DRAINAGE ANALYSIS & REPORT

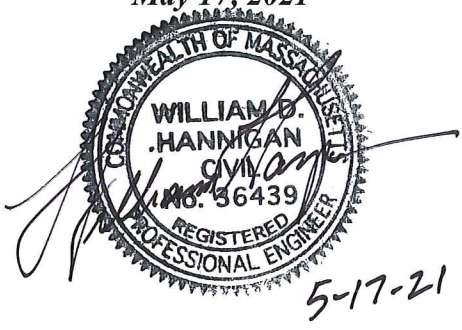
for

Building Addition and Site Improvements
Henry Heywood Memorial Hospital

242 Green Street

Gardner, Massachusetts

May 17, 2021



Prepared for: ***Waterstone Properties Group, Inc***
Nico Recine
117 Kendrick Street – Suite 325
Needham, Massachusetts 02494
(781) 675-2063

Prepared by: ***Hannigan Engineering, Inc.***
8 Monument Square
Leominster, Massachusetts 01453
(978) 534-1234

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1.0
DRAINAGE NARRATIVE

1.0 NARRATIVE

1.1 INTRODUCTION

§ On behalf of our client, Waterstone Properties Group, Inc , Hannigan Engineering, Inc. has prepared this Drainage Analysis and Report as part of submittal package for Definitive Site Plan Approval for the construction of a building addition to the existing Henry Heywood Memorial Hospital (Heywood) located 242 Green Street in Gardner, Massachusetts. The proposed construction is being performed as part of an overal facilities expansion at the property which has historically been utilized as a hospital. As part of the proposed construction, areas of the existing parking lot and abutting sourtherly properties will be reconstructed to service the proposed building addition.

The purpose of this analysis is to compare the pre-development and post-development site drainage characteristics for this project. In particular, changes in peak rates of runoff generally associated with alterations of land use were studied. These alterations include land being transformed from areas of landscape (grass), woods, and brush to areas of grass, landscape, and impervious areas (rooftops, sidewalks and pavement). The effects of stormwater being re-directed to new areas as a result of the proposed construction and the associated drainage system were reviewed as well. For the purposes of this report, any developed areas which are not impervious will be considered to consist of lawn and landscape areas.

The U.S. Soil Conservation Sevice (SCS) methods were utilized for this analysis in order to establish land use and run-off characteristics in the determination of pre- and post-developement peak rates of runoff. All proposed development areas and subsequent impacts on stormwater runoff relative to this development have been incorporated within this analysis and report.

The drainage from the site currently flows to several areas around the property. The primary design point for the project is at Crystal Lake located to the west of the project. The remaining design points have been determined to be at existing drainage structures located within the existing roadways on the east side of the project in Woodland Avenue and Green Street.

It is noted that Crystal Lake is a Public Surface Water Supply in the City of Gardner which has protection as a Surface Water Supply (SWP) with applicable Zone A and Zone B designations under state regulations. The watershed of this waterbody is also part of the Surface Water Protection Overlay District (SWPOD) of the Ordinance and compliance with the associated regulations and standards is required. This extends to the protection zones established as part of the state regulaitons including setbacks, limits on impervious area and additional treatment and disposal of stormwater for areas exceeding 20 percent of the land areas. This Drainage Analysis has been performed to meet or exceed these requirements on this project as outlined herein.

In the area of the proposed development, an increase in impervious areas due the construction of the building addition and associated parking lot will occure over much of the site. The site will direct much of the proposed stormwater runoff towards an underground storage facility to provide peak rate mitigation, as well as allow provision for capture, storage and eventual recharge of portions of the stormwater to the underlying soils. The majority of the recharge occurs during the storm event, with additional recharge after the storm as part of the DEP drawdown calculations. The proposed drainage system will also improve the water quality by providing TSS removal in compliance with the Stormwater Management Regulations.

1.2 METHOD OF ANALYSIS

The enclosed hydrologic calculations utilize the runoff estimating techniques developed by the USDA Soil Conservation Service (SCS). The following websites and publications were used in the preparation of this report:

1. "Urban Hydrology for Small Watersheds"[1]
2. "National Engineering Handbook, Hydrology, Section 4" (NEH-4)[2]
3. "Handbook of Hydraulics" 6th ed. - E.F. Brater & H. Williams[3]
4. "Web Soil Survey" - USDA NRCS[4]

Using SCS publications and other texts on surface water hydrology, in conjunction with drainage software *HydroCAD* developed by Applied Microcomputer Systems[5], Hannigan Engineering, Inc. has calculated peak rates of runoff relative to the subject site for conditions prior to development as well as conditions upon the completion of construction. The drainage software program *HydroCAD* calculates peak rates of runoff similarly to the computer program known as *Computer Programs for Project Formulations-Hydrology, Technical Release Number 20 (TR-20),* developed by SCS. This program and series of programs are the technical standard utilized by engineers, Planning Boards, Conservation Commission, and Municipal Agencies throughout the region and across the country for the evaluation of storm water conditions.

The analysis reviews certain parameters of sub-watersheds surrounding the subject site and how these parameters are affected by various rainfall conditions. These parameters include land cover and use, soil strata and permeability, and variations in slope. These parameters are used to develop rainfall runoff characteristics, which are used to analyze both pre and post development conditions within and surrounding the proposed construction activity. Some of these characteristics include times of concentration (Tc), peak rates of runoff, runoff volume, and the time the peak rate of runoff occurs within the particular storm event.

Times of concentration were computed by using the TR-55 Sheet flow procedure and TR-55 Shallow Concentrated Flow procedure were utilized for the analysis of the individual watersheds. These procedures compute the time of travel of storm waters over segments of the watershed depending upon land conditions, such as surface roughness, channel configuration, slope of land, and flow patterns. The addition of these travel times determines the individual watershed Time of Concentration. This method translates to more accurate Tc's than other more general methods.

1.3 SITE DESCRIPTION

The existing site is approximately 12-acres located on the west side of Green Street and Woodland Avenue and is the location of the existing hospital and associated buildings and parking. The area of the proposed project is on the southerly side of the existing building and is the focus of the Drainage Analysis. The proposed development includes removal of existing residential properties along Woodland Avenue and the conversion of these areas into a new parking lot. Some of these buildings have already been removed and others will be removed as part of the project. Areas of development will also extend over the City of Gardner land and transform existing woodland areas in to part of the new parking lot. This overall change to the site land use characteristics is the subject of this review. The land generally slopes in a westerly direction towards Crystal Lake with an elevation drop of approximately 80-feet.

The stormwater from the existing parking areas on the south side of the building is captured via two smaller systems. Portions of the parking lot and roof runoff are collected and directed towards the existing municpal drainage system within Woodland Avenue east of the building. The existing drainage system in Woodland Avenue does not meet current standards, but flows from the site are preceded by a water quality structure to provide some treatment. Other portions of the parking lot and roof runoff are directed towards a hydrodynamic water treatement system (DMH A1 and A2) on the west side of the building. Upon treatment, the stormwater is discharged to the surface and allowed to flow overland to Crystal Lake.

For the purpose of the analysis, certain design points are reviewed. The design points are where the pre-development drainage for the subcatchment areas of the watershed over the property are directed. The same design points have been utilized and reviewed for both pre- and post-development runoff conditions. The design points are the basis for the design of the proposed drainage infrastructure and stormwater detention structures depicted on the plans.

The drainage from the site currently flows to several Design Points located throughout the area. Design Point #1 has been designated at Crystal Lake which receives the majority of the runoff from the site. Design Point #2 has been designated at an existing raingarden along the westerly side of the existing building. Flow from this rain garden eventually reaches Crystal Lake, but the design components of this system are unknown. As such, peak rates of runoff to the rain garden is evaluated. Design Points #3, #4, and #5 have been designated at various points within the municipal drainage system on Woodland Avenue. Once again, peak rates of runoff to these design points are evaluated.

1.4 SOIL CHARACTERISTICS

Soil types for this analysis were based upon review of soils information contained in the SCS publication *Hyrdrologic Soil Group-Worcester County, Massachusetts, Northwestern Part.* The original mapping has been reestablished via the Web Soil Survey as part of the National Cooperative Soil Survey under the Natural Resource Conservation Service and its website (http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx). This mapping is the basis for the soil type determinations for this analysis.

The soils are classified by number and name by SCS and, subsequently, the Hydrological Soil Group has been designated within the Urban Hydrology for Small Watersheds manual. Soils within the subject watersheds are also hydrologically classified into different soil groups as defined by the Soil Conservation Service

Soil Designation	Name	Hydrological Group
355B/C	Marlow Fine Sandy Loam	C
360B	Peru Fine Sandy Loam	C/D
901E	Berkshire-Marlow Association	B
924C	Tunbridge-Lyman-Berkshire Ass.	C

1.5 RUNOFF CURVE NUMBERS

The SCS runoff curve numbers used in all watershed modeling contained in this report are based on the Hydrologic Soil Groups and land uses below:

Land Use	Hydrologic Soil Group	Curve #
Grass (Good)	B	61
Woods (Good)	B	55
Grass (Good)	C	74
Woods (Good)	C	70
Impervious Areas	NA	98

1.6 DESIGN CRITERIA

This drainage analysis was developed utilizing a Type III, 24-hour tropical storm as developed by SCS and required for this region. The storm frequencies and the corresponding 24-hour rainfall amounts are as follows:

Storm Frequency (years)	Rainfall (inches)
2	3.00
10	4.50
25	5.30
100	6.50

1.7 THE PROPOSED STORMWATER MANAGMENT SYSTEM

Changes in land use within a proposed development project may cause increases in peak rates of runoff to specific design points. These changes may include transformation of woodland and/or undisturbed areas to lawn, landscape and/or impervious areas. On this particular project, these transformed areas consist of driveways and rooftops, as well as alterations in land use from woodland areas to open lawn and landscaped areas. These increases in peak rates of runoff must be mitigated with an appropriately designed site including proper grading to direct stormwater flows to the storm drainage system.

As part of the project, a new addition will be added to the southerly side of the existing hospital to serve as a surgical suite and medical offices. The site will be reworked and the existing parking lot on the southern side of the existing hospital building will be reconstructed and expanded. As part of this reconstruction, a new access drive will be created looping around to the rear of the site to provide truck access to the loading areas. The main purpose of this loop drive is to separate the truck traffic for deliveries from the vehicles coming to the site for the hospital use. This drive will also provide access to new parking spaces along the drive.

The access to the new parking areas on the south side of the building will be provided in approximately the same location as currently exists. Accessible parking and short-term parking will be located within close proximity to the entrances to the building. The parking has been laid out to provide access to all spaces from the internal access drives. A secondary connection has been made to the loop drive to avoid congestion at the entrance area. This parking area will be situated within areas that were previously residential properties and woodland. Along with the applicable parking and access areas, additional infrastructure and landscaping improvements will also occur as part of this development.

The proposed drainage system captures stormwater runoff from the site via a series of new deep-sump catchbasins directed to one of several drainage trunk lines. These trunk lines directs the runoff through treatment systems prior to discharge to either a proposed underground storage system, an existing system on the western side of the property, or the municpal drainage system within Woodland Avenue. The proposed stormwater management design provides peak rate mitigation through several methods. Portions of the flow that are directed to the exisitng systems both on site and within Woodland Avenue have changes to their watershed characteristics and configuration that reduces the flow and subseqent flow rates to these systems. The balance of the mitigation is provided with an underground strorage system consisting of a series of PVC chambers and crushed stone.

The proposed underground storage system will utilize a series of molded plastic arch-chambers (Stormtech MC4500) set within a bed of crushed stone and regulated with a manifold piping system to ensure even distribution of the storwater within the system. This system will be located beneath the westerly loop access road and handle a majority of the stormwater generated by the proposed project. The intent is to provide peak rate mitigation while also providing a mechanism for recharge of stormwater to the underlying soils. The system is designed to capture, detain and infiltrate portions of the stormwater runoff generated from the proposed development and allow controlled release of remaining stormwater from the site.

As noted above, the project is located within a Surface Water Protection (SWP) with corresponding Zone A and Zone B under state regulations, as well as the SWPOD of the City of Gardner. The vast majority of the runoff from the site and the area proposed for development have drainage patters directing runoff towards the Surface Water Supply, Crystal Lake. As the work is being performed within these zones, certain requirements must be met under Local and State Regulations. These include providing artificial recharge of runoff for properties which are rendered in excess of 20% impervious and locating all stormwater BMPs outside of the Zone A.

To provide compliance with these requirements, the underground storage system utilizes exfiltration as a mechanism for peak rate mitigation during the storm event. This provides artifical recharge as required by the Ordinance as part of DEP Stormwater Management Compliance, specifically, Standard #3. In addition, all Stormwater BMPs and discharge points will be located outside of the Zone A. Additional standards are required be met as under Standard #6 of the Stormwater Management Reuglations as Crystal Lake and the contributing Zones are considered "Critical Areas." Review of these standards are provided within the Stormwater Management Compliance Documents as part of this Report.

Where it is the intent to utilize the existing treatment system on the western side of the parking lot, a review of the stormwater runoff to this structure is provided to ensure the system will function as originally intended and not be overloaded by alterations made as part of this project. A review of the contributing impervious area to this system shows approximately 34,049 square feet of impervious area is currently directed towards this sytem. Upon the completion of construction, a reduction in the impervious area is provided to approximately 25,579 square feet (25% reduction), along with reductions in peak rates (see Table #1). A reduction in these metrics ensures the existing system will continue to function as it does currently.

Table #1: DMH-A1 Peak Rate Review

DMH-A1 *Rate Review (cfs)*		2-yr Storm	10-yr Storm	25-yr Storm	100-yr Storm
DMH-A1	**Pre-**	**2.37**	**3.65**	**4.33**	**5.34**
	Post-	**1.83**	**2.93**	**3.51**	**4.38**

Relative to the existing drainage system within Woodland Avenue, due to the reconfiguration of the site and the existing drainage patterns, portions of the existing watersheds that were directed to the municipal system will be redirected to the on-site system. This results in decreases in peak rates as well as runoff volumes to this system. Improvements to the drainage system along Woodland Avenue are also proposed as part of this design including new catchbasin to manhole connections bringing the system closer to compliance with current standards. Each discharge connection from the project include a proprietary water quality unit. Review of peak rates and runoff volumes to the municipal drainage system are shown in Table #2 below.

Table#2: Muncipal Drainage Review

Municipal Structure (DP#)		2-yr Storm	10-yr Storm	25-yr Storm	100-yr Storm
DMH-E (DP#3)	**Pre-Rate**	2.33 cfs	3.81 cfs	4.59 cfs	5.77 cfs
	Post-Rate	2.10 cfs	3.44 cfs	4.16 cfs	5.27 cfs
	Pre-Volume	0.172-af	0.287-af	0.350-af	0.445-af
	Post-Volume	0.157-af	0.262-af	0.320-af	0.406-af
DCB-J (DP#4)	**Pre-Rate**	1.22 cfs	2.24 cfs	2.79 cfs	3.61 cfs
	Post-Rate	0.97 cfs	1.73 cfs	2.13 cfs	2.74 cfs
	Pre-Volume	0.087-af	0.159-af	0.199-af	0.261-af
	Post-Volume	0.070-af	0.125-af	0.156-af	0.203-af
DCB-K (DP#5)	**Pre-Rate**	1.56 cfs	2.89 cfs	3.61 cfs	4.71 cfs
	Post-Rate	0.57 cfs	1.01 cfs	1.24 cfs	1.58 cfs
	Pre-Volume	0.116-af	0.216-af	0.272-af	0.358-af
	Post-Volume	0.041-af	0.073-af	0.091-af	0.118-af

All flows are in cubic feet per second. All Volumes are in Acre-Feet

The drainage pipe network on this project was designed utilizing the HydroCAD modeling program and accommodates the 25-year storm event through the on-site pipe network. Subsequent analysis of the 100-year storm event reveals the ability to accommodate this larger event through the on-site piping.

The proposed catchbasins on the project will contain deep sumps (48-inch below the level of the outlet pipe), along with a hood to contain the majority of the roadway debris and sediment within the basin itself. The catchbasins will then discharge directly to the drainage trunk lines and then to a Hydrowork Hydroguard units to provide enhanced TSS removal as well as oil separation of the runoff. These units have been designated at DCB#4, DMH#1, DMH#14 and DMH #17. With these components, it can be expected that drainage system will achieve the 80 percent TSS removal required under the DEP Stormwater Management Regulations.

1.8 CONCLUSIONS

As stated above, the design points have been established at several points around the property. Changes in land use are the predominant cause of increases in peak rate of runoff to design points. In this as case, much of the post-development runoff is directed towards the proposed undergound storage system and ulitmately directed towards Design Point #1. This system will provide mitigation of peak rates to the site. The results of the analysis are shown below.

Table #3: Peak Rate of Runoff

Design Point		2-yr Storm	10-yr Storm	25-yr Storm	100-yr Storm
#1	**Pre-**	**4.38**	**11.23**	**15.45**	**22.23**
	Post-	**4.14**	**10.06**	**13.75**	**22.08**
#2	Pre-	1.67	2.79	3.39	4.28
	Post-	1.56	2.62	3.18	4.02
#3	Pre-	2.33	3.81	4.59	5.77
	Post-	2.10	3.44	4.16	5.27
#4	Pre-	1.22	2.24	2.79	3.61
	Post-	0.97	1.73	2.13	2.74
#5	Pre-	1.56	2.89	3.61	4.71
	Post-	0.57	1.01	1.24	1.58

All flows are in cubic feet per second.

As outline above, the post-development peak rates of runoff have been mitigated for all design points. This assures that no adverse impacts to abutting properties relative to increases in peak rates of runoff will occur due to the proposed development upon the completion of construction. The storm water management as outlined herein and as shown on the accompanying plans has the following positive values relative to storm water management:

A) Attenuation of the 2-, 10-, 25- and 100-year storm events has mitigated increases in peak rates of runoff, or has been justified herein.
B) On-site roadway and pavement areas are directed to standard catch basins with deep sumps for collection of debris and sediments prior to discharge and ultimately a proprietary treatment system.
C) The development adheres to the provisions of the Massachusetts Stormwater Management program with greater than 80% TSS removal.
D) Stormwater System provides required Recharge Volume On-Site
E) The Stormwater Operation and Maintenance Plan (OMP) attached, has been prepared to ensure long-term function of the system, as designed.

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[1]"Urban Hydrology for Small Watersheds (Technical Release Number 55); Engineering Division, United States Dept. of Agriculture ,Soil Conservation Service (Jan. 1975)

[2]"National Engineering Handbook Section 4- Hydrology" ; United States Dept. of Agriculture, Soil Conservation Service (March 1985)

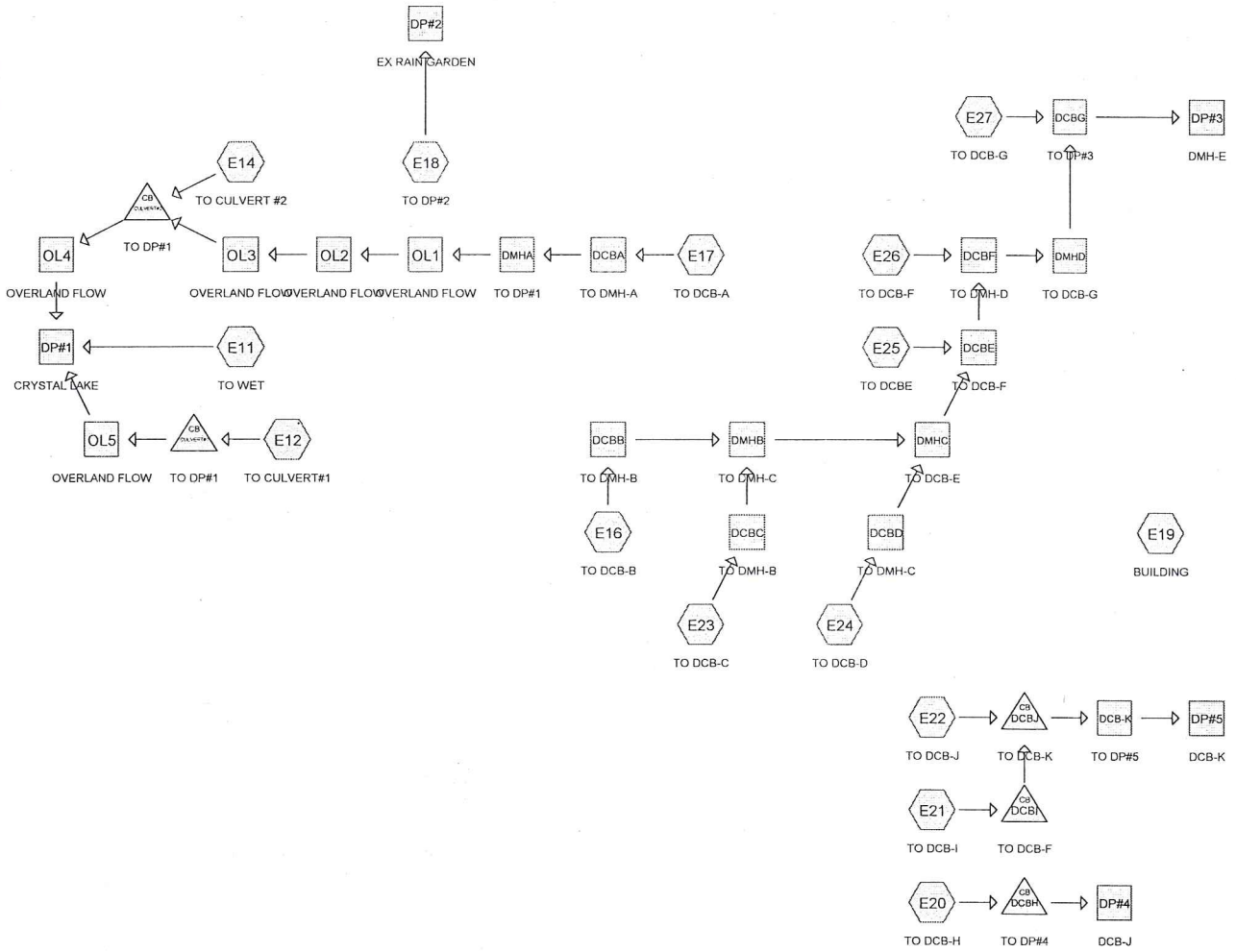
[3]"Handbook of Hydraulics" - 6th ed., E.F. Brater & H. Williams (1976)

[4]"Interim Soil Report for Worcester County – Southern Part" Published by the Southern Worcester County Conservation District, in cooperation with the United States Department of Agriculture, Natural Resources Conservation Service

[5] "HydroCAD" Drainage software developed by Applied Microcomputer, Page Hill Road, Chocorua, NH

2.0
HYDROLOGICAL CALCULATIONS

2.1
PRE-DEVELOPMENT CALCULATIONS



Subcat Reach Pond Link

Routing Diagram for 2670-Heywood Pre

Prepared by HANNIGAN ENGINEERING, INC., Printed 5/14/2021

HydroCAD® 10.00-25 s/n 00840 © 2019 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.387	61	>75% Grass cover, Good, HSG B (E11, E12, E14)
1.629	74	>75% Grass cover, Good, HSG C (E11, E12, E14, E16, E17, E18, E20, E21, E22, E23, E24, E25, E26, E27)
0.034	96	Gravel surface, HSG C (E14, E20)
0.150	98	Paved parking, HSG B (E11, E12, E14)
5.756	98	Paved parking, HSG C (E12, E14, E16, E17, E18, E19, E20, E21, E22, E23, E24, E25, E26, E27)
2.521	55	Woods, Good, HSG B (E11, E12, E14)
5.213	70	Woods, Good, HSG C (E11, E12, E14, E16, E20, E22)
15.690	**78**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
3.058	HSG B	E11, E12, E14
12.632	HSG C	E11, E12, E14, E16, E17, E18, E19, E20, E21, E22, E23, E24, E25, E26, E27
0.000	HSG D	
0.000	Other	
15.690		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.387	1.629	0.000	0.000	2.015	>75% Grass cover, Good	E11, E12, E14, E16, E17, E18, E20, E21, E22, E23, E24, E25, E26, E27
0.000	0.000	0.034	0.000	0.000	0.034	Gravel surface	E14, E20
0.000	0.150	5.756	0.000	0.000	5.907	Paved parking	E11, E12, E14, E16, E17, E18, E19, E20, E21, E22, E23, E24, E25, E26, E27
0.000	2.521	5.213	0.000	0.000	7.734	Woods, Good	E11, E12, E14, E16, E20, E22
0.000	**3.058**	**12.632**	**0.000**	**0.000**	**15.690**	TOTAL AREA	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	DCBA	1,176.20	1,175.41	10.0	0.0790	0.011	15.0	0.0	0.0
2	DCBE	1,176.29	1,176.00	26.0	0.0112	0.011	12.0	0.0	0.0
3	DMHA	1,175.35	1,175.04	14.0	0.0221	0.011	15.0	0.0	0.0
4	DMHC	1,179.53	1,176.49	85.0	0.0358	0.010	12.0	0.0	0.0
5	CULVERT#1	1,116.61	1,114.13	28.6	0.0867	0.013	12.0	0.0	0.0
6	CULVERT#2	1,118.45	1,117.75	20.3	0.0345	0.013	12.0	0.0	0.0
7	DCBH	1,171.67	1,169.90	31.0	0.0571	0.025	8.0	0.0	0.0
8	DCBI	1,175.50	1,174.06	69.0	0.0209	0.025	6.0	0.0	0.0
9	DCBJ	1,174.86	1,174.34	24.0	0.0217	0.025	8.0	0.0	0.0

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E11: TO WET Runoff Area=70,866 sf 3.65% Impervious Runoff Depth=0.47"
Flow Length=109' Slope=0.1500 '/' Tc=8.2 min CN=64 Runoff=0.56 cfs 0.064 af

Subcatchment E12: TO CULVERT#1 Runoff Area=185,198 sf 2.48% Impervious Runoff Depth=0.58"
Flow Length=683' Tc=20.6 min CN=67 Runoff=1.54 cfs 0.207 af

Subcatchment E14: TO CULVERT #2 Runoff Area=117,393 sf 2.76% Impervious Runoff Depth=0.54"
Flow Length=490' Tc=14.6 min CN=66 Runoff=0.99 cfs 0.122 af

Subcatchment E16: TO DCB-B Runoff Area=6,163 sf 78.74% Impervious Runoff Depth=2.25"
Flow Length=121' Slope=0.0500 '/' Tc=5.0 min CN=93 Runoff=0.37 cfs 0.027 af

Subcatchment E17: TO DCB-A Runoff Area=36,743 sf 92.67% Impervious Runoff Depth=2.55"
Flow Length=257' Tc=5.0 min CN=96 Runoff=2.37 cfs 0.179 af

Subcatchment E18: TO DP#2 Runoff Area=31,291 sf 68.41% Impervious Runoff Depth=1.98"
Flow Length=260' Tc=5.0 min CN=90 Runoff=1.67 cfs 0.119 af

Subcatchment E19: BUILDING Runoff Area=130,896 sf 100.00% Impervious Runoff Depth=2.77"
Tc=0.0 min CN=98 Runoff=10.00 cfs 0.693 af

Subcatchment E20: TO DCB-H Runoff Area=28,596 sf 44.69% Impervious Runoff Depth=1.59"
Flow Length=336' Tc=5.0 min CN=85 Runoff=1.22 cfs 0.087 af

Subcatchment E21: TO DCB-I Runoff Area=5,372 sf 42.29% Impervious Runoff Depth=1.52"
Flow Length=202' Tc=5.2 min CN=84 Runoff=0.22 cfs 0.016 af

Subcatchment E22: TO DCB-J Runoff Area=34,739 sf 43.40% Impervious Runoff Depth=1.52"
Flow Length=315' Tc=7.1 min CN=84 Runoff=1.35 cfs 0.101 af

Subcatchment E23: TO DCB-C Runoff Area=5,658 sf 89.66% Impervious Runoff Depth=2.55"
Flow Length=80' Slope=0.0080 '/' Tc=5.0 min CN=96 Runoff=0.37 cfs 0.028 af

Subcatchment E24: TO DCB-D Runoff Area=11,793 sf 83.76% Impervious Runoff Depth=2.35"
Flow Length=148' Slope=0.0600 '/' Tc=5.1 min CN=94 Runoff=0.72 cfs 0.053 af

Subcatchment E25: TO DCBE Runoff Area=5,688 sf 80.36% Impervious Runoff Depth=2.25"
Flow Length=145' Slope=0.0900 '/' Tc=5.0 min CN=93 Runoff=0.34 cfs 0.025 af

Subcatchment E26: TO DCB-F Runoff Area=3,403 sf 61.92% Impervious Runoff Depth=1.90"
Flow Length=142' Slope=0.0700 '/' Tc=5.0 min CN=89 Runoff=0.17 cfs 0.012 af

Subcatchment E27: TO DCB-G Runoff Area=9,638 sf 40.69% Impervious Runoff Depth=1.52"
Flow Length=181' Slope=0.0080 '/' Tc=5.0 min CN=84 Runoff=0.39 cfs 0.028 af

Reach DCB-K: TO DP#5 Inflow=1.56 cfs 0.116 af
Outflow=1.56 cfs 0.116 af

Reach DCBA: TO DMH-A Avg. Flow Depth=0.28' Max Vel=11.42 fps Inflow=2.37 cfs 0.179 af
15.0" Round Pipe n=0.011 L=10.0' S=0.0790 '/' Capacity=21.46 cfs Outflow=2.37 cfs 0.179 af

Reach DCBB: TO DMH-B Inflow=0.37 cfs 0.027 af
Outflow=0.37 cfs 0.027 af

Reach DCBC: TO DMH-B Inflow=0.37 cfs 0.028 af
Outflow=0.37 cfs 0.028 af

Reach DCBD: TO DMH-C Inflow=0.72 cfs 0.053 af
Outflow=0.72 cfs 0.053 af

Reach DCBE: TO DCB-F Avg. Flow Depth=0.44' Max Vel=5.31 fps Inflow=1.77 cfs 0.132 af
12.0" Round Pipe n=0.011 L=26.0' S=0.0112 '/' Capacity=4.45 cfs Outflow=1.76 cfs 0.132 af

Reach DCBF: TO DMH-D Inflow=1.93 cfs 0.144 af
Outflow=1.93 cfs 0.144 af

Reach DCBG: TO DP#3 Inflow=2.33 cfs 0.172 af
Outflow=2.33 cfs 0.172 af

Reach DMHA: TO DP#1 Avg. Flow Depth=0.39' Max Vel=7.25 fps Inflow=2.37 cfs 0.179 af
15.0" Round Pipe n=0.011 L=14.0' S=0.0221 '/' Capacity=11.36 cfs Outflow=2.37 cfs 0.179 af

Reach DMHB: TO DMH-C Inflow=0.73 cfs 0.054 af
Outflow=0.73 cfs 0.054 af

Reach DMHC: TO DCB-E Avg. Flow Depth=0.27' Max Vel=8.17 fps Inflow=1.45 cfs 0.107 af
12.0" Round Pipe n=0.010 L=85.0' S=0.0358 '/' Capacity=8.76 cfs Outflow=1.43 cfs 0.107 af

Reach DMHD: TO DCB-G Inflow=1.93 cfs 0.144 af
Outflow=1.93 cfs 0.144 af

Reach DP#1: CRYSTAL LAKE Inflow=4.38 cfs 0.573 af
Outflow=4.38 cfs 0.573 af

Reach DP#2: EX RAIN GARDEN Inflow=1.67 cfs 0.119 af
Outflow=1.67 cfs 0.119 af

Reach DP#3: DMH-E Inflow=2.33 cfs 0.172 af
Outflow=2.33 cfs 0.172 af

Reach DP#4: DCB-J Inflow=1.22 cfs 0.087 af
Outflow=1.22 cfs 0.087 af

Reach DP#5: DCB-K Inflow=1.56 cfs 0.116 af
Outflow=1.56 cfs 0.116 af

Reach OL1: OVERLAND FLOW Avg. Flow Depth=0.08' Max Vel=2.56 fps Inflow=2.37 cfs 0.179 af
n=0.070 L=20.0' S=0.4500 '/' Capacity=216.87 cfs Outflow=2.34 cfs 0.179 af

Reach OL2: OVERLAND FLOW Avg. Flow Depth=0.11' Max Vel=1.90 fps Inflow=2.34 cfs 0.179 af
n=0.070 L=243.0' S=0.1770 '/' Capacity=136.00 cfs Outflow=2.20 cfs 0.179 af

Reach OL3: OVERLAND FLOW Avg. Flow Depth=0.16' Max Vel=1.20 fps Inflow=2.20 cfs 0.179 af
n=0.070 L=45.0' S=0.0444 '/' Capacity=68.16 cfs Outflow=2.15 cfs 0.179 af

Reach OL4: OVERLAND FLOW Avg. Flow Depth=0.12' Max Vel=2.22 fps Inflow=2.95 cfs 0.302 af
n=0.070 L=74.0' S=0.2162 '/' Capacity=150.33 cfs Outflow=2.92 cfs 0.302 af

Reach OL5: OVERLAND FLOW Avg. Flow Depth=0.09' Max Vel=1.53 fps Inflow=1.54 cfs 0.207 af
n=0.070 L=102.0' S=0.1382 '/' Capacity=120.20 cfs Outflow=1.53 cfs 0.207 af

Pond CULVERT#1: TO DP#1 Peak Elev=1,117.28' Inflow=1.54 cfs 0.207 af
12.0" Round Culvert n=0.013 L=28.6' S=0.0867 '/' Outflow=1.54 cfs 0.207 af

Pond CULVERT#2: TO DP#1 Peak Elev=1,119.56' Inflow=2.95 cfs 0.302 af
12.0" Round Culvert n=0.013 L=20.3' S=0.0345 '/' Outflow=2.95 cfs 0.302 af

Pond DCBH: TO DP#4 Peak Elev=1,172.53' Inflow=1.22 cfs 0.087 af
8.0" Round Culvert n=0.025 L=31.0' S=0.0571 '/' Outflow=1.22 cfs 0.087 af

Pond DCBI: TO DCB-F Peak Elev=1,175.84' Inflow=0.22 cfs 0.016 af
6.0" Round Culvert n=0.025 L=69.0' S=0.0209 '/' Outflow=0.22 cfs 0.016 af

Pond DCBJ: TO DCB-K Peak Elev=1,176.95' Inflow=1.56 cfs 0.116 af
8.0" Round Culvert n=0.025 L=24.0' S=0.0217 '/' Outflow=1.56 cfs 0.116 af

Total Runoff Area = 15.690 ac Runoff Volume = 1.760 af Average Runoff Depth = 1.35"
62.35% Pervious = 9.783 ac 37.65% Impervious = 5.907 ac

Summary for Subcatchment E11: TO WET

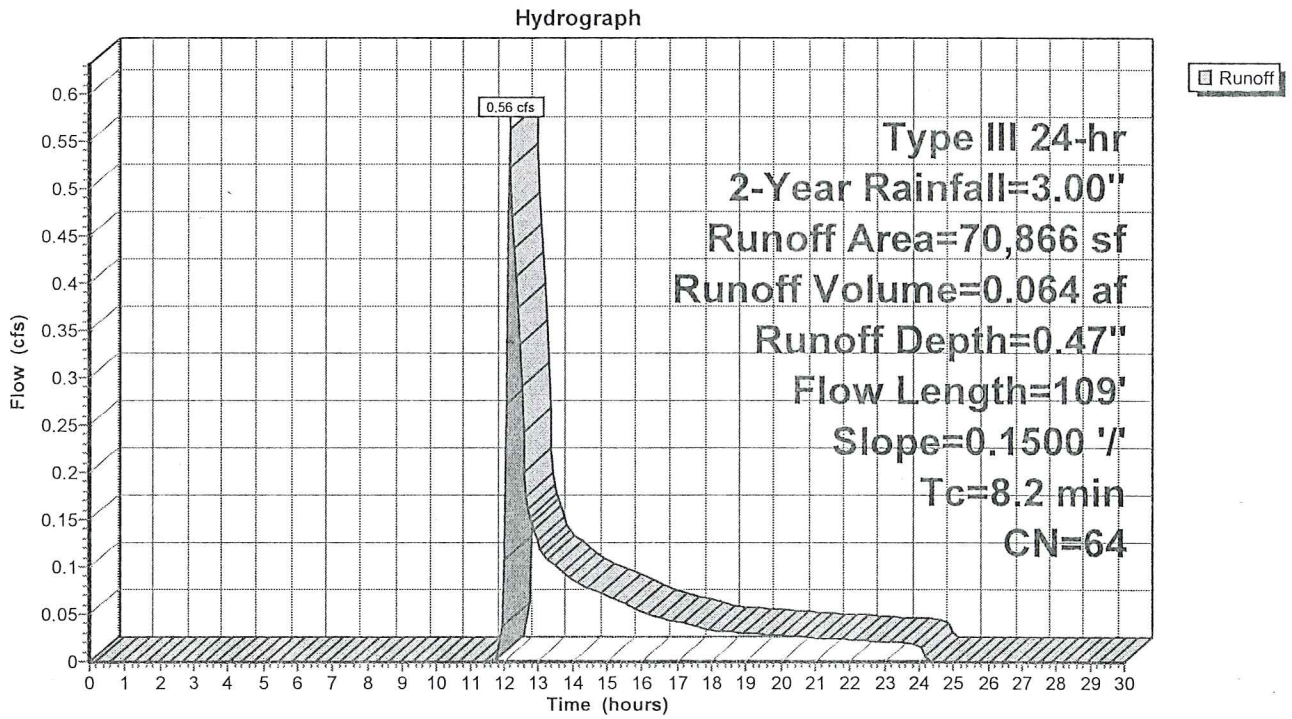
Runoff = 0.56 cfs @ 12.16 hrs, Volume= 0.064 af, Depth= 0.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
8,033	61	>75% Grass cover, Good, HSG B
30,342	55	Woods, Good, HSG B
2,584	98	Paved parking, HSG B
1,398	74	>75% Grass cover, Good, HSG C
28,509	70	Woods, Good, HSG C
70,866	64	Weighted Average
68,282		96.35% Pervious Area
2,584		3.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	75	0.1500	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.3	34	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	109	Total			

Subcatchment E11: TO WET



Summary for Subcatchment E12: TO CULVERT#1

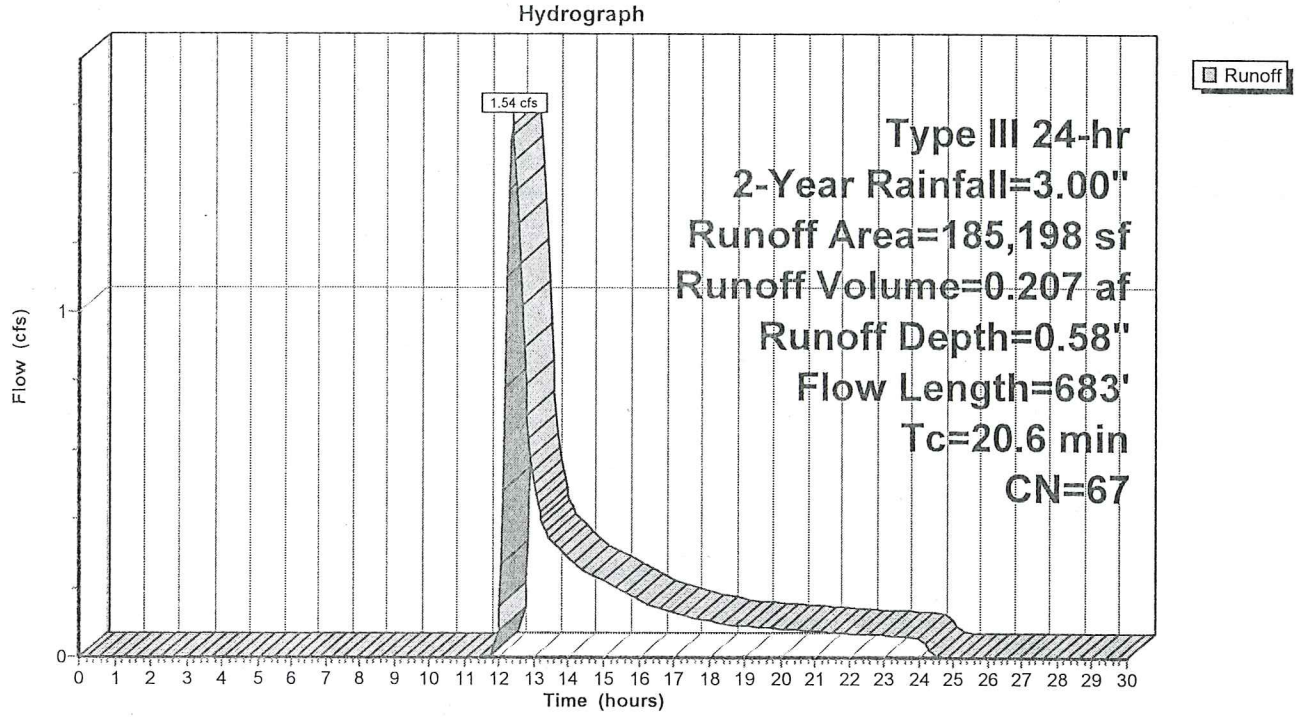
Runoff = 1.54 cfs @ 12.35 hrs, Volume= 0.207 af, Depth= 0.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
4,394	61	>75% Grass cover, Good, HSG B
44,375	55	Woods, Good, HSG B
3,012	98	Paved parking, HSG B
4,011	74	>75% Grass cover, Good, HSG C
127,833	70	Woods, Good, HSG C
1,573	98	Paved parking, HSG C
185,198	67	Weighted Average
180,613		97.52% Pervious Area
4,585		2.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	36	0.0700	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
3.6	39	0.2800	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
3.0	366	0.1700	2.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.1	242	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.6	683	Total			

Subcatchment E12: TO CULVERT#1



Summary for Subcatchment E14: TO CULVERT #2

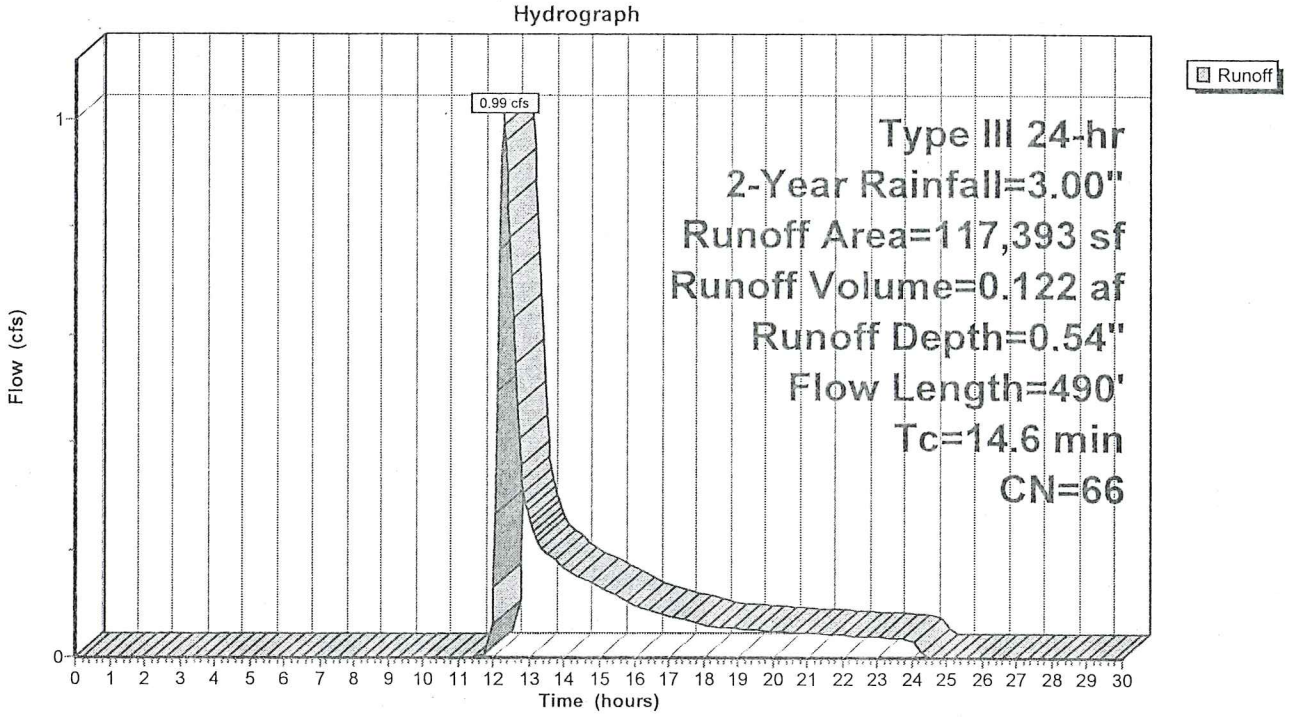
Runoff = 0.99 cfs @ 12.26 hrs, Volume= 0.122 af, Depth= 0.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
4,416	61	>75% Grass cover, Good, HSG B
947	98	Paved parking, HSG B
35,087	55	Woods, Good, HSG B
6,594	74	>75% Grass cover, Good, HSG C
67,351	70	Woods, Good, HSG C
2,290	98	Paved parking, HSG C
708	96	Gravel surface, HSG C
117,393	66	Weighted Average
114,156		97.24% Pervious Area
3,237		2.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	75	0.0500	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	43	0.4200	3.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.0	137	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.8	235	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.6	490	Total			

Subcatchment E14: TO CULVERT #2



Summary for Subcatchment E16: TO DCB-B

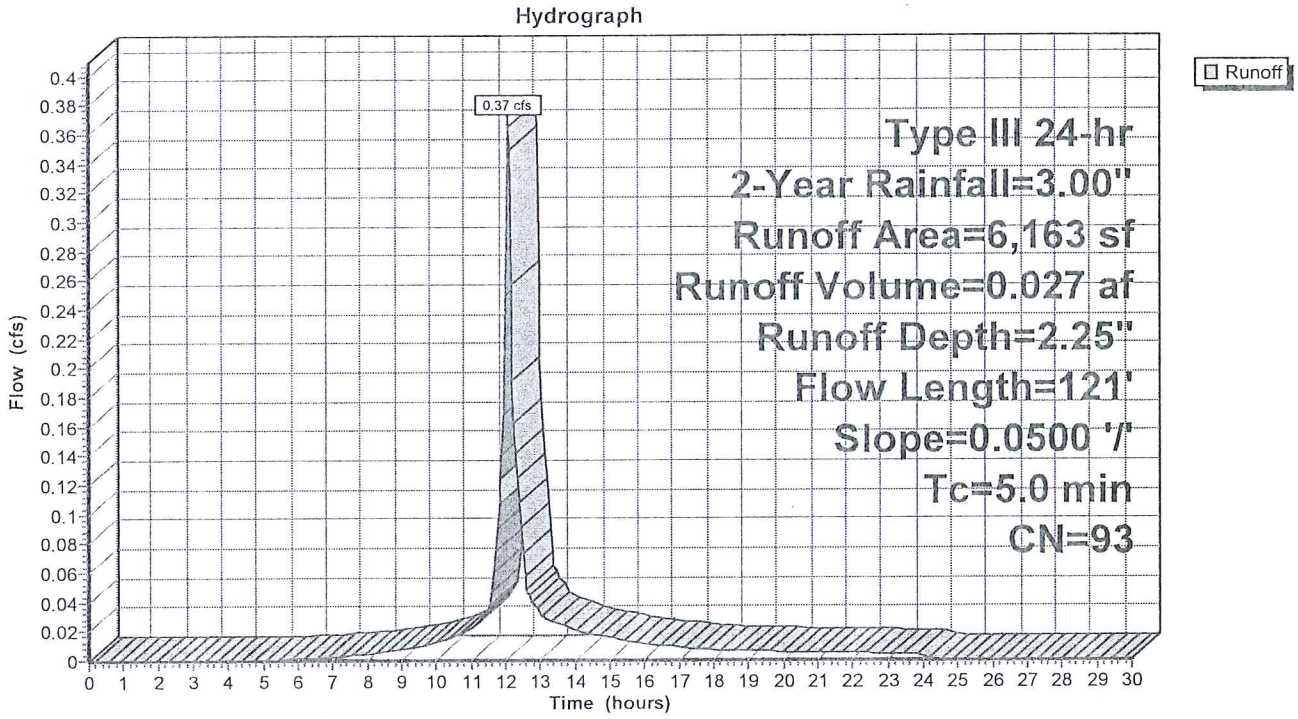
Runoff = 0.37 cfs @ 12.07 hrs, Volume= 0.027 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
1,299	74	>75% Grass cover, Good, HSG C
4,853	98	Paved parking, HSG C
11	70	Woods, Good, HSG C
6,163	93	Weighted Average
1,310		21.26% Pervious Area
4,853		78.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	34	0.0500	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	16	0.0500	1.33		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	71	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.5	121	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E16: TO DCB-B



Summary for Subcatchment E17: TO DCB-A

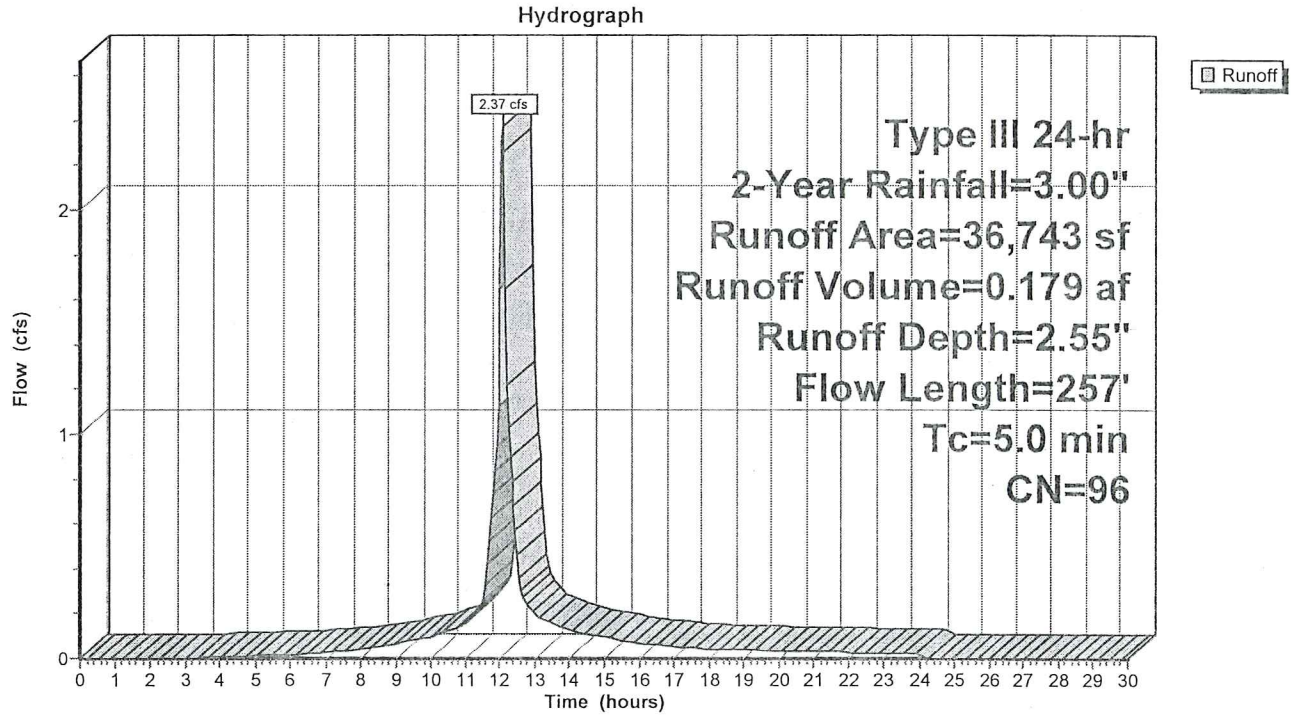
Runoff = 2.37 cfs @ 12.07 hrs, Volume= 0.179 af, Depth= 2.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
2,694	74	>75% Grass cover, Good, HSG C
34,049	98	Paved parking, HSG C
36,743	96	Weighted Average
2,694		7.33% Pervious Area
34,049		92.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	50	0.0400	1.53		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.2	41	0.0400	4.06		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	166	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	257	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E17: TO DCB-A



Summary for Subcatchment E18: TO DP#2

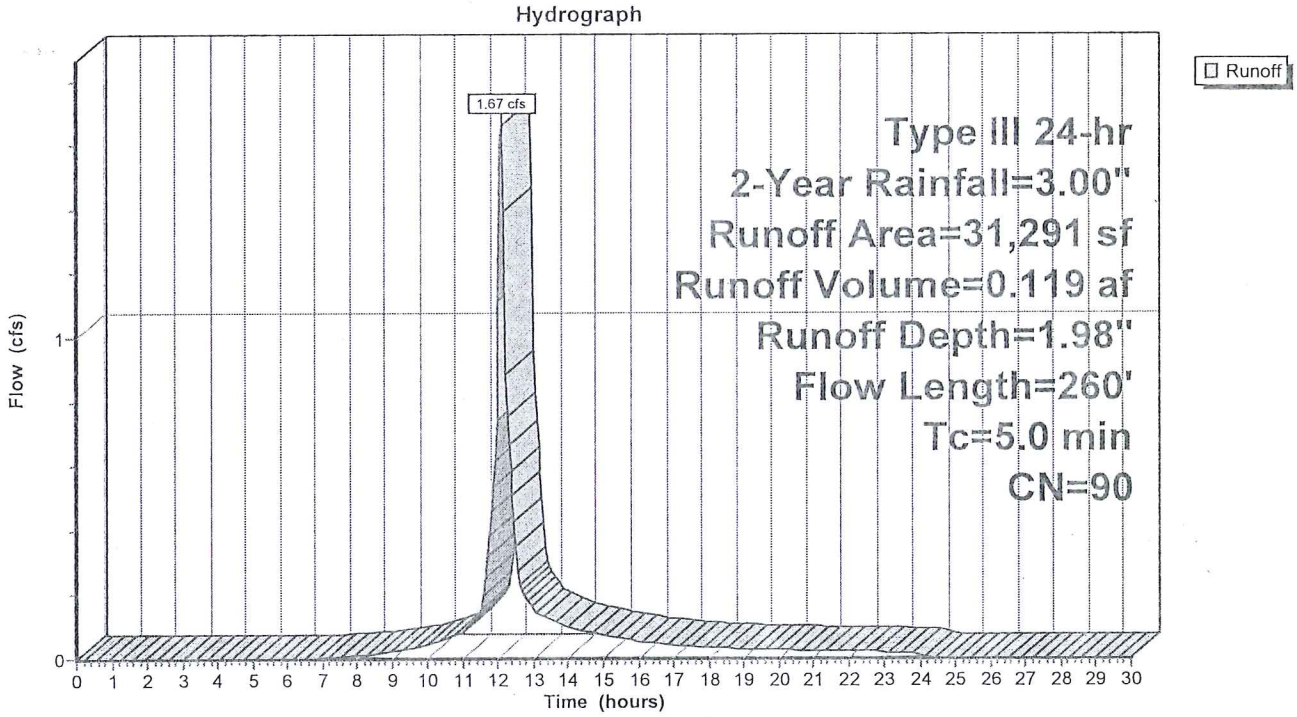
Runoff = 1.67 cfs @ 12.07 hrs, Volume= 0.119 af, Depth= 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
9,885	74	>75% Grass cover, Good, HSG C
21,406	98	Paved parking, HSG C
31,291	90	Weighted Average
9,885		31.59% Pervious Area
21,406		68.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0700	1.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	127	0.0700	5.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	83	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	260	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E18: TO DP#2



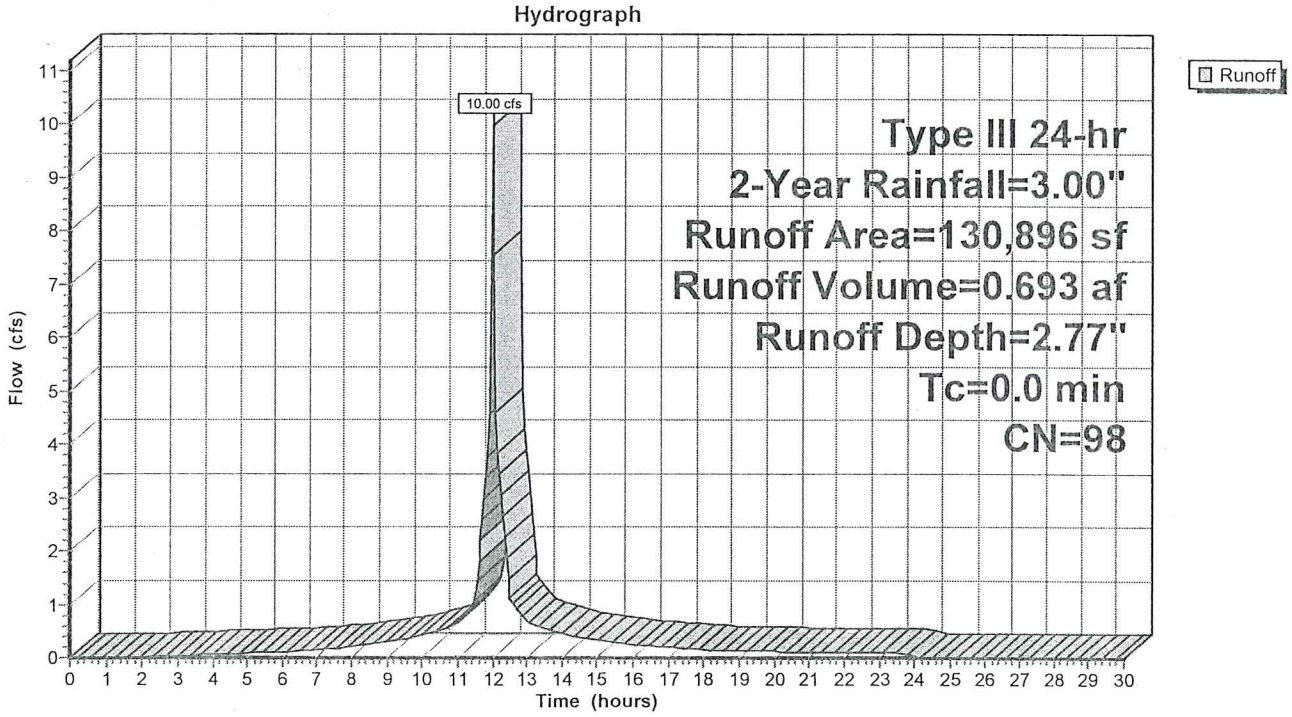
Summary for Subcatchment E19: BUILDING

Runoff = 10.00 cfs @ 12.00 hrs, Volume= 0.693 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
130,896	98	Paved parking, HSG C
130,896		100.00% Impervious Area

Subcatchment E19: BUILDING



Summary for Subcatchment E20: TO DCB-H

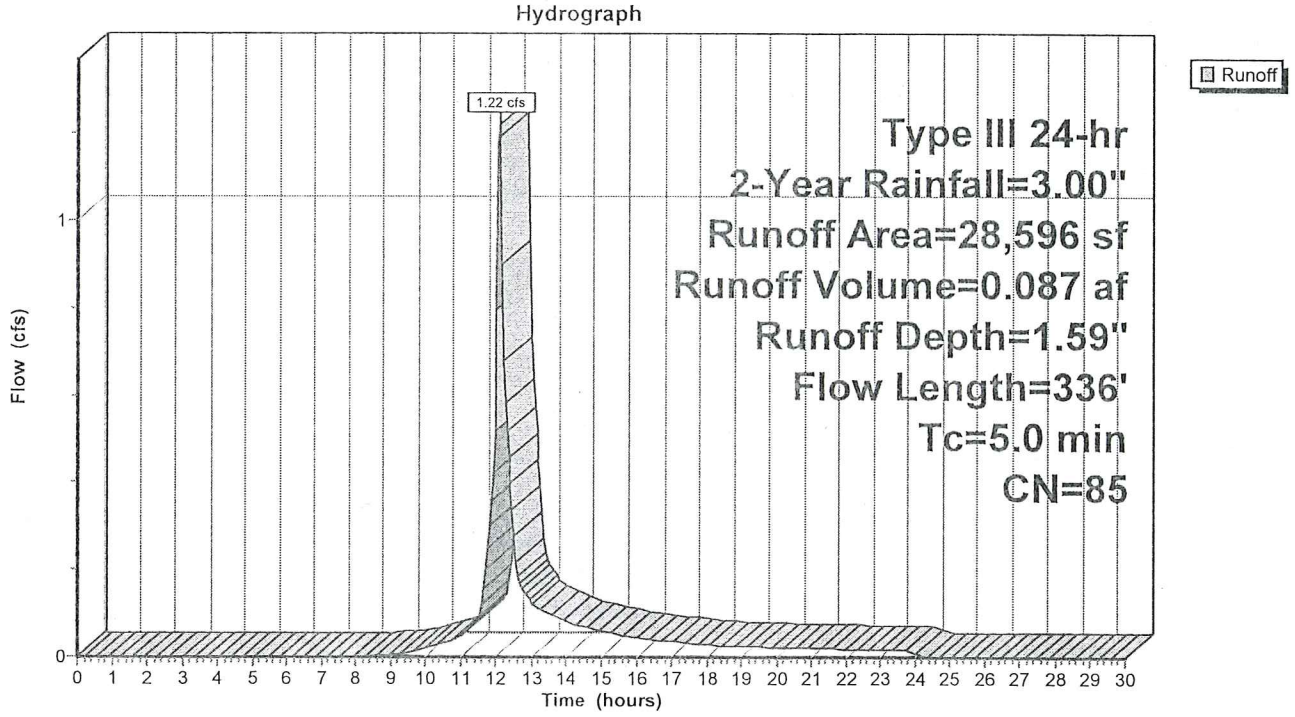
Runoff = 1.22 cfs @ 12.08 hrs, Volume= 0.087 af, Depth= 1.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
14,304	74	>75% Grass cover, Good, HSG C
12,780	98	Paved parking, HSG C
756	70	Woods, Good, HSG C
756	96	Gravel surface, HSG C
28,596	85	Weighted Average
15,816		55.31% Pervious Area
12,780		44.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.1000	1.84		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	30	0.1000	1.99		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	107	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.0	179	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.8	336	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E20: TO DCB-H



Summary for Subcatchment E21: TO DCB-I

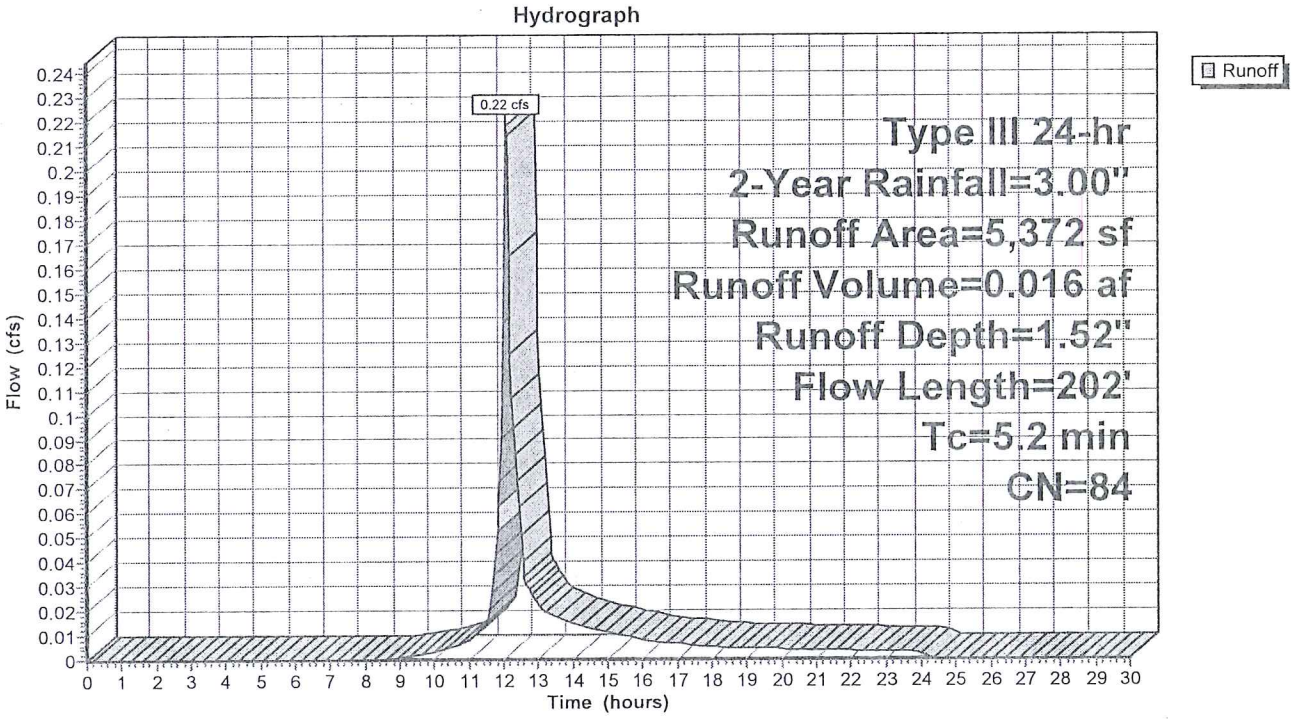
Runoff = 0.22 cfs @ 12.08 hrs, Volume= 0.016 af, Depth= 1.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
3,100	74	>75% Grass cover, Good, HSG C
2,272	98	Paved parking, HSG C
5,372	84	Weighted Average
3,100		57.71% Pervious Area
2,272		42.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	75	0.0900	0.28		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	64	0.0900	4.83		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	63	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
5.2	202	Total			

Subcatchment E21: TO DCB-I



Summary for Subcatchment E22: TO DCB-J

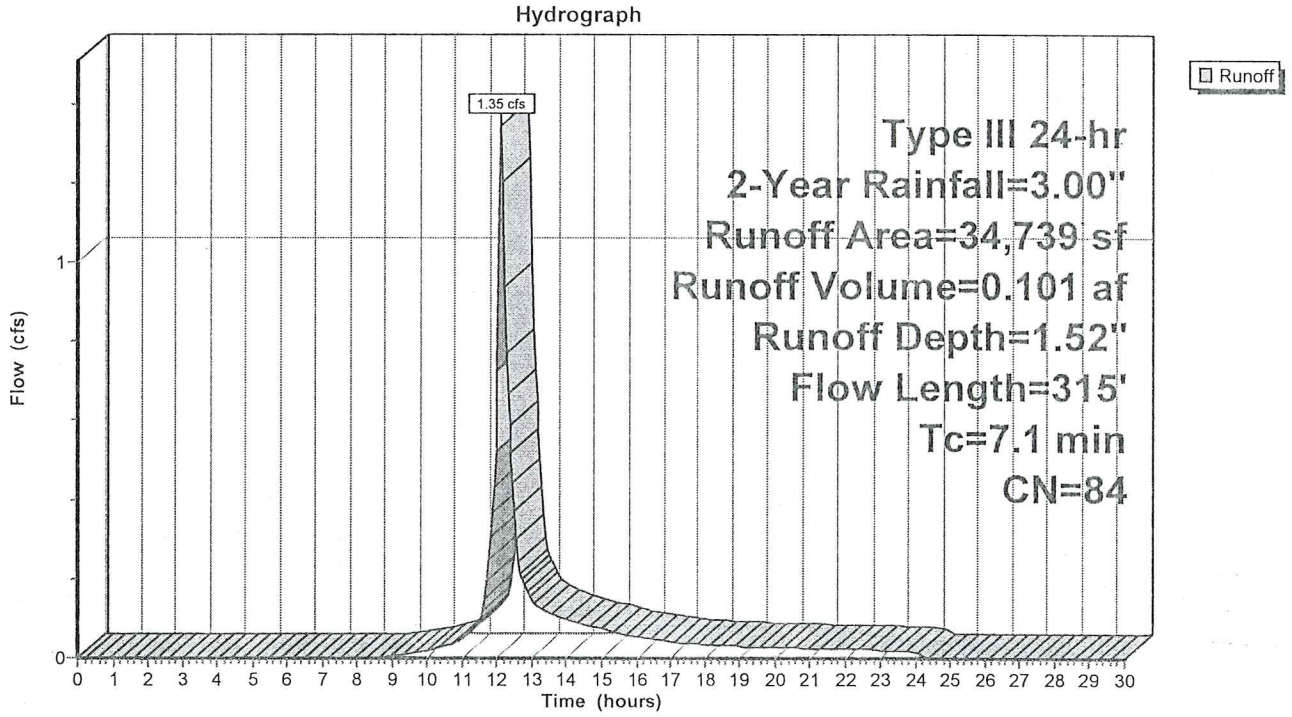
Runoff = 1.35 cfs @ 12.11 hrs, Volume= 0.101 af, Depth= 1.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
17,024	74	>75% Grass cover, Good, HSG C
15,076	98	Paved parking, HSG C
2,639	70	Woods, Good, HSG C
34,739	84	Weighted Average
19,663		56.60% Pervious Area
15,076		43.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.7	56	0.3000	0.20		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.4	259	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.1	315	Total			

Subcatchment E22: TO DCB-J



Summary for Subcatchment E23: TO DCB-C

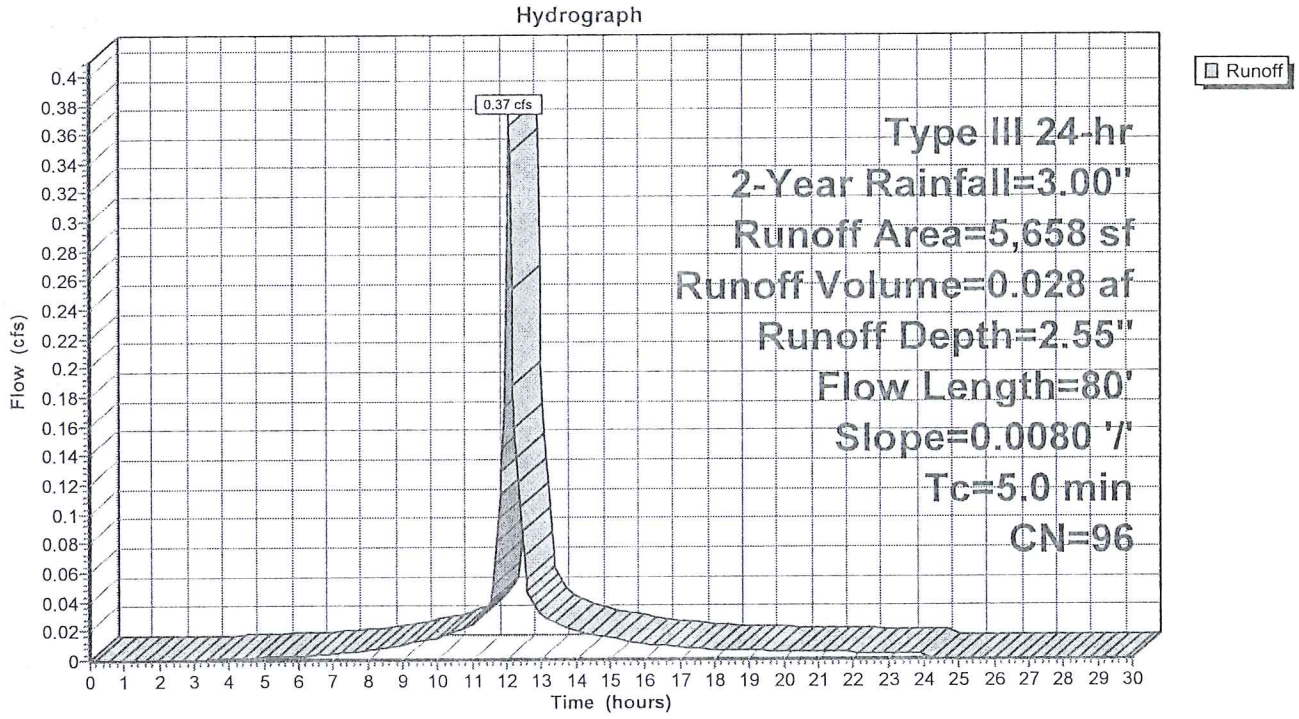
Runoff = 0.37 cfs @ 12.07 hrs, Volume= 0.028 af, Depth= 2.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
585	74	>75% Grass cover, Good, HSG C
5,073	98	Paved parking, HSG C
5,658	96	Weighted Average
585		10.34% Pervious Area
5,073		89.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	10	0.0080	0.07		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.9	40	0.0080	0.77		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	30	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.5	80	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E23: TO DCB-C



Summary for Subcatchment E24: TO DCB-D

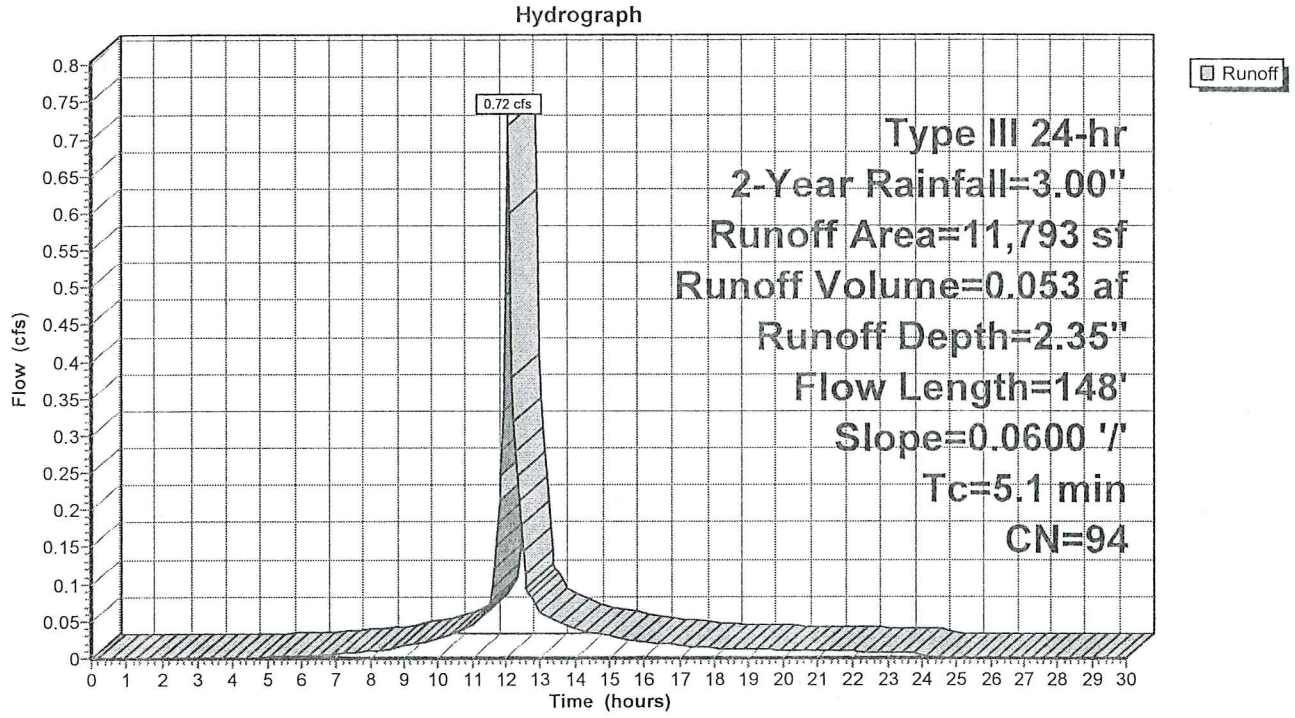
Runoff = 0.72 cfs @ 12.07 hrs, Volume= 0.053 af, Depth= 2.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
1,915	74	>75% Grass cover, Good, HSG C
9,878	98	Paved parking, HSG C
11,793	94	Weighted Average
1,915		16.24% Pervious Area
9,878		83.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	69	0.0600	0.24		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.3	79	0.0600	4.97		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
5.1	148	Total			

Subcatchment E24: TO DCB-D



Summary for Subcatchment E25: TO DCBE

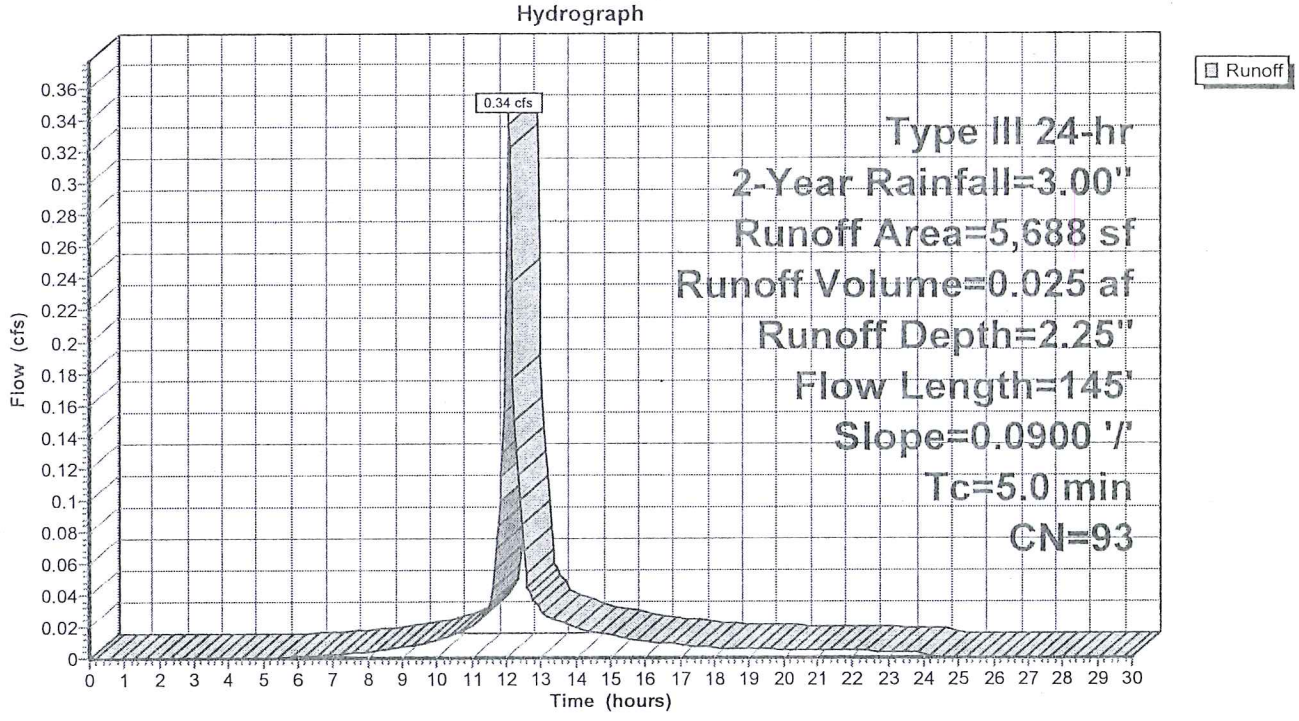
Runoff = 0.34 cfs @ 12.07 hrs, Volume= 0.025 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
1,117	74	>75% Grass cover, Good, HSG C
4,571	98	Paved parking, HSG C
5,688	93	Weighted Average
1,117		19.64% Pervious Area
4,571		80.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0900	2.12		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	95	0.0900	6.09		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	145	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E25: TO DCBE



