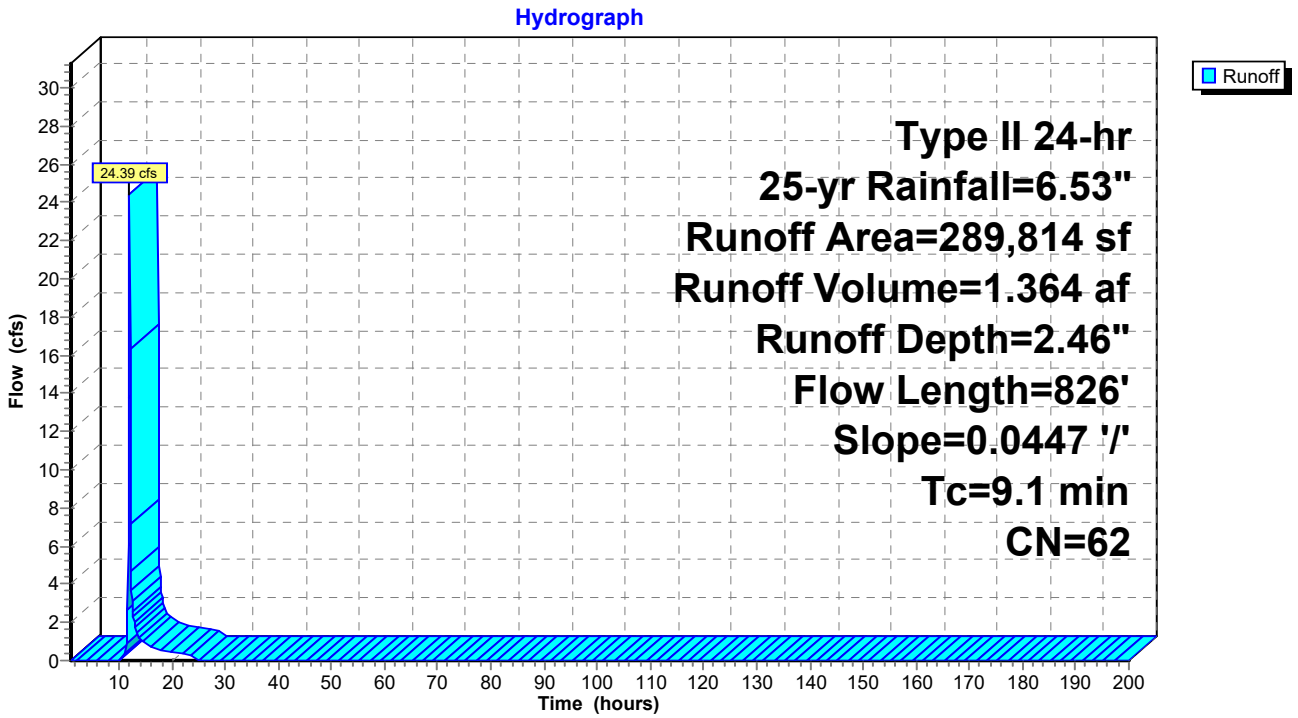
Runoff = 24.39 cfs @ 12.01 hrs, Volume= 1.364 af, Depth= 2.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
230,959	60	Woods, Fair, HSG B
53,439	69	50-75% Grass cover, Fair, HSG B
5,416	98	Paved parking, HSG B
289,814	62	Weighted Average
284,398		98.13% Pervious Area
5,416		1.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	826	0.0447	1.51		**Kirpich Method,** General overland flow k= 2.00

Subcatchment 11S: Pre Dev. Basin 8



Summary for Subcatchment 12S: Post Basin 1 to SCM

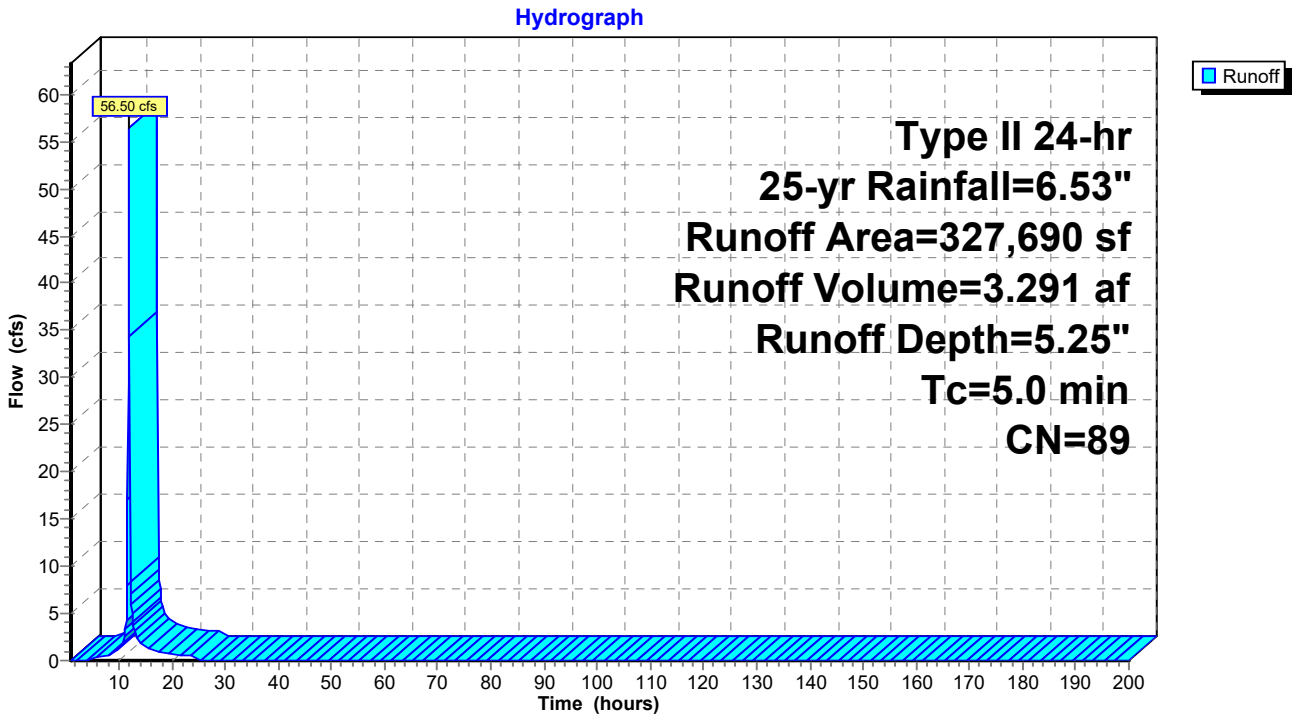
Runoff = 56.50 cfs @ 11.95 hrs, Volume= 3.291 af, Depth= 5.25"
Routed to Pond 1P : Sand Filter -SCM 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
104,903	98	Paved parking, HSG A
72,655	56	Brush, Fair, HSG B
150,132	98	Roofs, HSG B
327,690	89	Weighted Average
72,655		22.17% Pervious Area
255,035		77.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 12S: Post Basin 1 to SCM



Summary for Subcatchment 13S: Post Dev Bypass 1

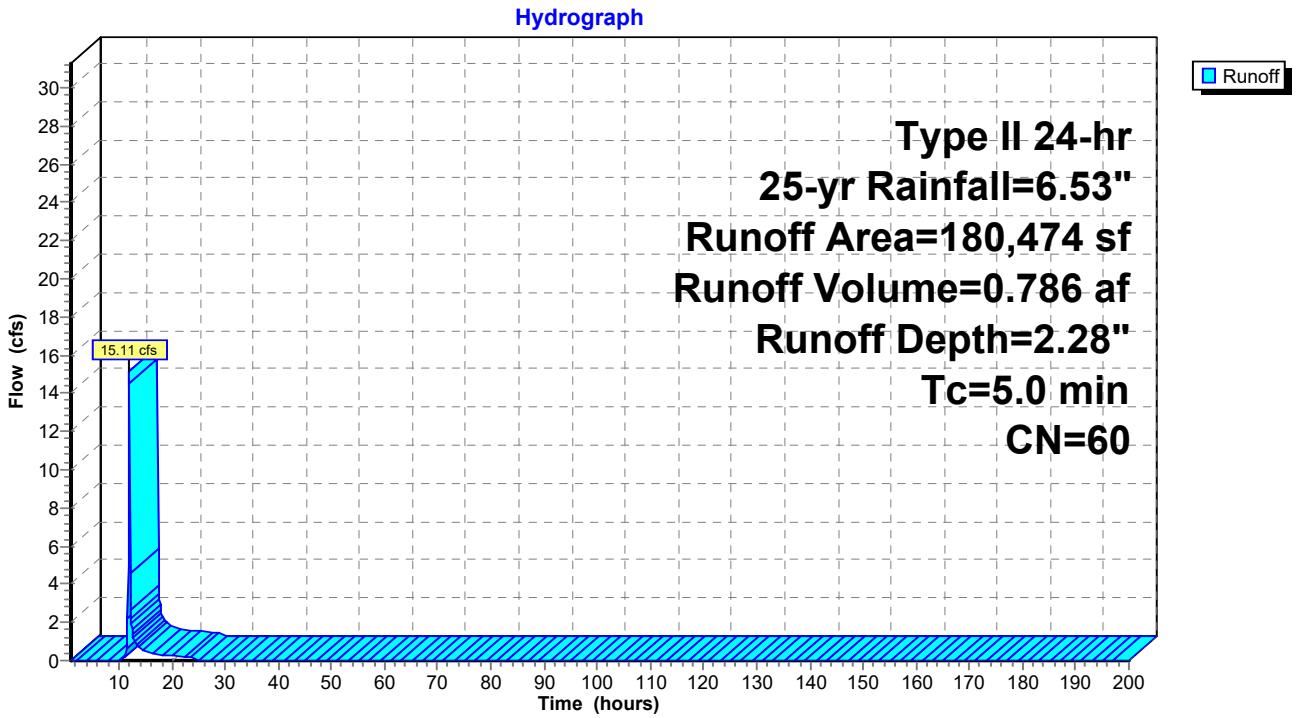
Runoff = 15.11 cfs @ 11.97 hrs, Volume= 0.786 af, Depth= 2.28"
Routed to Link 1L : POA 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
124,058	60	Woods, Fair, HSG B
49,243	56	Brush, Fair, HSG B
7,173	98	Paved parking, HSG B
180,474	60	Weighted Average
173,301		96.03% Pervious Area
7,173		3.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 13S: Post Dev Bypass 1



Summary for Subcatchment 14S: Post Dev. Bypass 2A

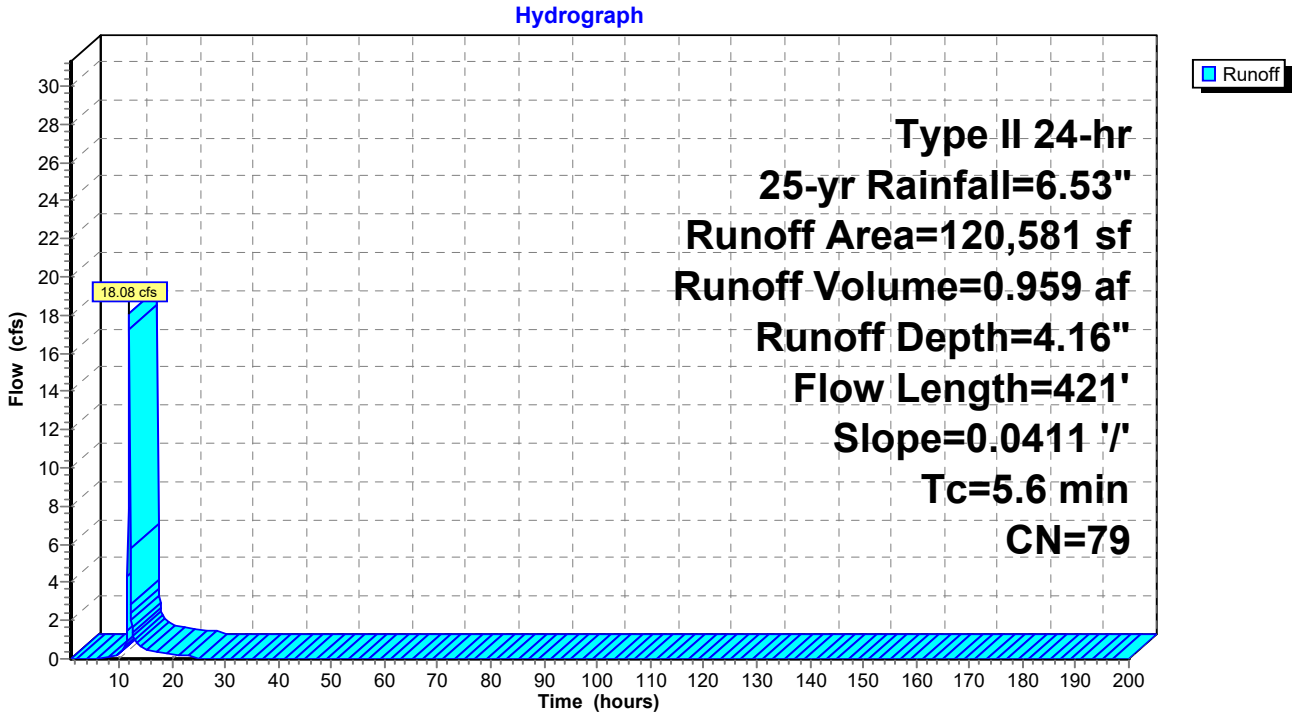
Runoff = 18.08 cfs @ 11.96 hrs, Volume= 0.959 af, Depth= 4.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
120,581	79	Woods, Fair, HSG D
120,581		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	421	0.0411	1.25		**Kirpich Method, Estimated Tc** General overland flow k= 2.00

Subcatchment 14S: Post Dev. Bypass 2A



Summary for Subcatchment 15S: Post Dev. Basin 2B to SCM

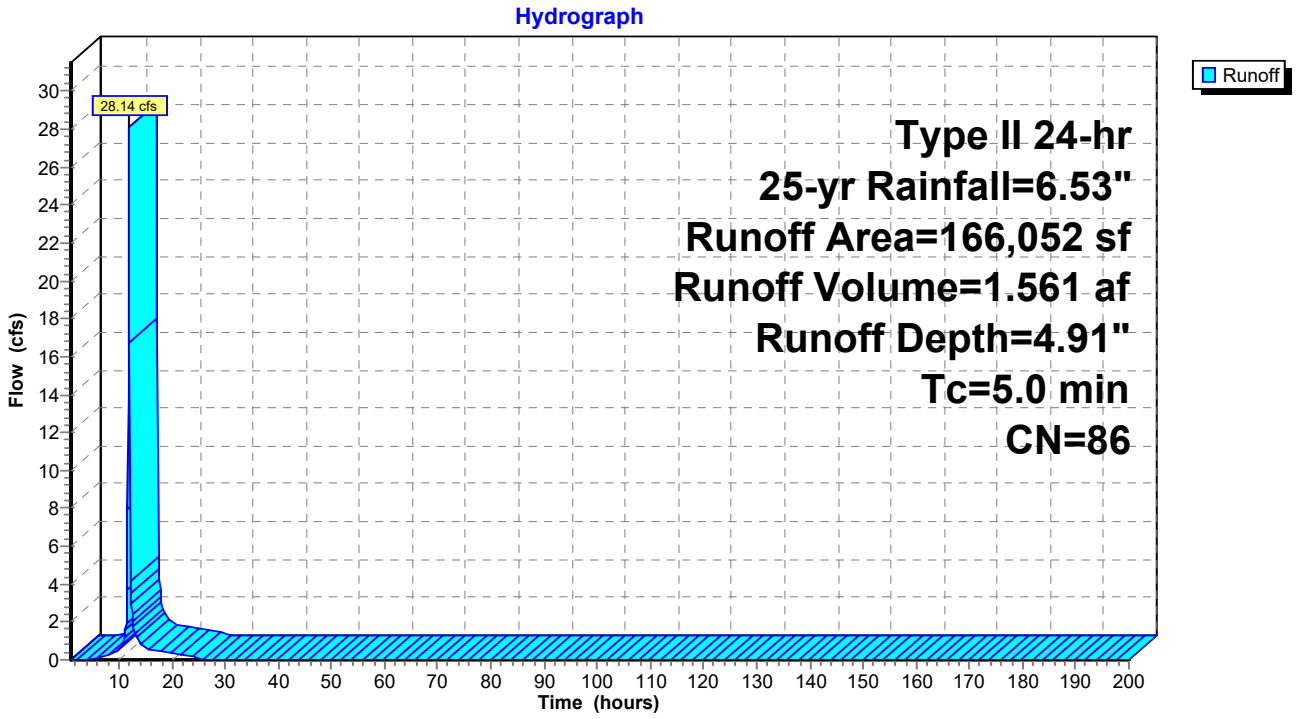
Runoff = 28.14 cfs @ 11.95 hrs, Volume= 1.561 af, Depth= 4.91"
Routed to Pond 2P : Wet Pond SCM 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
22,914	98	Paved parking, HSG B
6,465	48	Brush, Good, HSG B
95,673	98	Roofs, HSG B
41,000	58	Woods/grass comb., Good, HSG B
166,052	86	Weighted Average
47,465		28.58% Pervious Area
118,587		71.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 15S: Post Dev. Basin 2B to SCM



Summary for Subcatchment 16S: Post Dev. Bypass 2C

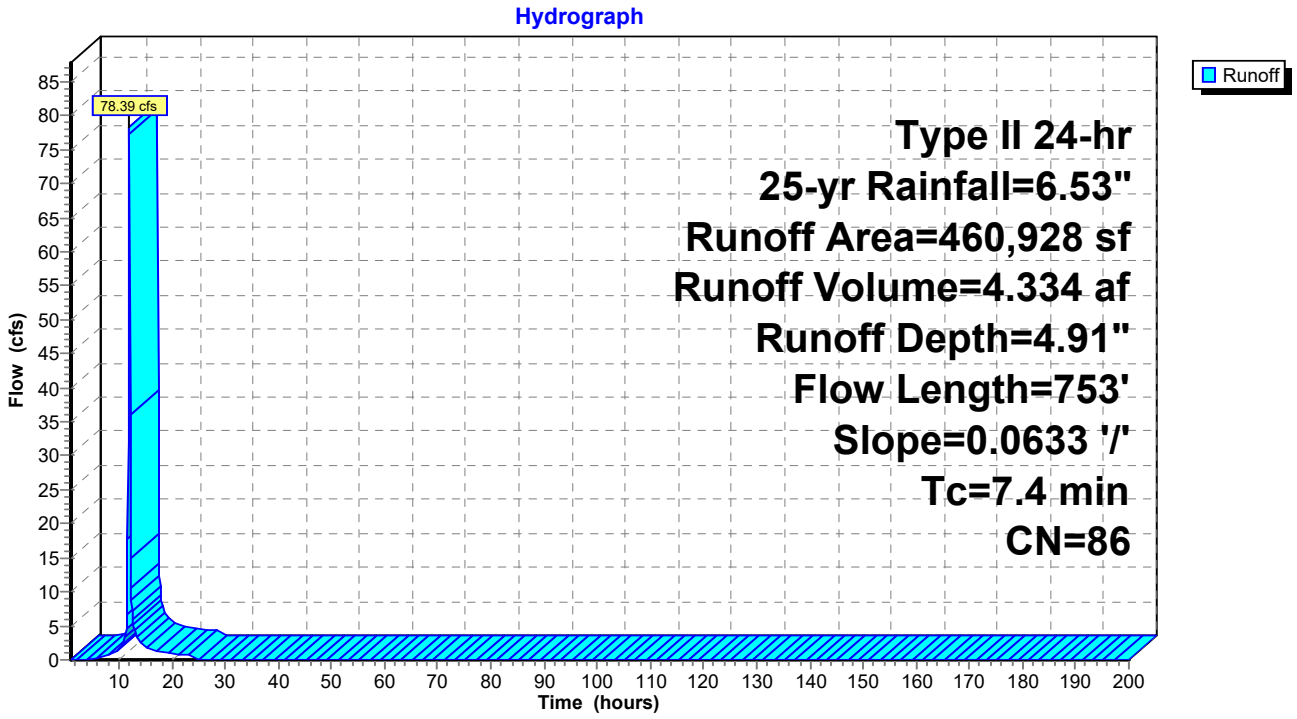
Runoff = 78.39 cfs @ 11.98 hrs, Volume= 4.334 af, Depth= 4.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
173,689	79	Woods, Fair, HSG D
101,714	98	Paved parking, HSG D
129,620	82	Woods/grass comb., Fair, HSG D
55,905	98	Roofs, HSG D
460,928	86	Weighted Average
303,309		65.80% Pervious Area
157,619		34.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	753	0.0633	1.69		**Kirpich Method, Estimated Tc** General overland flow k= 2.00

Subcatchment 16S: Post Dev. Bypass 2C



Summary for Subcatchment 18S: Post Dev Bypass 2B

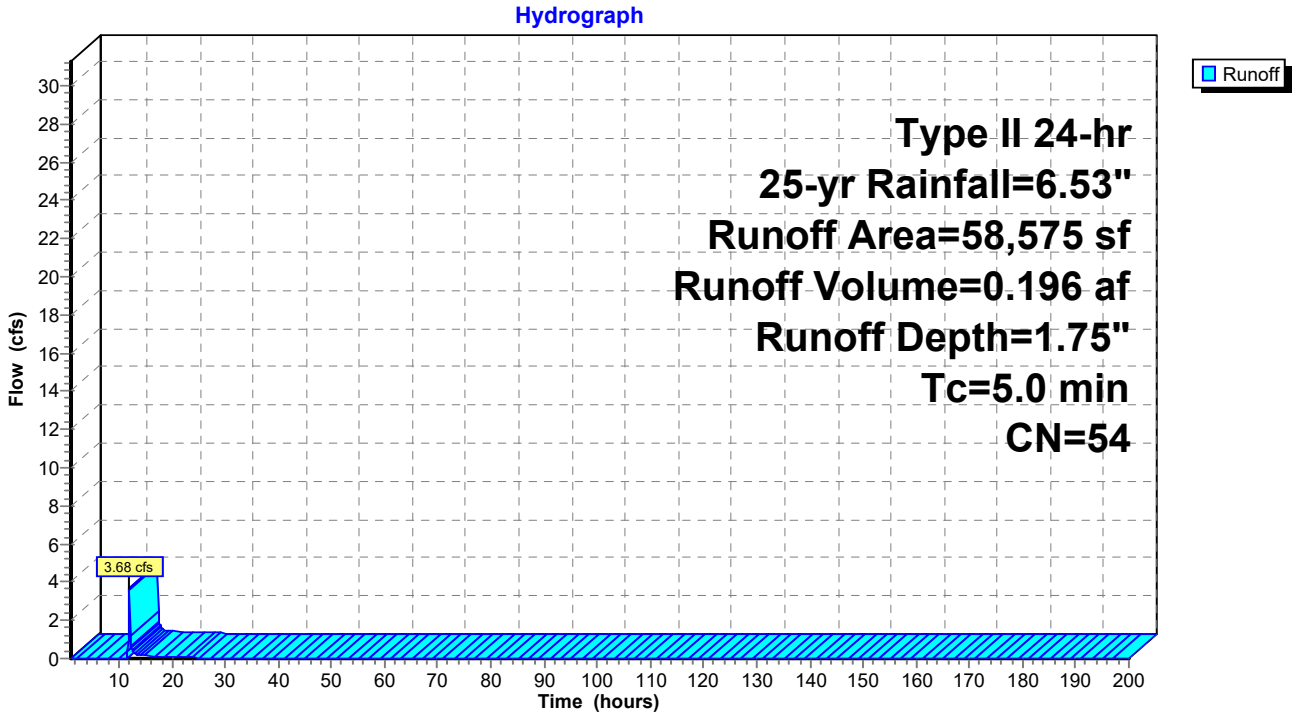
Runoff = 3.68 cfs @ 11.98 hrs, Volume= 0.196 af, Depth= 1.75"
Routed to Link 2L : POA 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
54,125	55	Woods, Good, HSG B
4,450	48	Brush, Good, HSG B
58,575	54	Weighted Average
58,575		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 18S: Post Dev Bypass 2B



Summary for Subcatchment 19S: Post Dev. Basin 3

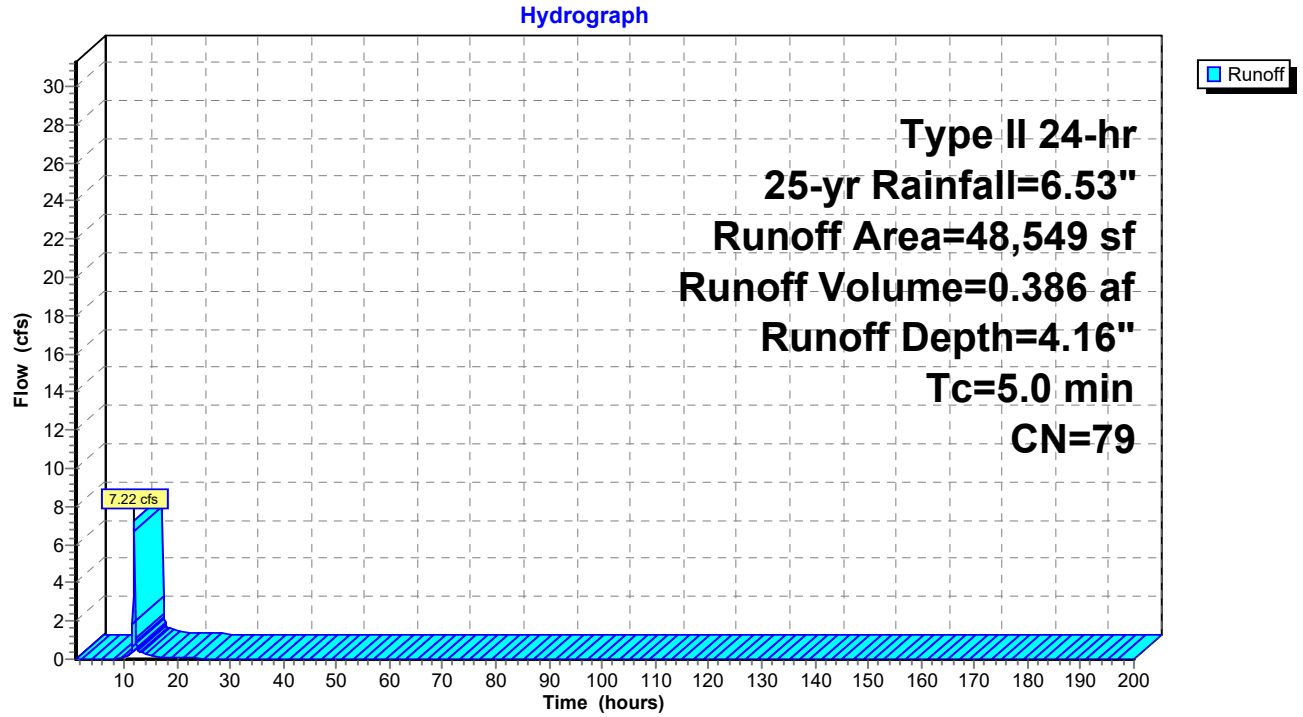
Runoff = 7.22 cfs @ 11.96 hrs, Volume= 0.386 af, Depth= 4.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
48,549	79	50-75% Grass cover, Fair, HSG C
48,549		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 19S: Post Dev. Basin 3