Summary for Subcatchment E26: TO DCB-F

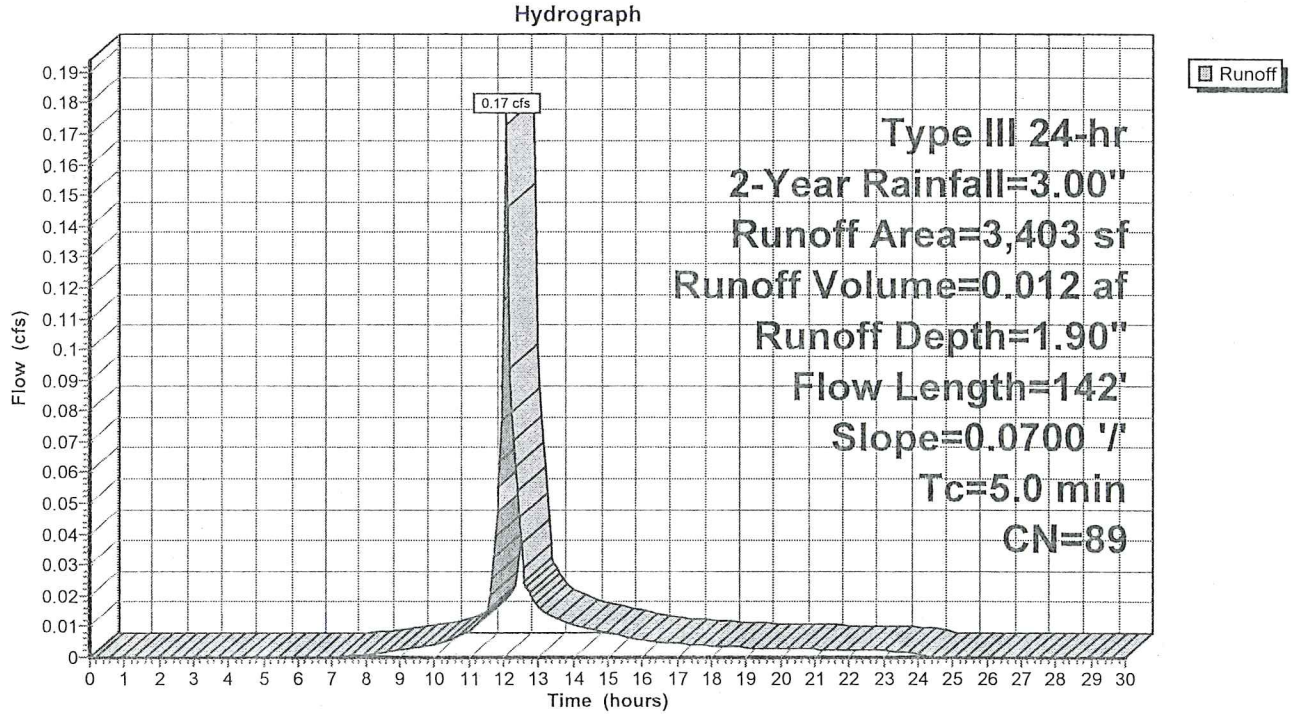
Runoff = 0.17 cfs @ 12.08 hrs, Volume= 0.012 af, Depth= 1.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
1,296	74	>75% Grass cover, Good, HSG C
2,107	98	Paved parking, HSG C
3,403	89	Weighted Average
1,296		38.08% Pervious Area
2,107		61.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0700	1.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	92	0.0700	5.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	142	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E26: TO DCB-F



Summary for Subcatchment E27: TO DCB-G

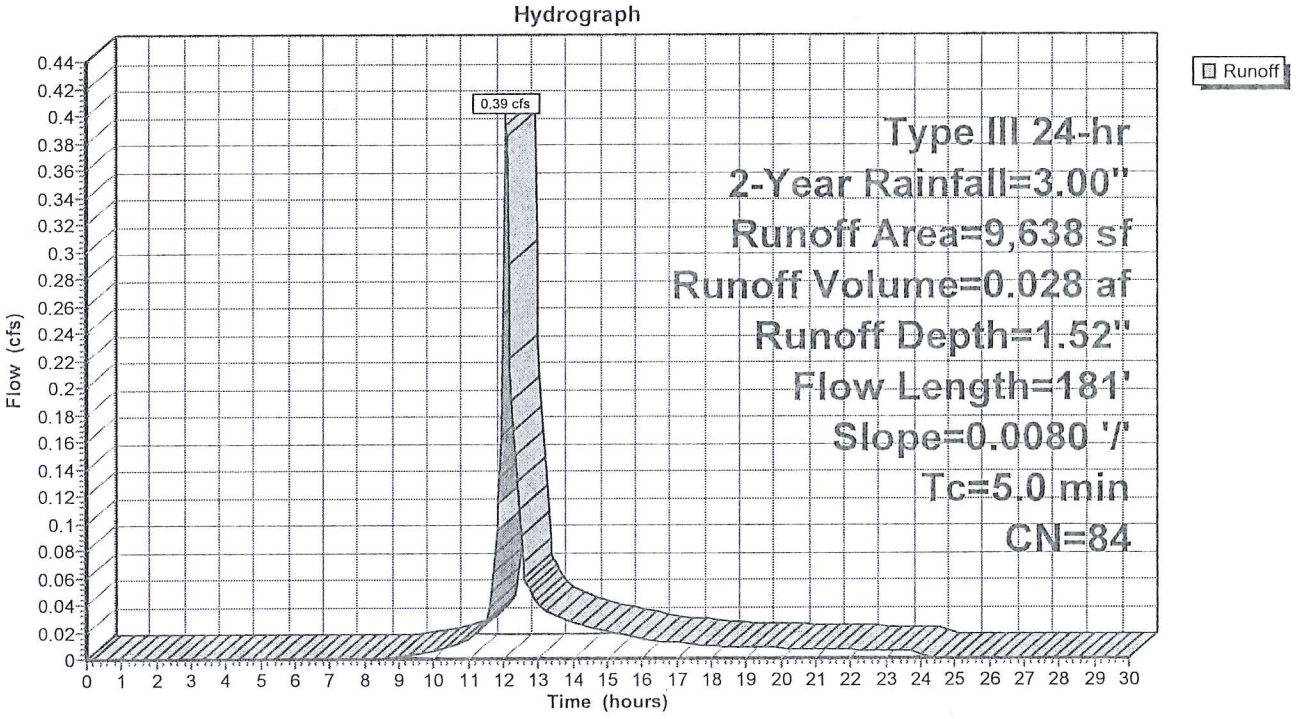
Runoff = 0.39 cfs @ 12.08 hrs, Volume= 0.028 af, Depth= 1.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
5,716	74	>75% Grass cover, Good, HSG C
3,922	98	Paved parking, HSG C
9,638	84	Weighted Average
5,716		59.31% Pervious Area
3,922		40.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	50	0.0080	0.80		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.2	131	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	181	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E27: TO DCB-G

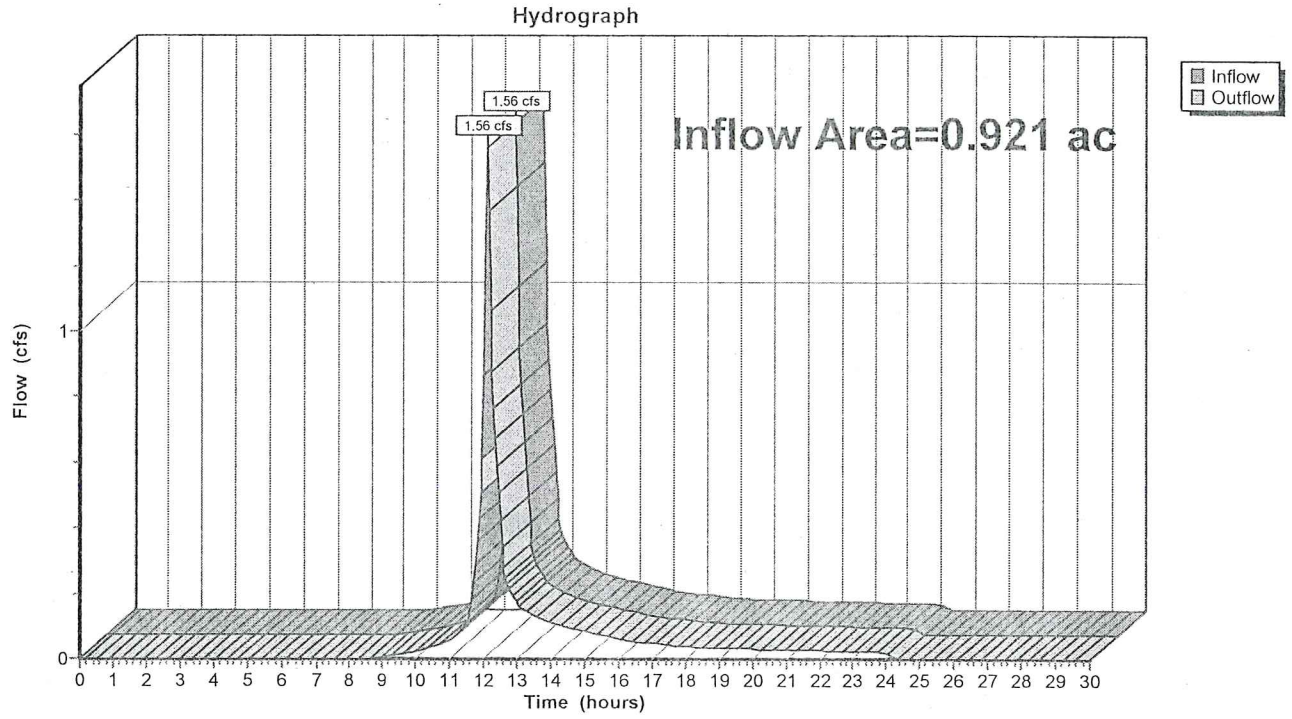


Summary for Reach DCB-K: TO DP#5

Inflow Area = 0.921 ac, 43.25% Impervious, Inflow Depth = 1.52" for 2-Year event
Inflow = 1.56 cfs @ 12.10 hrs, Volume= 0.116 af
Outflow = 1.56 cfs @ 12.10 hrs, Volume= 0.116 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DCB-K: TO DP#5



Summary for Reach DCBA: TO DMH-A

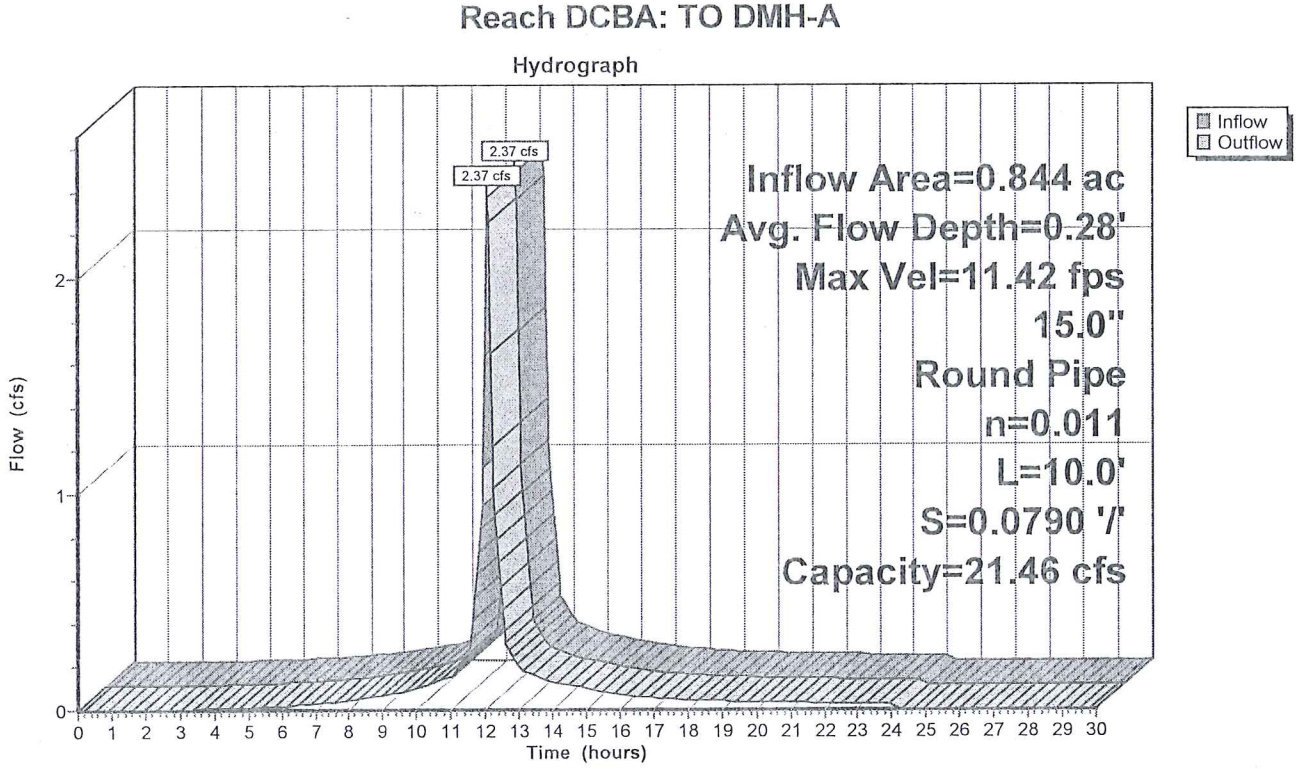
Inflow Area = 0.844 ac, 92.67% Impervious, Inflow Depth = 2.55" for 2-Year event
Inflow = 2.37 cfs @ 12.07 hrs, Volume= 0.179 af
Outflow = 2.37 cfs @ 12.07 hrs, Volume= 0.179 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.42 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.73 fps, Avg. Travel Time= 0.0 min

Peak Storage= 2 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.28'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 21.46 cfs

15.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 10.0' Slope= 0.0790 '/'
Inlet Invert= 1,176.20', Outlet Invert= 1,175.41'





Stage-Discharge for Reach DCBA: TO DMH-A

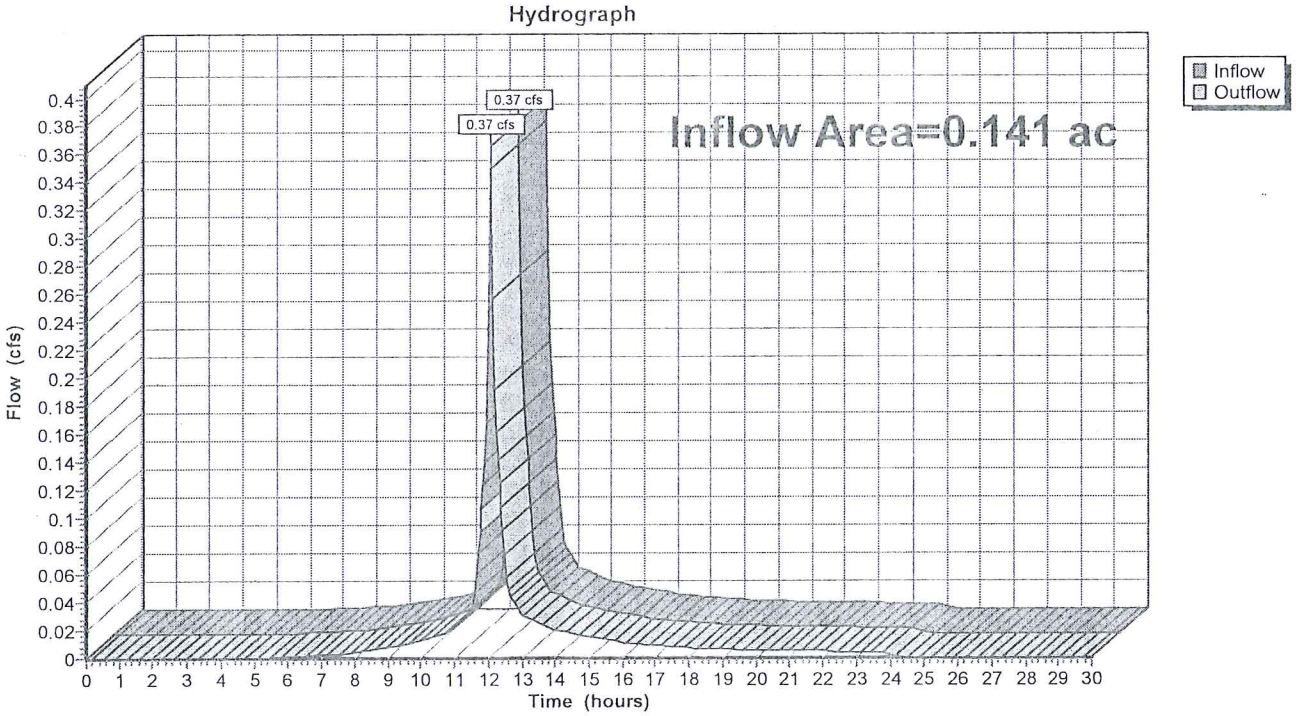
Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,176.20	0.00	0.00
1,176.21	1.24	0.00
1,176.22	2.10	0.01
1,176.23	2.76	0.02
1,176.24	3.35	0.04
1,176.25	3.88	0.06
1,176.26	4.37	0.10
1,176.27	4.83	0.13
1,176.28	5.27	0.18
1,176.29	5.69	0.22
1,176.30	6.09	0.28
1,176.31	6.47	0.34
1,176.32	6.83	0.41
1,176.33	7.19	0.49
1,176.34	7.53	0.57
1,176.35	7.87	0.66
1,176.36	8.19	0.75
1,176.37	8.50	0.85
1,176.38	8.81	0.96
1,176.39	9.11	1.07
1,176.40	9.40	1.19
1,176.41	9.68	1.32
1,176.42	9.96	1.45
1,176.43	10.23	1.59
1,176.44	10.50	1.73
1,176.45	10.75	1.88
1,176.46	11.01	2.03
1,176.47	11.25	2.20
1,176.48	11.50	2.36
1,176.49	11.73	2.53
1,176.50	11.97	2.71
1,176.51	12.19	2.89
1,176.52	12.42	3.08
1,176.53	12.64	3.27
1,176.54	12.85	3.47
1,176.55	13.06	3.67
1,176.56	13.27	3.88
1,176.57	13.47	4.10
1,176.58	13.67	4.31
1,176.59	13.86	4.53
1,176.60	14.06	4.76
1,176.61	14.24	4.99
1,176.62	14.43	5.22
1,176.63	14.61	5.46
1,176.64	14.78	5.70
1,176.65	14.96	5.95
1,176.66	15.13	6.20
1,176.67	15.29	6.45
1,176.68	15.46	6.71
1,176.69	15.62	6.97
1,176.70	15.77	7.23
1,176.71	15.93	7.50
1,176.72	16.08	7.77
1,176.73	16.23	8.04
1,176.74	16.37	8.31
1,176.75	16.51	8.59
1,176.76	16.65	8.87
1,176.77	16.79	9.15
1,176.78	16.92	9.43
1,176.79	17.05	9.72
1,176.80	17.18	10.00
1,176.81	17.30	10.29
1,176.82	17.43	10.58
1,176.83	17.54	10.87
1,176.84	17.66	11.17
1,176.85	17.77	11.46
1,176.86	17.88	11.76
1,176.87	17.99	12.05
1,176.88	18.10	12.35
1,176.89	18.20	12.64
1,176.90	18.30	12.94
1,176.91	18.39	13.23
1,176.92	18.49	13.53
1,176.93	18.58	13.83
1,176.94	18.67	14.12
1,176.95	18.75	14.42
1,176.96	18.83	14.71
1,176.97	18.91	15.00
1,176.98	18.99	15.29
1,176.99	19.06	15.58
1,177.00	19.14	15.87
1,177.01	19.20	16.16
1,177.02	19.27	16.44
1,177.03	19.33	16.73
1,177.04	19.39	17.01
1,177.05	19.45	17.28
1,177.06	19.50	17.56
1,177.07	19.55	17.83
1,177.08	19.60	18.10
1,177.09	19.65	18.36
1,177.10	19.69	18.62
1,177.11	19.73	18.88
1,177.12	19.76	19.13
1,177.13	19.80	19.38
1,177.14	19.83	19.63
1,177.15	19.85	19.87
1,177.16	19.87	20.10
1,177.17	19.89	20.33
1,177.18	19.91	20.55
1,177.19	19.92	20.76
1,177.20	19.93	20.97
1,177.21	19.93	21.18
1,177.22	**19.93**	21.37
1,177.23	19.93	21.56
1,177.24	19.92	21.74
1,177.25	19.91	21.91
1,177.26	19.89	22.07
1,177.27	19.87	22.22
1,177.28	19.84	22.37
1,177.29	19.81	22.50
1,177.30	19.78	22.62
1,177.31	19.73	22.73
1,177.32	19.68	22.82
1,177.33	19.63	22.91
1,177.34	19.57	22.98
1,177.35	19.50	23.03
1,177.36	19.42	23.06
1,177.37	19.33	**23.08**
1,177.38	19.23	23.07
1,177.39	19.11	23.04
1,177.40	18.99	22.99
1,177.41	18.84	22.89
1,177.42	18.66	22.75
1,177.43	18.44	22.55
1,177.44	18.10	22.18
1,177.45	17.49	21.46

Summary for Reach DCBB: TO DMH-B

Inflow Area = 0.141 ac, 78.74% Impervious, Inflow Depth = 2.25" for 2-Year event
Inflow = 0.37 cfs @ 12.07 hrs, Volume= 0.027 af
Outflow = 0.37 cfs @ 12.07 hrs, Volume= 0.027 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DCBB: TO DMH-B

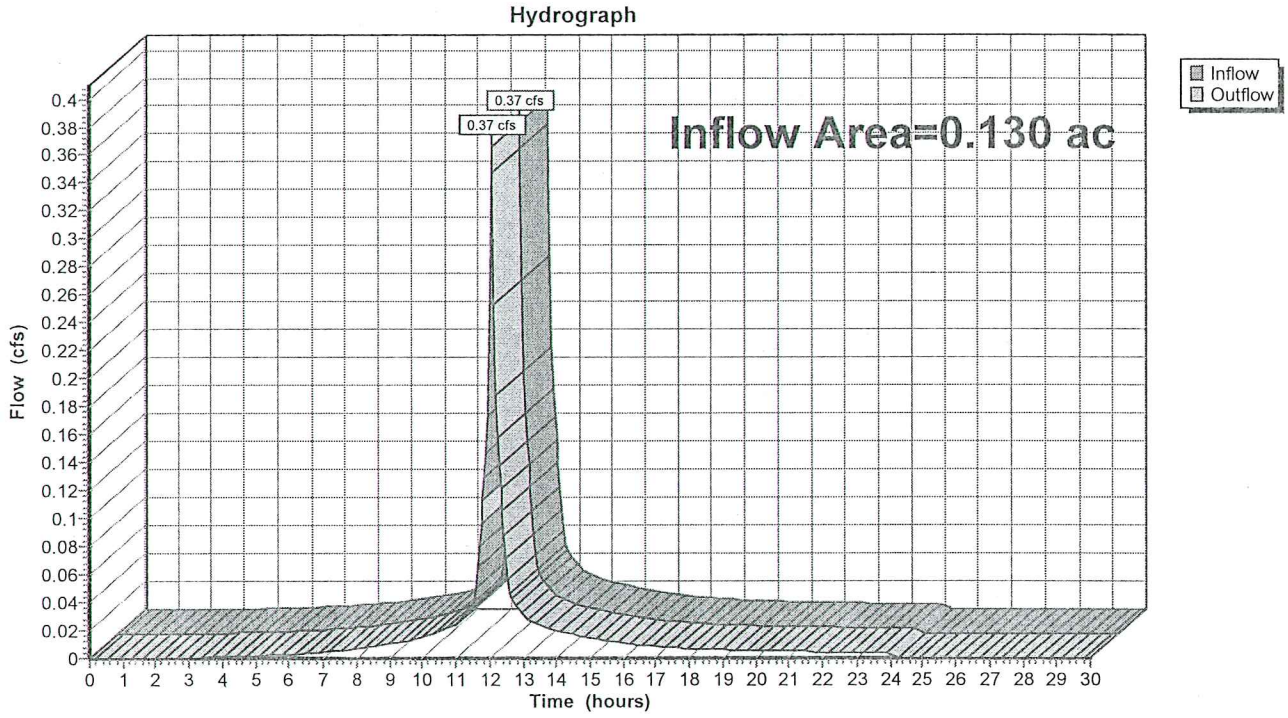


Summary for Reach DCBC: TO DMH-B

Inflow Area = 0.130 ac, 89.66% Impervious, Inflow Depth = 2.55" for 2-Year event
Inflow = 0.37 cfs @ 12.07 hrs, Volume= 0.028 af
Outflow = 0.37 cfs @ 12.07 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DCBC: TO DMH-B

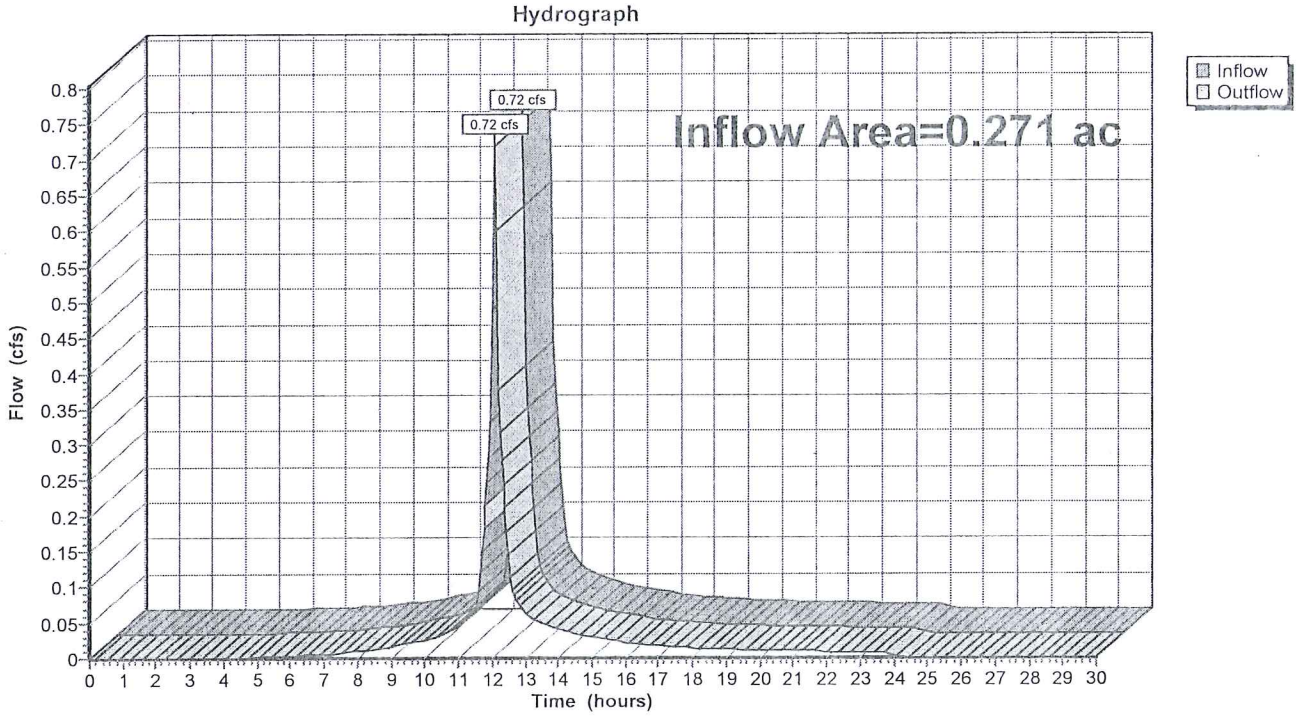


Summary for Reach DCBD: TO DMH-C

Inflow Area = 0.271 ac, 83.76% Impervious, Inflow Depth = 2.35" for 2-Year event
Inflow = 0.72 cfs @ 12.07 hrs, Volume= 0.053 af
Outflow = 0.72 cfs @ 12.07 hrs, Volume= 0.053 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DCBD: TO DMH-C



Summary for Reach DCBE: TO DCB-F

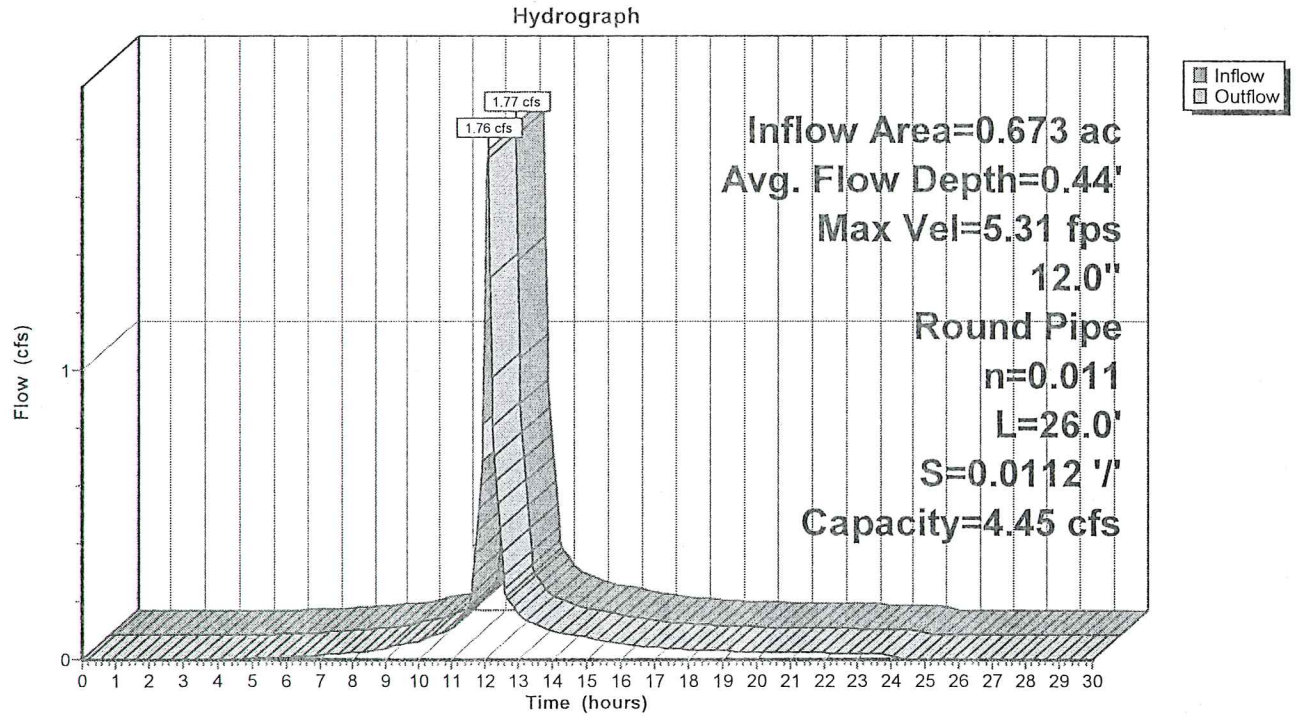
Inflow Area = 0.673 ac, 83.19% Impervious, Inflow Depth = 2.35" for 2-Year event
Inflow = 1.77 cfs @ 12.08 hrs, Volume= 0.132 af
Outflow = 1.76 cfs @ 12.08 hrs, Volume= 0.132 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.31 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.72 fps, Avg. Travel Time= 0.3 min

Peak Storage= 9 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.44'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.45 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 26.0' Slope= 0.0112 '/'
Inlet Invert= 1,176.29', Outlet Invert= 1,176.00'





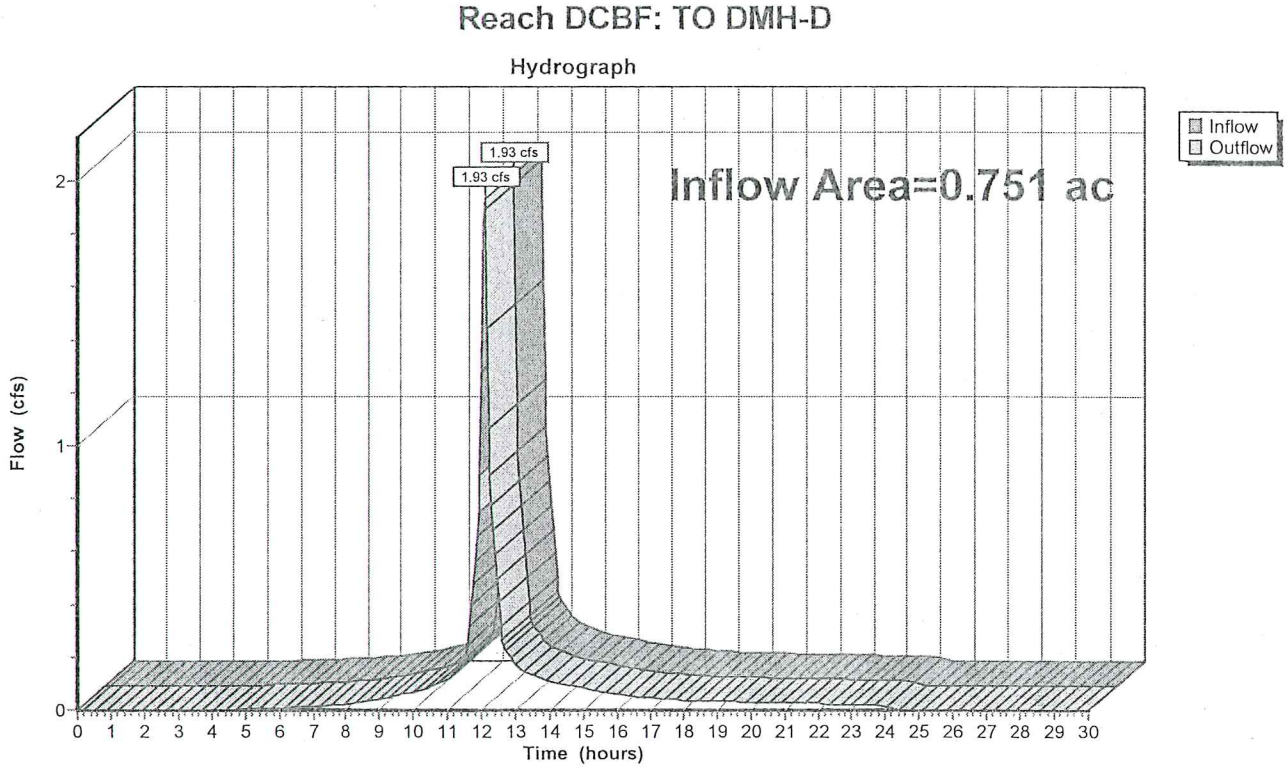
Stage-Discharge for Reach DCBE: TO DCB-F

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,176.29	0.00	0.00
1,176.30	0.50	0.00
1,176.31	0.80	0.00
1,176.32	1.04	0.01
1,176.33	1.26	0.01
1,176.34	1.45	0.02
1,176.35	1.64	0.03
1,176.36	1.81	0.04
1,176.37	1.97	0.06
1,176.38	2.12	0.07
1,176.39	2.27	0.09
1,176.40	2.41	0.11
1,176.41	2.55	0.14
1,176.42	2.68	0.16
1,176.43	2.80	0.19
1,176.44	2.93	0.22
1,176.45	3.04	0.25
1,176.46	3.16	0.28
1,176.47	3.27	0.31
1,176.48	3.38	0.35
1,176.49	3.48	0.39
1,176.50	3.58	0.43
1,176.51	3.68	0.47
1,176.52	3.78	0.52
1,176.53	3.88	0.56
1,176.54	3.97	0.61
1,176.55	4.06	0.66
1,176.56	4.14	0.71
1,176.57	4.23	0.76
1,176.58	4.31	0.82
1,176.59	4.39	0.87
1,176.60	4.47	0.93
1,176.61	4.55	0.99
1,176.62	4.63	1.05
1,176.63	4.70	1.11
1,176.64	4.77	1.17
1,176.65	4.84	1.23
1,176.66	4.91	1.30
1,176.67	4.98	1.36
1,176.68	5.04	1.43
1,176.69	5.11	1.50
1,176.70	5.17	1.57
1,176.71	5.23	1.64
1,176.72	5.29	1.71
1,176.73	5.35	1.78
1,176.74	5.40	1.85
1,176.75	5.46	1.93
1,176.76	5.51	2.00
1,176.77	5.56	2.07
1,176.78	5.61	2.15
1,176.79	5.66	2.22
1,176.80	5.71	2.30
1,176.81	5.76	2.38
1,176.82	5.80	2.45
1,176.83	5.84	2.53
1,176.84	5.88	2.60
1,176.85	5.92	2.68
1,176.86	5.96	2.76
1,176.87	6.00	2.83
1,176.88	6.04	2.91
1,176.89	6.07	2.99
1,176.90	6.11	3.06
1,176.91	6.14	3.14
1,176.92	6.17	3.21
1,176.93	6.20	3.29
1,176.94	6.22	3.36
1,176.95	6.25	3.44
1,176.96	6.27	3.51
1,176.97	6.30	3.58
1,176.98	6.32	3.65
1,176.99	6.34	3.72
1,177.00	6.36	3.79
1,177.01	6.38	3.86
1,177.02	6.39	3.93
1,177.03	6.41	3.99
1,177.04	6.42	4.06
1,177.05	6.43	4.12
1,177.06	6.44	4.18
1,177.07	6.44	4.24
1,177.08	6.45	4.29
1,177.09	6.45	4.35
1,177.10	**6.45**	4.40
1,177.11	6.45	4.45
1,177.12	6.45	4.50
1,177.13	6.45	4.54
1,177.14	6.44	4.58
1,177.15	6.43	4.62
1,177.16	6.42	4.66
1,177.17	6.40	4.69
1,177.18	6.39	4.72
1,177.19	6.37	4.74
1,177.20	6.34	4.76
1,177.21	6.31	4.77
1,177.22	6.28	4.78
1,177.23	6.24	**4.78**
1,177.24	6.20	4.78
1,177.25	6.15	4.76
1,177.26	6.09	4.74
1,177.27	6.01	4.70
1,177.28	5.91	4.63
1,177.29	5.66	4.45

Summary for Reach DCBF: TO DMH-D

Inflow Area = 0.751 ac, 80.97% Impervious, Inflow Depth = 2.30" for 2-Year event
Inflow = 1.93 cfs @ 12.08 hrs, Volume= 0.144 af
Outflow = 1.93 cfs @ 12.08 hrs, Volume= 0.144 af, Atten= 0%, Lag= 0.0 min

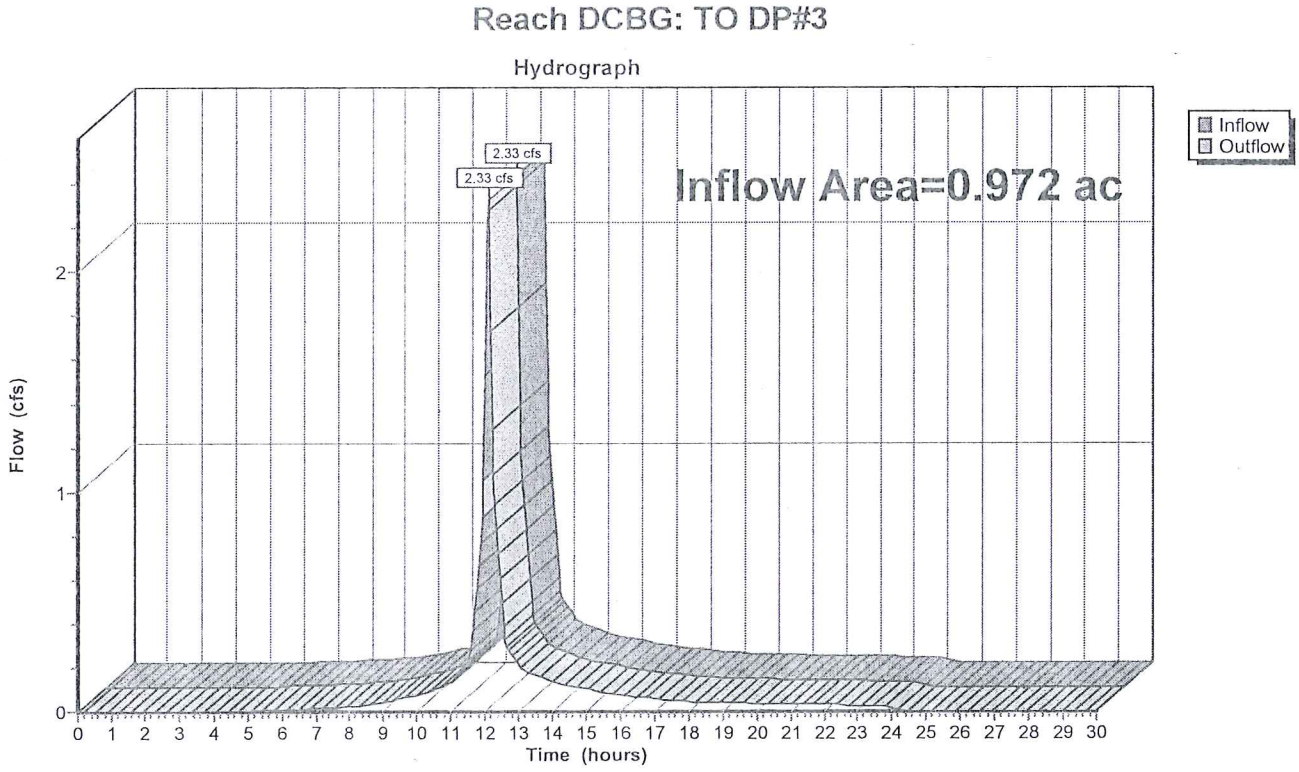
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs



Summary for Reach DCBG: TO DP#3

Inflow Area = 0.972 ac, 71.80% Impervious, Inflow Depth = 2.12" for 2-Year event
Inflow = 2.33 cfs @ 12.08 hrs, Volume= 0.172 af
Outflow = 2.33 cfs @ 12.08 hrs, Volume= 0.172 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs



Summary for Reach DMHA: TO DP#1

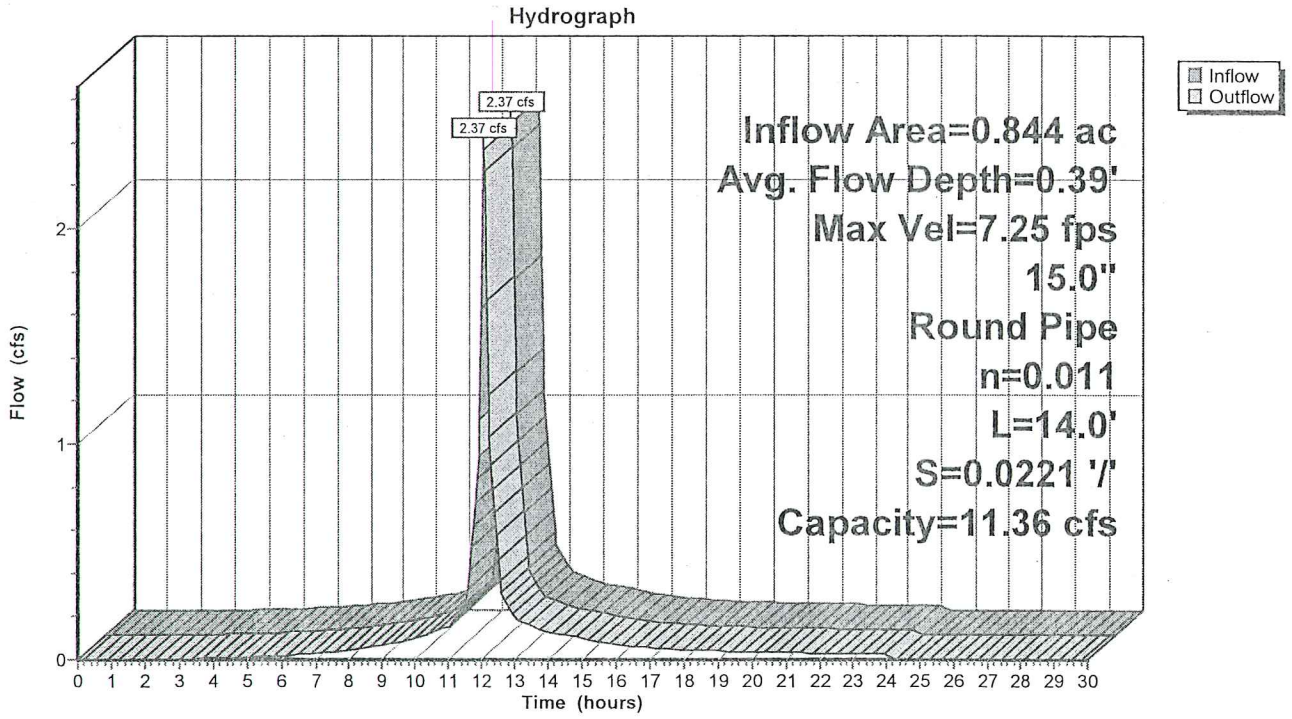
Inflow Area = 0.844 ac, 92.67% Impervious, Inflow Depth = 2.55" for 2-Year event
Inflow = 2.37 cfs @ 12.07 hrs, Volume= 0.179 af
Outflow = 2.37 cfs @ 12.07 hrs, Volume= 0.179 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.25 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.39 fps, Avg. Travel Time= 0.1 min

Peak Storage= 5 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.39'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 11.36 cfs

15.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 14.0' Slope= 0.0221 '/'
Inlet Invert= 1,175.35', Outlet Invert= 1,175.04'





Stage-Discharge for Reach DMHA: TO DP#1

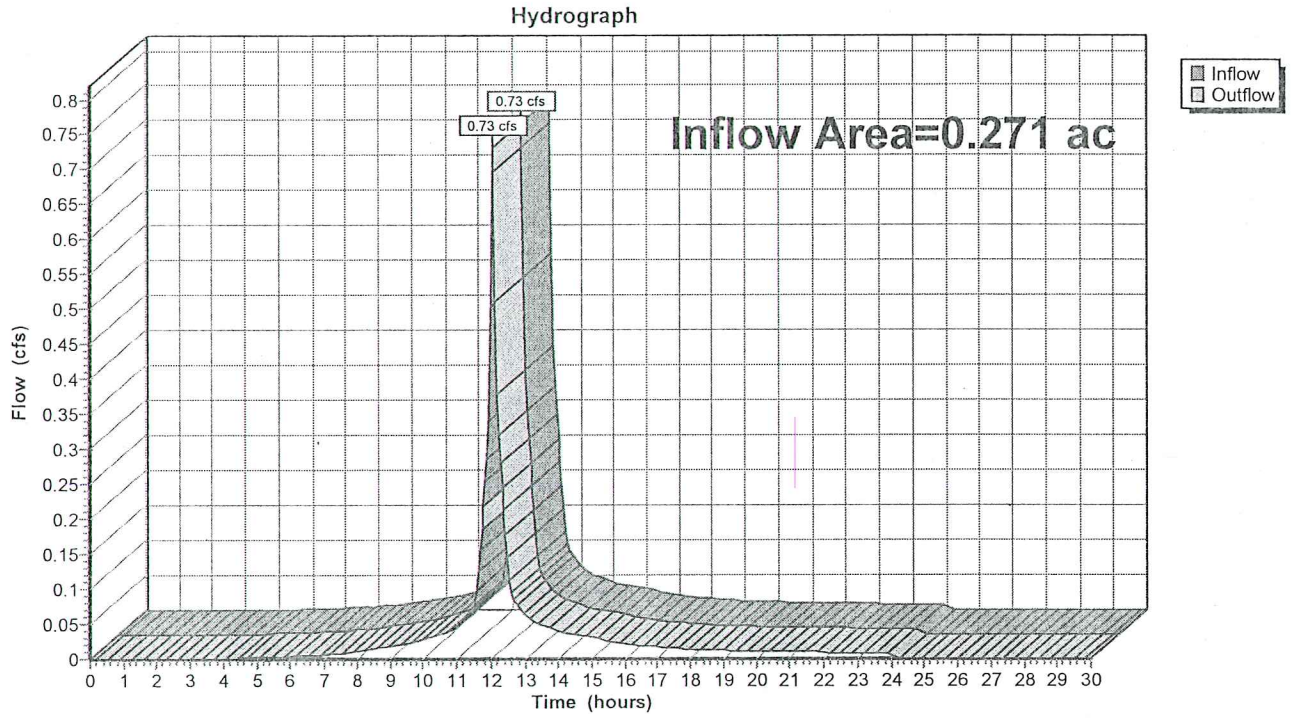
Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.35	0.00	0.00
1,175.36	0.66	0.00
1,175.37	1.11	0.01
1,175.38	1.46	0.01
1,175.39	1.77	0.02
1,175.40	2.06	0.03
1,175.41	2.31	0.05
1,175.42	2.56	0.07
1,175.43	2.79	0.09
1,175.44	3.01	0.12
1,175.45	3.22	0.15
1,175.46	3.42	0.18
1,175.47	3.62	0.22
1,175.48	3.81	0.26
1,175.49	3.99	0.30
1,175.50	4.17	0.35
1,175.51	4.34	0.40
1,175.52	4.50	0.45
1,175.53	4.66	0.51
1,175.54	4.82	0.57
1,175.55	4.98	0.63
1,175.56	5.13	0.70
1,175.57	5.27	0.77
1,175.58	5.42	0.84
1,175.59	5.56	0.92
1,175.60	5.69	0.99
1,175.61	5.83	1.08
1,175.62	5.96	1.16
1,175.63	6.09	1.25
1,175.64	6.21	1.34
1,175.65	6.34	1.43
1,175.66	6.46	1.53
1,175.67	6.57	1.63
1,175.68	6.69	1.73
1,175.69	6.80	1.84
1,175.70	6.92	1.95
1,175.71	7.02	2.06
1,175.72	7.13	2.17
1,175.73	7.24	2.28
1,175.74	7.34	2.40
1,175.75	7.44	2.52
1,175.76	7.54	2.64
1,175.77	7.64	2.77
1,175.78	7.73	2.89
1,175.79	7.83	3.02
1,175.80	7.92	3.15
1,175.81	8.01	3.28
1,175.82	8.10	3.42
1,175.83	8.18	3.55
1,175.84	8.27	3.69
1,175.85	8.35	3.83
1,175.86	8.43	3.97
1,175.87	8.51	4.11
1,175.88	8.59	4.26
1,175.89	8.67	4.40
1,175.90	8.74	4.55
1,175.91	8.82	4.69
1,175.92	8.89	4.84
1,175.93	8.96	4.99
1,175.94	9.03	5.14
1,175.95	9.10	5.30
1,175.96	9.16	5.45
1,175.97	9.23	5.60
1,175.98	9.29	5.76
1,175.99	9.35	5.91
1,176.00	9.41	6.07
1,176.01	9.47	6.22
1,176.02	9.52	6.38
1,176.03	9.58	6.54
1,176.04	9.63	6.69
1,176.05	9.69	6.85
1,176.06	9.74	7.01
1,176.07	9.79	7.16
1,176.08	9.84	7.32
1,176.09	9.88	7.48
1,176.10	9.93	7.63
1,176.11	9.97	7.79
1,176.12	10.01	7.94
1,176.13	10.05	8.10
1,176.14	10.09	8.25
1,176.15	10.13	8.40
1,176.16	10.17	8.56
1,176.17	10.20	8.71
1,176.18	10.24	8.86
1,176.19	10.27	9.00
1,176.20	10.30	9.15
1,176.21	10.33	9.30
1,176.22	10.35	9.44
1,176.23	10.38	9.58
1,176.24	10.40	9.72
1,176.25	10.42	9.86
1,176.26	10.44	10.00
1,176.27	10.46	10.13
1,176.28	10.48	10.26
1,176.29	10.50	10.39
1,176.30	10.51	10.52
1,176.31	10.52	10.64
1,176.32	10.53	10.76
1,176.33	10.54	10.88
1,176.34	10.55	10.99
1,176.35	10.55	11.10
1,176.36	10.55	11.21
1,176.37	10.55	11.31
1,176.38	10.55	11.41
1,176.39	10.55	11.51
1,176.40	10.54	11.60
1,176.41	10.53	11.68
1,176.42	10.52	11.77
1,176.43	10.51	11.84
1,176.44	10.49	11.91
1,176.45	10.47	11.98
1,176.46	10.45	12.03
1,176.47	10.42	12.08
1,176.48	10.39	12.13
1,176.49	10.36	12.16
1,176.50	10.32	12.19
1,176.51	10.28	12.21
1,176.52	10.23	12.22
1,176.53	10.18	12.21
1,176.54	10.12	12.20
1,176.55	10.05	12.17
1,176.56	9.97	12.12
1,176.57	9.88	12.05
1,176.58	9.76	11.94
1,176.59	9.58	11.74
1,176.60	9.26	11.36

Summary for Reach DMHB: TO DMH-C

Inflow Area = 0.271 ac, 83.97% Impervious, Inflow Depth = 2.40" for 2-Year event
Inflow = 0.73 cfs @ 12.07 hrs, Volume= 0.054 af
Outflow = 0.73 cfs @ 12.07 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DMHB: TO DMH-C



Summary for Reach DMHC: TO DCB-E

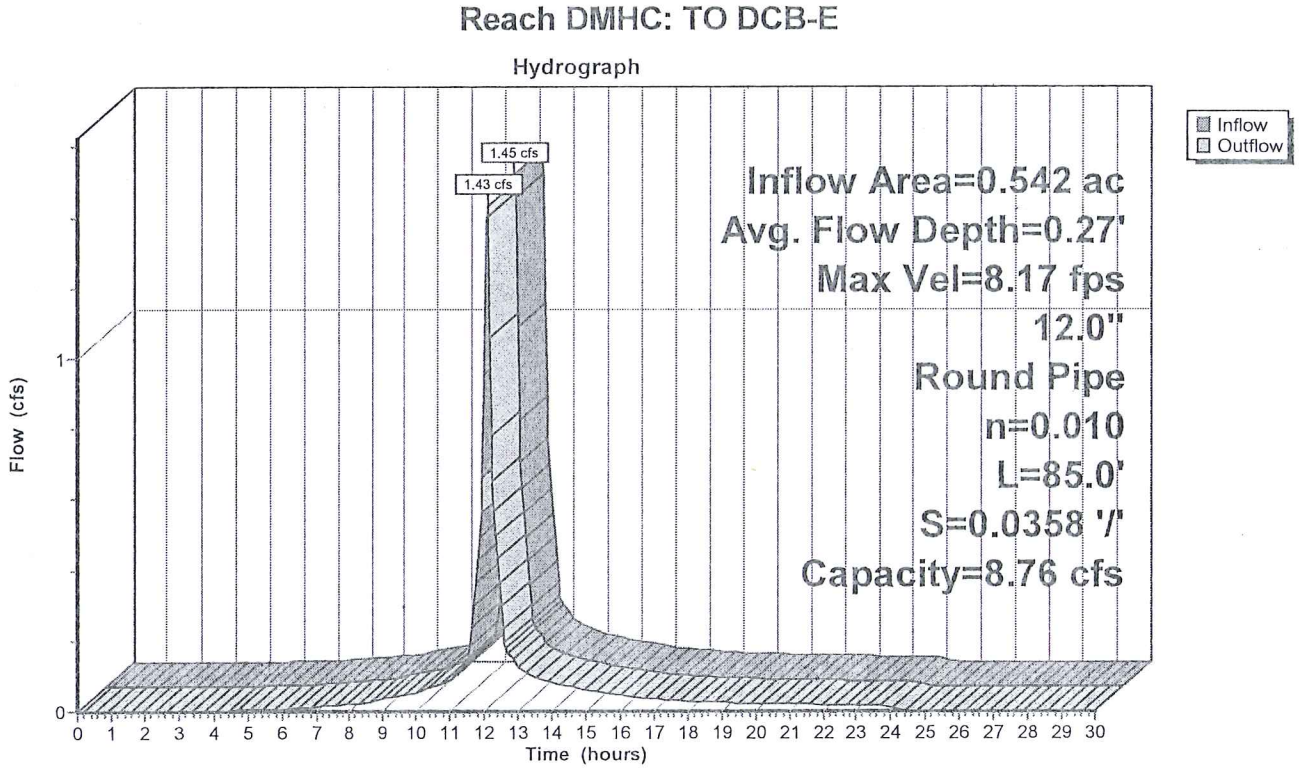
Inflow Area = 0.542 ac, 83.87% Impervious, Inflow Depth = 2.37" for 2-Year event
Inflow = 1.45 cfs @ 12.07 hrs, Volume= 0.107 af
Outflow = 1.43 cfs @ 12.08 hrs, Volume= 0.107 af, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.17 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.63 fps, Avg. Travel Time= 0.5 min

Peak Storage= 15 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.27'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.76 cfs

12.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 85.0' Slope= 0.0358 '/'
Inlet Invert= 1,179.53', Outlet Invert= 1,176.49'





Stage-Discharge for Reach DMHC: TO DCB-E

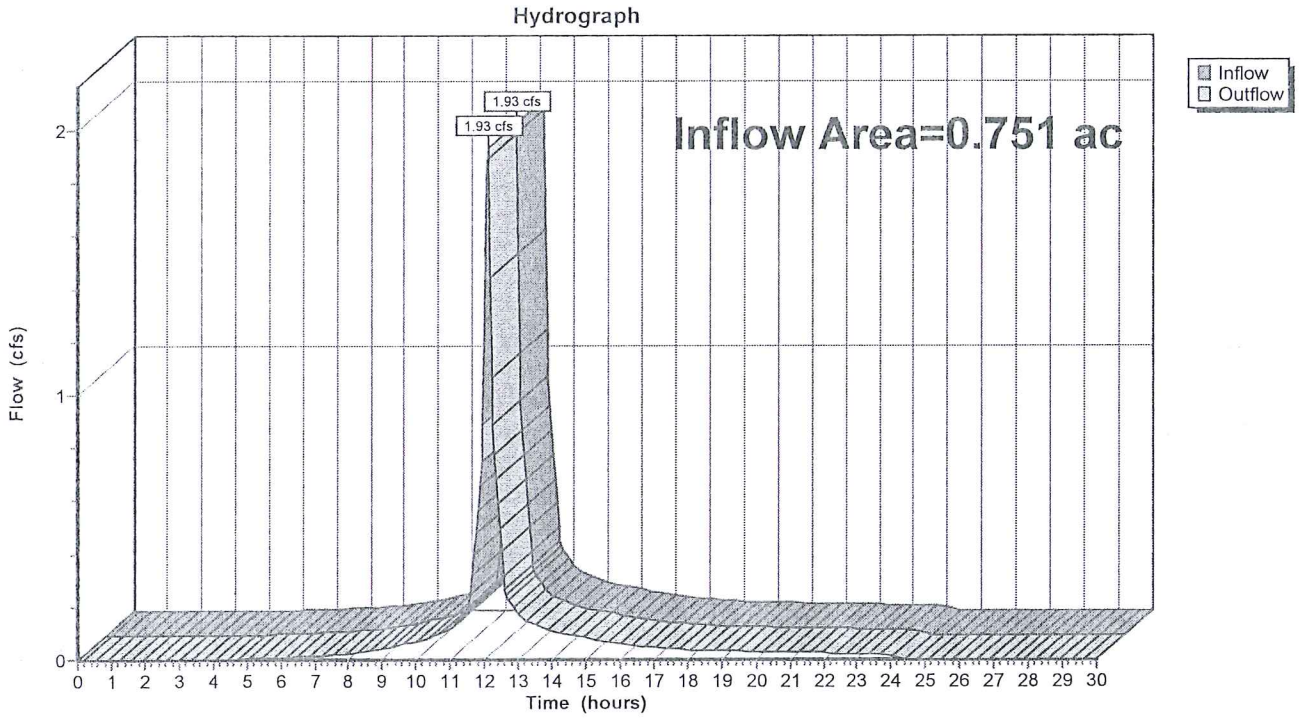
Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.53	0.00	0.00
1,179.54	0.99	0.00
1,179.55	1.57	0.01
1,179.56	2.05	0.01
1,179.57	2.48	0.03
1,179.58	2.86	0.04
1,179.59	3.22	0.06
1,179.60	3.56	0.09
1,179.61	3.88	0.11
1,179.62	4.18	0.15
1,179.63	4.47	0.18
1,179.64	4.75	0.22
1,179.65	5.02	0.27
1,179.66	5.28	0.32
1,179.67	5.52	0.37
1,179.68	5.76	0.43
1,179.69	6.00	0.49
1,179.70	6.22	0.55
1,179.71	6.44	0.62
1,179.72	6.65	0.69
1,179.73	6.86	0.77
1,179.74	7.06	0.85
1,179.75	7.26	0.93
1,179.76	7.45	1.02
1,179.77	7.63	1.11
1,179.78	7.81	1.20
1,179.79	7.99	1.30
1,179.80	8.16	1.40
1,179.81	8.33	1.50
1,179.82	8.50	1.61
1,179.83	8.66	1.72
1,179.84	8.81	1.83
1,179.85	8.96	1.94
1,179.86	9.11	2.06
1,179.87	9.26	2.18
1,179.88	9.40	2.30
1,179.89	9.54	2.43
1,179.90	9.68	2.56
1,179.91	9.81	2.69
1,179.92	9.94	2.82
1,179.93	10.06	2.95
1,179.94	10.18	3.09
1,179.95	10.30	3.23
1,179.96	10.42	3.36
1,179.97	10.53	3.51
1,179.98	10.64	3.65
1,179.99	10.75	3.79
1,180.00	10.86	3.94
1,180.01	10.96	4.08
1,180.02	11.06	4.23
1,180.03	11.15	4.38
1,180.04	11.25	4.53
1,180.05	11.34	4.68
1,180.06	11.42	4.83
1,180.07	11.51	4.98
1,180.08	11.59	5.13
1,180.09	11.67	5.28
1,180.10	11.75	5.43
1,180.11	11.82	5.58
1,180.12	11.89	5.73
1,180.13	11.96	5.88
1,180.14	12.03	6.03
1,180.15	12.09	6.18
1,180.16	12.15	6.33
1,180.17	12.21	6.48
1,180.18	12.26	6.63
1,180.19	12.31	6.77
1,180.20	12.36	6.91
1,180.21	12.41	7.06
1,180.22	12.45	7.20
1,180.23	12.49	7.33
1,180.24	12.53	7.47
1,180.25	12.56	7.60
1,180.26	12.59	7.73
1,180.27	12.62	7.86
1,180.28	12.64	7.99
1,180.29	12.66	8.11
1,180.30	12.68	8.23
1,180.31	12.69	8.34
1,180.32	12.70	8.45
1,180.33	12.71	8.56
1,180.34	**12.71**	8.66
1,180.35	12.71	8.76
1,180.36	12.71	8.86
1,180.37	12.70	8.94
1,180.38	12.69	9.03
1,180.39	12.67	9.10
1,180.40	12.64	9.17
1,180.41	12.61	9.23
1,180.42	12.58	9.29
1,180.43	12.54	9.34
1,180.44	12.49	9.37
1,180.45	12.44	9.40
1,180.46	12.37	9.42
1,180.47	12.30	**9.42**
1,180.48	12.21	9.41
1,180.49	12.11	9.38
1,180.50	11.99	9.34
1,180.51	11.84	9.26
1,180.52	11.64	9.13
1,180.53	11.15	8.76

Summary for Reach DMHD: TO DCB-G

Inflow Area = 0.751 ac, 80.97% Impervious, Inflow Depth = 2.30" for 2-Year event
Inflow = 1.93 cfs @ 12.08 hrs, Volume= 0.144 af
Outflow = 1.93 cfs @ 12.08 hrs, Volume= 0.144 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

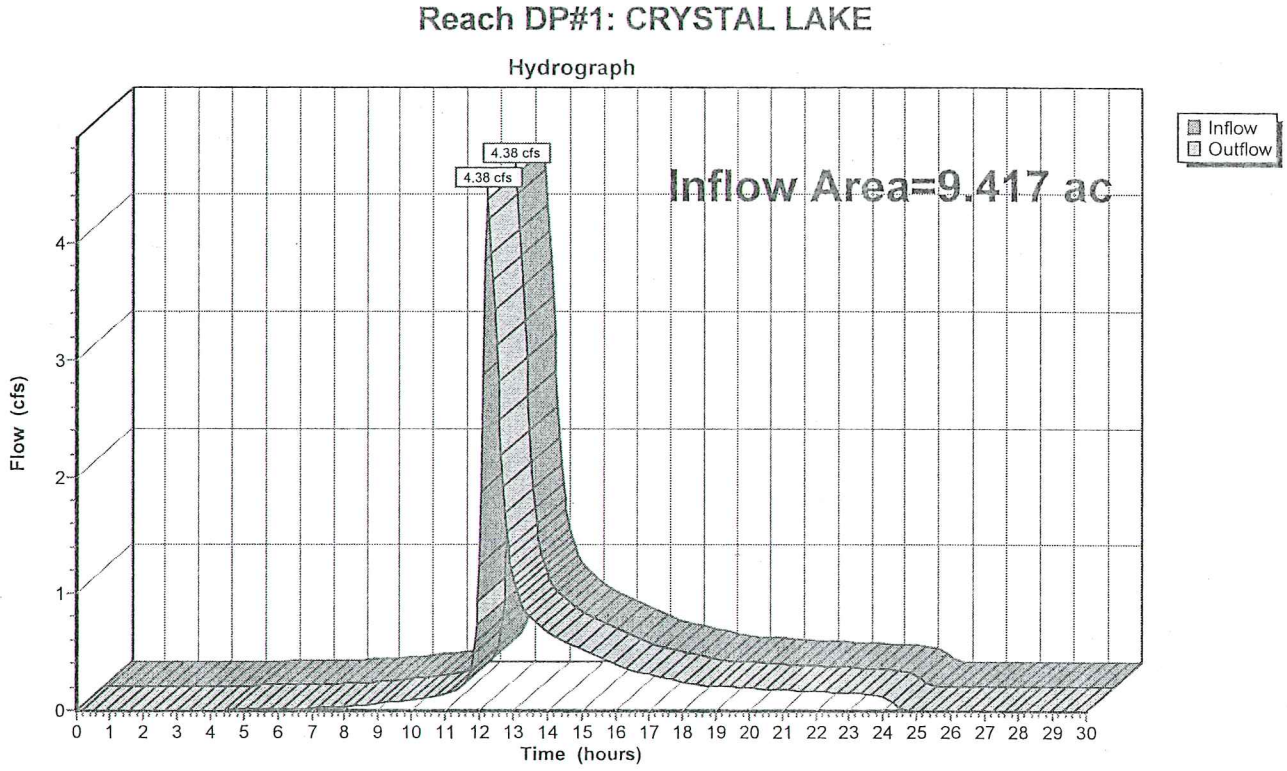
Reach DMHD: TO DCB-G



Summary for Reach DP#1: CRYSTAL LAKE

Inflow Area = 9.417 ac, 10.84% Impervious, Inflow Depth = 0.73" for 2-Year event
Inflow = 4.38 cfs @ 12.22 hrs, Volume= 0.573 af
Outflow = 4.38 cfs @ 12.22 hrs, Volume= 0.573 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

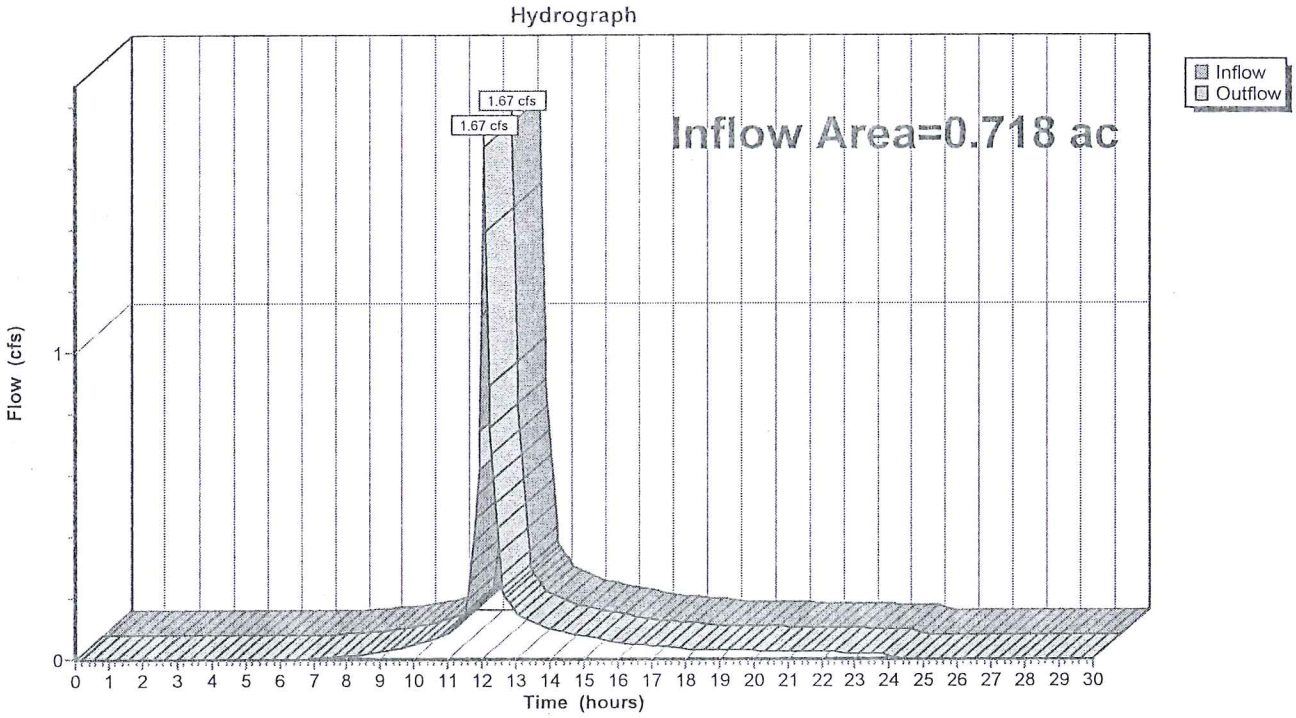


Summary for Reach DP#2: EX RAIN GARDEN

Inflow Area = 0.718 ac, 68.41% Impervious, Inflow Depth = 1.98" for 2-Year event
Inflow = 1.67 cfs @ 12.07 hrs, Volume= 0.119 af
Outflow = 1.67 cfs @ 12.07 hrs, Volume= 0.119 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DP#2: EX RAIN GARDEN

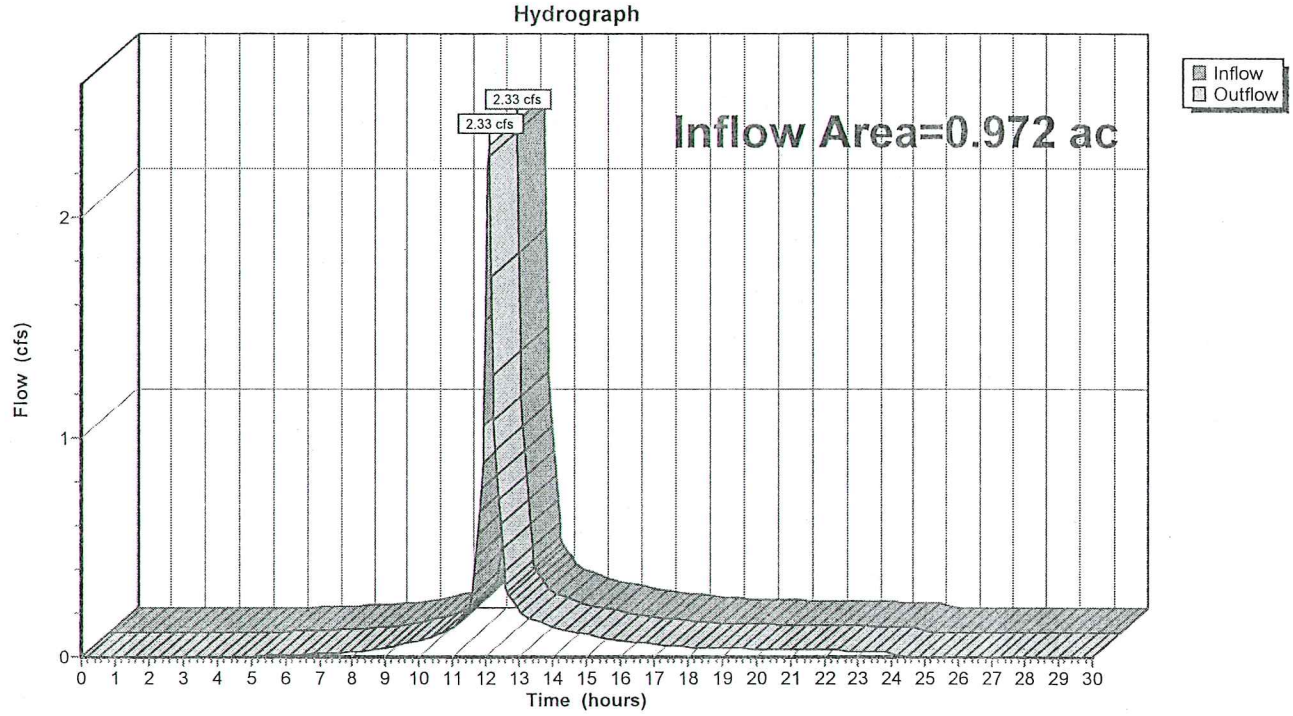


Summary for Reach DP#3: DMH-E

Inflow Area = 0.972 ac, 71.80% Impervious, Inflow Depth = 2.12" for 2-Year event
Inflow = 2.33 cfs @ 12.08 hrs, Volume= 0.172 af
Outflow = 2.33 cfs @ 12.08 hrs, Volume= 0.172 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

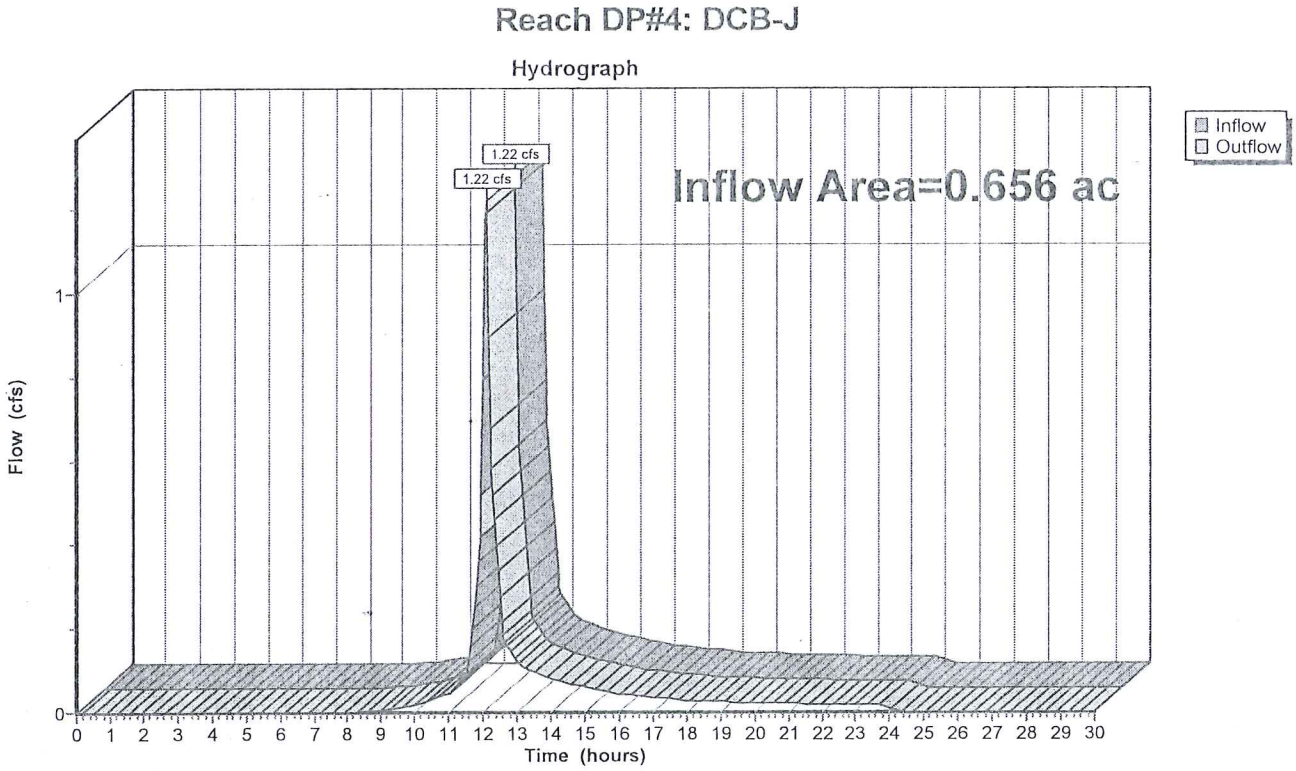
Reach DP#3: DMH-E



Summary for Reach DP#4: DCB-J

Inflow Area = 0.656 ac, 44.69% Impervious, Inflow Depth = 1.59" for 2-Year event
Inflow = 1.22 cfs @ 12.08 hrs, Volume= 0.087 af
Outflow = 1.22 cfs @ 12.08 hrs, Volume= 0.087 af, Atten= 0%, Lag= 0.0 min