Summary for Subcatchment 20S: Post Dev. Basin 4

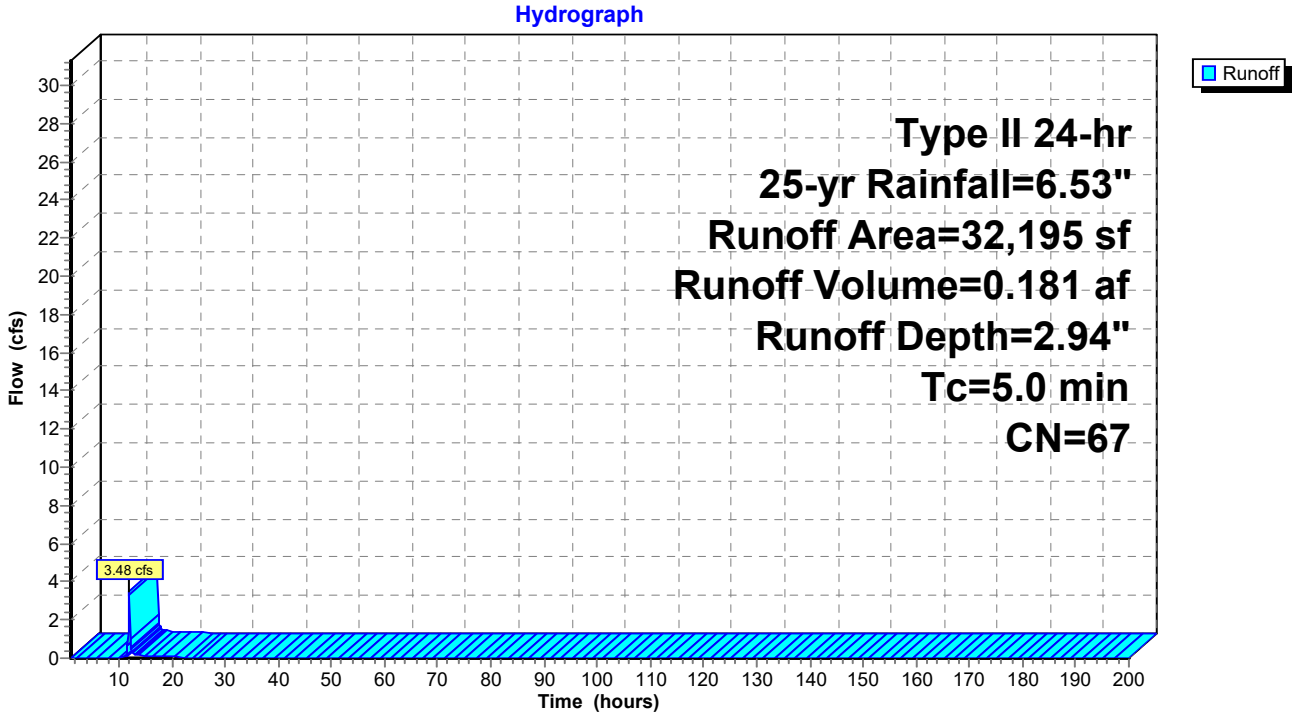
Runoff = 3.48 cfs @ 11.96 hrs, Volume= 0.181 af, Depth= 2.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
6,966	60	Woods, Fair, HSG B
20,201	61	>75% Grass cover, Good, HSG B
5,028	98	Paved parking, HSG B
32,195	67	Weighted Average
27,167		84.38% Pervious Area
5,028		15.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 20S: Post Dev. Basin 4



Summary for Subcatchment 21S: Post Dev. Basin 5 to SCM

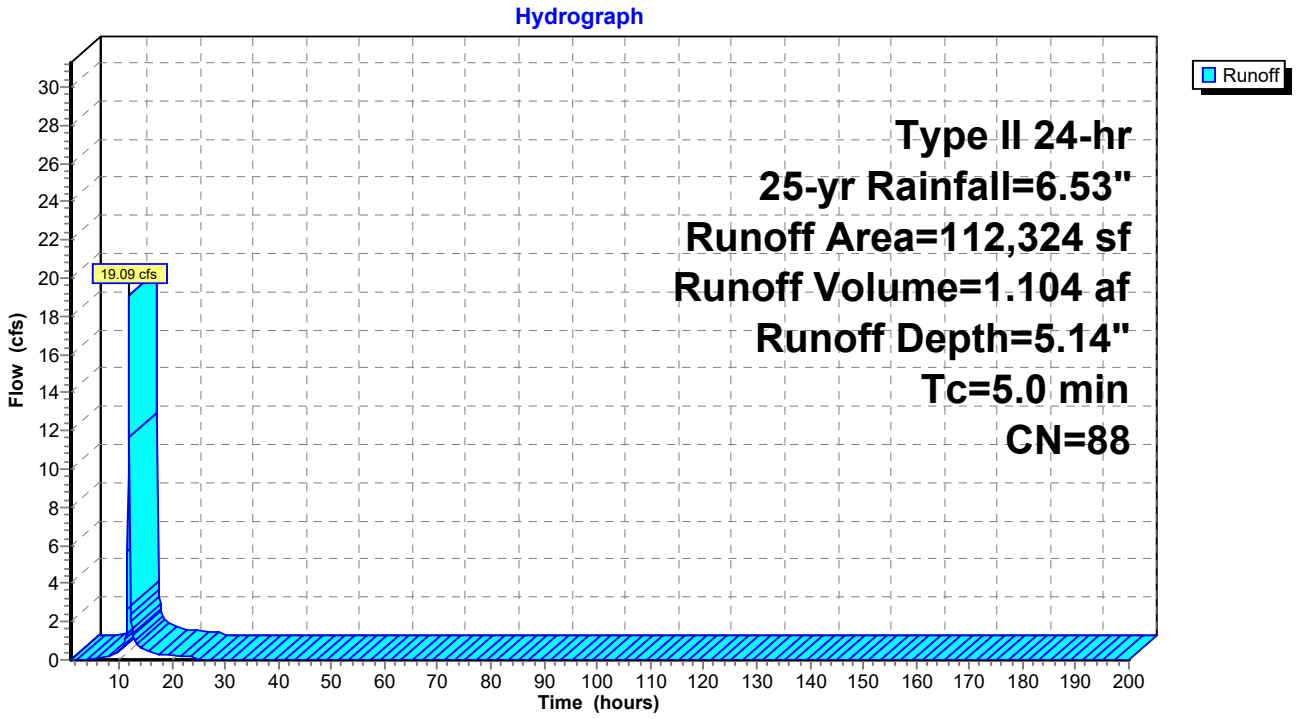
Runoff = 19.09 cfs @ 11.95 hrs, Volume= 1.104 af, Depth= 5.14"
Routed to Pond 3P : Wet Pond SCM 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
40,704	98	Roofs, HSG B
22,215	48	Brush, Good, HSG B
44,766	98	Paved parking, HSG B
4,639	98	Water Surface, 0% imp, HSG B
112,324	88	Weighted Average
26,854		23.91% Pervious Area
85,470		76.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 21S: Post Dev. Basin 5 to SCM



Summary for Subcatchment 22S: Post Dev. Bypass 5

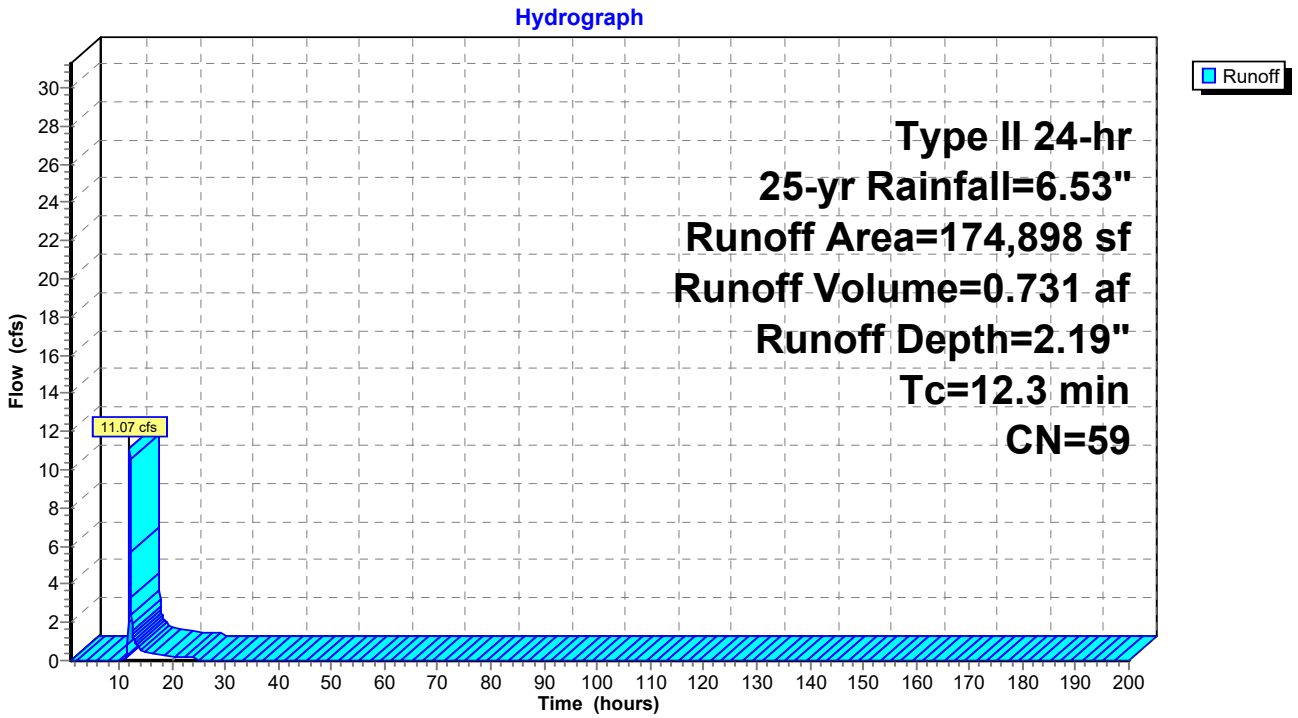
Runoff = 11.07 cfs @ 12.05 hrs, Volume= 0.731 af, Depth= 2.19"
Routed to Link 3L : POA 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
110,888	60	Woods, Fair, HSG B
51,602	48	Brush, Good, HSG B
12,408	98	Paved parking, HSG B
174,898	59	Weighted Average
162,490		92.91% Pervious Area
12,408		7.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3					**Direct Entry,**

Subcatchment 22S: Post Dev. Bypass 5



Summary for Subcatchment 23S: Post Dev. Basin 6 to SCM

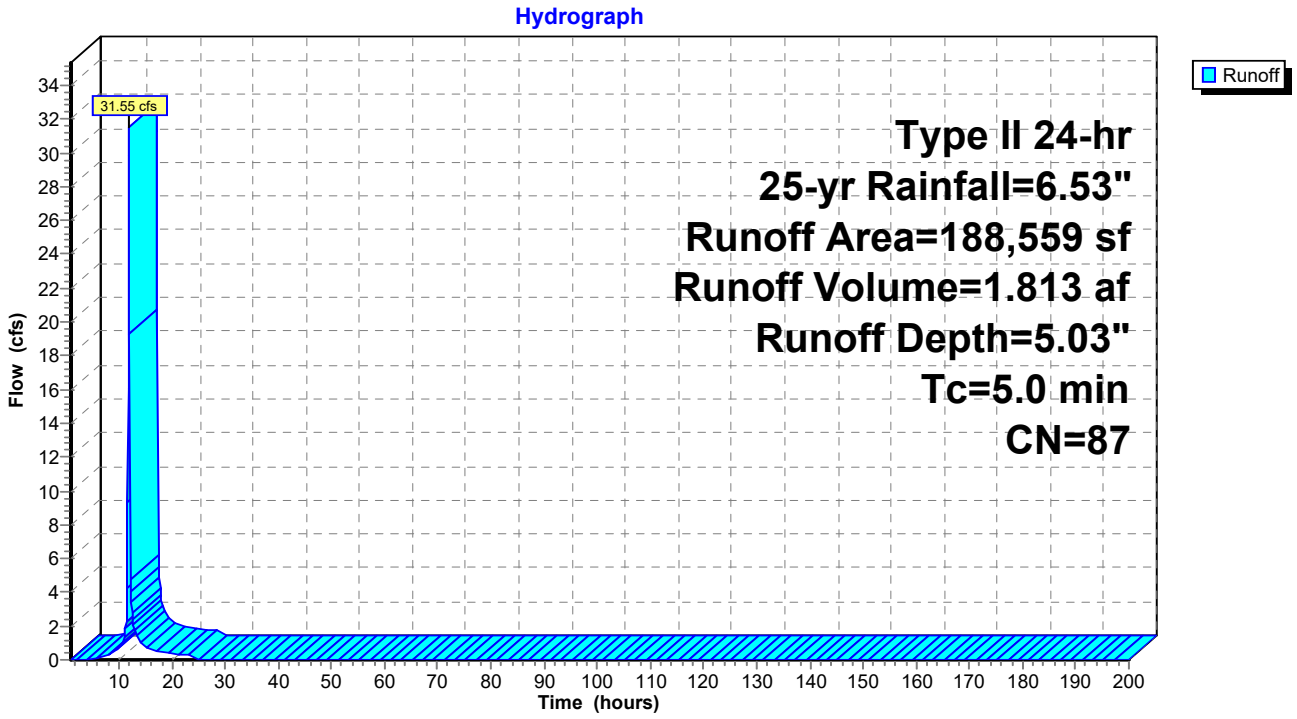
Runoff = 31.55 cfs @ 11.95 hrs, Volume= 1.813 af, Depth= 5.03"
Routed to Pond 4P : Wet Pond SCM 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
54,466	98	Paved parking, HSG B
58,385	61	>75% Grass cover, Good, HSG B
60,672	98	Roofs, HSG B
15,036	98	Water Surface, 0% imp, HSG B
188,559	87	Weighted Average
73,421		38.94% Pervious Area
115,138		61.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 23S: Post Dev. Basin 6 to SCM



Summary for Subcatchment 24S: Post Dev. Bypass 6

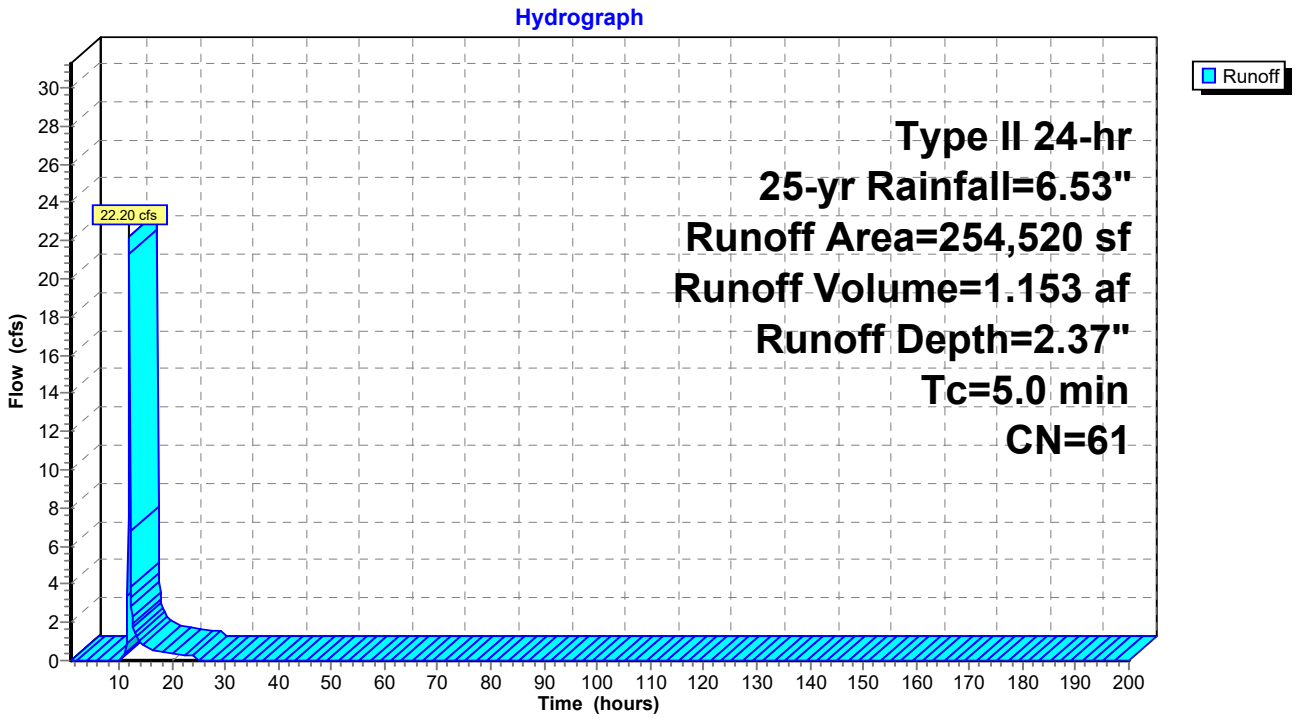
Runoff = 22.20 cfs @ 11.97 hrs, Volume= 1.153 af, Depth= 2.37"
Routed to Link 4L : POA 5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
215,461	60	Woods, Fair, HSG B
34,572	61	>75% Grass cover, Good, HSG B
4,487	98	Paved parking, HSG B
254,520	61	Weighted Average
250,033		98.24% Pervious Area
4,487		1.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 24S: Post Dev. Bypass 6



Summary for Subcatchment 25S: Post Dev. Basin 7 to SCM

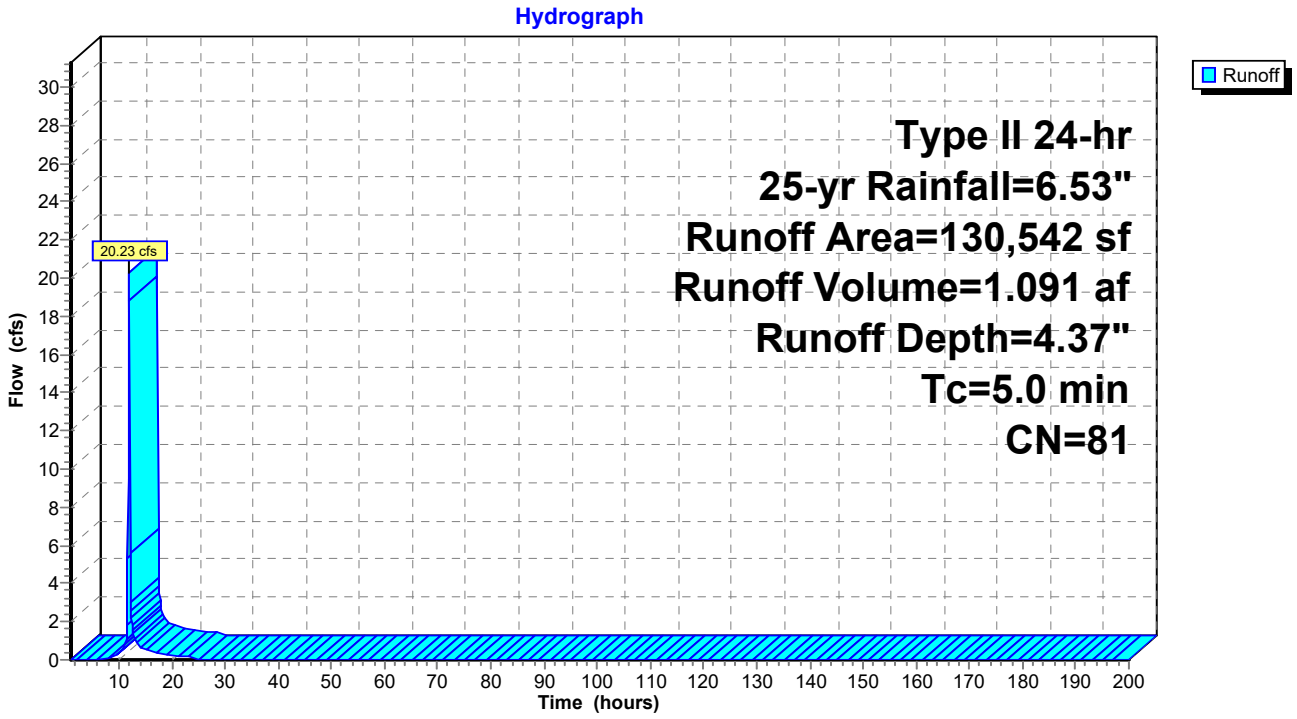
Runoff = 20.23 cfs @ 11.95 hrs, Volume= 1.091 af, Depth= 4.37"
Routed to Pond 5P : Wet Pond SCM 5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
50,624	98	Paved parking, HSG B
44,621	48	Brush, Good, HSG B
28,800	98	Roofs, HSG B
6,497	98	Water Surface, 0% imp, HSG B
130,542	81	Weighted Average
51,118		39.16% Pervious Area
79,424		60.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 25S: Post Dev. Basin 7 to SCM



Summary for Subcatchment 26S: Post Dev. Bypass 7

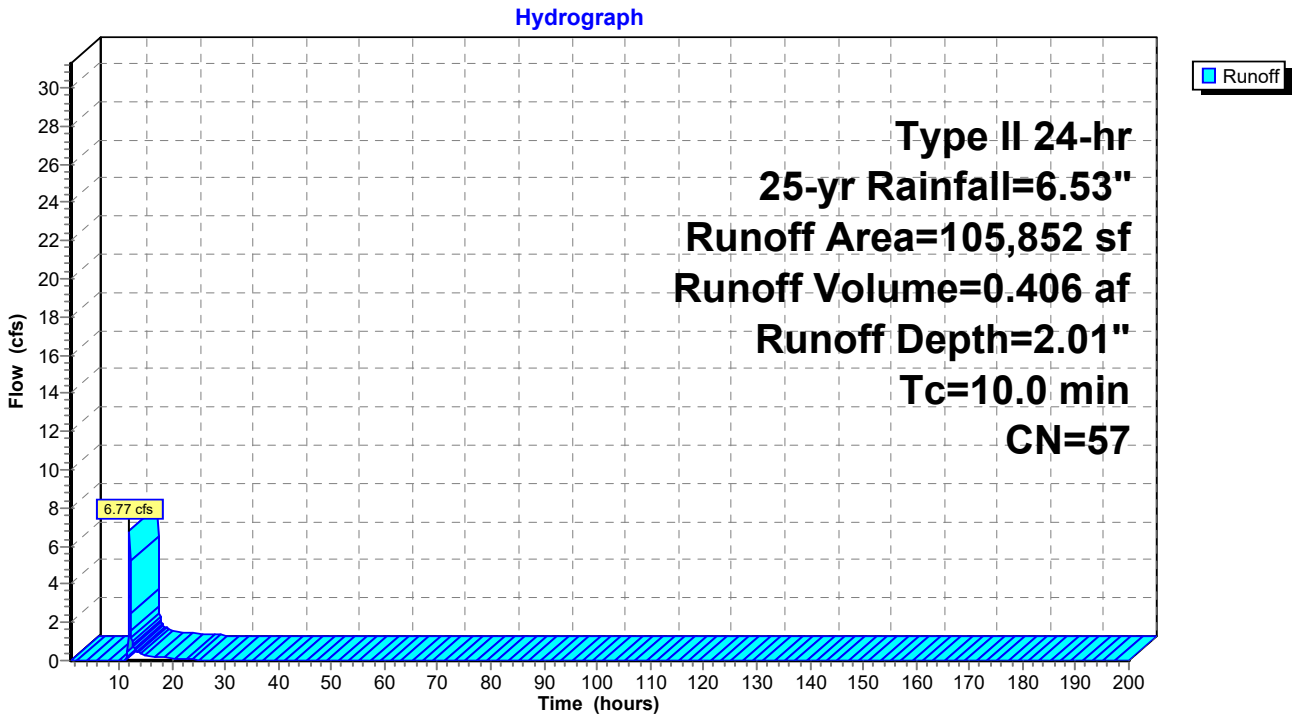
Runoff = 6.77 cfs @ 12.02 hrs, Volume= 0.406 af, Depth= 2.01"
Routed to Link 5L : POA 6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
39,944	55	Woods, Good, HSG B
52,486	48	Brush, Good, HSG B
13,422	98	Paved parking, HSG B
105,852	57	Weighted Average
92,430		87.32% Pervious Area
13,422		12.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 26S: Post Dev. Bypass 7



Summary for Subcatchment 27S: Post Dev. Bypass 8

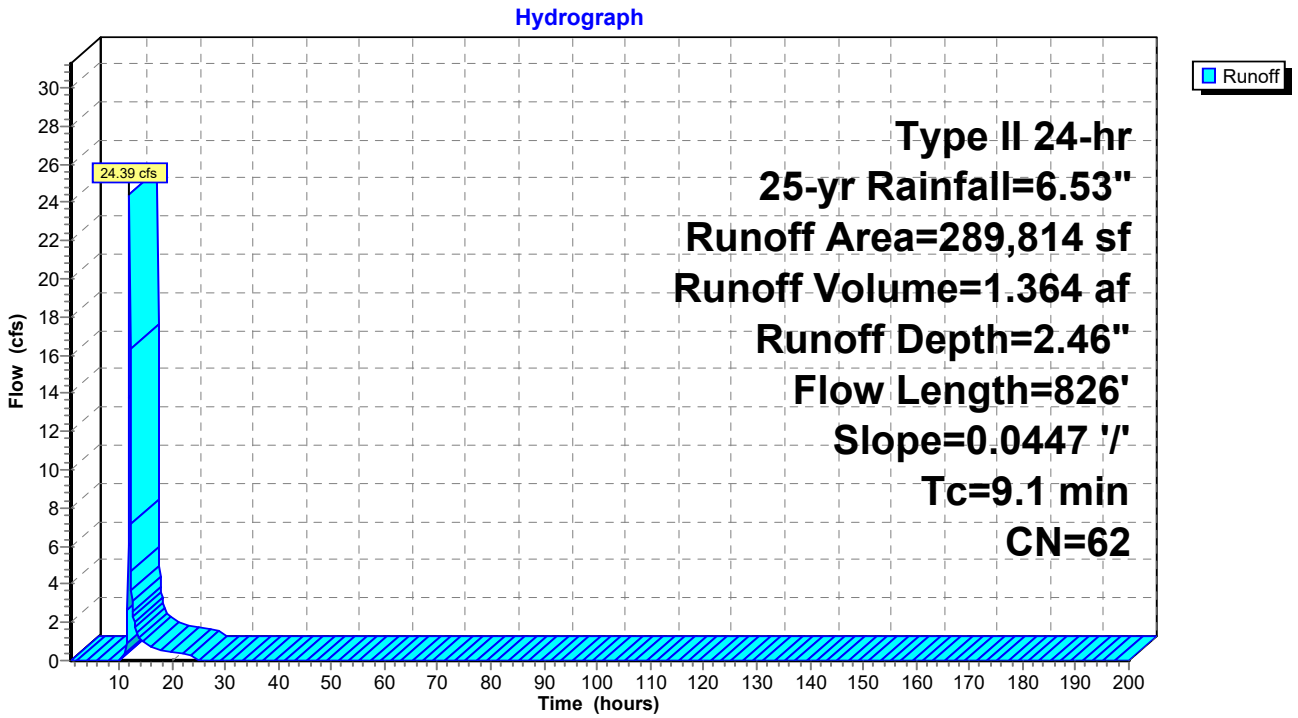
Runoff = 24.39 cfs @ 12.01 hrs, Volume= 1.364 af, Depth= 2.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-yr Rainfall=6.53"

Area (sf)	CN	Description
230,959	60	Woods, Fair, HSG B
53,439	69	50-75% Grass cover, Fair, HSG B
5,416	98	Paved parking, HSG B
289,814	62	Weighted Average
284,398		98.13% Pervious Area
5,416		1.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	826	0.0447	1.51		**Kirpich Method,** General overland flow k= 2.00

Subcatchment 27S: Post Dev. Bypass 8



Summary for Pond 1P: Sand Filter -SCM 1

Inflow Area = 7.523 ac, 77.83% Impervious, Inflow Depth = 5.25" for 25-yr event
Inflow = 56.50 cfs @ 11.95 hrs, Volume= 3.291 af
Outflow = 28.94 cfs @ 12.08 hrs, Volume= 3.291 af, Atten= 49%, Lag= 7.9 min
Primary = 28.94 cfs @ 12.08 hrs, Volume= 3.291 af
Routed to Link 1L : POA 1

Routing by Stor-Ind method, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Peak Elev= 531.55' @ 12.08 hrs Surf.Area= 6,825 sf Storage= 51,523 cf

Plug-Flow detention time= 90.7 min calculated for 3.290 af (100% of inflow)
Center-of-Mass det. time= 91.3 min (872.5 - 781.2)

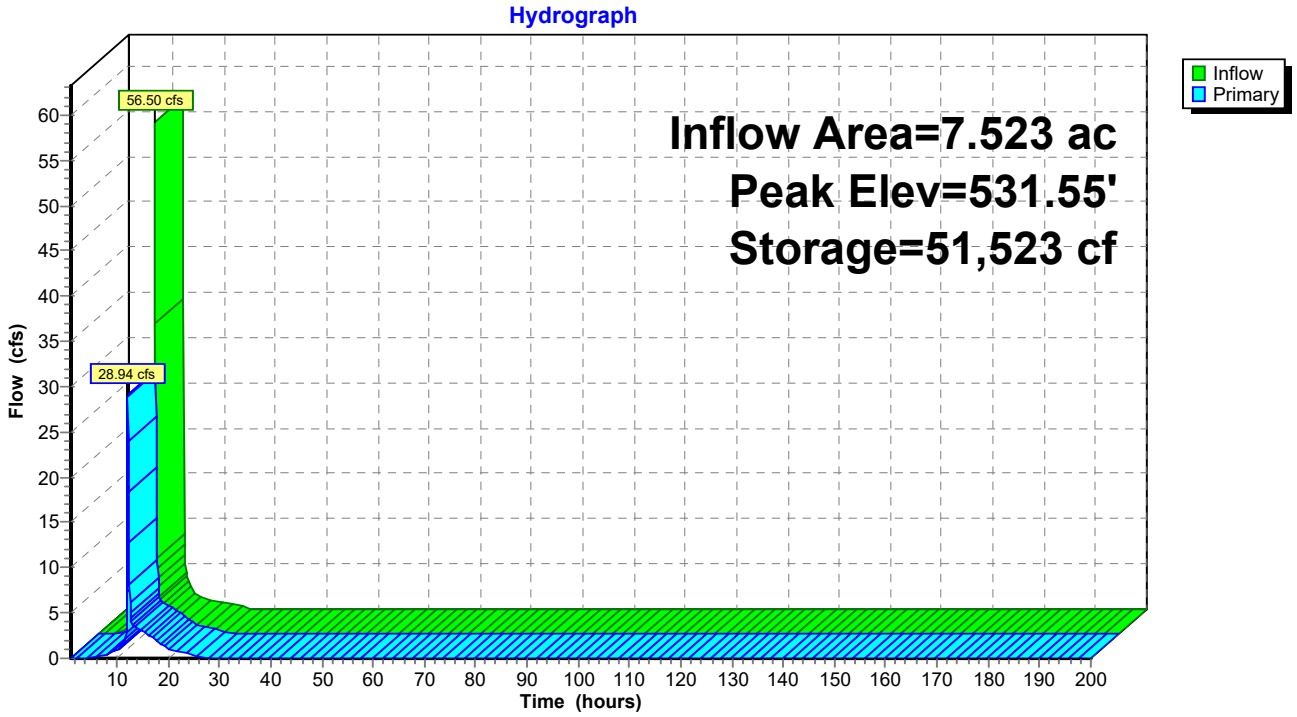
Volume	Invert	Avail.Storage	Storage Description
#1	524.00'	68,250 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) x 65

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
524.00	105	0	0
534.00	105	1,050	1,050

Device	Routing	Invert	Outlet Devices
#1	Primary	524.00'	**36.0" Round Culvert** L= 85.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 524.00' / 523.00' S= 0.0118 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	524.00'	**8.0" Vert. Drawdown** C= 0.600 Limited to weir flow at low heads
#3	Device 1	528.90'	**60.0" W x 8.0" H Vert. Main Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 1	533.00'	**25.0' long Overflow** 2 End Contraction(s)

Primary OutFlow Max=28.42 cfs @ 12.08 hrs HW=531.46' (Free Discharge)
└**1=Culvert** (Passes 28.42 cfs of 83.09 cfs potential flow)
  ├**2=Drawdown** (Orifice Controls 4.49 cfs @ 12.85 fps)
  ├**3=Main Orifice** (Orifice Controls 23.93 cfs @ 7.18 fps)
  └**4=Overflow** (Controls 0.00 cfs)

Pond 1P: Sand Filter -SCM 1



Summary for Pond 2P: Wet Pond SCM 2

Inflow Area = 3.812 ac, 71.42% Impervious, Inflow Depth = 4.91" for 25-yr event
Inflow = 28.14 cfs @ 11.95 hrs, Volume= 1.561 af
Outflow = 5.86 cfs @ 12.15 hrs, Volume= 1.561 af, Atten= 79%, Lag= 12.1 min
Primary = 5.86 cfs @ 12.15 hrs, Volume= 1.561 af
Routed to Link 2L : POA 2

Routing by Stor-Ind method, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Starting Elev= 526.00' Surf.Area= 11,086 sf Storage= 32,033 cf
Peak Elev= 528.36' @ 12.15 hrs Surf.Area= 15,796 sf Storage= 63,678 cf (31,645 cf above start)

Plug-Flow detention time= 487.7 min calculated for 0.826 af (53% of inflow)
Center-of-Mass det. time= 177.3 min (967.9 - 790.6)

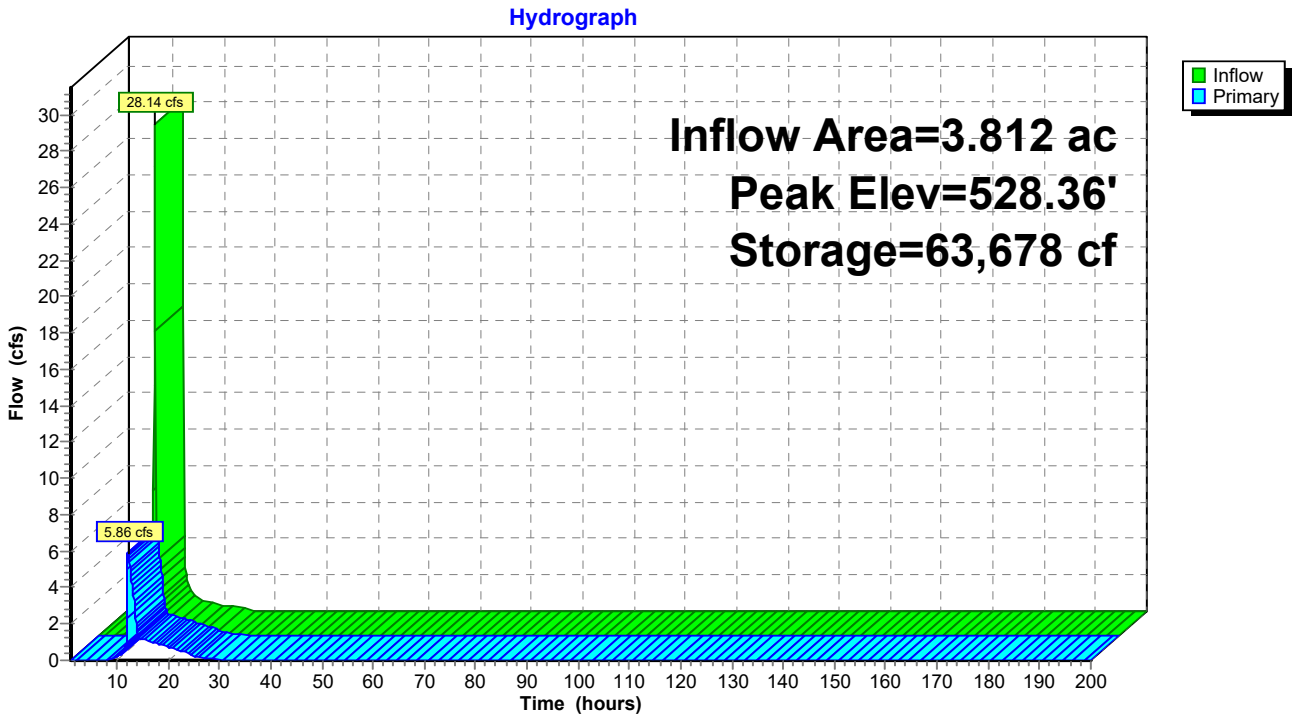
Volume	Invert	Avail.Storage	Storage Description
#1	522.00'	92,429 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
522.00	5,067	0	0
523.00	7,010	6,039	6,039
524.00	7,727	7,369	13,407
525.00	9,219	8,473	21,880
526.00	11,086	10,153	32,033
527.00	13,027	12,057	44,089
528.00	15,043	14,035	58,124
529.00	17,134	16,089	74,213
530.00	19,299	18,217	92,429

Device	Routing	Invert	Outlet Devices
#1	Primary	526.00'	**36.0" Round Culvert** L= 45.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 526.00' / 525.55' S= 0.0100 '/' Cc= 0.900 n= 0.010 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	526.00'	**6.5" Vert. Drawdown** C= 0.600 Limited to weir flow at low heads
#3	Device 1	527.40'	**34.0" W x 2.0" H Vert. Peakflow Orifice X 2.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	528.60'	**48.0" x 48.0" Horiz. Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.84 cfs @ 12.15 hrs HW=528.35' (Free Discharge)
└**1=Culvert** (Passes 5.84 cfs of 27.39 cfs potential flow)
├**2=Drawdown** (Orifice Controls 1.60 cfs @ 6.95 fps)
├**3=Peakflow Orifice** (Orifice Controls 4.24 cfs @ 4.49 fps)
└**4=Overflow** (Controls 0.00 cfs)

Pond 2P: Wet Pond SCM 2



Summary for Pond 3P: Wet Pond SCM 3

Inflow Area = 2.579 ac, 76.09% Impervious, Inflow Depth = 5.14" for 25-yr event
Inflow = 19.09 cfs @ 11.95 hrs, Volume= 1.104 af
Outflow = 8.22 cfs @ 12.11 hrs, Volume= 1.104 af, Atten= 57%, Lag= 9.4 min
Primary = 8.22 cfs @ 12.11 hrs, Volume= 1.104 af
Routed to Link 3L : POA 4

Routing by Stor-Ind method, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Starting Elev= 534.00' Surf.Area= 3,130 sf Storage= 15,183 cf
Peak Elev= 537.18' @ 12.10 hrs Surf.Area= 5,841 sf Storage= 35,089 cf (19,906 cf above start)

Plug-Flow detention time= 394.0 min calculated for 0.755 af (68% of inflow)
Center-of-Mass det. time= 172.8 min (957.3 - 784.5)

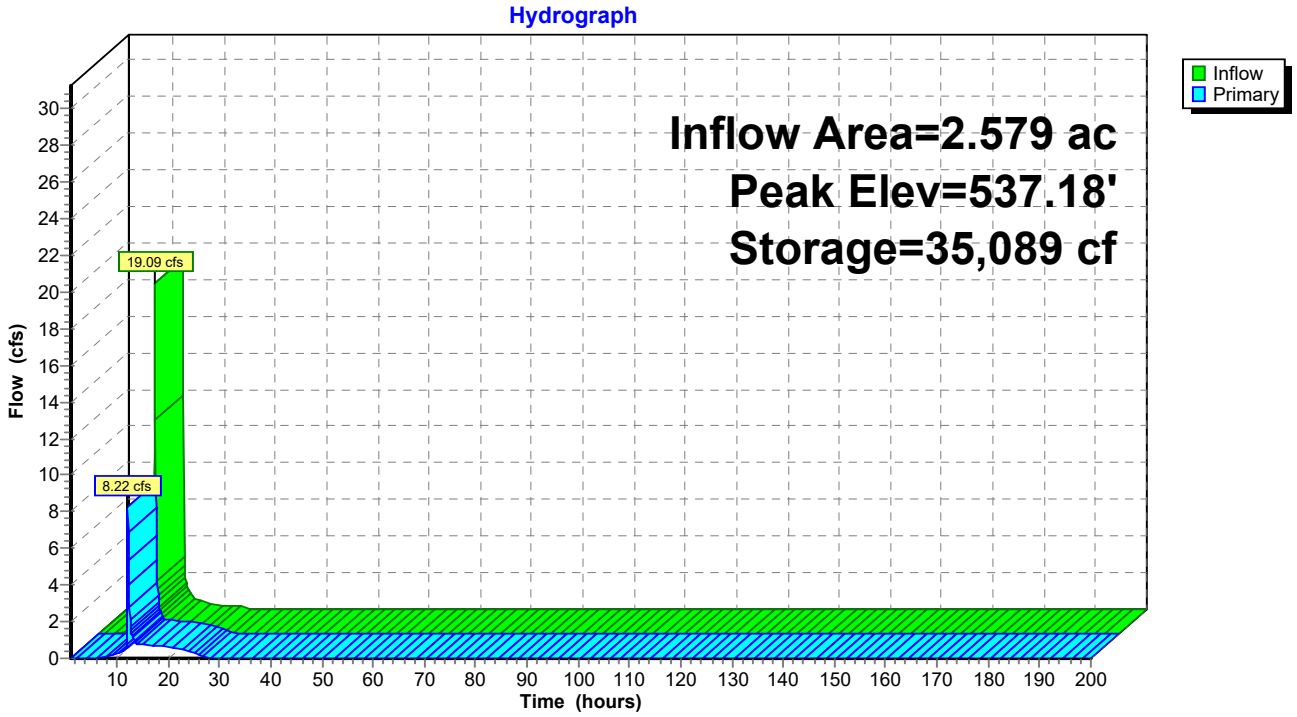
Volume	Invert	Avail.Storage	Storage Description
#1	530.00'	52,862 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
530.00	2,212	0	0
531.00	3,200	2,706	2,706
532.00	4,144	3,672	6,378
533.00	5,168	4,656	11,034
534.00	3,130	4,149	15,183
535.00	6,262	4,696	19,879
536.00	8,640	7,451	27,330
537.00	4,960	6,800	34,130
538.00	9,920	7,440	41,570
539.00	12,664	11,292	52,862

Device	Routing	Invert	Outlet Devices
#1	Primary	534.00'	**30.0" Round Culvert** L= 44.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 534.00' / 533.56' S= 0.0100 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 4.91 sf
#2	Device 1	534.00'	**4.5" Vert. Drawdown** C= 0.600 Limited to weir flow at low heads
#3	Device 1	536.30'	**42.0" W x 3.0" H Vert. Peak Flow X 2.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	537.60'	**48.0" x 48.0" Horiz. Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=8.16 cfs @ 12.11 hrs HW=537.16' (Free Discharge)
└**1=Culvert** (Passes 8.16 cfs of 31.61 cfs potential flow)
├**2=Drawdown** (Orifice Controls 0.92 cfs @ 8.31 fps)
├**3=Peak Flow** (Orifice Controls 7.24 cfs @ 4.14 fps)
└**4=Overflow** (Controls 0.00 cfs)

Pond 3P: Wet Pond SCM 3



Summary for Pond 4P: Wet Pond SCM 4

Inflow Area = 4.329 ac, 61.06% Impervious, Inflow Depth = 5.03" for 25-yr event
Inflow = 31.55 cfs @ 11.95 hrs, Volume= 1.813 af
Outflow = 4.23 cfs @ 12.27 hrs, Volume= 1.488 af, Atten= 87%, Lag= 19.4 min
Primary = 4.23 cfs @ 12.27 hrs, Volume= 1.488 af
Routed to Link 4L : POA 5

Routing by Stor-Ind method, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Peak Elev= 526.41' @ 12.27 hrs Surf.Area= 12,316 sf Storage= 44,889 cf

Plug-Flow detention time= 539.3 min calculated for 1.488 af (82% of inflow)
Center-of-Mass det. time= 462.9 min (1,250.5 - 787.6)

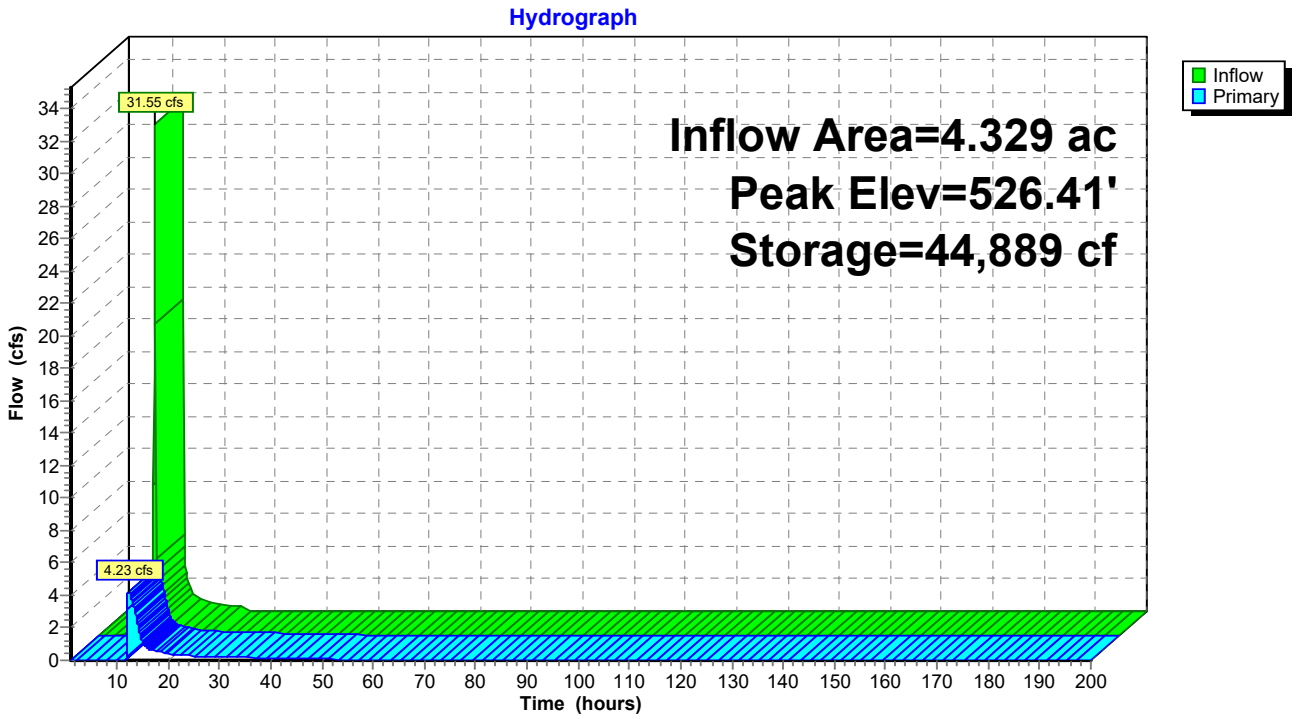
Volume	Invert	Avail.Storage	Storage Description
#1	519.00'	67,235 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
519.00	1,472	0	0
520.00	2,352	1,912	1,912
521.00	3,406	2,879	4,791
522.00	4,636	4,021	8,812
523.00	6,046	5,341	14,153
524.00	7,648	6,847	21,000
525.00	9,474	8,561	29,561
526.00	11,446	10,460	40,021
527.00	13,570	12,508	52,529
528.00	15,842	14,706	67,235

Device	Routing	Invert	Outlet Devices
#1	Primary	523.00'	**36.0" Round Culvert** L= 45.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 523.00' / 521.50' S= 0.0333 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	523.00'	**2.5" Vert. Drawdown** C= 0.600 Limited to weir flow at low heads
#3	Device 1	525.10'	**36.0" W x 3.0" H Vert. Peakflow** C= 0.600 Limited to weir flow at low heads
#4	Device 1	526.50'	**48.0" x 48.0" Horiz. Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.22 cfs @ 12.27 hrs HW=526.41' (Free Discharge)
└**1=Culvert** (Passes 4.22 cfs of 47.01 cfs potential flow)
├**2=Drawdown** (Orifice Controls 0.30 cfs @ 8.75 fps)
├**3=Peakflow** (Orifice Controls 3.93 cfs @ 5.23 fps)
└**4=Overflow** (Controls 0.00 cfs)

Pond 4P: Wet Pond SCM 4



Summary for Pond 5P: Wet Pond SCM 5

Inflow Area = 2.997 ac, 60.84% Impervious, Inflow Depth = 4.37" for 25-yr event
Inflow = 20.23 cfs @ 11.95 hrs, Volume= 1.091 af
Outflow = 8.33 cfs @ 12.10 hrs, Volume= 1.091 af, Atten= 59%, Lag= 9.1 min
Primary = 8.33 cfs @ 12.10 hrs, Volume= 1.091 af
Routed to Link 5L : POA 6

Routing by Stor-Ind method, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Starting Elev= 513.00' Surf.Area= 4,340 sf Storage= 13,131 cf
Peak Elev= 516.22' @ 12.10 hrs Surf.Area= 6,936 sf Storage= 32,230 cf (19,099 cf above start)

Plug-Flow detention time= 378.4 min calculated for 0.789 af (72% of inflow)
Center-of-Mass det. time= 180.8 min (985.0 - 804.2)

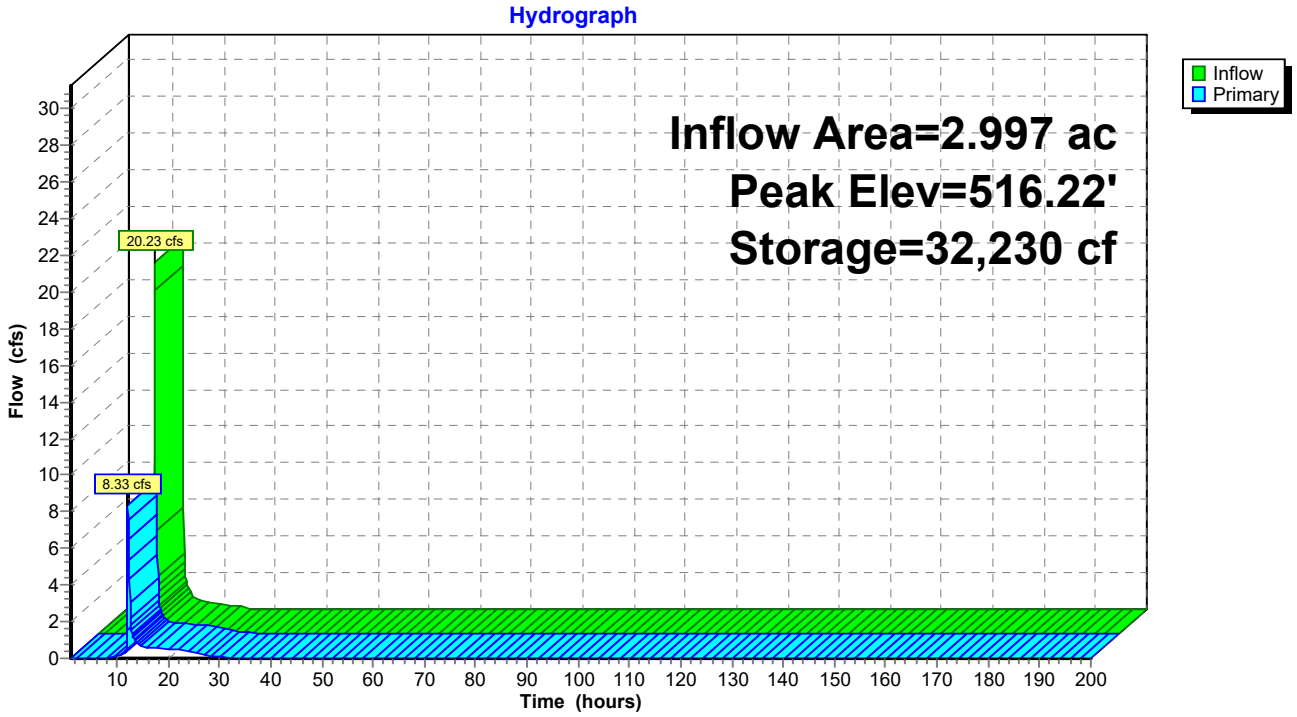
Volume	Invert	Avail.Storage	Storage Description
#1	509.00'	45,475 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
509.00	2,355	0	0
510.00	2,789	2,572	2,572
511.00	3,517	3,153	5,725
512.00	3,477	3,497	9,222
513.00	4,340	3,909	13,131
514.00	5,752	5,046	18,177
515.00	6,271	6,012	24,188
516.00	6,813	6,542	30,730
517.00	7,377	7,095	37,825
518.00	7,922	7,650	45,475

Device	Routing	Invert	Outlet Devices
#1	Primary	513.00'	**36.0" Round Culvert** L= 79.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 513.00' / 512.00' S= 0.0127 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf
#2	Device 1	513.00'	**4.0" Vert. Drawdown** C= 0.600 Limited to weir flow at low heads
#3	Device 1	515.10'	**38.0" W x 3.0" H Vert. Peakflow Orifice X 2.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	516.70'	**48.0" x 48.0" Horiz. Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=8.29 cfs @ 12.10 hrs HW=516.21' (Free Discharge)
└**1=Culvert** (Passes 8.29 cfs of 44.49 cfs potential flow)
  ├**2=Drawdown** (Orifice Controls 0.73 cfs @ 8.40 fps)
  ├**3=Peakflow Orifice** (Orifice Controls 7.56 cfs @ 4.77 fps)
  └**4=Overflow** (Controls 0.00 cfs)

Pond 5P: Wet Pond SCM 5

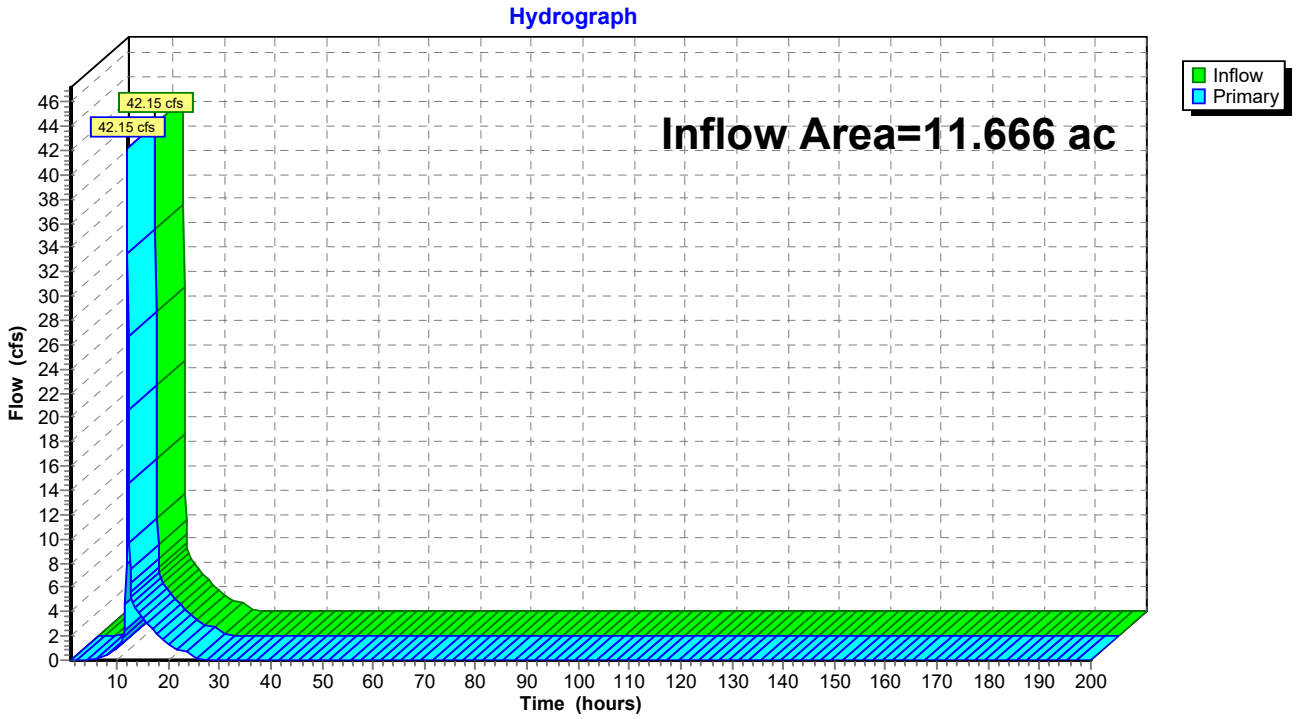


Summary for Link 1L: POA 1

Inflow Area = 11.666 ac, 51.60% Impervious, Inflow Depth = 4.19" for 25-yr event
Inflow = 42.15 cfs @ 12.02 hrs, Volume= 4.077 af
Primary = 42.15 cfs @ 12.02 hrs, Volume= 4.077 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs

Link 1L: POA 1

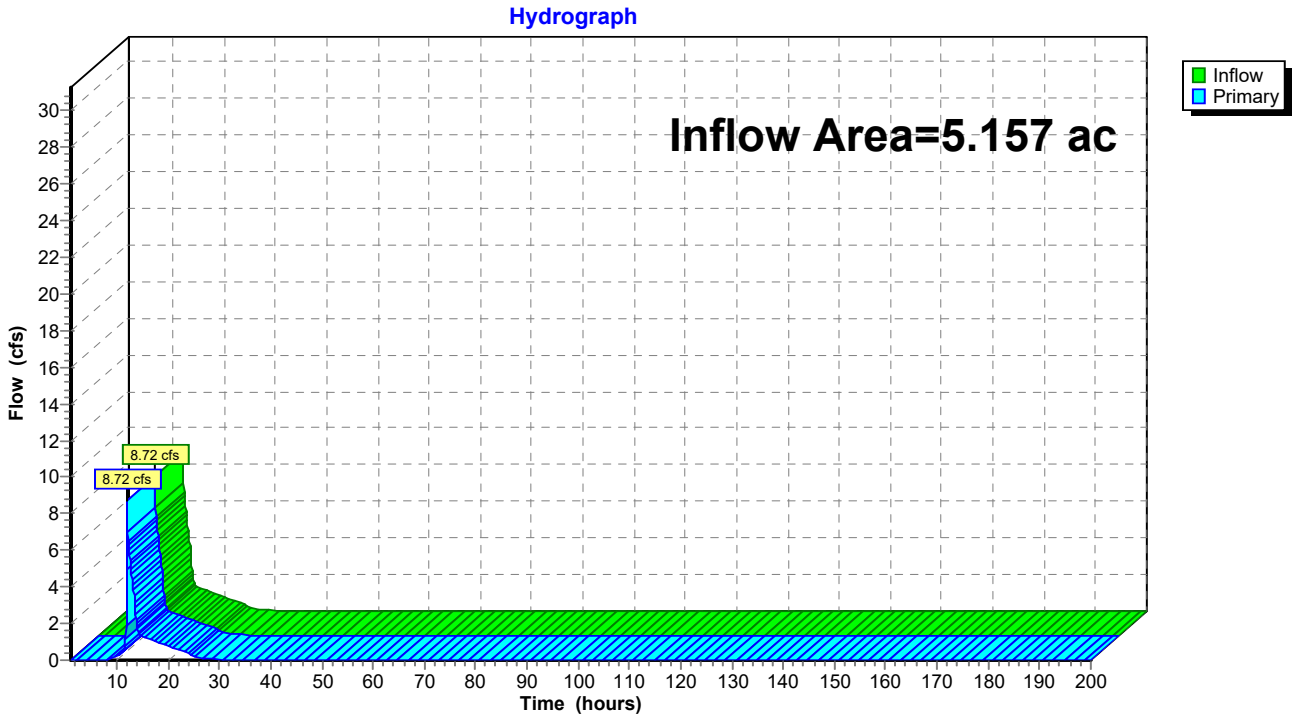


Summary for Link 2L: POA 2

Inflow Area = 5.157 ac, 52.79% Impervious, Inflow Depth = 4.09" for 25-yr event
Inflow = 8.72 cfs @ 12.02 hrs, Volume= 1.757 af
Primary = 8.72 cfs @ 12.02 hrs, Volume= 1.757 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs