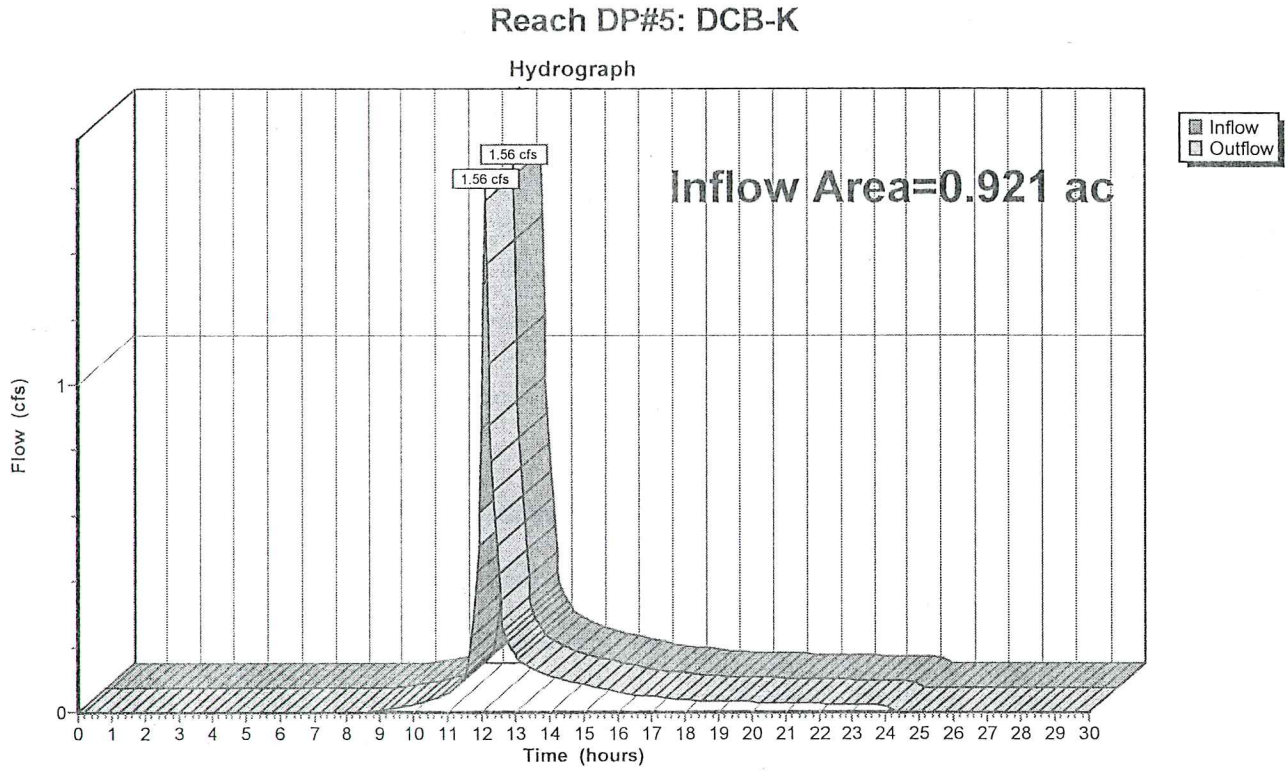
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs



Summary for Reach DP#5: DCB-K

Inflow Area = 0.921 ac, 43.25% Impervious, Inflow Depth = 1.52" for 2-Year event
Inflow = 1.56 cfs @ 12.10 hrs, Volume= 0.116 af
Outflow = 1.56 cfs @ 12.10 hrs, Volume= 0.116 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs



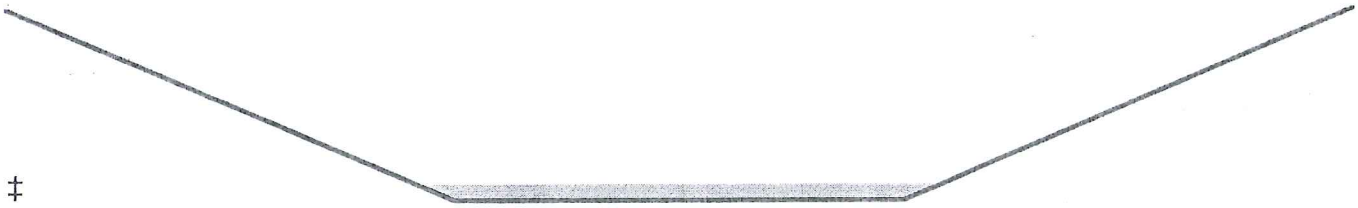
Summary for Reach OL1: OVERLAND FLOW

Inflow Area = 0.844 ac, 92.67% Impervious, Inflow Depth = 2.55" for 2-Year event
Inflow = 2.37 cfs @ 12.07 hrs, Volume= 0.179 af
Outflow = 2.34 cfs @ 12.08 hrs, Volume= 0.179 af, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.56 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 0.77 fps, Avg. Travel Time= 0.4 min

Peak Storage= 18 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.08'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 216.87 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 20.0' Slope= 0.4500 '/'
Inlet Invert= 1,175.00', Outlet Invert= 1,166.00'



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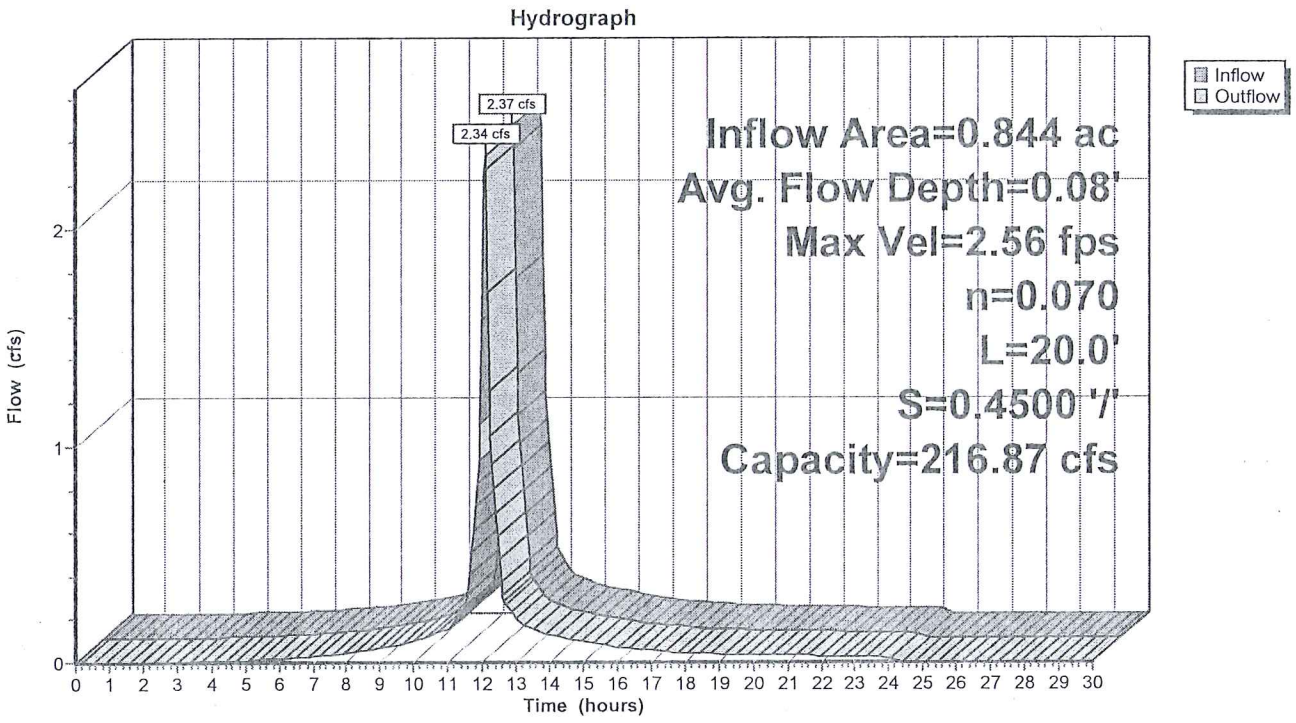


Stage-Discharge for Reach OL1: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.00	0.00	0.00
1,175.01	0.66	0.07
1,175.02	1.04	0.21
1,175.03	1.35	0.42
1,175.04	1.62	0.68
1,175.05	1.87	0.98
1,175.06	2.10	1.34
1,175.07	2.32	1.74
1,175.08	2.52	2.18
1,175.09	2.71	2.66
1,175.10	2.89	3.18
1,175.11	3.07	3.75
1,175.12	3.24	4.35
1,175.13	3.40	4.99
1,175.14	3.55	5.67
1,175.15	3.70	6.39
1,175.16	3.85	7.14
1,175.17	3.99	7.93
1,175.18	4.13	8.76
1,175.19	4.26	9.63
1,175.20	4.39	10.54
1,175.21	4.52	11.48
1,175.22	4.64	12.46
1,175.23	4.76	13.48
1,175.24	4.88	14.53
1,175.25	5.00	15.62
1,175.26	5.11	16.75
1,175.27	5.23	17.92
1,175.28	5.34	19.12
1,175.29	5.44	20.36
1,175.30	5.55	21.64
1,175.31	5.65	22.96
1,175.32	5.76	24.32
1,175.33	5.86	25.71
1,175.34	5.96	27.15
1,175.35	6.06	28.62
1,175.36	6.15	30.13
1,175.37	6.25	31.68
1,175.38	6.34	33.27
1,175.39	6.44	34.89
1,175.40	6.53	36.56
1,175.41	6.62	38.27
1,175.42	6.71	40.01
1,175.43	6.80	41.80
1,175.44	6.89	43.63
1,175.45	6.97	45.50
1,175.46	7.06	47.40
1,175.47	7.14	49.35
1,175.48	7.23	51.34
1,175.49	7.31	53.38
1,175.50	7.39	55.45
1,175.51	7.47	57.56
1,175.52	7.56	59.72
1,175.53	7.64	61.92
1,175.54	7.72	64.16
1,175.55	7.79	66.44
1,175.56	7.87	68.77
1,175.57	7.95	71.14
1,175.58	8.03	73.55
1,175.59	8.10	76.01
1,175.60	8.18	78.51
1,175.61	8.25	81.05
1,175.62	8.33	83.64
1,175.63	8.40	86.27
1,175.64	8.47	88.95
1,175.65	8.55	91.67
1,175.66	8.62	94.44
1,175.67	8.69	97.25
1,175.68	8.76	100.10
1,175.69	8.83	103.01
1,175.70	8.90	105.96
1,175.71	8.97	108.95
1,175.72	9.04	111.99
1,175.73	9.11	115.08
1,175.74	9.18	118.21
1,175.75	9.25	121.39
1,175.76	9.32	124.62
1,175.77	9.38	127.90
1,175.78	9.45	131.22
1,175.79	9.52	134.60
1,175.80	9.58	138.02
1,175.81	9.65	141.48
1,175.82	9.72	145.00
1,175.83	9.78	148.57
1,175.84	9.85	152.18
1,175.85	9.91	155.85
1,175.86	9.97	159.56
1,175.87	10.04	163.32
1,175.88	10.10	167.14
1,175.89	10.17	171.00
1,175.90	10.23	174.91
1,175.91	10.29	178.88
1,175.92	10.35	182.89
1,175.93	10.42	186.96
1,175.94	10.48	191.08
1,175.95	10.54	195.25
1,175.96	10.60	199.47
1,175.97	10.66	203.74
1,175.98	10.72	208.06
1,175.99	10.78	212.44
1,176.00	**10.84**	**216.87**

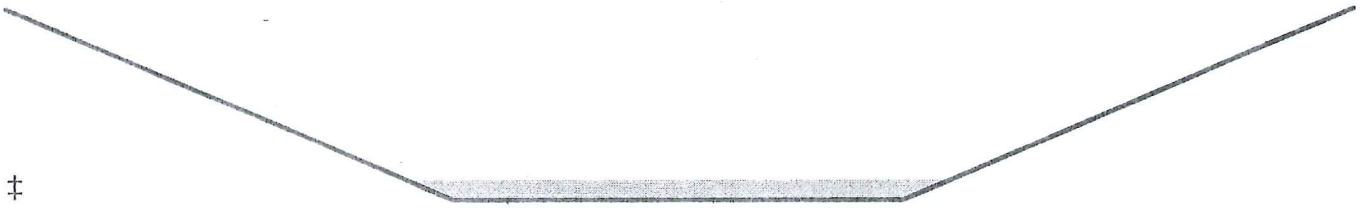
Summary for Reach OL2: OVERLAND FLOW

Inflow Area = 0.844 ac, 92.67% Impervious, Inflow Depth = 2.55" for 2-Year event
Inflow = 2.34 cfs @ 12.08 hrs, Volume= 0.179 af
Outflow = 2.20 cfs @ 12.14 hrs, Volume= 0.179 af, Atten= 6%, Lag= 3.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.90 fps, Min. Travel Time= 2.1 min
Avg. Velocity = 0.52 fps, Avg. Travel Time= 7.7 min

Peak Storage= 291 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.11'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 136.00 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 243.0' Slope= 0.1770 '/'
Inlet Invert= 1,166.00', Outlet Invert= 1,123.00'



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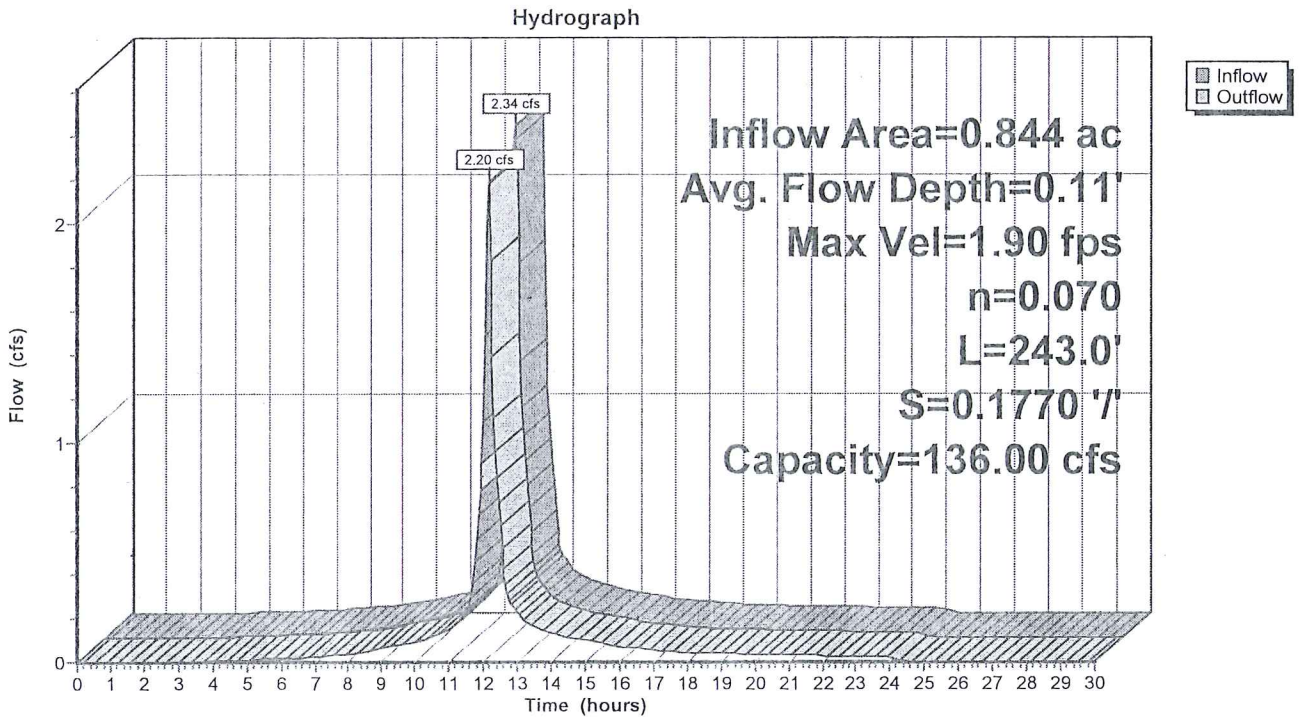
Reach OL2: OVERLAND FLOW



Stage-Discharge for Reach OL2: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,166.00	0.00	0.00
1,166.01	0.41	0.04
1,166.02	0.65	0.13
1,166.03	0.85	0.26
1,166.04	1.02	0.42
1,166.05	1.17	0.62
1,166.06	1.32	0.84
1,166.07	1.45	1.09
1,166.08	1.58	1.37
1,166.09	1.70	1.67
1,166.10	1.81	2.00
1,166.11	1.92	2.35
1,166.12	2.03	2.73
1,166.13	2.13	3.13
1,166.14	2.23	3.55
1,166.15	2.32	4.00
1,166.16	2.41	4.48
1,166.17	2.50	4.98
1,166.18	2.59	5.50
1,166.19	2.67	6.04
1,166.20	2.75	6.61
1,166.21	2.83	7.20
1,166.22	2.91	7.81
1,166.23	2.99	8.45
1,166.24	3.06	9.11
1,166.25	3.13	9.80
1,166.26	3.21	10.50
1,166.27	3.28	11.24
1,166.28	3.35	11.99
1,166.29	3.41	12.77
1,166.30	3.48	13.57
1,166.31	3.55	14.40
1,166.32	3.61	15.25
1,166.33	3.67	16.12
1,166.34	3.74	17.02
1,166.35	3.80	17.95
1,166.36	3.86	18.89
1,166.37	3.92	19.86
1,166.38	3.98	20.86
1,166.39	4.04	21.88
1,166.40	4.09	22.93
1,166.41	4.15	24.00
1,166.42	4.21	25.09
1,166.43	4.26	26.21
1,166.44	4.32	27.36
1,166.45	4.37	28.53
1,166.46	4.43	29.73
1,166.47	4.48	30.95
1,166.48	4.53	32.20
1,166.49	4.58	33.47
1,166.50	4.64	34.77
1,166.51	4.69	36.10
1,166.52	4.74	37.45
1,166.53	4.79	38.83
1,166.54	4.84	40.23
1,166.55	4.89	41.67
1,166.56	4.94	43.12
1,166.57	4.98	44.61
1,166.58	5.03	46.12
1,166.59	5.08	47.66
1,166.60	5.13	49.23
1,166.61	5.18	50.83
1,166.62	5.22	52.45
1,166.63	5.27	54.10
1,166.64	5.31	55.78
1,166.65	5.36	57.48
1,166.66	5.41	59.22
1,166.67	5.45	60.98
1,166.68	5.49	62.77
1,166.69	5.54	64.59
1,166.70	5.58	66.44
1,166.71	5.63	68.32
1,166.72	5.67	70.23
1,166.73	5.71	72.16
1,166.74	5.76	74.13
1,166.75	5.80	76.12
1,166.76	5.84	78.15
1,166.77	5.88	80.20
1,166.78	5.93	82.29
1,166.79	5.97	84.40
1,166.80	6.01	86.55
1,166.81	6.05	88.72
1,166.82	6.09	90.93
1,166.83	6.13	93.16
1,166.84	6.17	95.43
1,166.85	6.21	97.73
1,166.86	6.26	100.06
1,166.87	6.30	102.42
1,166.88	6.34	104.81
1,166.89	6.37	107.23
1,166.90	6.41	109.68
1,166.91	6.45	112.17
1,166.92	6.49	114.69
1,166.93	6.53	117.24
1,166.94	6.57	119.82
1,166.95	6.61	122.44
1,166.96	6.65	125.08
1,166.97	6.69	127.76
1,166.98	6.72	130.47
1,166.99	6.76	133.22
1,167.00	**6.80**	**136.00**

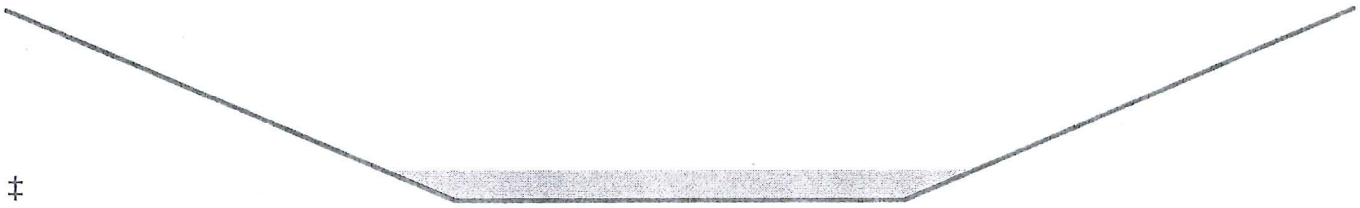
Summary for Reach OL3: OVERLAND FLOW

Inflow Area = 0.844 ac, 92.67% Impervious, Inflow Depth = 2.55" for 2-Year event
Inflow = 2.20 cfs @ 12.14 hrs, Volume= 0.179 af
Outflow = 2.15 cfs @ 12.16 hrs, Volume= 0.179 af, Atten= 2%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.20 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 0.32 fps, Avg. Travel Time= 2.4 min

Peak Storage= 82 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.16'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 68.16 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 45.0' Slope= 0.0444 '/'
Inlet Invert= 1,122.00', Outlet Invert= 1,120.00'



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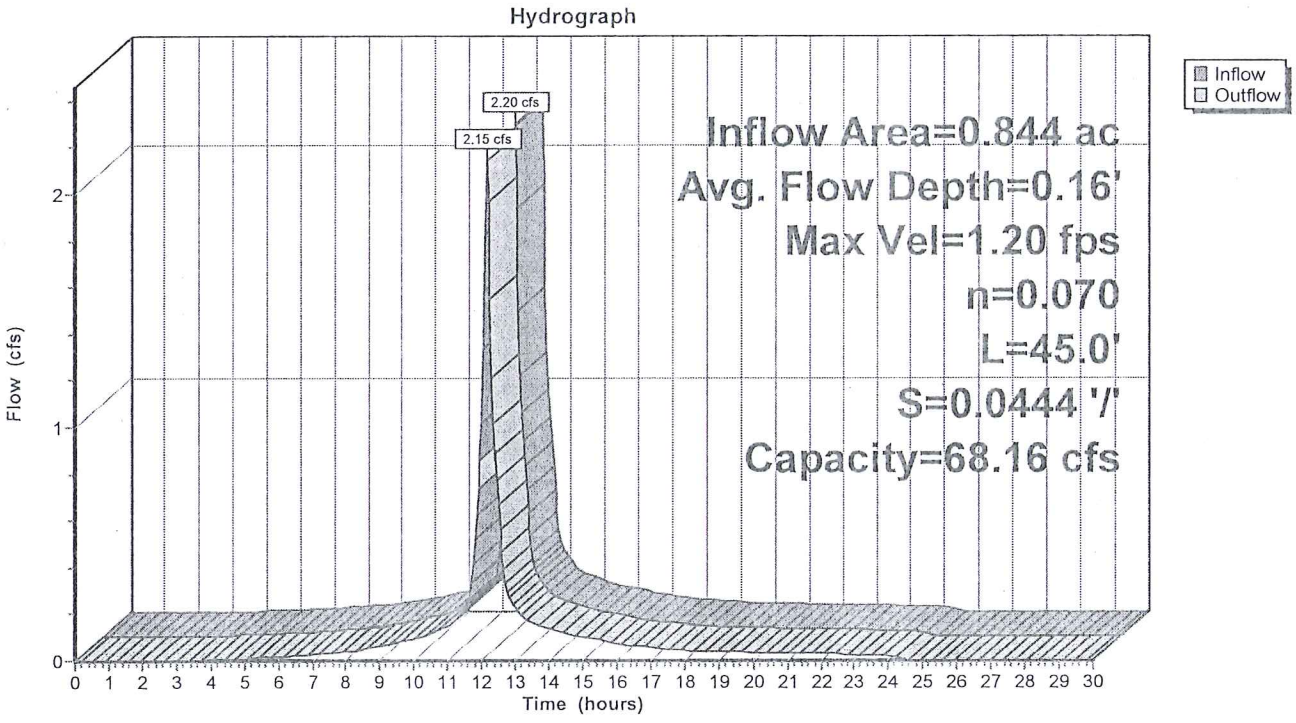
Reach OL3: OVERLAND FLOW



Stage-Discharge for Reach OL3: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,122.00	0.00	0.00
1,122.01	0.21	0.02
1,122.02	0.33	0.07
1,122.03	0.42	0.13
1,122.04	0.51	0.21
1,122.05	0.59	0.31
1,122.06	0.66	0.42
1,122.07	0.73	0.55
1,122.08	0.79	0.68
1,122.09	0.85	0.84
1,122.10	0.91	1.00
1,122.11	0.96	1.18
1,122.12	1.02	1.37
1,122.13	1.07	1.57
1,122.14	1.12	1.78
1,122.15	1.16	2.01
1,122.16	1.21	2.24
1,122.17	1.25	2.49
1,122.18	1.30	2.75
1,122.19	1.34	3.03
1,122.20	1.38	3.31
1,122.21	1.42	3.61
1,122.22	1.46	3.92
1,122.23	1.50	4.24
1,122.24	1.53	4.57
1,122.25	1.57	4.91
1,122.26	1.61	5.26
1,122.27	1.64	5.63
1,122.28	1.68	6.01
1,122.29	1.71	6.40
1,122.30	1.74	6.80
1,122.31	1.78	7.22
1,122.32	1.81	7.64
1,122.33	1.84	8.08
1,122.34	1.87	8.53
1,122.35	1.90	8.99
1,122.36	1.93	9.47
1,122.37	1.96	9.96
1,122.38	1.99	10.45
1,122.39	2.02	10.97
1,122.40	2.05	11.49
1,122.41	2.08	12.03
1,122.42	2.11	12.58
1,122.43	2.14	13.14
1,122.44	2.16	13.71
1,122.45	2.19	14.30
1,122.46	2.22	14.90
1,122.47	2.24	15.51
1,122.48	2.27	16.14
1,122.49	2.30	16.77
1,122.50	2.32	17.43
1,122.51	2.35	18.09
1,122.52	2.37	18.77
1,122.53	2.40	19.46
1,122.54	2.42	20.16
1,122.55	2.45	20.88
1,122.56	2.47	21.61
1,122.57	2.50	22.36
1,122.58	2.52	23.12
1,122.59	2.55	23.89
1,122.60	2.57	24.67
1,122.61	2.59	25.47
1,122.62	2.62	26.29
1,122.63	2.64	27.11
1,122.64	2.66	27.95
1,122.65	2.69	28.81
1,122.66	2.71	29.68
1,122.67	2.73	30.56
1,122.68	2.75	31.46
1,122.69	2.78	32.37
1,122.70	2.80	33.30
1,122.71	2.82	34.24
1,122.72	2.84	35.20
1,122.73	2.86	36.17
1,122.74	2.89	37.15
1,122.75	2.91	38.15
1,122.76	2.93	39.17
1,122.77	2.95	40.20
1,122.78	2.97	41.24
1,122.79	2.99	42.30
1,122.80	3.01	43.37
1,122.81	3.03	44.46
1,122.82	3.05	45.57
1,122.83	3.07	46.69
1,122.84	3.09	47.83
1,122.85	3.11	48.98
1,122.86	3.13	50.14
1,122.87	3.15	51.33
1,122.88	3.17	52.53
1,122.89	3.19	53.74
1,122.90	3.21	54.97
1,122.91	3.23	56.22
1,122.92	3.25	57.48
1,122.93	3.27	58.76
1,122.94	3.29	60.05
1,122.95	3.31	61.36
1,122.96	3.33	62.69
1,122.97	3.35	64.03
1,122.98	3.37	65.39
1,122.99	3.39	66.76
1,123.00	**3.41**	**68.16**

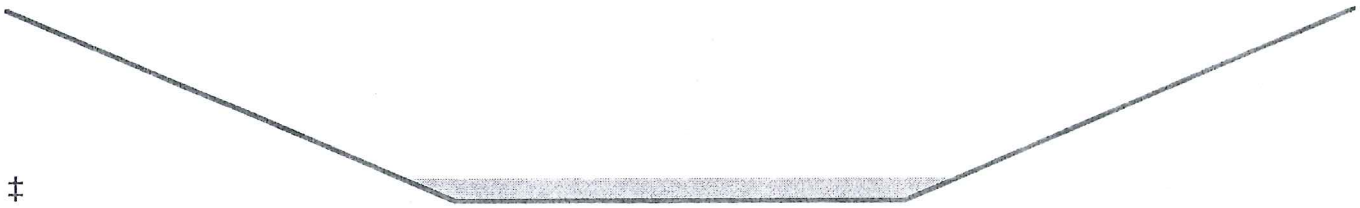
Summary for Reach OL4: OVERLAND FLOW

Inflow Area = 3.538 ac, 24.19% Impervious, Inflow Depth = 1.02" for 2-Year event
Inflow = 2.95 cfs @ 12.18 hrs, Volume= 0.302 af
Outflow = 2.92 cfs @ 12.20 hrs, Volume= 0.302 af, Atten= 1%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.22 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 0.66 fps, Avg. Travel Time= 1.9 min

Peak Storage= 98 cf @ 12.19 hrs
Average Depth at Peak Storage= 0.12'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 150.33 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 74.0' Slope= 0.2162 '/'
Inlet Invert= 1,117.75', Outlet Invert= 1,101.75'



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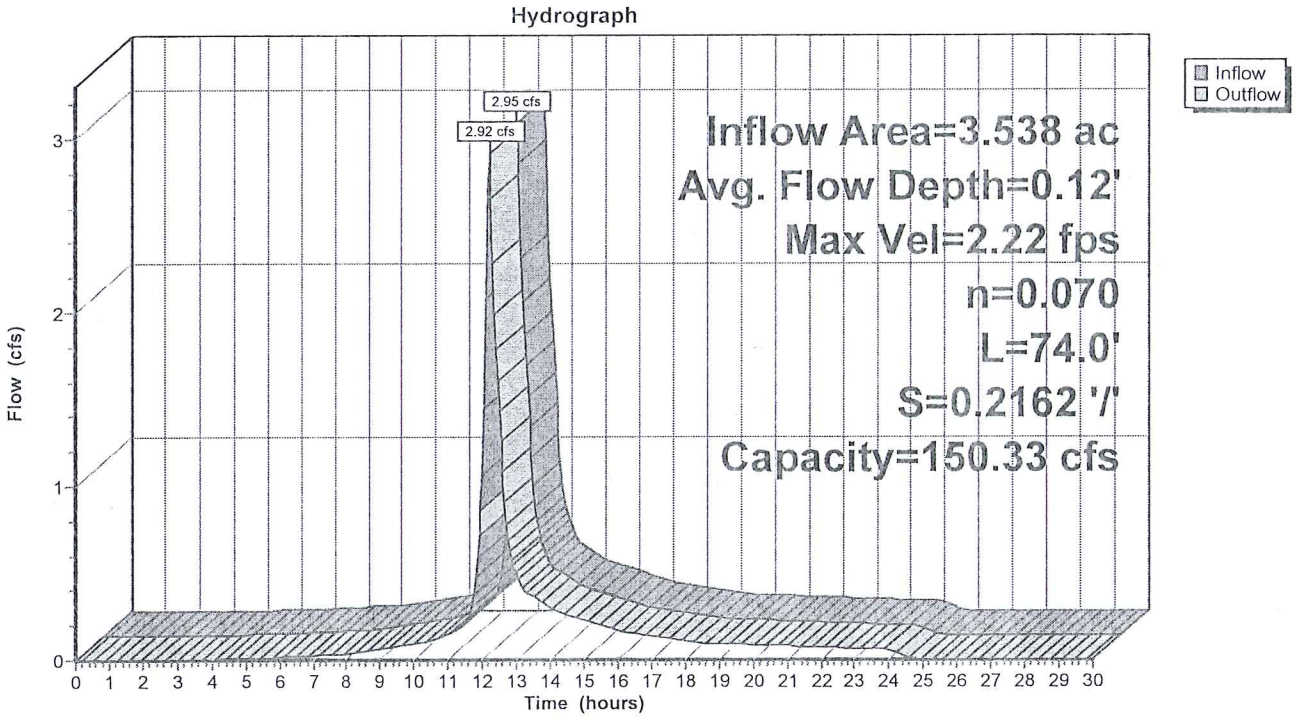
Reach OL4: OVERLAND FLOW



Stage-Discharge for Reach OL4: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,117.75	0.00	0.00
1,117.76	0.46	0.05
1,117.77	0.72	0.15
1,117.78	0.93	0.29
1,117.79	1.13	0.47
1,117.80	1.30	0.68
1,117.81	1.46	0.93
1,117.82	1.61	1.20
1,117.83	1.75	1.51
1,117.84	1.88	1.84
1,117.85	2.01	2.21
1,117.86	2.13	2.60
1,117.87	2.24	3.01
1,117.88	2.35	3.46
1,117.89	2.46	3.93
1,117.90	2.57	4.43
1,117.91	2.67	4.95
1,117.92	2.76	5.50
1,117.93	2.86	6.08
1,117.94	2.95	6.68
1,117.95	3.04	7.30
1,117.96	3.13	7.96
1,117.97	3.22	8.64
1,117.98	3.30	9.34
1,117.99	3.38	10.07
1,118.00	3.47	10.83
1,118.01	3.54	11.61
1,118.02	3.62	12.42
1,118.03	3.70	13.25
1,118.04	3.77	14.12
1,118.05	3.85	15.00
1,118.06	3.92	15.92
1,118.07	3.99	16.86
1,118.08	4.06	17.82
1,118.09	4.13	18.82
1,118.10	4.20	19.84
1,118.11	4.27	20.88
1,118.12	4.33	21.96
1,118.13	4.40	23.06
1,118.14	4.46	24.19
1,118.15	4.53	25.34
1,118.16	4.59	26.53
1,118.17	4.65	27.74
1,118.18	4.71	28.98
1,118.19	4.77	30.24
1,118.20	4.83	31.54
1,118.21	4.89	32.86
1,118.22	4.95	34.21
1,118.23	5.01	35.59
1,118.24	5.07	37.00
1,118.25	5.12	38.43
1,118.26	5.18	39.90
1,118.27	5.24	41.40
1,118.28	5.29	42.92
1,118.29	5.35	44.47
1,118.30	5.40	46.06
1,118.31	5.46	47.67
1,118.32	5.51	49.31
1,118.33	5.56	50.98
1,118.34	5.62	52.69
1,118.35	5.67	54.42
1,118.36	5.72	56.18
1,118.37	5.77	57.98
1,118.38	5.82	59.80
1,118.39	5.87	61.66
1,118.40	5.92	63.54
1,118.41	5.97	65.46
1,118.42	6.02	67.41
1,118.43	6.07	69.39
1,118.44	6.12	71.40
1,118.45	6.17	73.44
1,118.46	6.22	75.52
1,118.47	6.27	77.63
1,118.48	6.32	79.77
1,118.49	6.36	81.94
1,118.50	6.41	84.15
1,118.51	6.46	86.39
1,118.52	6.50	88.66
1,118.53	6.55	90.96
1,118.54	6.60	93.30
1,118.55	6.64	95.67
1,118.56	6.69	98.07
1,118.57	6.73	100.51
1,118.58	6.78	102.98
1,118.59	6.82	105.49
1,118.60	6.87	108.03
1,118.61	6.91	110.60
1,118.62	6.96	113.21
1,118.63	7.00	115.85
1,118.64	7.05	118.53
1,118.65	7.09	121.24
1,118.66	7.13	123.99
1,118.67	7.18	126.78
1,118.68	7.22	129.59
1,118.69	7.26	132.45
1,118.70	7.31	135.34
1,118.71	7.35	138.26
1,118.72	7.39	141.23
1,118.73	7.43	144.22
1,118.74	7.47	147.26
1,118.75	**7.52**	**150.33**

Summary for Reach OL5: OVERLAND FLOW

Inflow Area = 4.252 ac, 2.48% Impervious, Inflow Depth = 0.58" for 2-Year event
Inflow = 1.54 cfs @ 12.35 hrs, Volume= 0.207 af
Outflow = 1.53 cfs @ 12.39 hrs, Volume= 0.207 af, Atten= 1%, Lag= 2.0 min

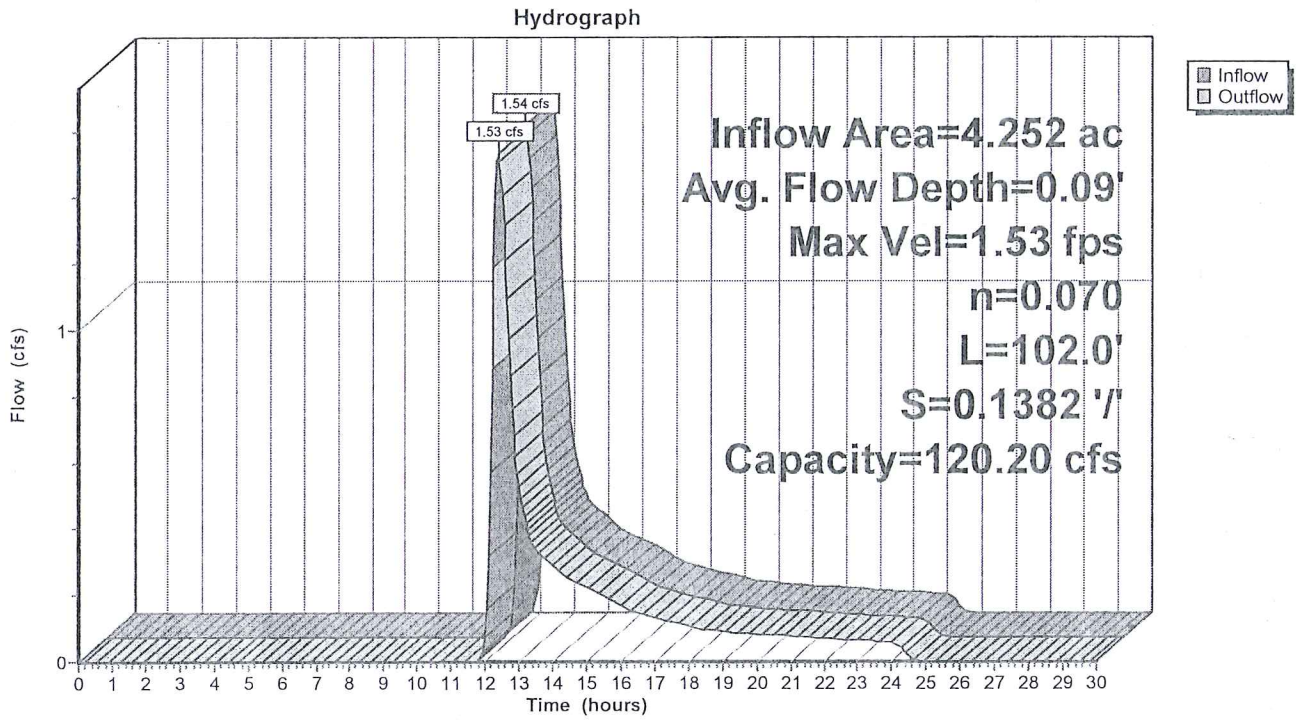
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.53 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 0.62 fps, Avg. Travel Time= 2.7 min

Peak Storage= 103 cf @ 12.37 hrs
Average Depth at Peak Storage= 0.09'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 120.20 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 102.0' Slope= 0.1382 '/'
Inlet Invert= 1,114.10', Outlet Invert= 1,100.00'



‡



Stage-Discharge for Reach OL5: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,114.10	0.00	0.00
1,114.11	0.36	0.04
1,114.12	0.57	0.12
1,114.13	0.75	0.23
1,114.14	0.90	0.37
1,114.15	1.04	0.55
1,114.16	1.17	0.74
1,114.17	1.28	0.96
1,114.18	1.40	1.21
1,114.19	1.50	1.47
1,114.20	1.60	1.76
1,114.21	1.70	2.08
1,114.22	1.79	2.41
1,114.23	1.88	2.77
1,114.24	1.97	3.14
1,114.25	2.05	3.54
1,114.26	2.13	3.96
1,114.27	2.21	4.40
1,114.28	2.29	4.86
1,114.29	2.36	5.34
1,114.30	2.43	5.84
1,114.31	2.50	6.36
1,114.32	2.57	6.91
1,114.33	2.64	7.47
1,114.34	2.71	8.05
1,114.35	2.77	8.66
1,114.36	2.83	9.28
1,114.37	2.90	9.93
1,114.38	2.96	10.60
1,114.39	3.02	11.29
1,114.40	3.08	12.00
1,114.41	3.13	12.73
1,114.42	3.19	13.48
1,114.43	3.25	14.25
1,114.44	3.30	15.05
1,114.45	3.36	15.86
1,114.46	3.41	16.70
1,114.47	3.46	17.56
1,114.48	3.52	18.44
1,114.49	3.57	19.34
1,114.50	3.62	20.26
1,114.51	3.67	21.21
1,114.52	3.72	22.18
1,114.53	3.77	23.17
1,114.54	3.82	24.18
1,114.55	3.86	25.22
1,114.56	3.91	26.27
1,114.57	3.96	27.35
1,114.58	4.01	28.46
1,114.59	4.05	29.58
1,114.60	4.10	30.73
1,114.61	4.14	31.90
1,114.62	4.19	33.10
1,114.63	4.23	34.32
1,114.64	4.28	35.56
1,114.65	4.32	36.83
1,114.66	4.36	38.12
1,114.67	4.41	39.43
1,114.68	4.45	40.77
1,114.69	4.49	42.13
1,114.70	4.53	43.51
1,114.71	4.57	44.92
1,114.72	4.62	46.36
1,114.73	4.66	47.82
1,114.74	4.70	49.30
1,114.75	4.74	50.81
1,114.76	4.78	52.34
1,114.77	4.82	53.90
1,114.78	4.86	55.48
1,114.79	4.90	57.09
1,114.80	4.93	58.73
1,114.81	4.97	60.39
1,114.82	5.01	62.07
1,114.83	5.05	63.78
1,114.84	5.09	65.52
1,114.85	5.13	67.28
1,114.86	5.16	69.07
1,114.87	5.20	70.89
1,114.88	5.24	72.73
1,114.89	5.28	74.60
1,114.90	5.31	76.49
1,114.91	5.35	78.42
1,114.92	5.39	80.37
1,114.93	5.42	82.34
1,114.94	5.46	84.35
1,114.95	5.49	86.38
1,114.96	5.53	88.44
1,114.97	5.56	90.52
1,114.98	5.60	92.63
1,114.99	5.63	94.78
1,115.00	5.67	96.94
1,115.01	5.70	99.14
1,115.02	5.74	101.37
1,115.03	5.77	103.62
1,115.04	5.81	105.90
1,115.05	5.84	108.21
1,115.06	5.88	110.55
1,115.07	5.91	112.92
1,115.08	5.94	115.32
1,115.09	5.98	117.74
1,115.10	**6.01**	**120.20**

Summary for Pond CULVERT#1: TO DP#1

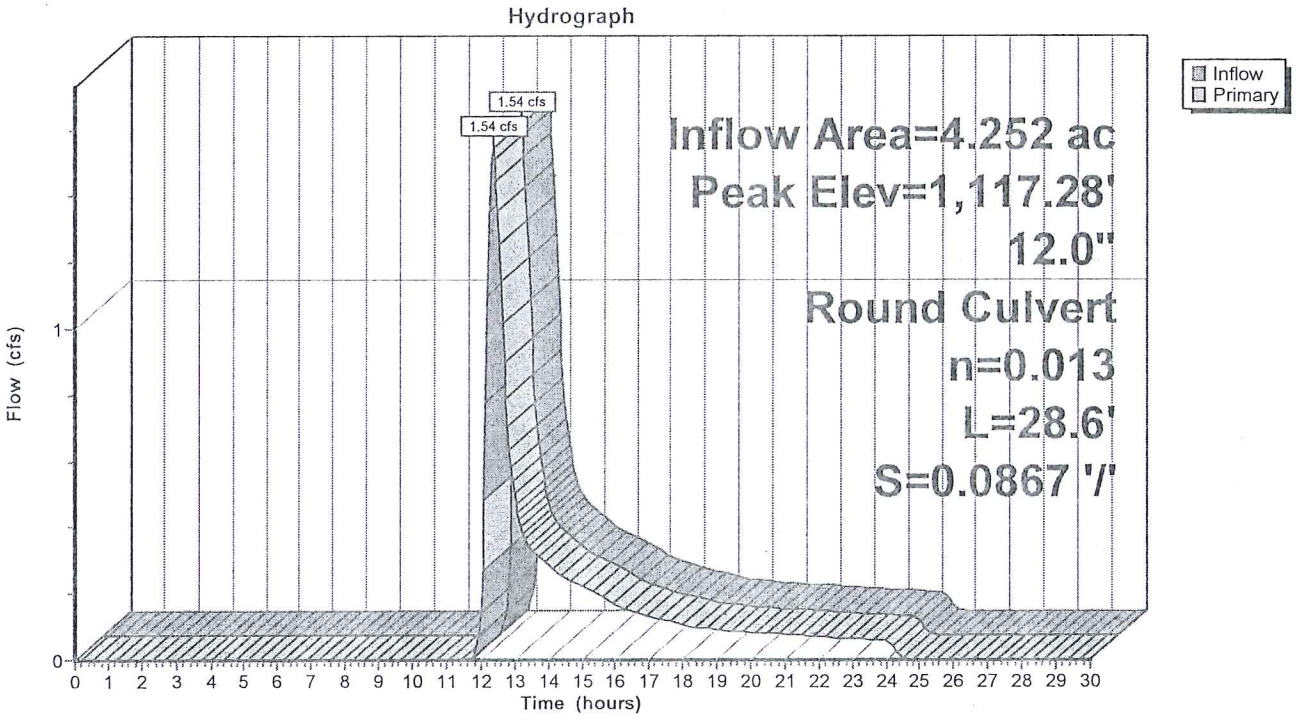
Inflow Area = 4.252 ac, 2.48% Impervious, Inflow Depth = 0.58" for 2-Year event
Inflow = 1.54 cfs @ 12.35 hrs, Volume= 0.207 af
Outflow = 1.54 cfs @ 12.35 hrs, Volume= 0.207 af, Atten= 0%, Lag= 0.0 min
Primary = 1.54 cfs @ 12.35 hrs, Volume= 0.207 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,117.28' @ 12.35 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,116.61'	**12.0" Round Culvert** L= 28.6' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,116.61' / 1,114.13' S= 0.0867 '/' Cc= 0.900 n= 0.013 Cast iron, coated, Flow Area= 0.79 sf

Primary OutFlow Max=1.54 cfs @ 12.35 hrs HW=1,117.28' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 1.54 cfs @ 2.78 fps)

Pond CULVERT#1: TO DP#1



Stage-Discharge for Pond CULVERT#1: TO DP#1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,116.61	0.00	1,117.13	1.01
1,116.62	0.00	1,117.14	1.05
1,116.63	0.00	1,117.15	1.08
1,116.64	0.00	1,117.16	1.12
1,116.65	0.01	1,117.17	1.15
1,116.66	0.01	1,117.18	1.19
1,116.67	0.02	1,117.19	1.22
1,116.68	0.02	1,117.20	1.26
1,116.69	0.03	1,117.21	1.30
1,116.70	0.04	1,117.22	1.33
1,116.71	0.04	1,117.23	1.37
1,116.72	0.05	1,117.24	1.41
1,116.73	0.06	1,117.25	1.45
1,116.74	0.07	1,117.26	1.48
1,116.75	0.09	1,117.27	1.52
1,116.76	0.10	1,117.28	1.56
1,116.77	0.11	1,117.29	1.60
1,116.78	0.12	1,117.30	1.63
1,116.79	0.14	1,117.31	1.67
1,116.80	0.15	1,117.32	1.71
1,116.81	0.17	1,117.33	1.75
1,116.82	0.19	1,117.34	1.79
1,116.83	0.20	1,117.35	1.83
1,116.84	0.22	1,117.36	1.86
1,116.85	0.24	1,117.37	1.90
1,116.86	0.26	1,117.38	1.94
1,116.87	0.28	1,117.39	1.98
1,116.88	0.30	1,117.40	2.01
1,116.89	0.32	1,117.41	2.05
1,116.90	0.35	1,117.42	2.09
1,116.91	0.37	1,117.43	2.13
1,116.92	0.39	1,117.44	2.16
1,116.93	0.42	1,117.45	2.20
1,116.94	0.44	1,117.46	2.23
1,116.95	0.47	1,117.47	2.27
1,116.96	0.49	1,117.48	2.30
1,116.97	0.52	1,117.49	2.34
1,116.98	0.55	1,117.50	2.37
1,116.99	0.57	1,117.51	2.40
1,117.00	0.60	1,117.52	2.44
1,117.01	0.63	1,117.53	2.47
1,117.02	0.66	1,117.54	2.50
1,117.03	0.69	1,117.55	2.53
1,117.04	0.72	1,117.56	2.56
1,117.05	0.75	1,117.57	2.58
1,117.06	0.78	1,117.58	2.61
1,117.07	0.81	1,117.59	2.63
1,117.08	0.85	1,117.60	2.66
1,117.09	0.88	1,117.61	**2.67**
1,117.10	0.91		
1,117.11	0.95		
1,117.12	0.98		

Summary for Pond CULVERT#2: TO DP#1

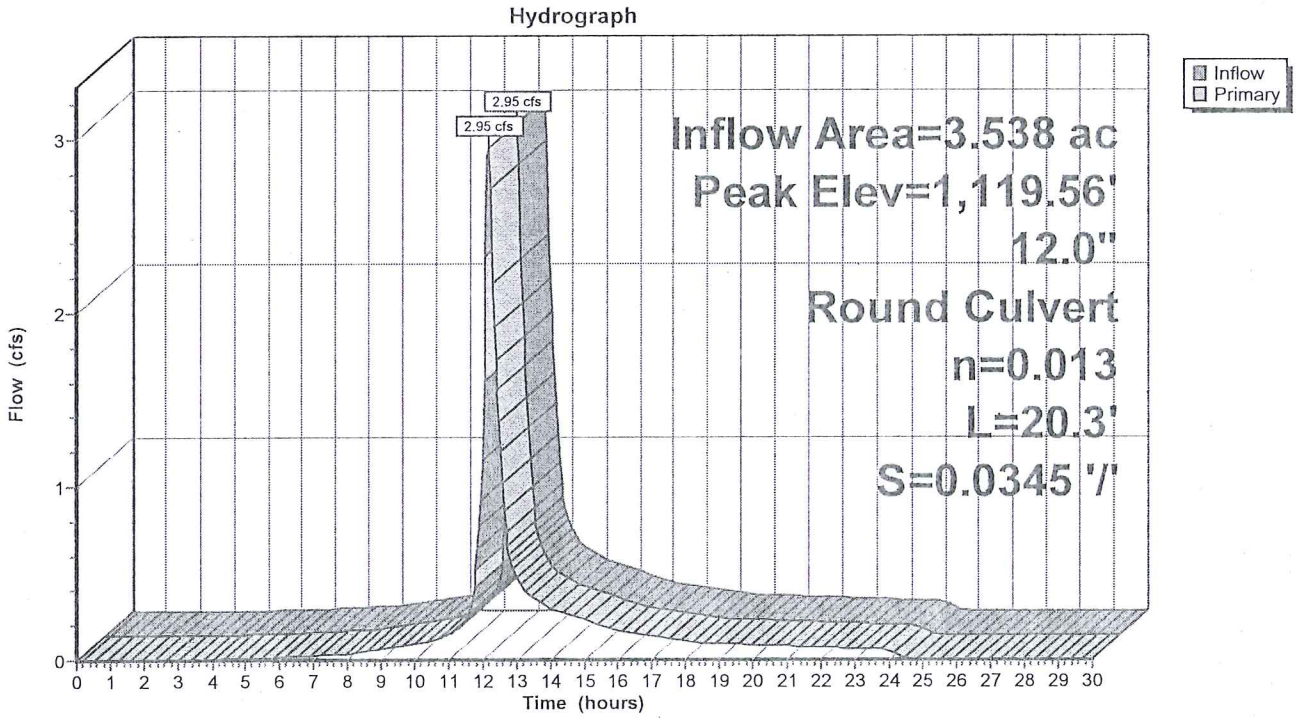
Inflow Area = 3.538 ac, 24.19% Impervious, Inflow Depth = 1.02" for 2-Year event
Inflow = 2.95 cfs @ 12.18 hrs, Volume= 0.302 af
Outflow = 2.95 cfs @ 12.18 hrs, Volume= 0.302 af, Atten= 0%, Lag= 0.0 min
Primary = 2.95 cfs @ 12.18 hrs, Volume= 0.302 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,119.56' @ 12.18 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,118.45'	**12.0" Round Culvert** L= 20.3' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,118.45' / 1,117.75' S= 0.0345 '/' Cc= 0.900 n= 0.013 Cast iron, coated, Flow Area= 0.79 sf

Primary OutFlow Max=2.91 cfs @ 12.18 hrs HW=1,119.54' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 2.91 cfs @ 3.70 fps)

Pond CULVERT#2: TO DP#1



Stage-Discharge for Pond CULVERT#2: TO DP#1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,118.45	0.00	1,118.97	1.01	1,119.49	2.78
1,118.46	0.00	1,118.98	1.05	1,119.50	2.80
1,118.47	0.00	1,118.99	1.08	1,119.51	2.83
1,118.48	0.00	1,119.00	1.12	1,119.52	2.86
1,118.49	0.01	1,119.01	1.15	1,119.53	2.88
1,118.50	0.01	1,119.02	1.19	1,119.54	2.90
1,118.51	0.02	1,119.03	1.22	1,119.55	**2.93**
1,118.52	0.02	1,119.04	1.26		
1,118.53	0.03	1,119.05	1.30		
1,118.54	0.04	1,119.06	1.33		
1,118.55	0.04	1,119.07	1.37		
1,118.56	0.05	1,119.08	1.41		
1,118.57	0.06	1,119.09	1.45		
1,118.58	0.07	1,119.10	1.48		
1,118.59	0.09	1,119.11	1.52		
1,118.60	0.10	1,119.12	1.56		
1,118.61	0.11	1,119.13	1.60		
1,118.62	0.12	1,119.14	1.63		
1,118.63	0.14	1,119.15	1.67		
1,118.64	0.15	1,119.16	1.71		
1,118.65	0.17	1,119.17	1.75		
1,118.66	0.19	1,119.18	1.79		
1,118.67	0.20	1,119.19	1.83		
1,118.68	0.22	1,119.20	1.86		
1,118.69	0.24	1,119.21	1.90		
1,118.70	0.26	1,119.22	1.94		
1,118.71	0.28	1,119.23	1.98		
1,118.72	0.30	1,119.24	2.01		
1,118.73	0.32	1,119.25	2.05		
1,118.74	0.35	1,119.26	2.09		
1,118.75	0.37	1,119.27	2.13		
1,118.76	0.39	1,119.28	2.16		
1,118.77	0.42	1,119.29	2.20		
1,118.78	0.44	1,119.30	2.23		
1,118.79	0.47	1,119.31	2.27		
1,118.80	0.49	1,119.32	2.30		
1,118.81	0.52	1,119.33	2.34		
1,118.82	0.55	1,119.34	2.37		
1,118.83	0.57	1,119.35	2.40		
1,118.84	0.60	1,119.36	2.44		
1,118.85	0.63	1,119.37	2.47		
1,118.86	0.66	1,119.38	2.50		
1,118.87	0.69	1,119.39	2.53		
1,118.88	0.72	1,119.40	2.56		
1,118.89	0.75	1,119.41	2.58		
1,118.90	0.78	1,119.42	2.61		
1,118.91	0.81	1,119.43	2.63		
1,118.92	0.85	1,119.44	2.66		
1,118.93	0.88	1,119.45	2.67		
1,118.94	0.91	1,119.46	2.70		
1,118.95	0.95	1,119.47	2.73		
1,118.96	0.98	1,119.48	2.75		

Summary for Pond DCBH: TO DP#4

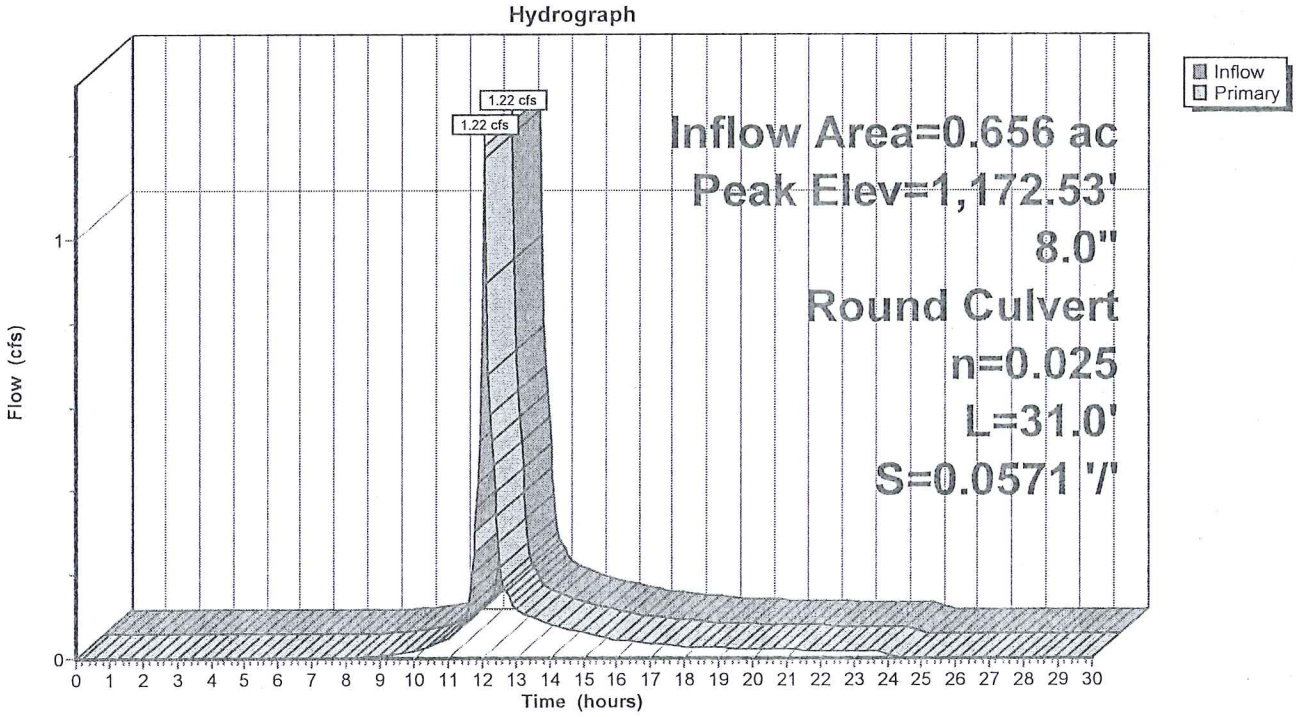
Inflow Area = 0.656 ac, 44.69% Impervious, Inflow Depth = 1.59" for 2-Year event
Inflow = 1.22 cfs @ 12.08 hrs, Volume= 0.087 af
Outflow = 1.22 cfs @ 12.08 hrs, Volume= 0.087 af, Atten= 0%, Lag= 0.0 min
Primary = 1.22 cfs @ 12.08 hrs, Volume= 0.087 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,172.53' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,171.67'	**8.0" Round Culvert** L= 31.0' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,171.67' / 1,169.90' S= 0.0571 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.35 sf

Primary OutFlow Max=1.18 cfs @ 12.08 hrs HW=1,172.50' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 1.18 cfs @ 3.39 fps)

Pond DCBH: TO DP#4



Stage-Discharge for Pond DCBH: TO DP#4

Elevation (feet)	Primary (cfs)
1,171.67	0.00
1,171.68	0.00
1,171.69	0.00
1,171.70	0.00
1,171.71	0.01
1,171.72	0.01
1,171.73	0.01
1,171.74	0.02
1,171.75	0.02
1,171.76	0.03
1,171.77	0.04
1,171.78	0.04
1,171.79	0.05
1,171.80	0.06
1,171.81	0.07
1,171.82	0.08
1,171.83	0.09
1,171.84	0.10
1,171.85	0.11
1,171.86	0.12
1,171.87	0.13
1,171.88	0.15
1,171.89	0.16
1,171.90	0.17
1,171.91	0.19
1,171.92	0.20
1,171.93	0.22
1,171.94	0.23
1,171.95	0.25
1,171.96	0.27
1,171.97	0.28
1,171.98	0.30
1,171.99	0.32
1,172.00	0.34
1,172.01	0.36
1,172.02	0.37
1,172.03	0.39
1,172.04	0.41
1,172.05	0.43
1,172.06	0.45
1,172.07	0.47
1,172.08	0.49
1,172.09	0.51
1,172.10	0.53
1,172.11	0.55
1,172.12	0.57
1,172.13	0.59
1,172.14	0.61
1,172.15	0.63
1,172.16	0.66
1,172.17	0.68
1,172.18	0.70
1,172.19	0.72
1,172.20	0.74
1,172.21	0.76
1,172.22	0.78
1,172.23	0.80
1,172.24	0.82
1,172.25	0.84
1,172.26	0.85
1,172.27	0.87
1,172.28	0.89
1,172.29	0.91
1,172.30	0.92
1,172.31	0.94
1,172.32	0.95
1,172.33	0.96
1,172.34	0.98
1,172.35	0.99
1,172.36	1.00
1,172.37	1.02
1,172.38	1.03
1,172.39	1.05
1,172.40	1.06
1,172.41	1.07
1,172.42	1.08
1,172.43	1.10
1,172.44	1.11
1,172.45	1.12
1,172.46	1.14
1,172.47	1.15
1,172.48	1.16
1,172.49	1.17
1,172.50	1.18
1,172.51	**1.20**

Summary for Pond DCBI: TO DCB-F

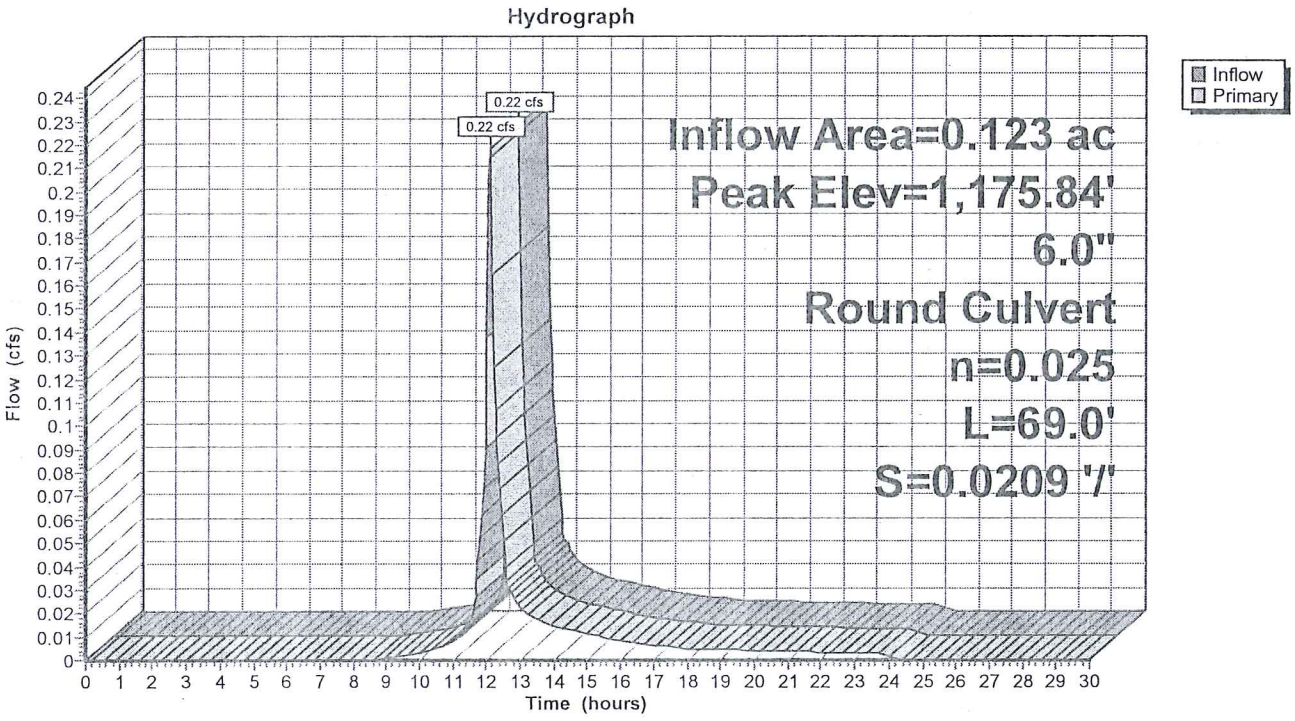
Inflow Area = 0.123 ac, 42.29% Impervious, Inflow Depth = 1.52" for 2-Year event
Inflow = 0.22 cfs @ 12.08 hrs, Volume= 0.016 af
Outflow = 0.22 cfs @ 12.08 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.0 min
Primary = 0.22 cfs @ 12.08 hrs, Volume= 0.016 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,175.84' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,175.50'	**6.0" Round Culvert** L= 69.0' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,175.50' / 1,174.06' S= 0.0209 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.20 sf

Primary OutFlow Max=0.21 cfs @ 12.08 hrs HW=1,175.84' (Free Discharge)
↑—1=**Culvert** (Barrel Controls 0.21 cfs @ 2.13 fps)

Pond DCBI: TO DCB-F



Stage-Discharge for Pond DCBI: TO DCB-F

Elevation (feet)	Primary (cfs)
1,175.50	0.00
1,175.51	0.00
1,175.52	0.00
1,175.53	0.00
1,175.54	0.00
1,175.55	0.00
1,175.56	0.01
1,175.57	0.01
1,175.58	0.01
1,175.59	0.02
1,175.60	0.02
1,175.61	0.02
1,175.62	0.03
1,175.63	0.03
1,175.64	0.04
1,175.65	0.05
1,175.66	0.05
1,175.67	0.06
1,175.68	0.07
1,175.69	0.07
1,175.70	0.08
1,175.71	0.09
1,175.72	0.10
1,175.73	0.11
1,175.74	0.12
1,175.75	0.13
1,175.76	0.13
1,175.77	0.14
1,175.78	0.15
1,175.79	0.16
1,175.80	0.17
1,175.81	0.18
1,175.82	0.19
1,175.83	0.21
1,175.84	0.22
1,175.85	0.23
1,175.86	0.24
1,175.87	0.25
1,175.88	0.26
1,175.89	0.27
1,175.90	0.28
1,175.91	0.29
1,175.92	0.30
1,175.93	0.31
1,175.94	0.32
1,175.95	0.33
1,175.96	0.34
1,175.97	0.35
1,175.98	0.36
1,175.99	0.37
1,176.00	**0.38**

Summary for Pond DCBJ: TO DCB-K

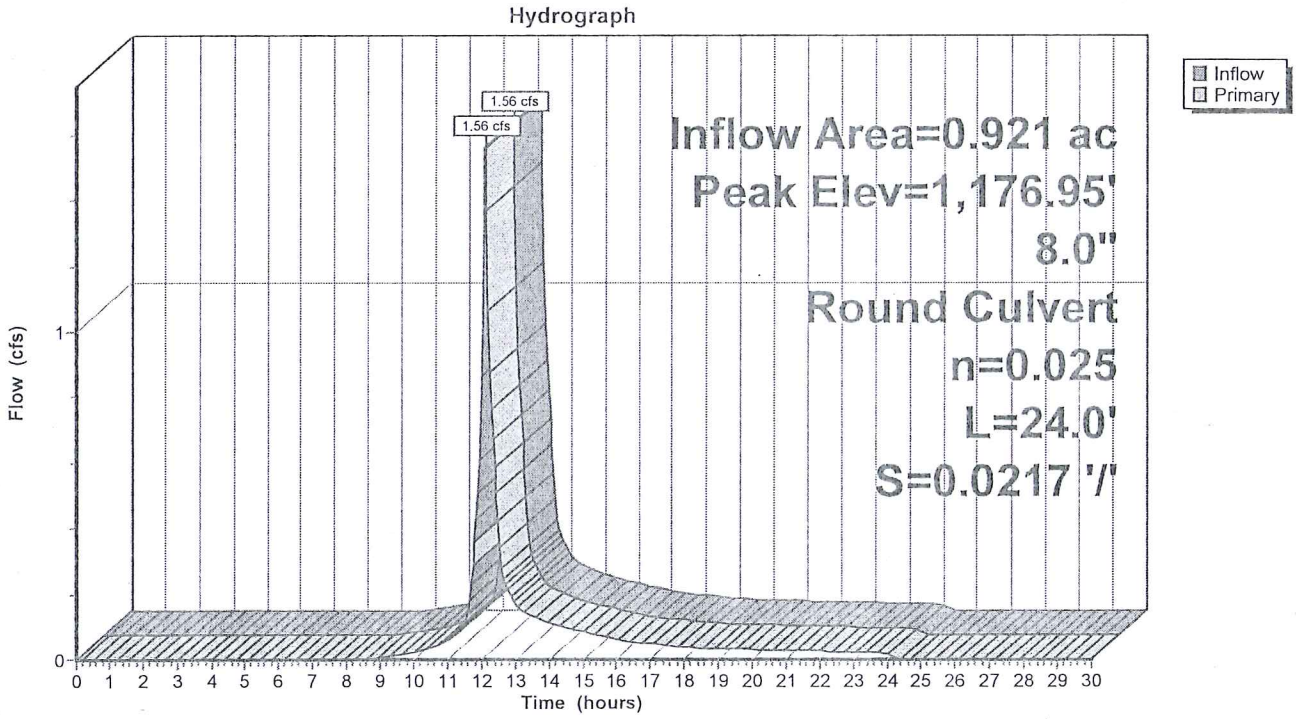
Inflow Area = 0.921 ac, 43.25% Impervious, Inflow Depth = 1.52" for 2-Year event
Inflow = 1.56 cfs @ 12.10 hrs, Volume= 0.116 af
Outflow = 1.56 cfs @ 12.10 hrs, Volume= 0.116 af, Atten= 0%, Lag= 0.0 min
Primary = 1.56 cfs @ 12.10 hrs, Volume= 0.116 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,176.95' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,174.86'	**8.0" Round Culvert** L= 24.0' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,174.86' / 1,174.34' S= 0.0217 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.35 sf

Primary OutFlow Max=1.55 cfs @ 12.10 hrs HW=1,176.92' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 1.55 cfs @ 4.43 fps)

Pond DCBJ: TO DCB-K



Stage-Discharge for Pond DCBJ: TO DCB-K

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,174.86	0.00	1,175.90	1.06	1,176.94	**1.55**
1,174.88	0.00	1,175.92	1.07		
1,174.90	0.00	1,175.94	1.08		
1,174.92	0.01	1,175.96	1.09		
1,174.94	0.02	1,175.98	1.10		
1,174.96	0.02	1,176.00	1.11		
1,174.98	0.04	1,176.02	1.12		
1,175.00	0.05	1,176.04	1.14		
1,175.02	0.06	1,176.06	1.15		
1,175.04	0.08	1,176.08	1.16		
1,175.06	0.10	1,176.10	1.17		
1,175.08	0.12	1,176.12	1.18		
1,175.10	0.14	1,176.14	1.19		
1,175.12	0.17	1,176.16	1.20		
1,175.14	0.19	1,176.18	1.21		
1,175.16	0.22	1,176.20	1.22		
1,175.18	0.25	1,176.22	1.23		
1,175.20	0.28	1,176.24	1.24		
1,175.22	0.31	1,176.26	1.25		
1,175.24	0.34	1,176.28	1.26		
1,175.26	0.37	1,176.30	1.27		
1,175.28	0.40	1,176.32	1.28		
1,175.30	0.44	1,176.34	1.29		
1,175.32	0.47	1,176.36	1.30		
1,175.34	0.50	1,176.38	1.31		
1,175.36	0.54	1,176.40	1.32		
1,175.38	0.57	1,176.42	1.33		
1,175.40	0.61	1,176.44	1.34		
1,175.42	0.64	1,176.46	1.35		
1,175.44	0.68	1,176.48	1.36		
1,175.46	0.71	1,176.50	1.37		
1,175.48	0.74	1,176.52	1.37		
1,175.50	0.78	1,176.54	1.38		
1,175.52	0.81	1,176.56	1.39		
1,175.54	0.84	1,176.58	1.40		
1,175.56	0.87	1,176.60	1.41		
1,175.58	0.89	1,176.62	1.42		
1,175.60	0.92	1,176.64	1.43		
1,175.62	0.94	1,176.66	1.44		
1,175.64	0.96	1,176.68	1.45		
1,175.66	0.98	1,176.70	1.45		
1,175.68	0.99	1,176.72	1.46		
1,175.70	1.00	1,176.74	1.47		
1,175.72	1.00	1,176.76	1.48		
1,175.74	0.99	1,176.78	1.49		
1,175.76	0.97	1,176.80	1.50		
1,175.78	0.98	1,176.82	1.50		
1,175.80	1.00	1,176.84	1.51		
1,175.82	1.01	1,176.86	1.52		
1,175.84	1.02	1,176.88	1.53		
1,175.86	1.03	1,176.90	1.54		
1,175.88	1.04	1,176.92	1.55		

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E11: TO WET Runoff Area=70,866 sf 3.65% Impervious Runoff Depth=1.27"
Flow Length=109' Slope=0.1500 '/' Tc=8.2 min CN=64 Runoff=2.00 cfs 0.172 af

Subcatchment E12: TO CULVERT#1 Runoff Area=185,198 sf 2.48% Impervious Runoff Depth=1.46"
Flow Length=683' Tc=20.6 min CN=67 Runoff=4.57 cfs 0.519 af

Subcatchment E14: TO CULVERT #2 Runoff Area=117,393 sf 2.76% Impervious Runoff Depth=1.40"
Flow Length=490' Tc=14.6 min CN=66 Runoff=3.13 cfs 0.314 af

Subcatchment E16: TO DCB-B Runoff Area=6,163 sf 78.74% Impervious Runoff Depth=3.71"
Flow Length=121' Slope=0.0500 '/' Tc=5.0 min CN=93 Runoff=0.59 cfs 0.044 af

Subcatchment E17: TO DCB-A Runoff Area=36,743 sf 92.67% Impervious Runoff Depth=4.04"
Flow Length=257' Tc=5.0 min CN=96 Runoff=3.66 cfs 0.284 af

Subcatchment E18: TO DP#2 Runoff Area=31,291 sf 68.41% Impervious Runoff Depth=3.40"
Flow Length=260' Tc=5.0 min CN=90 Runoff=2.79 cfs 0.203 af

Subcatchment E19: BUILDING Runoff Area=130,896 sf 100.00% Impervious Runoff Depth=4.26"
Tc=0.0 min CN=98 Runoff=15.12 cfs 1.068 af

Subcatchment E20: TO DCB-H Runoff Area=28,596 sf 44.69% Impervious Runoff Depth=2.91"
Flow Length=336' Tc=5.0 min CN=85 Runoff=2.24 cfs 0.159 af

Subcatchment E21: TO DCB-I Runoff Area=5,372 sf 42.29% Impervious Runoff Depth=2.82"
Flow Length=202' Tc=5.2 min CN=84 Runoff=0.40 cfs 0.029 af

Subcatchment E22: TO DCB-J Runoff Area=34,739 sf 43.40% Impervious Runoff Depth=2.82"
Flow Length=315' Tc=7.1 min CN=84 Runoff=2.49 cfs 0.187 af

Subcatchment E23: TO DCB-C Runoff Area=5,658 sf 89.66% Impervious Runoff Depth=4.04"
Flow Length=80' Slope=0.0080 '/' Tc=5.0 min CN=96 Runoff=0.56 cfs 0.044 af

Subcatchment E24: TO DCB-D Runoff Area=11,793 sf 83.76% Impervious Runoff Depth=3.82"
Flow Length=148' Slope=0.0600 '/' Tc=5.1 min CN=94 Runoff=1.14 cfs 0.086 af

Subcatchment E25: TO DCBE Runoff Area=5,688 sf 80.36% Impervious Runoff Depth=3.71"
Flow Length=145' Slope=0.0900 '/' Tc=5.0 min CN=93 Runoff=0.54 cfs 0.040 af

Subcatchment E26: TO DCB-F Runoff Area=3,403 sf 61.92% Impervious Runoff Depth=3.30"
Flow Length=142' Slope=0.0700 '/' Tc=5.0 min CN=89 Runoff=0.30 cfs 0.021 af

Subcatchment E27: TO DCB-G Runoff Area=9,638 sf 40.69% Impervious Runoff Depth=2.82"
Flow Length=181' Slope=0.0080 '/' Tc=5.0 min CN=84 Runoff=0.73 cfs 0.052 af

Reach DCB-K: TO DP#5 Inflow=2.89 cfs 0.216 af
Outflow=2.89 cfs 0.216 af

Reach DCBA: TO DMH-A Avg. Flow Depth=0.35' Max Vel=12.95 fps Inflow=3.66 cfs 0.284 af
15.0" Round Pipe n=0.011 L=10.0' S=0.0790 '/' Capacity=21.46 cfs Outflow=3.66 cfs 0.284 af

Reach DCBB: TO DMH-B Inflow=0.59 cfs 0.044 af
Outflow=0.59 cfs 0.044 af

Reach DCBC: TO DMH-B Inflow=0.56 cfs 0.044 af
Outflow=0.56 cfs 0.044 af

Reach DCBD: TO DMH-C Inflow=1.14 cfs 0.086 af
Outflow=1.14 cfs 0.086 af

Reach DCBE: TO DCB-F Avg. Flow Depth=0.57' Max Vel=5.95 fps Inflow=2.79 cfs 0.214 af
12.0" Round Pipe n=0.011 L=26.0' S=0.0112 '/' Capacity=4.45 cfs Outflow=2.78 cfs 0.214 af