Link 2L: POA 2

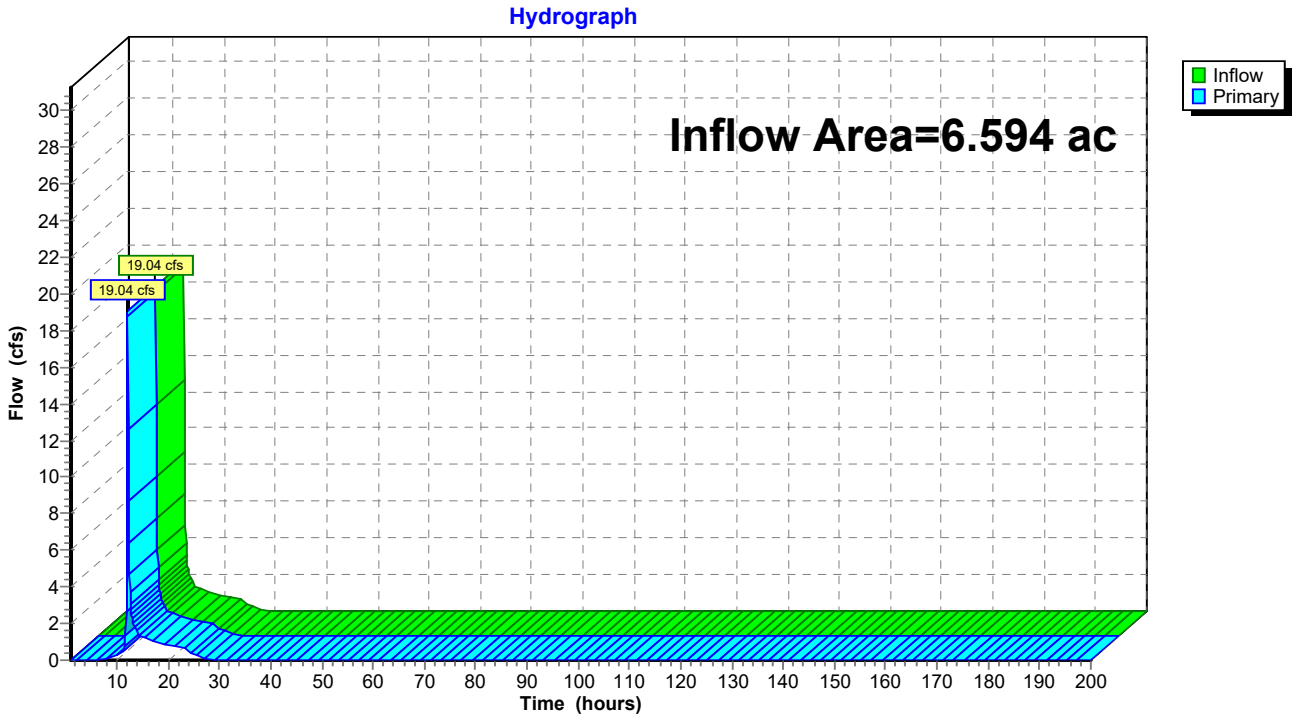


Summary for Link 3L: POA 4

Inflow Area = 6.594 ac, 34.08% Impervious, Inflow Depth = 3.34" for 25-yr event
Inflow = 19.04 cfs @ 12.07 hrs, Volume= 1.835 af
Primary = 19.04 cfs @ 12.07 hrs, Volume= 1.835 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs

Link 3L: POA 4

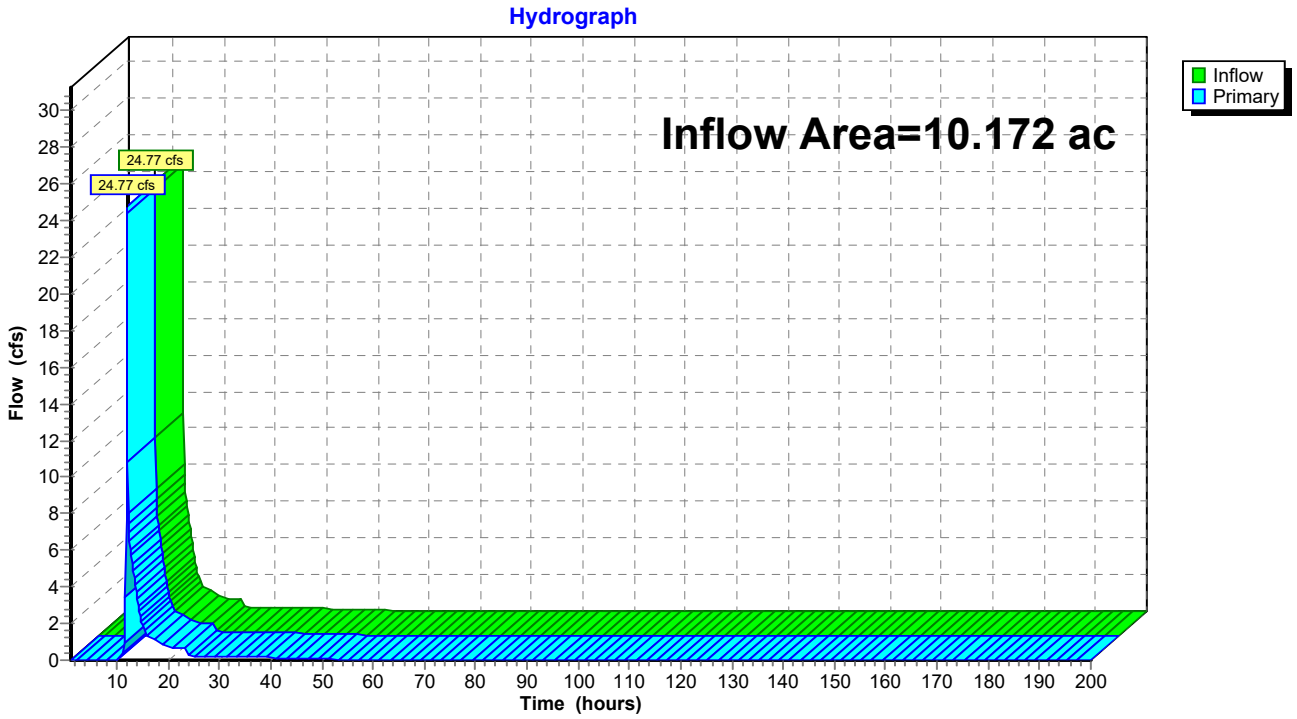


Summary for Link 4L: POA 5

Inflow Area = 10.172 ac, 27.00% Impervious, Inflow Depth = 3.12" for 25-yr event
Inflow = 24.77 cfs @ 11.98 hrs, Volume= 2.641 af
Primary = 24.77 cfs @ 11.98 hrs, Volume= 2.641 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs

Link 4L: POA 5

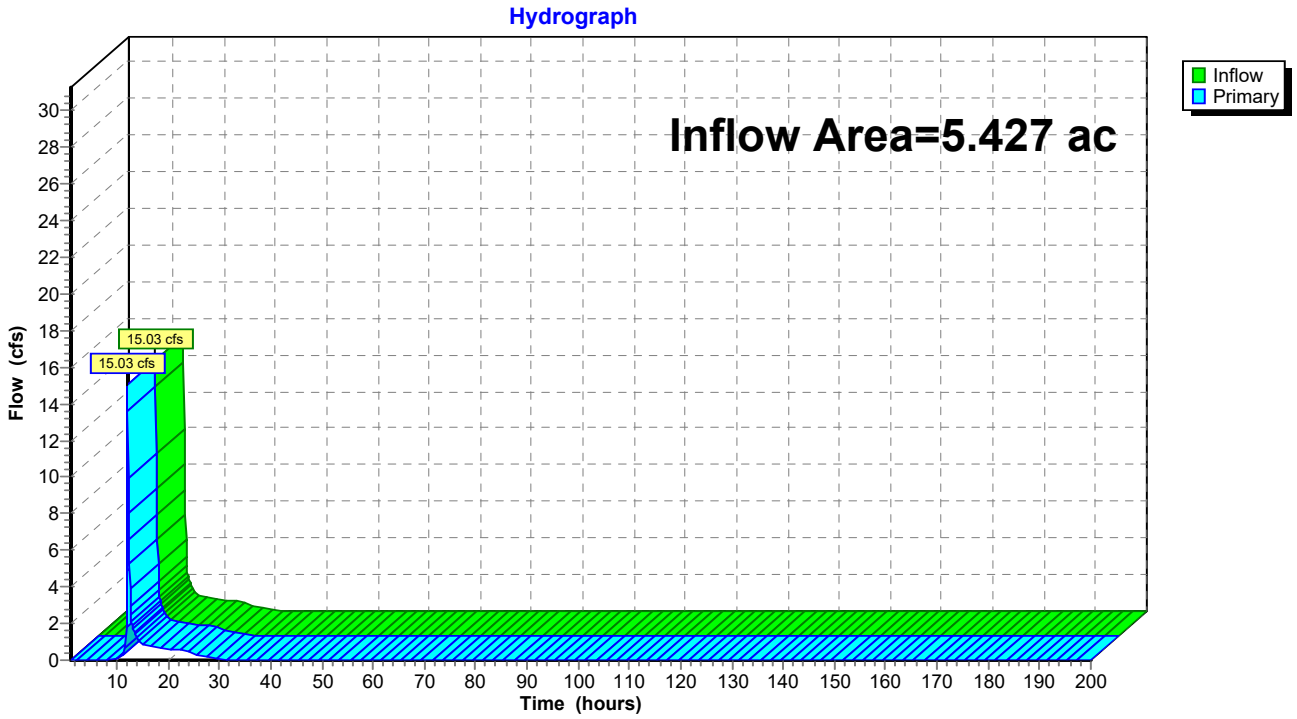


Summary for Link 5L: POA 6

Inflow Area = 5.427 ac, 39.28% Impervious, Inflow Depth = 3.31" for 25-yr event
Inflow = 15.03 cfs @ 12.05 hrs, Volume= 1.498 af
Primary = 15.03 cfs @ 12.05 hrs, Volume= 1.498 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs

Link 5L: POA 6



Time span=1.00-200.00 hrs, dt=0.10 hrs, 1991 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Pre Dev. Basin 1 Runoff Area=366,801 sf 0.00% Impervious Runoff Depth=5.66"
Flow Length=560' Slope=0.0630 '/' Tc=5.9 min CN=79 Runoff=73.83 cfs 3.970 af

Subcatchment2S: Pre Dev. Basin 2A Runoff Area=250,337 sf 0.00% Impervious Runoff Depth=5.66"
Flow Length=803' Slope=0.0650 '/' Tc=7.7 min CN=79 Runoff=49.72 cfs 2.709 af

Subcatchment3S: Pre Dev. Basin 2B Runoff Area=132,113 sf 0.00% Impervious Runoff Depth=3.45"
Flow Length=577' Slope=0.0451 '/' Tc=6.9 min CN=60 Runoff=16.86 cfs 0.873 af

Subcatchment4S: Pre Dev. Basin 2C Runoff Area=467,738 sf 32.11% Impervious Runoff Depth=6.49"
Flow Length=753' Slope=0.0633 '/' Tc=7.4 min CN=86 Runoff=103.18 cfs 5.804 af

Subcatchment6S: Pre Dev. Basin 3 Runoff Area=52,001 sf 0.00% Impervious Runoff Depth=5.54"
Flow Length=243' Slope=0.0170 '/' Tc=5.1 min CN=78 Runoff=10.20 cfs 0.551 af

Subcatchment7S: Pre Dev. Basin 4 Runoff Area=130,388 sf 0.00% Impervious Runoff Depth=3.34"
Flow Length=561' Slope=0.0221 '/' Tc=8.9 min CN=59 Runoff=15.12 cfs 0.833 af

Subcatchment8S: Pre Dev. Basin 5 Runoff Area=305,128 sf 0.00% Impervious Runoff Depth=3.34"
Flow Length=998' Slope=0.0301 '/' Tc=12.3 min CN=59 Runoff=30.39 cfs 1.950 af

Subcatchment9S: Pre Dev. Basin 6 Runoff Area=441,055 sf 0.00% Impervious Runoff Depth=3.45"
Flow Length=1,222' Slope=0.0441 '/' Tc=12.4 min CN=60 Runoff=45.38 cfs 2.914 af

Subcatchment10S: Pre Dev. Basin 7 Runoff Area=238,293 sf 0.00% Impervious Runoff Depth=3.12"
Flow Length=977' Slope=0.0468 '/' Tc=10.2 min CN=57 Runoff=24.16 cfs 1.421 af

Subcatchment11S: Pre Dev. Basin 8 Runoff Area=289,814 sf 1.87% Impervious Runoff Depth=3.68"
Flow Length=826' Slope=0.0447 '/' Tc=9.1 min CN=62 Runoff=36.89 cfs 2.041 af

Subcatchment12S: Post Basin 1 to SCM Runoff Area=327,690 sf 77.83% Impervious Runoff Depth=6.84"
Tc=5.0 min CN=89 Runoff=72.49 cfs 4.290 af

Subcatchment13S: Post Dev Bypass 1 Runoff Area=180,474 sf 3.97% Impervious Runoff Depth=3.45"
Tc=5.0 min CN=60 Runoff=23.00 cfs 1.192 af

Subcatchment14S: Post Dev. Bypass 2A Runoff Area=120,581 sf 0.00% Impervious Runoff Depth=5.66"
Flow Length=421' Slope=0.0411 '/' Tc=5.6 min CN=79 Runoff=24.21 cfs 1.305 af

Subcatchment15S: Post Dev. Basin 2B Runoff Area=166,052 sf 71.42% Impervious Runoff Depth=6.49"
Tc=5.0 min CN=86 Runoff=35.51 cfs 2.061 af

Subcatchment16S: Post Dev. Bypass 2C Runoff Area=460,928 sf 34.20% Impervious Runoff Depth=6.49"
Flow Length=753' Slope=0.0633 '/' Tc=7.4 min CN=86 Runoff=101.68 cfs 5.720 af

Subcatchment18S: Post Dev Bypass 2B Runoff Area=58,575 sf 0.00% Impervious Runoff Depth=2.78"
Tc=5.0 min CN=54 Runoff=5.99 cfs 0.312 af

Subcatchment19S: Post Dev. Basin 3 Runoff Area=48,549 sf 0.00% Impervious Runoff Depth=5.66"
Tc=5.0 min CN=79 Runoff=9.67 cfs 0.525 af

Subcatchment20S: Post Dev. Basin 4 Runoff Area=32,195 sf 15.62% Impervious Runoff Depth=4.25"
Tc=5.0 min CN=67 Runoff=5.01 cfs 0.262 af

Subcatchment21S: Post Dev. Basin 5 to Runoff Area=112,324 sf 76.09% Impervious Runoff Depth=6.72"
Tc=5.0 min CN=88 Runoff=24.59 cfs 1.445 af

Subcatchment22S: Post Dev. Bypass 5 Runoff Area=174,898 sf 7.09% Impervious Runoff Depth=3.34"
Tc=12.3 min CN=59 Runoff=17.42 cfs 1.118 af

Subcatchment23S: Post Dev. Basin 6 to Runoff Area=188,559 sf 61.06% Impervious Runoff Depth=6.61"
Tc=5.0 min CN=87 Runoff=40.81 cfs 2.383 af

Subcatchment24S: Post Dev. Bypass 6 Runoff Area=254,520 sf 1.76% Impervious Runoff Depth=3.57"
Tc=5.0 min CN=61 Runoff=33.49 cfs 1.737 af

Subcatchment25S: Post Dev. Basin 7 to Runoff Area=130,542 sf 60.84% Impervious Runoff Depth=5.89"
Tc=5.0 min CN=81 Runoff=26.83 cfs 1.472 af

Subcatchment26S: Post Dev. Bypass 7 Runoff Area=105,852 sf 12.68% Impervious Runoff Depth=3.12"
Tc=10.0 min CN=57 Runoff=10.83 cfs 0.631 af

Subcatchment27S: Post Dev. Bypass 8 Runoff Area=289,814 sf 1.87% Impervious Runoff Depth=3.68"
Flow Length=826' Slope=0.0447 '/' Tc=9.1 min CN=62 Runoff=36.89 cfs 2.041 af

Pond 1P: Sand Filter -SCM 1 Peak Elev=533.15' Storage=62,453 cf Inflow=72.49 cfs 4.290 af
Outflow=39.51 cfs 4.290 af

Pond 2P: Wet Pond SCM 2 Peak Elev=528.87' Storage=72,072 cf Inflow=35.51 cfs 2.061 af
Outflow=14.55 cfs 2.061 af

Pond 3P: Wet Pond SCM 3 Peak Elev=537.75' Storage=39,211 cf Inflow=24.59 cfs 1.445 af
Outflow=13.39 cfs 1.445 af

Pond 4P: Wet Pond SCM 4 Peak Elev=526.97' Storage=52,154 cf Inflow=40.81 cfs 2.383 af
Outflow=22.12 cfs 2.058 af

Pond 5P: Wet Pond SCM 5 Peak Elev=516.90' Storage=37,058 cf Inflow=26.83 cfs 1.472 af
Outflow=15.02 cfs 1.472 af

Link 1L: POA 1 Inflow=56.96 cfs 5.483 af
Primary=56.96 cfs 5.483 af

Link 2L: POA 2 Inflow=16.28 cfs 2.373 af
Primary=16.28 cfs 2.373 af

Link 3L: POA 4 Inflow=30.22 cfs 2.563 af
Primary=30.22 cfs 2.563 af

Link 4L: POA 5 Inflow=43.63 cfs 3.795 af
Primary=43.63 cfs 3.795 af

Link 5L: POA 6 Inflow=23.82 cfs 2.103 af
Primary=23.82 cfs 2.103 af

Total Runoff Area = 122.250 ac Runoff Volume = 49.560 af Average Runoff Depth = 4.86"
80.94% Pervious = 98.954 ac 19.06% Impervious = 23.297 ac

Summary for Subcatchment 1S: Pre Dev. Basin 1

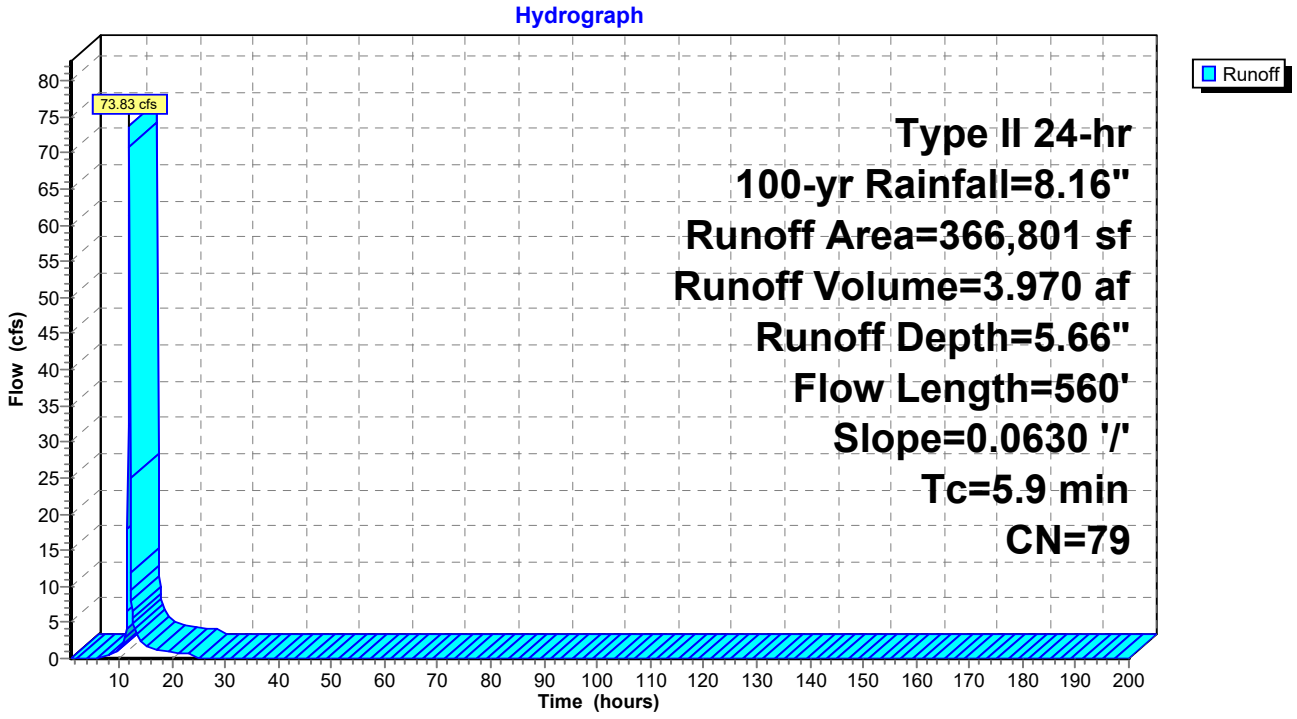
Runoff = 73.83 cfs @ 11.97 hrs, Volume= 3.970 af, Depth= 5.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
342,042	79	Woods, Fair, HSG D
24,759	73	Brush, Good, HSG D
366,801	79	Weighted Average
366,801		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	560	0.0630	1.58		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 1S: Pre Dev. Basin 1



Summary for Subcatchment 2S: Pre Dev. Basin 2A

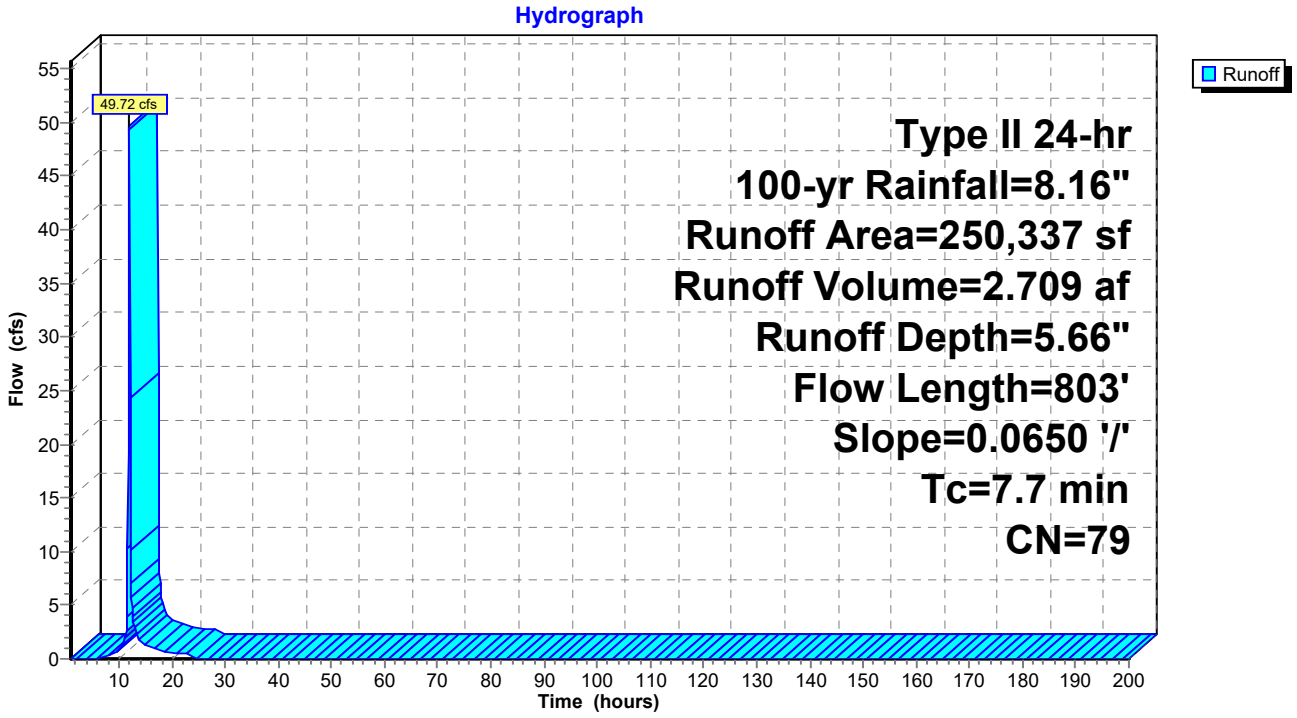
Runoff = 49.72 cfs @ 11.99 hrs, Volume= 2.709 af, Depth= 5.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
250,337	79	Woods, Fair, HSG D
250,337		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	803	0.0650	1.74		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 2S: Pre Dev. Basin 2A



Summary for Subcatchment 3S: Pre Dev. Basin 2B

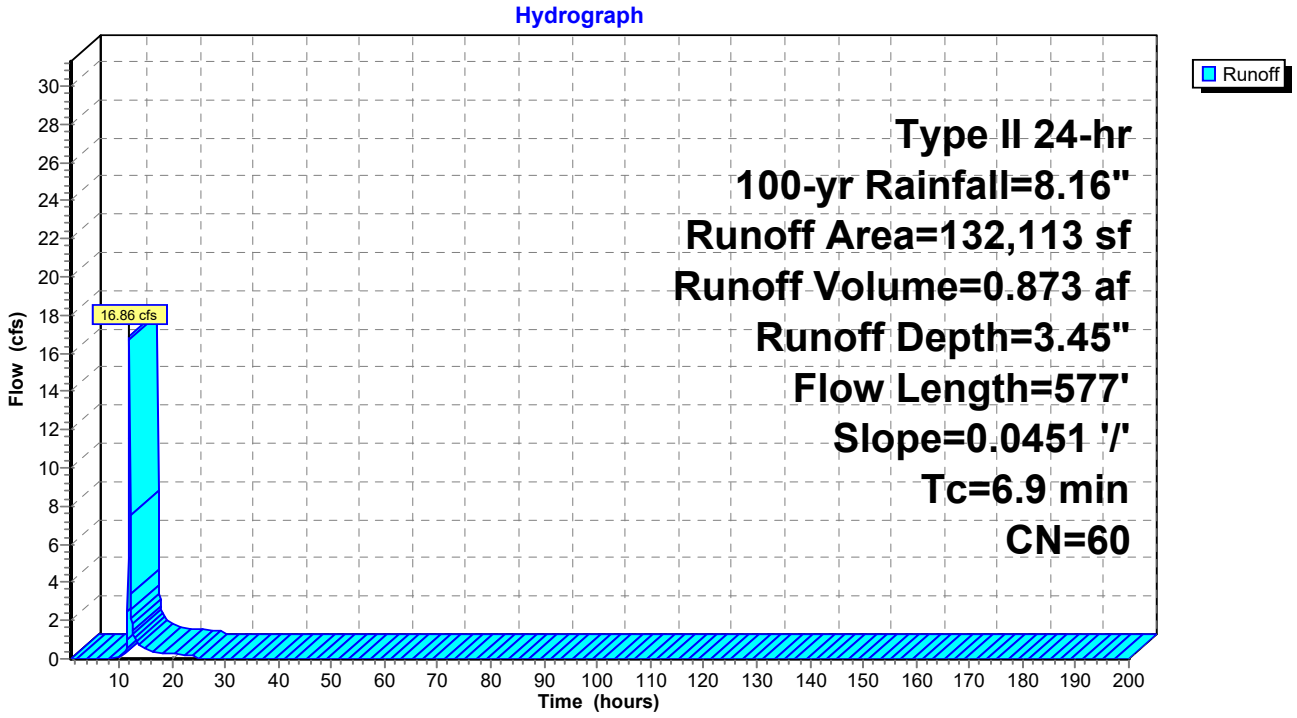
Runoff = 16.86 cfs @ 11.99 hrs, Volume= 0.873 af, Depth= 3.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
132,113	60	Woods, Fair, HSG B
132,113		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	577	0.0451	1.40		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 3S: Pre Dev. Basin 2B