Reach DCBF: TO DMH-D Inflow=3.08 cfs 0.235 af
Outflow=3.08 cfs 0.235 af

Reach DCBG: TO DP#3 Inflow=3.81 cfs 0.287 af
Outflow=3.81 cfs 0.287 af

Reach DMHA: TO DP#1 Avg. Flow Depth=0.49' Max Vel=8.18 fps Inflow=3.66 cfs 0.284 af
15.0" Round Pipe n=0.011 L=14.0' S=0.0221 '/' Capacity=11.36 cfs Outflow=3.65 cfs 0.284 af

Reach DMHB: TO DMH-C Inflow=1.15 cfs 0.087 af
Outflow=1.15 cfs 0.087 af

Reach DMHC: TO DCB-E Avg. Flow Depth=0.35' Max Vel=9.28 fps Inflow=2.29 cfs 0.173 af
12.0" Round Pipe n=0.010 L=85.0' S=0.0358 '/' Capacity=8.76 cfs Outflow=2.26 cfs 0.173 af

Reach DMHD: TO DCB-G Inflow=3.08 cfs 0.235 af
Outflow=3.08 cfs 0.235 af

Reach DP#1: CRYSTAL LAKE Inflow=11.23 cfs 1.287 af
Outflow=11.23 cfs 1.287 af

Reach DP#2: EX RAIN GARDEN Inflow=2.79 cfs 0.203 af
Outflow=2.79 cfs 0.203 af

Reach DP#3: DMH-E Inflow=3.81 cfs 0.287 af
Outflow=3.81 cfs 0.287 af

Reach DP#4: DCB-J Inflow=2.24 cfs 0.159 af
Outflow=2.24 cfs 0.159 af

Reach DP#5: DCB-K Inflow=2.89 cfs 0.216 af
Outflow=2.89 cfs 0.216 af

Reach OL1: OVERLAND FLOW Avg. Flow Depth=0.11' Max Vel=3.00 fps Inflow=3.65 cfs 0.284 af
n=0.070 L=20.0' S=0.4500 '/' Capacity=216.87 cfs Outflow=3.61 cfs 0.284 af

Reach OL2: OVERLAND FLOW Avg. Flow Depth=0.14' Max Vel=2.22 fps Inflow=3.61 cfs 0.284 af
n=0.070 L=243.0' S=0.1770 '/' Capacity=136.00 cfs Outflow=3.38 cfs 0.284 af

Reach OL3: OVERLAND FLOW Avg. Flow Depth=0.20' Max Vel=1.39 fps Inflow=3.38 cfs 0.284 af
n=0.070 L=45.0' S=0.0444 '/' Capacity=68.16 cfs Outflow=3.33 cfs 0.284 af

Reach OL4: OVERLAND FLOW Avg. Flow Depth=0.18' Max Vel=2.86 fps Inflow=6.17 cfs 0.597 af
n=0.070 L=74.0' S=0.2162 '/' Capacity=150.33 cfs Outflow=6.07 cfs 0.597 af

Reach OL5: OVERLAND FLOW Avg. Flow Depth=0.17' Max Vel=2.24 fps Inflow=4.57 cfs 0.519 af
n=0.070 L=102.0' S=0.1382 '/' Capacity=120.20 cfs Outflow=4.53 cfs 0.519 af

Pond CULVERT#1: TO DP#1 Peak Elev=1,118.57' Inflow=4.57 cfs 0.519 af
12.0" Round Culvert n=0.013 L=28.6' S=0.0867 '/' Outflow=4.57 cfs 0.519 af

Pond CULVERT#2: TO DP#1 Peak Elev=1,121.61' Inflow=6.17 cfs 0.597 af
12.0" Round Culvert n=0.013 L=20.3' S=0.0345 '/' Outflow=6.17 cfs 0.597 af

Pond DCBH: TO DP#4 Peak Elev=1,175.40' Inflow=2.24 cfs 0.159 af
8.0" Round Culvert n=0.025 L=31.0' S=0.0571 '/' Outflow=2.24 cfs 0.159 af

Pond DCBI: TO DCB-F Peak Elev=1,176.02' Inflow=0.40 cfs 0.029 af
6.0" Round Culvert n=0.025 L=69.0' S=0.0209 '/' Outflow=0.40 cfs 0.029 af

Pond DCBJ: TO DCB-K Peak Elev=1,181.68' Inflow=2.89 cfs 0.216 af
8.0" Round Culvert n=0.025 L=24.0' S=0.0217 '/' Outflow=2.89 cfs 0.216 af

Total Runoff Area = 15.690 ac Runoff Volume = 3.221 af Average Runoff Depth = 2.46"
62.35% Pervious = 9.783 ac 37.65% Impervious = 5.907 ac

Summary for Subcatchment E11: TO WET

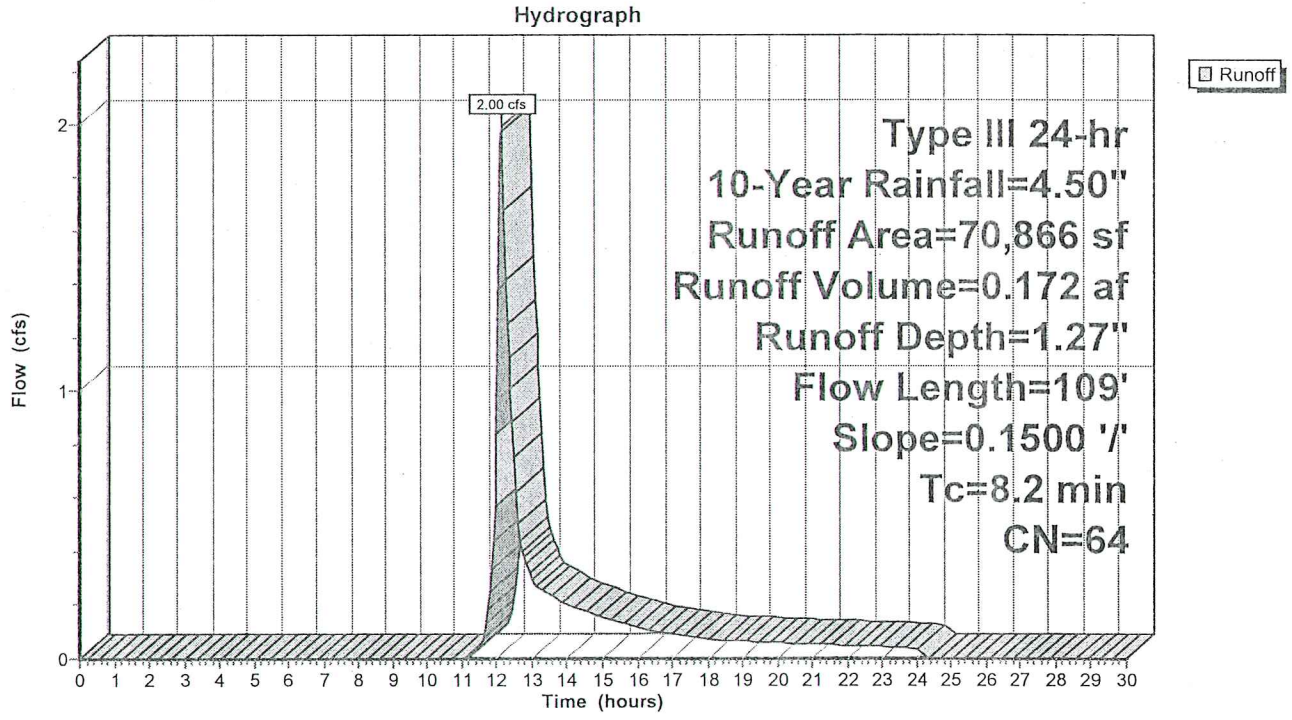
Runoff = 2.00 cfs @ 12.13 hrs, Volume= 0.172 af, Depth= 1.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
8,033	61	>75% Grass cover, Good, HSG B
30,342	55	Woods, Good, HSG B
2,584	98	Paved parking, HSG B
1,398	74	>75% Grass cover, Good, HSG C
28,509	70	Woods, Good, HSG C
70,866	64	Weighted Average
68,282		96.35% Pervious Area
2,584		3.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	75	0.1500	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.3	34	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	109	Total			

Subcatchment E11: TO WET



Summary for Subcatchment E12: TO CULVERT#1

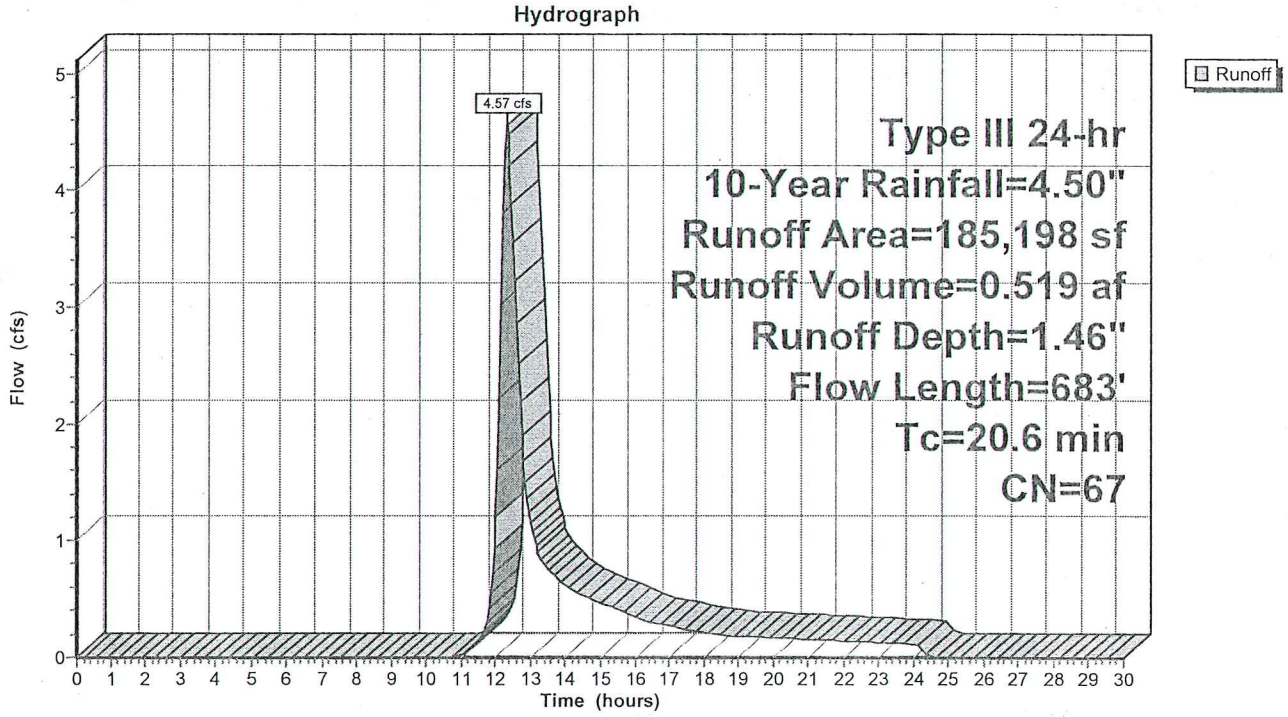
Runoff = 4.57 cfs @ 12.31 hrs, Volume= 0.519 af, Depth= 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
4,394	61	>75% Grass cover, Good, HSG B
44,375	55	Woods, Good, HSG B
3,012	98	Paved parking, HSG B
4,011	74	>75% Grass cover, Good, HSG C
127,833	70	Woods, Good, HSG C
1,573	98	Paved parking, HSG C
185,198	67	Weighted Average
180,613		97.52% Pervious Area
4,585		2.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	36	0.0700	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
3.6	39	0.2800	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
3.0	366	0.1700	2.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.1	242	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.6	683	Total			

Subcatchment E12: TO CULVERT#1



Summary for Subcatchment E14: TO CULVERT #2

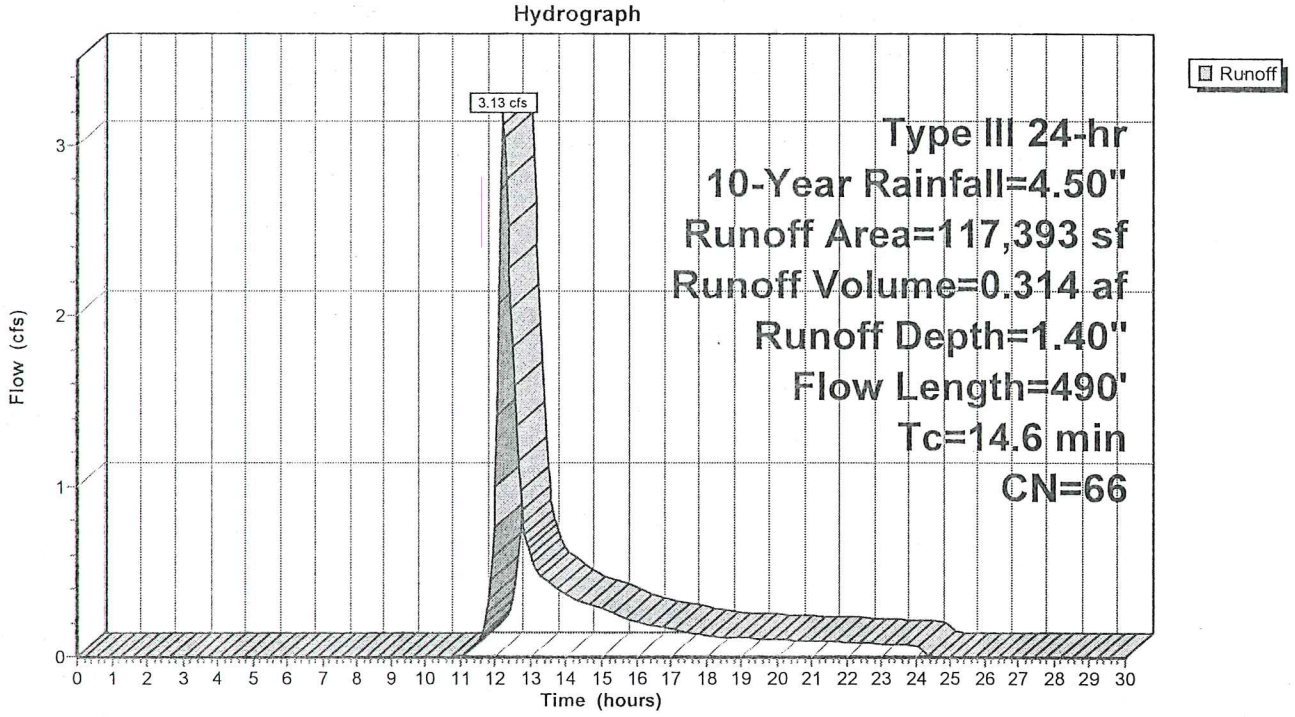
Runoff = 3.13 cfs @ 12.22 hrs, Volume= 0.314 af, Depth= 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
4,416	61	>75% Grass cover, Good, HSG B
947	98	Paved parking, HSG B
35,087	55	Woods, Good, HSG B
6,594	74	>75% Grass cover, Good, HSG C
67,351	70	Woods, Good, HSG C
2,290	98	Paved parking, HSG C
708	96	Gravel surface, HSG C
117,393	66	Weighted Average
114,156		97.24% Pervious Area
3,237		2.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	75	0.0500	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	43	0.4200	3.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.0	137	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.8	235	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.6	490	Total			

Subcatchment E14: TO CULVERT #2



Summary for Subcatchment E16: TO DCB-B

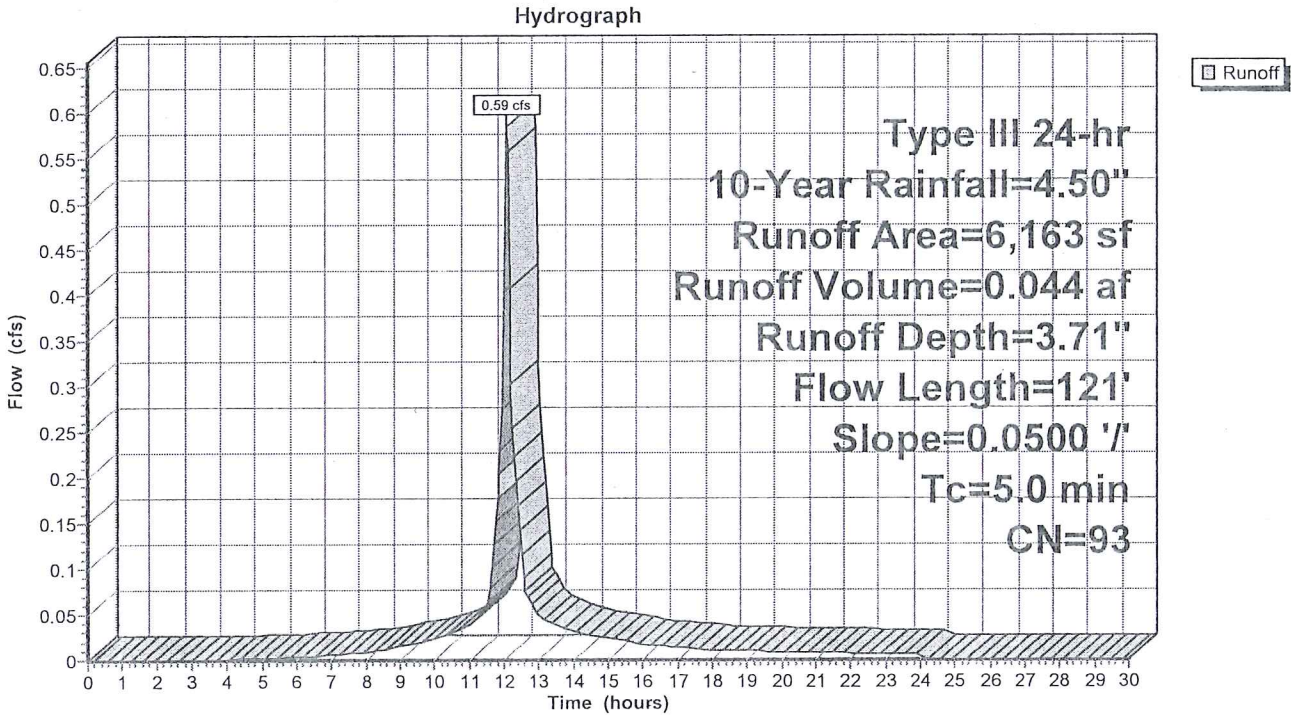
Runoff = 0.59 cfs @ 12.07 hrs, Volume= 0.044 af, Depth= 3.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
1,299	74	>75% Grass cover, Good, HSG C
4,853	98	Paved parking, HSG C
11	70	Woods, Good, HSG C
6,163	93	Weighted Average
1,310		21.26% Pervious Area
4,853		78.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	34	0.0500	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	16	0.0500	1.33		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	71	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.5	121	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E16: TO DCB-B



Summary for Subcatchment E17: TO DCB-A

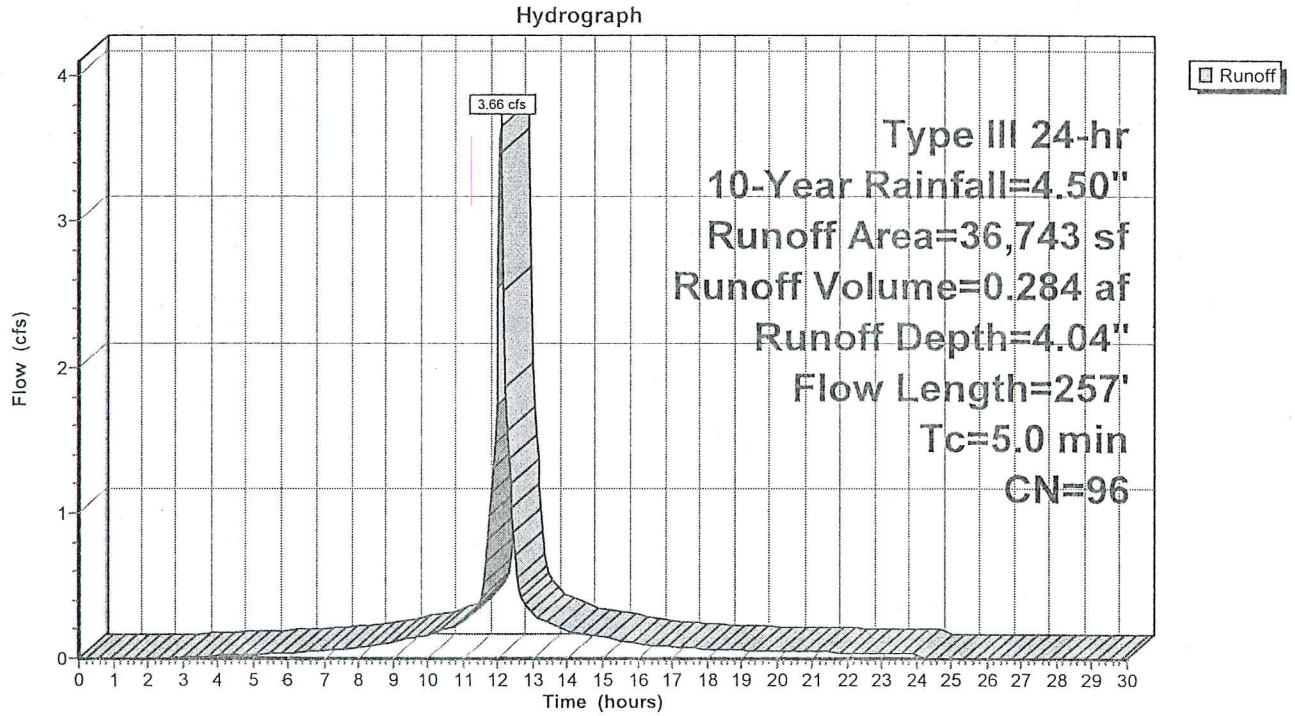
Runoff = 3.66 cfs @ 12.07 hrs, Volume= 0.284 af, Depth= 4.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
2,694	74	>75% Grass cover, Good, HSG C
34,049	98	Paved parking, HSG C
36,743	96	Weighted Average
2,694		7.33% Pervious Area
34,049		92.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	50	0.0400	1.53		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.2	41	0.0400	4.06		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	166	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	257	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E17: TO DCB-A



Summary for Subcatchment E18: TO DP#2

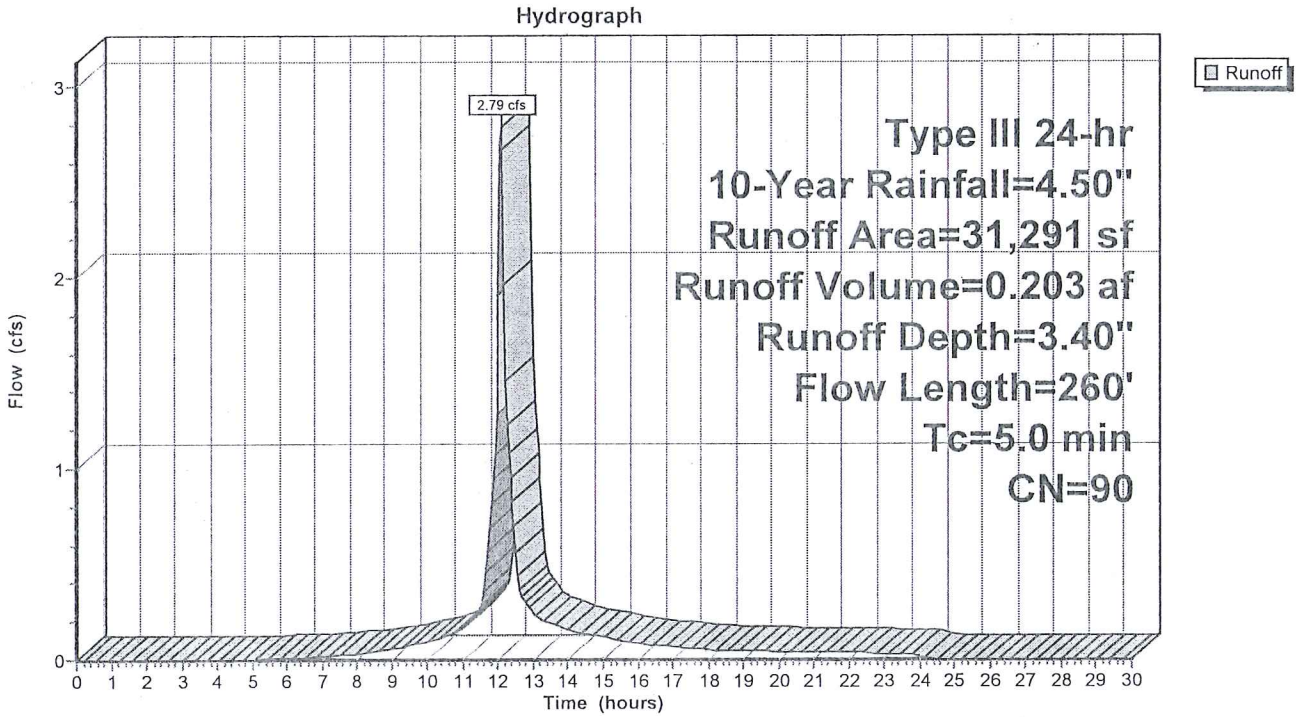
Runoff = 2.79 cfs @ 12.07 hrs, Volume= 0.203 af, Depth= 3.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
9,885	74	>75% Grass cover, Good, HSG C
21,406	98	Paved parking, HSG C
31,291	90	Weighted Average
9,885		31.59% Pervious Area
21,406		68.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0700	1.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	127	0.0700	5.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	83	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	260	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E18: TO DP#2



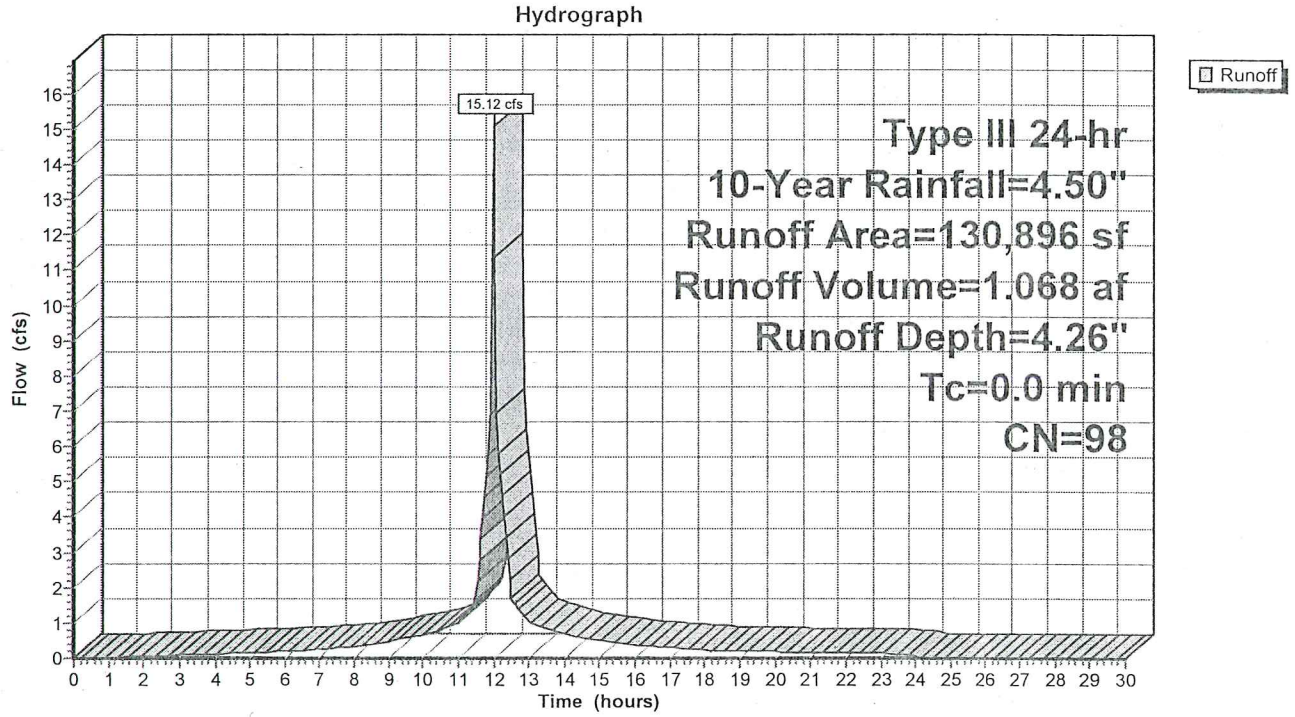
Summary for Subcatchment E19: BUILDING

Runoff = 15.12 cfs @ 12.00 hrs, Volume= 1.068 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
130,896	98	Paved parking, HSG C
130,896		100.00% Impervious Area

Subcatchment E19: BUILDING



Summary for Subcatchment E20: TO DCB-H

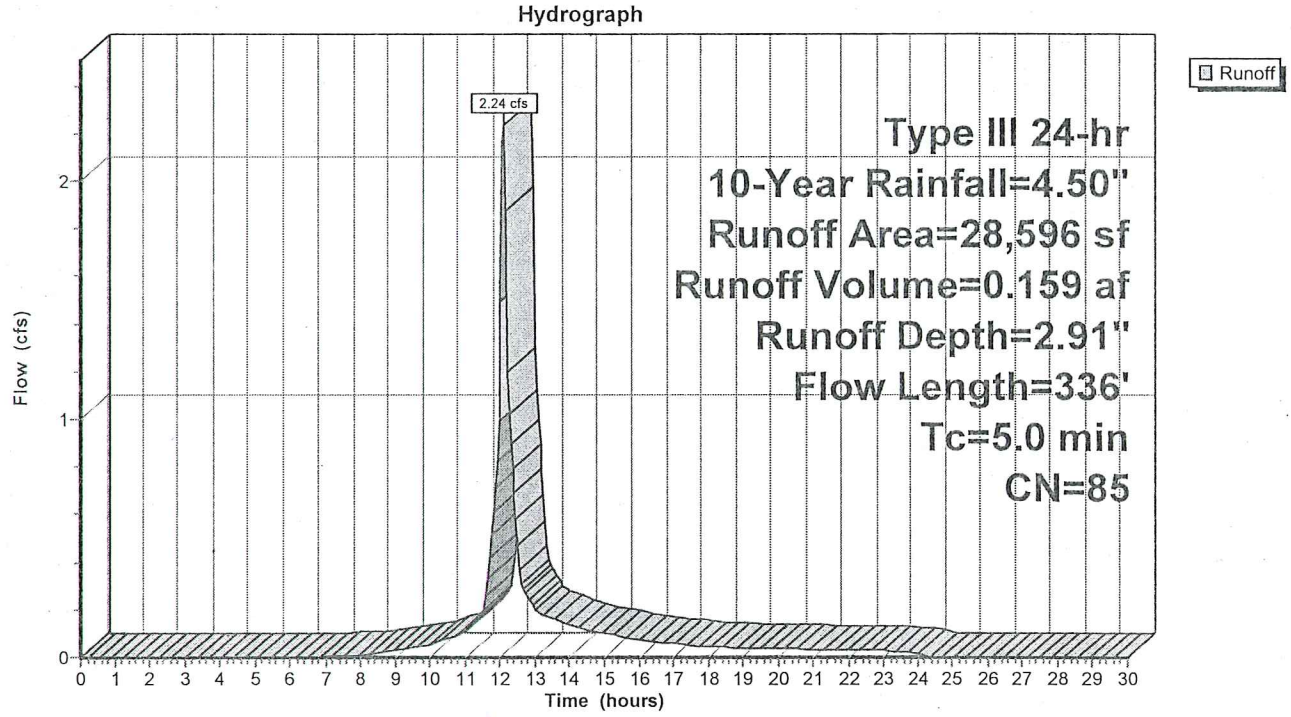
Runoff = 2.24 cfs @ 12.07 hrs, Volume= 0.159 af, Depth= 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
14,304	74	>75% Grass cover, Good, HSG C
12,780	98	Paved parking, HSG C
756	70	Woods, Good, HSG C
756	96	Gravel surface, HSG C
28,596	85	Weighted Average
15,816		55.31% Pervious Area
12,780		44.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.1000	1.84		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	30	0.1000	1.99		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	107	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.0	179	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.8	336	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E20: TO DCB-H



Summary for Subcatchment E21: TO DCB-I

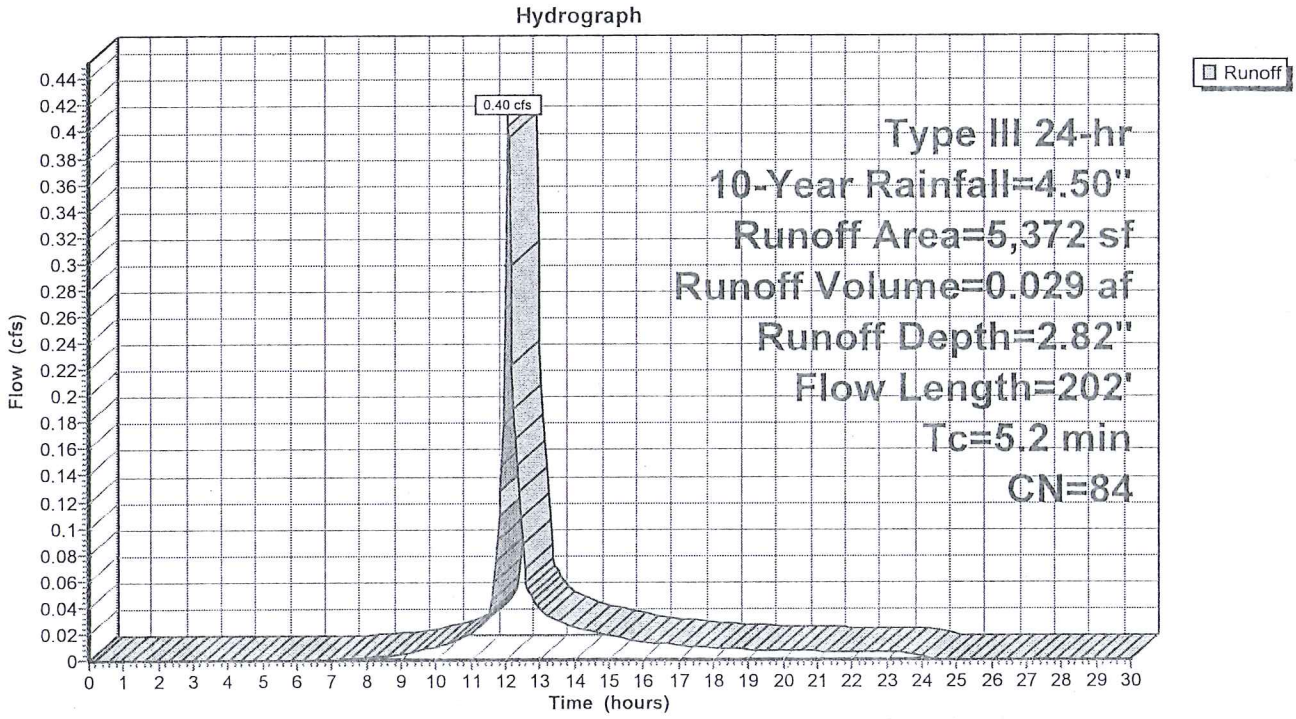
Runoff = 0.40 cfs @ 12.08 hrs, Volume= 0.029 af, Depth= 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
3,100	74	>75% Grass cover, Good, HSG C
2,272	98	Paved parking, HSG C
5,372	84	Weighted Average
3,100		57.71% Pervious Area
2,272		42.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	75	0.0900	0.28		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	64	0.0900	4.83		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	63	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
5.2	202	Total			

Subcatchment E21: TO DCB-I



Summary for Subcatchment E22: TO DCB-J

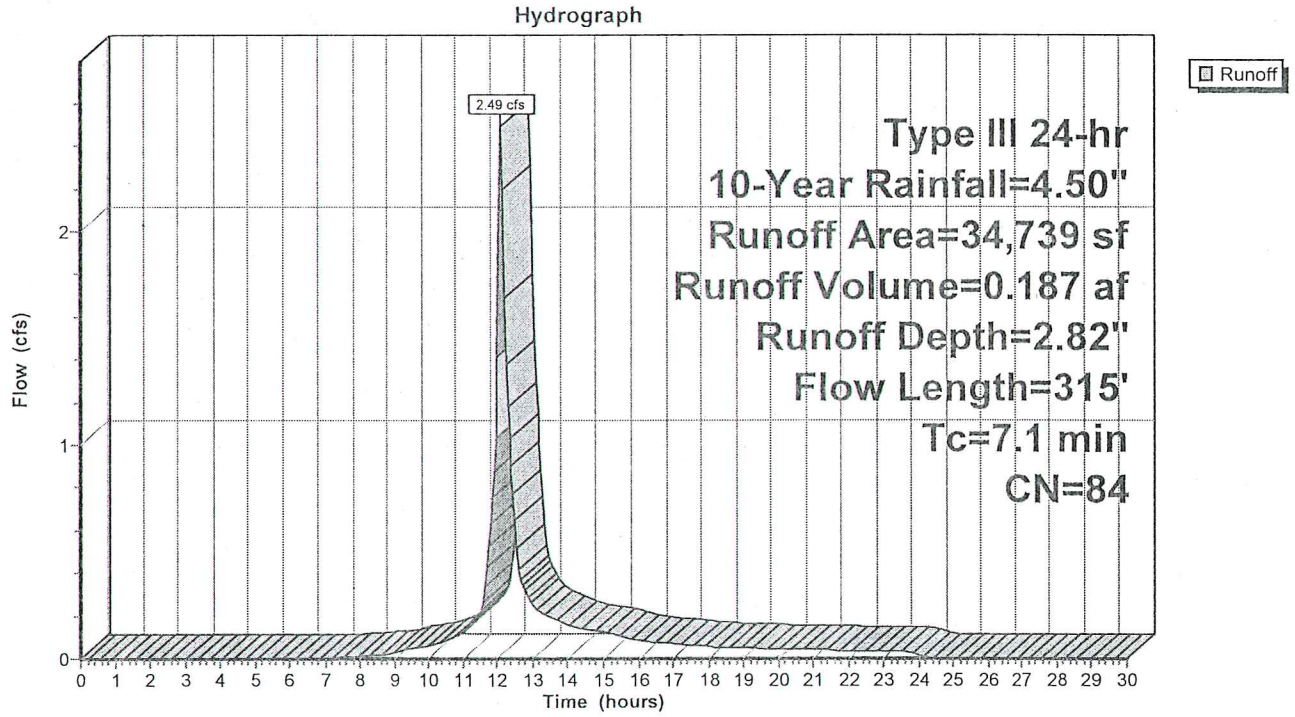
Runoff = 2.49 cfs @ 12.10 hrs, Volume= 0.187 af, Depth= 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
17,024	74	>75% Grass cover, Good, HSG C
15,076	98	Paved parking, HSG C
2,639	70	Woods, Good, HSG C
34,739	84	Weighted Average
19,663		56.60% Pervious Area
15,076		43.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.7	56	0.3000	0.20		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.4	259	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.1	315	Total			

Subcatchment E22: TO DCB-J



Summary for Subcatchment E23: TO DCB-C

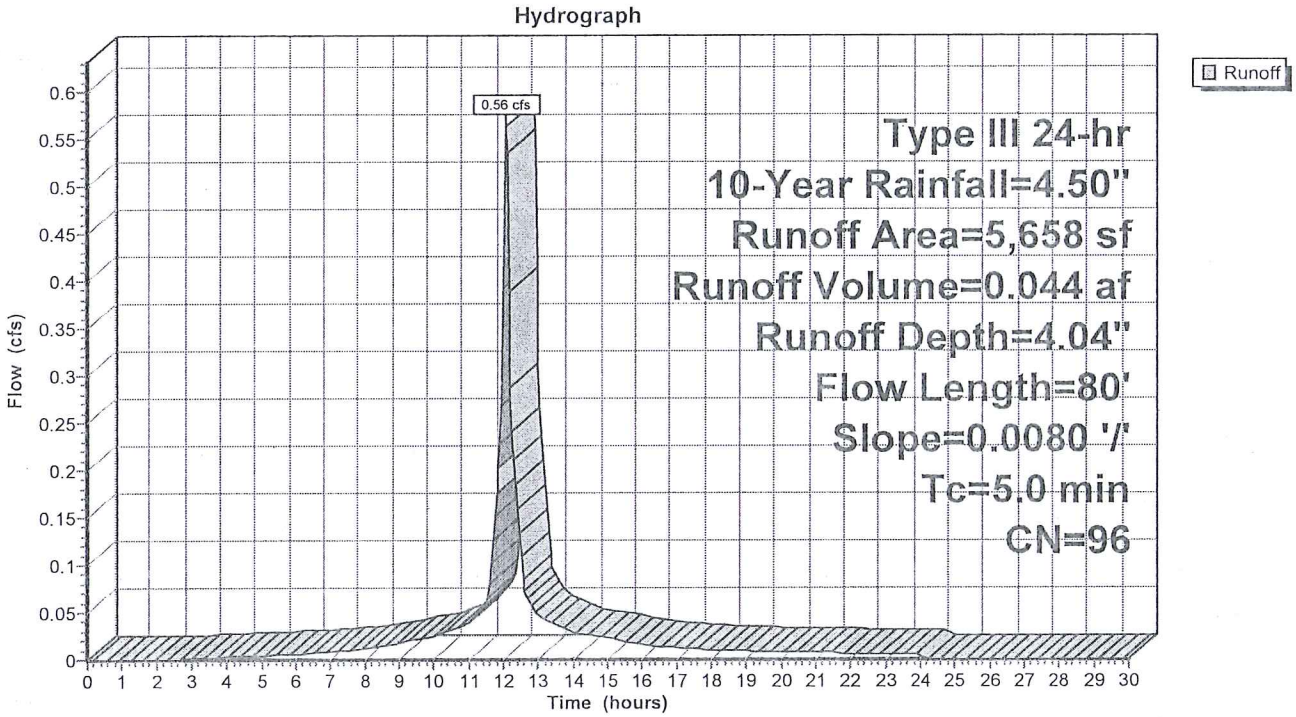
Runoff = 0.56 cfs @ 12.07 hrs, Volume= 0.044 af, Depth= 4.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
585	74	>75% Grass cover, Good, HSG C
5,073	98	Paved parking, HSG C
5,658	96	Weighted Average
585		10.34% Pervious Area
5,073		89.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	10	0.0080	0.07		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.9	40	0.0080	0.77		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	30	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.5	80	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E23: TO DCB-C



Summary for Subcatchment E24: TO DCB-D

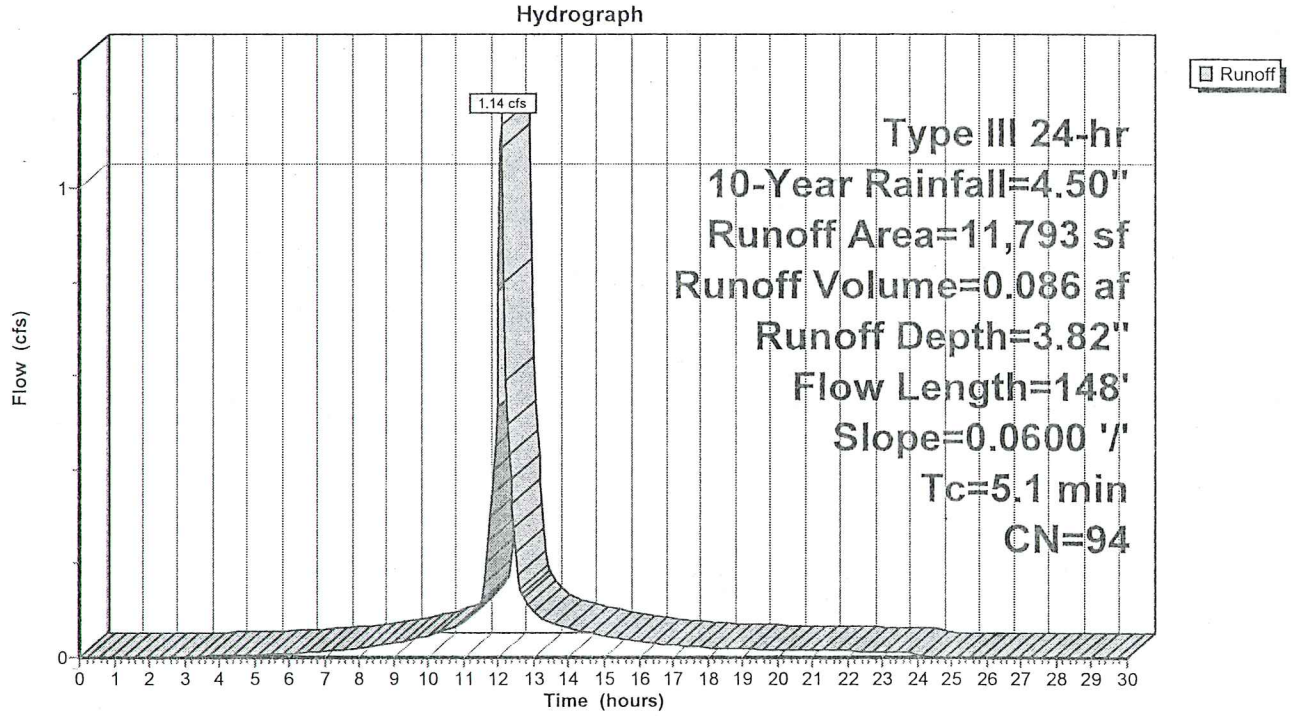
Runoff = 1.14 cfs @ 12.07 hrs, Volume= 0.086 af, Depth= 3.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
1,915	74	>75% Grass cover, Good, HSG C
9,878	98	Paved parking, HSG C
11,793	94	Weighted Average
1,915		16.24% Pervious Area
9,878		83.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	69	0.0600	0.24		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.3	79	0.0600	4.97		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
5.1	148	Total			

Subcatchment E24: TO DCB-D



Summary for Subcatchment E25: TO DCBE

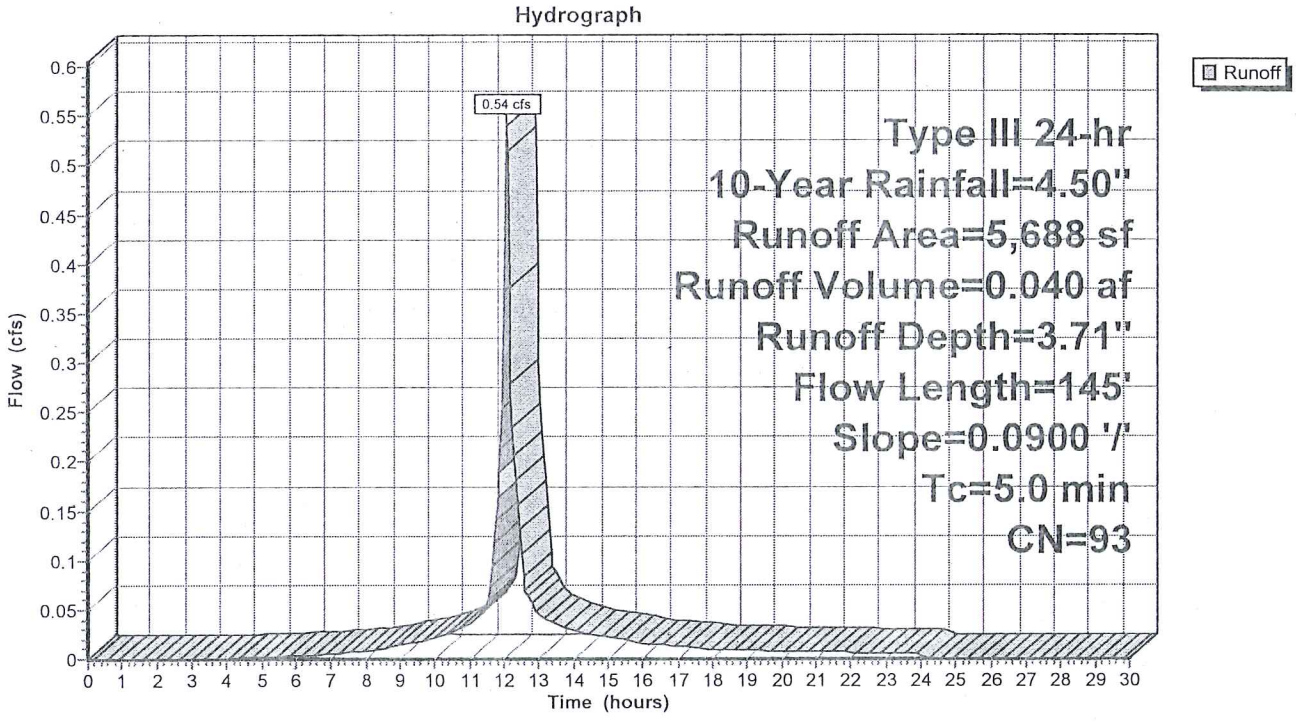
Runoff = 0.54 cfs @ 12.07 hrs, Volume= 0.040 af, Depth= 3.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
1,117	74	>75% Grass cover, Good, HSG C
4,571	98	Paved parking, HSG C
5,688	93	Weighted Average
1,117		19.64% Pervious Area
4,571		80.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0900	2.12		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	95	0.0900	6.09		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	145	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E25: TO DCBE



Summary for Subcatchment E26: TO DCB-F

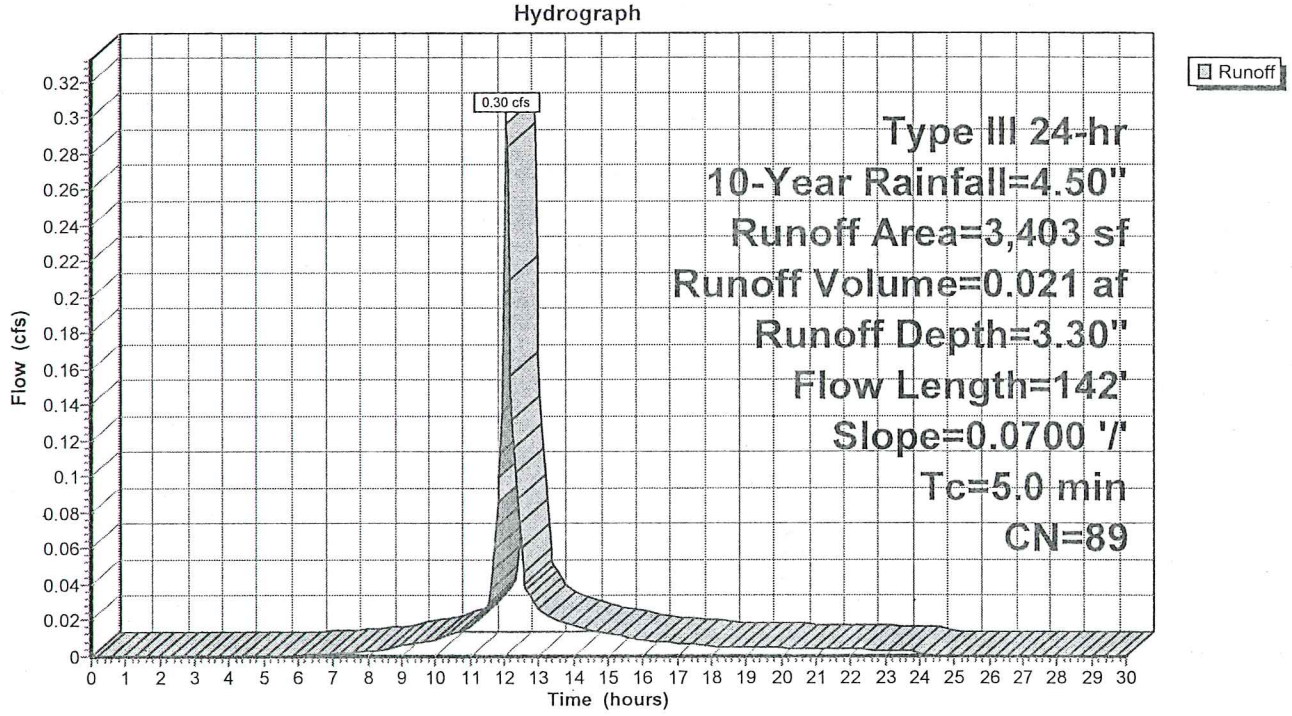
Runoff = 0.30 cfs @ 12.07 hrs, Volume= 0.021 af, Depth= 3.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
1,296	74	>75% Grass cover, Good, HSG C
2,107	98	Paved parking, HSG C
3,403	89	Weighted Average
1,296		38.08% Pervious Area
2,107		61.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0700	1.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	92	0.0700	5.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	142	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E26: TO DCB-F



Summary for Subcatchment E27: TO DCB-G

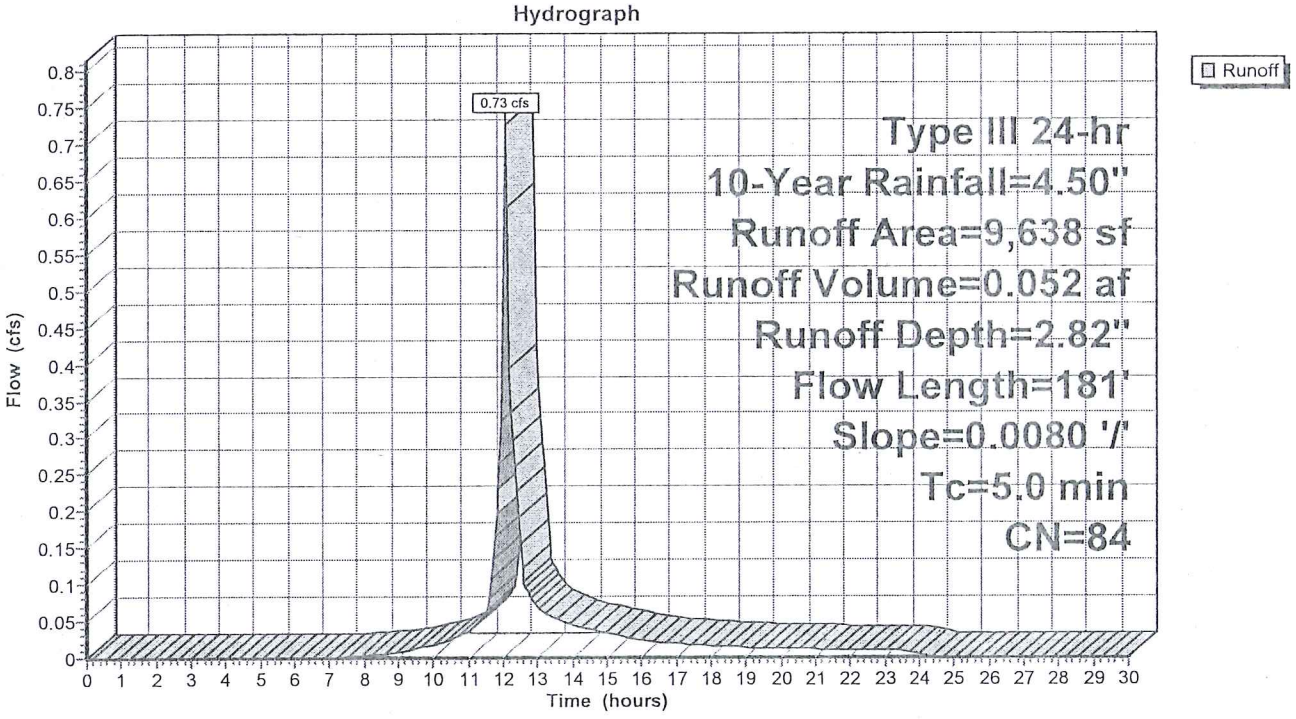
Runoff = 0.73 cfs @ 12.08 hrs, Volume= 0.052 af, Depth= 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
5,716	74	>75% Grass cover, Good, HSG C
3,922	98	Paved parking, HSG C
9,638	84	Weighted Average
5,716		59.31% Pervious Area
3,922		40.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	50	0.0080	0.80		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.2	131	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	181	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E27: TO DCB-G

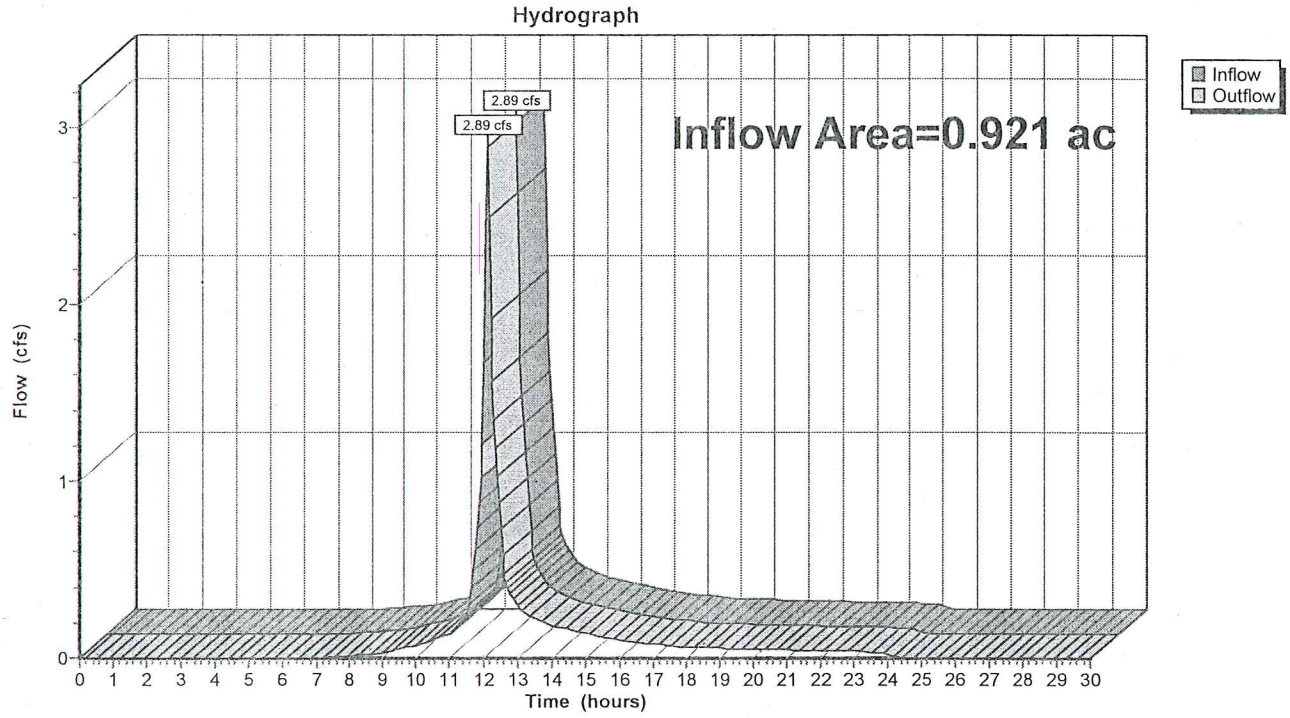


Summary for Reach DCB-K: TO DP#5

Inflow Area = 0.921 ac, 43.25% Impervious, Inflow Depth = 2.82" for 10-Year event
Inflow = 2.89 cfs @ 12.10 hrs, Volume= 0.216 af
Outflow = 2.89 cfs @ 12.10 hrs, Volume= 0.216 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DCB-K: TO DP#5



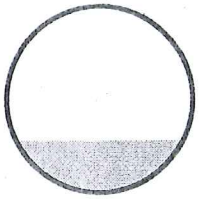
Summary for Reach DCBA: TO DMH-A

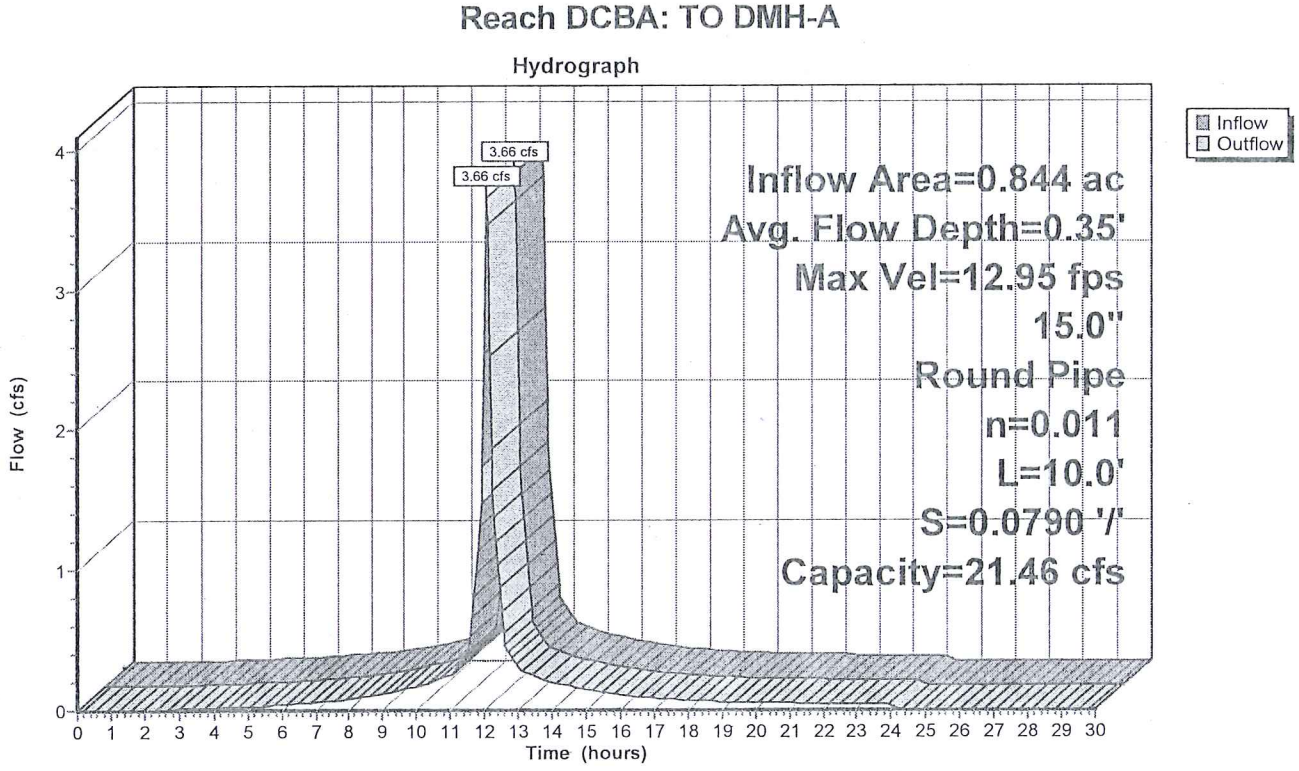
Inflow Area = 0.844 ac, 92.67% Impervious, Inflow Depth = 4.04" for 10-Year event
Inflow = 3.66 cfs @ 12.07 hrs, Volume= 0.284 af
Outflow = 3.66 cfs @ 12.07 hrs, Volume= 0.284 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.95 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 4.24 fps, Avg. Travel Time= 0.0 min

Peak Storage= 3 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.35'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 21.46 cfs

15.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 10.0' Slope= 0.0790 '/'
Inlet Invert= 1,176.20', Outlet Invert= 1,175.41'





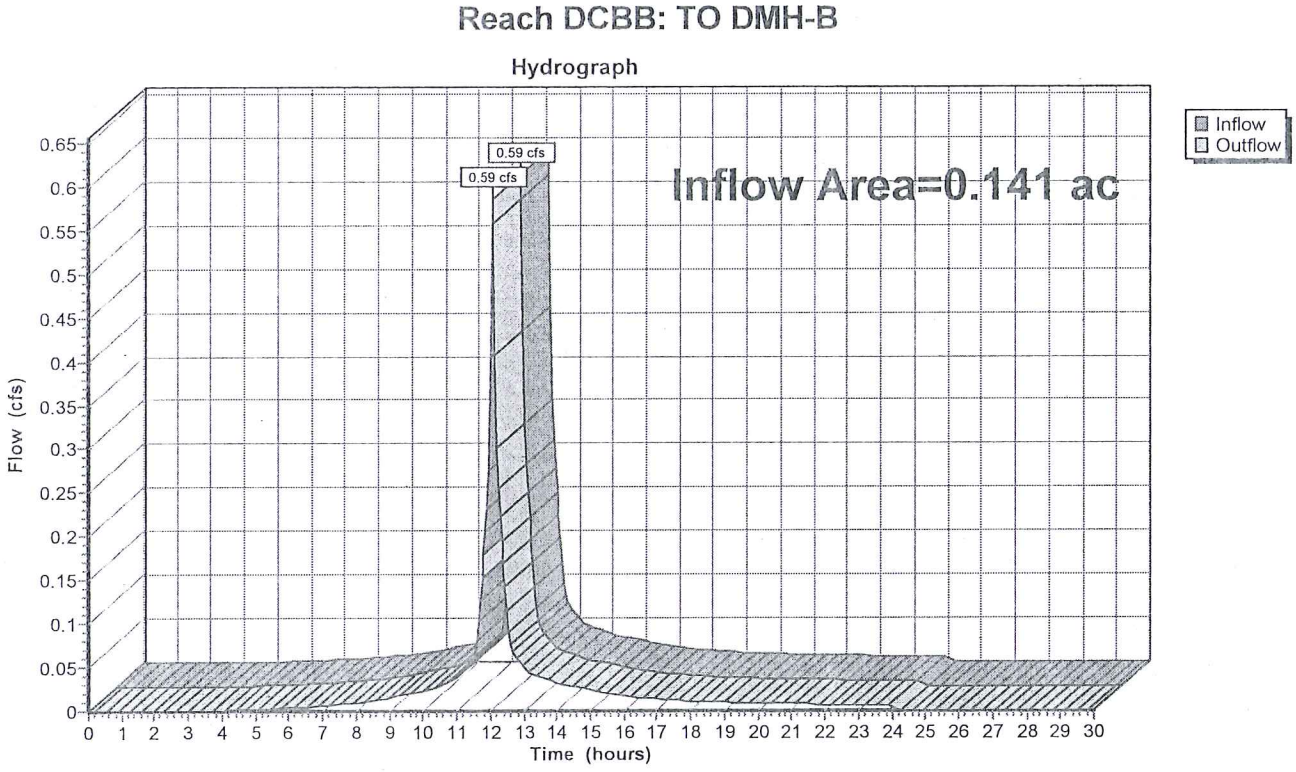
Stage-Discharge for Reach DCBA: TO DMH-A

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,176.20	0.00	0.00
1,176.21	1.24	0.00
1,176.22	2.10	0.01
1,176.23	2.76	0.02
1,176.24	3.35	0.04
1,176.25	3.88	0.06
1,176.26	4.37	0.10
1,176.27	4.83	0.13
1,176.28	5.27	0.18
1,176.29	5.69	0.22
1,176.30	6.09	0.28
1,176.31	6.47	0.34
1,176.32	6.83	0.41
1,176.33	7.19	0.49
1,176.34	7.53	0.57
1,176.35	7.87	0.66
1,176.36	8.19	0.75
1,176.37	8.50	0.85
1,176.38	8.81	0.96
1,176.39	9.11	1.07
1,176.40	9.40	1.19
1,176.41	9.68	1.32
1,176.42	9.96	1.45
1,176.43	10.23	1.59
1,176.44	10.50	1.73
1,176.45	10.75	1.88
1,176.46	11.01	2.03
1,176.47	11.25	2.20
1,176.48	11.50	2.36
1,176.49	11.73	2.53
1,176.50	11.97	2.71
1,176.51	12.19	2.89
1,176.52	12.42	3.08
1,176.53	12.64	3.27
1,176.54	12.85	3.47
1,176.55	13.06	3.67
1,176.56	13.27	3.88
1,176.57	13.47	4.10
1,176.58	13.67	4.31
1,176.59	13.86	4.53
1,176.60	14.06	4.76
1,176.61	14.24	4.99
1,176.62	14.43	5.22
1,176.63	14.61	5.46
1,176.64	14.78	5.70
1,176.65	14.96	5.95
1,176.66	15.13	6.20
1,176.67	15.29	6.45
1,176.68	15.46	6.71
1,176.69	15.62	6.97
1,176.70	15.77	7.23
1,176.71	15.93	7.50
1,176.72	16.08	7.77
1,176.73	16.23	8.04
1,176.74	16.37	8.31
1,176.75	16.51	8.59
1,176.76	16.65	8.87
1,176.77	16.79	9.15
1,176.78	16.92	9.43
1,176.79	17.05	9.72
1,176.80	17.18	10.00
1,176.81	17.30	10.29
1,176.82	17.43	10.58
1,176.83	17.54	10.87
1,176.84	17.66	11.17
1,176.85	17.77	11.46
1,176.86	17.88	11.76
1,176.87	17.99	12.05
1,176.88	18.10	12.35
1,176.89	18.20	12.64
1,176.90	18.30	12.94
1,176.91	18.39	13.23
1,176.92	18.49	13.53
1,176.93	18.58	13.83
1,176.94	18.67	14.12
1,176.95	18.75	14.42
1,176.96	18.83	14.71
1,176.97	18.91	15.00
1,176.98	18.99	15.29
1,176.99	19.06	15.58
1,177.00	19.14	15.87
1,177.01	19.20	16.16
1,177.02	19.27	16.44
1,177.03	19.33	16.73
1,177.04	19.39	17.01
1,177.05	19.45	17.28
1,177.06	19.50	17.56
1,177.07	19.55	17.83
1,177.08	19.60	18.10
1,177.09	19.65	18.36
1,177.10	19.69	18.62
1,177.11	19.73	18.88
1,177.12	19.76	19.13
1,177.13	19.80	19.38
1,177.14	19.83	19.63
1,177.15	19.85	19.87
1,177.16	19.87	20.10
1,177.17	19.89	20.33
1,177.18	19.91	20.55
1,177.19	19.92	20.76
1,177.20	19.93	20.97
1,177.21	19.93	21.18
1,177.22	**19.93**	21.37
1,177.23	19.93	21.56
1,177.24	19.92	21.74
1,177.25	19.91	21.91
1,177.26	19.89	22.07
1,177.27	19.87	22.22
1,177.28	19.84	22.37
1,177.29	19.81	22.50
1,177.30	19.78	22.62
1,177.31	19.73	22.73
1,177.32	19.68	22.82
1,177.33	19.63	22.91
1,177.34	19.57	22.98
1,177.35	19.50	23.03
1,177.36	19.42	23.06
1,177.37	19.33	**23.08**
1,177.38	19.23	23.07
1,177.39	19.11	23.04
1,177.40	18.99	22.99
1,177.41	18.84	22.89
1,177.42	18.66	22.75
1,177.43	18.44	22.55
1,177.44	18.10	22.18
1,177.45	17.49	21.46

Summary for Reach DCBB: TO DMH-B

Inflow Area = 0.141 ac, 78.74% Impervious, Inflow Depth = 3.71" for 10-Year event
Inflow = 0.59 cfs @ 12.07 hrs, Volume= 0.044 af
Outflow = 0.59 cfs @ 12.07 hrs, Volume= 0.044 af, Atten= 0%, Lag= 0.0 min

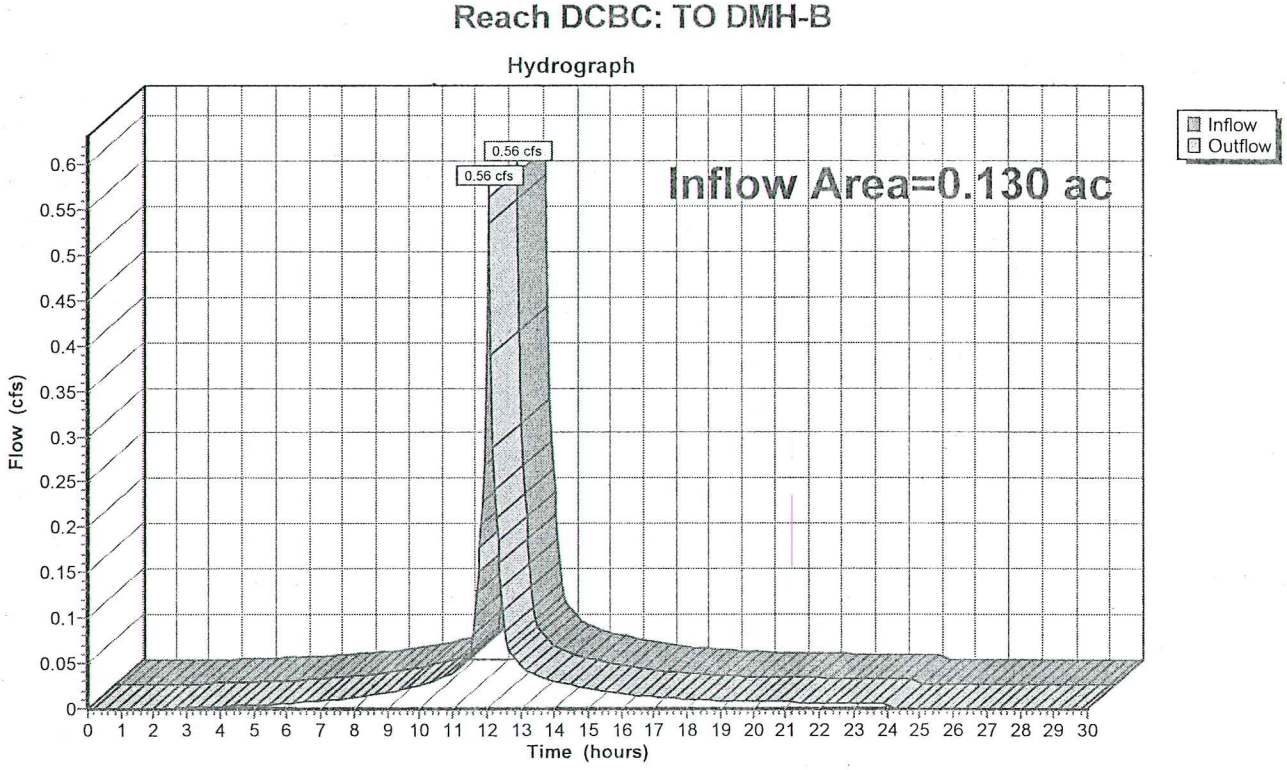
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs



Summary for Reach DCBC: TO DMH-B

Inflow Area = 0.130 ac, 89.66% Impervious, Inflow Depth = 4.04" for 10-Year event
Inflow = 0.56 cfs @ 12.07 hrs, Volume= 0.044 af
Outflow = 0.56 cfs @ 12.07 hrs, Volume= 0.044 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

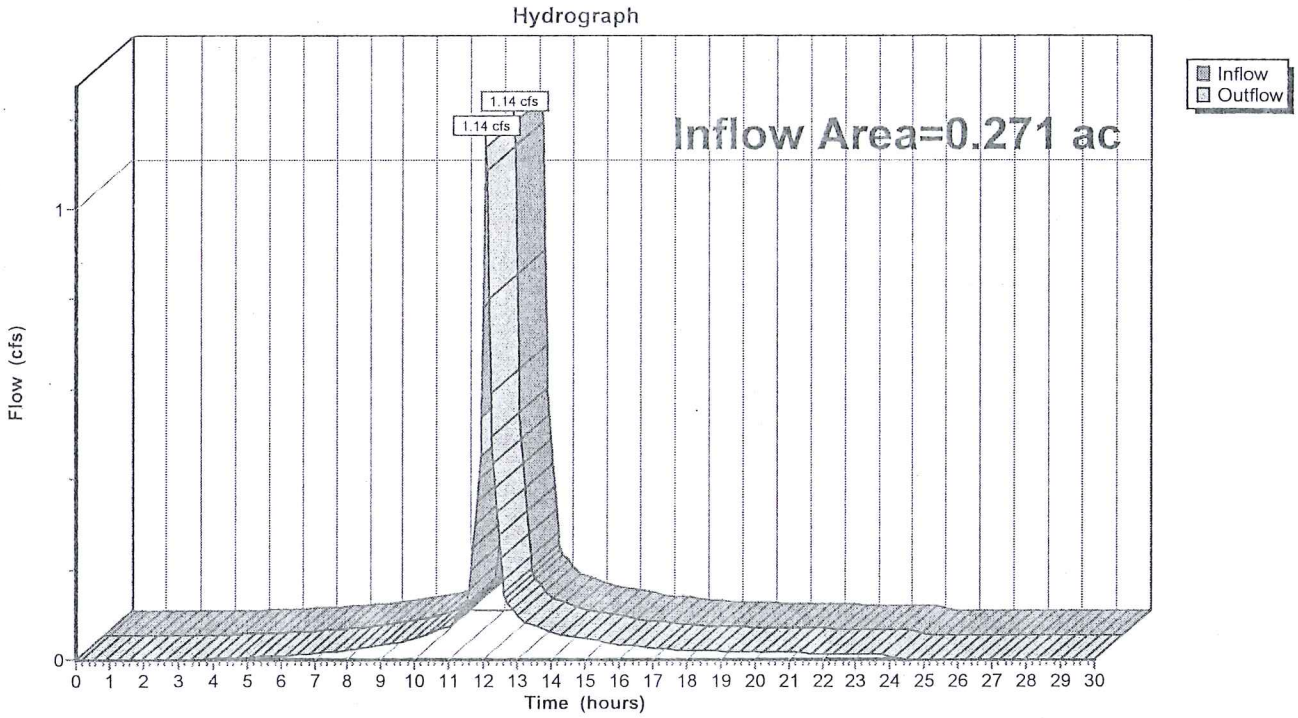


Summary for Reach DCBD: TO DMH-C

Inflow Area = 0.271 ac, 83.76% Impervious, Inflow Depth = 3.82" for 10-Year event
Inflow = 1.14 cfs @ 12.07 hrs, Volume= 0.086 af
Outflow = 1.14 cfs @ 12.07 hrs, Volume= 0.086 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DCBD: TO DMH-C



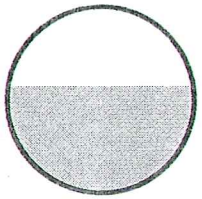
Summary for Reach DCBE: TO DCB-F

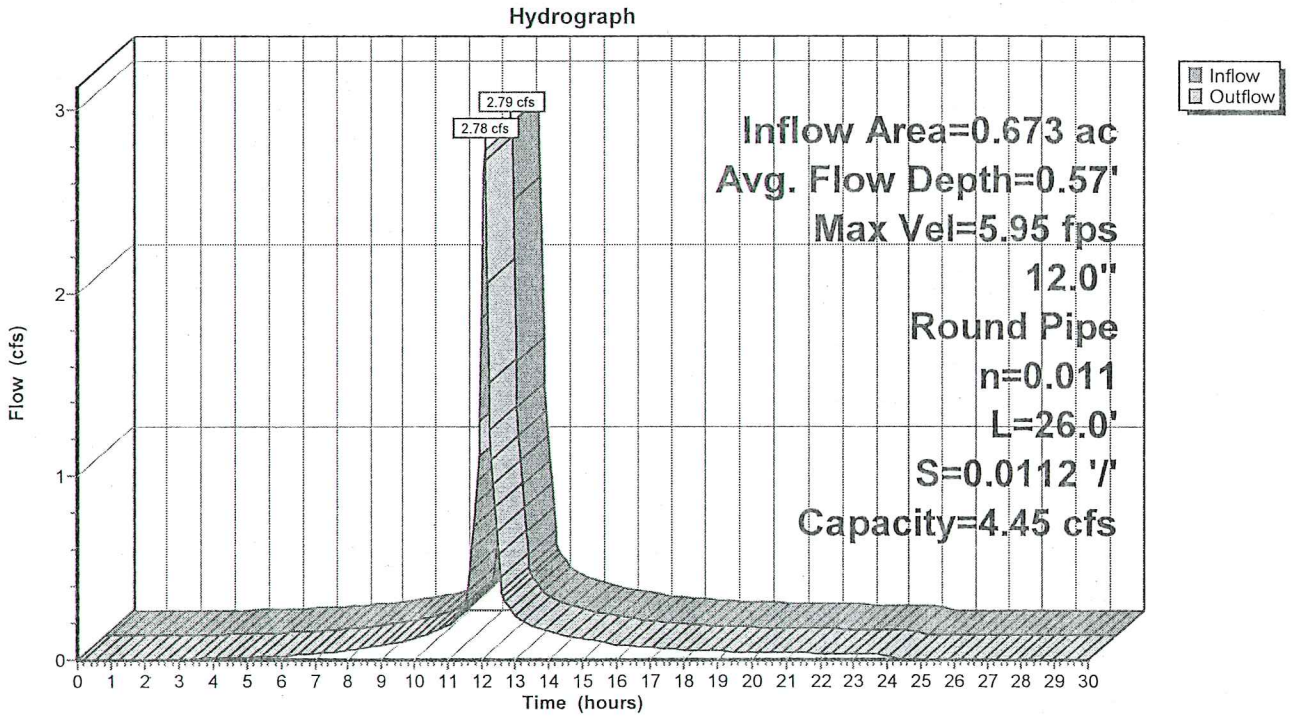
Inflow Area = 0.673 ac, 83.19% Impervious, Inflow Depth = 3.81" for 10-Year event
Inflow = 2.79 cfs @ 12.08 hrs, Volume= 0.214 af
Outflow = 2.78 cfs @ 12.08 hrs, Volume= 0.214 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.95 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.98 fps, Avg. Travel Time= 0.2 min

Peak Storage= 12 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.57'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.45 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 26.0' Slope= 0.0112 '/'
Inlet Invert= 1,176.29', Outlet Invert= 1,176.00'





Stage-Discharge for Reach DCBE: TO DCB-F

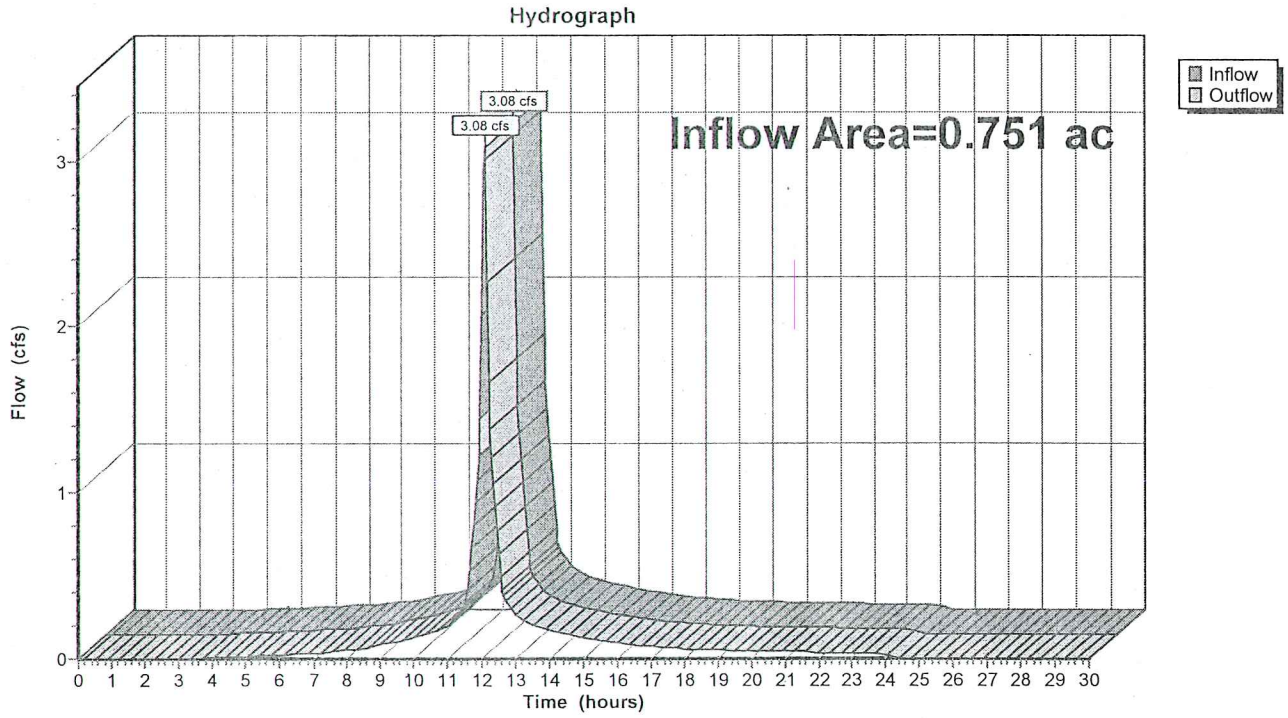
Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,176.29	0.00	0.00
1,176.30	0.50	0.00
1,176.31	0.80	0.00
1,176.32	1.04	0.01
1,176.33	1.26	0.01
1,176.34	1.45	0.02
1,176.35	1.64	0.03
1,176.36	1.81	0.04
1,176.37	1.97	0.06
1,176.38	2.12	0.07
1,176.39	2.27	0.09
1,176.40	2.41	0.11
1,176.41	2.55	0.14
1,176.42	2.68	0.16
1,176.43	2.80	0.19
1,176.44	2.93	0.22
1,176.45	3.04	0.25
1,176.46	3.16	0.28
1,176.47	3.27	0.31
1,176.48	3.38	0.35
1,176.49	3.48	0.39
1,176.50	3.58	0.43
1,176.51	3.68	0.47
1,176.52	3.78	0.52
1,176.53	3.88	0.56
1,176.54	3.97	0.61
1,176.55	4.06	0.66
1,176.56	4.14	0.71
1,176.57	4.23	0.76
1,176.58	4.31	0.82
1,176.59	4.39	0.87
1,176.60	4.47	0.93
1,176.61	4.55	0.99
1,176.62	4.63	1.05
1,176.63	4.70	1.11
1,176.64	4.77	1.17
1,176.65	4.84	1.23
1,176.66	4.91	1.30
1,176.67	4.98	1.36
1,176.68	5.04	1.43
1,176.69	5.11	1.50
1,176.70	5.17	1.57
1,176.71	5.23	1.64
1,176.72	5.29	1.71
1,176.73	5.35	1.78
1,176.74	5.40	1.85
1,176.75	5.46	1.93
1,176.76	5.51	2.00
1,176.77	5.56	2.07
1,176.78	5.61	2.15
1,176.79	5.66	2.22
1,176.80	5.71	2.30
1,176.81	5.76	2.38
1,176.82	5.80	2.45
1,176.83	5.84	2.53
1,176.84	5.88	2.60
1,176.85	5.92	2.68
1,176.86	5.96	2.76
1,176.87	6.00	2.83
1,176.88	6.04	2.91
1,176.89	6.07	2.99
1,176.90	6.11	3.06
1,176.91	6.14	3.14
1,176.92	6.17	3.21
1,176.93	6.20	3.29
1,176.94	6.22	3.36
1,176.95	6.25	3.44
1,176.96	6.27	3.51
1,176.97	6.30	3.58
1,176.98	6.32	3.65
1,176.99	6.34	3.72
1,177.00	6.36	3.79
1,177.01	6.38	3.86
1,177.02	6.39	3.93
1,177.03	6.41	3.99
1,177.04	6.42	4.06
1,177.05	6.43	4.12
1,177.06	6.44	4.18
1,177.07	6.44	4.24
1,177.08	6.45	4.29
1,177.09	6.45	4.35
1,177.10	**6.45**	4.40
1,177.11	6.45	4.45
1,177.12	6.45	4.50
1,177.13	6.45	4.54
1,177.14	6.44	4.58
1,177.15	6.43	4.62
1,177.16	6.42	4.66
1,177.17	6.40	4.69
1,177.18	6.39	4.72
1,177.19	6.37	4.74
1,177.20	6.34	4.76
1,177.21	6.31	4.77
1,177.22	6.28	4.78
1,177.23	6.24	**4.78**
1,177.24	6.20	4.78
1,177.25	6.15	4.76
1,177.26	6.09	4.74
1,177.27	6.01	4.70
1,177.28	5.91	4.63
1,177.29	5.66	4.45

Summary for Reach DCBF: TO DMH-D

Inflow Area = 0.751 ac, 80.97% Impervious, Inflow Depth = 3.76" for 10-Year event
Inflow = 3.08 cfs @ 12.08 hrs, Volume= 0.235 af
Outflow = 3.08 cfs @ 12.08 hrs, Volume= 0.235 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DCBF: TO DMH-D

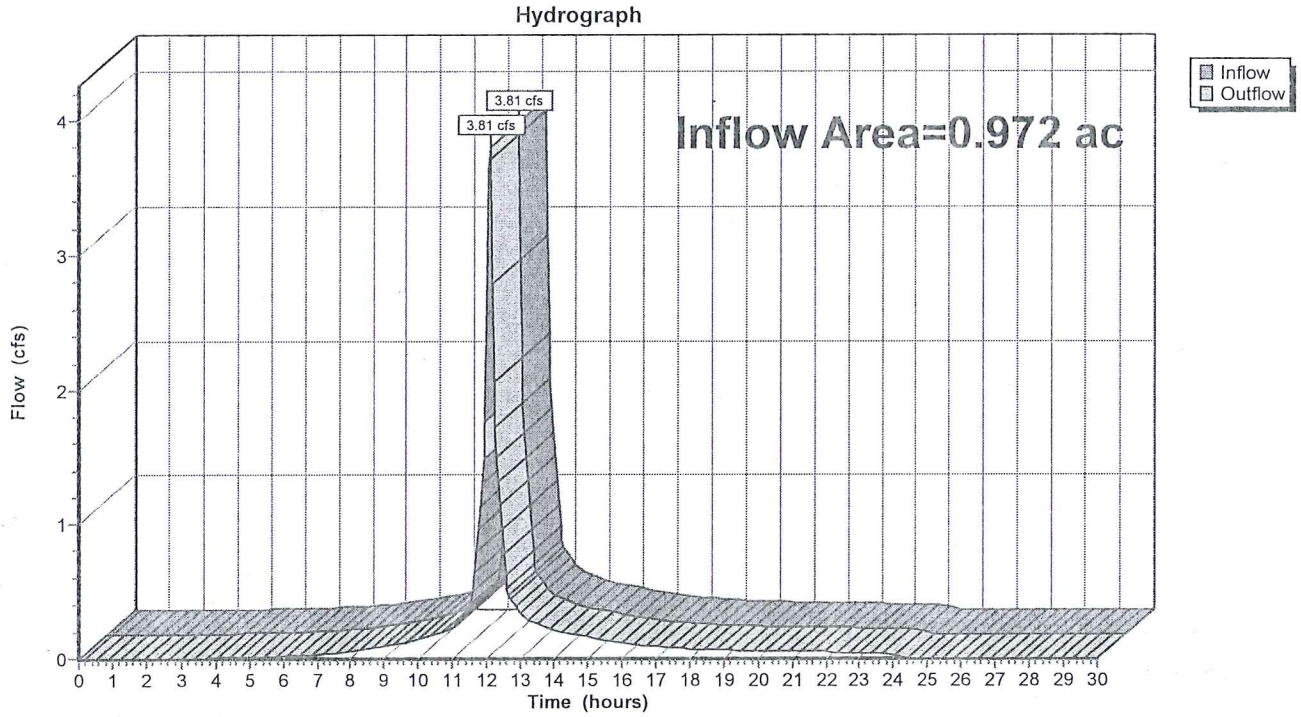


Summary for Reach DCBG: TO DP#3

Inflow Area = 0.972 ac, 71.80% Impervious, Inflow Depth = 3.55" for 10-Year event
Inflow = 3.81 cfs @ 12.08 hrs, Volume= 0.287 af
Outflow = 3.81 cfs @ 12.08 hrs, Volume= 0.287 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DCBG: TO DP#3



Summary for Reach DMHA: TO DP#1

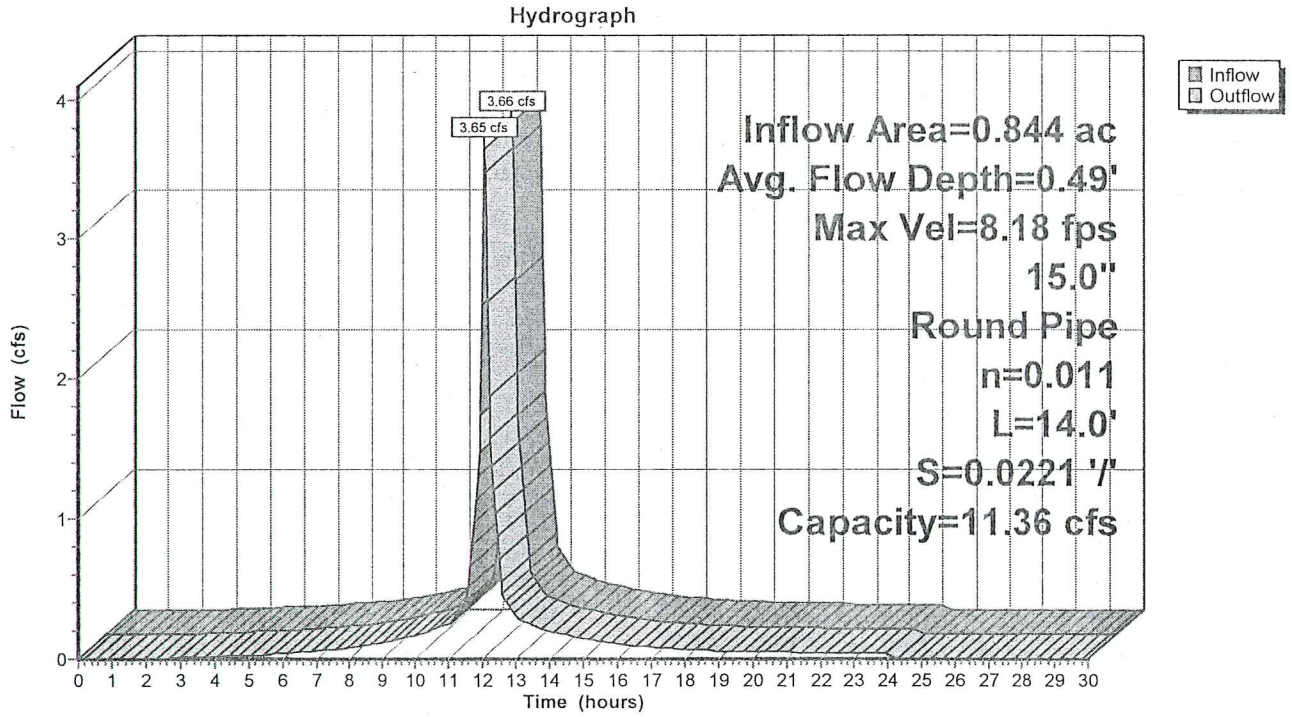
Inflow Area = 0.844 ac, 92.67% Impervious, Inflow Depth = 4.04" for 10-Year event
Inflow = 3.66 cfs @ 12.07 hrs, Volume= 0.284 af
Outflow = 3.65 cfs @ 12.07 hrs, Volume= 0.284 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.18 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.71 fps, Avg. Travel Time= 0.1 min

Peak Storage= 6 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.49'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 11.36 cfs

15.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 14.0' Slope= 0.0221 '/'
Inlet Invert= 1,175.35', Outlet Invert= 1,175.04'





Stage-Discharge for Reach DMHA: TO DP#1

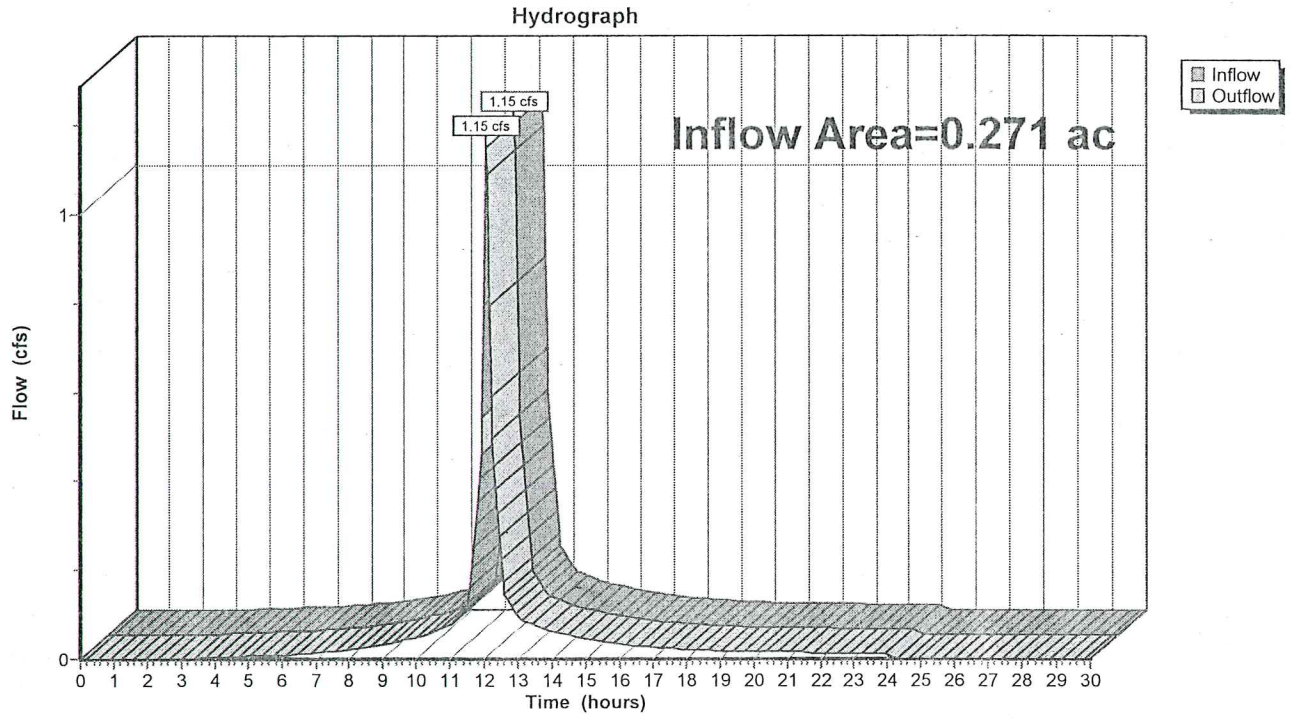
Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.35	0.00	0.00
1,175.36	0.66	0.00
1,175.37	1.11	0.01
1,175.38	1.46	0.01
1,175.39	1.77	0.02
1,175.40	2.06	0.03
1,175.41	2.31	0.05
1,175.42	2.56	0.07
1,175.43	2.79	0.09
1,175.44	3.01	0.12
1,175.45	3.22	0.15
1,175.46	3.42	0.18
1,175.47	3.62	0.22
1,175.48	3.81	0.26
1,175.49	3.99	0.30
1,175.50	4.17	0.35
1,175.51	4.34	0.40
1,175.52	4.50	0.45
1,175.53	4.66	0.51
1,175.54	4.82	0.57
1,175.55	4.98	0.63
1,175.56	5.13	0.70
1,175.57	5.27	0.77
1,175.58	5.42	0.84
1,175.59	5.56	0.92
1,175.60	5.69	0.99
1,175.61	5.83	1.08
1,175.62	5.96	1.16
1,175.63	6.09	1.25
1,175.64	6.21	1.34
1,175.65	6.34	1.43
1,175.66	6.46	1.53
1,175.67	6.57	1.63
1,175.68	6.69	1.73
1,175.69	6.80	1.84
1,175.70	6.92	1.95
1,175.71	7.02	2.06
1,175.72	7.13	2.17
1,175.73	7.24	2.28
1,175.74	7.34	2.40
1,175.75	7.44	2.52
1,175.76	7.54	2.64
1,175.77	7.64	2.77
1,175.78	7.73	2.89
1,175.79	7.83	3.02
1,175.80	7.92	3.15
1,175.81	8.01	3.28
1,175.82	8.10	3.42
1,175.83	8.18	3.55
1,175.84	8.27	3.69
1,175.85	8.35	3.83
1,175.86	8.43	3.97
1,175.87	8.51	4.11
1,175.88	8.59	4.26
1,175.89	8.67	4.40
1,175.90	8.74	4.55
1,175.91	8.82	4.69
1,175.92	8.89	4.84
1,175.93	8.96	4.99
1,175.94	9.03	5.14
1,175.95	9.10	5.30
1,175.96	9.16	5.45
1,175.97	9.23	5.60
1,175.98	9.29	5.76
1,175.99	9.35	5.91
1,176.00	9.41	6.07
1,176.01	9.47	6.22
1,176.02	9.52	6.38
1,176.03	9.58	6.54
1,176.04	9.63	6.69
1,176.05	9.69	6.85
1,176.06	9.74	7.01
1,176.07	9.79	7.16
1,176.08	9.84	7.32
1,176.09	9.88	7.48
1,176.10	9.93	7.63
1,176.11	9.97	7.79
1,176.12	10.01	7.94
1,176.13	10.05	8.10
1,176.14	10.09	8.25
1,176.15	10.13	8.40
1,176.16	10.17	8.56
1,176.17	10.20	8.71
1,176.18	10.24	8.86
1,176.19	10.27	9.00
1,176.20	10.30	9.15
1,176.21	10.33	9.30
1,176.22	10.35	9.44
1,176.23	10.38	9.58
1,176.24	10.40	9.72
1,176.25	10.42	9.86
1,176.26	10.44	10.00
1,176.27	10.46	10.13
1,176.28	10.48	10.26
1,176.29	10.50	10.39
1,176.30	10.51	10.52
1,176.31	10.52	10.64
1,176.32	10.53	10.76
1,176.33	10.54	10.88
1,176.34	10.55	10.99
1,176.35	10.55	11.10
1,176.36	10.55	11.21
1,176.37	**10.55**	11.31
1,176.38	10.55	11.41
1,176.39	10.55	11.51
1,176.40	10.54	11.60
1,176.41	10.53	11.68
1,176.42	10.52	11.77
1,176.43	10.51	11.84
1,176.44	10.49	11.91
1,176.45	10.47	11.98
1,176.46	10.45	12.03
1,176.47	10.42	12.08
1,176.48	10.39	12.13
1,176.49	10.36	12.16
1,176.50	10.32	12.19
1,176.51	10.28	12.21
1,176.52	10.23	**12.22**
1,176.53	10.18	12.21
1,176.54	10.12	12.20
1,176.55	10.05	12.17
1,176.56	9.97	12.12
1,176.57	9.88	12.05
1,176.58	9.76	11.94
1,176.59	9.58	11.74
1,176.60	9.26	11.36

Summary for Reach DMHB: TO DMH-C

Inflow Area = 0.271 ac, 83.97% Impervious, Inflow Depth = 3.86" for 10-Year event
Inflow = 1.15 cfs @ 12.07 hrs, Volume= 0.087 af
Outflow = 1.15 cfs @ 12.07 hrs, Volume= 0.087 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DMHB: TO DMH-C



Summary for Reach DMHC: TO DCB-E

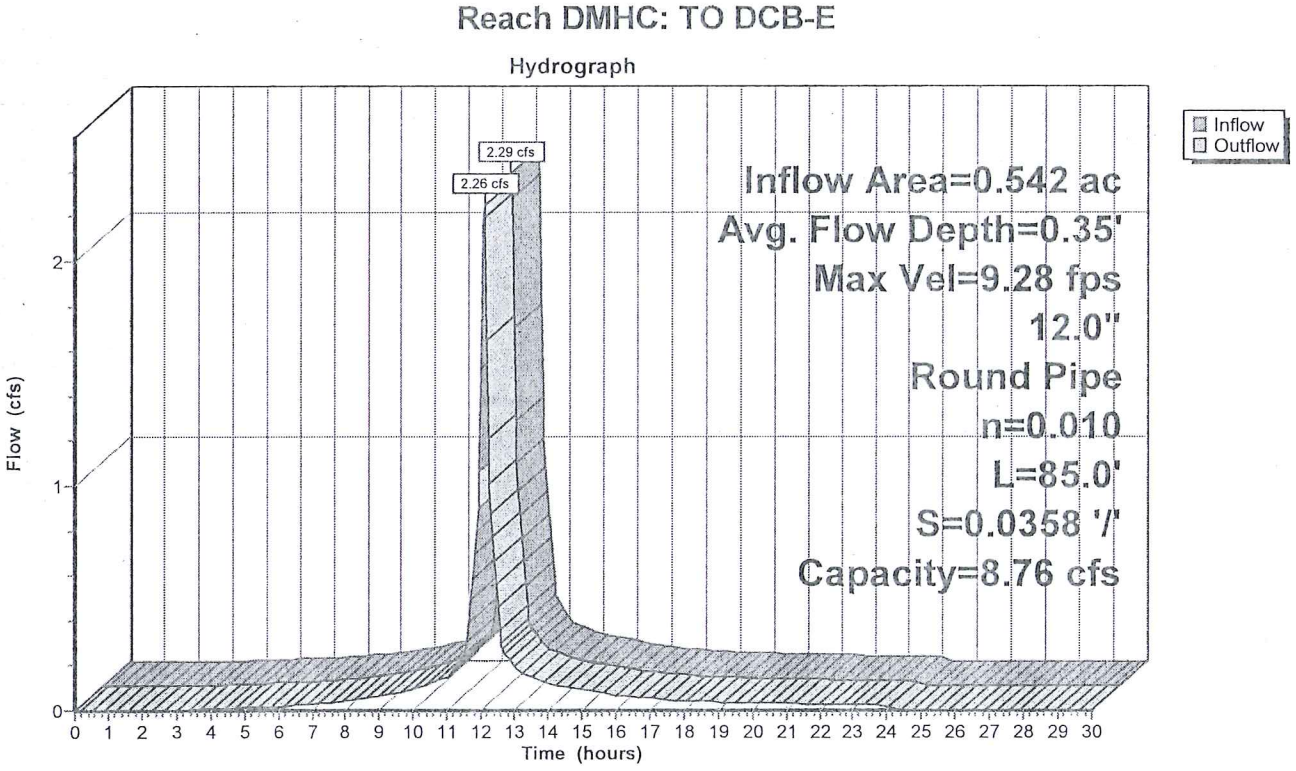
Inflow Area = 0.542 ac, 83.87% Impervious, Inflow Depth = 3.84" for 10-Year event
Inflow = 2.29 cfs @ 12.07 hrs, Volume= 0.173 af
Outflow = 2.26 cfs @ 12.08 hrs, Volume= 0.173 af, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.28 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 3.00 fps, Avg. Travel Time= 0.5 min

Peak Storage= 21 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.35'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.76 cfs

12.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 85.0' Slope= 0.0358 '/'
Inlet Invert= 1,179.53', Outlet Invert= 1,176.49'





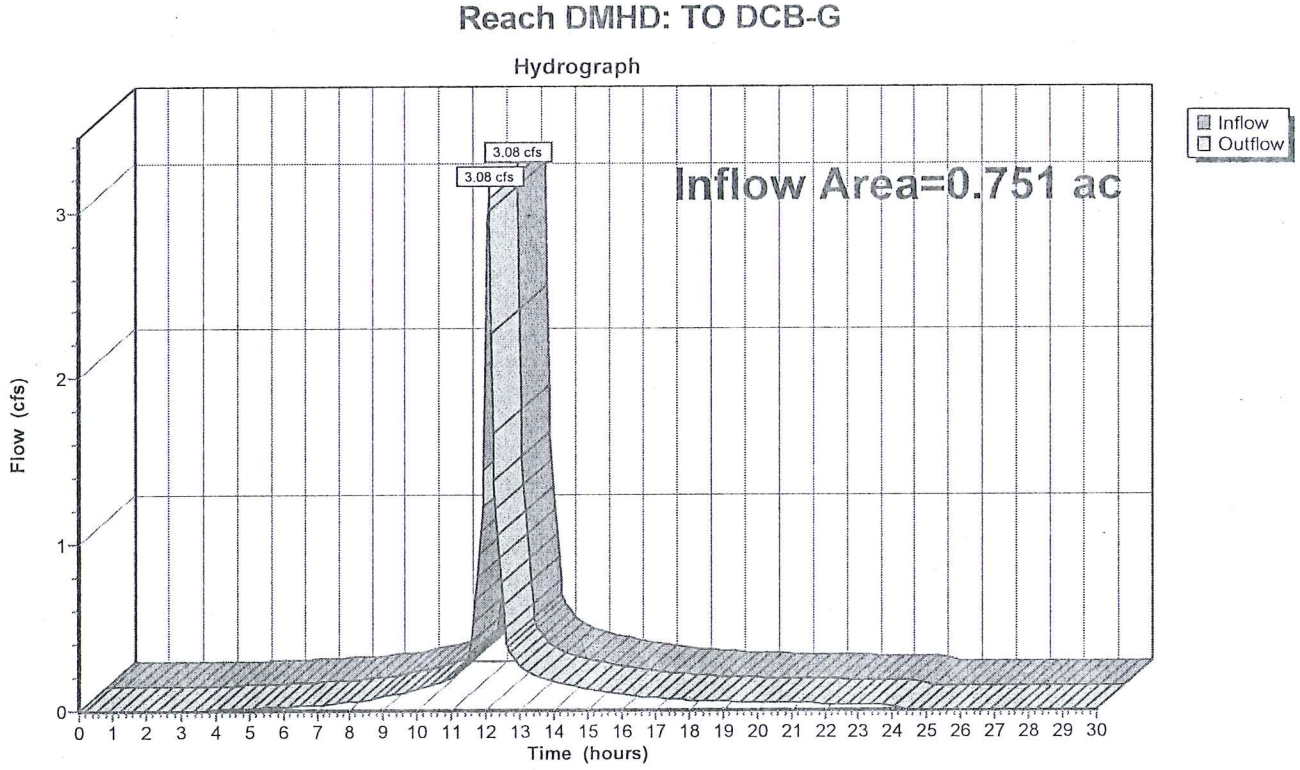
Stage-Discharge for Reach DMHC: TO DCB-E

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.53	0.00	0.00
1,179.54	0.99	0.00
1,179.55	1.57	0.01
1,179.56	2.05	0.01
1,179.57	2.48	0.03
1,179.58	2.86	0.04
1,179.59	3.22	0.06
1,179.60	3.56	0.09
1,179.61	3.88	0.11
1,179.62	4.18	0.15
1,179.63	4.47	0.18
1,179.64	4.75	0.22
1,179.65	5.02	0.27
1,179.66	5.28	0.32
1,179.67	5.52	0.37
1,179.68	5.76	0.43
1,179.69	6.00	0.49
1,179.70	6.22	0.55
1,179.71	6.44	0.62
1,179.72	6.65	0.69
1,179.73	6.86	0.77
1,179.74	7.06	0.85
1,179.75	7.26	0.93
1,179.76	7.45	1.02
1,179.77	7.63	1.11
1,179.78	7.81	1.20
1,179.79	7.99	1.30
1,179.80	8.16	1.40
1,179.81	8.33	1.50
1,179.82	8.50	1.61
1,179.83	8.66	1.72
1,179.84	8.81	1.83
1,179.85	8.96	1.94
1,179.86	9.11	2.06
1,179.87	9.26	2.18
1,179.88	9.40	2.30
1,179.89	9.54	2.43
1,179.90	9.68	2.56
1,179.91	9.81	2.69
1,179.92	9.94	2.82
1,179.93	10.06	2.95
1,179.94	10.18	3.09
1,179.95	10.30	3.23
1,179.96	10.42	3.36
1,179.97	10.53	3.51
1,179.98	10.64	3.65
1,179.99	10.75	3.79
1,180.00	10.86	3.94
1,180.01	10.96	4.08
1,180.02	11.06	4.23
1,180.03	11.15	4.38
1,180.04	11.25	4.53
1,180.05	11.34	4.68
1,180.06	11.42	4.83
1,180.07	11.51	4.98
1,180.08	11.59	5.13
1,180.09	11.67	5.28
1,180.10	11.75	5.43
1,180.11	11.82	5.58
1,180.12	11.89	5.73
1,180.13	11.96	5.88
1,180.14	12.03	6.03
1,180.15	12.09	6.18
1,180.16	12.15	6.33
1,180.17	12.21	6.48
1,180.18	12.26	6.63
1,180.19	12.31	6.77
1,180.20	12.36	6.91
1,180.21	12.41	7.06
1,180.22	12.45	7.20
1,180.23	12.49	7.33
1,180.24	12.53	7.47
1,180.25	12.56	7.60
1,180.26	12.59	7.73
1,180.27	12.62	7.86
1,180.28	12.64	7.99
1,180.29	12.66	8.11
1,180.30	12.68	8.23
1,180.31	12.69	8.34
1,180.32	12.70	8.45
1,180.33	12.71	8.56
1,180.34	**12.71**	8.66
1,180.35	12.71	8.76
1,180.36	12.71	8.86
1,180.37	12.70	8.94
1,180.38	12.69	9.03
1,180.39	12.67	9.10
1,180.40	12.64	9.17
1,180.41	12.61	9.23
1,180.42	12.58	9.29
1,180.43	12.54	9.34
1,180.44	12.49	9.37
1,180.45	12.44	9.40
1,180.46	12.37	9.42
1,180.47	12.30	**9.42**
1,180.48	12.21	9.41
1,180.49	12.11	9.38
1,180.50	11.99	9.34
1,180.51	11.84	9.26
1,180.52	11.64	9.13
1,180.53	11.15	8.76

Summary for Reach DMHD: TO DCB-G

Inflow Area = 0.751 ac, 80.97% Impervious, Inflow Depth = 3.76" for 10-Year event
Inflow = 3.08 cfs @ 12.08 hrs, Volume= 0.235 af
Outflow = 3.08 cfs @ 12.08 hrs, Volume= 0.235 af, Atten= 0%, Lag= 0.0 min

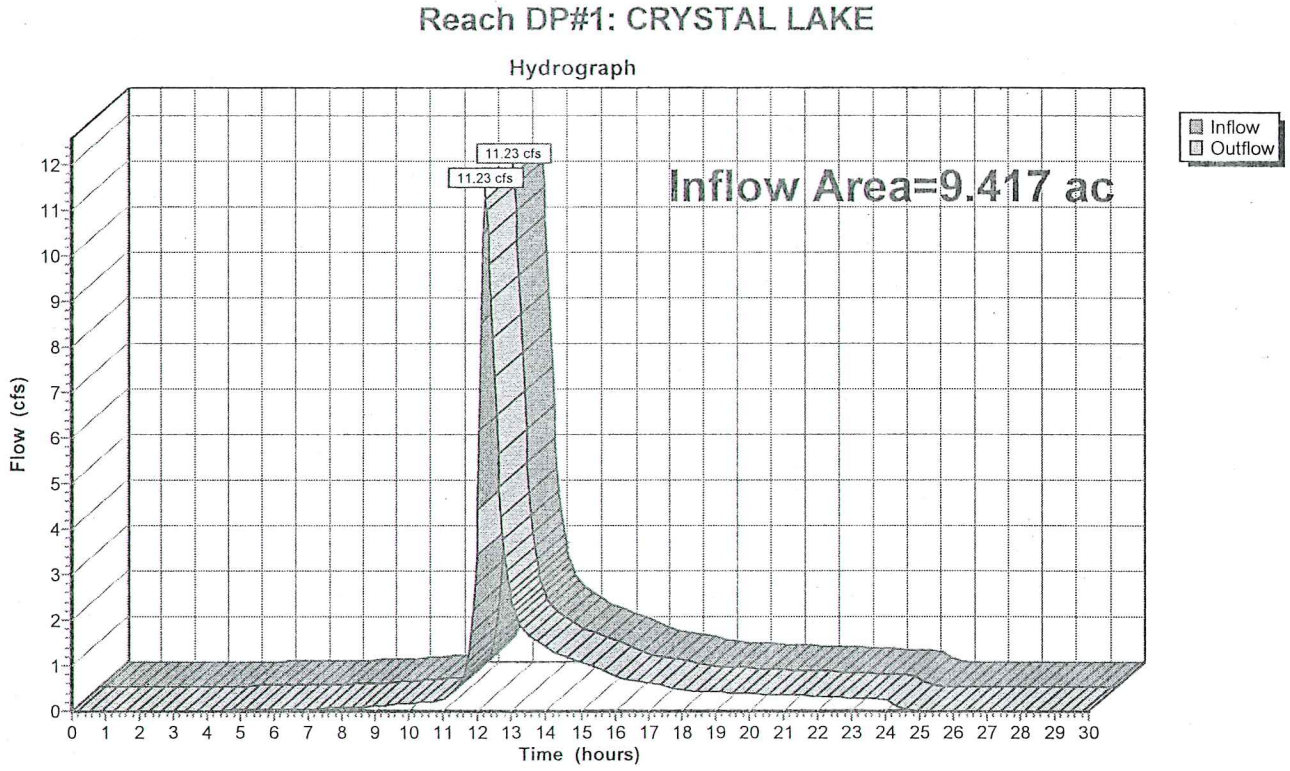
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs



Summary for Reach DP#1: CRYSTAL LAKE

Inflow Area = 9.417 ac, 10.84% Impervious, Inflow Depth = 1.64" for 10-Year event
Inflow = 11.23 cfs @ 12.21 hrs, Volume= 1.287 af
Outflow = 11.23 cfs @ 12.21 hrs, Volume= 1.287 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

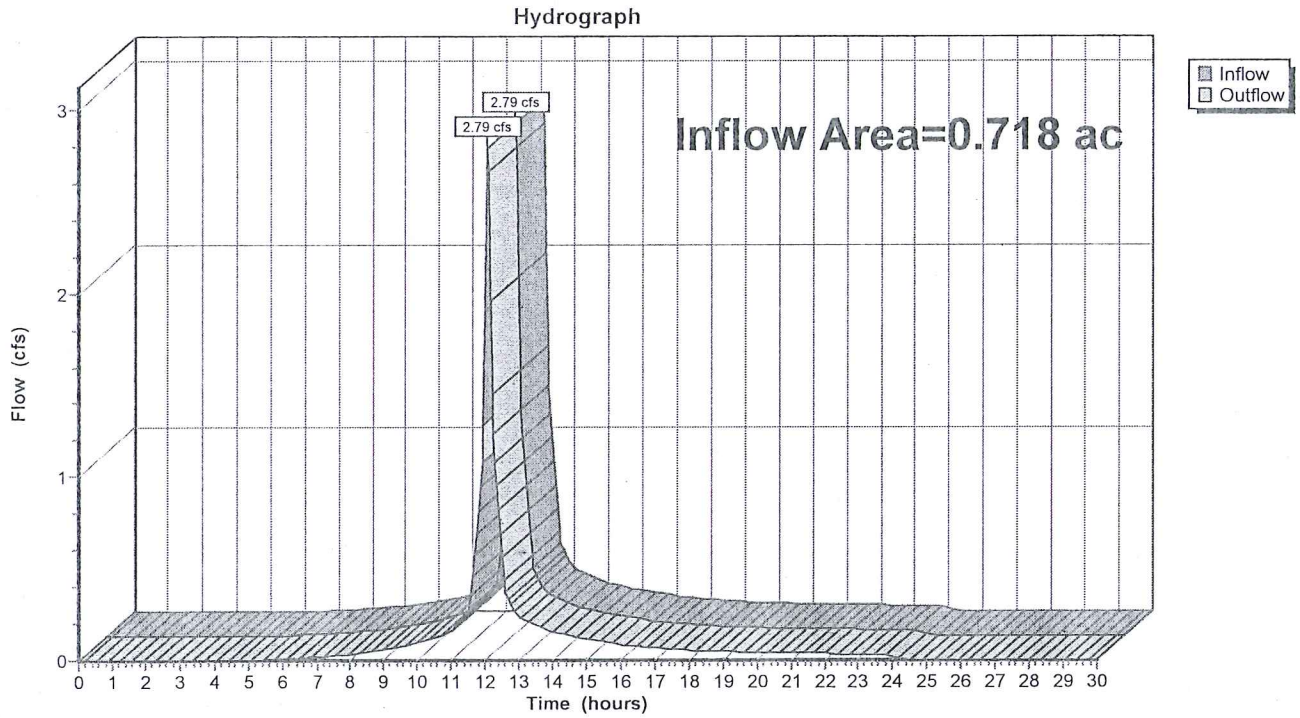


Summary for Reach DP#2: EX RAIN GARDEN

Inflow Area = 0.718 ac, 68.41% Impervious, Inflow Depth = 3.40" for 10-Year event
Inflow = 2.79 cfs @ 12.07 hrs, Volume= 0.203 af
Outflow = 2.79 cfs @ 12.07 hrs, Volume= 0.203 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

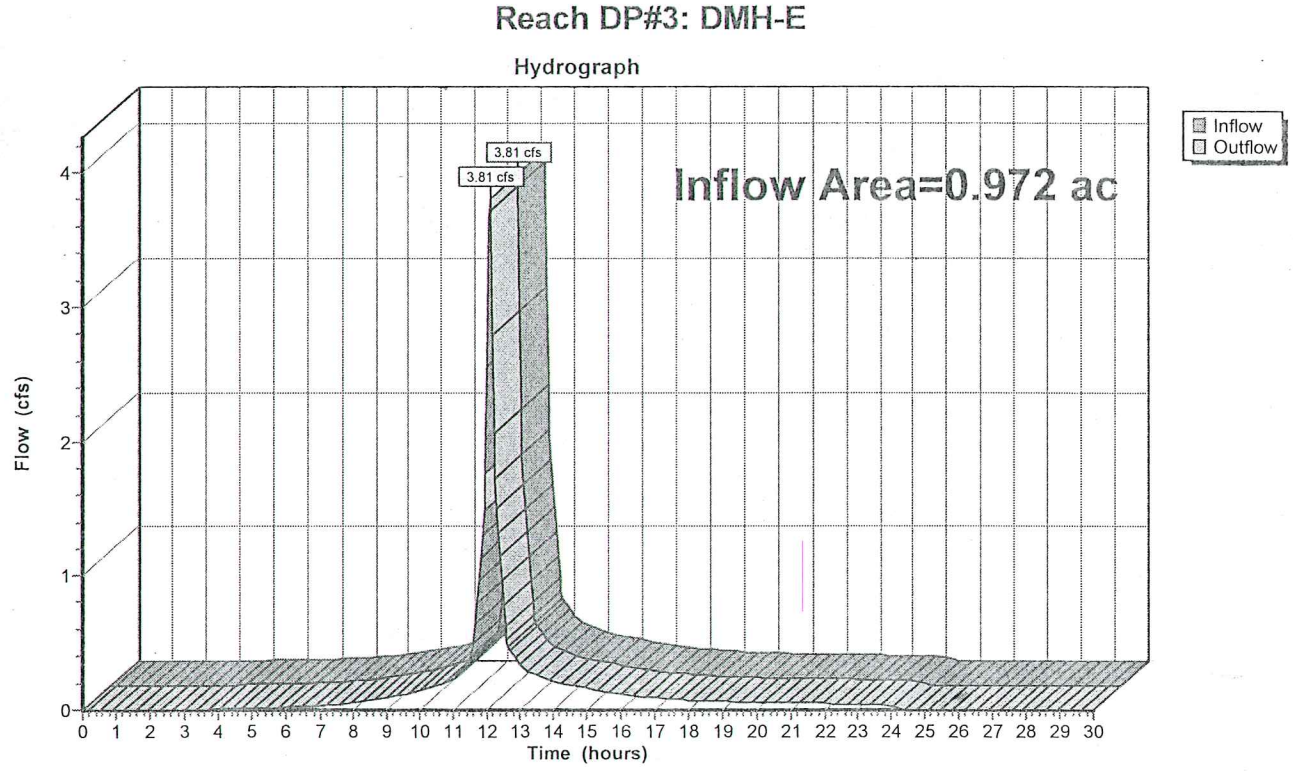
Reach DP#2: EX RAIN GARDEN



Summary for Reach DP#3: DMH-E

Inflow Area = 0.972 ac, 71.80% Impervious, Inflow Depth = 3.55" for 10-Year event
Inflow = 3.81 cfs @ 12.08 hrs, Volume= 0.287 af
Outflow = 3.81 cfs @ 12.08 hrs, Volume= 0.287 af, Atten= 0%, Lag= 0.0 min

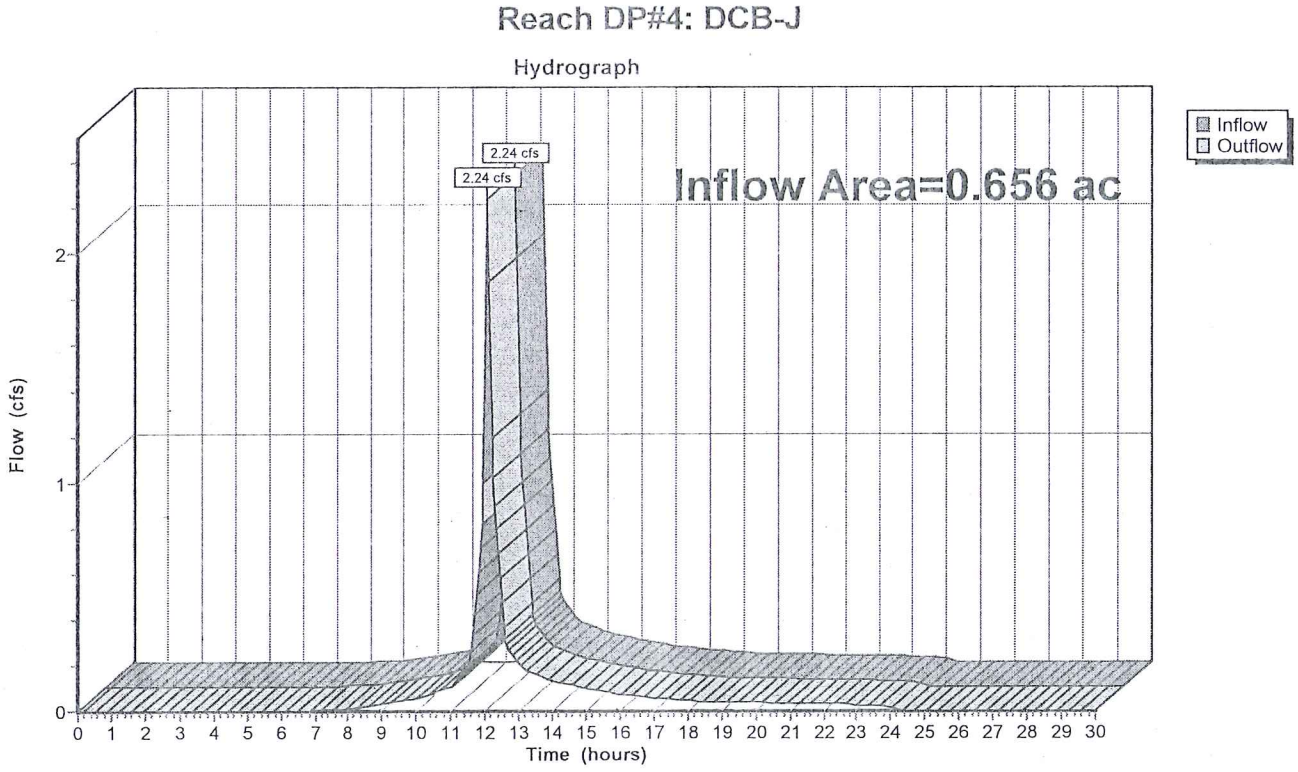
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs



Summary for Reach DP#4: DCB-J

Inflow Area = 0.656 ac, 44.69% Impervious, Inflow Depth = 2.91" for 10-Year event
Inflow = 2.24 cfs @ 12.07 hrs, Volume= 0.159 af
Outflow = 2.24 cfs @ 12.07 hrs, Volume= 0.159 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

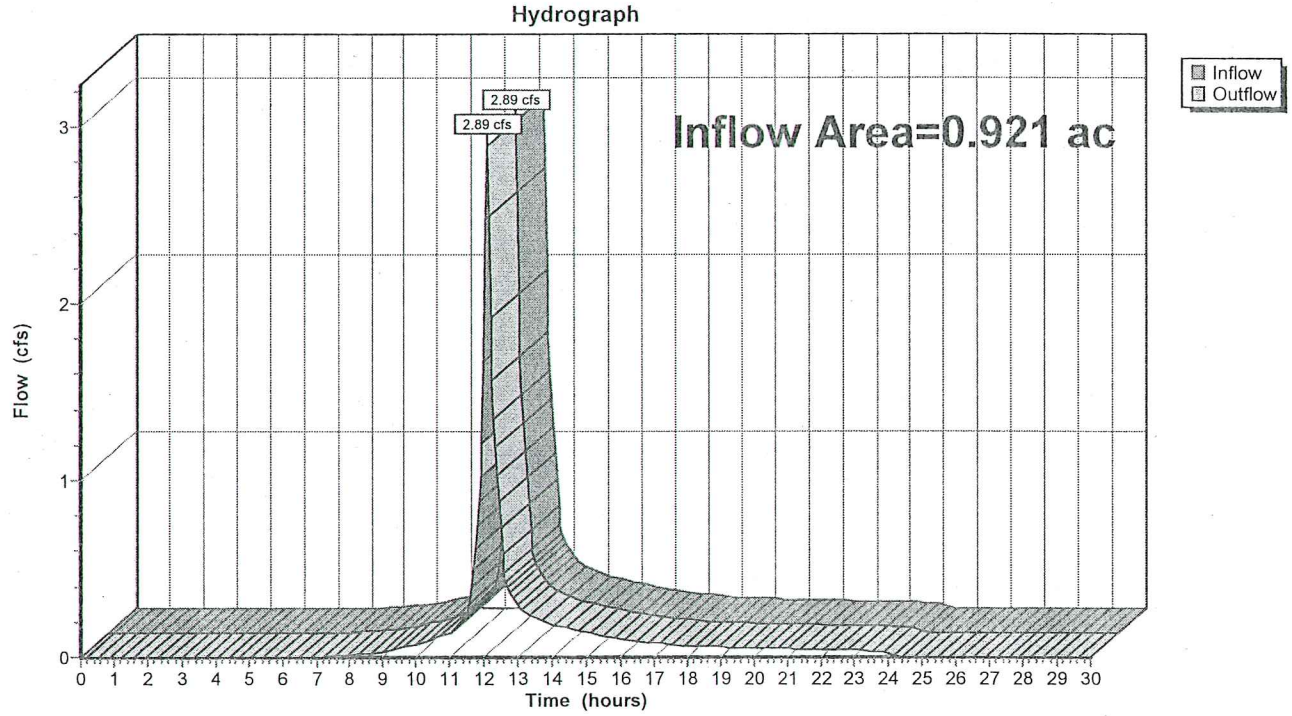


Summary for Reach DP#5: DCB-K

Inflow Area = 0.921 ac, 43.25% Impervious, Inflow Depth = 2.82" for 10-Year event
Inflow = 2.89 cfs @ 12.10 hrs, Volume= 0.216 af
Outflow = 2.89 cfs @ 12.10 hrs, Volume= 0.216 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DP#5: DCB-K



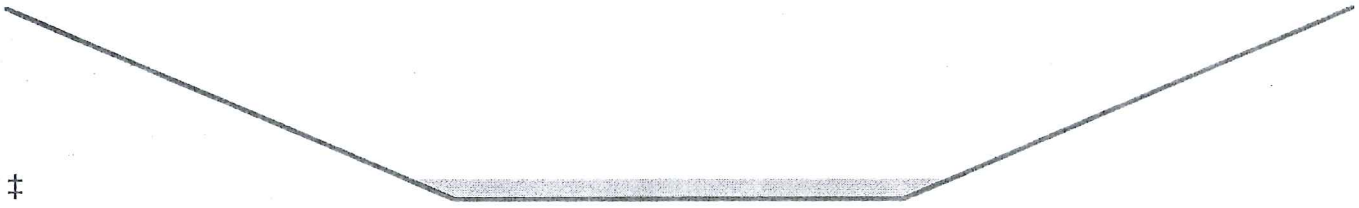
Summary for Reach OL1: OVERLAND FLOW

Inflow Area = 0.844 ac, 92.67% Impervious, Inflow Depth = 4.04" for 10-Year event
Inflow = 3.65 cfs @ 12.07 hrs, Volume= 0.284 af
Outflow = 3.61 cfs @ 12.08 hrs, Volume= 0.284 af, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.00 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 0.83 fps, Avg. Travel Time= 0.4 min

Peak Storage= 24 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.11'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 216.87 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 20.0' Slope= 0.4500 '/'
Inlet Invert= 1,175.00', Outlet Invert= 1,166.00'



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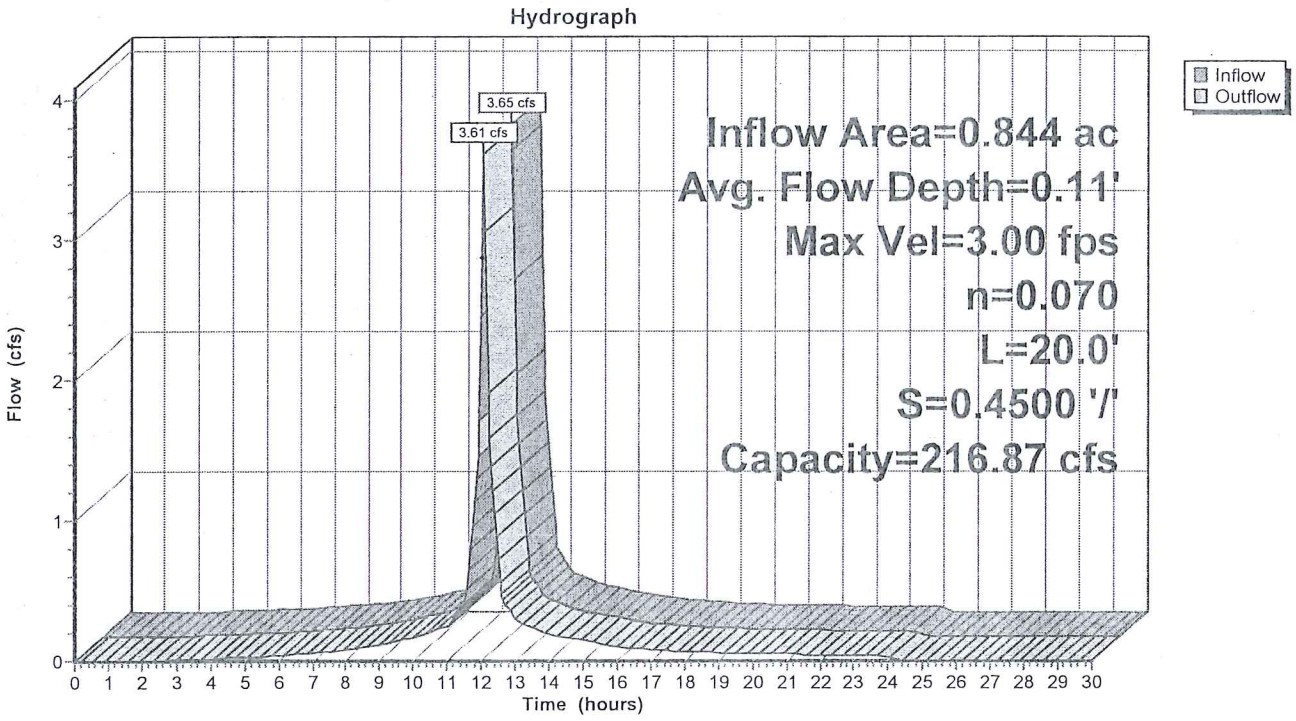
Reach OL1: OVERLAND FLOW



Stage-Discharge for Reach OL1: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.00	0.00	0.00
1,175.01	0.66	0.07
1,175.02	1.04	0.21
1,175.03	1.35	0.42
1,175.04	1.62	0.68
1,175.05	1.87	0.98
1,175.06	2.10	1.34
1,175.07	2.32	1.74
1,175.08	2.52	2.18
1,175.09	2.71	2.66
1,175.10	2.89	3.18
1,175.11	3.07	3.75
1,175.12	3.24	4.35
1,175.13	3.40	4.99
1,175.14	3.55	5.67
1,175.15	3.70	6.39
1,175.16	3.85	7.14
1,175.17	3.99	7.93
1,175.18	4.13	8.76
1,175.19	4.26	9.63
1,175.20	4.39	10.54
1,175.21	4.52	11.48
1,175.22	4.64	12.46
1,175.23	4.76	13.48
1,175.24	4.88	14.53
1,175.25	5.00	15.62
1,175.26	5.11	16.75
1,175.27	5.23	17.92
1,175.28	5.34	19.12
1,175.29	5.44	20.36
1,175.30	5.55	21.64
1,175.31	5.65	22.96
1,175.32	5.76	24.32
1,175.33	5.86	25.71
1,175.34	5.96	27.15
1,175.35	6.06	28.62
1,175.36	6.15	30.13
1,175.37	6.25	31.68
1,175.38	6.34	33.27
1,175.39	6.44	34.89
1,175.40	6.53	36.56
1,175.41	6.62	38.27
1,175.42	6.71	40.01
1,175.43	6.80	41.80
1,175.44	6.89	43.63
1,175.45	6.97	45.50
1,175.46	7.06	47.40
1,175.47	7.14	49.35
1,175.48	7.23	51.34
1,175.49	7.31	53.38
1,175.50	7.39	55.45
1,175.51	7.47	57.56
1,175.52	7.56	59.72
1,175.53	7.64	61.92
1,175.54	7.72	64.16
1,175.55	7.79	66.44
1,175.56	7.87	68.77
1,175.57	7.95	71.14
1,175.58	8.03	73.55
1,175.59	8.10	76.01
1,175.60	8.18	78.51
1,175.61	8.25	81.05
1,175.62	8.33	83.64
1,175.63	8.40	86.27
1,175.64	8.47	88.95
1,175.65	8.55	91.67
1,175.66	8.62	94.44
1,175.67	8.69	97.25
1,175.68	8.76	100.10
1,175.69	8.83	103.01
1,175.70	8.90	105.96
1,175.71	8.97	108.95
1,175.72	9.04	111.99
1,175.73	9.11	115.08
1,175.74	9.18	118.21
1,175.75	9.25	121.39
1,175.76	9.32	124.62
1,175.77	9.38	127.90
1,175.78	9.45	131.22
1,175.79	9.52	134.60
1,175.80	9.58	138.02
1,175.81	9.65	141.48
1,175.82	9.72	145.00
1,175.83	9.78	148.57
1,175.84	9.85	152.18
1,175.85	9.91	155.85
1,175.86	9.97	159.56
1,175.87	10.04	163.32
1,175.88	10.10	167.14
1,175.89	10.17	171.00
1,175.90	10.23	174.91
1,175.91	10.29	178.88
1,175.92	10.35	182.89
1,175.93	10.42	186.96
1,175.94	10.48	191.08
1,175.95	10.54	195.25
1,175.96	10.60	199.47
1,175.97	10.66	203.74
1,175.98	10.72	208.06
1,175.99	10.78	212.44
1,176.00	**10.84**	**216.87**

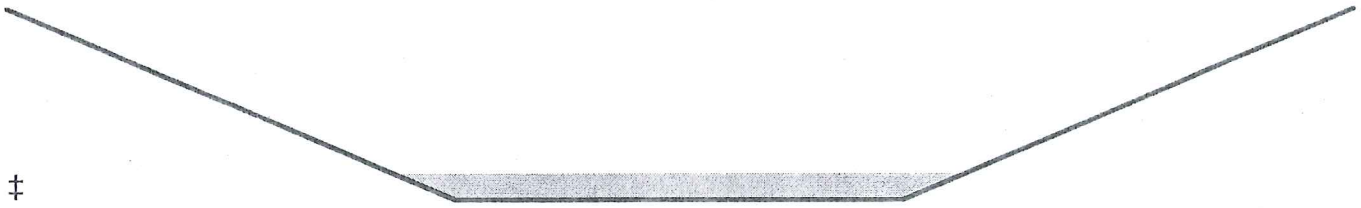
Summary for Reach OL2: OVERLAND FLOW

Inflow Area = 0.844 ac, 92.67% Impervious, Inflow Depth = 4.04" for 10-Year event
Inflow = 3.61 cfs @ 12.08 hrs, Volume= 0.284 af
Outflow = 3.38 cfs @ 12.13 hrs, Volume= 0.284 af, Atten= 6%, Lag= 3.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.22 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 0.58 fps, Avg. Travel Time= 6.9 min

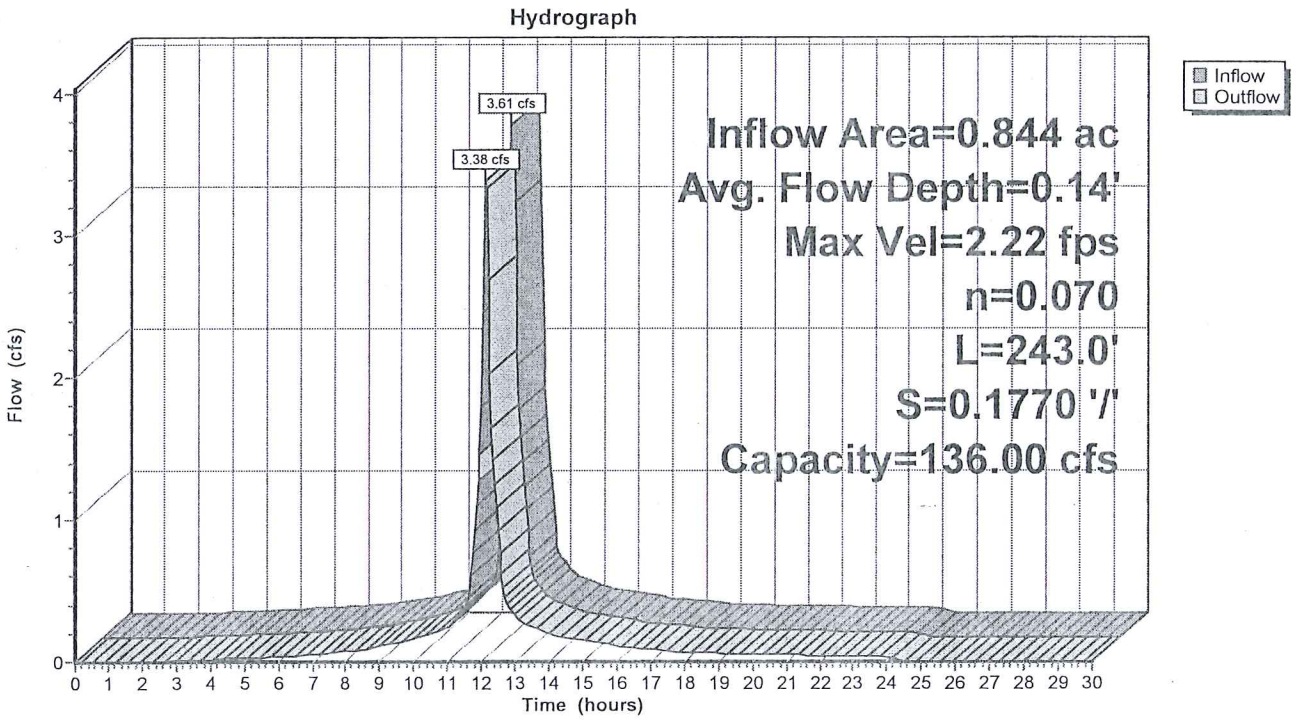
Peak Storage= 387 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.14'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 136.00 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 243.0' Slope= 0.1770 '/'
Inlet Invert= 1,166.00', Outlet Invert= 1,123.00'



‡

Reach OL2: OVERLAND FLOW



Stage-Discharge for Reach OL2: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,166.00	0.00	0.00
1,166.01	0.41	0.04
1,166.02	0.65	0.13
1,166.03	0.85	0.26
1,166.04	1.02	0.42
1,166.05	1.17	0.62
1,166.06	1.32	0.84
1,166.07	1.45	1.09
1,166.08	1.58	1.37
1,166.09	1.70	1.67
1,166.10	1.81	2.00
1,166.11	1.92	2.35
1,166.12	2.03	2.73
1,166.13	2.13	3.13
1,166.14	2.23	3.55
1,166.15	2.32	4.00
1,166.16	2.41	4.48
1,166.17	2.50	4.98
1,166.18	2.59	5.50
1,166.19	2.67	6.04
1,166.20	2.75	6.61
1,166.21	2.83	7.20
1,166.22	2.91	7.81
1,166.23	2.99	8.45
1,166.24	3.06	9.11
1,166.25	3.13	9.80
1,166.26	3.21	10.50
1,166.27	3.28	11.24
1,166.28	3.35	11.99
1,166.29	3.41	12.77
1,166.30	3.48	13.57
1,166.31	3.55	14.40
1,166.32	3.61	15.25
1,166.33	3.67	16.12
1,166.34	3.74	17.02
1,166.35	3.80	17.95
1,166.36	3.86	18.89
1,166.37	3.92	19.86
1,166.38	3.98	20.86
1,166.39	4.04	21.88
1,166.40	4.09	22.93
1,166.41	4.15	24.00
1,166.42	4.21	25.09
1,166.43	4.26	26.21
1,166.44	4.32	27.36
1,166.45	4.37	28.53
1,166.46	4.43	29.73
1,166.47	4.48	30.95
1,166.48	4.53	32.20
1,166.49	4.58	33.47
1,166.50	4.64	34.77
1,166.51	4.69	36.10
1,166.52	4.74	37.45
1,166.53	4.79	38.83
1,166.54	4.84	40.23
1,166.55	4.89	41.67
1,166.56	4.94	43.12
1,166.57	4.98	44.61
1,166.58	5.03	46.12
1,166.59	5.08	47.66
1,166.60	5.13	49.23
1,166.61	5.18	50.83
1,166.62	5.22	52.45
1,166.63	5.27	54.10
1,166.64	5.31	55.78
1,166.65	5.36	57.48
1,166.66	5.41	59.22
1,166.67	5.45	60.98
1,166.68	5.49	62.77
1,166.69	5.54	64.59
1,166.70	5.58	66.44
1,166.71	5.63	68.32
1,166.72	5.67	70.23
1,166.73	5.71	72.16
1,166.74	5.76	74.13
1,166.75	5.80	76.12
1,166.76	5.84	78.15
1,166.77	5.88	80.20
1,166.78	5.93	82.29
1,166.79	5.97	84.40
1,166.80	6.01	86.55
1,166.81	6.05	88.72
1,166.82	6.09	90.93
1,166.83	6.13	93.16
1,166.84	6.17	95.43
1,166.85	6.21	97.73
1,166.86	6.26	100.06
1,166.87	6.30	102.42
1,166.88	6.34	104.81
1,166.89	6.37	107.23
1,166.90	6.41	109.68
1,166.91	6.45	112.17
1,166.92	6.49	114.69
1,166.93	6.53	117.24
1,166.94	6.57	119.82
1,166.95	6.61	122.44
1,166.96	6.65	125.08
1,166.97	6.69	127.76
1,166.98	6.72	130.47
1,166.99	6.76	133.22
1,167.00	**6.80**	**136.00**

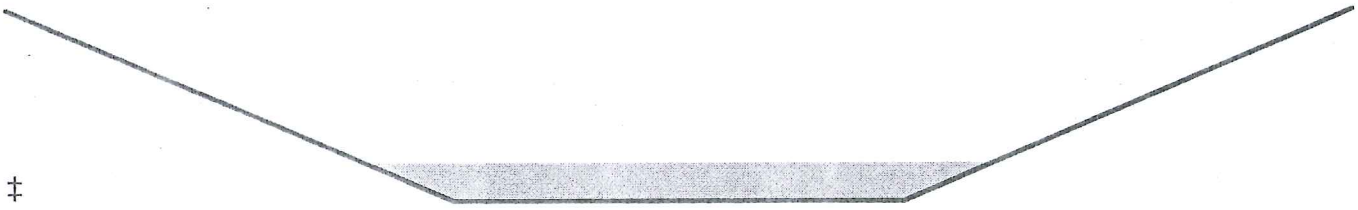
Summary for Reach OL3: OVERLAND FLOW

Inflow Area = 0.844 ac, 92.67% Impervious, Inflow Depth = 4.04" for 10-Year event
Inflow = 3.38 cfs @ 12.13 hrs, Volume= 0.284 af
Outflow = 3.33 cfs @ 12.15 hrs, Volume= 0.284 af, Atten= 2%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.39 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.37 fps, Avg. Travel Time= 2.0 min

Peak Storage= 110 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.20'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 68.16 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 45.0' Slope= 0.0444 '/'
Inlet Invert= 1,122.00', Outlet Invert= 1,120.00'



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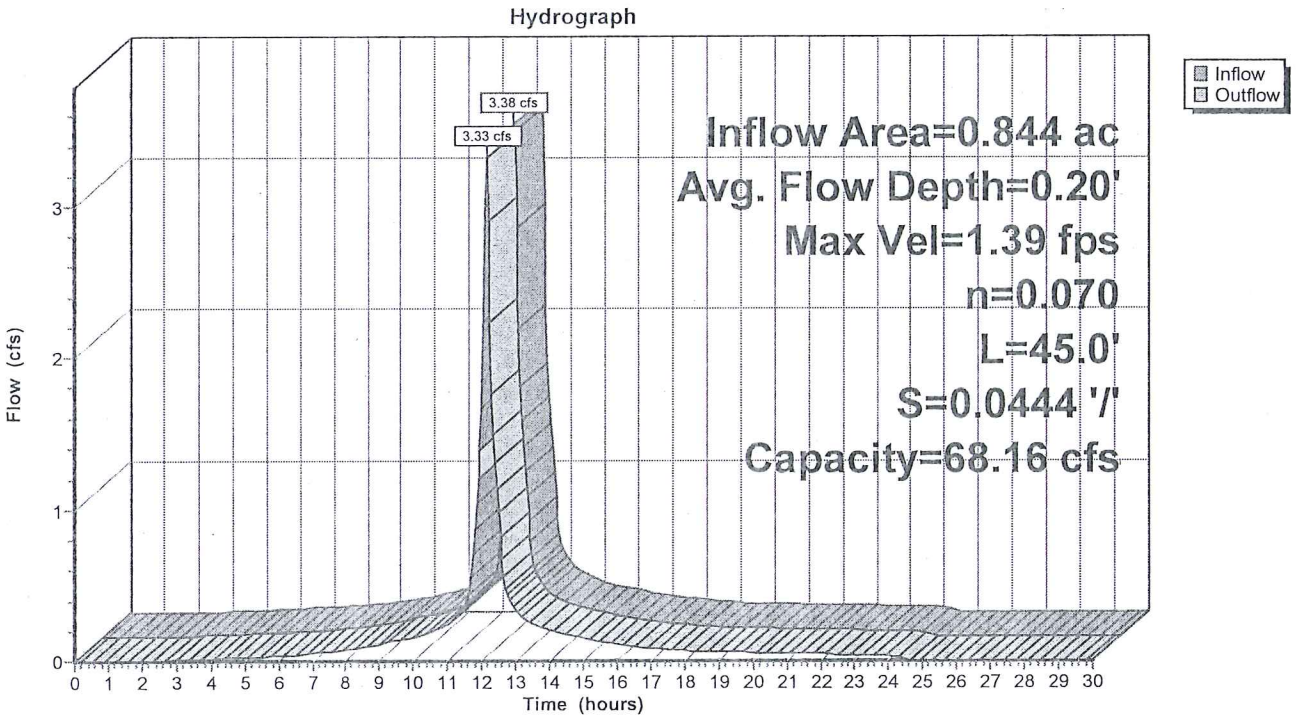
Reach OL3: OVERLAND FLOW



Stage-Discharge for Reach OL3: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,122.00	0.00	0.00
1,122.01	0.21	0.02
1,122.02	0.33	0.07
1,122.03	0.42	0.13
1,122.04	0.51	0.21
1,122.05	0.59	0.31
1,122.06	0.66	0.42
1,122.07	0.73	0.55
1,122.08	0.79	0.68
1,122.09	0.85	0.84
1,122.10	0.91	1.00
1,122.11	0.96	1.18
1,122.12	1.02	1.37
1,122.13	1.07	1.57
1,122.14	1.12	1.78
1,122.15	1.16	2.01
1,122.16	1.21	2.24
1,122.17	1.25	2.49
1,122.18	1.30	2.75
1,122.19	1.34	3.03
1,122.20	1.38	3.31
1,122.21	1.42	3.61
1,122.22	1.46	3.92
1,122.23	1.50	4.24
1,122.24	1.53	4.57
1,122.25	1.57	4.91
1,122.26	1.61	5.26
1,122.27	1.64	5.63
1,122.28	1.68	6.01
1,122.29	1.71	6.40
1,122.30	1.74	6.80
1,122.31	1.78	7.22
1,122.32	1.81	7.64
1,122.33	1.84	8.08
1,122.34	1.87	8.53
1,122.35	1.90	8.99
1,122.36	1.93	9.47
1,122.37	1.96	9.96
1,122.38	1.99	10.45
1,122.39	2.02	10.97
1,122.40	2.05	11.49
1,122.41	2.08	12.03
1,122.42	2.11	12.58
1,122.43	2.14	13.14
1,122.44	2.16	13.71
1,122.45	2.19	14.30
1,122.46	2.22	14.90
1,122.47	2.24	15.51
1,122.48	2.27	16.14
1,122.49	2.30	16.77
1,122.50	2.32	17.43
1,122.51	2.35	18.09
1,122.52	2.37	18.77
1,122.53	2.40	19.46
1,122.54	2.42	20.16
1,122.55	2.45	20.88
1,122.56	2.47	21.61
1,122.57	2.50	22.36
1,122.58	2.52	23.12
1,122.59	2.55	23.89
1,122.60	2.57	24.67
1,122.61	2.59	25.47
1,122.62	2.62	26.29
1,122.63	2.64	27.11
1,122.64	2.66	27.95
1,122.65	2.69	28.81
1,122.66	2.71	29.68
1,122.67	2.73	30.56
1,122.68	2.75	31.46
1,122.69	2.78	32.37
1,122.70	2.80	33.30
1,122.71	2.82	34.24
1,122.72	2.84	35.20
1,122.73	2.86	36.17
1,122.74	2.89	37.15
1,122.75	2.91	38.15
1,122.76	2.93	39.17
1,122.77	2.95	40.20
1,122.78	2.97	41.24
1,122.79	2.99	42.30
1,122.80	3.01	43.37
1,122.81	3.03	44.46
1,122.82	3.05	45.57
1,122.83	3.07	46.69
1,122.84	3.09	47.83
1,122.85	3.11	48.98
1,122.86	3.13	50.14
1,122.87	3.15	51.33
1,122.88	3.17	52.53
1,122.89	3.19	53.74
1,122.90	3.21	54.97
1,122.91	3.23	56.22
1,122.92	3.25	57.48
1,122.93	3.27	58.76
1,122.94	3.29	60.05
1,122.95	3.31	61.36
1,122.96	3.33	62.69
1,122.97	3.35	64.03
1,122.98	3.37	65.39
1,122.99	3.39	66.76
1,123.00	**3.41**	**68.16**

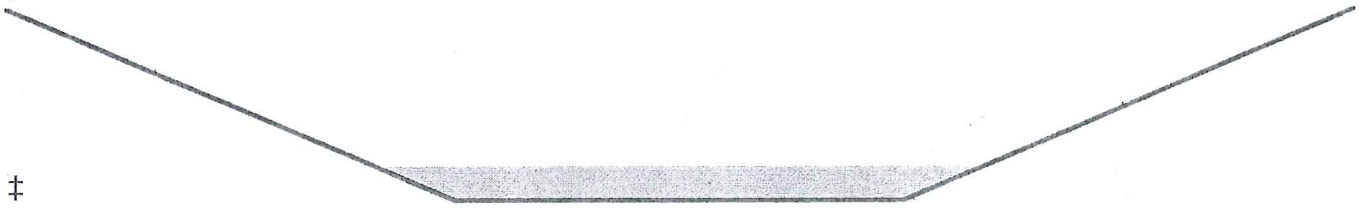
Summary for Reach OL4: OVERLAND FLOW

Inflow Area = 3.538 ac, 24.19% Impervious, Inflow Depth = 2.03" for 10-Year event
Inflow = 6.17 cfs @ 12.17 hrs, Volume= 0.597 af
Outflow = 6.07 cfs @ 12.19 hrs, Volume= 0.597 af, Atten= 2%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.86 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 0.79 fps, Avg. Travel Time= 1.6 min

Peak Storage= 158 cf @ 12.18 hrs
Average Depth at Peak Storage= 0.18'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 150.33 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 74.0' Slope= 0.2162 '/'
Inlet Invert= 1,117.75', Outlet Invert= 1,101.75'