Summary for Subcatchment 4S: Pre Dev. Basin 2C

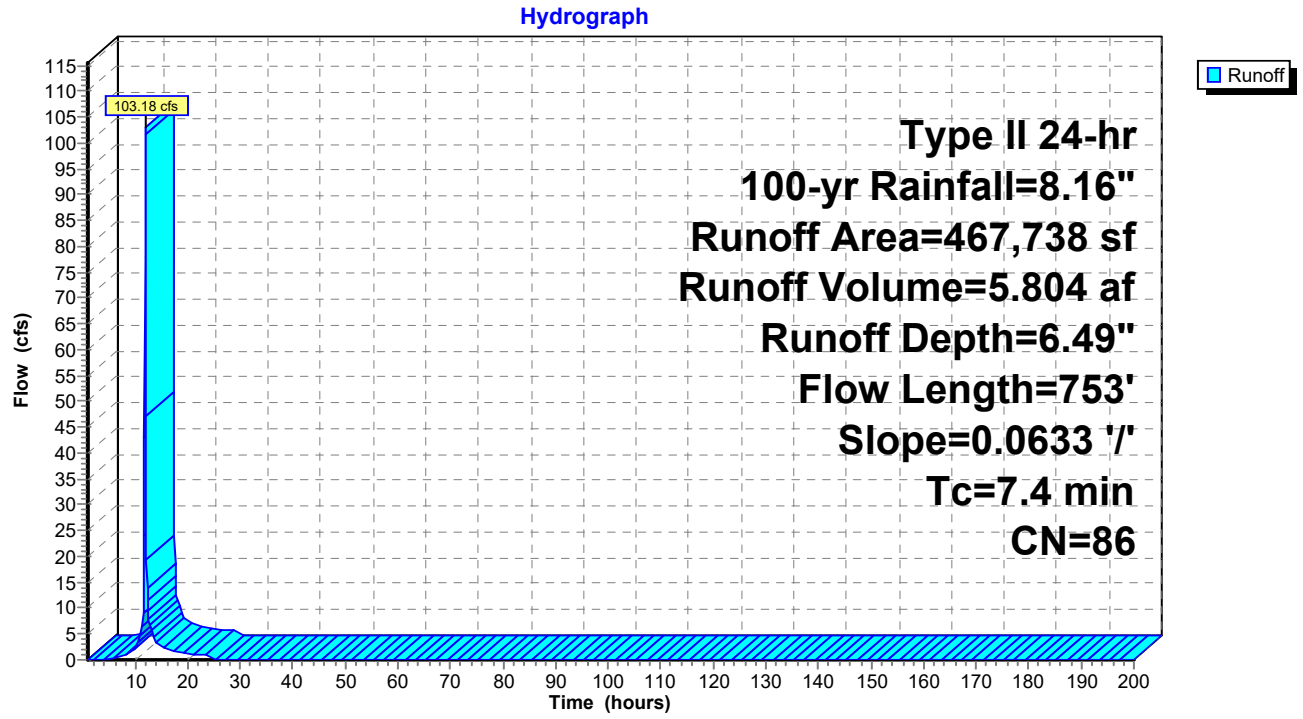
Runoff = 103.18 cfs @ 11.98 hrs, Volume= 5.804 af, Depth= 6.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
173,689	79	Woods, Fair, HSG D
94,275	98	Paved parking, HSG D
143,869	82	Woods/grass comb., Fair, HSG D
55,905	98	Roofs, HSG D
467,738	86	Weighted Average
317,558		67.89% Pervious Area
150,180		32.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	753	0.0633	1.69		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 4S: Pre Dev. Basin 2C



Summary for Subcatchment 6S: Pre Dev. Basin 3

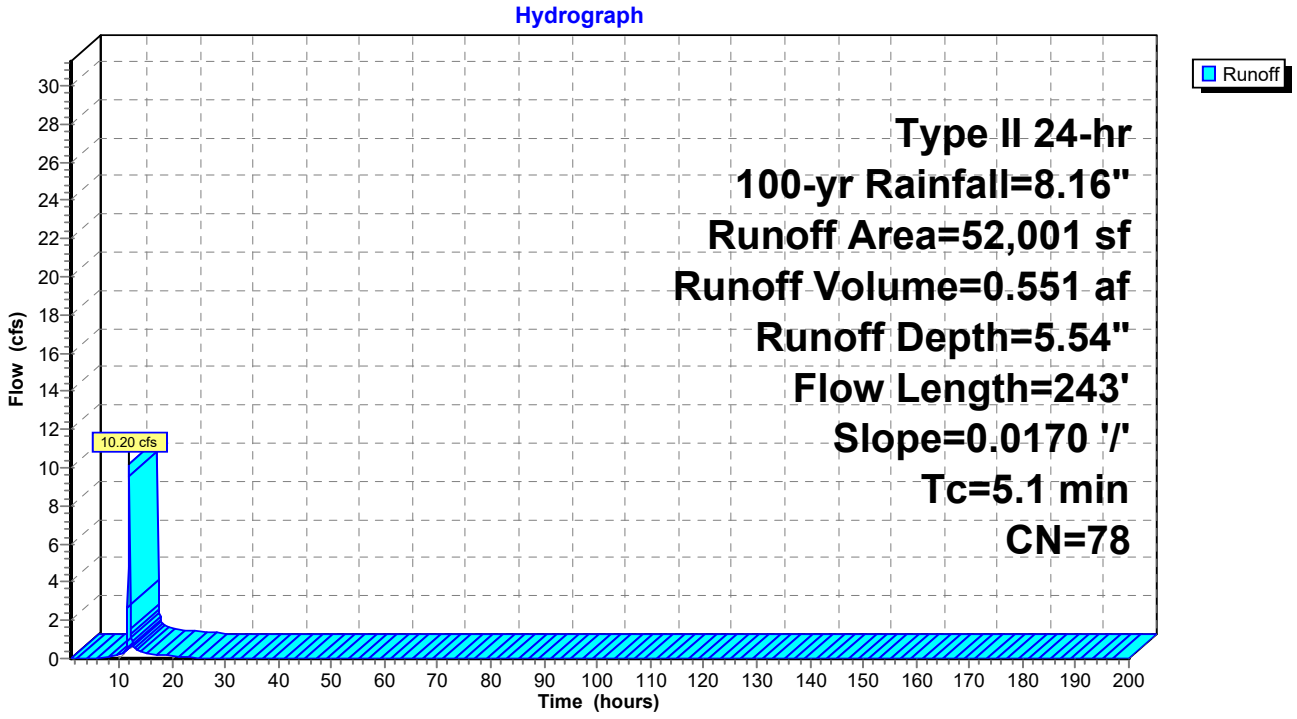
Runoff = 10.20 cfs @ 11.96 hrs, Volume= 0.551 af, Depth= 5.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
9,925	73	Woods, Fair, HSG C
42,076	79	50-75% Grass cover, Fair, HSG C
52,001	78	Weighted Average
52,001		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.1	243	0.0170	0.79		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 6S: Pre Dev. Basin 3



Summary for Subcatchment 7S: Pre Dev. Basin 4

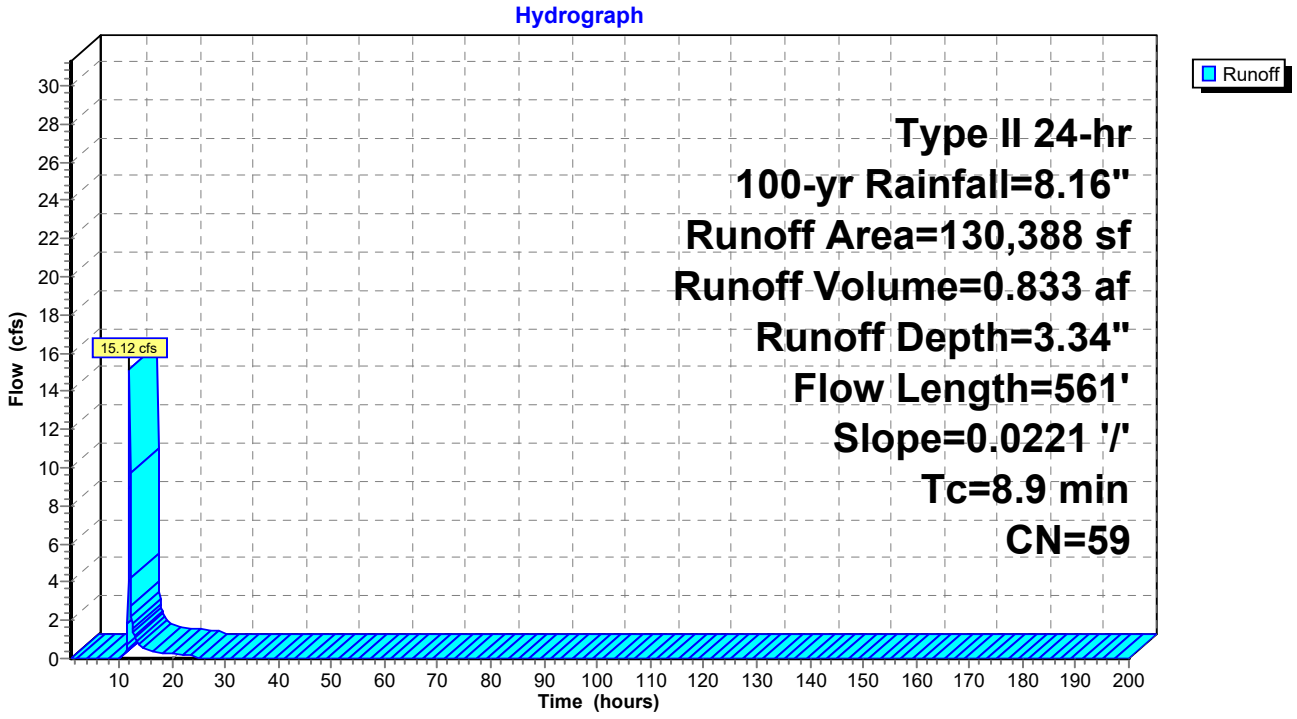
Runoff = 15.12 cfs @ 12.00 hrs, Volume= 0.833 af, Depth= 3.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
104,102	60	Woods, Fair, HSG B
26,286	56	Brush, Fair, HSG B
130,388	59	Weighted Average
130,388		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	561	0.0221	1.06		**Kirpich Method,** General overland flow k= 2.00

Subcatchment 7S: Pre Dev. Basin 4



Summary for Subcatchment 8S: Pre Dev. Basin 5

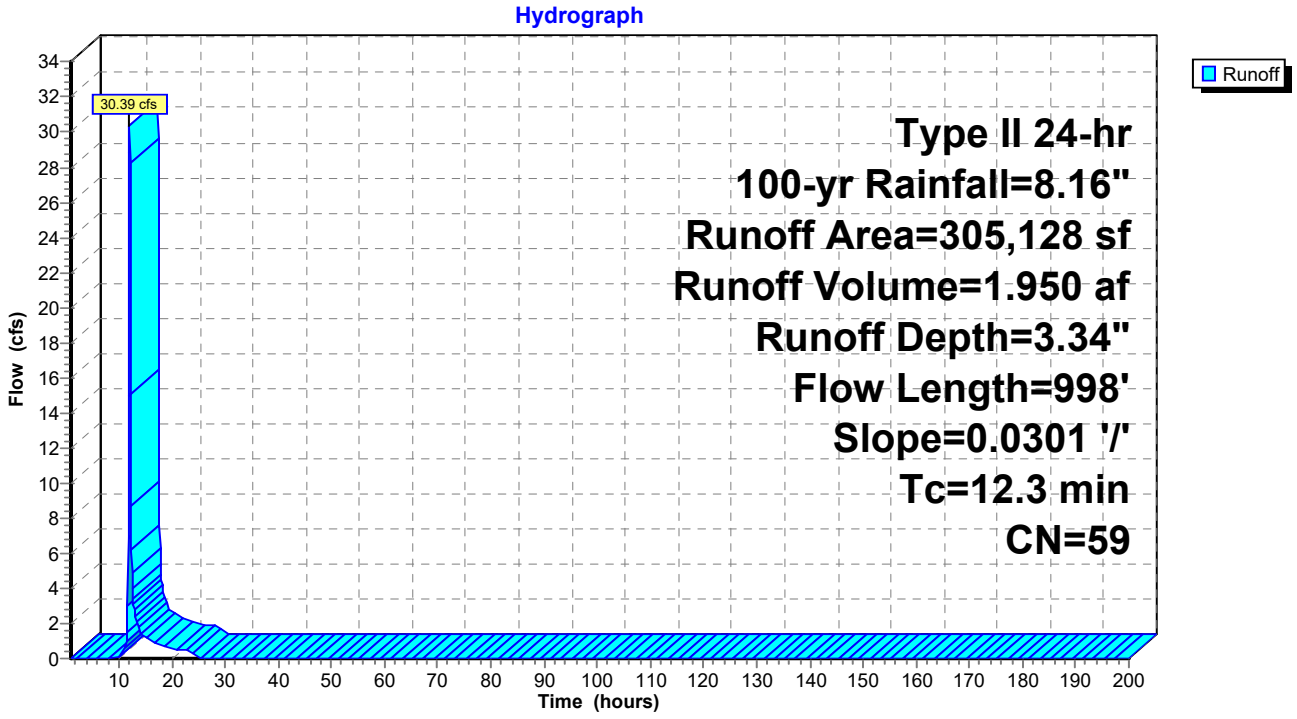
Runoff = 30.39 cfs @ 12.05 hrs, Volume= 1.950 af, Depth= 3.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
267,919	60	Woods, Fair, HSG B
37,209	48	Brush, Good, HSG B
305,128	59	Weighted Average
305,128		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	998	0.0301	1.36		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 8S: Pre Dev. Basin 5



Summary for Subcatchment 9S: Pre Dev. Basin 6

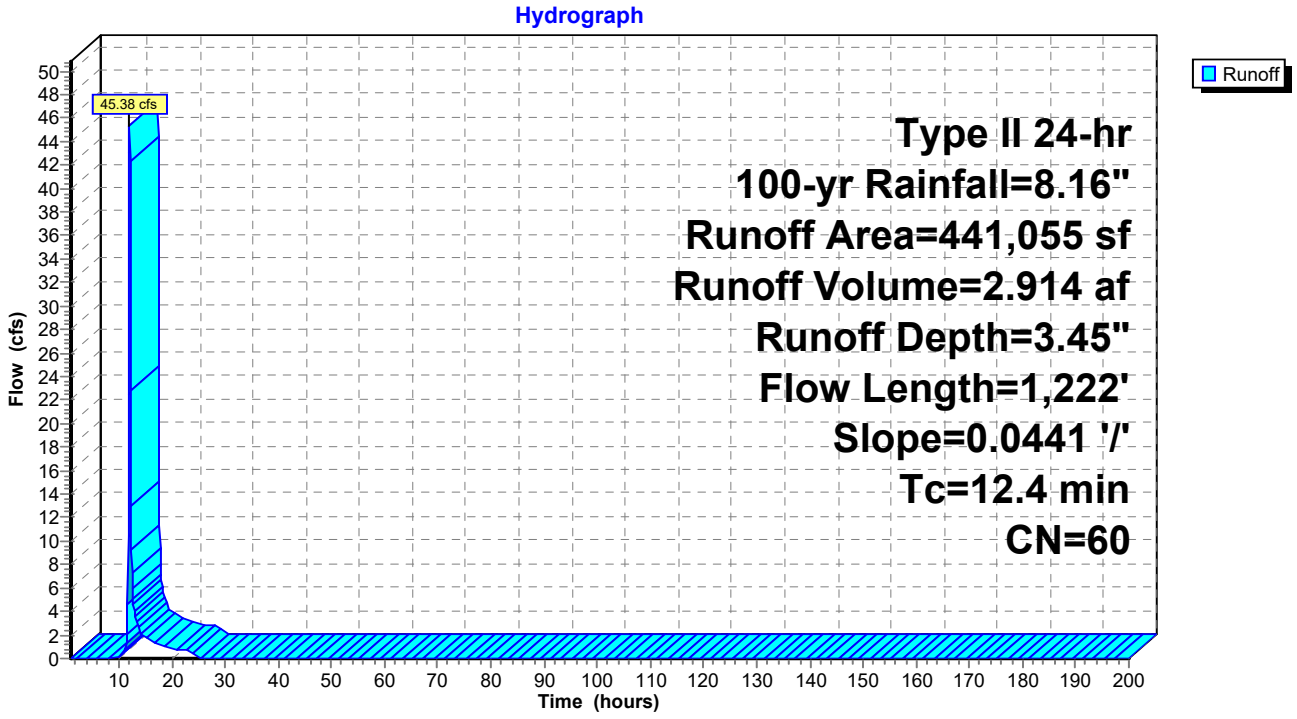
Runoff = 45.38 cfs @ 12.05 hrs, Volume= 2.914 af, Depth= 3.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
401,238	60	Woods, Fair, HSG B
39,817	56	Brush, Fair, HSG B
441,055	60	Weighted Average
441,055		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	1,222	0.0441	1.65		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 9S: Pre Dev. Basin 6



Summary for Subcatchment 10S: Pre Dev. Basin 7

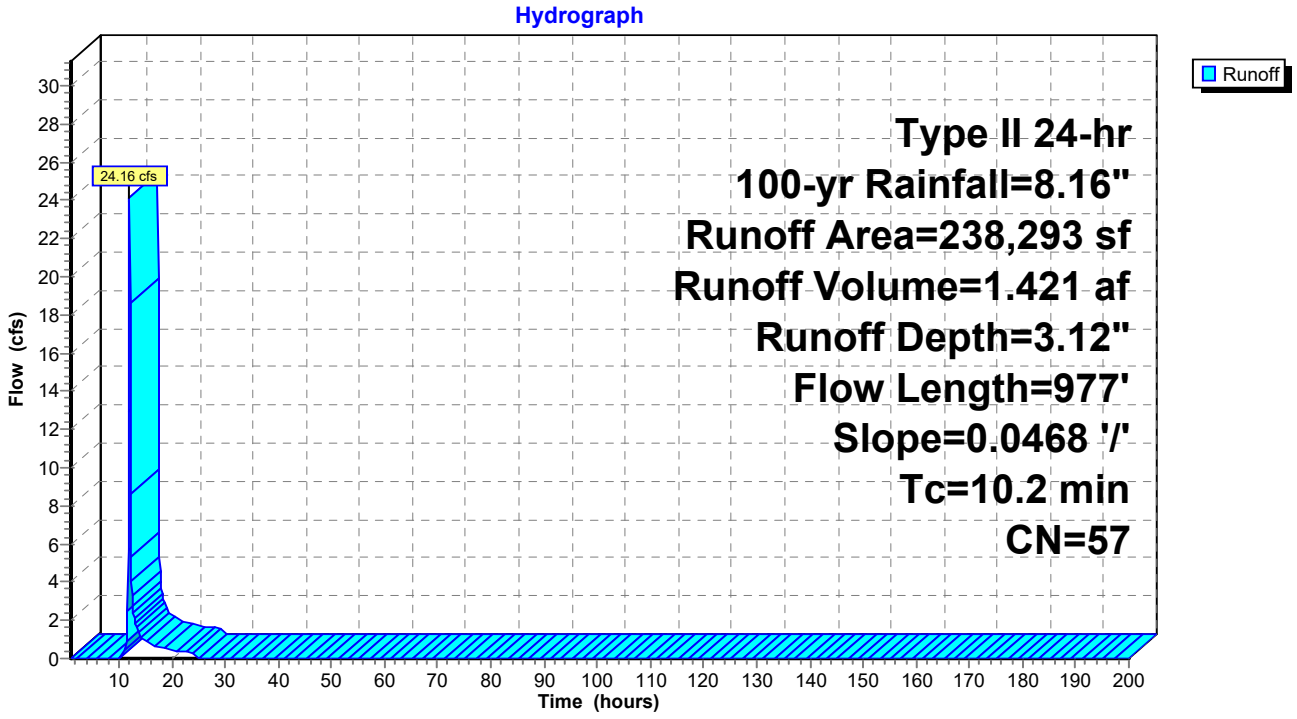
Runoff = 24.16 cfs @ 12.02 hrs, Volume= 1.421 af, Depth= 3.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
207,447	55	Woods, Good, HSG B
30,846	69	Pasture/grassland/range, Fair, HSG B
238,293	57	Weighted Average
238,293		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	977	0.0468	1.60		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 10S: Pre Dev. Basin 7



Summary for Subcatchment 11S: Pre Dev. Basin 8

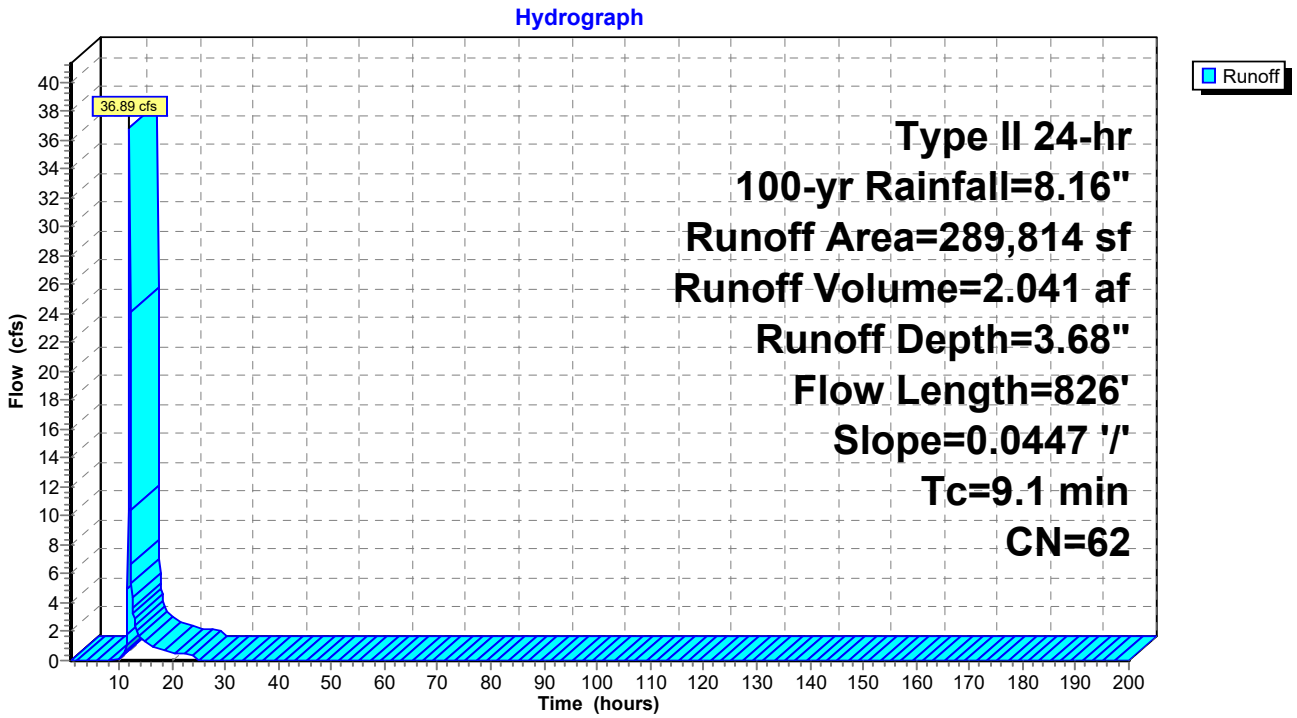
Runoff = 36.89 cfs @ 12.00 hrs, Volume= 2.041 af, Depth= 3.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
230,959	60	Woods, Fair, HSG B
53,439	69	50-75% Grass cover, Fair, HSG B
5,416	98	Paved parking, HSG B
289,814	62	Weighted Average
284,398		98.13% Pervious Area
5,416		1.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	826	0.0447	1.51		**Kirpich Method,** General overland flow k= 2.00

Subcatchment 11S: Pre Dev. Basin 8



Summary for Subcatchment 12S: Post Basin 1 to SCM

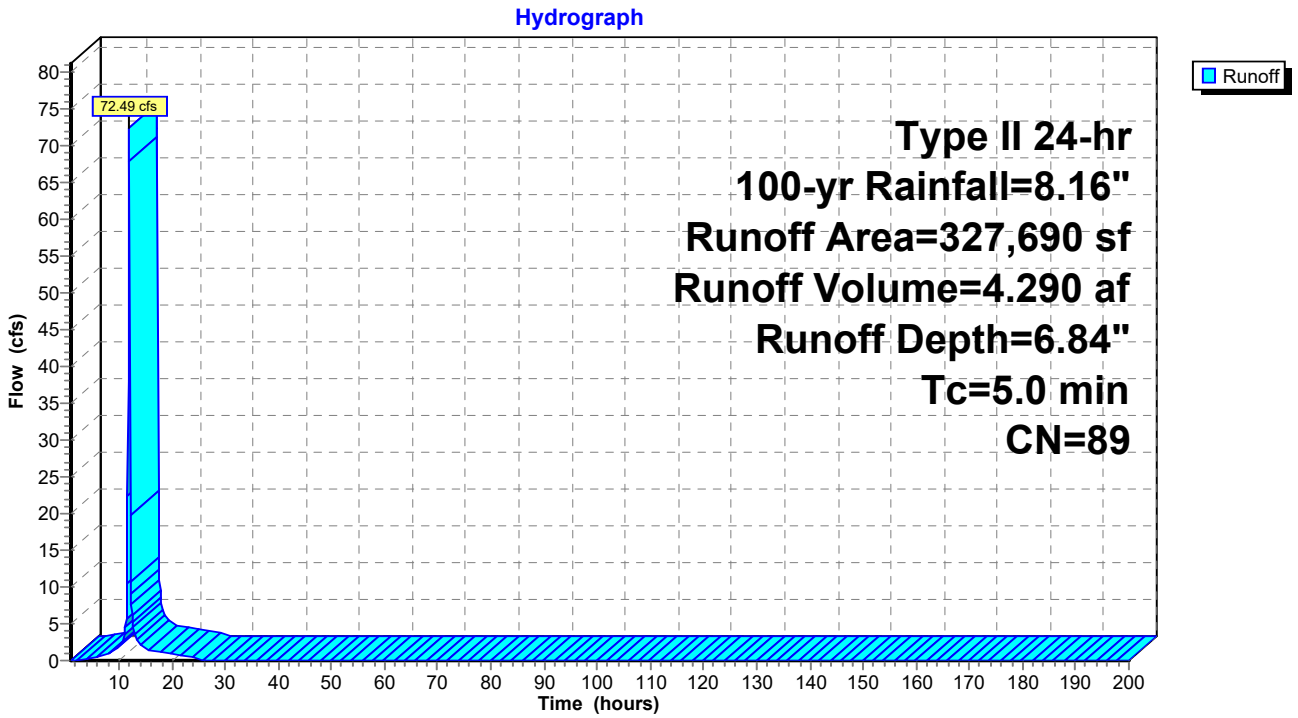
Runoff = 72.49 cfs @ 11.95 hrs, Volume= 4.290 af, Depth= 6.84"
Routed to Pond 1P : Sand Filter -SCM 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
104,903	98	Paved parking, HSG A
72,655	56	Brush, Fair, HSG B
150,132	98	Roofs, HSG B
327,690	89	Weighted Average
72,655		22.17% Pervious Area
255,035		77.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 12S: Post Basin 1 to SCM