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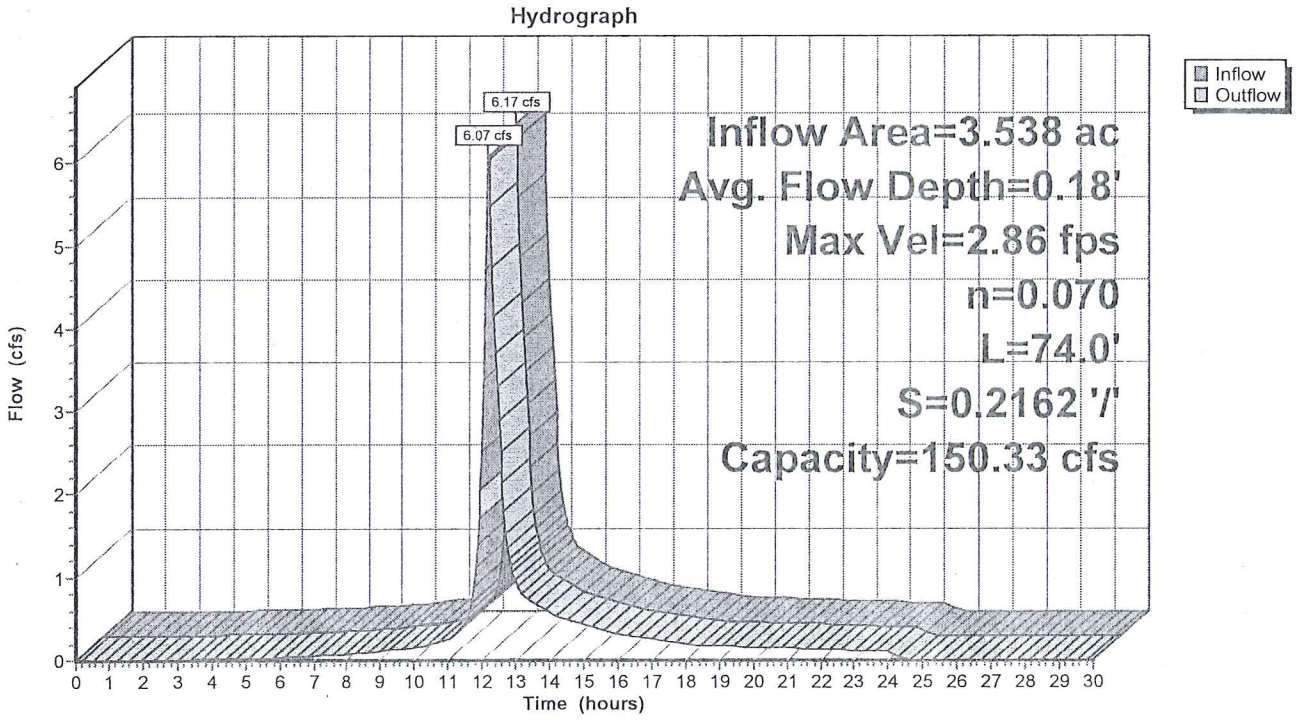
Reach OL4: OVERLAND FLOW



Stage-Discharge for Reach OL4: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,117.75	0.00	0.00
1,117.76	0.46	0.05
1,117.77	0.72	0.15
1,117.78	0.93	0.29
1,117.79	1.13	0.47
1,117.80	1.30	0.68
1,117.81	1.46	0.93
1,117.82	1.61	1.20
1,117.83	1.75	1.51
1,117.84	1.88	1.84
1,117.85	2.01	2.21
1,117.86	2.13	2.60
1,117.87	2.24	3.01
1,117.88	2.35	3.46
1,117.89	2.46	3.93
1,117.90	2.57	4.43
1,117.91	2.67	4.95
1,117.92	2.76	5.50
1,117.93	2.86	6.08
1,117.94	2.95	6.68
1,117.95	3.04	7.30
1,117.96	3.13	7.96
1,117.97	3.22	8.64
1,117.98	3.30	9.34
1,117.99	3.38	10.07
1,118.00	3.47	10.83
1,118.01	3.54	11.61
1,118.02	3.62	12.42
1,118.03	3.70	13.25
1,118.04	3.77	14.12
1,118.05	3.85	15.00
1,118.06	3.92	15.92
1,118.07	3.99	16.86
1,118.08	4.06	17.82
1,118.09	4.13	18.82
1,118.10	4.20	19.84
1,118.11	4.27	20.88
1,118.12	4.33	21.96
1,118.13	4.40	23.06
1,118.14	4.46	24.19
1,118.15	4.53	25.34
1,118.16	4.59	26.53
1,118.17	4.65	27.74
1,118.18	4.71	28.98
1,118.19	4.77	30.24
1,118.20	4.83	31.54
1,118.21	4.89	32.86
1,118.22	4.95	34.21
1,118.23	5.01	35.59
1,118.24	5.07	37.00
1,118.25	5.12	38.43
1,118.26	5.18	39.90
1,118.27	5.24	41.40
1,118.28	5.29	42.92
1,118.29	5.35	44.47
1,118.30	5.40	46.06
1,118.31	5.46	47.67
1,118.32	5.51	49.31
1,118.33	5.56	50.98
1,118.34	5.62	52.69
1,118.35	5.67	54.42
1,118.36	5.72	56.18
1,118.37	5.77	57.98
1,118.38	5.82	59.80
1,118.39	5.87	61.66
1,118.40	5.92	63.54
1,118.41	5.97	65.46
1,118.42	6.02	67.41
1,118.43	6.07	69.39
1,118.44	6.12	71.40
1,118.45	6.17	73.44
1,118.46	6.22	75.52
1,118.47	6.27	77.63
1,118.48	6.32	79.77
1,118.49	6.36	81.94
1,118.50	6.41	84.15
1,118.51	6.46	86.39
1,118.52	6.50	88.66
1,118.53	6.55	90.96
1,118.54	6.60	93.30
1,118.55	6.64	95.67
1,118.56	6.69	98.07
1,118.57	6.73	100.51
1,118.58	6.78	102.98
1,118.59	6.82	105.49
1,118.60	6.87	108.03
1,118.61	6.91	110.60
1,118.62	6.96	113.21
1,118.63	7.00	115.85
1,118.64	7.05	118.53
1,118.65	7.09	121.24
1,118.66	7.13	123.99
1,118.67	7.18	126.78
1,118.68	7.22	129.59
1,118.69	7.26	132.45
1,118.70	7.31	135.34
1,118.71	7.35	138.26
1,118.72	7.39	141.23
1,118.73	7.43	144.22
1,118.74	7.47	147.26
1,118.75	**7.52**	**150.33**

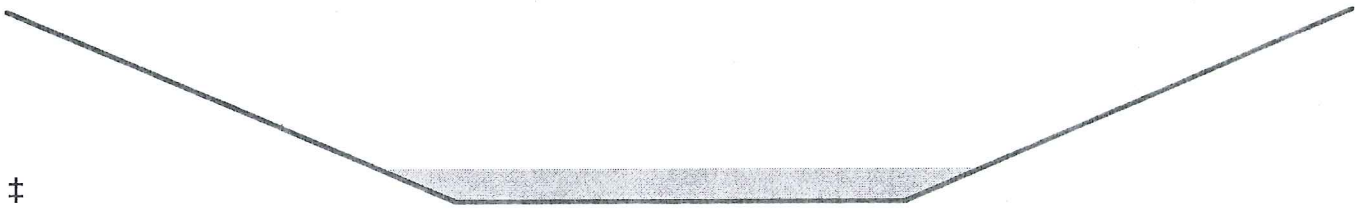
Summary for Reach OL5: OVERLAND FLOW

Inflow Area = 4.252 ac, 2.48% Impervious, Inflow Depth = 1.46" for 10-Year event
Inflow = 4.57 cfs @ 12.31 hrs, Volume= 0.519 af
Outflow = 4.53 cfs @ 12.33 hrs, Volume= 0.519 af, Atten= 1%, Lag= 1.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.24 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 0.81 fps, Avg. Travel Time= 2.1 min

Peak Storage= 208 cf @ 12.32 hrs
Average Depth at Peak Storage= 0.17'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 120.20 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 102.0' Slope= 0.1382 '/'
Inlet Invert= 1,114.10', Outlet Invert= 1,100.00'



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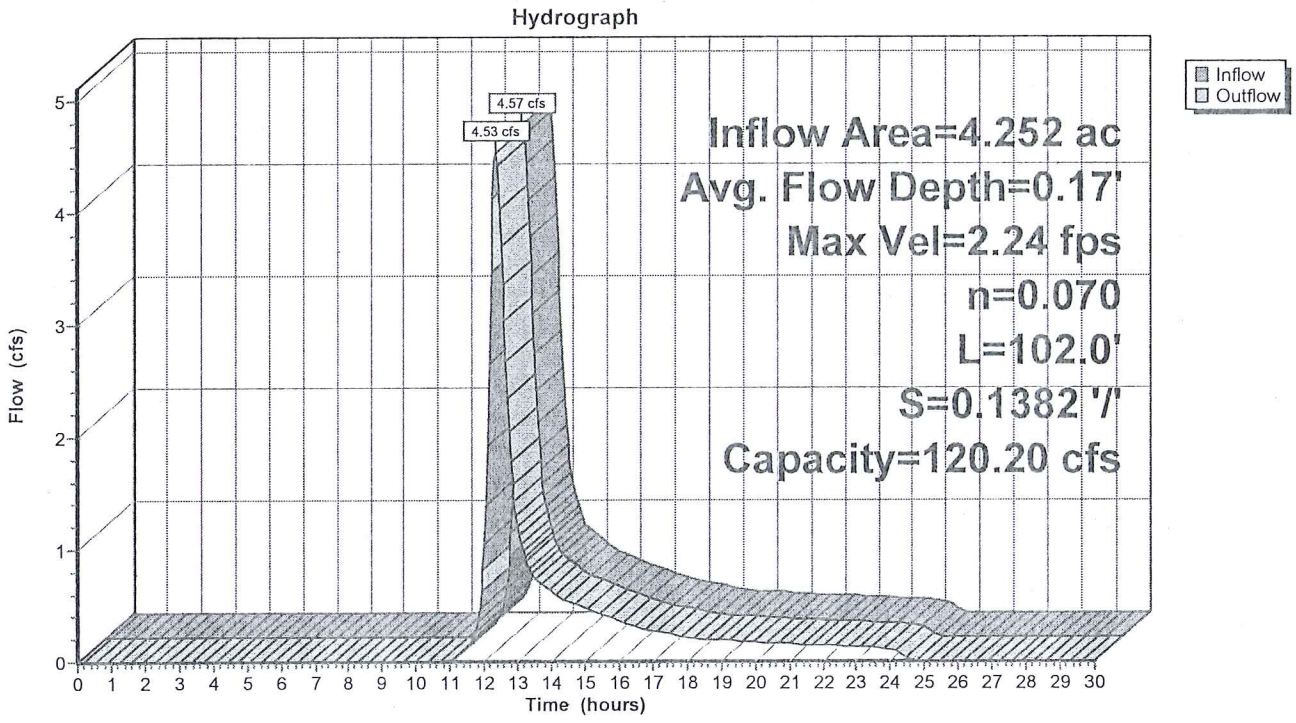
Reach OL5: OVERLAND FLOW



Stage-Discharge for Reach OL5: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,114.10	0.00	0.00
1,114.11	0.36	0.04
1,114.12	0.57	0.12
1,114.13	0.75	0.23
1,114.14	0.90	0.37
1,114.15	1.04	0.55
1,114.16	1.17	0.74
1,114.17	1.28	0.96
1,114.18	1.40	1.21
1,114.19	1.50	1.47
1,114.20	1.60	1.76
1,114.21	1.70	2.08
1,114.22	1.79	2.41
1,114.23	1.88	2.77
1,114.24	1.97	3.14
1,114.25	2.05	3.54
1,114.26	2.13	3.96
1,114.27	2.21	4.40
1,114.28	2.29	4.86
1,114.29	2.36	5.34
1,114.30	2.43	5.84
1,114.31	2.50	6.36
1,114.32	2.57	6.91
1,114.33	2.64	7.47
1,114.34	2.71	8.05
1,114.35	2.77	8.66
1,114.36	2.83	9.28
1,114.37	2.90	9.93
1,114.38	2.96	10.60
1,114.39	3.02	11.29
1,114.40	3.08	12.00
1,114.41	3.13	12.73
1,114.42	3.19	13.48
1,114.43	3.25	14.25
1,114.44	3.30	15.05
1,114.45	3.36	15.86
1,114.46	3.41	16.70
1,114.47	3.46	17.56
1,114.48	3.52	18.44
1,114.49	3.57	19.34
1,114.50	3.62	20.26
1,114.51	3.67	21.21
1,114.52	3.72	22.18
1,114.53	3.77	23.17
1,114.54	3.82	24.18
1,114.55	3.86	25.22
1,114.56	3.91	26.27
1,114.57	3.96	27.35
1,114.58	4.01	28.46
1,114.59	4.05	29.58
1,114.60	4.10	30.73
1,114.61	4.14	31.90
1,114.62	4.19	33.10
1,114.63	4.23	34.32
1,114.64	4.28	35.56
1,114.65	4.32	36.83
1,114.66	4.36	38.12
1,114.67	4.41	39.43
1,114.68	4.45	40.77
1,114.69	4.49	42.13
1,114.70	4.53	43.51
1,114.71	4.57	44.92
1,114.72	4.62	46.36
1,114.73	4.66	47.82
1,114.74	4.70	49.30
1,114.75	4.74	50.81
1,114.76	4.78	52.34
1,114.77	4.82	53.90
1,114.78	4.86	55.48
1,114.79	4.90	57.09
1,114.80	4.93	58.73
1,114.81	4.97	60.39
1,114.82	5.01	62.07
1,114.83	5.05	63.78
1,114.84	5.09	65.52
1,114.85	5.13	67.28
1,114.86	5.16	69.07
1,114.87	5.20	70.89
1,114.88	5.24	72.73
1,114.89	5.28	74.60
1,114.90	5.31	76.49
1,114.91	5.35	78.42
1,114.92	5.39	80.37
1,114.93	5.42	82.34
1,114.94	5.46	84.35
1,114.95	5.49	86.38
1,114.96	5.53	88.44
1,114.97	5.56	90.52
1,114.98	5.60	92.63
1,114.99	5.63	94.78
1,115.00	5.67	96.94
1,115.01	5.70	99.14
1,115.02	5.74	101.37
1,115.03	5.77	103.62
1,115.04	5.81	105.90
1,115.05	5.84	108.21
1,115.06	5.88	110.55
1,115.07	5.91	112.92
1,115.08	5.94	115.32
1,115.09	5.98	117.74
1,115.10	**6.01**	**120.20**

Summary for Pond CULVERT#1: TO DP#1

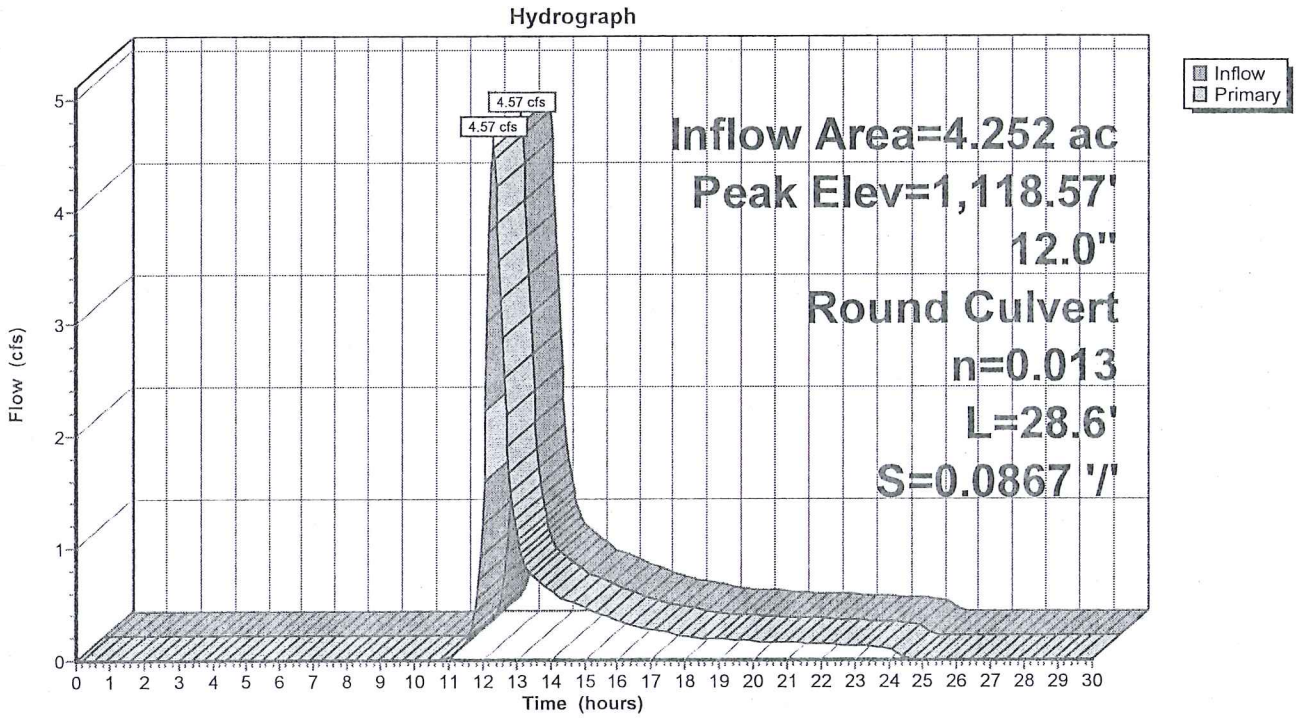
Inflow Area = 4.252 ac, 2.48% Impervious, Inflow Depth = 1.46" for 10-Year event
Inflow = 4.57 cfs @ 12.31 hrs, Volume= 0.519 af
Outflow = 4.57 cfs @ 12.31 hrs, Volume= 0.519 af, Atten= 0%, Lag= 0.0 min
Primary = 4.57 cfs @ 12.31 hrs, Volume= 0.519 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,118.57' @ 12.31 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,116.61'	**12.0" Round Culvert** L= 28.6' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,116.61' / 1,114.13' S= 0.0867 '/' Cc= 0.900 n= 0.013 Cast iron, coated, Flow Area= 0.79 sf

Primary OutFlow Max=4.54 cfs @ 12.31 hrs HW=1,118.55' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 4.54 cfs @ 5.78 fps)

Pond CULVERT#1: TO DP#1



Stage-Discharge for Pond CULVERT#1: TO DP#1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,116.61	0.00	1,117.13	1.01	1,117.65	2.78	1,118.17	3.89
1,116.62	0.00	1,117.14	1.05	1,117.66	2.80	1,118.18	3.91
1,116.63	0.00	1,117.15	1.08	1,117.67	2.83	1,118.19	3.93
1,116.64	0.00	1,117.16	1.12	1,117.68	2.86	1,118.20	3.95
1,116.65	0.01	1,117.17	1.15	1,117.69	2.88	1,118.21	3.97
1,116.66	0.01	1,117.18	1.19	1,117.70	2.90	1,118.22	3.98
1,116.67	0.02	1,117.19	1.22	1,117.71	2.93	1,118.23	4.00
1,116.68	0.02	1,117.20	1.26	1,117.72	2.95	1,118.24	4.02
1,116.69	0.03	1,117.21	1.30	1,117.73	2.98	1,118.25	4.04
1,116.70	0.04	1,117.22	1.33	1,117.74	3.00	1,118.26	4.06
1,116.71	0.04	1,117.23	1.37	1,117.75	3.03	1,118.27	4.07
1,116.72	0.05	1,117.24	1.41	1,117.76	3.05	1,118.28	4.09
1,116.73	0.06	1,117.25	1.45	1,117.77	3.07	1,118.29	4.11
1,116.74	0.07	1,117.26	1.48	1,117.78	3.10	1,118.30	4.13
1,116.75	0.09	1,117.27	1.52	1,117.79	3.12	1,118.31	4.14
1,116.76	0.10	1,117.28	1.56	1,117.80	3.14	1,118.32	4.16
1,116.77	0.11	1,117.29	1.60	1,117.81	3.16	1,118.33	4.18
1,116.78	0.12	1,117.30	1.63	1,117.82	3.19	1,118.34	4.19
1,116.79	0.14	1,117.31	1.67	1,117.83	3.21	1,118.35	4.21
1,116.80	0.15	1,117.32	1.71	1,117.84	3.23	1,118.36	4.23
1,116.81	0.17	1,117.33	1.75	1,117.85	3.25	1,118.37	4.24
1,116.82	0.19	1,117.34	1.79	1,117.86	3.28	1,118.38	4.26
1,116.83	0.20	1,117.35	1.83	1,117.87	3.30	1,118.39	4.28
1,116.84	0.22	1,117.36	1.86	1,117.88	3.32	1,118.40	4.30
1,116.85	0.24	1,117.37	1.90	1,117.89	3.34	1,118.41	4.31
1,116.86	0.26	1,117.38	1.94	1,117.90	3.36	1,118.42	4.33
1,116.87	0.28	1,117.39	1.98	1,117.91	3.38	1,118.43	4.34
1,116.88	0.30	1,117.40	2.01	1,117.92	3.40	1,118.44	4.36
1,116.89	0.32	1,117.41	2.05	1,117.93	3.42	1,118.45	4.38
1,116.90	0.35	1,117.42	2.09	1,117.94	3.45	1,118.46	4.39
1,116.91	0.37	1,117.43	2.13	1,117.95	3.47	1,118.47	4.41
1,116.92	0.39	1,117.44	2.16	1,117.96	3.49	1,118.48	4.43
1,116.93	0.42	1,117.45	2.20	1,117.97	3.51	1,118.49	4.44
1,116.94	0.44	1,117.46	2.23	1,117.98	3.53	1,118.50	4.46
1,116.95	0.47	1,117.47	2.27	1,117.99	3.55	1,118.51	4.47
1,116.96	0.49	1,117.48	2.30	1,118.00	3.57	1,118.52	4.49
1,116.97	0.52	1,117.49	2.34	1,118.01	3.59	1,118.53	4.51
1,116.98	0.55	1,117.50	2.37	1,118.02	3.61	1,118.54	4.52
1,116.99	0.57	1,117.51	2.40	1,118.03	3.63	1,118.55	4.54
1,117.00	0.60	1,117.52	2.44	1,118.04	3.65	1,118.56	4.55
1,117.01	0.63	1,117.53	2.47	1,118.05	3.67	1,118.57	**4.57**
1,117.02	0.66	1,117.54	2.50	1,118.06	3.69		
1,117.03	0.69	1,117.55	2.53	1,118.07	3.71		
1,117.04	0.72	1,117.56	2.56	1,118.08	3.72		
1,117.05	0.75	1,117.57	2.58	1,118.09	3.74		
1,117.06	0.78	1,117.58	2.61	1,118.10	3.76		
1,117.07	0.81	1,117.59	2.63	1,118.11	3.78		
1,117.08	0.85	1,117.60	2.66	1,118.12	3.80		
1,117.09	0.88	1,117.61	2.67	1,118.13	3.82		
1,117.10	0.91	1,117.62	2.70	1,118.14	3.84		
1,117.11	0.95	1,117.63	2.73	1,118.15	3.86		
1,117.12	0.98	1,117.64	2.75	1,118.16	3.88		

Summary for Pond CULVERT#2: TO DP#1

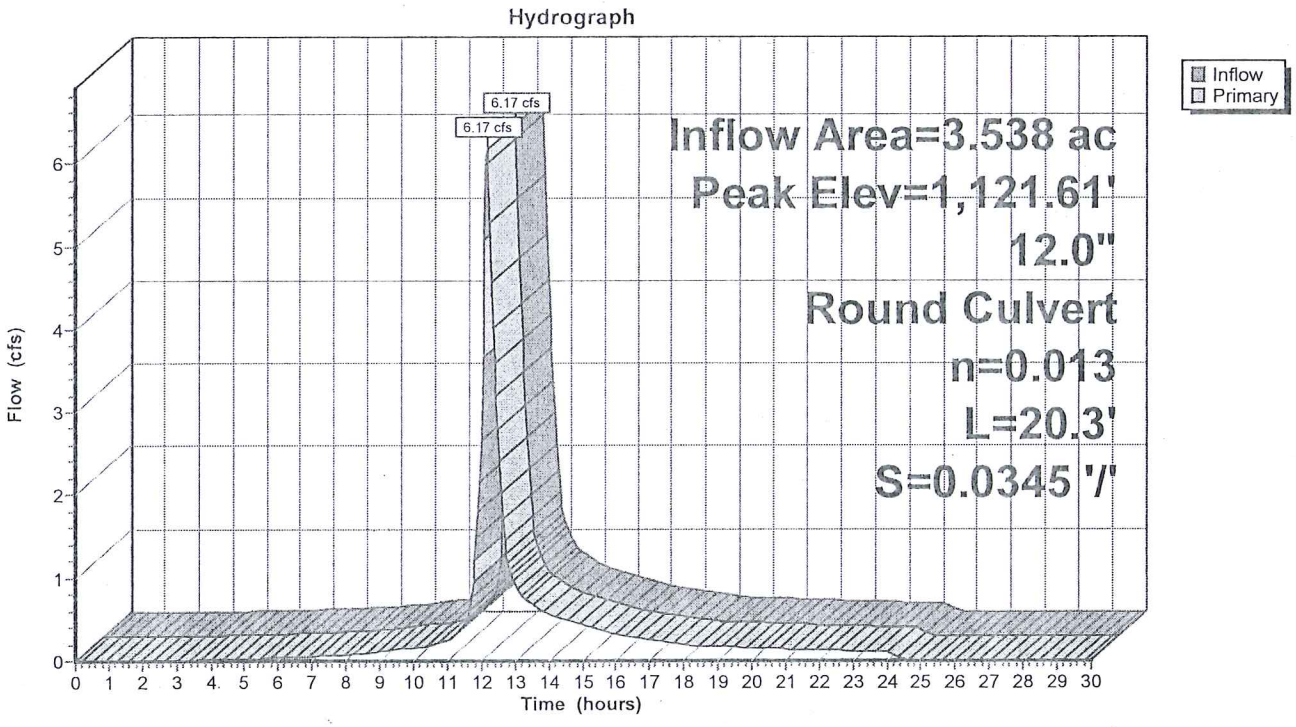
Inflow Area = 3.538 ac, 24.19% Impervious, Inflow Depth = 2.03" for 10-Year event
Inflow = 6.17 cfs @ 12.17 hrs, Volume= 0.597 af
Outflow = 6.17 cfs @ 12.17 hrs, Volume= 0.597 af, Atten= 0%, Lag= 0.0 min
Primary = 6.17 cfs @ 12.17 hrs, Volume= 0.597 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,121.61' @ 12.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,118.45'	**12.0" Round Culvert** L= 20.3' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,118.45' / 1,117.75' S= 0.0345 '/' Cc= 0.900 n= 0.013 Cast iron, coated, Flow Area= 0.79 sf

Primary OutFlow Max=6.04 cfs @ 12.17 hrs HW=1,121.50' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 6.04 cfs @ 7.69 fps)

Pond CULVERT#2: TO DP#1



Stage-Discharge for Pond CULVERT#2: TO DP#1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,118.45	0.00	1,119.49	2.78	1,120.53	4.75
1,118.47	0.00	1,119.51	2.83	1,120.55	4.78
1,118.49	0.01	1,119.53	2.88	1,120.57	4.81
1,118.51	0.02	1,119.55	2.93	1,120.59	4.84
1,118.53	0.03	1,119.57	2.98	1,120.61	4.87
1,118.55	0.04	1,119.59	3.03	1,120.63	4.90
1,118.57	0.06	1,119.61	3.07	1,120.65	4.93
1,118.59	0.09	1,119.63	3.12	1,120.67	4.96
1,118.61	0.11	1,119.65	3.16	1,120.69	4.99
1,118.63	0.14	1,119.67	3.21	1,120.71	5.02
1,118.65	0.17	1,119.69	3.25	1,120.73	5.05
1,118.67	0.20	1,119.71	3.30	1,120.75	5.07
1,118.69	0.24	1,119.73	3.34	1,120.77	5.10
1,118.71	0.28	1,119.75	3.38	1,120.79	5.13
1,118.73	0.32	1,119.77	3.42	1,120.81	5.16
1,118.75	0.37	1,119.79	3.47	1,120.83	5.19
1,118.77	0.42	1,119.81	3.51	1,120.85	5.21
1,118.79	0.47	1,119.83	3.55	1,120.87	5.24
1,118.81	0.52	1,119.85	3.59	1,120.89	5.27
1,118.83	0.57	1,119.87	3.63	1,120.91	5.29
1,118.85	0.63	1,119.89	3.67	1,120.93	5.32
1,118.87	0.69	1,119.91	3.71	1,120.95	5.35
1,118.89	0.75	1,119.93	3.74	1,120.97	5.37
1,118.91	0.81	1,119.95	3.78	1,120.99	5.40
1,118.93	0.88	1,119.97	3.82	1,121.01	5.43
1,118.95	0.95	1,119.99	3.86	1,121.03	5.45
1,118.97	1.01	1,120.01	3.89	1,121.05	5.48
1,118.99	1.08	1,120.03	3.93	1,121.07	5.51
1,119.01	1.15	1,120.05	3.97	1,121.09	5.53
1,119.03	1.22	1,120.07	4.00	1,121.11	5.56
1,119.05	1.30	1,120.09	4.04	1,121.13	5.58
1,119.07	1.37	1,120.11	4.07	1,121.15	5.61
1,119.09	1.45	1,120.13	4.11	1,121.17	5.63
1,119.11	1.52	1,120.15	4.14	1,121.19	5.66
1,119.13	1.60	1,120.17	4.18	1,121.21	5.69
1,119.15	1.67	1,120.19	4.21	1,121.23	5.71
1,119.17	1.75	1,120.21	4.24	1,121.25	5.74
1,119.19	1.83	1,120.23	4.28	1,121.27	5.76
1,119.21	1.90	1,120.25	4.31	1,121.29	5.78
1,119.23	1.98	1,120.27	4.34	1,121.31	5.81
1,119.25	2.05	1,120.29	4.38	1,121.33	5.83
1,119.27	2.13	1,120.31	4.41	1,121.35	5.86
1,119.29	2.20	1,120.33	4.44	1,121.37	5.88
1,119.31	2.27	1,120.35	4.47	1,121.39	5.91
1,119.33	2.34	1,120.37	4.51	1,121.41	5.93
1,119.35	2.40	1,120.39	4.54	1,121.43	5.96
1,119.37	2.47	1,120.41	4.57	1,121.45	5.98
1,119.39	2.53	1,120.43	4.60	1,121.47	6.00
1,119.41	2.58	1,120.45	4.63	1,121.49	6.03
1,119.43	2.63	1,120.47	4.66	1,121.51	6.05
1,119.45	2.67	1,120.49	4.69	1,121.53	**6.07**
1,119.47	2.73	1,120.51	4.72		

Summary for Pond DCBH: TO DP#4

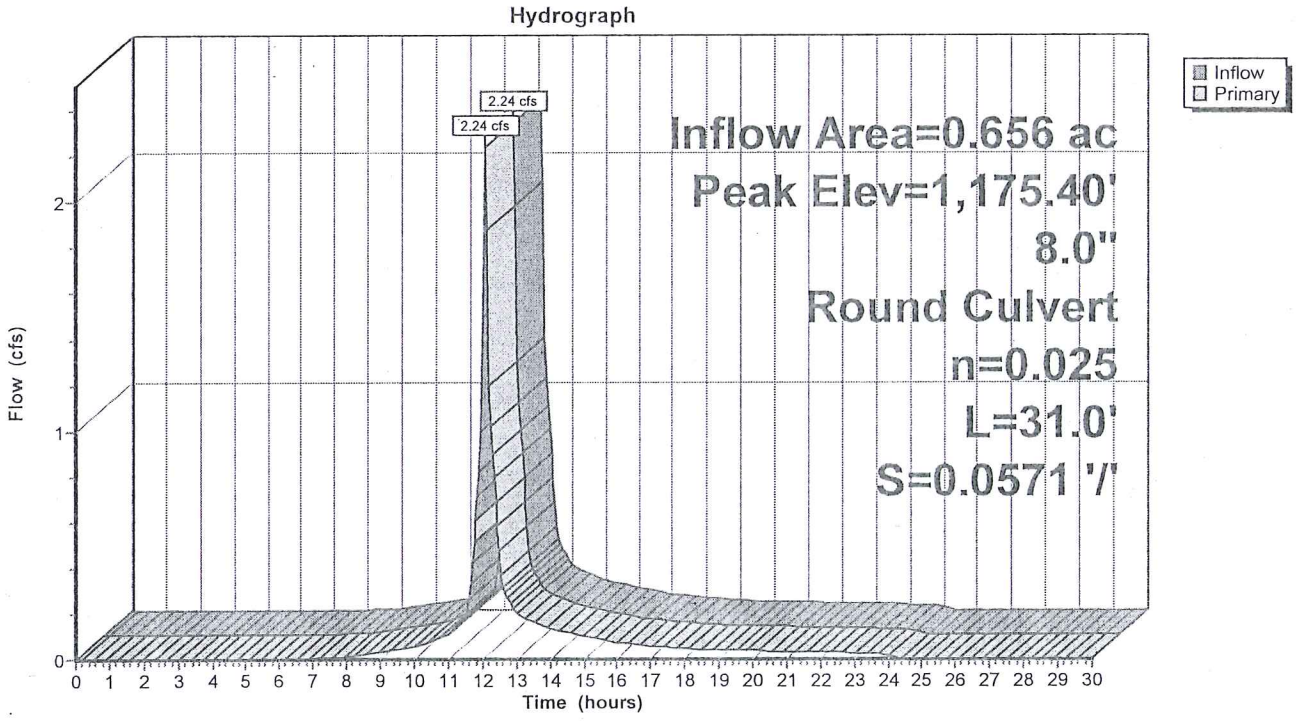
Inflow Area = 0.656 ac, 44.69% Impervious, Inflow Depth = 2.91" for 10-Year event
Inflow = 2.24 cfs @ 12.07 hrs, Volume= 0.159 af
Outflow = 2.24 cfs @ 12.07 hrs, Volume= 0.159 af, Atten= 0%, Lag= 0.0 min
Primary = 2.24 cfs @ 12.07 hrs, Volume= 0.159 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,175.40' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,171.67'	**8.0" Round Culvert** L= 31.0' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,171.67' / 1,169.90' S= 0.0571 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.35 sf

Primary OutFlow Max=2.15 cfs @ 12.07 hrs HW=1,175.11' (Free Discharge)
↑**1=Culvert** (Barrel Controls 2.15 cfs @ 6.17 fps)

Pond DCBH: TO DP#4



Stage-Discharge for Pond DCBH: TO DP#4

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,171.67	0.00	1,172.71	1.41	1,173.75	1.80	1,174.79	2.08
1,171.69	0.00	1,172.73	1.43	1,173.77	1.81	1,174.81	2.08
1,171.71	0.01	1,172.75	1.45	1,173.79	1.81	1,174.83	2.09
1,171.73	0.01	1,172.77	1.47	1,173.81	1.82	1,174.85	2.09
1,171.75	0.02	1,172.79	1.49	1,173.83	1.83	1,174.87	2.10
1,171.77	0.04	1,172.81	1.51	1,173.85	1.83	1,174.89	2.10
1,171.79	0.05	1,172.83	1.52	1,173.87	1.84	1,174.91	2.11
1,171.81	0.07	1,172.85	1.53	1,173.89	1.84	1,174.93	2.11
1,171.83	0.09	1,172.87	1.53	1,173.91	1.85	1,174.95	2.12
1,171.85	0.11	1,172.89	1.54	1,173.93	1.85	1,174.97	2.12
1,171.87	0.13	1,172.91	1.55	1,173.95	1.86	1,174.99	2.13
1,171.89	0.16	1,172.93	1.55	1,173.97	1.86	1,175.01	2.13
1,171.91	0.19	1,172.95	1.56	1,173.99	1.87	1,175.03	2.14
1,171.93	0.22	1,172.97	1.57	1,174.01	1.88	1,175.05	2.14
1,171.95	0.25	1,172.99	1.57	1,174.03	1.88	1,175.07	2.15
1,171.97	0.28	1,173.01	1.58	1,174.05	1.89	1,175.09	2.15
1,171.99	0.32	1,173.03	1.59	1,174.07	1.89	1,175.11	2.15
1,172.01	0.36	1,173.05	1.59	1,174.09	1.90	1,175.13	**2.16**
1,172.03	0.39	1,173.07	1.60	1,174.11	1.90		
1,172.05	0.43	1,173.09	1.61	1,174.13	1.91		
1,172.07	0.47	1,173.11	1.61	1,174.15	1.91		
1,172.09	0.51	1,173.13	1.62	1,174.17	1.92		
1,172.11	0.55	1,173.15	1.62	1,174.19	1.92		
1,172.13	0.59	1,173.17	1.63	1,174.21	1.93		
1,172.15	0.63	1,173.19	1.64	1,174.23	1.93		
1,172.17	0.68	1,173.21	1.64	1,174.25	1.94		
1,172.19	0.72	1,173.23	1.65	1,174.27	1.95		
1,172.21	0.76	1,173.25	1.66	1,174.29	1.95		
1,172.23	0.80	1,173.27	1.66	1,174.31	1.96		
1,172.25	0.84	1,173.29	1.67	1,174.33	1.96		
1,172.27	0.87	1,173.31	1.67	1,174.35	1.97		
1,172.29	0.91	1,173.33	1.68	1,174.37	1.97		
1,172.31	0.94	1,173.35	1.69	1,174.39	1.98		
1,172.33	0.96	1,173.37	1.69	1,174.41	1.98		
1,172.35	0.99	1,173.39	1.70	1,174.43	1.99		
1,172.37	1.02	1,173.41	1.70	1,174.45	1.99		
1,172.39	1.05	1,173.43	1.71	1,174.47	2.00		
1,172.41	1.07	1,173.45	1.72	1,174.49	2.00		
1,172.43	1.10	1,173.47	1.72	1,174.51	2.01		
1,172.45	1.12	1,173.49	1.73	1,174.53	2.01		
1,172.47	1.15	1,173.51	1.73	1,174.55	2.02		
1,172.49	1.17	1,173.53	1.74	1,174.57	2.02		
1,172.51	1.20	1,173.55	1.75	1,174.59	2.03		
1,172.53	1.22	1,173.57	1.75	1,174.61	2.03		
1,172.55	1.24	1,173.59	1.76	1,174.63	2.04		
1,172.57	1.27	1,173.61	1.76	1,174.65	2.04		
1,172.59	1.29	1,173.63	1.77	1,174.67	2.05		
1,172.61	1.31	1,173.65	1.77	1,174.69	2.05		
1,172.63	1.33	1,173.67	1.78	1,174.71	2.06		
1,172.65	1.35	1,173.69	1.79	1,174.73	2.06		
1,172.67	1.37	1,173.71	1.79	1,174.75	2.07		
1,172.69	1.39	1,173.73	1.80	1,174.77	2.07		

Summary for Pond DCBI: TO DCB-F

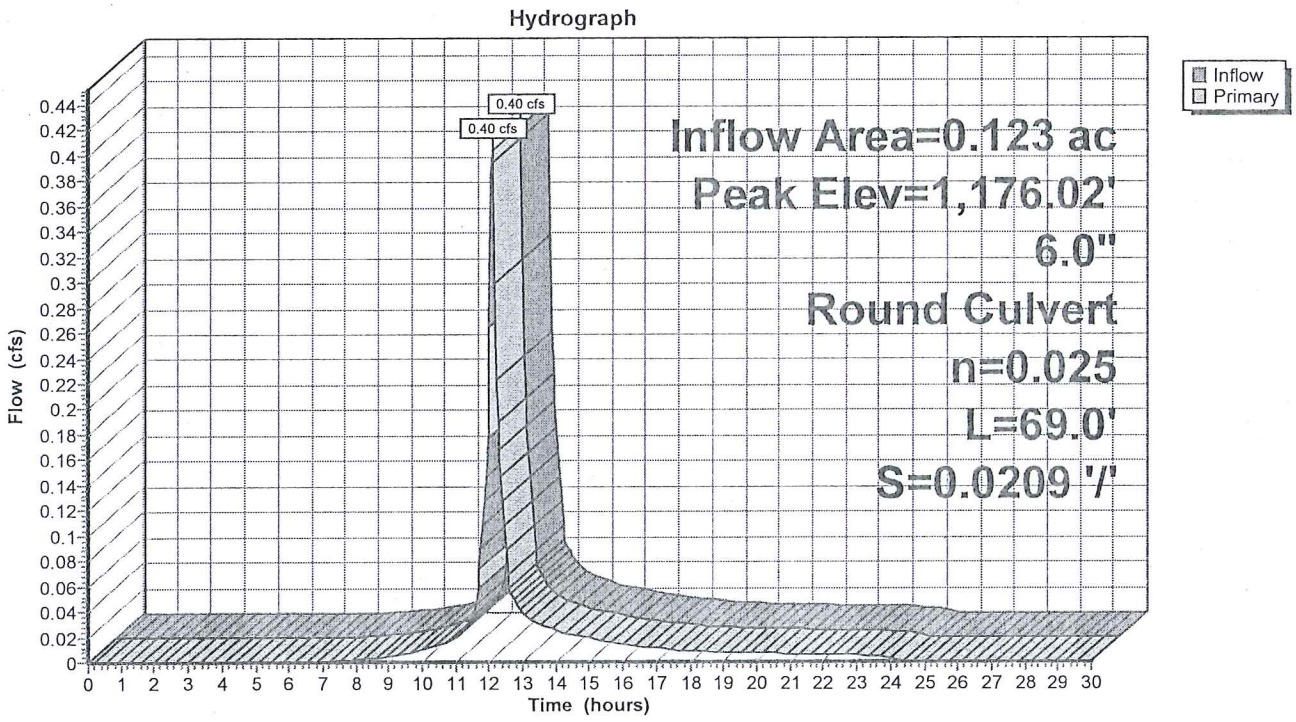
Inflow Area = 0.123 ac, 42.29% Impervious, Inflow Depth = 2.82" for 10-Year event
Inflow = 0.40 cfs @ 12.08 hrs, Volume= 0.029 af
Outflow = 0.40 cfs @ 12.08 hrs, Volume= 0.029 af, Atten= 0%, Lag= 0.0 min
Primary = 0.40 cfs @ 12.08 hrs, Volume= 0.029 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,176.02' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,175.50'	**6.0" Round Culvert** L= 69.0' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,175.50' / 1,174.06' S= 0.0209 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.20 sf

Primary OutFlow Max=0.39 cfs @ 12.08 hrs HW=1,176.01' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.39 cfs @ 2.43 fps)

Pond DCBI: TO DCB-F



Stage-Discharge for Pond DCBI: TO DCB-F

Elevation (feet)	Primary (cfs)
1,175.50	0.00
1,175.51	0.00
1,175.52	0.00
1,175.53	0.00
1,175.54	0.00
1,175.55	0.00
1,175.56	0.01
1,175.57	0.01
1,175.58	0.01
1,175.59	0.02
1,175.60	0.02
1,175.61	0.02
1,175.62	0.03
1,175.63	0.03
1,175.64	0.04
1,175.65	0.05
1,175.66	0.05
1,175.67	0.06
1,175.68	0.07
1,175.69	0.07
1,175.70	0.08
1,175.71	0.09
1,175.72	0.10
1,175.73	0.11
1,175.74	0.12
1,175.75	0.13
1,175.76	0.13
1,175.77	0.14
1,175.78	0.15
1,175.79	0.16
1,175.80	0.17
1,175.81	0.18
1,175.82	0.19
1,175.83	0.21
1,175.84	0.22
1,175.85	0.23
1,175.86	0.24
1,175.87	0.25
1,175.88	0.26
1,175.89	0.27
1,175.90	0.28
1,175.91	0.29
1,175.92	0.30
1,175.93	0.31
1,175.94	0.32
1,175.95	0.33
1,175.96	0.34
1,175.97	0.35
1,175.98	0.36
1,175.99	0.37
1,176.00	0.38
1,176.01	0.39
1,176.02	**0.40**

Summary for Pond DCBJ: TO DCB-K

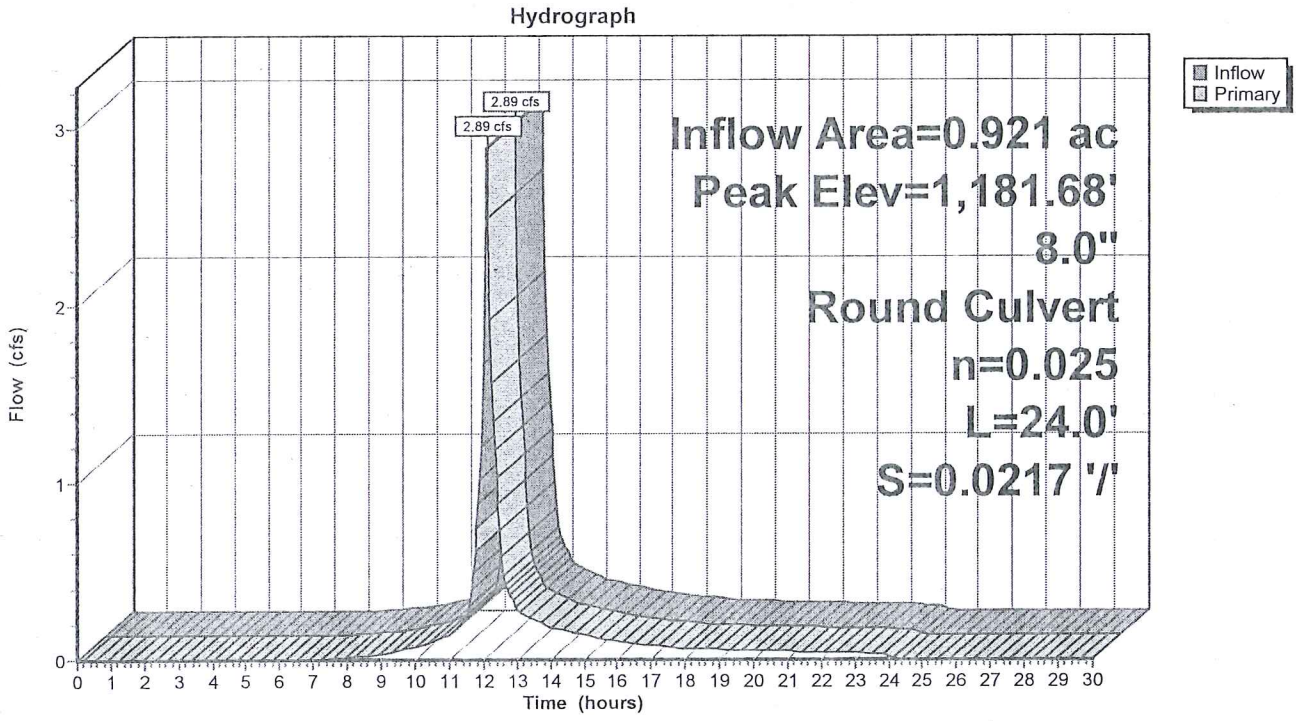
Inflow Area = 0.921 ac, 43.25% Impervious, Inflow Depth = 2.82" for 10-Year event
Inflow = 2.89 cfs @ 12.10 hrs, Volume= 0.216 af
Outflow = 2.89 cfs @ 12.10 hrs, Volume= 0.216 af, Atten= 0%, Lag= 0.0 min
Primary = 2.89 cfs @ 12.10 hrs, Volume= 0.216 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,181.68' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,174.86'	**8.0" Round Culvert** L= 24.0' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,174.86' / 1,174.34' S= 0.0217 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.35 sf

Primary OutFlow Max=2.88 cfs @ 12.10 hrs HW=1,181.66' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 2.88 cfs @ 8.26 fps)

Pond DCBJ: TO DCB-K



Stage-Discharge for Pond DCBJ: TO DCB-K

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,174.86	0.00	1,176.94	1.55	1,179.02	2.24	1,181.10	2.76
1,174.90	0.00	1,176.98	1.57	1,179.06	2.25	1,181.14	2.77
1,174.94	0.02	1,177.02	1.59	1,179.10	2.26	1,181.18	2.78
1,174.98	0.04	1,177.06	1.60	1,179.14	2.27	1,181.22	2.79
1,175.02	0.06	1,177.10	1.62	1,179.18	2.28	1,181.26	2.79
1,175.06	0.10	1,177.14	1.63	1,179.22	2.29	1,181.30	2.80
1,175.10	0.14	1,177.18	1.65	1,179.26	2.30	1,181.34	2.81
1,175.14	0.19	1,177.22	1.66	1,179.30	2.32	1,181.38	2.82
1,175.18	0.25	1,177.26	1.68	1,179.34	2.33	1,181.42	2.83
1,175.22	0.31	1,177.30	1.69	1,179.38	2.34	1,181.46	2.84
1,175.26	0.37	1,177.34	1.71	1,179.42	2.35	1,181.50	2.85
1,175.30	0.44	1,177.38	1.72	1,179.46	2.36	1,181.54	2.86
1,175.34	0.50	1,177.42	1.74	1,179.50	2.37	1,181.58	2.86
1,175.38	0.57	1,177.46	1.75	1,179.54	2.38	1,181.62	2.87
1,175.42	0.64	1,177.50	1.76	1,179.58	2.39	1,181.66	**2.88**
1,175.46	0.71	1,177.54	1.78	1,179.62	2.40		
1,175.50	0.78	1,177.58	1.79	1,179.66	2.41		
1,175.54	0.84	1,177.62	1.81	1,179.70	2.42		
1,175.58	0.89	1,177.66	1.82	1,179.74	2.43		
1,175.62	0.94	1,177.70	1.83	1,179.78	2.44		
1,175.66	0.98	1,177.74	1.85	1,179.82	2.45		
1,175.70	1.00	1,177.78	1.86	1,179.86	2.46		
1,175.74	0.99	1,177.82	1.87	1,179.90	2.47		
1,175.78	0.98	1,177.86	1.89	1,179.94	2.48		
1,175.82	1.01	1,177.90	1.90	1,179.98	2.49		
1,175.86	1.03	1,177.94	1.91	1,180.02	2.50		
1,175.90	1.06	1,177.98	1.93	1,180.06	2.51		
1,175.94	1.08	1,178.02	1.94	1,180.10	2.52		
1,175.98	1.10	1,178.06	1.95	1,180.14	2.53		
1,176.02	1.12	1,178.10	1.97	1,180.18	2.54		
1,176.06	1.15	1,178.14	1.98	1,180.22	2.55		
1,176.10	1.17	1,178.18	1.99	1,180.26	2.56		
1,176.14	1.19	1,178.22	2.00	1,180.30	2.57		
1,176.18	1.21	1,178.26	2.02	1,180.34	2.58		
1,176.22	1.23	1,178.30	2.03	1,180.38	2.59		
1,176.26	1.25	1,178.34	2.04	1,180.42	2.60		
1,176.30	1.27	1,178.38	2.05	1,180.46	2.61		
1,176.34	1.29	1,178.42	2.06	1,180.50	2.62		
1,176.38	1.31	1,178.46	2.08	1,180.54	2.63		
1,176.42	1.33	1,178.50	2.09	1,180.58	2.64		
1,176.46	1.35	1,178.54	2.10	1,180.62	2.65		
1,176.50	1.37	1,178.58	2.11	1,180.66	2.66		
1,176.54	1.38	1,178.62	2.12	1,180.70	2.67		
1,176.58	1.40	1,178.66	2.14	1,180.74	2.68		
1,176.62	1.42	1,178.70	2.15	1,180.78	2.68		
1,176.66	1.44	1,178.74	2.16	1,180.82	2.69		
1,176.70	1.45	1,178.78	2.17	1,180.86	2.70		
1,176.74	1.47	1,178.82	2.18	1,180.90	2.71		
1,176.78	1.49	1,178.86	2.19	1,180.94	2.72		
1,176.82	1.50	1,178.90	2.20	1,180.98	2.73		
1,176.86	1.52	1,178.94	2.22	1,181.02	2.74		
1,176.90	1.54	1,178.98	2.23	1,181.06	2.75		

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E11: TO WET Runoff Area=70,866 sf 3.65% Impervious Runoff Depth=1.78"
Flow Length=109' Slope=0.1500 '/' Tc=8.2 min CN=64 Runoff=2.92 cfs 0.241 af

Subcatchment E12: TO CULVERT#1 Runoff Area=185,198 sf 2.48% Impervious Runoff Depth=2.01"
Flow Length=683' Tc=20.6 min CN=67 Runoff=6.46 cfs 0.714 af

Subcatchment E14: TO CULVERT #2 Runoff Area=117,393 sf 2.76% Impervious Runoff Depth=1.94"
Flow Length=490' Tc=14.6 min CN=66 Runoff=4.48 cfs 0.435 af

Subcatchment E16: TO DCB-B Runoff Area=6,163 sf 78.74% Impervious Runoff Depth=4.49"
Flow Length=121' Slope=0.0500 '/' Tc=5.0 min CN=93 Runoff=0.70 cfs 0.053 af

Subcatchment E17: TO DCB-A Runoff Area=36,743 sf 92.67% Impervious Runoff Depth=4.83"
Flow Length=257' Tc=5.0 min CN=96 Runoff=4.34 cfs 0.340 af

Subcatchment E18: TO DP#2 Runoff Area=31,291 sf 68.41% Impervious Runoff Depth=4.17"
Flow Length=260' Tc=5.0 min CN=90 Runoff=3.39 cfs 0.249 af

Subcatchment E19: BUILDING Runoff Area=130,896 sf 100.00% Impervious Runoff Depth=5.06"
Tc=0.0 min CN=98 Runoff=17.84 cfs 1.268 af

Subcatchment E20: TO DCB-H Runoff Area=28,596 sf 44.69% Impervious Runoff Depth=3.65"
Flow Length=336' Tc=5.0 min CN=85 Runoff=2.79 cfs 0.199 af

Subcatchment E21: TO DCB-I Runoff Area=5,372 sf 42.29% Impervious Runoff Depth=3.55"
Flow Length=202' Tc=5.2 min CN=84 Runoff=0.51 cfs 0.036 af

Subcatchment E22: TO DCB-J Runoff Area=34,739 sf 43.40% Impervious Runoff Depth=3.55"
Flow Length=315' Tc=7.1 min CN=84 Runoff=3.12 cfs 0.236 af

Subcatchment E23: TO DCB-C Runoff Area=5,658 sf 89.66% Impervious Runoff Depth=4.83"
Flow Length=80' Slope=0.0080 '/' Tc=5.0 min CN=96 Runoff=0.67 cfs 0.052 af

Subcatchment E24: TO DCB-D Runoff Area=11,793 sf 83.76% Impervious Runoff Depth=4.60"
Flow Length=148' Slope=0.0600 '/' Tc=5.1 min CN=94 Runoff=1.36 cfs 0.104 af

Subcatchment E25: TO DCBE Runoff Area=5,688 sf 80.36% Impervious Runoff Depth=4.49"
Flow Length=145' Slope=0.0900 '/' Tc=5.0 min CN=93 Runoff=0.65 cfs 0.049 af

Subcatchment E26: TO DCB-F Runoff Area=3,403 sf 61.92% Impervious Runoff Depth=4.06"
Flow Length=142' Slope=0.0700 '/' Tc=5.0 min CN=89 Runoff=0.36 cfs 0.026 af

Subcatchment E27: TO DCB-G Runoff Area=9,638 sf 40.69% Impervious Runoff Depth=3.55"
Flow Length=181' Slope=0.0080 '/' Tc=5.0 min CN=84 Runoff=0.92 cfs 0.065 af

Reach DCB-K: TO DP#5 Inflow=3.61 cfs 0.272 af
Outflow=3.61 cfs 0.272 af

Reach DCBA: TO DMH-A Avg. Flow Depth=0.38' Max Vel=13.59 fps Inflow=4.34 cfs 0.340 af
15.0" Round Pipe n=0.011 L=10.0' S=0.0790 '/' Capacity=21.46 cfs Outflow=4.34 cfs 0.340 af

Reach DCBB: TO DMH-B Inflow=0.70 cfs 0.053 af
Outflow=0.70 cfs 0.053 af

Reach DCBC: TO DMH-B Inflow=0.67 cfs 0.052 af
Outflow=0.67 cfs 0.052 af

Reach DCBD: TO DMH-C Inflow=1.36 cfs 0.104 af
Outflow=1.36 cfs 0.104 af

Reach DCBE: TO DCB-F Avg. Flow Depth=0.65' Max Vel=6.18 fps Inflow=3.33 cfs 0.258 af
12.0" Round Pipe n=0.011 L=26.0' S=0.0112 '/' Capacity=4.45 cfs Outflow=3.33 cfs 0.258 af

Reach DCBF: TO DMH-D Inflow=3.68 cfs 0.284 af
Outflow=3.68 cfs 0.284 af

Reach DCBG: TO DP#3 Inflow=4.59 cfs 0.350 af
Outflow=4.59 cfs 0.350 af

Reach DMHA: TO DP#1 Avg. Flow Depth=0.54' Max Vel=8.57 fps Inflow=4.34 cfs 0.340 af
15.0" Round Pipe n=0.011 L=14.0' S=0.0221 '/' Capacity=11.36 cfs Outflow=4.33 cfs 0.340 af

Reach DMHB: TO DMH-C Inflow=1.37 cfs 0.105 af
Outflow=1.37 cfs 0.105 af

Reach DMHC: TO DCB-E Avg. Flow Depth=0.38' Max Vel=9.75 fps Inflow=2.73 cfs 0.209 af
12.0" Round Pipe n=0.010 L=85.0' S=0.0358 '/' Capacity=8.76 cfs Outflow=2.69 cfs 0.209 af

Reach DMHD: TO DCB-G Inflow=3.68 cfs 0.284 af
Outflow=3.68 cfs 0.284 af

Reach DP#1: CRYSTAL LAKE Inflow=15.45 cfs 1.729 af
Outflow=15.45 cfs 1.729 af

Reach DP#2: EX RAIN GARDEN Inflow=3.39 cfs 0.249 af
Outflow=3.39 cfs 0.249 af

Reach DP#3: DMH-E Inflow=4.59 cfs 0.350 af
Outflow=4.59 cfs 0.350 af

Reach DP#4: DCB-J Inflow=2.79 cfs 0.199 af
Outflow=2.79 cfs 0.199 af

Reach DP#5: DCB-K Inflow=3.61 cfs 0.272 af
Outflow=3.61 cfs 0.272 af

Reach OL1: OVERLAND FLOW Avg. Flow Depth=0.12' Max Vel=3.19 fps Inflow=4.33 cfs 0.340 af
n=0.070 L=20.0' S=0.4500 '/' Capacity=216.87 cfs Outflow=4.28 cfs 0.340 af

Reach OL2: OVERLAND FLOW Avg. Flow Depth=0.15' Max Vel=2.36 fps Inflow=4.28 cfs 0.340 af
n=0.070 L=243.0' S=0.1770 '/' Capacity=136.00 cfs Outflow=4.01 cfs 0.340 af

Reach OL3: OVERLAND FLOW Avg. Flow Depth=0.22' Max Vel=1.47 fps Inflow=4.01 cfs 0.340 af
n=0.070 L=45.0' S=0.0444 '/' Capacity=68.16 cfs Outflow=3.95 cfs 0.340 af

Reach OL4: OVERLAND FLOW Avg. Flow Depth=0.21' Max Vel=3.12 fps Inflow=8.07 cfs 0.774 af
n=0.070 L=74.0' S=0.2162 '/' Capacity=150.33 cfs Outflow=7.94 cfs 0.774 af

Reach OL5: OVERLAND FLOW Avg. Flow Depth=0.21' Max Vel=2.52 fps Inflow=6.46 cfs 0.714 af
n=0.070 L=102.0' S=0.1382 '/' Capacity=120.20 cfs Outflow=6.43 cfs 0.714 af

Pond CULVERT#1: TO DP#1 Peak Elev=1,120.03' Inflow=6.46 cfs 0.714 af
12.0" Round Culvert n=0.013 L=28.6' S=0.0867 '/' Outflow=6.46 cfs 0.714 af

Pond CULVERT#2: TO DP#1 Peak Elev=1,123.49' Inflow=8.07 cfs 0.774 af
12.0" Round Culvert n=0.013 L=20.3' S=0.0345 '/' Outflow=8.07 cfs 0.774 af

Pond DCBH: TO DP#4 Peak Elev=1,178.07' Inflow=2.79 cfs 0.199 af
8.0" Round Culvert n=0.025 L=31.0' S=0.0571 '/' Outflow=2.79 cfs 0.199 af

Pond DCBI: TO DCB-F Peak Elev=1,176.74' Inflow=0.51 cfs 0.036 af
6.0" Round Culvert n=0.025 L=69.0' S=0.0209 '/' Outflow=0.51 cfs 0.036 af

Pond DCBJ: TO DCB-K Peak Elev=1,185.46' Inflow=3.61 cfs 0.272 af
8.0" Round Culvert n=0.025 L=24.0' S=0.0217 '/' Outflow=3.61 cfs 0.272 af

Total Runoff Area = 15.690 ac Runoff Volume = 4.068 af Average Runoff Depth = 3.11"
62.35% Pervious = 9.783 ac 37.65% Impervious = 5.907 ac

Summary for Subcatchment E11: TO WET

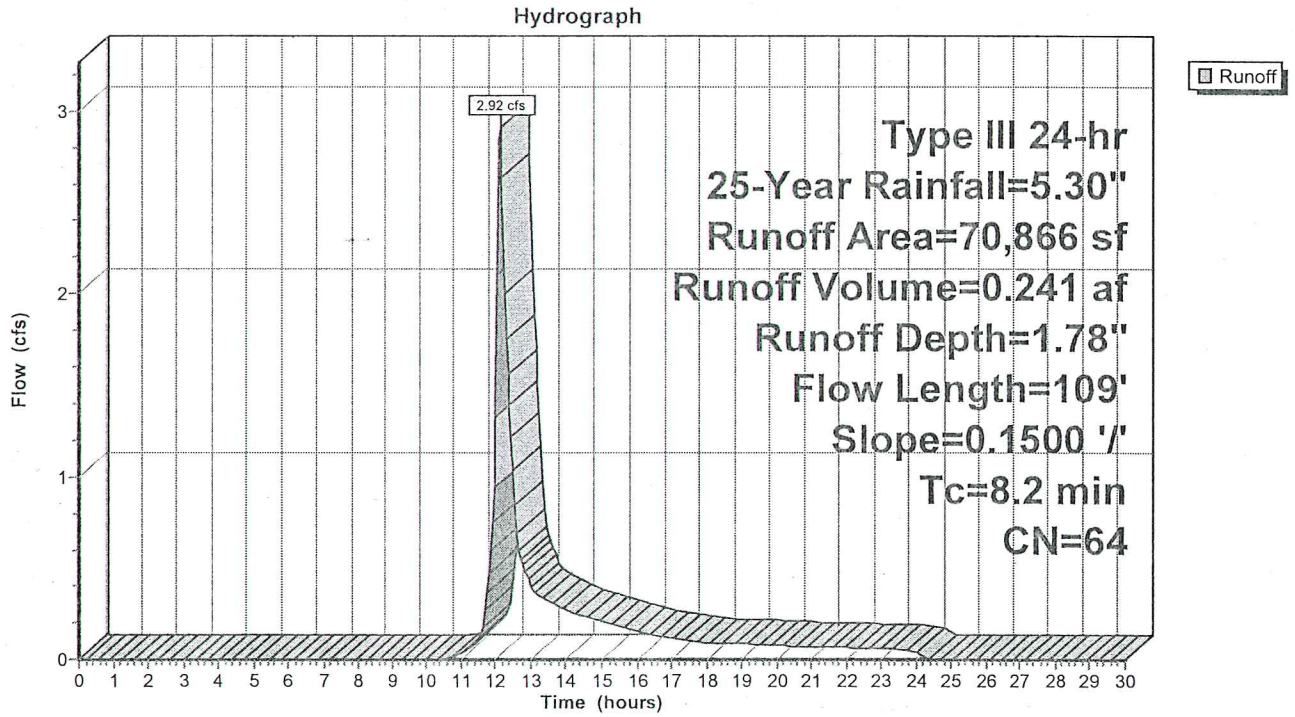
Runoff = 2.92 cfs @ 12.13 hrs, Volume= 0.241 af, Depth= 1.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
8,033	61	>75% Grass cover, Good, HSG B
30,342	55	Woods, Good, HSG B
2,584	98	Paved parking, HSG B
1,398	74	>75% Grass cover, Good, HSG C
28,509	70	Woods, Good, HSG C
70,866	64	Weighted Average
68,282		96.35% Pervious Area
2,584		3.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	75	0.1500	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.3	34	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	109	Total			

Subcatchment E11: TO WET



Summary for Subcatchment E12: TO CULVERT#1

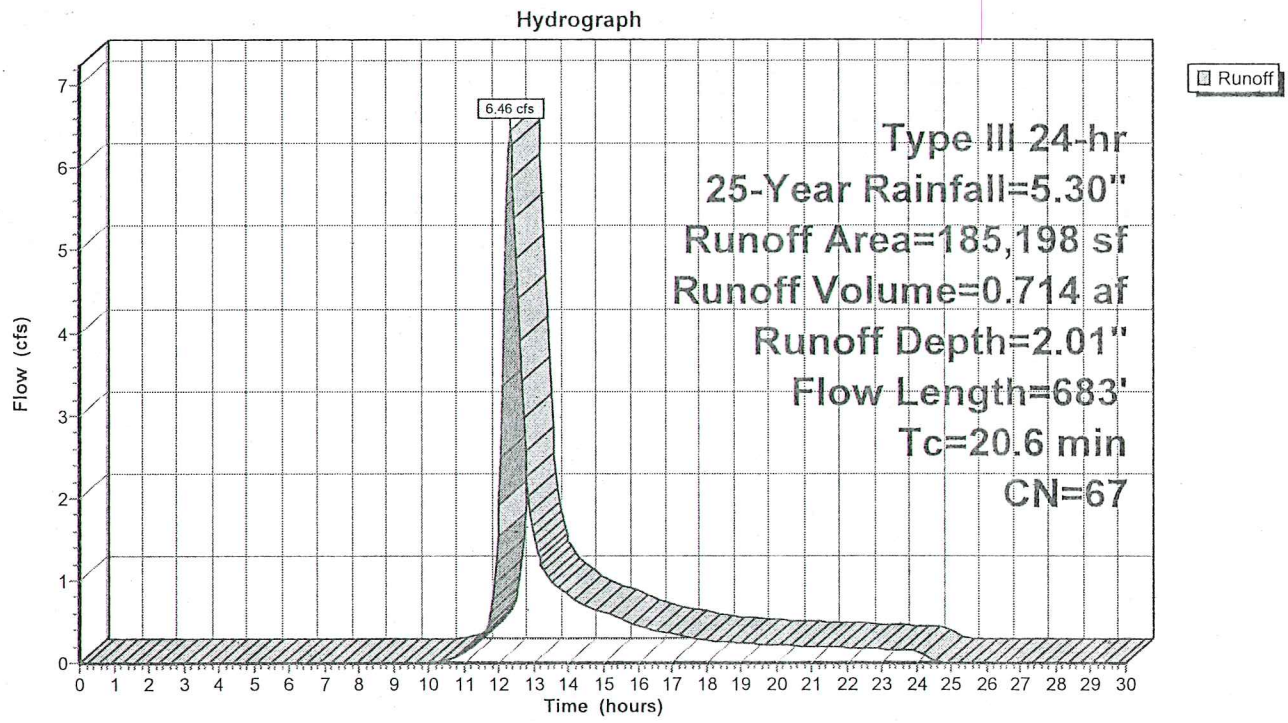
Runoff = 6.46 cfs @ 12.30 hrs, Volume= 0.714 af, Depth= 2.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
4,394	61	>75% Grass cover, Good, HSG B
44,375	55	Woods, Good, HSG B
3,012	98	Paved parking, HSG B
4,011	74	>75% Grass cover, Good, HSG C
127,833	70	Woods, Good, HSG C
1,573	98	Paved parking, HSG C
185,198	67	Weighted Average
180,613		97.52% Pervious Area
4,585		2.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	36	0.0700	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
3.6	39	0.2800	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
3.0	366	0.1700	2.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.1	242	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.6	683	Total			

Subcatchment E12: TO CULVERT#1



Summary for Subcatchment E14: TO CULVERT #2

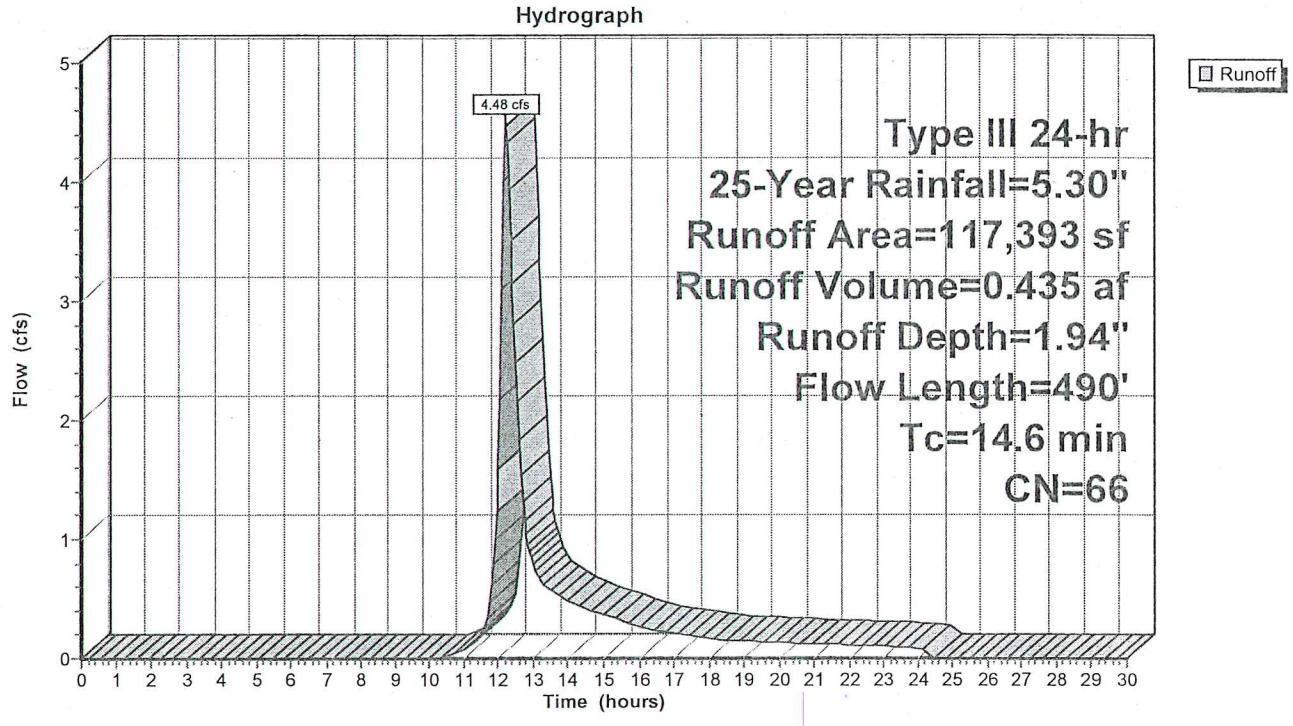
Runoff = 4.48 cfs @ 12.21 hrs, Volume= 0.435 af, Depth= 1.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
4,416	61	>75% Grass cover, Good, HSG B
947	98	Paved parking, HSG B
35,087	55	Woods, Good, HSG B
6,594	74	>75% Grass cover, Good, HSG C
67,351	70	Woods, Good, HSG C
2,290	98	Paved parking, HSG C
708	96	Gravel surface, HSG C
117,393	66	Weighted Average
114,156		97.24% Pervious Area
3,237		2.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	75	0.0500	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	43	0.4200	3.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.0	137	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.8	235	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.6	490	Total			

Subcatchment E14: TO CULVERT #2



Summary for Subcatchment E16: TO DCB-B

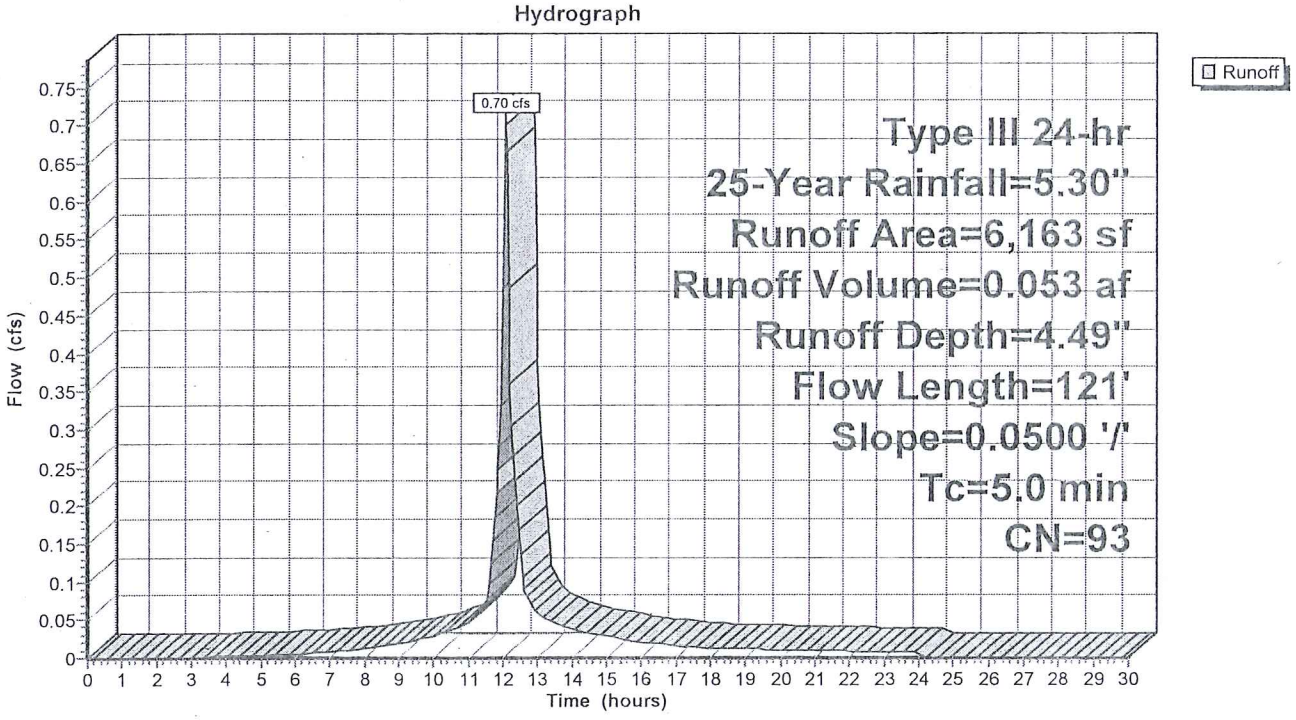
Runoff = 0.70 cfs @ 12.07 hrs, Volume= 0.053 af, Depth= 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
1,299	74	>75% Grass cover, Good, HSG C
4,853	98	Paved parking, HSG C
11	70	Woods, Good, HSG C
6,163	93	Weighted Average
1,310		21.26% Pervious Area
4,853		78.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	34	0.0500	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	16	0.0500	1.33		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	71	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.5	121	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E16: TO DCB-B



Summary for Subcatchment E17: TO DCB-A

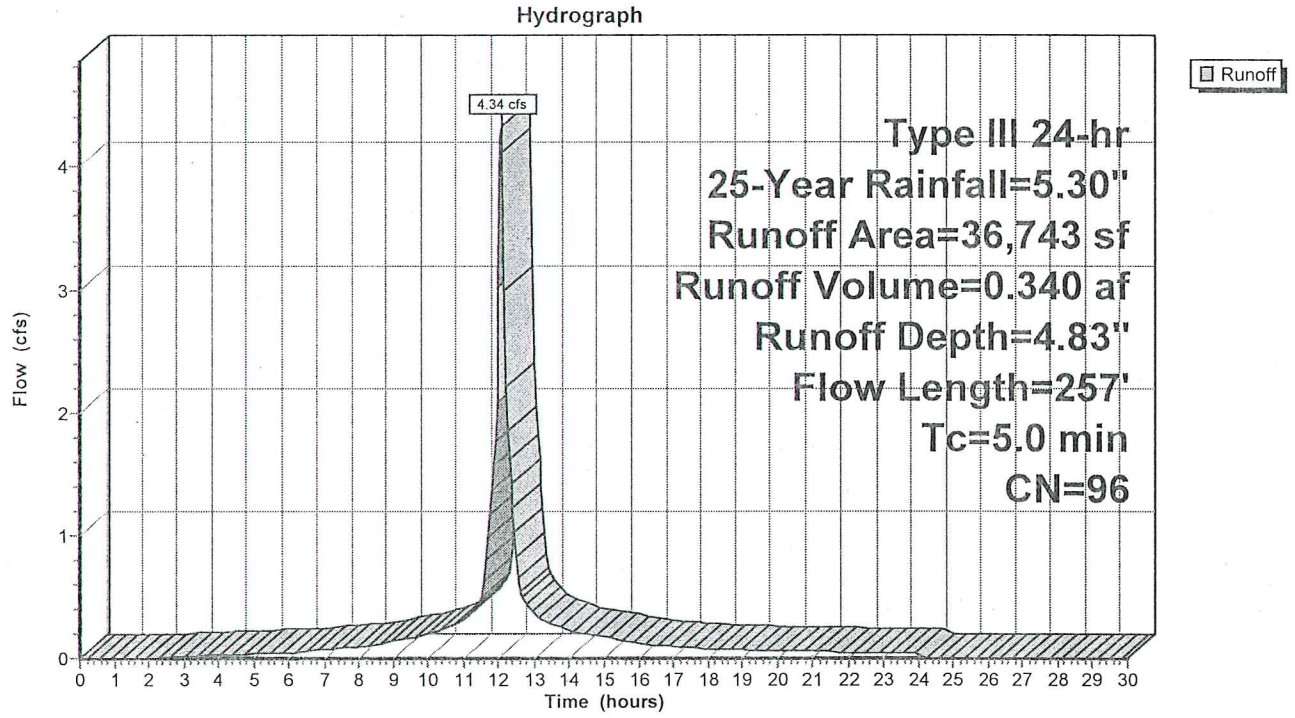
Runoff = 4.34 cfs @ 12.07 hrs, Volume= 0.340 af, Depth= 4.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
2,694	74	>75% Grass cover, Good, HSG C
34,049	98	Paved parking, HSG C
36,743	96	Weighted Average
2,694		7.33% Pervious Area
34,049		92.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	50	0.0400	1.53		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.2	41	0.0400	4.06		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	166	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	257	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E17: TO DCB-A



Summary for Subcatchment E18: TO DP#2

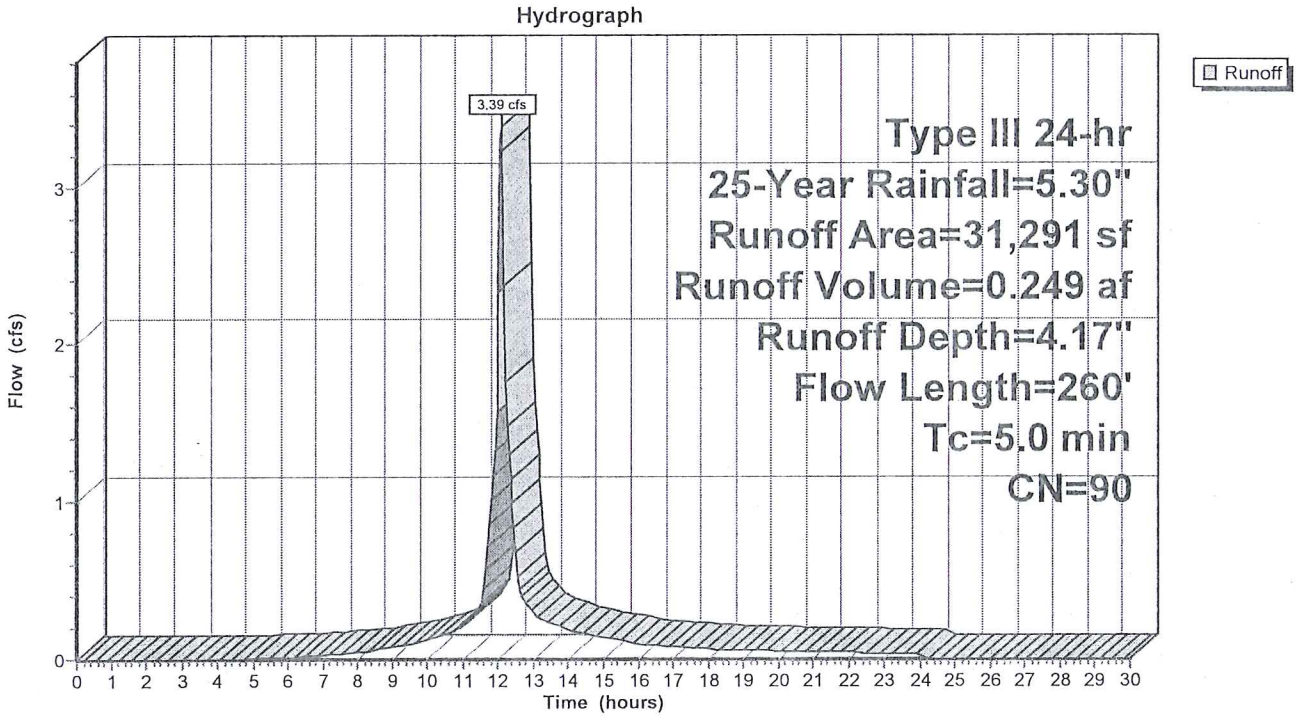
Runoff = 3.39 cfs @ 12.07 hrs, Volume= 0.249 af, Depth= 4.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
9,885	74	>75% Grass cover, Good, HSG C
21,406	98	Paved parking, HSG C
31,291	90	Weighted Average
9,885		31.59% Pervious Area
21,406		68.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0700	1.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	127	0.0700	5.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	83	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	260	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E18: TO DP#2



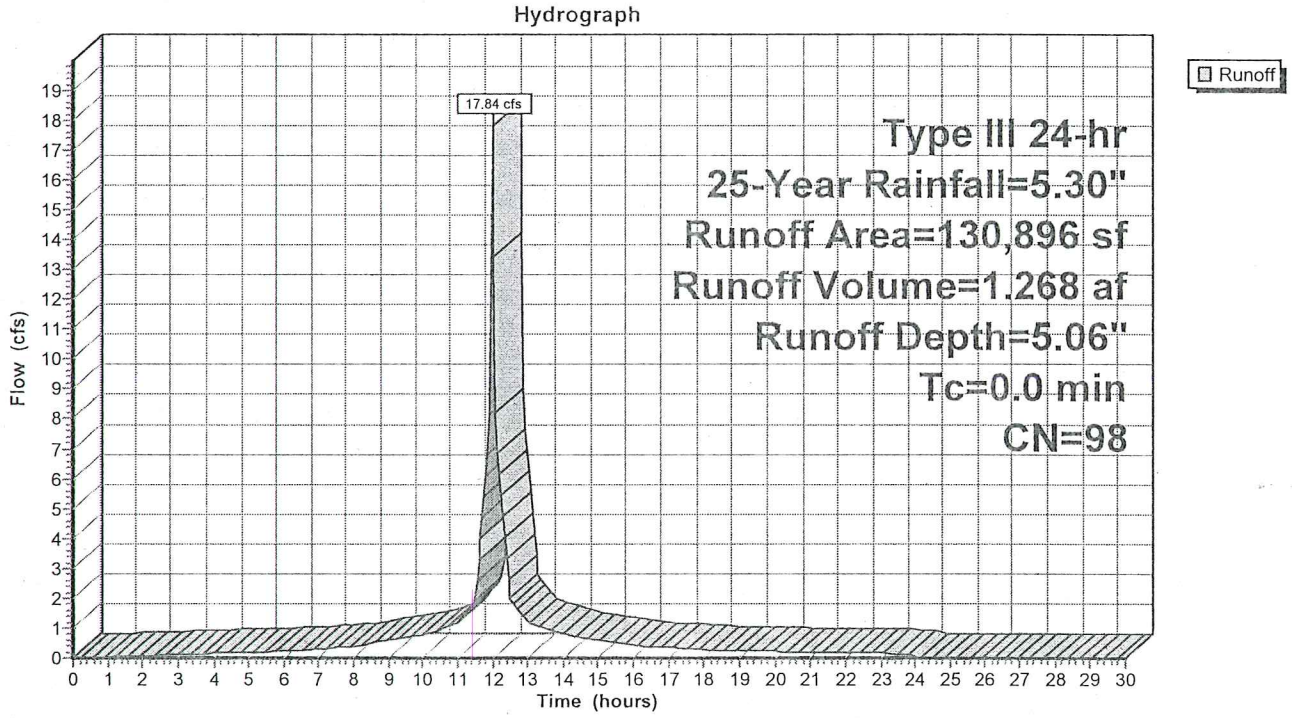
Summary for Subcatchment E19: BUILDING

Runoff = 17.84 cfs @ 12.00 hrs, Volume= 1.268 af, Depth= 5.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
130,896	98	Paved parking, HSG C
130,896		100.00% Impervious Area

Subcatchment E19: BUILDING



Summary for Subcatchment E20: TO DCB-H

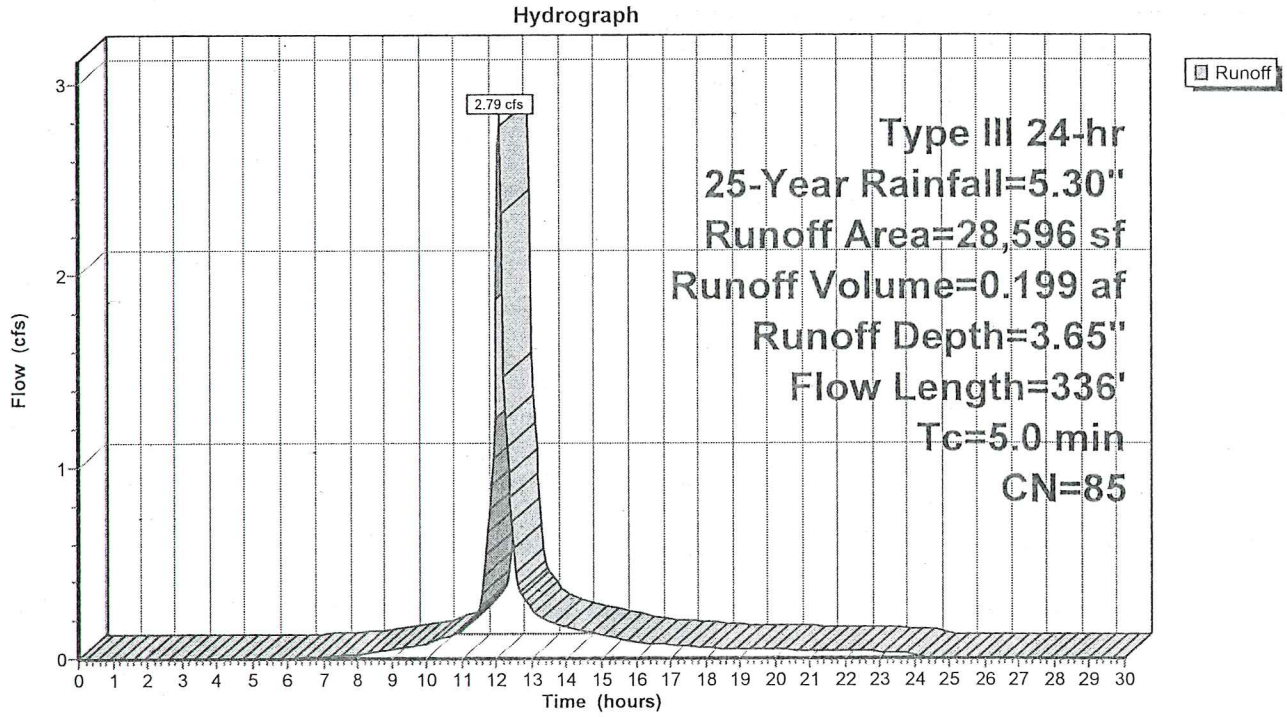
Runoff = 2.79 cfs @ 12.07 hrs, Volume= 0.199 af, Depth= 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
14,304	74	>75% Grass cover, Good, HSG C
12,780	98	Paved parking, HSG C
756	70	Woods, Good, HSG C
756	96	Gravel surface, HSG C
28,596	85	Weighted Average
15,816		55.31% Pervious Area
12,780		44.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.1000	1.84		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	30	0.1000	1.99		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	107	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.0	179	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.8	336	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E20: TO DCB-H



Summary for Subcatchment E21: TO DCB-I

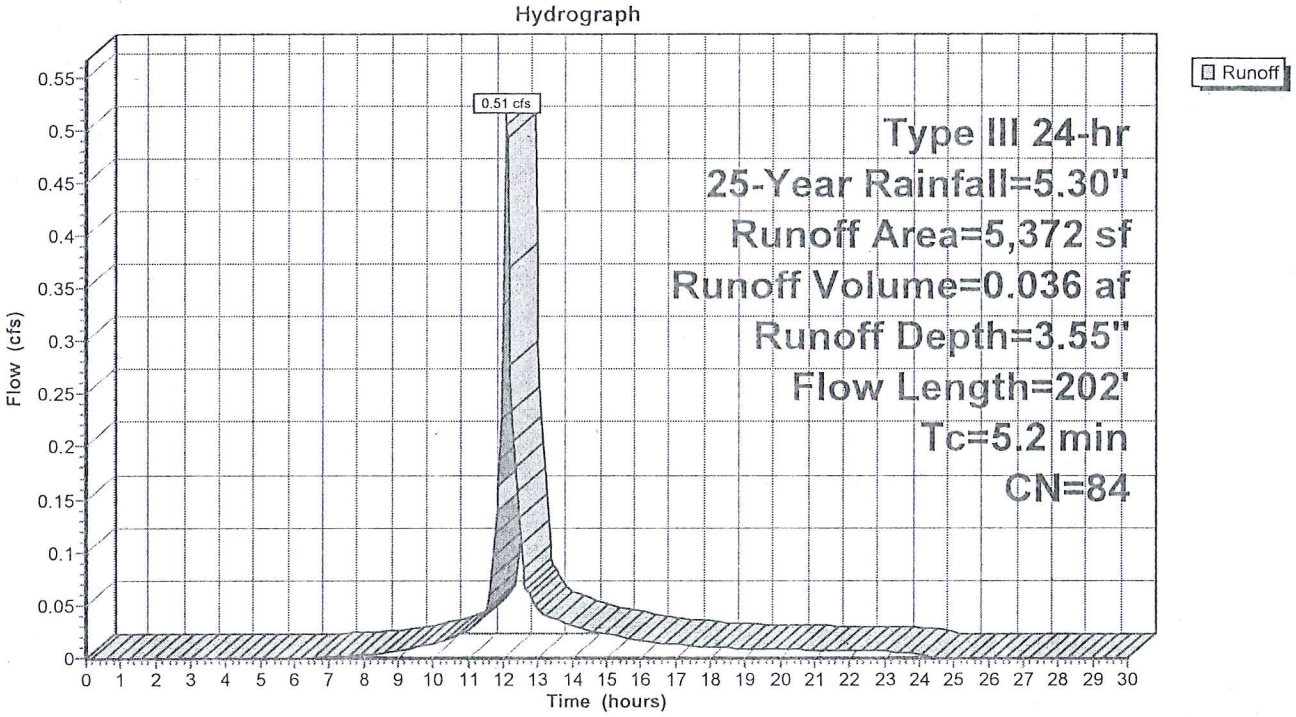
Runoff = 0.51 cfs @ 12.08 hrs, Volume= 0.036 af, Depth= 3.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
3,100	74	>75% Grass cover, Good, HSG C
2,272	98	Paved parking, HSG C
5,372	84	Weighted Average
3,100		57.71% Pervious Area
2,272		42.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	75	0.0900	0.28		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	64	0.0900	4.83		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	63	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
5.2	202	Total			

Subcatchment E21: TO DCB-I



Summary for Subcatchment E22: TO DCB-J

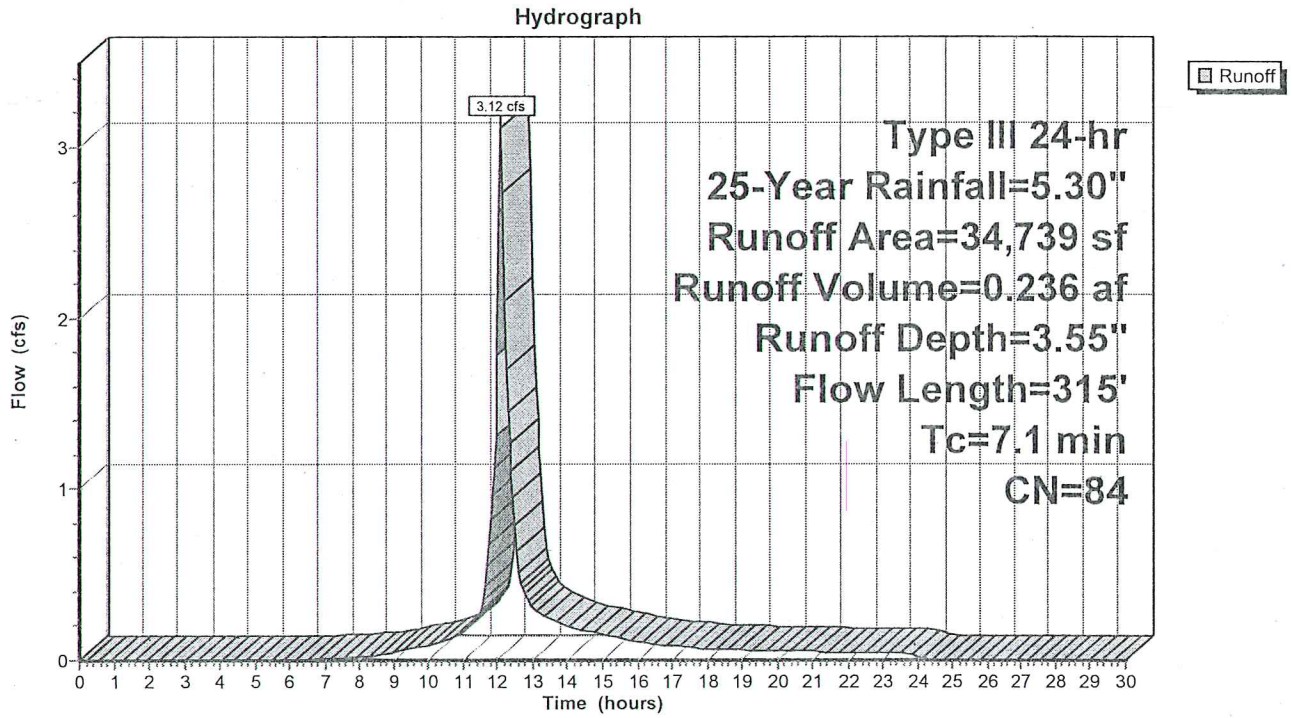
Runoff = 3.12 cfs @ 12.10 hrs, Volume= 0.236 af, Depth= 3.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
17,024	74	>75% Grass cover, Good, HSG C
15,076	98	Paved parking, HSG C
2,639	70	Woods, Good, HSG C
34,739	84	Weighted Average
19,663		56.60% Pervious Area
15,076		43.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.7	56	0.3000	0.20		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.4	259	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.1	315	Total			

Subcatchment E22: TO DCB-J



Summary for Subcatchment E23: TO DCB-C

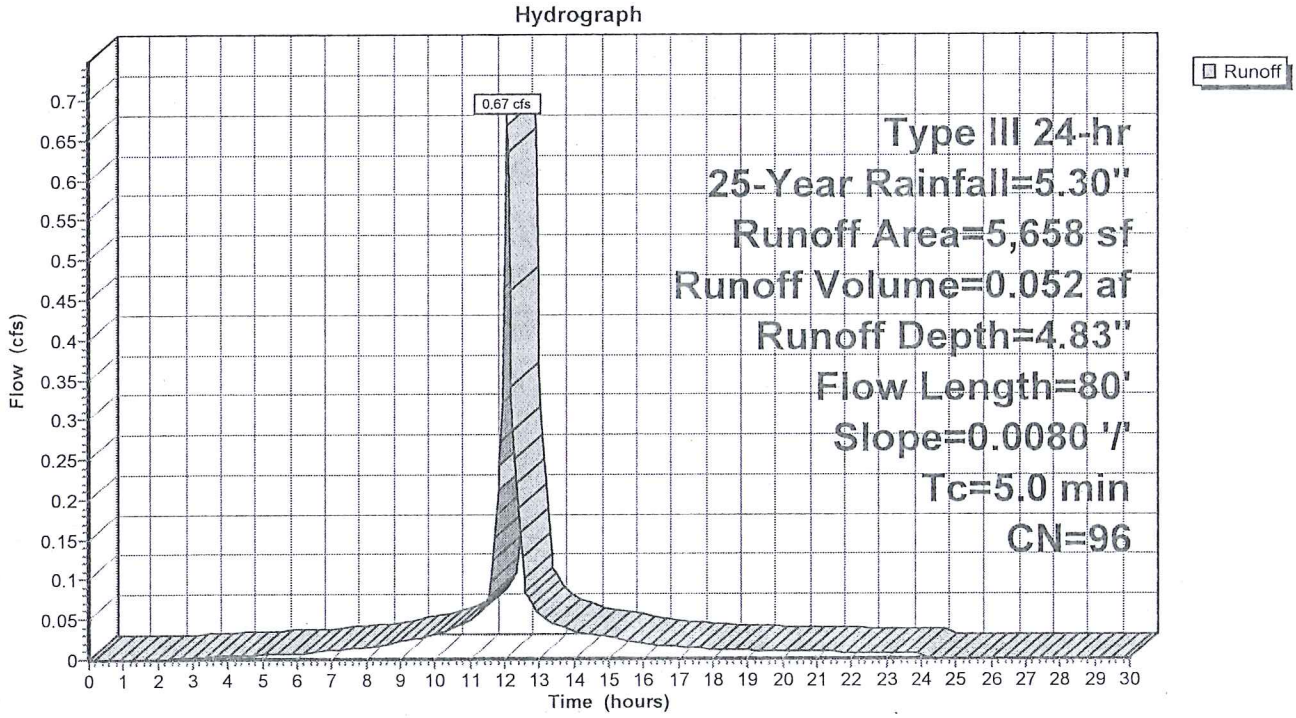
Runoff = 0.67 cfs @ 12.07 hrs, Volume= 0.052 af, Depth= 4.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
585	74	>75% Grass cover, Good, HSG C
5,073	98	Paved parking, HSG C
5,658	96	Weighted Average
585		10.34% Pervious Area
5,073		89.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	10	0.0080	0.07		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.9	40	0.0080	0.77		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	30	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.5	80	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E23: TO DCB-C



Summary for Subcatchment E24: TO DCB-D

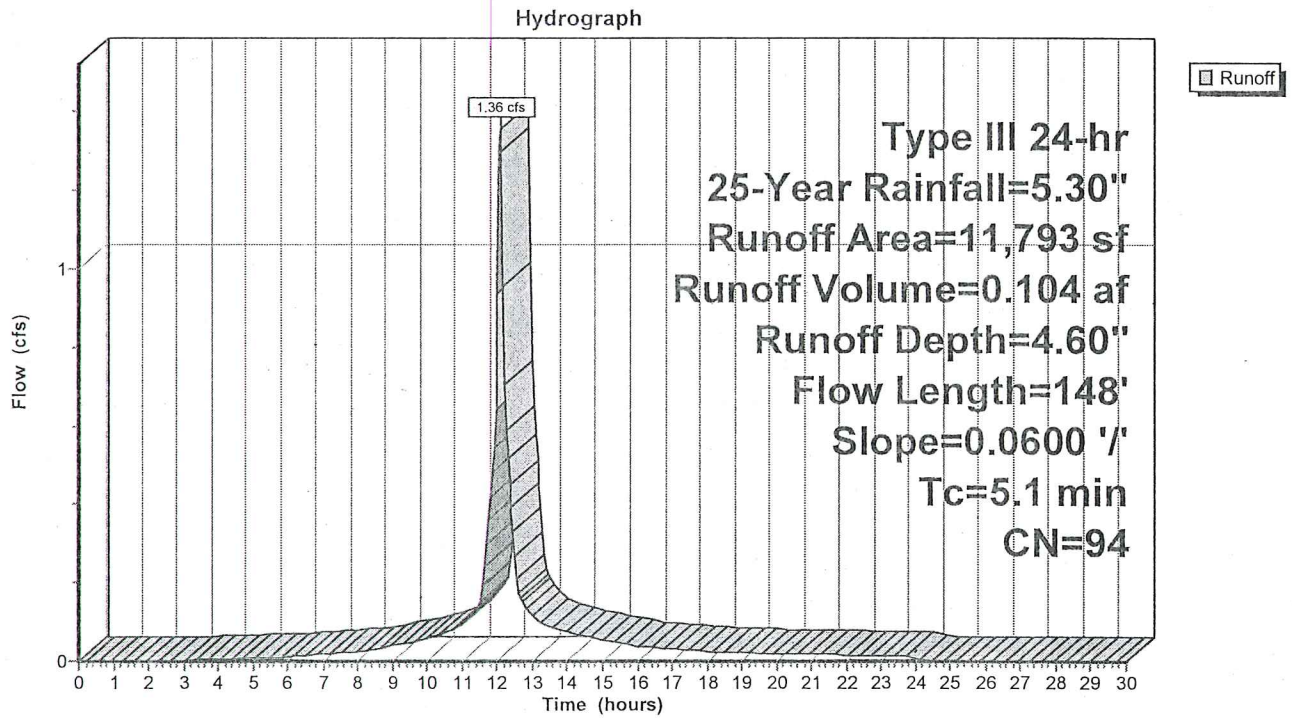
Runoff = 1.36 cfs @ 12.07 hrs, Volume= 0.104 af, Depth= 4.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
1,915	74	>75% Grass cover, Good, HSG C
9,878	98	Paved parking, HSG C
11,793	94	Weighted Average
1,915		16.24% Pervious Area
9,878		83.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	69	0.0600	0.24		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.3	79	0.0600	4.97		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
5.1	148	Total			

Subcatchment E24: TO DCB-D



Summary for Subcatchment E25: TO DCBE

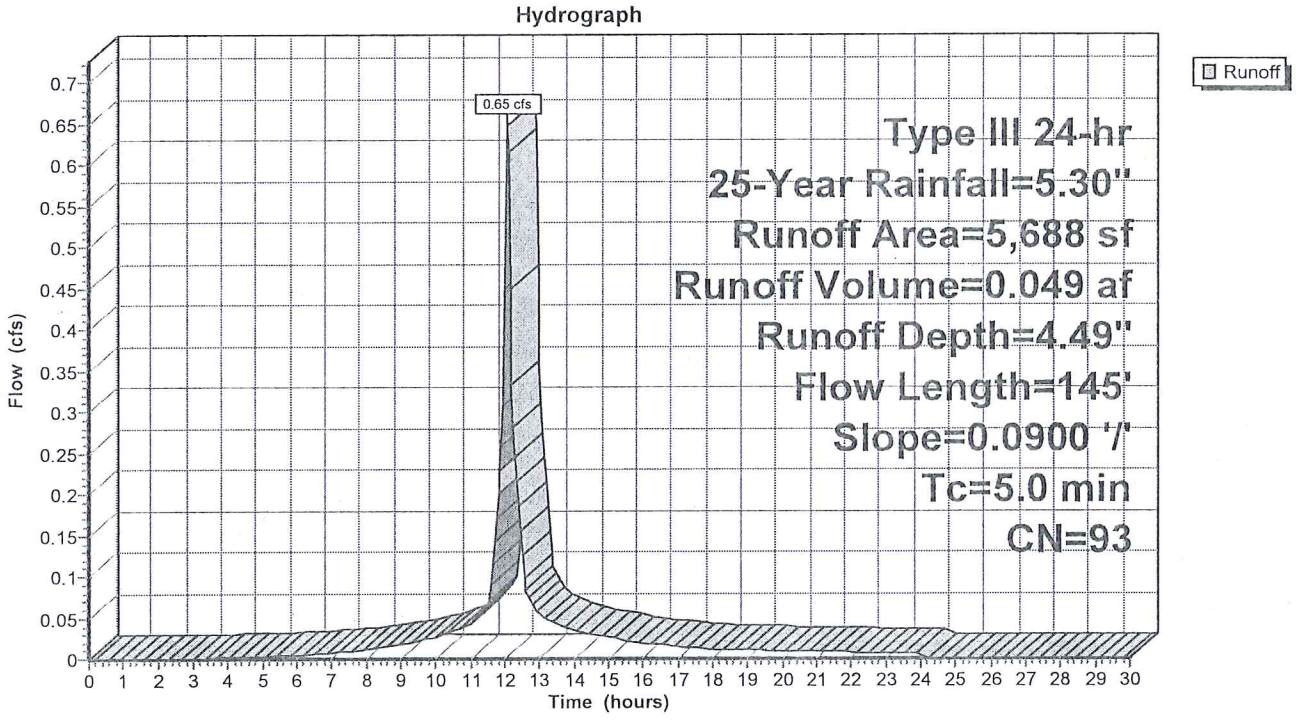
Runoff = 0.65 cfs @ 12.07 hrs, Volume= 0.049 af, Depth= 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
1,117	74	>75% Grass cover, Good, HSG C
4,571	98	Paved parking, HSG C
5,688	93	Weighted Average
1,117		19.64% Pervious Area
4,571		80.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0900	2.12		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	95	0.0900	6.09		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	145	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E25: TO DCBE



Summary for Subcatchment E26: TO DCB-F

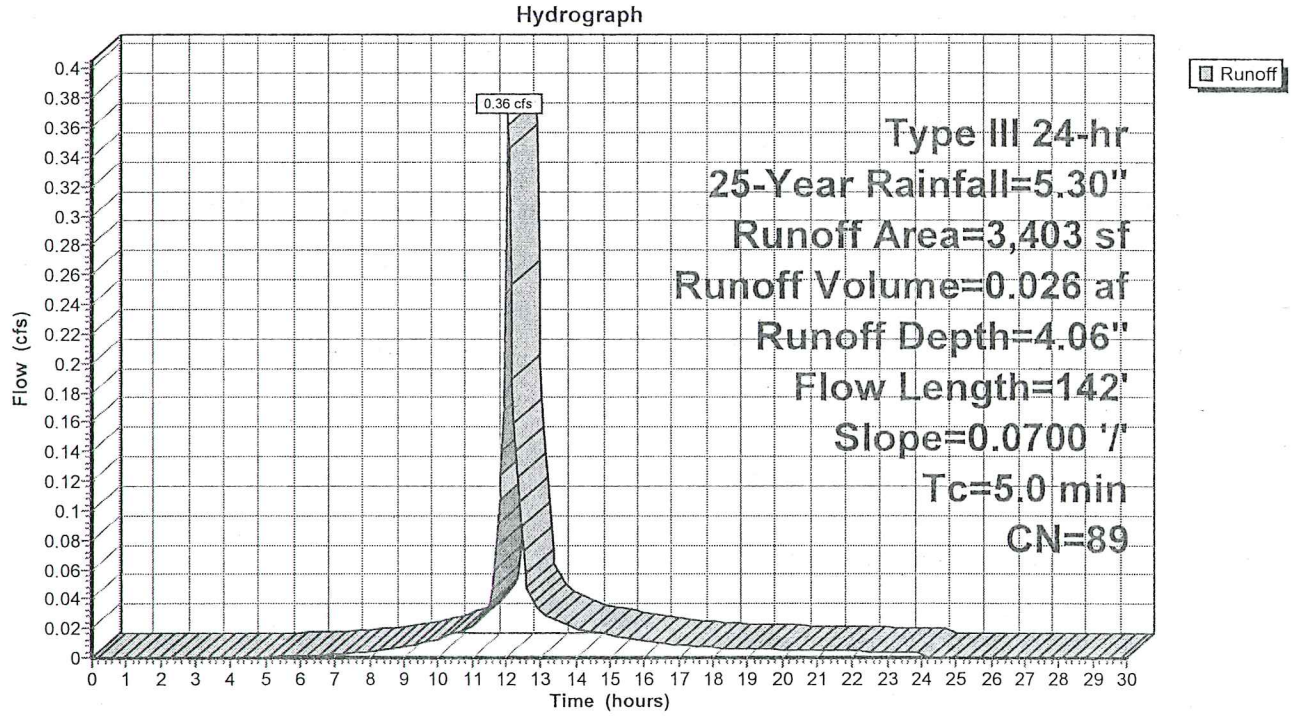
Runoff = 0.36 cfs @ 12.07 hrs, Volume= 0.026 af, Depth= 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
1,296	74	>75% Grass cover, Good, HSG C
2,107	98	Paved parking, HSG C
3,403	89	Weighted Average
1,296		38.08% Pervious Area
2,107		61.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0700	1.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	92	0.0700	5.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	142	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E26: TO DCB-F



Summary for Subcatchment E27: TO DCB-G

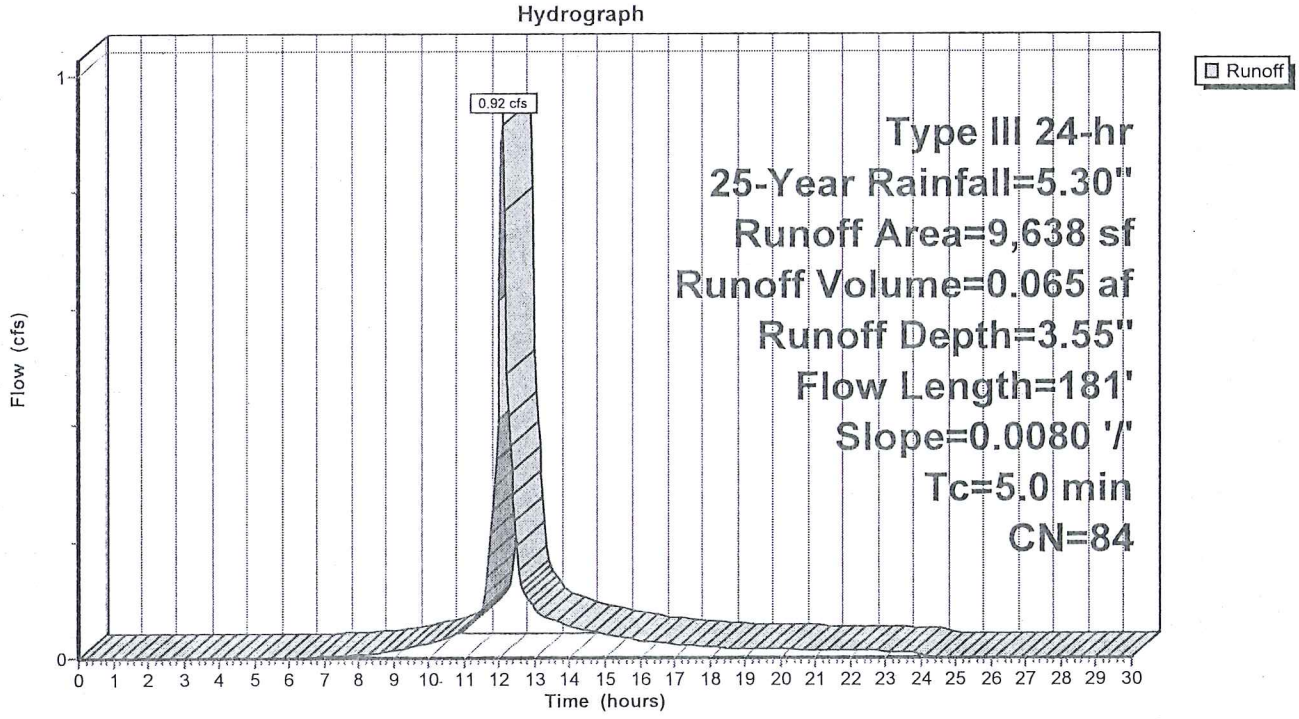
Runoff = 0.92 cfs @ 12.07 hrs, Volume= 0.065 af, Depth= 3.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
5,716	74	>75% Grass cover, Good, HSG C
3,922	98	Paved parking, HSG C
9,638	84	Weighted Average
5,716		59.31% Pervious Area
3,922		40.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	50	0.0080	0.80		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.2	131	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	181	Total, Increased to minimum Tc = 5.0 min			

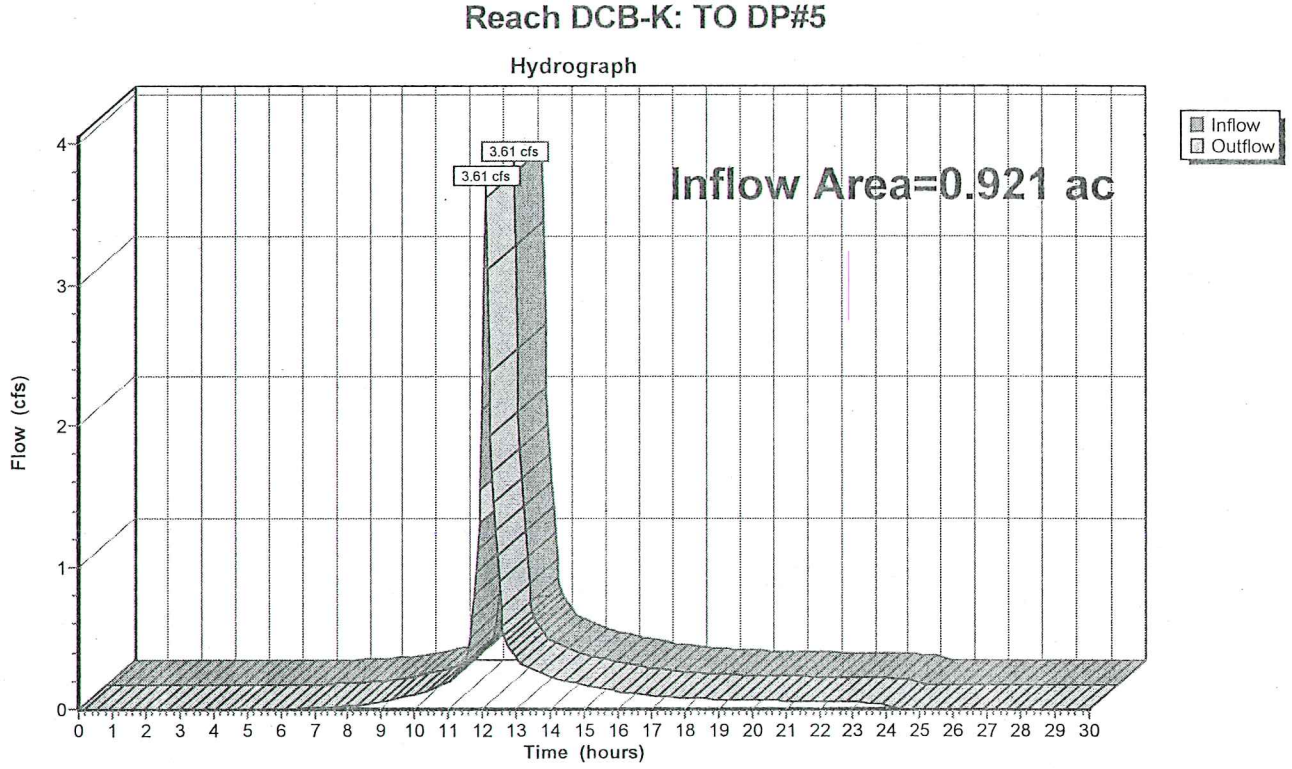
Subcatchment E27: TO DCB-G



Summary for Reach DCB-K: TO DP#5

Inflow Area = 0.921 ac, 43.25% Impervious, Inflow Depth = 3.55" for 25-Year event
Inflow = 3.61 cfs @ 12.10 hrs, Volume= 0.272 af
Outflow = 3.61 cfs @ 12.10 hrs, Volume= 0.272 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs



Summary for Reach DCBA: TO DMH-A

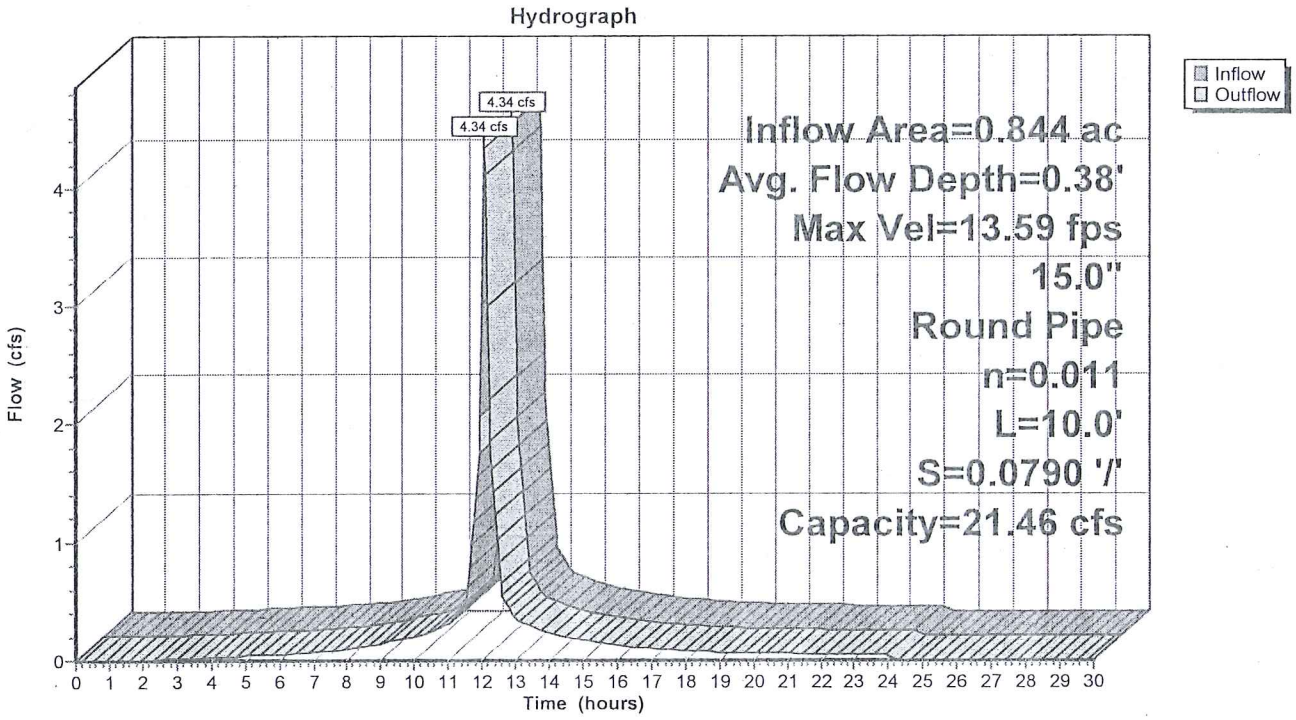
Inflow Area = 0.844 ac, 92.67% Impervious, Inflow Depth = 4.83" for 25-Year event
Inflow = 4.34 cfs @ 12.07 hrs, Volume= 0.340 af
Outflow = 4.34 cfs @ 12.07 hrs, Volume= 0.340 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 13.59 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 4.47 fps, Avg. Travel Time= 0.0 min

Peak Storage= 3 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.38'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 21.46 cfs

15.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 10.0' Slope= 0.0790 '/'
Inlet Invert= 1,176.20', Outlet Invert= 1,175.41'





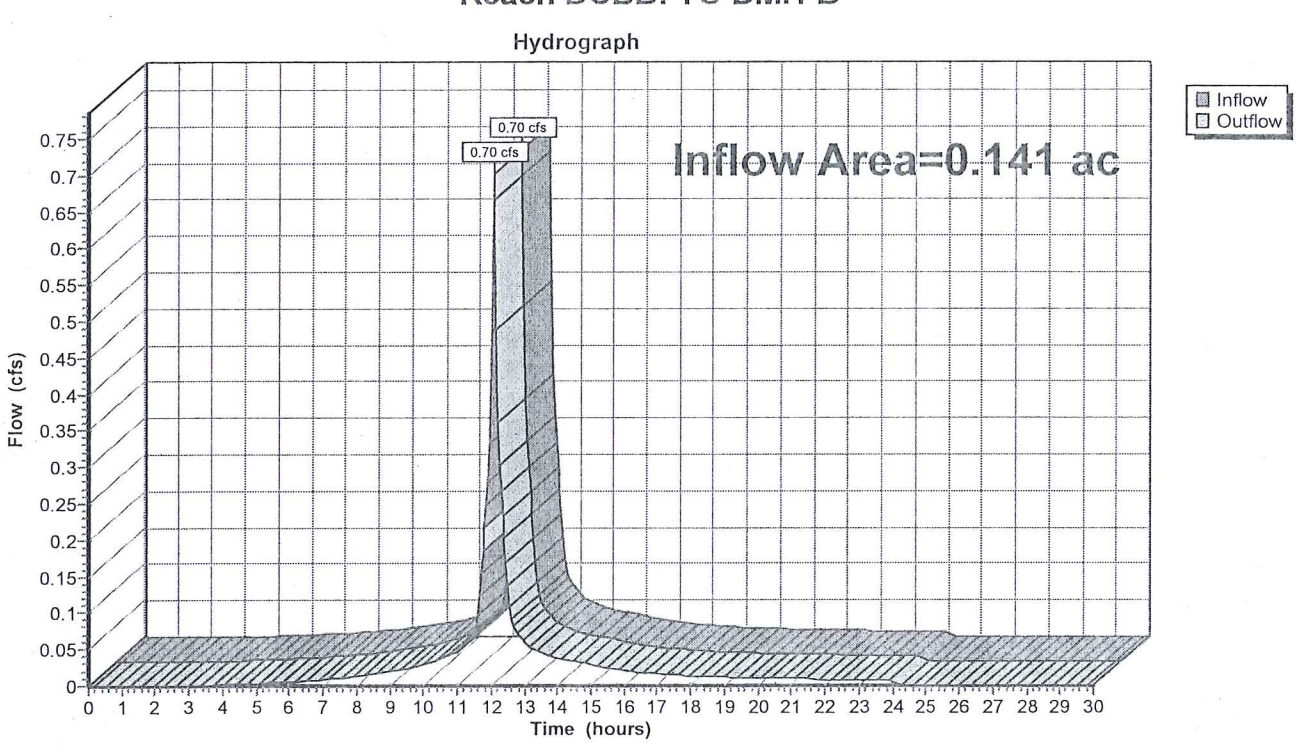
Stage-Discharge for Reach DCBA: TO DMH-A

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,176.20	0.00	0.00
1,176.21	1.24	0.00
1,176.22	2.10	0.01
1,176.23	2.76	0.02
1,176.24	3.35	0.04
1,176.25	3.88	0.06
1,176.26	4.37	0.10
1,176.27	4.83	0.13
1,176.28	5.27	0.18
1,176.29	5.69	0.22
1,176.30	6.09	0.28
1,176.31	6.47	0.34
1,176.32	6.83	0.41
1,176.33	7.19	0.49
1,176.34	7.53	0.57
1,176.35	7.87	0.66
1,176.36	8.19	0.75
1,176.37	8.50	0.85
1,176.38	8.81	0.96
1,176.39	9.11	1.07
1,176.40	9.40	1.19
1,176.41	9.68	1.32
1,176.42	9.96	1.45
1,176.43	10.23	1.59
1,176.44	10.50	1.73
1,176.45	10.75	1.88
1,176.46	11.01	2.03
1,176.47	11.25	2.20
1,176.48	11.50	2.36
1,176.49	11.73	2.53
1,176.50	11.97	2.71
1,176.51	12.19	2.89
1,176.52	12.42	3.08
1,176.53	12.64	3.27
1,176.54	12.85	3.47
1,176.55	13.06	3.67
1,176.56	13.27	3.88
1,176.57	13.47	4.10
1,176.58	13.67	4.31
1,176.59	13.86	4.53
1,176.60	14.06	4.76
1,176.61	14.24	4.99
1,176.62	14.43	5.22
1,176.63	14.61	5.46
1,176.64	14.78	5.70
1,176.65	14.96	5.95
1,176.66	15.13	6.20
1,176.67	15.29	6.45
1,176.68	15.46	6.71
1,176.69	15.62	6.97
1,176.70	15.77	7.23
1,176.71	15.93	7.50
1,176.72	16.08	7.77
1,176.73	16.23	8.04
1,176.74	16.37	8.31
1,176.75	16.51	8.59
1,176.76	16.65	8.87
1,176.77	16.79	9.15
1,176.78	16.92	9.43
1,176.79	17.05	9.72
1,176.80	17.18	10.00
1,176.81	17.30	10.29
1,176.82	17.43	10.58
1,176.83	17.54	10.87
1,176.84	17.66	11.17
1,176.85	17.77	11.46
1,176.86	17.88	11.76
1,176.87	17.99	12.05
1,176.88	18.10	12.35
1,176.89	18.20	12.64
1,176.90	18.30	12.94
1,176.91	18.39	13.23
1,176.92	18.49	13.53
1,176.93	18.58	13.83
1,176.94	18.67	14.12
1,176.95	18.75	14.42
1,176.96	18.83	14.71
1,176.97	18.91	15.00
1,176.98	18.99	15.29
1,176.99	19.06	15.58
1,177.00	19.14	15.87
1,177.01	19.20	16.16
1,177.02	19.27	16.44
1,177.03	19.33	16.73
1,177.04	19.39	17.01
1,177.05	19.45	17.28
1,177.06	19.50	17.56
1,177.07	19.55	17.83
1,177.08	19.60	18.10
1,177.09	19.65	18.36
1,177.10	19.69	18.62
1,177.11	19.73	18.88
1,177.12	19.76	19.13
1,177.13	19.80	19.38
1,177.14	19.83	19.63
1,177.15	19.85	19.87
1,177.16	19.87	20.10
1,177.17	19.89	20.33
1,177.18	19.91	20.55
1,177.19	19.92	20.76
1,177.20	19.93	20.97
1,177.21	19.93	21.18
1,177.22	**19.93**	21.37
1,177.23	19.93	21.56
1,177.24	19.92	21.74
1,177.25	19.91	21.91
1,177.26	19.89	22.07
1,177.27	19.87	22.22
1,177.28	19.84	22.37
1,177.29	19.81	22.50
1,177.30	19.78	22.62
1,177.31	19.73	22.73
1,177.32	19.68	22.82
1,177.33	19.63	22.91
1,177.34	19.57	22.98
1,177.35	19.50	23.03
1,177.36	19.42	23.06
1,177.37	19.33	**23.08**
1,177.38	19.23	23.07
1,177.39	19.11	23.04
1,177.40	18.99	22.99
1,177.41	18.84	22.89
1,177.42	18.66	22.75
1,177.43	18.44	22.55
1,177.44	18.10	22.18
1,177.45	17.49	21.46

Summary for Reach DCBB: TO DMH-B

Inflow Area = 0.141 ac, 78.74% Impervious, Inflow Depth = 4.49" for 25-Year event
Inflow = 0.70 cfs @ 12.07 hrs, Volume= 0.053 af
Outflow = 0.70 cfs @ 12.07 hrs, Volume= 0.053 af, Atten= 0%, Lag= 0.0 min

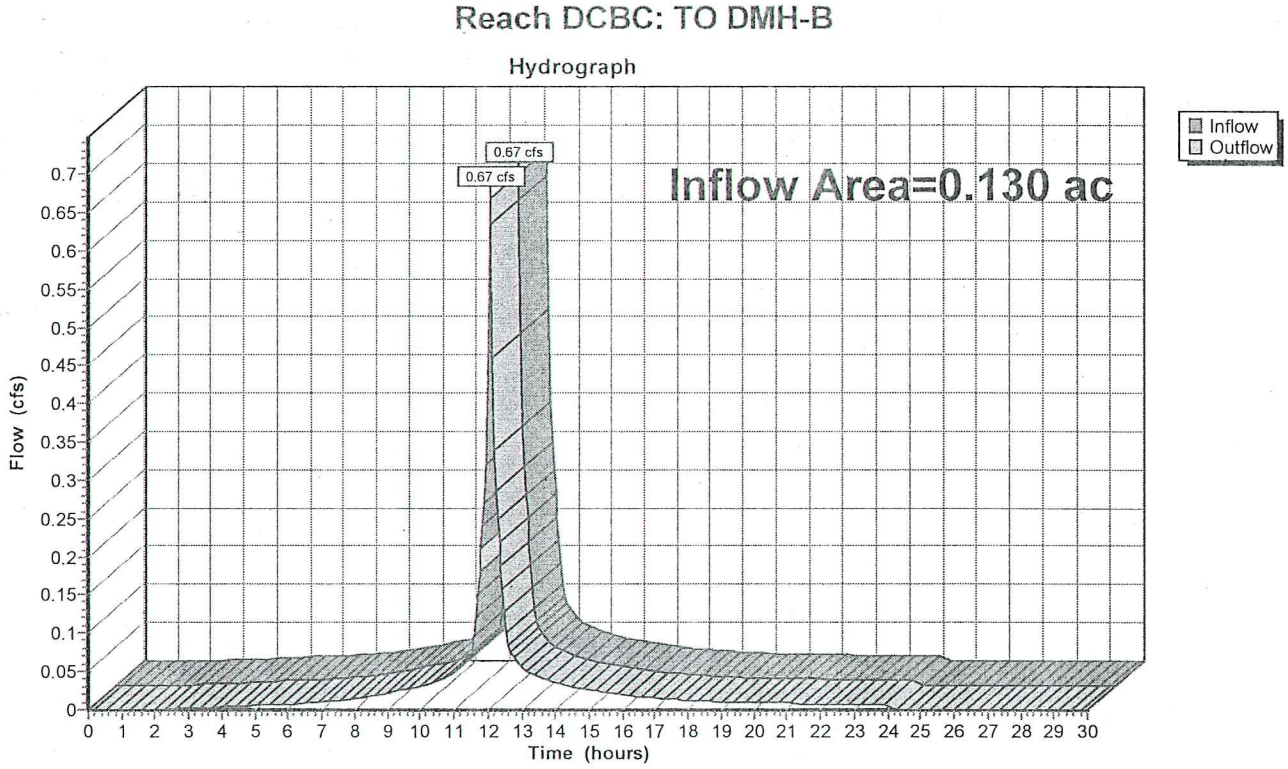
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs



Summary for Reach DCBC: TO DMH-B

Inflow Area = 0.130 ac, 89.66% Impervious, Inflow Depth = 4.83" for 25-Year event
Inflow = 0.67 cfs @ 12.07 hrs, Volume= 0.052 af
Outflow = 0.67 cfs @ 12.07 hrs, Volume= 0.052 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

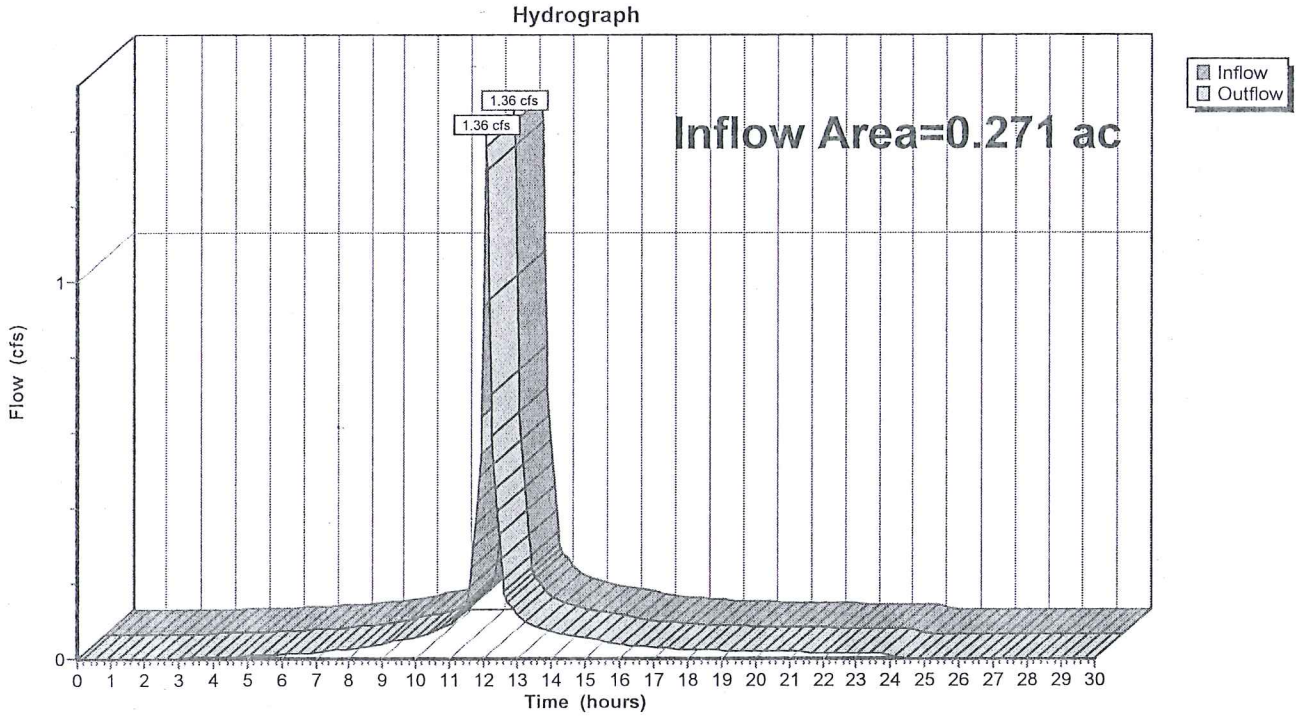


Summary for Reach DCBD: TO DMH-C

Inflow Area = 0.271 ac, 83.76% Impervious, Inflow Depth = 4.60" for 25-Year event
Inflow = 1.36 cfs @ 12.07 hrs, Volume= 0.104 af
Outflow = 1.36 cfs @ 12.07 hrs, Volume= 0.104 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DCBD: TO DMH-C



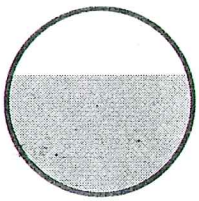
Summary for Reach DCBE: TO DCB-F

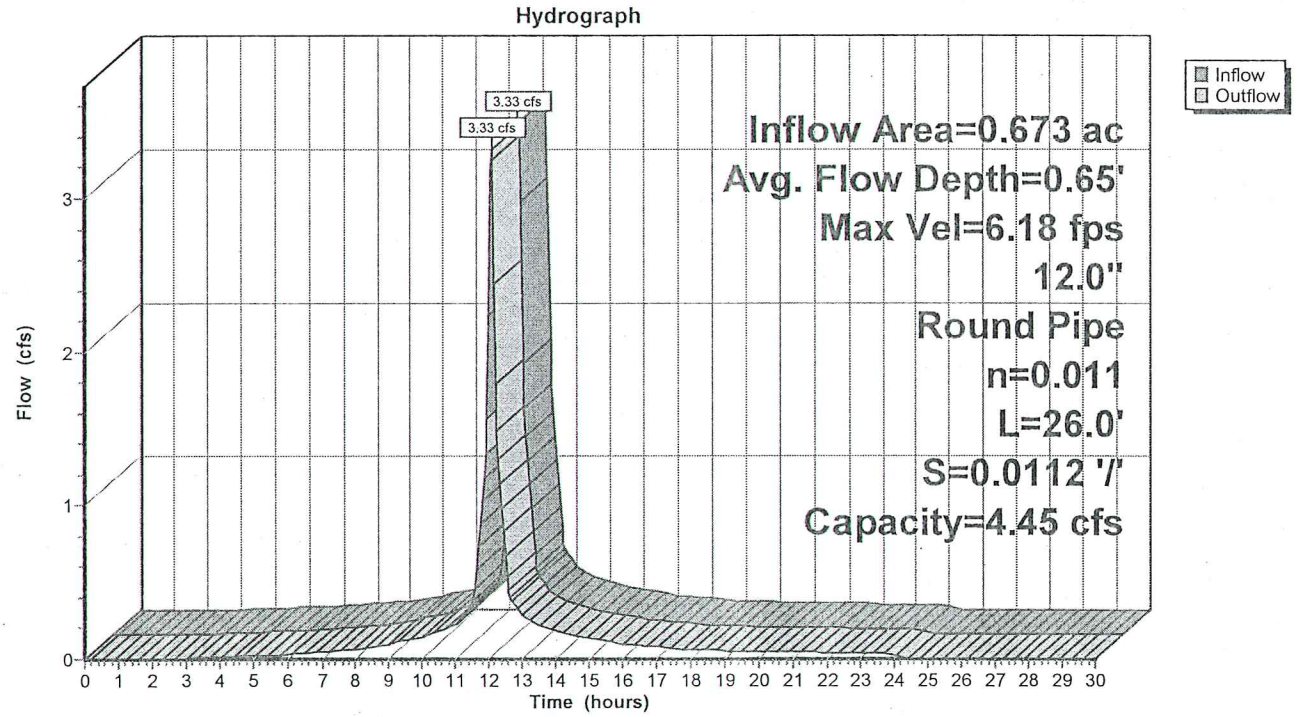
Inflow Area = 0.673 ac, 83.19% Impervious, Inflow Depth = 4.60" for 25-Year event
Inflow = 3.33 cfs @ 12.08 hrs, Volume= 0.258 af
Outflow = 3.33 cfs @ 12.08 hrs, Volume= 0.258 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.18 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.09 fps, Avg. Travel Time= 0.2 min

Peak Storage= 14 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.65'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.45 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 26.0' Slope= 0.0112 '/'
Inlet Invert= 1,176.29', Outlet Invert= 1,176.00'





Stage-Discharge for Reach DCBE: TO DCB-F

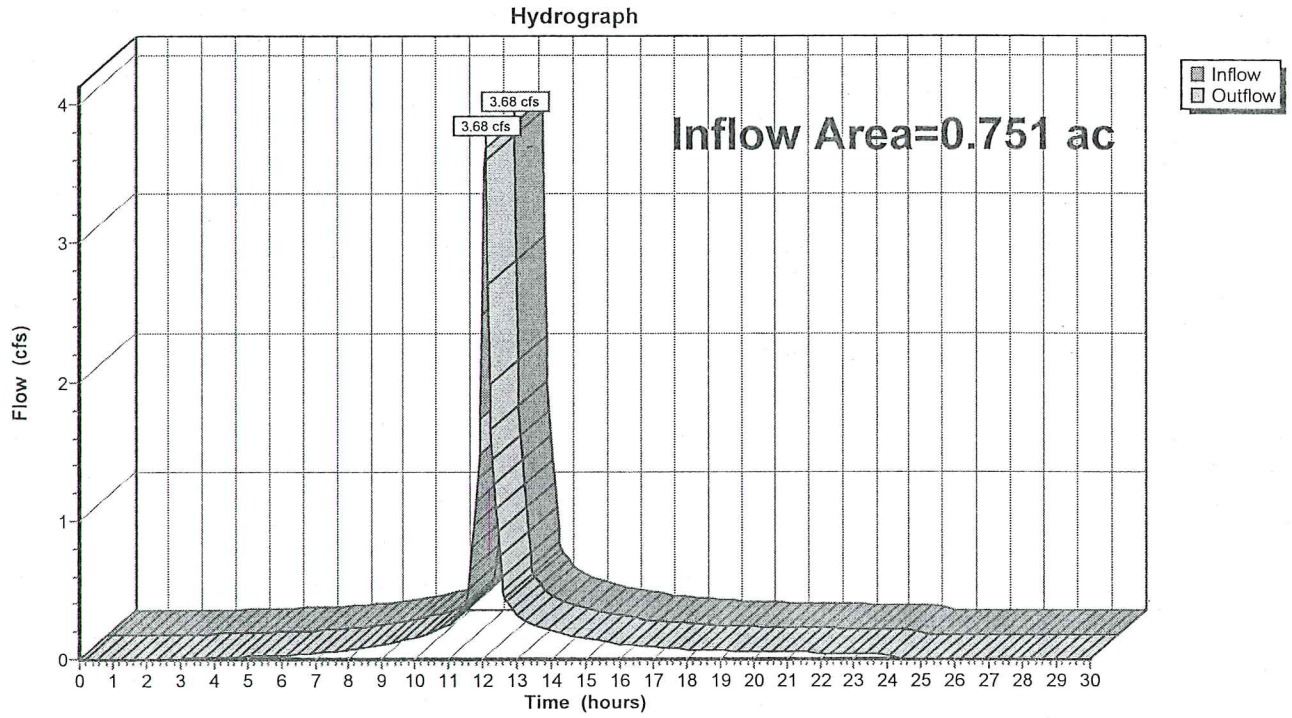
Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,176.29	0.00	0.00
1,176.30	0.50	0.00
1,176.31	0.80	0.00
1,176.32	1.04	0.01
1,176.33	1.26	0.01
1,176.34	1.45	0.02
1,176.35	1.64	0.03
1,176.36	1.81	0.04
1,176.37	1.97	0.06
1,176.38	2.12	0.07
1,176.39	2.27	0.09
1,176.40	2.41	0.11
1,176.41	2.55	0.14
1,176.42	2.68	0.16
1,176.43	2.80	0.19
1,176.44	2.93	0.22
1,176.45	3.04	0.25
1,176.46	3.16	0.28
1,176.47	3.27	0.31
1,176.48	3.38	0.35
1,176.49	3.48	0.39
1,176.50	3.58	0.43
1,176.51	3.68	0.47
1,176.52	3.78	0.52
1,176.53	3.88	0.56
1,176.54	3.97	0.61
1,176.55	4.06	0.66
1,176.56	4.14	0.71
1,176.57	4.23	0.76
1,176.58	4.31	0.82
1,176.59	4.39	0.87
1,176.60	4.47	0.93
1,176.61	4.55	0.99
1,176.62	4.63	1.05
1,176.63	4.70	1.11
1,176.64	4.77	1.17
1,176.65	4.84	1.23
1,176.66	4.91	1.30
1,176.67	4.98	1.36
1,176.68	5.04	1.43
1,176.69	5.11	1.50
1,176.70	5.17	1.57
1,176.71	5.23	1.64
1,176.72	5.29	1.71
1,176.73	5.35	1.78
1,176.74	5.40	1.85
1,176.75	5.46	1.93
1,176.76	5.51	2.00
1,176.77	5.56	2.07
1,176.78	5.61	2.15
1,176.79	5.66	2.22
1,176.80	5.71	2.30
1,176.81	5.76	2.38
1,176.82	5.80	2.45
1,176.83	5.84	2.53
1,176.84	5.88	2.60
1,176.85	5.92	2.68
1,176.86	5.96	2.76
1,176.87	6.00	2.83
1,176.88	6.04	2.91
1,176.89	6.07	2.99
1,176.90	6.11	3.06
1,176.91	6.14	3.14
1,176.92	6.17	3.21
1,176.93	6.20	3.29
1,176.94	6.22	3.36
1,176.95	6.25	3.44
1,176.96	6.27	3.51
1,176.97	6.30	3.58
1,176.98	6.32	3.65
1,176.99	6.34	3.72
1,177.00	6.36	3.79
1,177.01	6.38	3.86
1,177.02	6.39	3.93
1,177.03	6.41	3.99
1,177.04	6.42	4.06
1,177.05	6.43	4.12
1,177.06	6.44	4.18
1,177.07	6.44	4.24
1,177.08	6.45	4.29
1,177.09	6.45	4.35
1,177.10	**6.45**	4.40
1,177.11	6.45	4.45
1,177.12	6.45	4.50
1,177.13	6.45	4.54
1,177.14	6.44	4.58
1,177.15	6.43	4.62
1,177.16	6.42	4.66
1,177.17	6.40	4.69
1,177.18	6.39	4.72
1,177.19	6.37	4.74
1,177.20	6.34	4.76
1,177.21	6.31	4.77
1,177.22	6.28	4.78
1,177.23	6.24	**4.78**
1,177.24	6.20	4.78
1,177.25	6.15	4.76
1,177.26	6.09	4.74
1,177.27	6.01	4.70
1,177.28	5.91	4.63
1,177.29	5.66	4.45

Summary for Reach DCBF: TO DMH-D

Inflow Area = 0.751 ac, 80.97% Impervious, Inflow Depth = 4.55" for 25-Year event
Inflow = 3.68 cfs @ 12.08 hrs, Volume= 0.284 af
Outflow = 3.68 cfs @ 12.08 hrs, Volume= 0.284 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DCBF: TO DMH-D

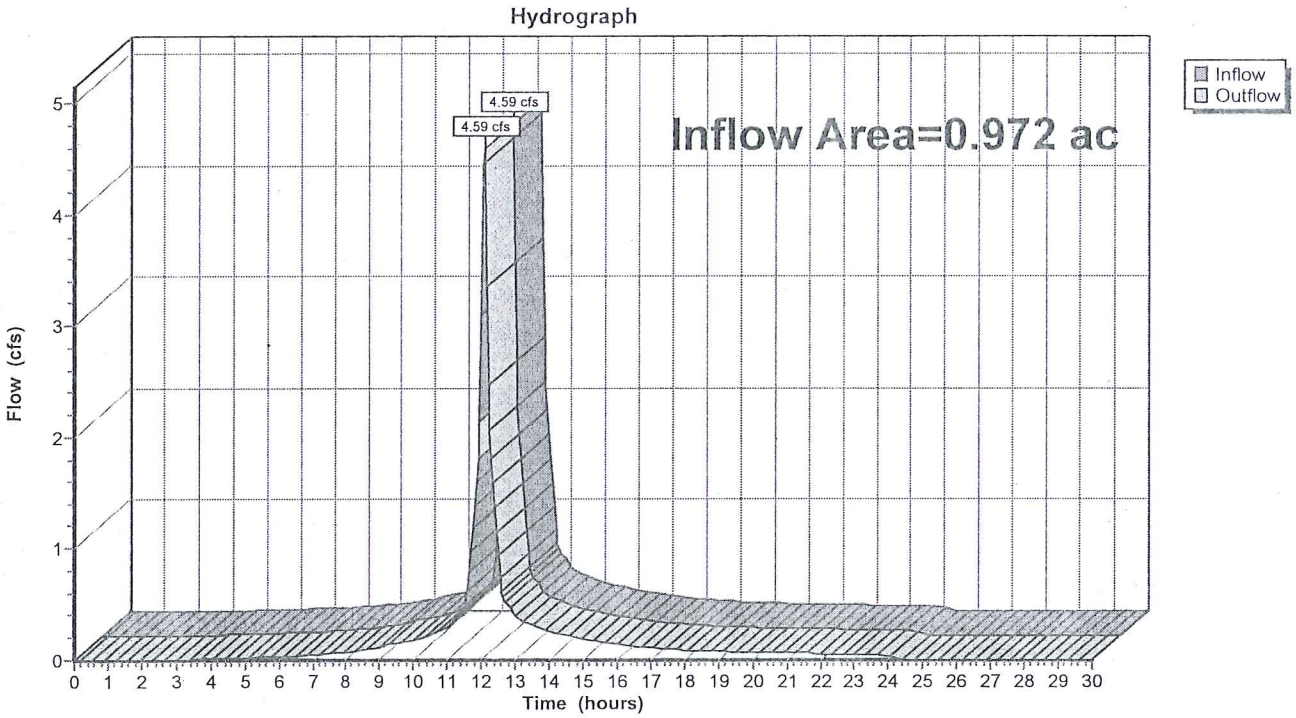


Summary for Reach DCBG: TO DP#3

Inflow Area = 0.972 ac, 71.80% Impervious, Inflow Depth = 4.32" for 25-Year event
Inflow = 4.59 cfs @ 12.08 hrs, Volume= 0.350 af
Outflow = 4.59 cfs @ 12.08 hrs, Volume= 0.350 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DCBG: TO DP#3



Summary for Reach DMHA: TO DP#1

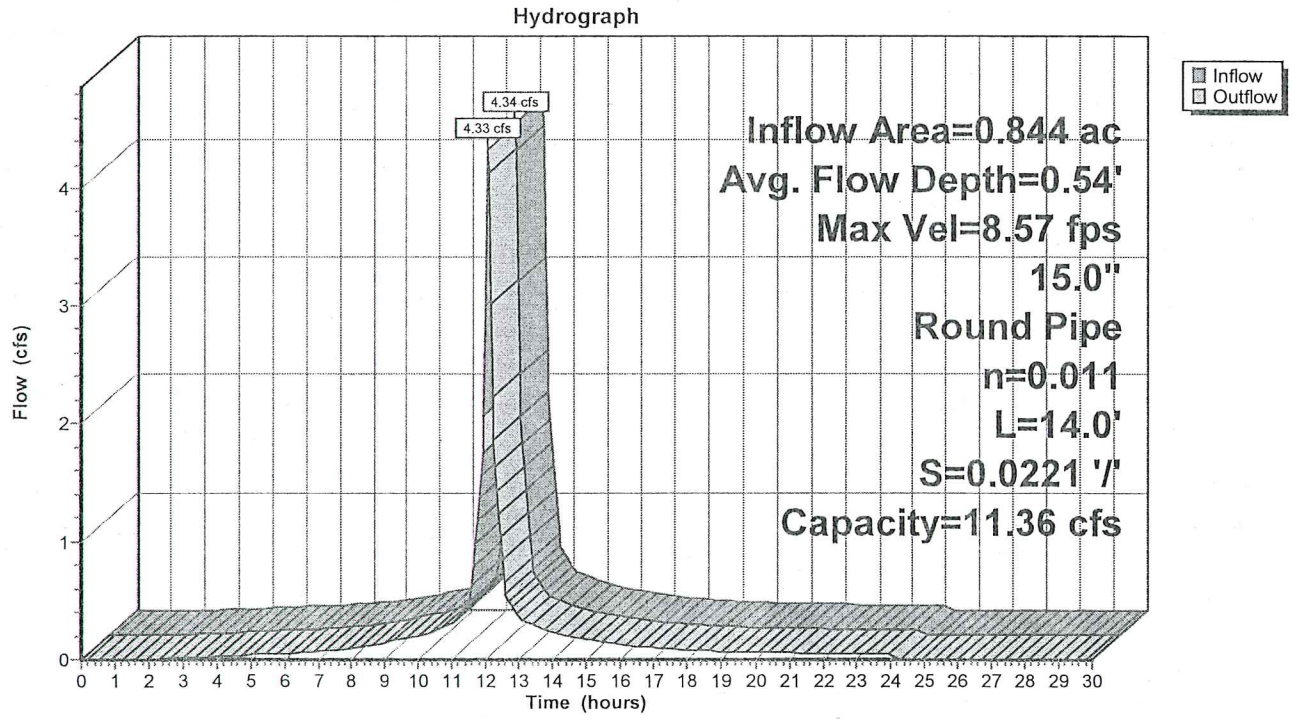
Inflow Area = 0.844 ac, 92.67% Impervious, Inflow Depth = 4.83" for 25-Year event
Inflow = 4.34 cfs @ 12.07 hrs, Volume= 0.340 af
Outflow = 4.33 cfs @ 12.07 hrs, Volume= 0.340 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.57 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.86 fps, Avg. Travel Time= 0.1 min

Peak Storage= 7 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.54'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 11.36 cfs

15.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 14.0' Slope= 0.0221 '/'
Inlet Invert= 1,175.35', Outlet Invert= 1,175.04'





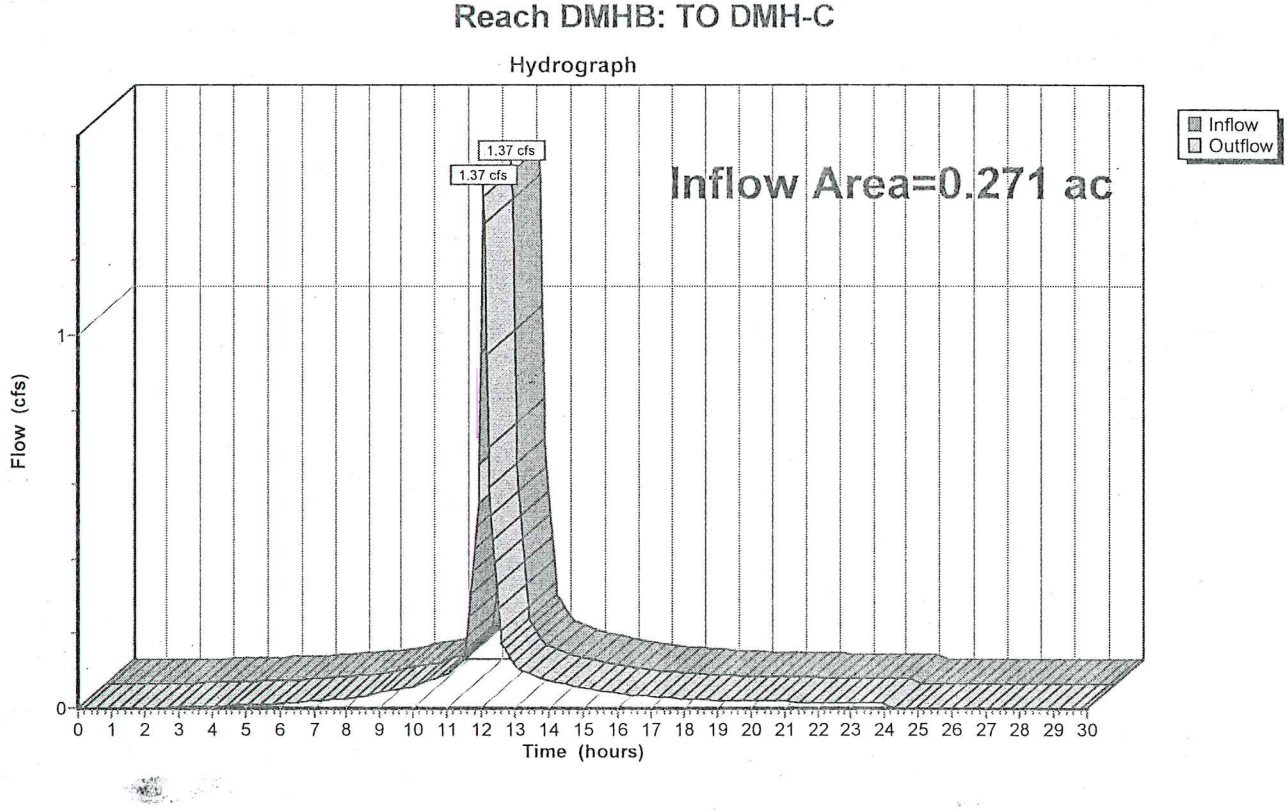
Stage-Discharge for Reach DMHA: TO DP#1

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.35	0.00	0.00
1,175.36	0.66	0.00
1,175.37	1.11	0.01
1,175.38	1.46	0.01
1,175.39	1.77	0.02
1,175.40	2.06	0.03
1,175.41	2.31	0.05
1,175.42	2.56	0.07
1,175.43	2.79	0.09
1,175.44	3.01	0.12
1,175.45	3.22	0.15
1,175.46	3.42	0.18
1,175.47	3.62	0.22
1,175.48	3.81	0.26
1,175.49	3.99	0.30
1,175.50	4.17	0.35
1,175.51	4.34	0.40
1,175.52	4.50	0.45
1,175.53	4.66	0.51
1,175.54	4.82	0.57
1,175.55	4.98	0.63
1,175.56	5.13	0.70
1,175.57	5.27	0.77
1,175.58	5.42	0.84
1,175.59	5.56	0.92
1,175.60	5.69	0.99
1,175.61	5.83	1.08
1,175.62	5.96	1.16
1,175.63	6.09	1.25
1,175.64	6.21	1.34
1,175.65	6.34	1.43
1,175.66	6.46	1.53
1,175.67	6.57	1.63
1,175.68	6.69	1.73
1,175.69	6.80	1.84
1,175.70	6.92	1.95
1,175.71	7.02	2.06
1,175.72	7.13	2.17
1,175.73	7.24	2.28
1,175.74	7.34	2.40
1,175.75	7.44	2.52
1,175.76	7.54	2.64
1,175.77	7.64	2.77
1,175.78	7.73	2.89
1,175.79	7.83	3.02
1,175.80	7.92	3.15
1,175.81	8.01	3.28
1,175.82	8.10	3.42
1,175.83	8.18	3.55
1,175.84	8.27	3.69
1,175.85	8.35	3.83
1,175.86	8.43	3.97
1,175.87	8.51	4.11
1,175.88	8.59	4.26
1,175.89	8.67	4.40
1,175.90	8.74	4.55
1,175.91	8.82	4.69
1,175.92	8.89	4.84
1,175.93	8.96	4.99
1,175.94	9.03	5.14
1,175.95	9.10	5.30
1,175.96	9.16	5.45
1,175.97	9.23	5.60
1,175.98	9.29	5.76
1,175.99	9.35	5.91
1,176.00	9.41	6.07
1,176.01	9.47	6.22
1,176.02	9.52	6.38
1,176.03	9.58	6.54
1,176.04	9.63	6.69
1,176.05	9.69	6.85
1,176.06	9.74	7.01
1,176.07	9.79	7.16
1,176.08	9.84	7.32
1,176.09	9.88	7.48
1,176.10	9.93	7.63
1,176.11	9.97	7.79
1,176.12	10.01	7.94
1,176.13	10.05	8.10
1,176.14	10.09	8.25
1,176.15	10.13	8.40
1,176.16	10.17	8.56
1,176.17	10.20	8.71
1,176.18	10.24	8.86
1,176.19	10.27	9.00
1,176.20	10.30	9.15
1,176.21	10.33	9.30
1,176.22	10.35	9.44
1,176.23	10.38	9.58
1,176.24	10.40	9.72
1,176.25	10.42	9.86
1,176.26	10.44	10.00
1,176.27	10.46	10.13
1,176.28	10.48	10.26
1,176.29	10.50	10.39
1,176.30	10.51	10.52
1,176.31	10.52	10.64
1,176.32	10.53	10.76
1,176.33	10.54	10.88
1,176.34	10.55	10.99
1,176.35	10.55	11.10
1,176.36	10.55	11.21
1,176.37	**10.55**	11.31
1,176.38	10.55	11.41
1,176.39	10.55	11.51
1,176.40	10.54	11.60
1,176.41	10.53	11.68
1,176.42	10.52	11.77
1,176.43	10.51	11.84
1,176.44	10.49	11.91
1,176.45	10.47	11.98
1,176.46	10.45	12.03
1,176.47	10.42	12.08
1,176.48	10.39	12.13
1,176.49	10.36	12.16
1,176.50	10.32	12.19
1,176.51	10.28	12.21
1,176.52	10.23	**12.22**
1,176.53	10.18	12.21
1,176.54	10.12	12.20
1,176.55	10.05	12.17
1,176.56	9.97	12.12
1,176.57	9.88	12.05
1,176.58	9.76	11.94
1,176.59	9.58	11.74
1,176.60	9.26	11.36