Summary for Subcatchment 13S: Post Dev Bypass 1

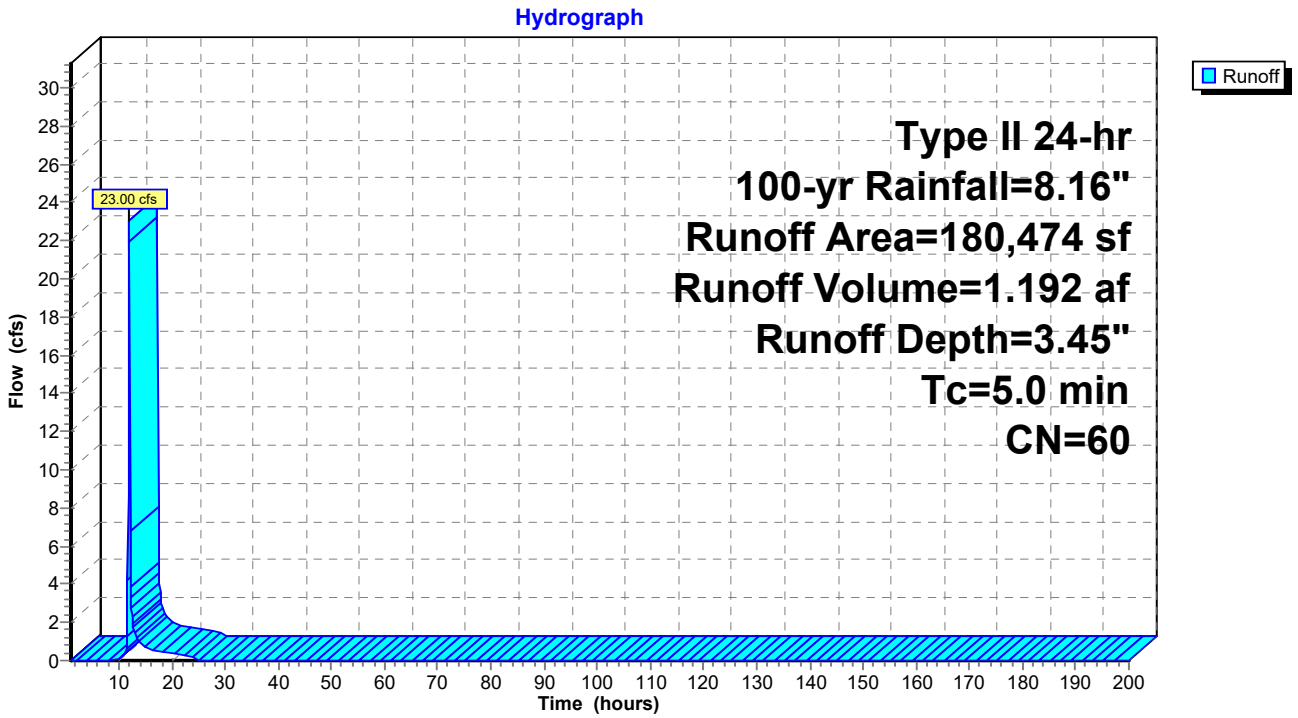
Runoff = 23.00 cfs @ 11.97 hrs, Volume= 1.192 af, Depth= 3.45"
Routed to Link 1L : POA 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
124,058	60	Woods, Fair, HSG B
49,243	56	Brush, Fair, HSG B
7,173	98	Paved parking, HSG B
180,474	60	Weighted Average
173,301		96.03% Pervious Area
7,173		3.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 13S: Post Dev Bypass 1



Summary for Subcatchment 14S: Post Dev. Bypass 2A

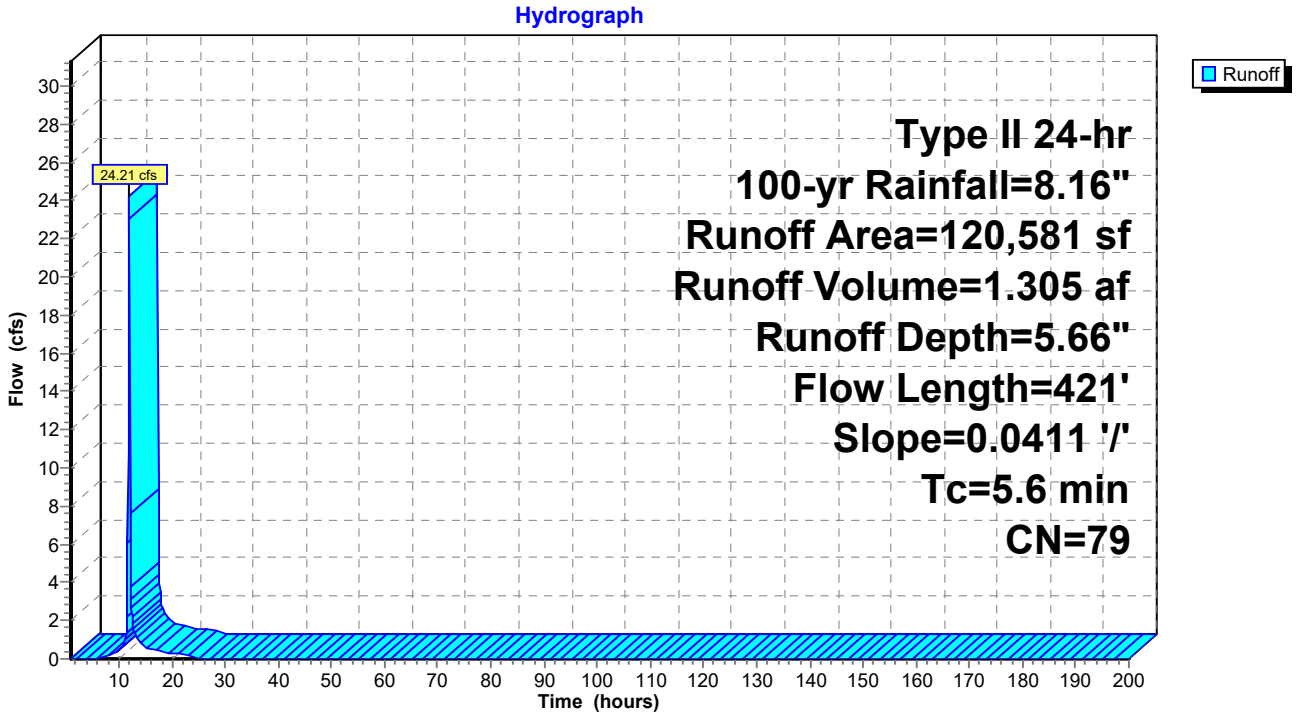
Runoff = 24.21 cfs @ 11.96 hrs, Volume= 1.305 af, Depth= 5.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
120,581	79	Woods, Fair, HSG D
120,581		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	421	0.0411	1.25		**Kirpich Method, Estimated Tc** General overland flow k= 2.00

Subcatchment 14S: Post Dev. Bypass 2A



Summary for Subcatchment 15S: Post Dev. Basin 2B to SCM

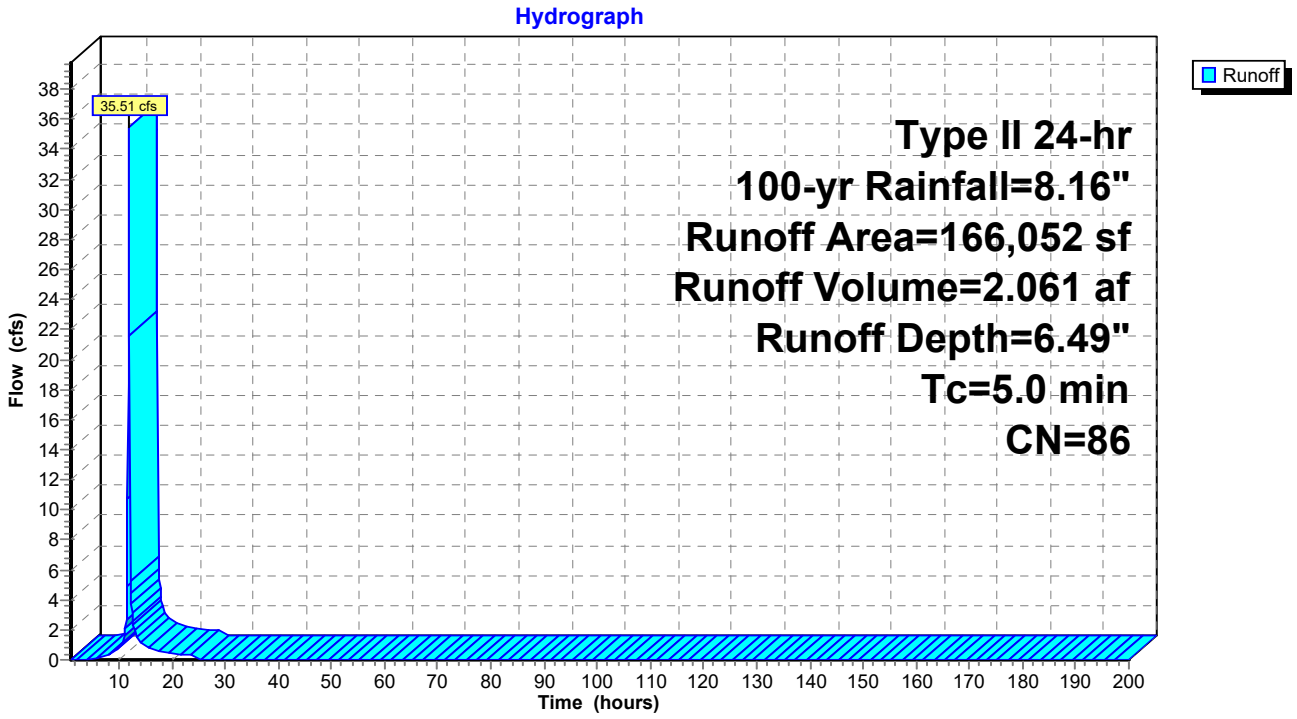
Runoff = 35.51 cfs @ 11.95 hrs, Volume= 2.061 af, Depth= 6.49"
Routed to Pond 2P : Wet Pond SCM 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
22,914	98	Paved parking, HSG B
6,465	48	Brush, Good, HSG B
95,673	98	Roofs, HSG B
41,000	58	Woods/grass comb., Good, HSG B
166,052	86	Weighted Average
47,465		28.58% Pervious Area
118,587		71.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 15S: Post Dev. Basin 2B to SCM



Summary for Subcatchment 16S: Post Dev. Bypass 2C

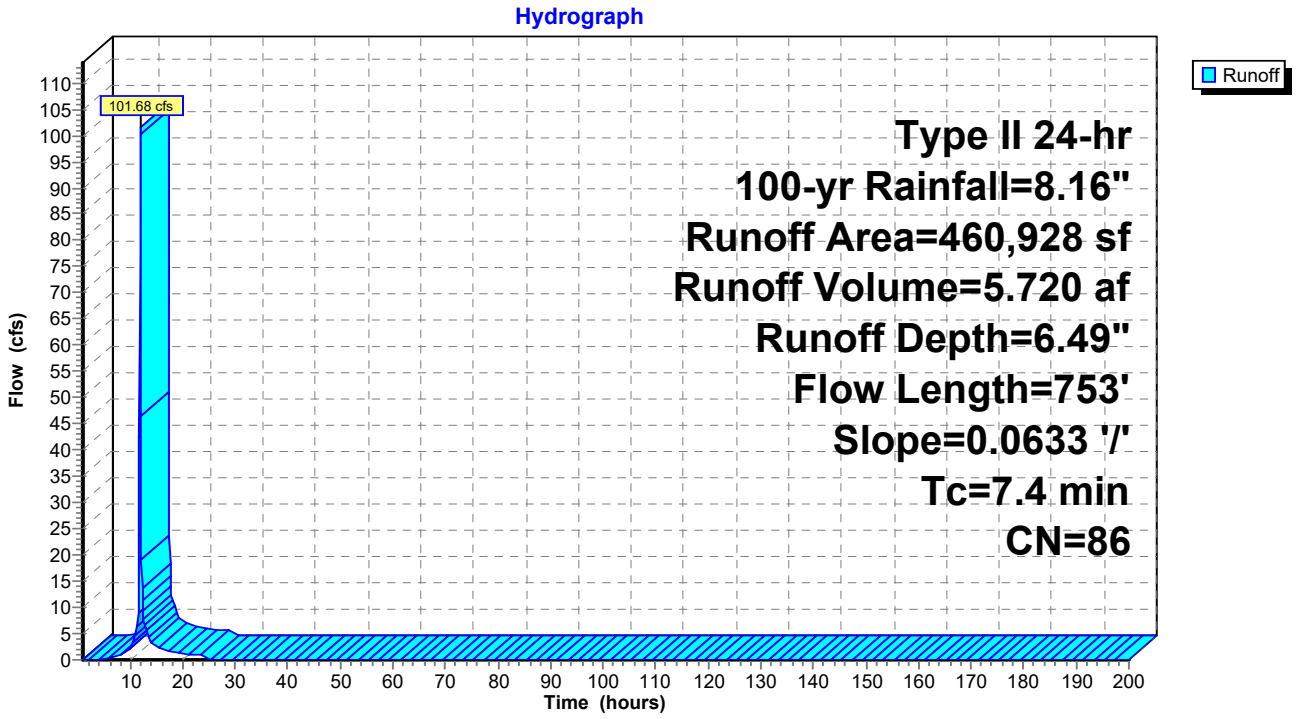
Runoff = 101.68 cfs @ 11.98 hrs, Volume= 5.720 af, Depth= 6.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
173,689	79	Woods, Fair, HSG D
101,714	98	Paved parking, HSG D
129,620	82	Woods/grass comb., Fair, HSG D
55,905	98	Roofs, HSG D
460,928	86	Weighted Average
303,309		65.80% Pervious Area
157,619		34.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	753	0.0633	1.69		**Kirpich Method, Estimated Tc**
					General overland flow k= 2.00

Subcatchment 16S: Post Dev. Bypass 2C



Summary for Subcatchment 18S: Post Dev Bypass 2B

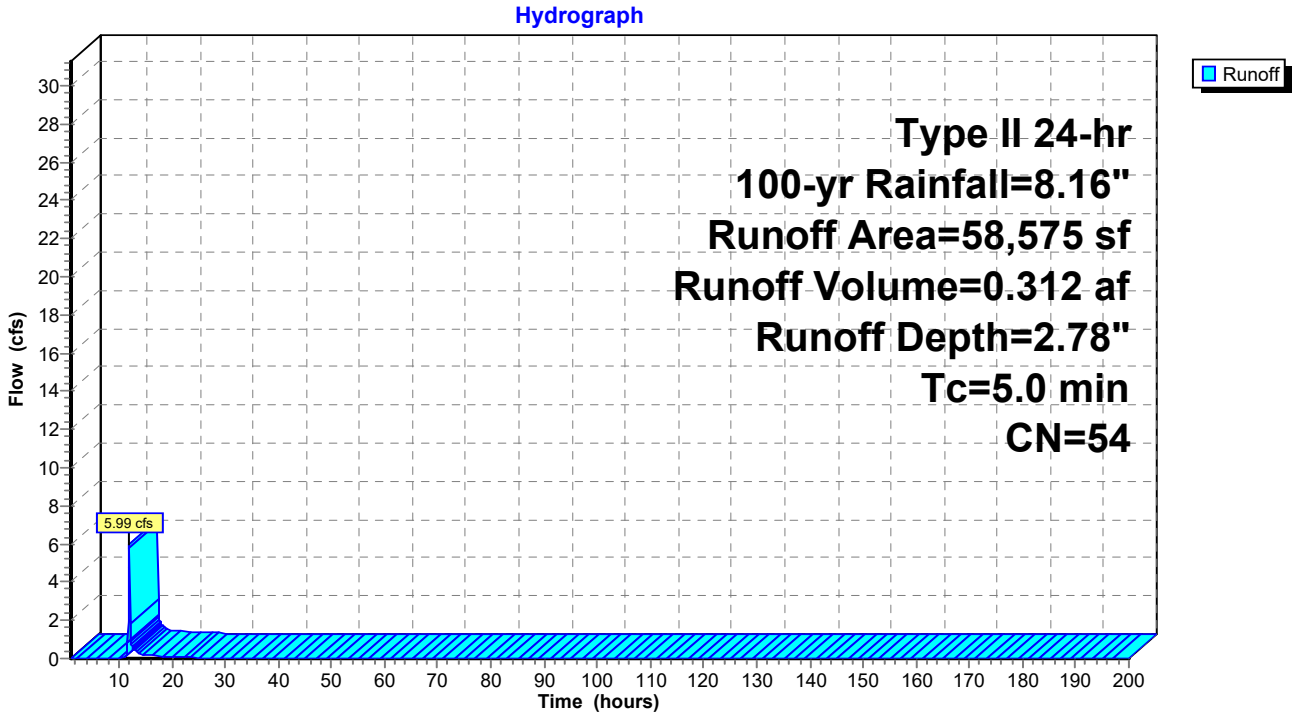
Runoff = 5.99 cfs @ 11.97 hrs, Volume= 0.312 af, Depth= 2.78"
Routed to Link 2L : POA 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
54,125	55	Woods, Good, HSG B
4,450	48	Brush, Good, HSG B
58,575	54	Weighted Average
58,575		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 18S: Post Dev Bypass 2B



Summary for Subcatchment 19S: Post Dev. Basin 3

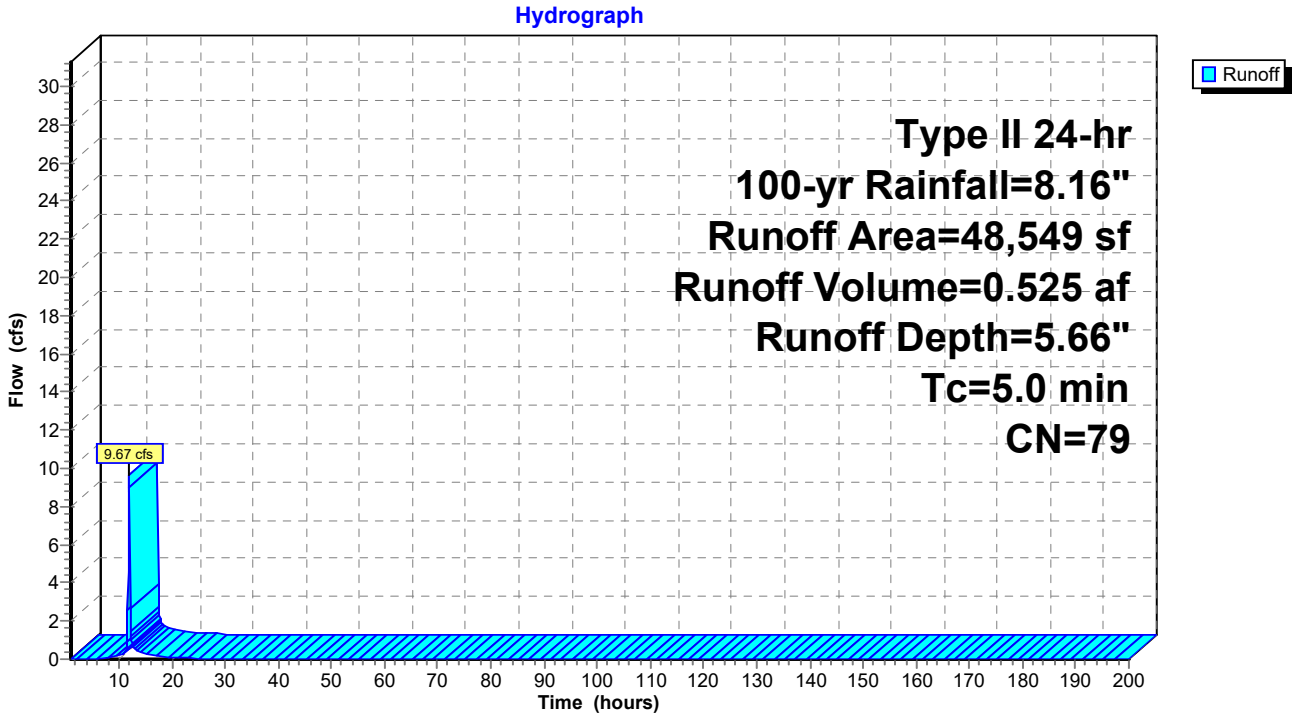
Runoff = 9.67 cfs @ 11.95 hrs, Volume= 0.525 af, Depth= 5.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
48,549	79	50-75% Grass cover, Fair, HSG C
48,549		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 19S: Post Dev. Basin 3



Summary for Subcatchment 20S: Post Dev. Basin 4

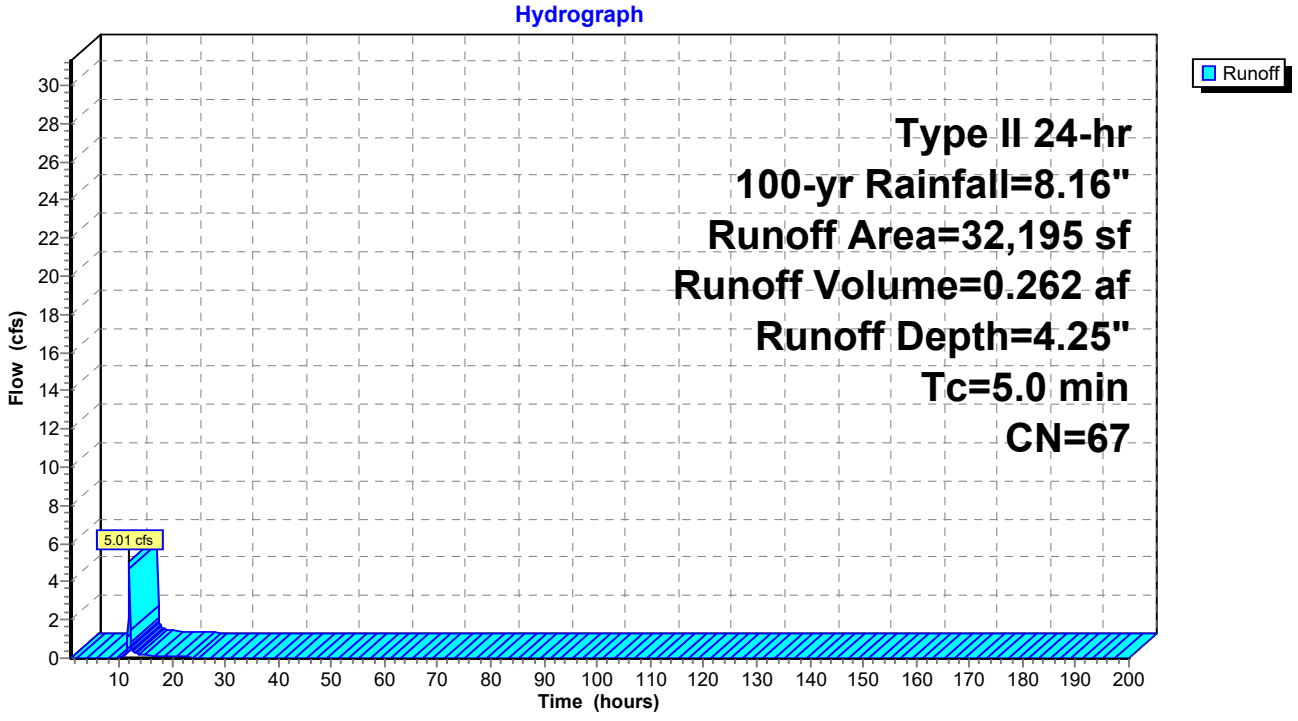
Runoff = 5.01 cfs @ 11.96 hrs, Volume= 0.262 af, Depth= 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
6,966	60	Woods, Fair, HSG B
20,201	61	>75% Grass cover, Good, HSG B
5,028	98	Paved parking, HSG B
32,195	67	Weighted Average
27,167		84.38% Pervious Area
5,028		15.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 20S: Post Dev. Basin 4



Summary for Subcatchment 21S: Post Dev. Basin 5 to SCM

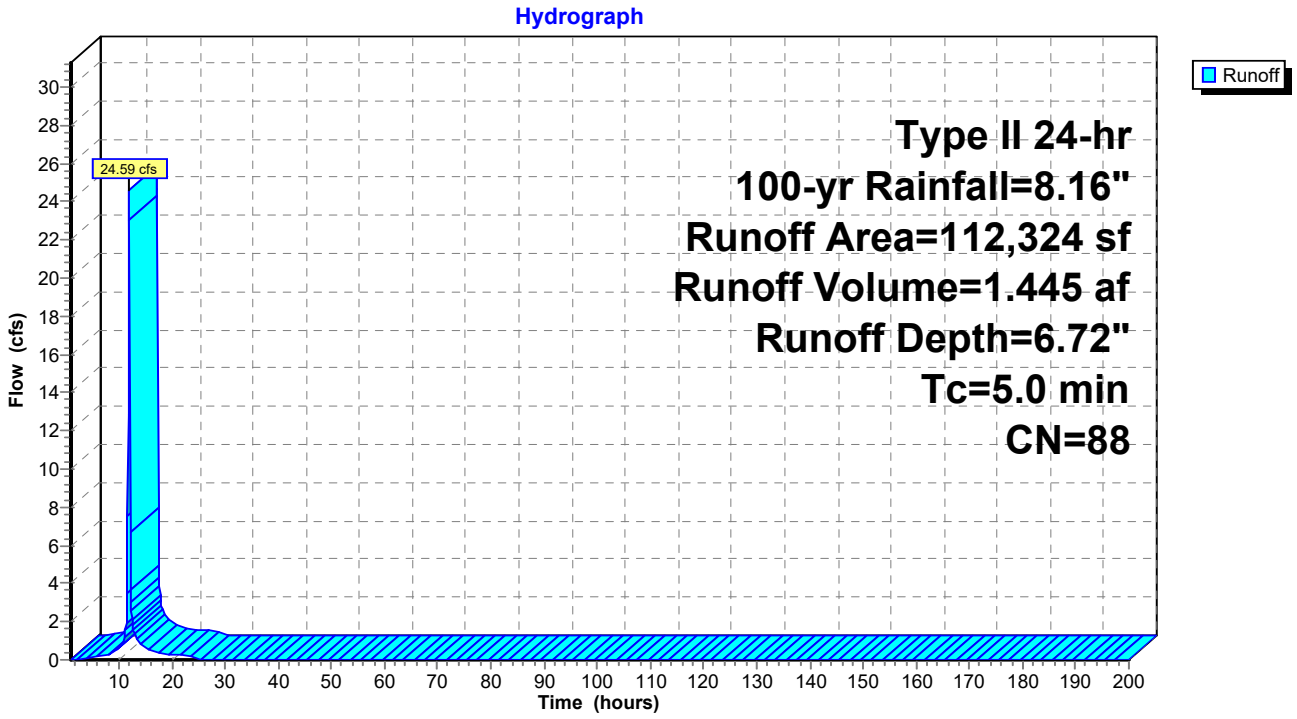
Runoff = 24.59 cfs @ 11.95 hrs, Volume= 1.445 af, Depth= 6.72"
Routed to Pond 3P : Wet Pond SCM 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
40,704	98	Roofs, HSG B
22,215	48	Brush, Good, HSG B
44,766	98	Paved parking, HSG B
4,639	98	Water Surface, 0% imp, HSG B
112,324	88	Weighted Average
26,854		23.91% Pervious Area
85,470		76.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 21S: Post Dev. Basin 5 to SCM



Summary for Subcatchment 22S: Post Dev. Bypass 5

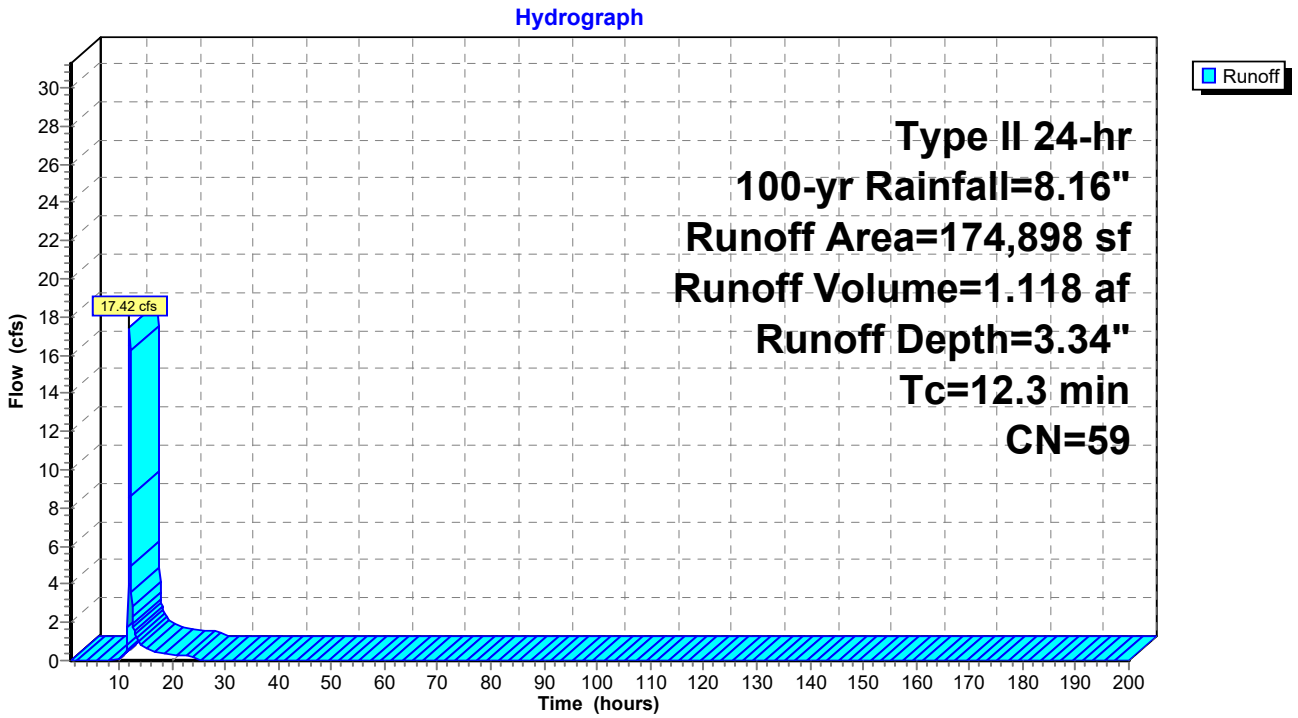
Runoff = 17.42 cfs @ 12.05 hrs, Volume= 1.118 af, Depth= 3.34"
Routed to Link 3L : POA 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
110,888	60	Woods, Fair, HSG B
51,602	48	Brush, Good, HSG B
12,408	98	Paved parking, HSG B
174,898	59	Weighted Average
162,490		92.91% Pervious Area
12,408		7.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3					**Direct Entry,**

Subcatchment 22S: Post Dev. Bypass 5



Summary for Subcatchment 23S: Post Dev. Basin 6 to SCM

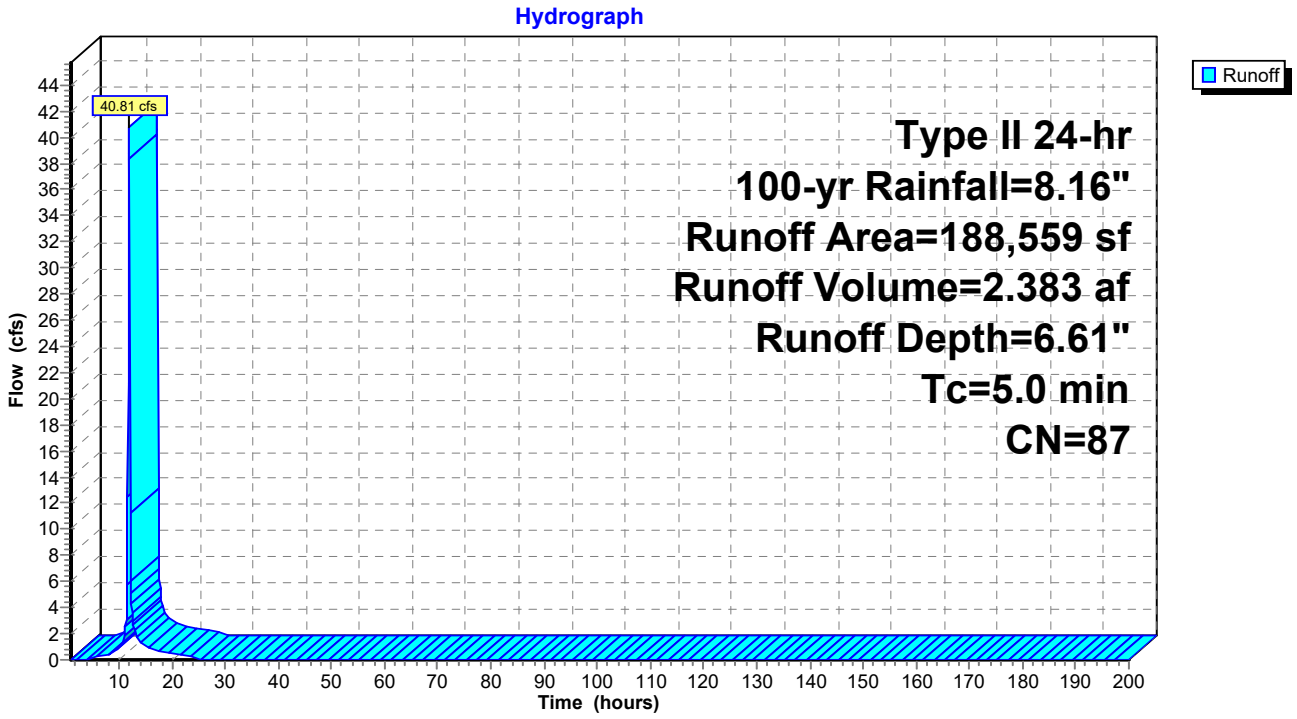
Runoff = 40.81 cfs @ 11.95 hrs, Volume= 2.383 af, Depth= 6.61"
Routed to Pond 4P : Wet Pond SCM 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
54,466	98	Paved parking, HSG B
58,385	61	>75% Grass cover, Good, HSG B
60,672	98	Roofs, HSG B
15,036	98	Water Surface, 0% imp, HSG B
188,559	87	Weighted Average
73,421		38.94% Pervious Area
115,138		61.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 23S: Post Dev. Basin 6 to SCM



Summary for Subcatchment 24S: Post Dev. Bypass 6

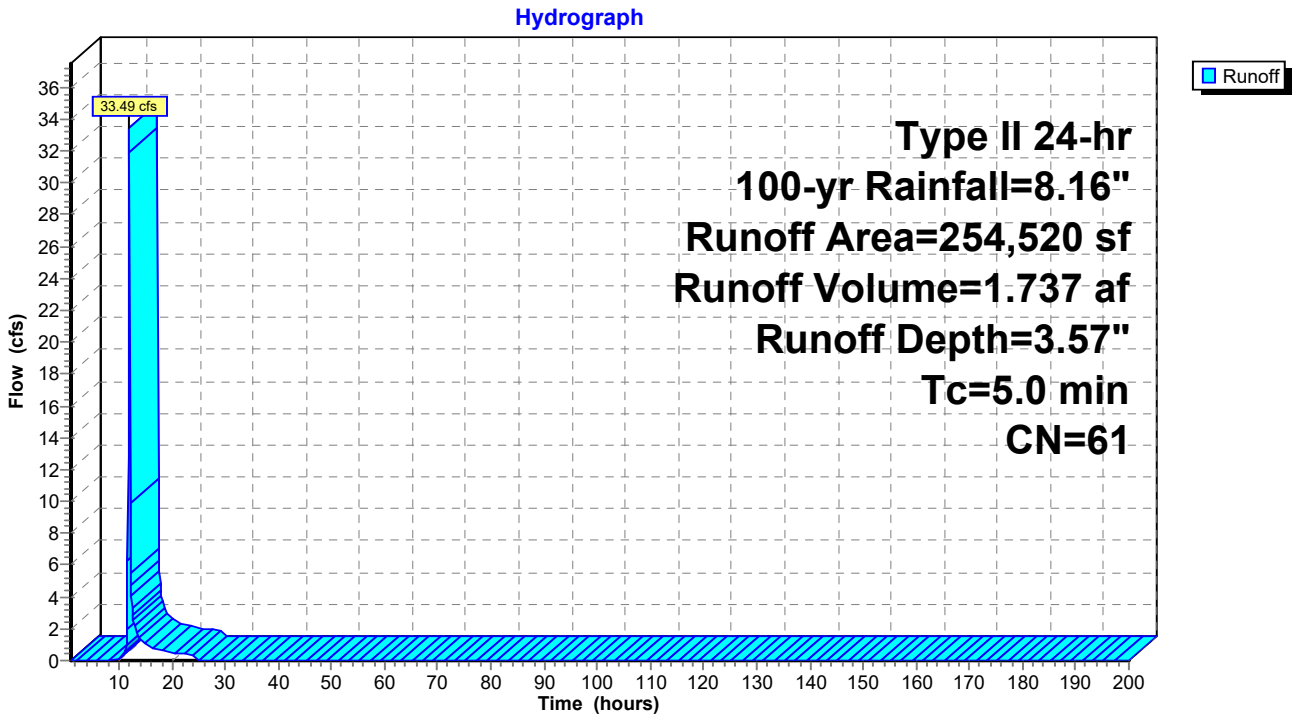
Runoff = 33.49 cfs @ 11.96 hrs, Volume= 1.737 af, Depth= 3.57"
Routed to Link 4L : POA 5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
215,461	60	Woods, Fair, HSG B
34,572	61	>75% Grass cover, Good, HSG B
4,487	98	Paved parking, HSG B
254,520	61	Weighted Average
250,033		98.24% Pervious Area
4,487		1.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 24S: Post Dev. Bypass 6



Summary for Subcatchment 25S: Post Dev. Basin 7 to SCM

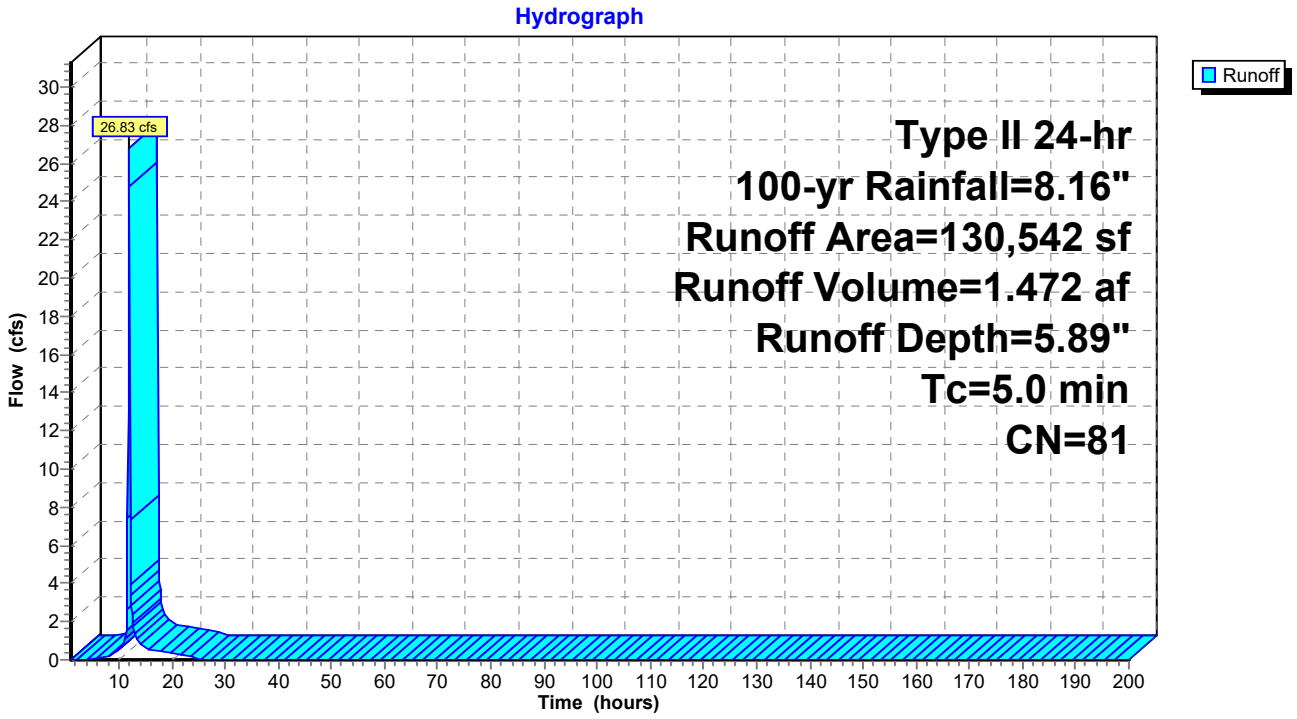
Runoff = 26.83 cfs @ 11.95 hrs, Volume= 1.472 af, Depth= 5.89"
Routed to Pond 5P : Wet Pond SCM 5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
50,624	98	Paved parking, HSG B
44,621	48	Brush, Good, HSG B
28,800	98	Roofs, HSG B
6,497	98	Water Surface, 0% imp, HSG B
130,542	81	Weighted Average
51,118		39.16% Pervious Area
79,424		60.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 25S: Post Dev. Basin 7 to SCM



Summary for Subcatchment 26S: Post Dev. Bypass 7

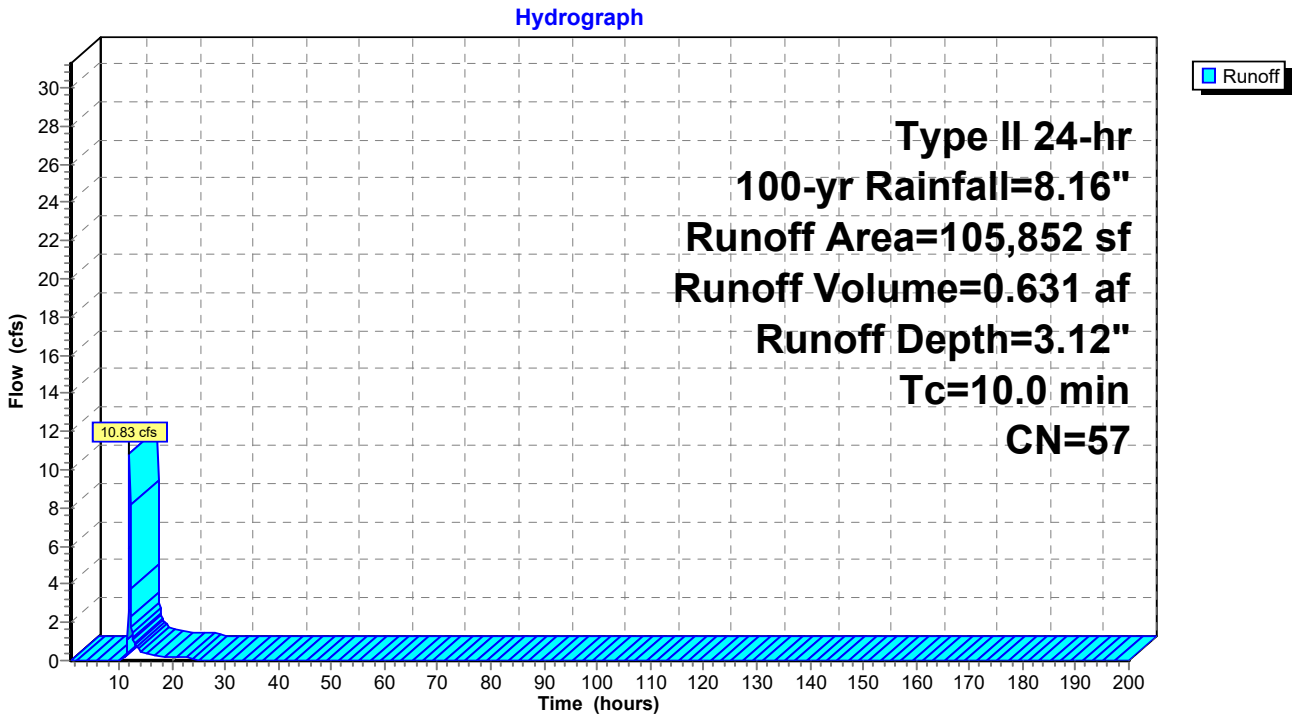
Runoff = 10.83 cfs @ 12.02 hrs, Volume= 0.631 af, Depth= 3.12"
Routed to Link 5L : POA 6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
39,944	55	Woods, Good, HSG B
52,486	48	Brush, Good, HSG B
13,422	98	Paved parking, HSG B
105,852	57	Weighted Average
92,430		87.32% Pervious Area
13,422		12.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment 26S: Post Dev. Bypass 7



Summary for Subcatchment 27S: Post Dev. Bypass 8

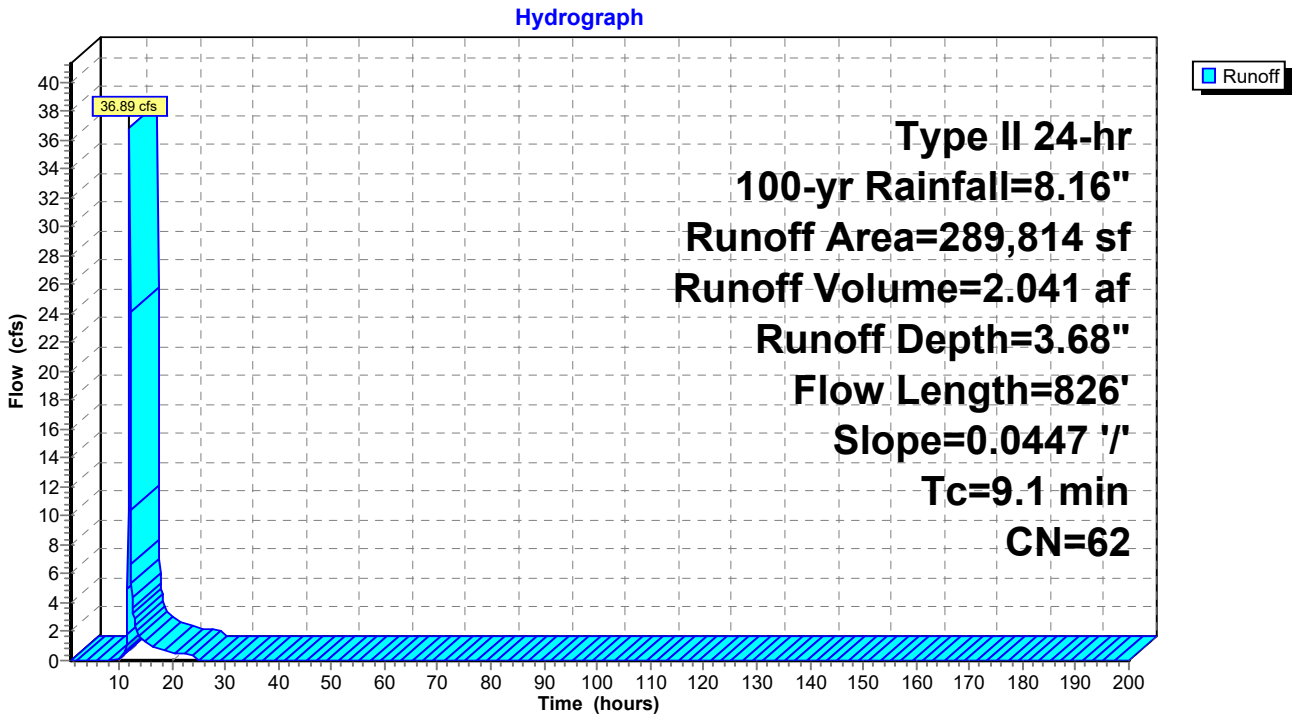
Runoff = 36.89 cfs @ 12.00 hrs, Volume= 2.041 af, Depth= 3.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Type II 24-hr 100-yr Rainfall=8.16"

Area (sf)	CN	Description
230,959	60	Woods, Fair, HSG B
53,439	69	50-75% Grass cover, Fair, HSG B
5,416	98	Paved parking, HSG B
289,814	62	Weighted Average
284,398		98.13% Pervious Area
5,416		1.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	826	0.0447	1.51		**Kirpich Method,** General overland flow k= 2.00

Subcatchment 27S: Post Dev. Bypass 8



Summary for Pond 1P: Sand Filter -SCM 1

Inflow Area = 7.523 ac, 77.83% Impervious, Inflow Depth = 6.84" for 100-yr event
Inflow = 72.49 cfs @ 11.95 hrs, Volume= 4.290 af
Outflow = 39.51 cfs @ 12.09 hrs, Volume= 4.290 af, Atten= 45%, Lag= 8.4 min
Primary = 39.51 cfs @ 12.09 hrs, Volume= 4.290 af
Routed to Link 1L : POA 1

Routing by Stor-Ind method, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Peak Elev= 533.15' @ 12.07 hrs Surf.Area= 6,825 sf Storage= 62,453 cf

Plug-Flow detention time= 82.7 min calculated for 4.288 af (100% of inflow)
Center-of-Mass det. time= 83.3 min (857.4 - 774.1)

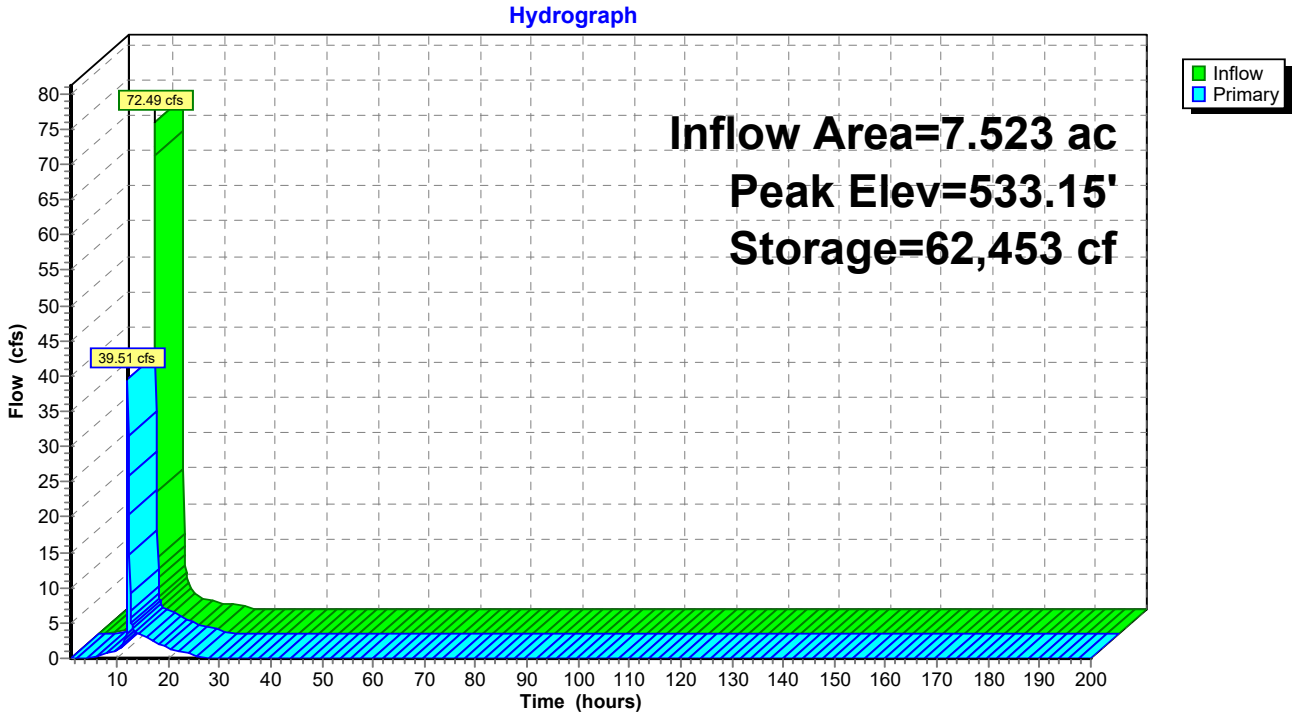
Volume	Invert	Avail.Storage	Storage Description
#1	524.00'	68,250 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) x 65

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
524.00	105	0	0
534.00	105	1,050	1,050

Device	Routing	Invert	Outlet Devices
#1	Primary	524.00'	**36.0" Round Culvert** L= 85.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 524.00' / 523.00' S= 0.0118 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	524.00'	**8.0" Vert. Drawdown** C= 0.600 Limited to weir flow at low heads
#3	Device 1	528.90'	**60.0" W x 8.0" H Vert. Main Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 1	533.00'	**25.0' long Overflow** 2 End Contraction(s)

Primary OutFlow Max=37.42 cfs @ 12.09 hrs HW=533.06' (Free Discharge)
└**1=Culvert** (Passes 37.42 cfs of 93.56 cfs potential flow)
├**2=Drawdown** (Orifice Controls 4.96 cfs @ 14.22 fps)
├**3=Main Orifice** (Orifice Controls 31.37 cfs @ 9.41 fps)
└**4=Overflow** (Weir Controls 1.08 cfs @ 0.77 fps)

Pond 1P: Sand Filter -SCM 1



Summary for Pond 2P: Wet Pond SCM 2

Inflow Area = 3.812 ac, 71.42% Impervious, Inflow Depth = 6.49" for 100-yr event
Inflow = 35.51 cfs @ 11.95 hrs, Volume= 2.061 af
Outflow = 14.55 cfs @ 12.12 hrs, Volume= 2.061 af, Atten= 59%, Lag= 10.0 min
Primary = 14.55 cfs @ 12.12 hrs, Volume= 2.061 af
Routed to Link 2L : POA 2

Routing by Stor-Ind method, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Starting Elev= 526.00' Surf.Area= 11,086 sf Storage= 32,033 cf
Peak Elev= 528.87' @ 12.12 hrs Surf.Area= 16,871 sf Storage= 72,072 cf (40,040 cf above start)

Plug-Flow detention time= 387.1 min calculated for 1.325 af (64% of inflow)
Center-of-Mass det. time= 158.5 min (941.4 - 782.9)

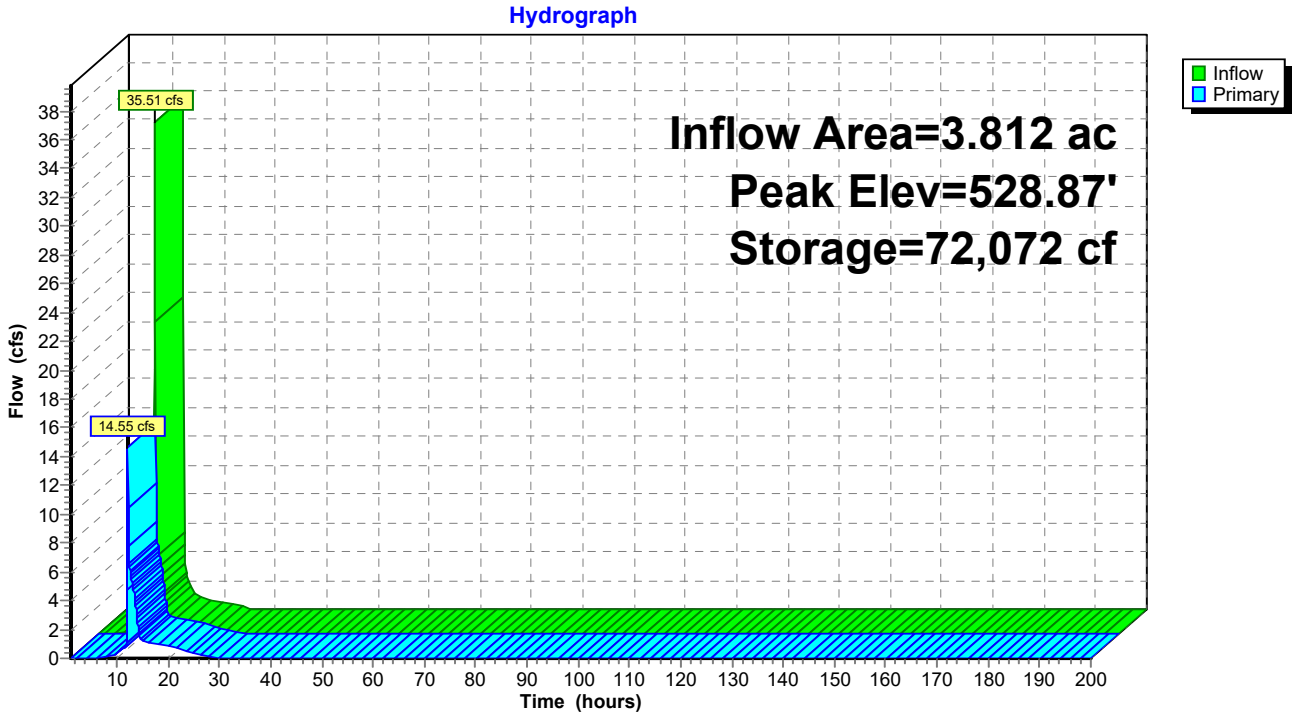
Volume	Invert	Avail.Storage	Storage Description
#1	522.00'	92,429 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
522.00	5,067	0	0
523.00	7,010	6,039	6,039
524.00	7,727	7,369	13,407
525.00	9,219	8,473	21,880
526.00	11,086	10,153	32,033
527.00	13,027	12,057	44,089
528.00	15,043	14,035	58,124
529.00	17,134	16,089	74,213
530.00	19,299	18,217	92,429

Device	Routing	Invert	Outlet Devices
#1	Primary	526.00'	**36.0" Round Culvert** L= 45.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 526.00' / 525.55' S= 0.0100 '/' Cc= 0.900 n= 0.010 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	526.00'	**6.5" Vert. Drawdown** C= 0.600 Limited to weir flow at low heads
#3	Device 1	527.40'	**34.0" W x 2.0" H Vert. Peakflow Orifice X 2.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	528.60'	**48.0" x 48.0" Horiz. Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=13.71 cfs @ 12.12 hrs HW=528.85' (Free Discharge)
└**1=Culvert** (Passes 13.71 cfs of 36.29 cfs potential flow)
├**2=Drawdown** (Orifice Controls 1.78 cfs @ 7.74 fps)
├**3=Peakflow Orifice** (Orifice Controls 5.32 cfs @ 5.63 fps)
└**4=Overflow** (Weir Controls 6.61 cfs @ 1.64 fps)

Pond 2P: Wet Pond SCM 2



Summary for Pond 3P: Wet Pond SCM 3

Inflow Area = 2.579 ac, 76.09% Impervious, Inflow Depth = 6.72" for 100-yr event
Inflow = 24.59 cfs @ 11.95 hrs, Volume= 1.445 af
Outflow = 13.39 cfs @ 12.10 hrs, Volume= 1.445 af, Atten= 46%, Lag= 8.9 min
Primary = 13.39 cfs @ 12.10 hrs, Volume= 1.445 af
Routed to Link 3L : POA 4

Routing by Stor-Ind method, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Starting Elev= 534.00' Surf.Area= 3,130 sf Storage= 15,183 cf
Peak Elev= 537.75' @ 12.08 hrs Surf.Area= 8,660 sf Storage= 39,211 cf (24,028 cf above start)

Plug-Flow detention time= 328.0 min calculated for 1.096 af (76% of inflow)
Center-of-Mass det. time= 154.3 min (931.5 - 777.2)

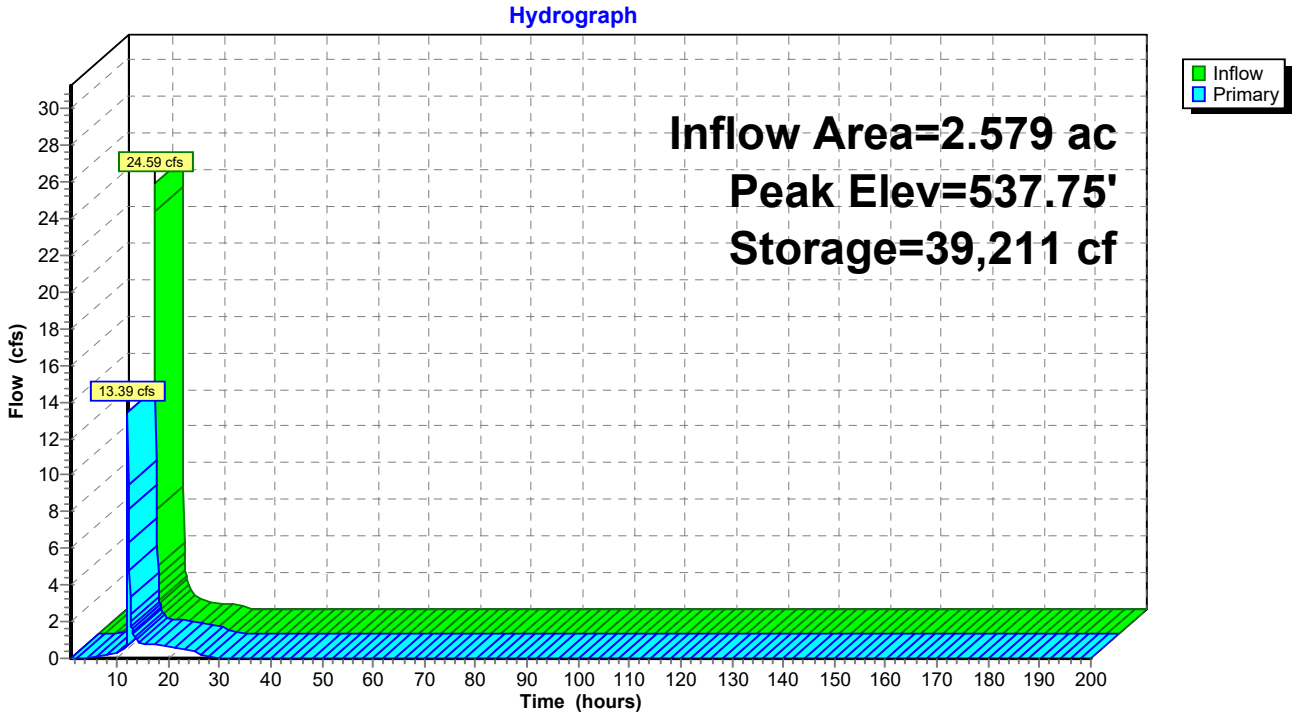
Volume	Invert	Avail.Storage	Storage Description
#1	530.00'	52,862 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
530.00	2,212	0	0
531.00	3,200	2,706	2,706
532.00	4,144	3,672	6,378
533.00	5,168	4,656	11,034
534.00	3,130	4,149	15,183
535.00	6,262	4,696	19,879
536.00	8,640	7,451	27,330
537.00	4,960	6,800	34,130
538.00	9,920	7,440	41,570
539.00	12,664	11,292	52,862

Device	Routing	Invert	Outlet Devices
#1	Primary	534.00'	**30.0" Round Culvert** L= 44.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 534.00' / 533.56' S= 0.0100 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 4.91 sf
#2	Device 1	534.00'	**4.5" Vert. Drawdown** C= 0.600 Limited to weir flow at low heads
#3	Device 1	536.30'	**42.0" W x 3.0" H Vert. Peak Flow X 2.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	537.60'	**48.0" x 48.0" Horiz. Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=13.17 cfs @ 12.10 hrs HW=537.73' (Free Discharge)
└**1=Culvert** (Passes 13.17 cfs of 36.89 cfs potential flow)
  ├**2=Drawdown** (Orifice Controls 1.00 cfs @ 9.07 fps)
  ├**3=Peak Flow** (Orifice Controls 9.63 cfs @ 5.50 fps)
  └**4=Overflow** (Weir Controls 2.54 cfs @ 1.19 fps)

Pond 3P: Wet Pond SCM 3



Summary for Pond 4P: Wet Pond SCM 4

Inflow Area = 4.329 ac, 61.06% Impervious, Inflow Depth = 6.61" for 100-yr event
Inflow = 40.81 cfs @ 11.95 hrs, Volume= 2.383 af
Outflow = 22.12 cfs @ 12.10 hrs, Volume= 2.058 af, Atten= 46%, Lag= 9.1 min
Primary = 22.12 cfs @ 12.10 hrs, Volume= 2.058 af
Routed to Link 4L : POA 5

Routing by Stor-Ind method, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Peak Elev= 526.97' @ 12.10 hrs Surf.Area= 13,511 sf Storage= 52,154 cf

Plug-Flow detention time= 414.5 min calculated for 2.057 af (86% of inflow)
Center-of-Mass det. time= 353.6 min (1,133.7 - 780.1)

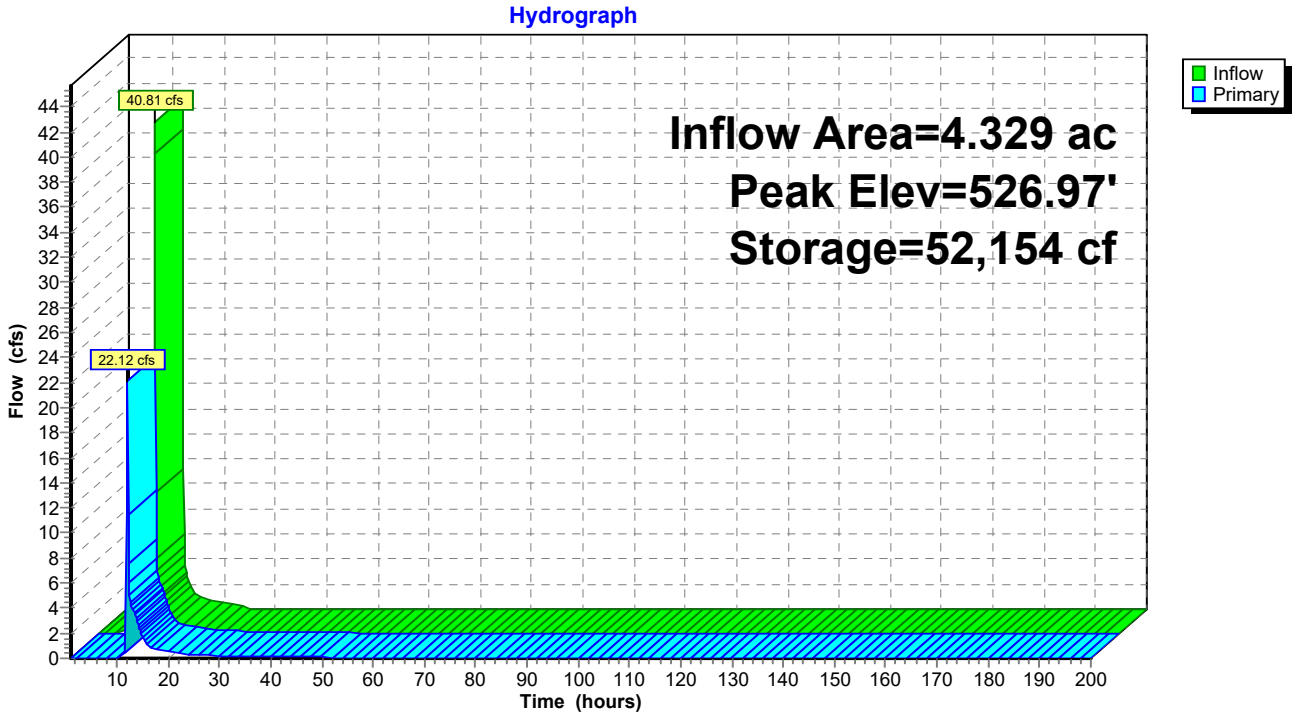
Volume	Invert	Avail.Storage	Storage Description
#1	519.00'	67,235 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
519.00	1,472	0	0
520.00	2,352	1,912	1,912
521.00	3,406	2,879	4,791
522.00	4,636	4,021	8,812
523.00	6,046	5,341	14,153
524.00	7,648	6,847	21,000
525.00	9,474	8,561	29,561
526.00	11,446	10,460	40,021
527.00	13,570	12,508	52,529
528.00	15,842	14,706	67,235

Device	Routing	Invert	Outlet Devices
#1	Primary	523.00'	**36.0" Round Culvert** L= 45.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 523.00' / 521.50' S= 0.0333 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	523.00'	**2.5" Vert. Drawdown** C= 0.600 Limited to weir flow at low heads
#3	Device 1	525.10'	**36.0" W x 3.0" H Vert. Peakflow** C= 0.600 Limited to weir flow at low heads
#4	Device 1	526.50'	**48.0" x 48.0" Horiz. Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=21.98 cfs @ 12.10 hrs HW=526.97' (Free Discharge)
└**1=Culvert** (Passes 21.98 cfs of 53.50 cfs potential flow)
├**2=Drawdown** (Orifice Controls 0.32 cfs @ 9.47 fps)
├**3=Peakflow** (Orifice Controls 4.77 cfs @ 6.36 fps)
└**4=Overflow** (Weir Controls 16.89 cfs @ 2.24 fps)

Pond 4P: Wet Pond SCM 4



Summary for Pond 5P: Wet Pond SCM 5

Inflow Area = 2.997 ac, 60.84% Impervious, Inflow Depth = 5.89" for 100-yr event
Inflow = 26.83 cfs @ 11.95 hrs, Volume= 1.472 af
Outflow = 15.02 cfs @ 12.10 hrs, Volume= 1.472 af, Atten= 44%, Lag= 8.7 min
Primary = 15.02 cfs @ 12.10 hrs, Volume= 1.472 af
Routed to Link 5L : POA 6

Routing by Stor-Ind method, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs
Starting Elev= 513.00' Surf.Area= 4,340 sf Storage= 13,131 cf
Peak Elev= 516.90' @ 12.08 hrs Surf.Area= 7,318 sf Storage= 37,058 cf (23,928 cf above start)

Plug-Flow detention time= 306.8 min calculated for 1.170 af (80% of inflow)
Center-of-Mass det. time= 156.6 min (952.3 - 795.7)

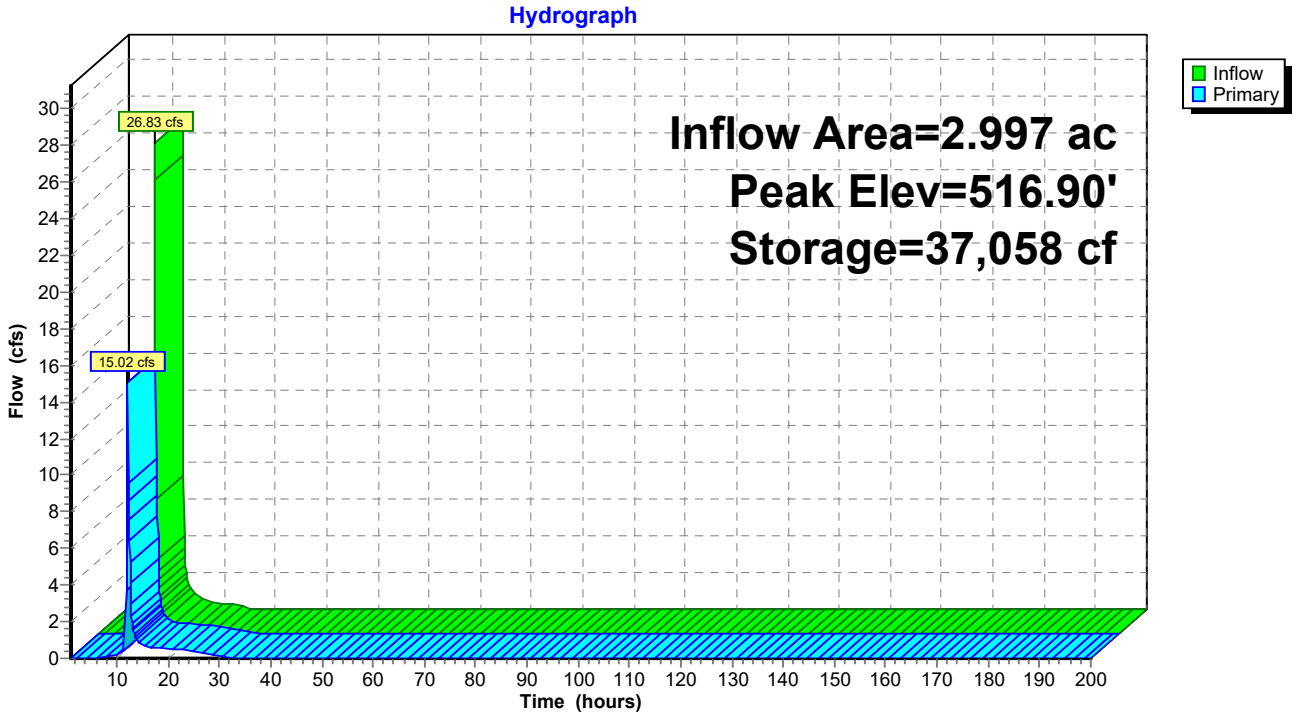
Volume	Invert	Avail.Storage	Storage Description
#1	509.00'	45,475 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
509.00	2,355	0	0
510.00	2,789	2,572	2,572
511.00	3,517	3,153	5,725
512.00	3,477	3,497	9,222
513.00	4,340	3,909	13,131
514.00	5,752	5,046	18,177
515.00	6,271	6,012	24,188
516.00	6,813	6,542	30,730
517.00	7,377	7,095	37,825
518.00	7,922	7,650	45,475

Device	Routing	Invert	Outlet Devices
#1	Primary	513.00'	**36.0" Round Culvert** L= 79.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 513.00' / 512.00' S= 0.0127 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf
#2	Device 1	513.00'	**4.0" Vert. Drawdown** C= 0.600 Limited to weir flow at low heads
#3	Device 1	515.10'	**38.0" W x 3.0" H Vert. Peakflow Orifice X 2.00** C= 0.600 Limited to weir flow at low heads
#4	Device 1	516.70'	**48.0" x 48.0" Horiz. Overflow** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=14.69 cfs @ 12.10 hrs HW=516.88' (Free Discharge)
└**1=Culvert** (Passes 14.69 cfs of 52.53 cfs potential flow)
  ├**2=Drawdown** (Orifice Controls 0.81 cfs @ 9.28 fps)
  ├**3=Peakflow Orifice** (Orifice Controls 9.81 cfs @ 6.20 fps)
  └**4=Overflow** (Weir Controls 4.07 cfs @ 1.40 fps)

Pond 5P: Wet Pond SCM 5

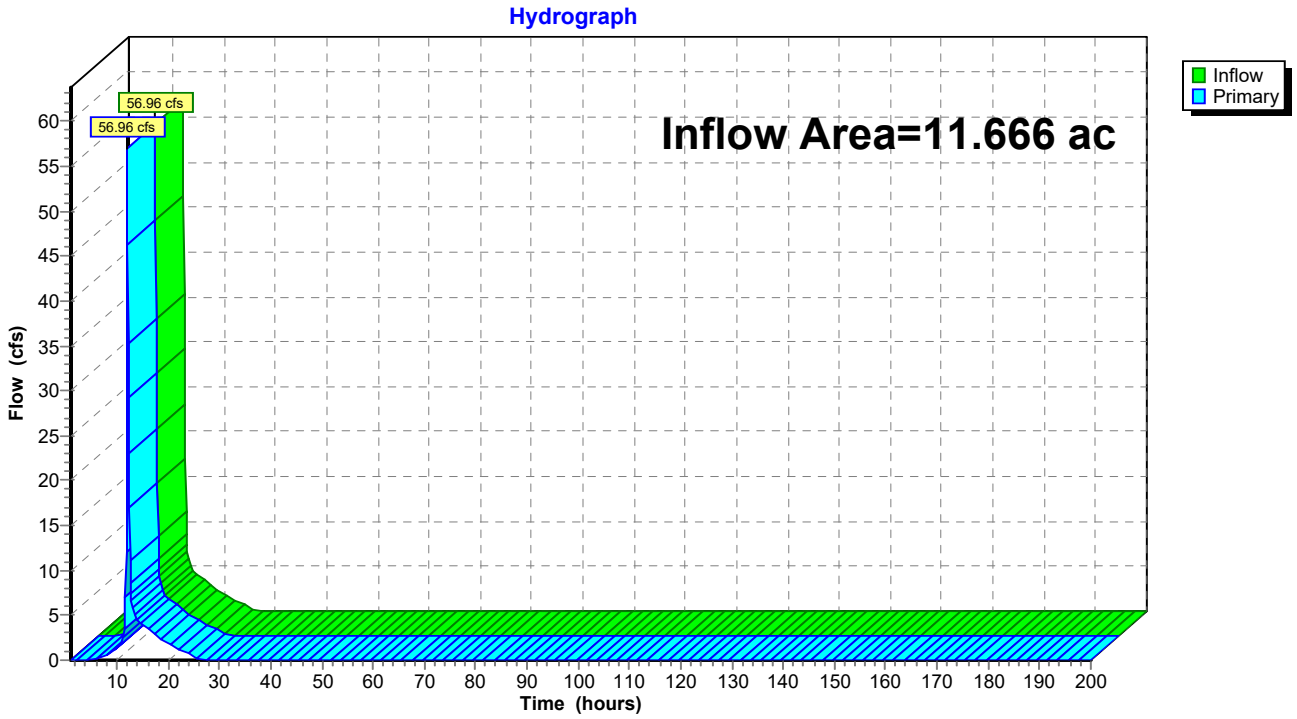


Summary for Link 1L: POA 1

Inflow Area = 11.666 ac, 51.60% Impervious, Inflow Depth = 5.64" for 100-yr event
Inflow = 56.96 cfs @ 12.01 hrs, Volume= 5.483 af
Primary = 56.96 cfs @ 12.01 hrs, Volume= 5.483 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs

Link 1L: POA 1

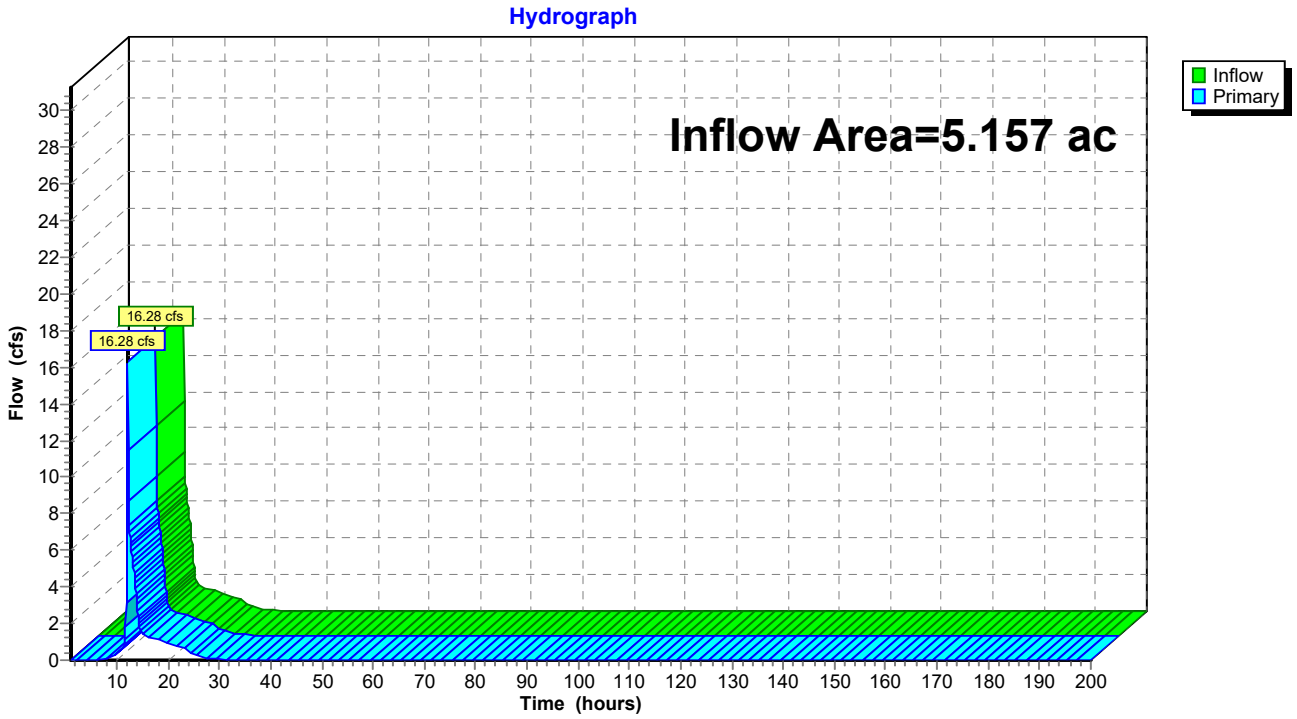


Summary for Link 2L: POA 2

Inflow Area = 5.157 ac, 52.79% Impervious, Inflow Depth = 5.52" for 100-yr event
Inflow = 16.28 cfs @ 12.09 hrs, Volume= 2.373 af
Primary = 16.28 cfs @ 12.09 hrs, Volume= 2.373 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs

Link 2L: POA 2

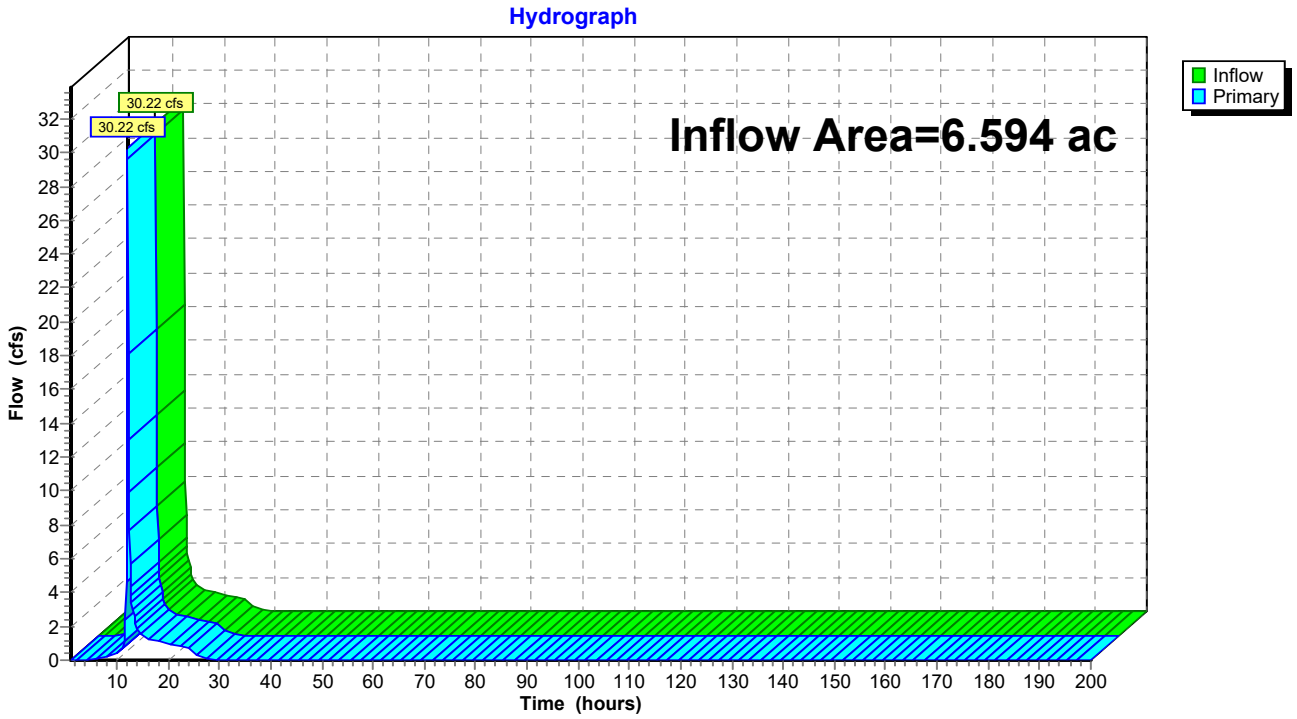


Summary for Link 3L: POA 4

Inflow Area = 6.594 ac, 34.08% Impervious, Inflow Depth = 4.66" for 100-yr event
Inflow = 30.22 cfs @ 12.07 hrs, Volume= 2.563 af
Primary = 30.22 cfs @ 12.07 hrs, Volume= 2.563 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs

Link 3L: POA 4

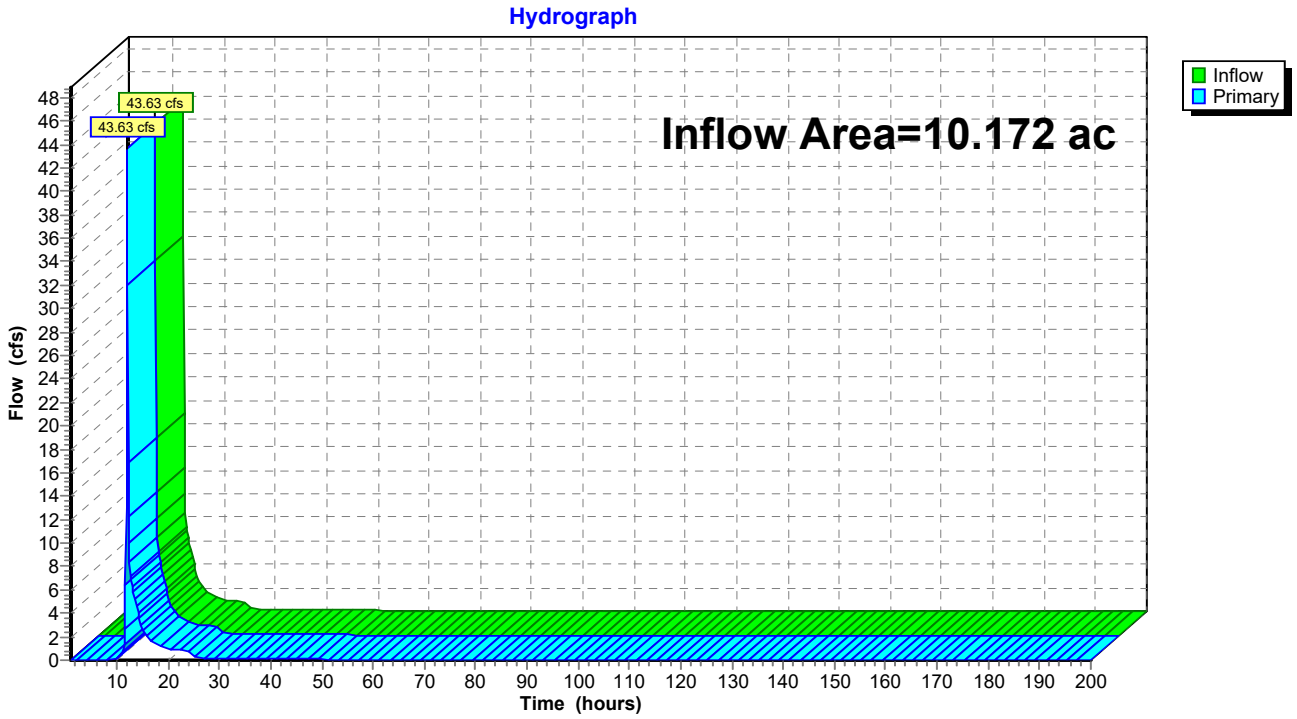


Summary for Link 4L: POA 5

Inflow Area = 10.172 ac, 27.00% Impervious, Inflow Depth = 4.48" for 100-yr event
Inflow = 43.63 cfs @ 12.00 hrs, Volume= 3.795 af
Primary = 43.63 cfs @ 12.00 hrs, Volume= 3.795 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs

Link 4L: POA 5



Summary for Link 5L: POA 6

Inflow Area = 5.427 ac, 39.28% Impervious, Inflow Depth = 4.65" for 100-yr event
Inflow = 23.82 cfs @ 12.07 hrs, Volume= 2.103 af
Primary = 23.82 cfs @ 12.07 hrs, Volume= 2.103 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-200.00 hrs, dt= 0.10 hrs

Link 5L: POA 6