Summary for Reach DMHB: TO DMH-C

Inflow Area = 0.271 ac, 83.97% Impervious, Inflow Depth = 4.65" for 25-Year event
Inflow = 1.37 cfs @ 12.07 hrs, Volume= 0.105 af
Outflow = 1.37 cfs @ 12.07 hrs, Volume= 0.105 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs



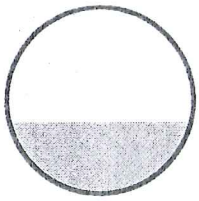
Summary for Reach DMHC: TO DCB-E

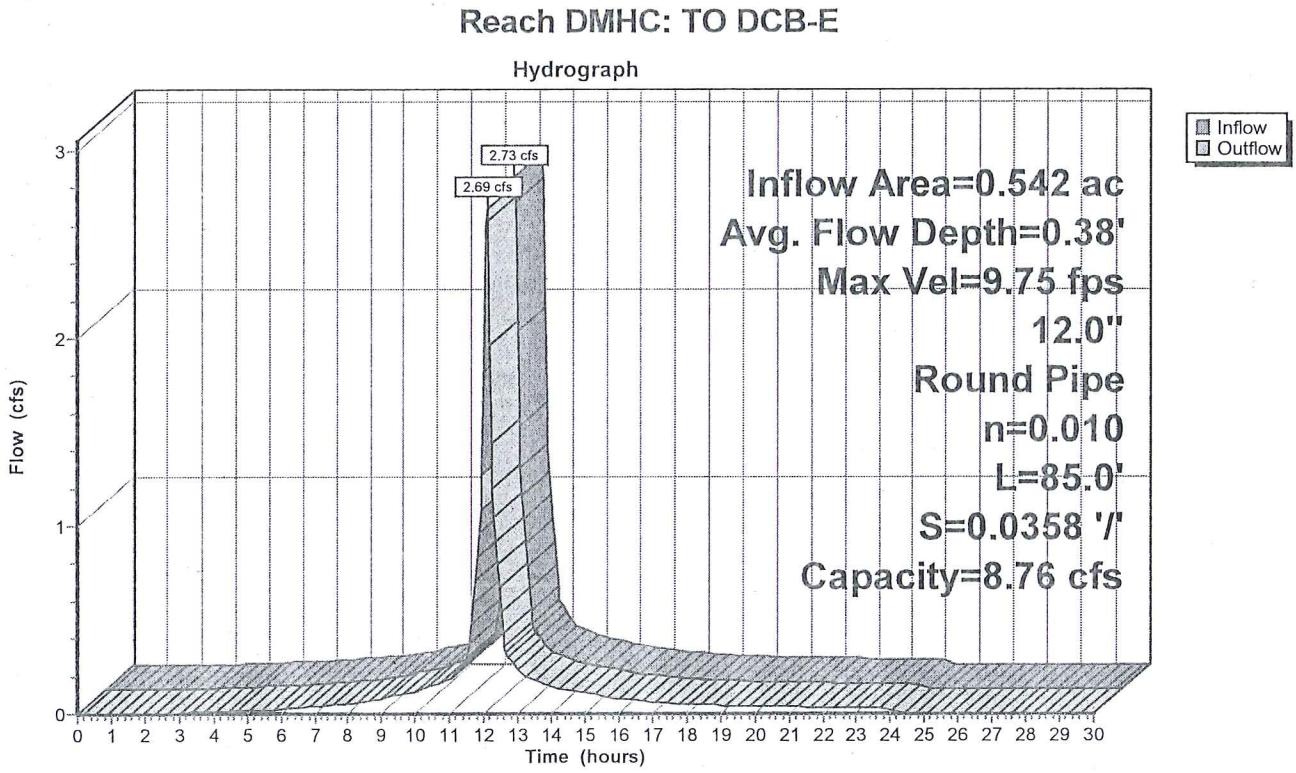
Inflow Area = 0.542 ac, 83.87% Impervious, Inflow Depth = 4.63" for 25-Year event
Inflow = 2.73 cfs @ 12.07 hrs, Volume= 0.209 af
Outflow = 2.69 cfs @ 12.08 hrs, Volume= 0.209 af, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.75 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.17 fps, Avg. Travel Time= 0.4 min

Peak Storage= 24 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.38'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.76 cfs

12.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 85.0' Slope= 0.0358 '/'
Inlet Invert= 1,179.53', Outlet Invert= 1,176.49'





Stage-Discharge for Reach DMHC: TO DCB-E

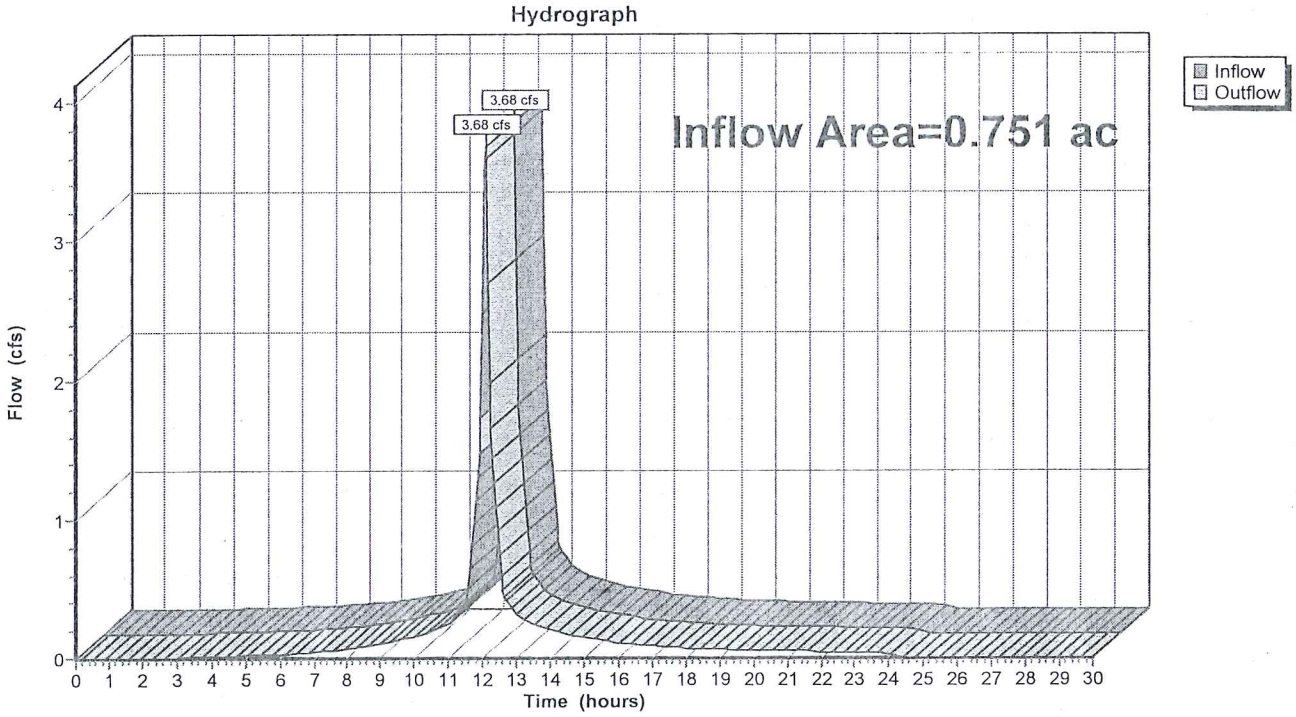
Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.53	0.00	0.00
1,179.54	0.99	0.00
1,179.55	1.57	0.01
1,179.56	2.05	0.01
1,179.57	2.48	0.03
1,179.58	2.86	0.04
1,179.59	3.22	0.06
1,179.60	3.56	0.09
1,179.61	3.88	0.11
1,179.62	4.18	0.15
1,179.63	4.47	0.18
1,179.64	4.75	0.22
1,179.65	5.02	0.27
1,179.66	5.28	0.32
1,179.67	5.52	0.37
1,179.68	5.76	0.43
1,179.69	6.00	0.49
1,179.70	6.22	0.55
1,179.71	6.44	0.62
1,179.72	6.65	0.69
1,179.73	6.86	0.77
1,179.74	7.06	0.85
1,179.75	7.26	0.93
1,179.76	7.45	1.02
1,179.77	7.63	1.11
1,179.78	7.81	1.20
1,179.79	7.99	1.30
1,179.80	8.16	1.40
1,179.81	8.33	1.50
1,179.82	8.50	1.61
1,179.83	8.66	1.72
1,179.84	8.81	1.83
1,179.85	8.96	1.94
1,179.86	9.11	2.06
1,179.87	9.26	2.18
1,179.88	9.40	2.30
1,179.89	9.54	2.43
1,179.90	9.68	2.56
1,179.91	9.81	2.69
1,179.92	9.94	2.82
1,179.93	10.06	2.95
1,179.94	10.18	3.09
1,179.95	10.30	3.23
1,179.96	10.42	3.36
1,179.97	10.53	3.51
1,179.98	10.64	3.65
1,179.99	10.75	3.79
1,180.00	10.86	3.94
1,180.01	10.96	4.08
1,180.02	11.06	4.23
1,180.03	11.15	4.38
1,180.04	11.25	4.53
1,180.05	11.34	4.68
1,180.06	11.42	4.83
1,180.07	11.51	4.98
1,180.08	11.59	5.13
1,180.09	11.67	5.28
1,180.10	11.75	5.43
1,180.11	11.82	5.58
1,180.12	11.89	5.73
1,180.13	11.96	5.88
1,180.14	12.03	6.03
1,180.15	12.09	6.18
1,180.16	12.15	6.33
1,180.17	12.21	6.48
1,180.18	12.26	6.63
1,180.19	12.31	6.77
1,180.20	12.36	6.91
1,180.21	12.41	7.06
1,180.22	12.45	7.20
1,180.23	12.49	7.33
1,180.24	12.53	7.47
1,180.25	12.56	7.60
1,180.26	12.59	7.73
1,180.27	12.62	7.86
1,180.28	12.64	7.99
1,180.29	12.66	8.11
1,180.30	12.68	8.23
1,180.31	12.69	8.34
1,180.32	12.70	8.45
1,180.33	12.71	8.56
1,180.34	**12.71**	8.66
1,180.35	12.71	8.76
1,180.36	12.71	8.86
1,180.37	12.70	8.94
1,180.38	12.69	9.03
1,180.39	12.67	9.10
1,180.40	12.64	9.17
1,180.41	12.61	9.23
1,180.42	12.58	9.29
1,180.43	12.54	9.34
1,180.44	12.49	9.37
1,180.45	12.44	9.40
1,180.46	12.37	9.42
1,180.47	12.30	**9.42**
1,180.48	12.21	9.41
1,180.49	12.11	9.38
1,180.50	11.99	9.34
1,180.51	11.84	9.26
1,180.52	11.64	9.13
1,180.53	11.15	8.76

Summary for Reach DMHD: TO DCB-G

Inflow Area = 0.751 ac, 80.97% Impervious, Inflow Depth = 4.55" for 25-Year event
Inflow = 3.68 cfs @ 12.08 hrs, Volume= 0.284 af
Outflow = 3.68 cfs @ 12.08 hrs, Volume= 0.284 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DMHD: TO DCB-G

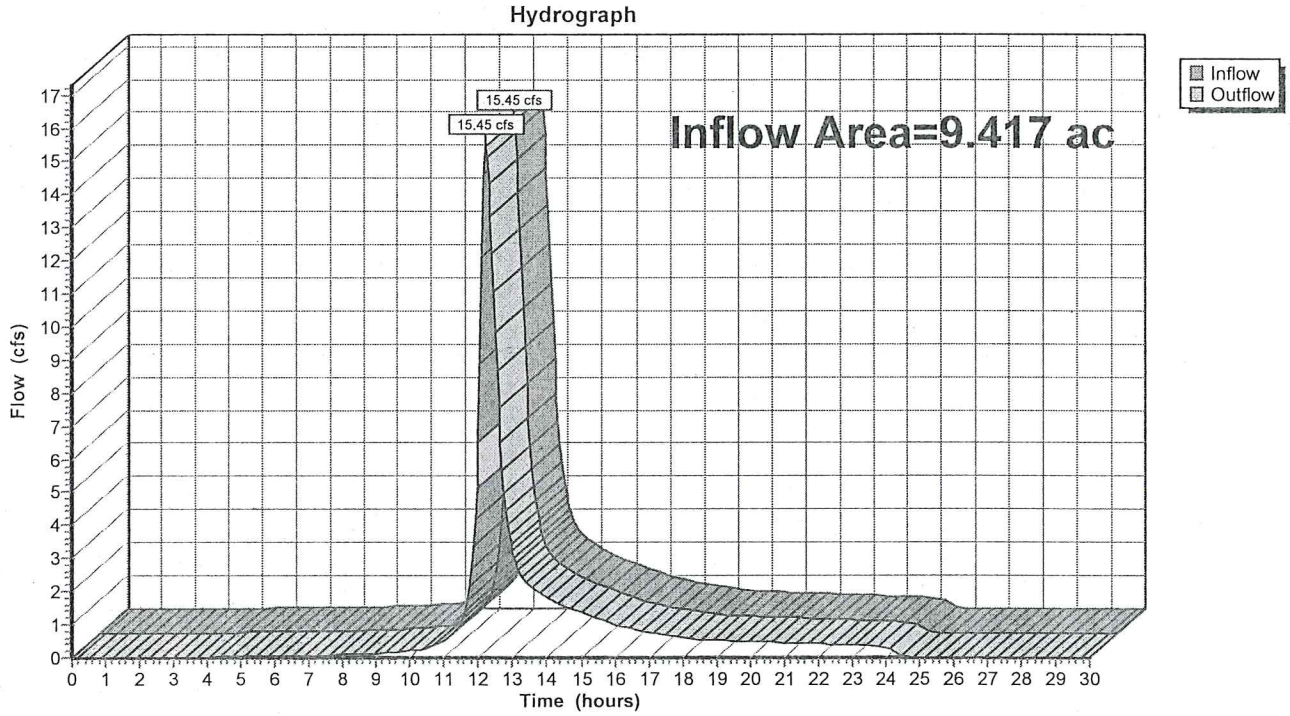


Summary for Reach DP#1: CRYSTAL LAKE

Inflow Area = 9.417 ac, 10.84% Impervious, Inflow Depth = 2.20" for 25-Year event
Inflow = 15.45 cfs @ 12.21 hrs, Volume= 1.729 af
Outflow = 15.45 cfs @ 12.21 hrs, Volume= 1.729 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DP#1: CRYSTAL LAKE

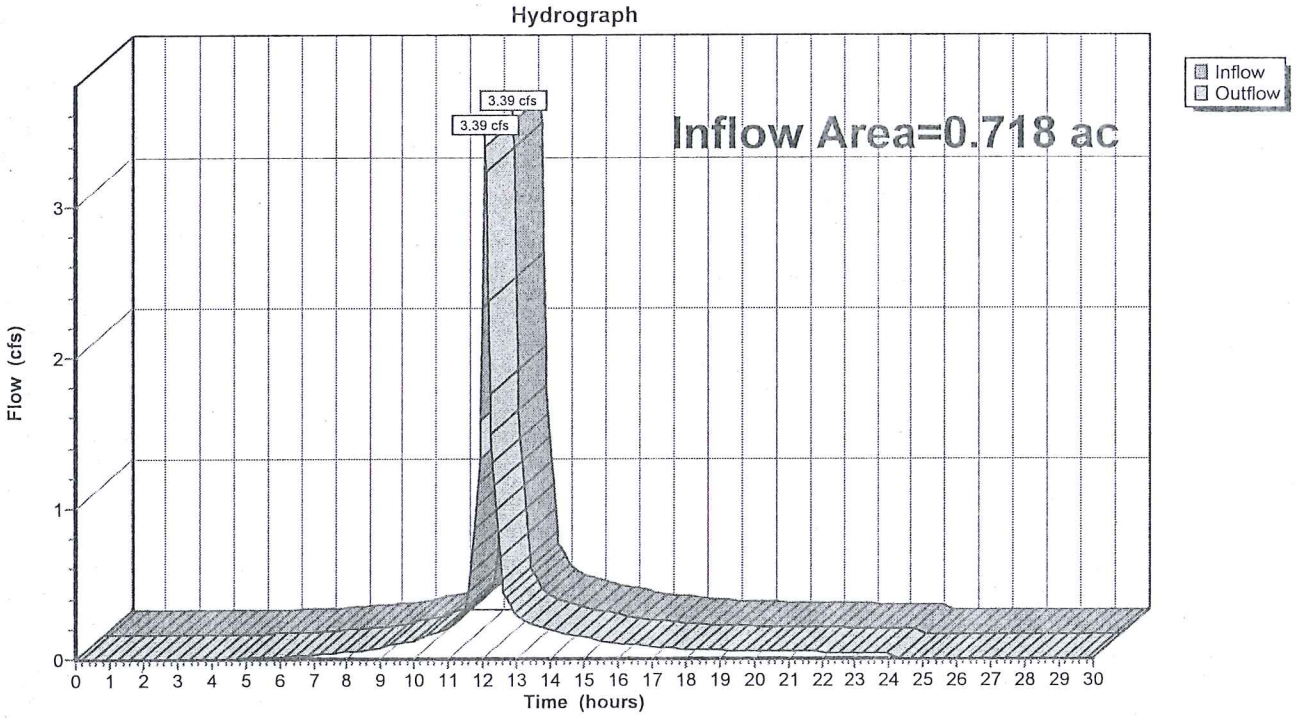


Summary for Reach DP#2: EX RAIN GARDEN

Inflow Area = 0.718 ac, 68.41% Impervious, Inflow Depth = 4.17" for 25-Year event
Inflow = 3.39 cfs @ 12.07 hrs, Volume= 0.249 af
Outflow = 3.39 cfs @ 12.07 hrs, Volume= 0.249 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

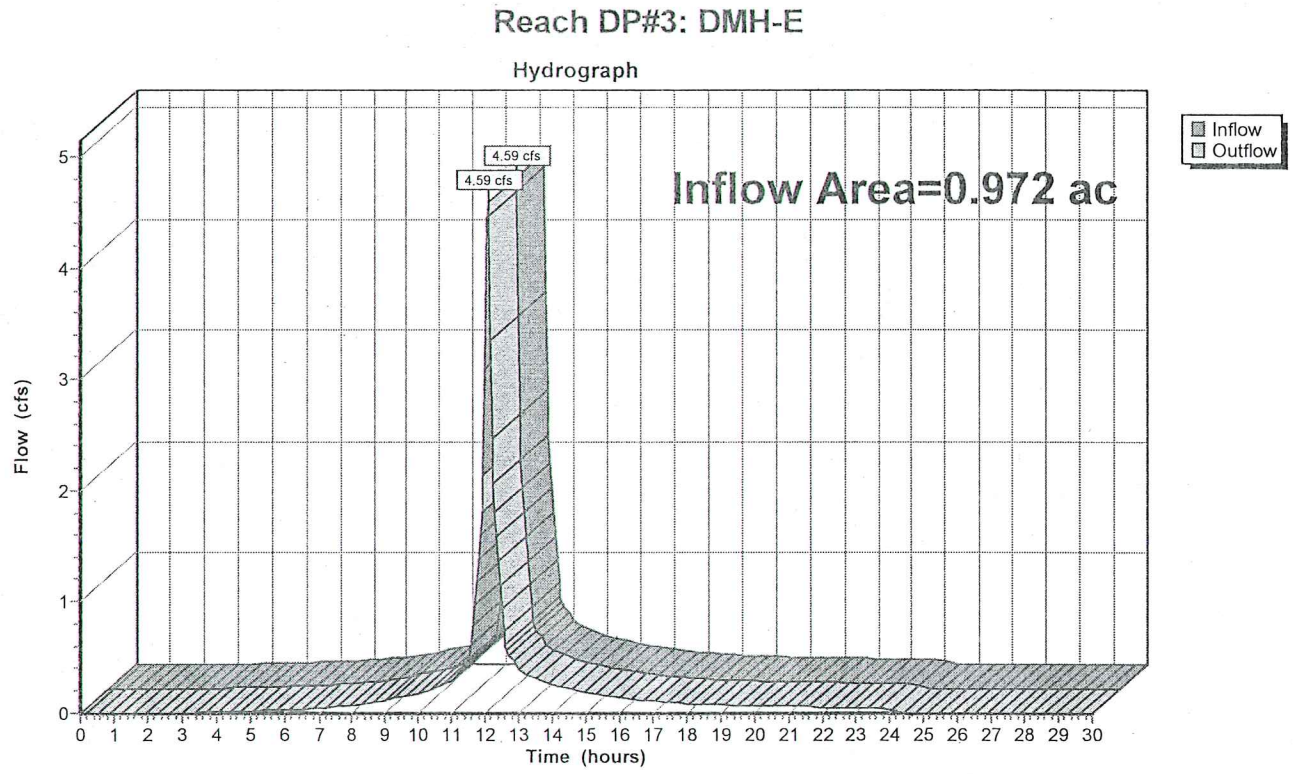
Reach DP#2: EX RAIN GARDEN



Summary for Reach DP#3: DMH-E

Inflow Area = 0.972 ac, 71.80% Impervious, Inflow Depth = 4.32" for 25-Year event
Inflow = 4.59 cfs @ 12.08 hrs, Volume= 0.350 af
Outflow = 4.59 cfs @ 12.08 hrs, Volume= 0.350 af, Atten= 0%, Lag= 0.0 min

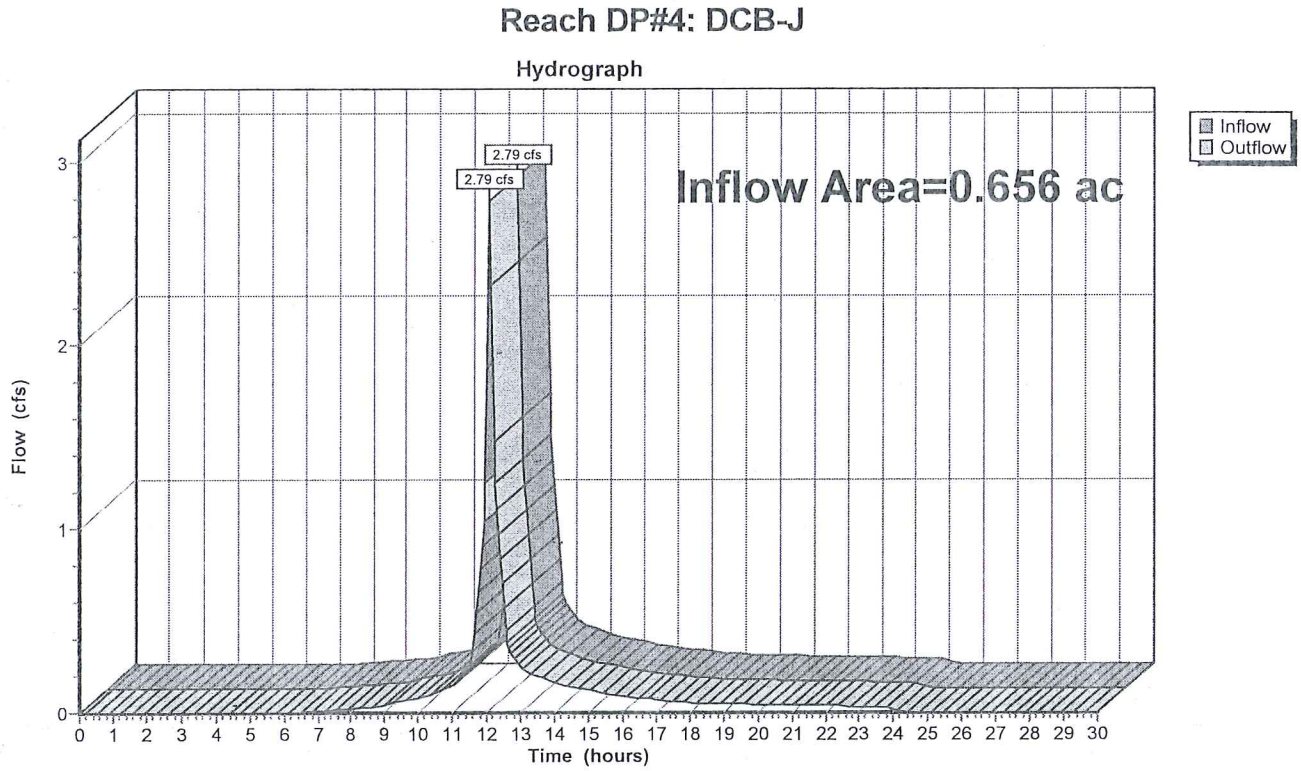
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs



Summary for Reach DP#4: DCB-J

Inflow Area = 0.656 ac, 44.69% Impervious, Inflow Depth = 3.65" for 25-Year event
Inflow = 2.79 cfs @ 12.07 hrs, Volume= 0.199 af
Outflow = 2.79 cfs @ 12.07 hrs, Volume= 0.199 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

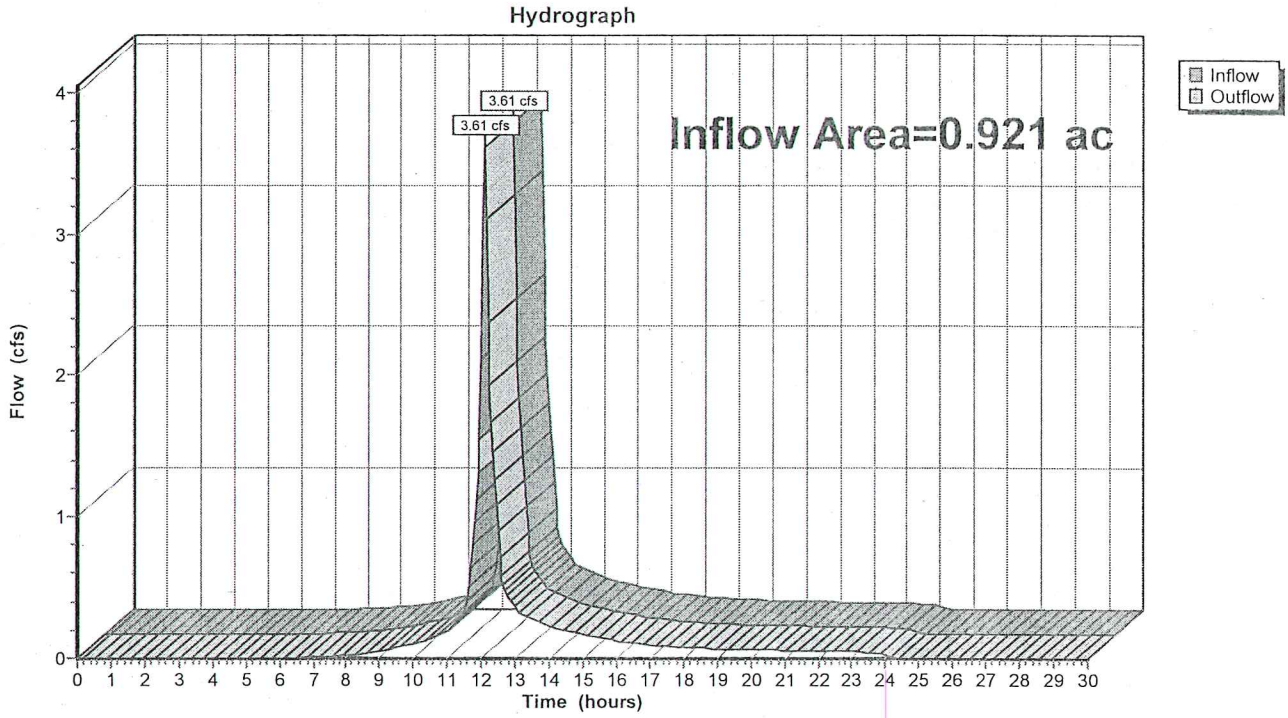


Summary for Reach DP#5: DCB-K

Inflow Area = 0.921 ac, 43.25% Impervious, Inflow Depth = 3.55" for 25-Year event
Inflow = 3.61 cfs @ 12.10 hrs, Volume= 0.272 af
Outflow = 3.61 cfs @ 12.10 hrs, Volume= 0.272 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DP#5: DCB-K



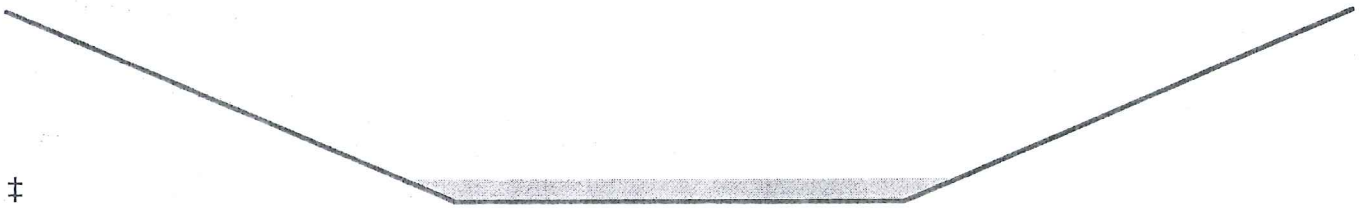
Summary for Reach OL1: OVERLAND FLOW

Inflow Area = 0.844 ac, 92.67% Impervious, Inflow Depth = 4.83" for 25-Year event
Inflow = 4.33 cfs @ 12.07 hrs, Volume= 0.340 af
Outflow = 4.28 cfs @ 12.08 hrs, Volume= 0.340 af, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.19 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 0.86 fps, Avg. Travel Time= 0.4 min

Peak Storage= 27 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.12'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 216.87 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 20.0' Slope= 0.4500 '/'
Inlet Invert= 1,175.00', Outlet Invert= 1,166.00'



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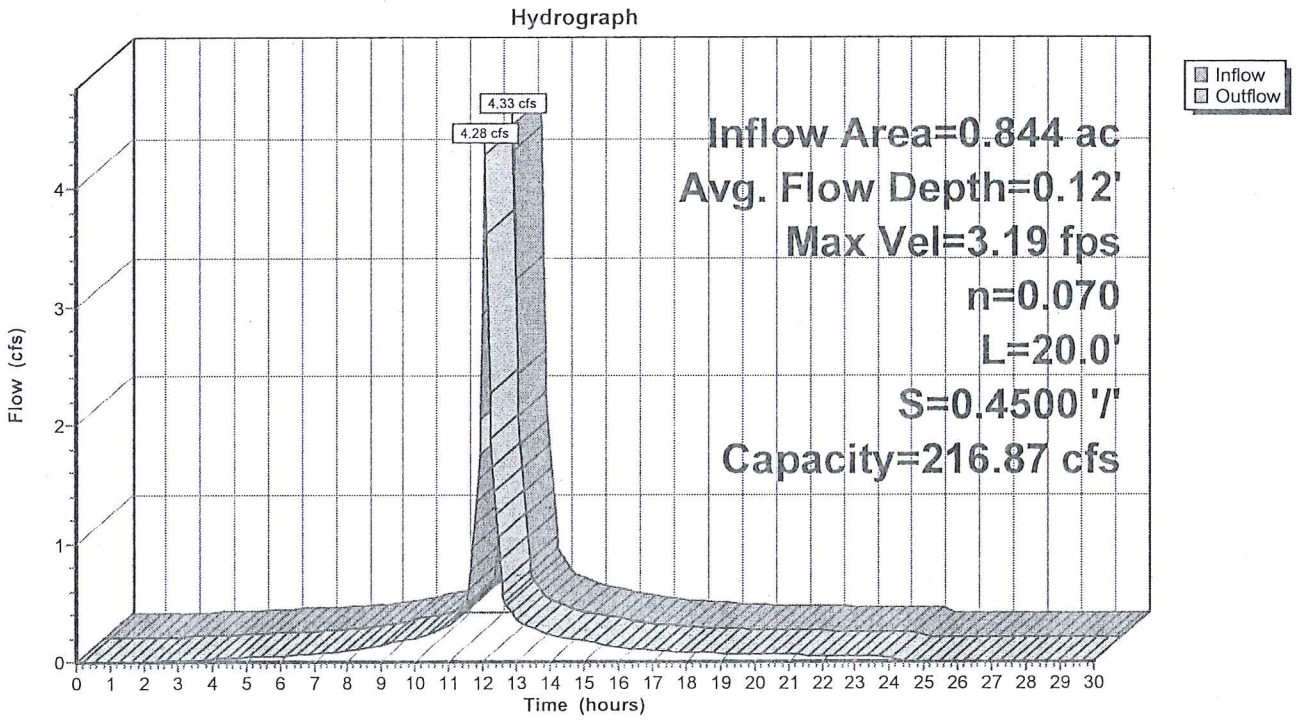
Reach OL1: OVERLAND FLOW



Stage-Discharge for Reach OL1: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.00	0.00	0.00
1,175.01	0.66	0.07
1,175.02	1.04	0.21
1,175.03	1.35	0.42
1,175.04	1.62	0.68
1,175.05	1.87	0.98
1,175.06	2.10	1.34
1,175.07	2.32	1.74
1,175.08	2.52	2.18
1,175.09	2.71	2.66
1,175.10	2.89	3.18
1,175.11	3.07	3.75
1,175.12	3.24	4.35
1,175.13	3.40	4.99
1,175.14	3.55	5.67
1,175.15	3.70	6.39
1,175.16	3.85	7.14
1,175.17	3.99	7.93
1,175.18	4.13	8.76
1,175.19	4.26	9.63
1,175.20	4.39	10.54
1,175.21	4.52	11.48
1,175.22	4.64	12.46
1,175.23	4.76	13.48
1,175.24	4.88	14.53
1,175.25	5.00	15.62
1,175.26	5.11	16.75
1,175.27	5.23	17.92
1,175.28	5.34	19.12
1,175.29	5.44	20.36
1,175.30	5.55	21.64
1,175.31	5.65	22.96
1,175.32	5.76	24.32
1,175.33	5.86	25.71
1,175.34	5.96	27.15
1,175.35	6.06	28.62
1,175.36	6.15	30.13
1,175.37	6.25	31.68
1,175.38	6.34	33.27
1,175.39	6.44	34.89
1,175.40	6.53	36.56
1,175.41	6.62	38.27
1,175.42	6.71	40.01
1,175.43	6.80	41.80
1,175.44	6.89	43.63
1,175.45	6.97	45.50
1,175.46	7.06	47.40
1,175.47	7.14	49.35
1,175.48	7.23	51.34
1,175.49	7.31	53.38
1,175.50	7.39	55.45
1,175.51	7.47	57.56
1,175.52	7.56	59.72
1,175.53	7.64	61.92
1,175.54	7.72	64.16
1,175.55	7.79	66.44
1,175.56	7.87	68.77
1,175.57	7.95	71.14
1,175.58	8.03	73.55
1,175.59	8.10	76.01
1,175.60	8.18	78.51
1,175.61	8.25	81.05
1,175.62	8.33	83.64
1,175.63	8.40	86.27
1,175.64	8.47	88.95
1,175.65	8.55	91.67
1,175.66	8.62	94.44
1,175.67	8.69	97.25
1,175.68	8.76	100.10
1,175.69	8.83	103.01
1,175.70	8.90	105.96
1,175.71	8.97	108.95
1,175.72	9.04	111.99
1,175.73	9.11	115.08
1,175.74	9.18	118.21
1,175.75	9.25	121.39
1,175.76	9.32	124.62
1,175.77	9.38	127.90
1,175.78	9.45	131.22
1,175.79	9.52	134.60
1,175.80	9.58	138.02
1,175.81	9.65	141.48
1,175.82	9.72	145.00
1,175.83	9.78	148.57
1,175.84	9.85	152.18
1,175.85	9.91	155.85
1,175.86	9.97	159.56
1,175.87	10.04	163.32
1,175.88	10.10	167.14
1,175.89	10.17	171.00
1,175.90	10.23	174.91
1,175.91	10.29	178.88
1,175.92	10.35	182.89
1,175.93	10.42	186.96
1,175.94	10.48	191.08
1,175.95	10.54	195.25
1,175.96	10.60	199.47
1,175.97	10.66	203.74
1,175.98	10.72	208.06
1,175.99	10.78	212.44
1,176.00	**10.84**	**216.87**

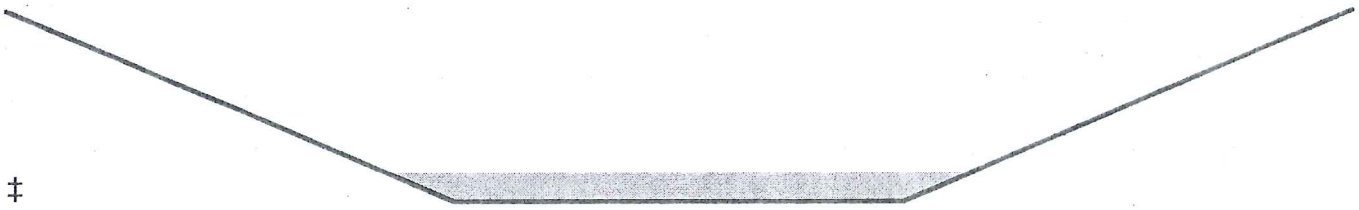
Summary for Reach OL2: OVERLAND FLOW

Inflow Area = 0.844 ac, 92.67% Impervious, Inflow Depth = 4.83" for 25-Year event
Inflow = 4.28 cfs @ 12.08 hrs, Volume= 0.340 af
Outflow = 4.01 cfs @ 12.13 hrs, Volume= 0.340 af, Atten= 6%, Lag= 3.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.36 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 0.62 fps, Avg. Travel Time= 6.6 min

Peak Storage= 433 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.15'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 136.00 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 243.0' Slope= 0.1770 '/'
Inlet Invert= 1,166.00', Outlet Invert= 1,123.00'



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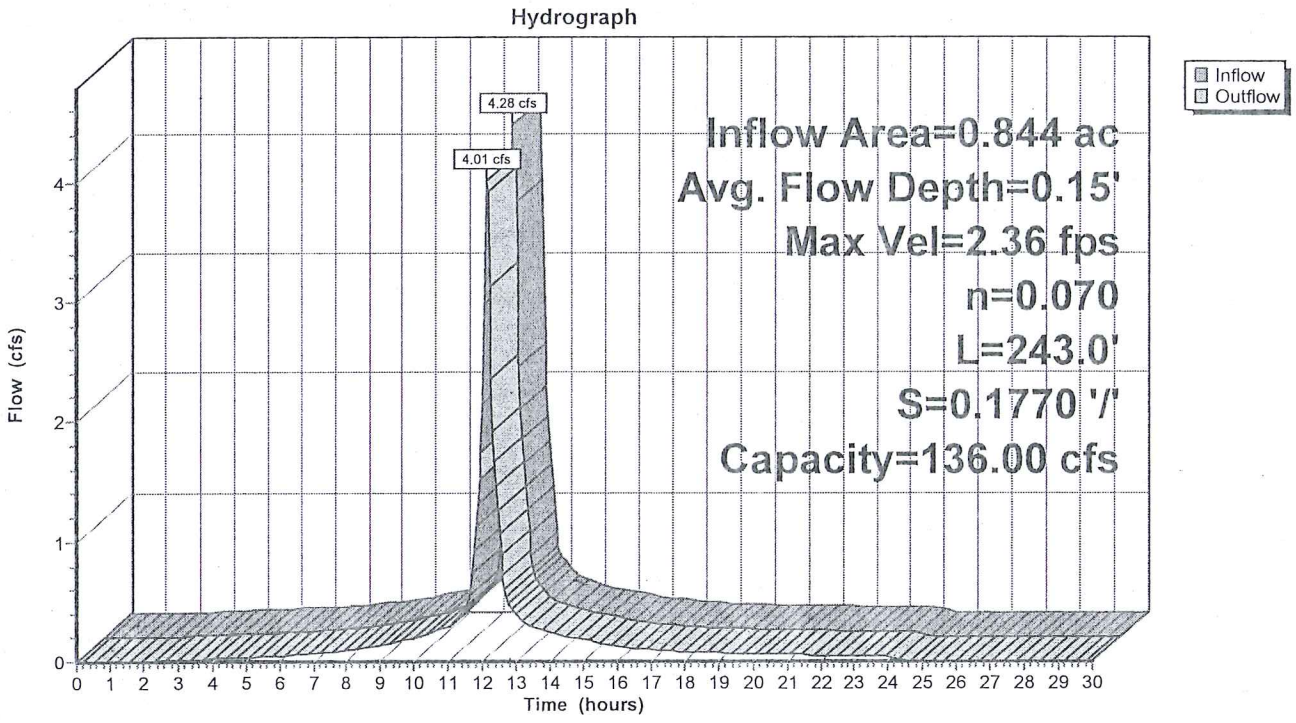


Stage-Discharge for Reach OL2: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,166.00	0.00	0.00
1,166.01	0.41	0.04
1,166.02	0.65	0.13
1,166.03	0.85	0.26
1,166.04	1.02	0.42
1,166.05	1.17	0.62
1,166.06	1.32	0.84
1,166.07	1.45	1.09
1,166.08	1.58	1.37
1,166.09	1.70	1.67
1,166.10	1.81	2.00
1,166.11	1.92	2.35
1,166.12	2.03	2.73
1,166.13	2.13	3.13
1,166.14	2.23	3.55
1,166.15	2.32	4.00
1,166.16	2.41	4.48
1,166.17	2.50	4.98
1,166.18	2.59	5.50
1,166.19	2.67	6.04
1,166.20	2.75	6.61
1,166.21	2.83	7.20
1,166.22	2.91	7.81
1,166.23	2.99	8.45
1,166.24	3.06	9.11
1,166.25	3.13	9.80
1,166.26	3.21	10.50
1,166.27	3.28	11.24
1,166.28	3.35	11.99
1,166.29	3.41	12.77
1,166.30	3.48	13.57
1,166.31	3.55	14.40
1,166.32	3.61	15.25
1,166.33	3.67	16.12
1,166.34	3.74	17.02
1,166.35	3.80	17.95
1,166.36	3.86	18.89
1,166.37	3.92	19.86
1,166.38	3.98	20.86
1,166.39	4.04	21.88
1,166.40	4.09	22.93
1,166.41	4.15	24.00
1,166.42	4.21	25.09
1,166.43	4.26	26.21
1,166.44	4.32	27.36
1,166.45	4.37	28.53
1,166.46	4.43	29.73
1,166.47	4.48	30.95
1,166.48	4.53	32.20
1,166.49	4.58	33.47
1,166.50	4.64	34.77
1,166.51	4.69	36.10
1,166.52	4.74	37.45
1,166.53	4.79	38.83
1,166.54	4.84	40.23
1,166.55	4.89	41.67
1,166.56	4.94	43.12
1,166.57	4.98	44.61
1,166.58	5.03	46.12
1,166.59	5.08	47.66
1,166.60	5.13	49.23
1,166.61	5.18	50.83
1,166.62	5.22	52.45
1,166.63	5.27	54.10
1,166.64	5.31	55.78
1,166.65	5.36	57.48
1,166.66	5.41	59.22
1,166.67	5.45	60.98
1,166.68	5.49	62.77
1,166.69	5.54	64.59
1,166.70	5.58	66.44
1,166.71	5.63	68.32
1,166.72	5.67	70.23
1,166.73	5.71	72.16
1,166.74	5.76	74.13
1,166.75	5.80	76.12
1,166.76	5.84	78.15
1,166.77	5.88	80.20
1,166.78	5.93	82.29
1,166.79	5.97	84.40
1,166.80	6.01	86.55
1,166.81	6.05	88.72
1,166.82	6.09	90.93
1,166.83	6.13	93.16
1,166.84	6.17	95.43
1,166.85	6.21	97.73
1,166.86	6.26	100.06
1,166.87	6.30	102.42
1,166.88	6.34	104.81
1,166.89	6.37	107.23
1,166.90	6.41	109.68
1,166.91	6.45	112.17
1,166.92	6.49	114.69
1,166.93	6.53	117.24
1,166.94	6.57	119.82
1,166.95	6.61	122.44
1,166.96	6.65	125.08
1,166.97	6.69	127.76
1,166.98	6.72	130.47
1,166.99	6.76	133.22
1,167.00	**6.80**	**136.00**

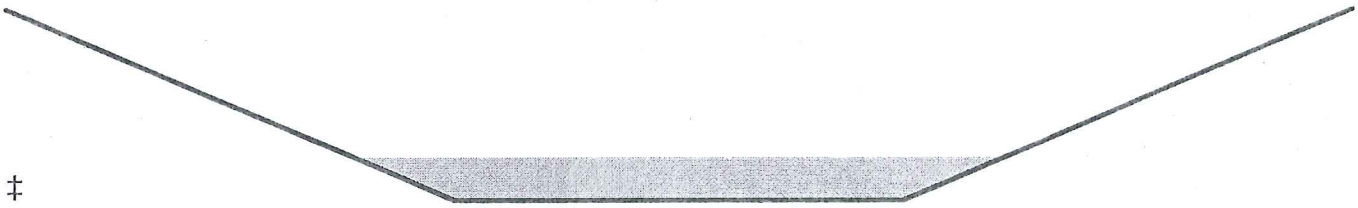
Summary for Reach OL3: OVERLAND FLOW

Inflow Area = 0.844 ac, 92.67% Impervious, Inflow Depth = 4.83" for 25-Year event
Inflow = 4.01 cfs @ 12.13 hrs, Volume= 0.340 af
Outflow = 3.95 cfs @ 12.14 hrs, Volume= 0.340 af, Atten= 1%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.47 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.39 fps, Avg. Travel Time= 1.9 min

Peak Storage= 123 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.22'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 68.16 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 45.0' Slope= 0.0444 '/'
Inlet Invert= 1,122.00', Outlet Invert= 1,120.00'



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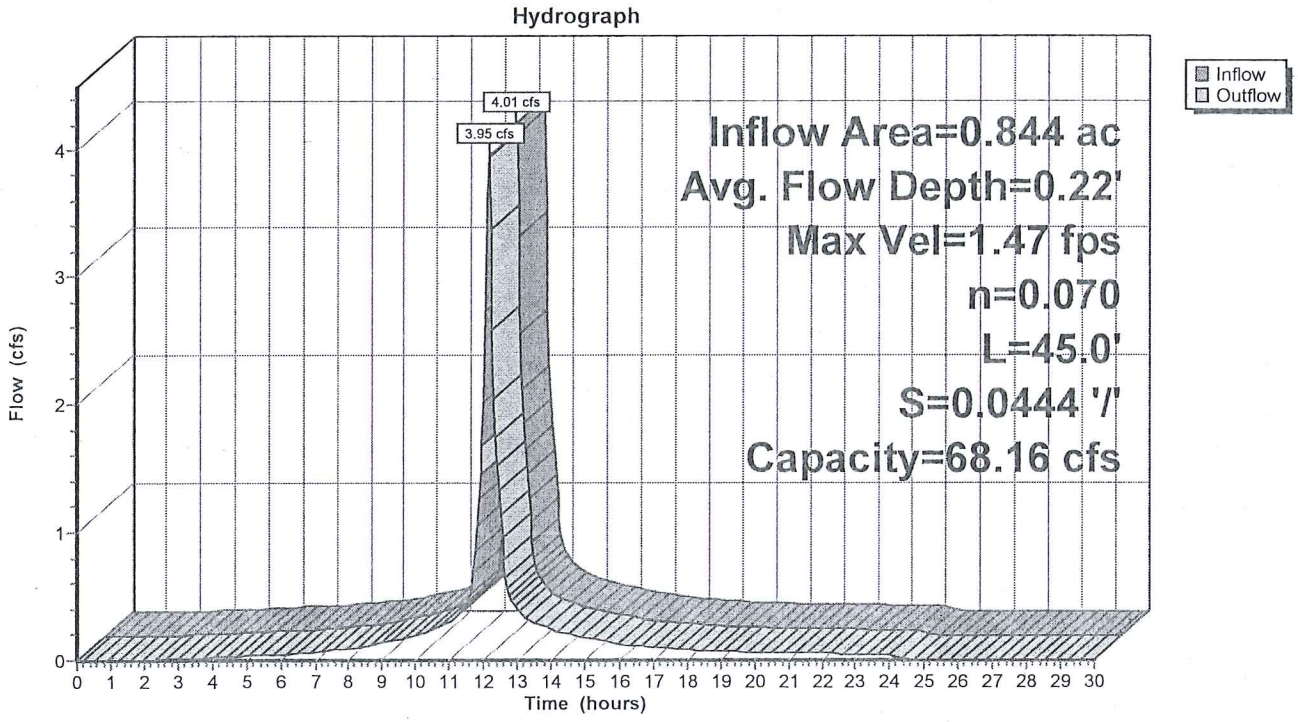
Reach OL3: OVERLAND FLOW



Stage-Discharge for Reach OL3: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,122.00	0.00	0.00
1,122.01	0.21	0.02
1,122.02	0.33	0.07
1,122.03	0.42	0.13
1,122.04	0.51	0.21
1,122.05	0.59	0.31
1,122.06	0.66	0.42
1,122.07	0.73	0.55
1,122.08	0.79	0.68
1,122.09	0.85	0.84
1,122.10	0.91	1.00
1,122.11	0.96	1.18
1,122.12	1.02	1.37
1,122.13	1.07	1.57
1,122.14	1.12	1.78
1,122.15	1.16	2.01
1,122.16	1.21	2.24
1,122.17	1.25	2.49
1,122.18	1.30	2.75
1,122.19	1.34	3.03
1,122.20	1.38	3.31
1,122.21	1.42	3.61
1,122.22	1.46	3.92
1,122.23	1.50	4.24
1,122.24	1.53	4.57
1,122.25	1.57	4.91
1,122.26	1.61	5.26
1,122.27	1.64	5.63
1,122.28	1.68	6.01
1,122.29	1.71	6.40
1,122.30	1.74	6.80
1,122.31	1.78	7.22
1,122.32	1.81	7.64
1,122.33	1.84	8.08
1,122.34	1.87	8.53
1,122.35	1.90	8.99
1,122.36	1.93	9.47
1,122.37	1.96	9.96
1,122.38	1.99	10.45
1,122.39	2.02	10.97
1,122.40	2.05	11.49
1,122.41	2.08	12.03
1,122.42	2.11	12.58
1,122.43	2.14	13.14
1,122.44	2.16	13.71
1,122.45	2.19	14.30
1,122.46	2.22	14.90
1,122.47	2.24	15.51
1,122.48	2.27	16.14
1,122.49	2.30	16.77
1,122.50	2.32	17.43
1,122.51	2.35	18.09
1,122.52	2.37	18.77
1,122.53	2.40	19.46
1,122.54	2.42	20.16
1,122.55	2.45	20.88
1,122.56	2.47	21.61
1,122.57	2.50	22.36
1,122.58	2.52	23.12
1,122.59	2.55	23.89
1,122.60	2.57	24.67
1,122.61	2.59	25.47
1,122.62	2.62	26.29
1,122.63	2.64	27.11
1,122.64	2.66	27.95
1,122.65	2.69	28.81
1,122.66	2.71	29.68
1,122.67	2.73	30.56
1,122.68	2.75	31.46
1,122.69	2.78	32.37
1,122.70	2.80	33.30
1,122.71	2.82	34.24
1,122.72	2.84	35.20
1,122.73	2.86	36.17
1,122.74	2.89	37.15
1,122.75	2.91	38.15
1,122.76	2.93	39.17
1,122.77	2.95	40.20
1,122.78	2.97	41.24
1,122.79	2.99	42.30
1,122.80	3.01	43.37
1,122.81	3.03	44.46
1,122.82	3.05	45.57
1,122.83	3.07	46.69
1,122.84	3.09	47.83
1,122.85	3.11	48.98
1,122.86	3.13	50.14
1,122.87	3.15	51.33
1,122.88	3.17	52.53
1,122.89	3.19	53.74
1,122.90	3.21	54.97
1,122.91	3.23	56.22
1,122.92	3.25	57.48
1,122.93	3.27	58.76
1,122.94	3.29	60.05
1,122.95	3.31	61.36
1,122.96	3.33	62.69
1,122.97	3.35	64.03
1,122.98	3.37	65.39
1,122.99	3.39	66.76
1,123.00	**3.41**	**68.16**

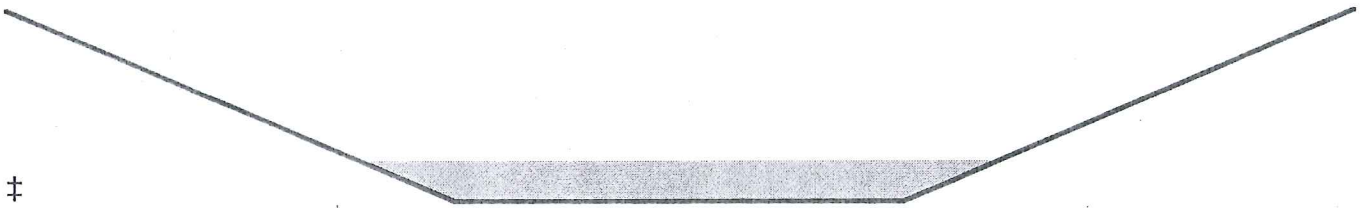
Summary for Reach OL4: OVERLAND FLOW

Inflow Area = 3.538 ac, 24.19% Impervious, Inflow Depth = 2.63" for 25-Year event
Inflow = 8.07 cfs @ 12.17 hrs, Volume= 0.774 af
Outflow = 7.94 cfs @ 12.18 hrs, Volume= 0.774 af, Atten= 2%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.12 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 0.85 fps, Avg. Travel Time= 1.4 min

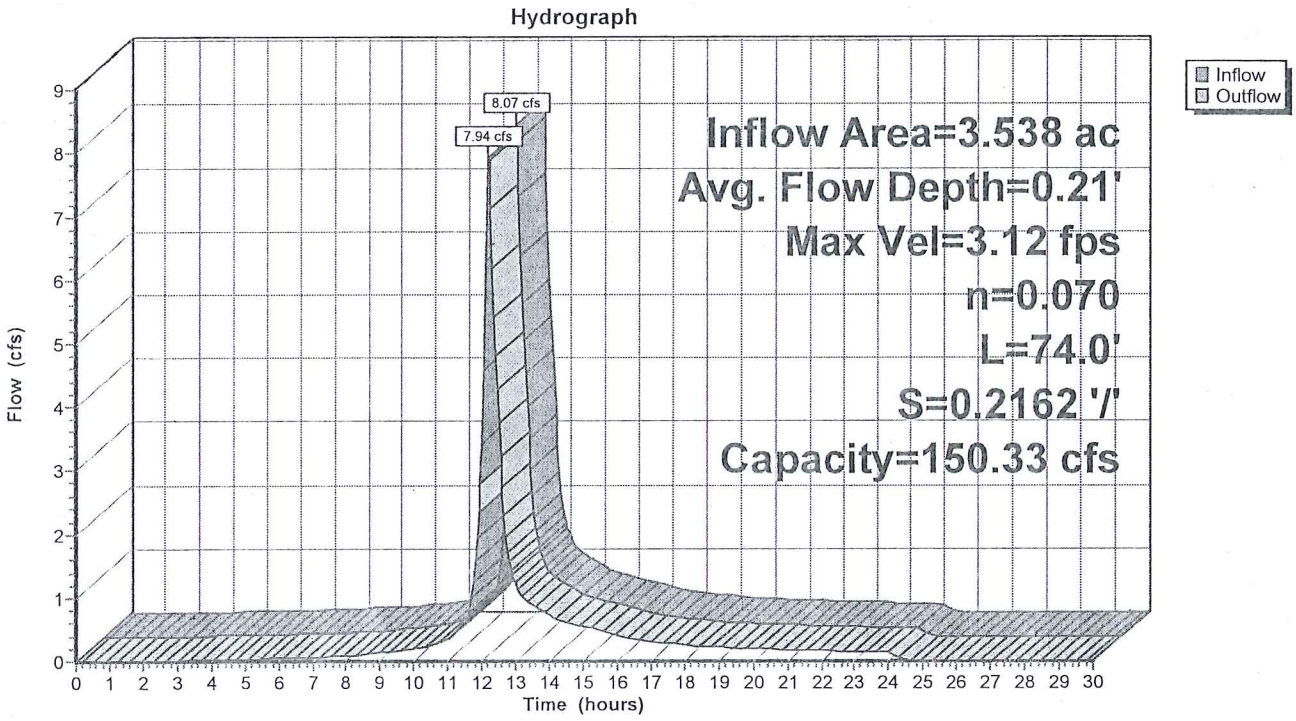
Peak Storage= 190 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.21'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 150.33 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 74.0' Slope= 0.2162 '/'
Inlet Invert= 1,117.75', Outlet Invert= 1,101.75'



‡

Reach OL4: OVERLAND FLOW



Stage-Discharge for Reach OL4: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,117.75	0.00	0.00
1,117.76	0.46	0.05
1,117.77	0.72	0.15
1,117.78	0.93	0.29
1,117.79	1.13	0.47
1,117.80	1.30	0.68
1,117.81	1.46	0.93
1,117.82	1.61	1.20
1,117.83	1.75	1.51
1,117.84	1.88	1.84
1,117.85	2.01	2.21
1,117.86	2.13	2.60
1,117.87	2.24	3.01
1,117.88	2.35	3.46
1,117.89	2.46	3.93
1,117.90	2.57	4.43
1,117.91	2.67	4.95
1,117.92	2.76	5.50
1,117.93	2.86	6.08
1,117.94	2.95	6.68
1,117.95	3.04	7.30
1,117.96	3.13	7.96
1,117.97	3.22	8.64
1,117.98	3.30	9.34
1,117.99	3.38	10.07
1,118.00	3.47	10.83
1,118.01	3.54	11.61
1,118.02	3.62	12.42
1,118.03	3.70	13.25
1,118.04	3.77	14.12
1,118.05	3.85	15.00
1,118.06	3.92	15.92
1,118.07	3.99	16.86
1,118.08	4.06	17.82
1,118.09	4.13	18.82
1,118.10	4.20	19.84
1,118.11	4.27	20.88
1,118.12	4.33	21.96
1,118.13	4.40	23.06
1,118.14	4.46	24.19
1,118.15	4.53	25.34
1,118.16	4.59	26.53
1,118.17	4.65	27.74
1,118.18	4.71	28.98
1,118.19	4.77	30.24
1,118.20	4.83	31.54
1,118.21	4.89	32.86
1,118.22	4.95	34.21
1,118.23	5.01	35.59
1,118.24	5.07	37.00
1,118.25	5.12	38.43
1,118.26	5.18	39.90
1,118.27	5.24	41.40
1,118.28	5.29	42.92
1,118.29	5.35	44.47
1,118.30	5.40	46.06
1,118.31	5.46	47.67
1,118.32	5.51	49.31
1,118.33	5.56	50.98
1,118.34	5.62	52.69
1,118.35	5.67	54.42
1,118.36	5.72	56.18
1,118.37	5.77	57.98
1,118.38	5.82	59.80
1,118.39	5.87	61.66
1,118.40	5.92	63.54
1,118.41	5.97	65.46
1,118.42	6.02	67.41
1,118.43	6.07	69.39
1,118.44	6.12	71.40
1,118.45	6.17	73.44
1,118.46	6.22	75.52
1,118.47	6.27	77.63
1,118.48	6.32	79.77
1,118.49	6.36	81.94
1,118.50	6.41	84.15
1,118.51	6.46	86.39
1,118.52	6.50	88.66
1,118.53	6.55	90.96
1,118.54	6.60	93.30
1,118.55	6.64	95.67
1,118.56	6.69	98.07
1,118.57	6.73	100.51
1,118.58	6.78	102.98
1,118.59	6.82	105.49
1,118.60	6.87	108.03
1,118.61	6.91	110.60
1,118.62	6.96	113.21
1,118.63	7.00	115.85
1,118.64	7.05	118.53
1,118.65	7.09	121.24
1,118.66	7.13	123.99
1,118.67	7.18	126.78
1,118.68	7.22	129.59
1,118.69	7.26	132.45
1,118.70	7.31	135.34
1,118.71	7.35	138.26
1,118.72	7.39	141.23
1,118.73	7.43	144.22
1,118.74	7.47	147.26
1,118.75	**7.52**	**150.33**

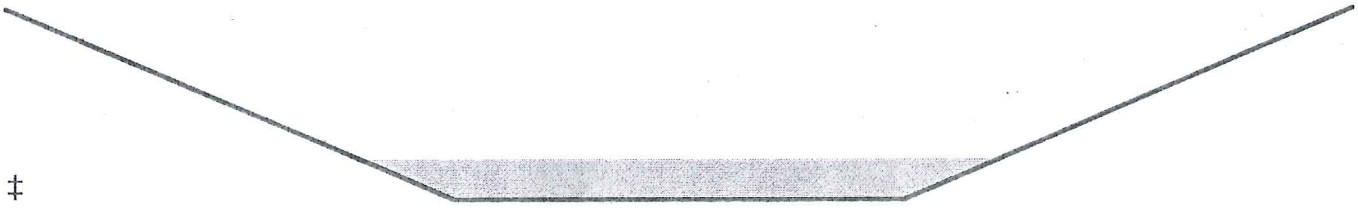
Summary for Reach OL5: OVERLAND FLOW

Inflow Area = 4.252 ac, 2.48% Impervious, Inflow Depth = 2.01" for 25-Year event
Inflow = 6.46 cfs @ 12.30 hrs, Volume= 0.714 af
Outflow = 6.43 cfs @ 12.32 hrs, Volume= 0.714 af, Atten= 1%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.52 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 0.88 fps, Avg. Travel Time= 1.9 min

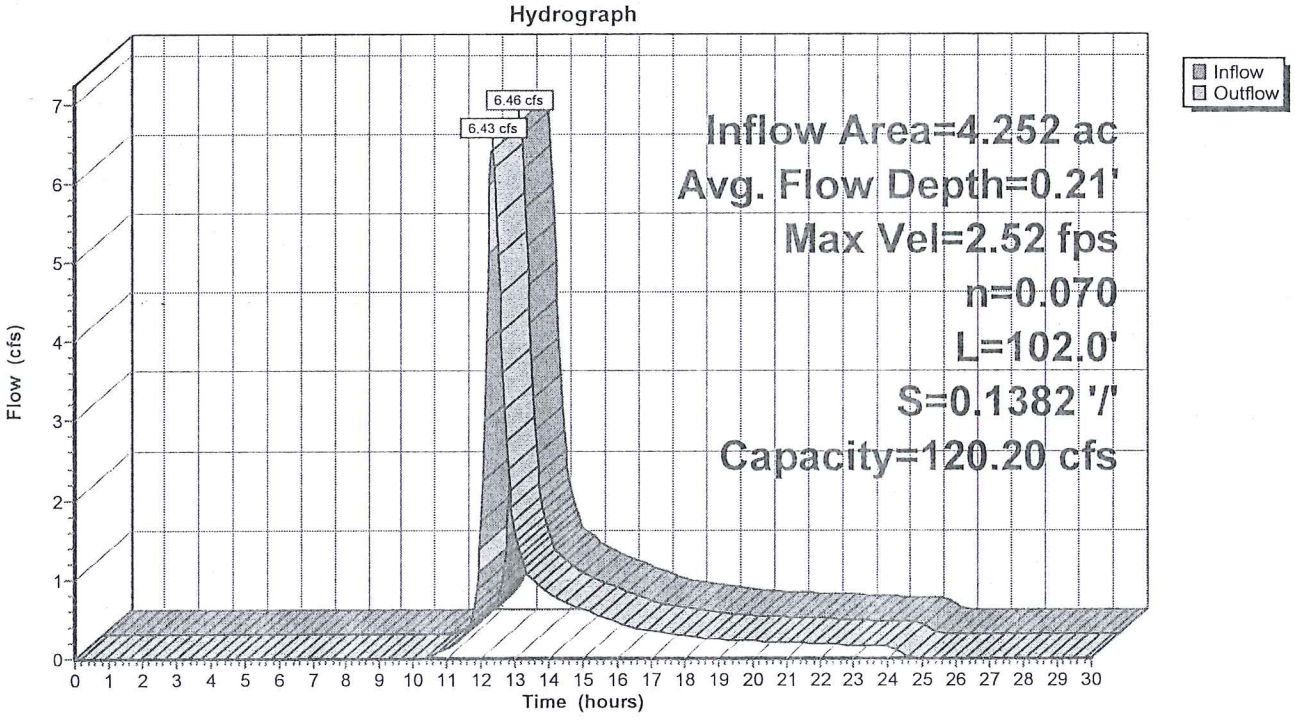
Peak Storage= 262 cf @ 12.31 hrs
Average Depth at Peak Storage= 0.21'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 120.20 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 102.0' Slope= 0.1382 '/'
Inlet Invert= 1,114.10', Outlet Invert= 1,100.00'



‡

Reach OL5: OVERLAND FLOW



Stage-Discharge for Reach OL5: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,114.10	0.00	0.00
1,114.11	0.36	0.04
1,114.12	0.57	0.12
1,114.13	0.75	0.23
1,114.14	0.90	0.37
1,114.15	1.04	0.55
1,114.16	1.17	0.74
1,114.17	1.28	0.96
1,114.18	1.40	1.21
1,114.19	1.50	1.47
1,114.20	1.60	1.76
1,114.21	1.70	2.08
1,114.22	1.79	2.41
1,114.23	1.88	2.77
1,114.24	1.97	3.14
1,114.25	2.05	3.54
1,114.26	2.13	3.96
1,114.27	2.21	4.40
1,114.28	2.29	4.86
1,114.29	2.36	5.34
1,114.30	2.43	5.84
1,114.31	2.50	6.36
1,114.32	2.57	6.91
1,114.33	2.64	7.47
1,114.34	2.71	8.05
1,114.35	2.77	8.66
1,114.36	2.83	9.28
1,114.37	2.90	9.93
1,114.38	2.96	10.60
1,114.39	3.02	11.29
1,114.40	3.08	12.00
1,114.41	3.13	12.73
1,114.42	3.19	13.48
1,114.43	3.25	14.25
1,114.44	3.30	15.05
1,114.45	3.36	15.86
1,114.46	3.41	16.70
1,114.47	3.46	17.56
1,114.48	3.52	18.44
1,114.49	3.57	19.34
1,114.50	3.62	20.26
1,114.51	3.67	21.21
1,114.52	3.72	22.18
1,114.53	3.77	23.17
1,114.54	3.82	24.18
1,114.55	3.86	25.22
1,114.56	3.91	26.27
1,114.57	3.96	27.35
1,114.58	4.01	28.46
1,114.59	4.05	29.58
1,114.60	4.10	30.73
1,114.61	4.14	31.90
1,114.62	4.19	33.10
1,114.63	4.23	34.32
1,114.64	4.28	35.56
1,114.65	4.32	36.83
1,114.66	4.36	38.12
1,114.67	4.41	39.43
1,114.68	4.45	40.77
1,114.69	4.49	42.13
1,114.70	4.53	43.51
1,114.71	4.57	44.92
1,114.72	4.62	46.36
1,114.73	4.66	47.82
1,114.74	4.70	49.30
1,114.75	4.74	50.81
1,114.76	4.78	52.34
1,114.77	4.82	53.90
1,114.78	4.86	55.48
1,114.79	4.90	57.09
1,114.80	4.93	58.73
1,114.81	4.97	60.39
1,114.82	5.01	62.07
1,114.83	5.05	63.78
1,114.84	5.09	65.52
1,114.85	5.13	67.28
1,114.86	5.16	69.07
1,114.87	5.20	70.89
1,114.88	5.24	72.73
1,114.89	5.28	74.60
1,114.90	5.31	76.49
1,114.91	5.35	78.42
1,114.92	5.39	80.37
1,114.93	5.42	82.34
1,114.94	5.46	84.35
1,114.95	5.49	86.38
1,114.96	5.53	88.44
1,114.97	5.56	90.52
1,114.98	5.60	92.63
1,114.99	5.63	94.78
1,115.00	5.67	96.94
1,115.01	5.70	99.14
1,115.02	5.74	101.37
1,115.03	5.77	103.62
1,115.04	5.81	105.90
1,115.05	5.84	108.21
1,115.06	5.88	110.55
1,115.07	5.91	112.92
1,115.08	5.94	115.32
1,115.09	5.98	117.74
1,115.10	**6.01**	**120.20**

Summary for Pond CULVERT#1: TO DP#1

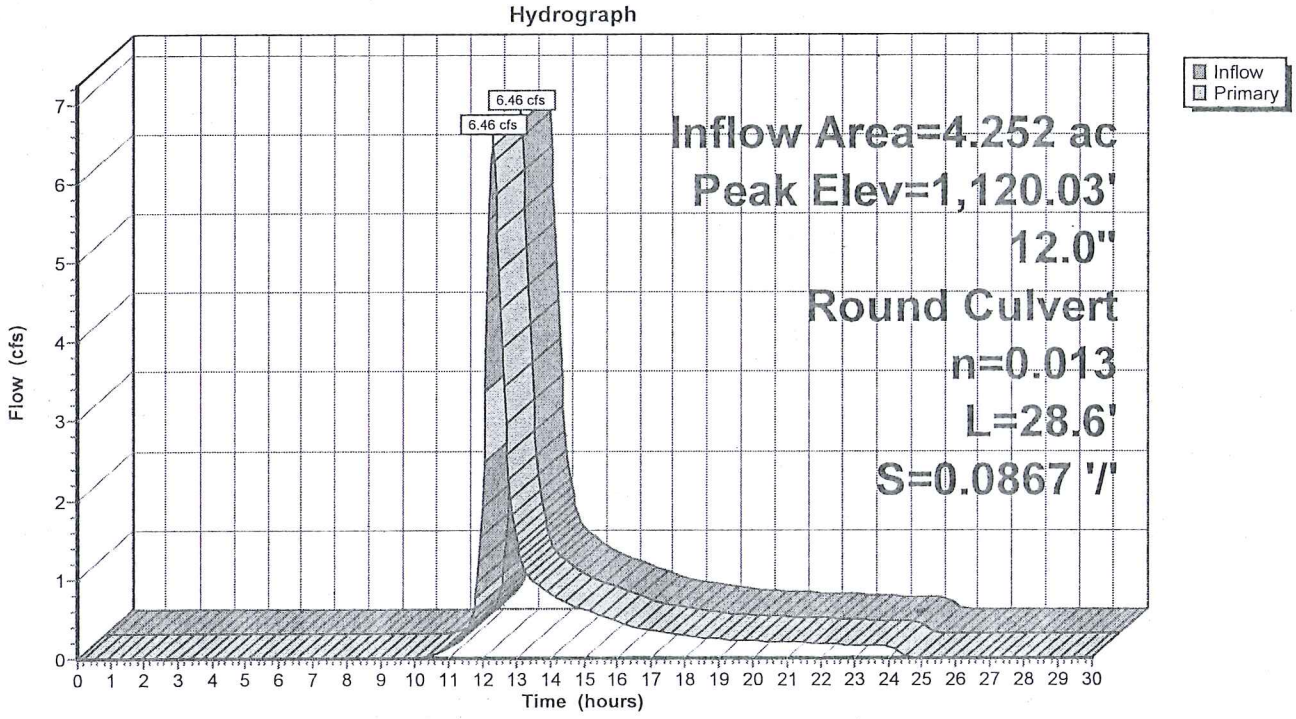
Inflow Area = 4.252 ac, 2.48% Impervious, Inflow Depth = 2.01" for 25-Year event
Inflow = 6.46 cfs @ 12.30 hrs, Volume= 0.714 af
Outflow = 6.46 cfs @ 12.30 hrs, Volume= 0.714 af, Atten= 0%, Lag= 0.0 min
Primary = 6.46 cfs @ 12.30 hrs, Volume= 0.714 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,120.03' @ 12.30 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,116.61'	**12.0" Round Culvert** L= 28.6' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,116.61' / 1,114.13' S= 0.0867 '/' Cc= 0.900 n= 0.013 Cast iron, coated, Flow Area= 0.79 sf

Primary OutFlow Max=6.45 cfs @ 12.30 hrs HW=1,120.02' (Free Discharge)
1=Culvert (Inlet Controls 6.45 cfs @ 8.21 fps)

Pond CULVERT#1: TO DP#1



Stage-Discharge for Pond CULVERT#1: TO DP#1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,116.61	0.00	1,117.65	2.78	1,118.69	4.75	1,119.73	6.12
1,116.63	0.00	1,117.67	2.83	1,118.71	4.78	1,119.75	6.14
1,116.65	0.01	1,117.69	2.88	1,118.73	4.81	1,119.77	6.17
1,116.67	0.02	1,117.71	2.93	1,118.75	4.84	1,119.79	6.19
1,116.69	0.03	1,117.73	2.98	1,118.77	4.87	1,119.81	6.21
1,116.71	0.04	1,117.75	3.03	1,118.79	4.90	1,119.83	6.24
1,116.73	0.06	1,117.77	3.07	1,118.81	4.93	1,119.85	6.26
1,116.75	0.09	1,117.79	3.12	1,118.83	4.96	1,119.87	6.28
1,116.77	0.11	1,117.81	3.16	1,118.85	4.99	1,119.89	6.31
1,116.79	0.14	1,117.83	3.21	1,118.87	5.02	1,119.91	6.33
1,116.81	0.17	1,117.85	3.25	1,118.89	5.05	1,119.93	6.35
1,116.83	0.20	1,117.87	3.30	1,118.91	5.07	1,119.95	6.37
1,116.85	0.24	1,117.89	3.34	1,118.93	5.10	1,119.97	6.40
1,116.87	0.28	1,117.91	3.38	1,118.95	5.13	1,119.99	6.42
1,116.89	0.32	1,117.93	3.42	1,118.97	5.16	1,120.01	6.44
1,116.91	0.37	1,117.95	3.47	1,118.99	5.19	1,120.03	**6.46**
1,116.93	0.42	1,117.97	3.51	1,119.01	5.21		
1,116.95	0.47	1,117.99	3.55	1,119.03	5.24		
1,116.97	0.52	1,118.01	3.59	1,119.05	5.27		
1,116.99	0.57	1,118.03	3.63	1,119.07	5.29		
1,117.01	0.63	1,118.05	3.67	1,119.09	5.32		
1,117.03	0.69	1,118.07	3.71	1,119.11	5.35		
1,117.05	0.75	1,118.09	3.74	1,119.13	5.37		
1,117.07	0.81	1,118.11	3.78	1,119.15	5.40		
1,117.09	0.88	1,118.13	3.82	1,119.17	5.43		
1,117.11	0.95	1,118.15	3.86	1,119.19	5.45		
1,117.13	1.01	1,118.17	3.89	1,119.21	5.48		
1,117.15	1.08	1,118.19	3.93	1,119.23	5.51		
1,117.17	1.15	1,118.21	3.97	1,119.25	5.53		
1,117.19	1.22	1,118.23	4.00	1,119.27	5.56		
1,117.21	1.30	1,118.25	4.04	1,119.29	5.58		
1,117.23	1.37	1,118.27	4.07	1,119.31	5.61		
1,117.25	1.45	1,118.29	4.11	1,119.33	5.63		
1,117.27	1.52	1,118.31	4.14	1,119.35	5.66		
1,117.29	1.60	1,118.33	4.18	1,119.37	5.69		
1,117.31	1.67	1,118.35	4.21	1,119.39	5.71		
1,117.33	1.75	1,118.37	4.24	1,119.41	5.74		
1,117.35	1.83	1,118.39	4.28	1,119.43	5.76		
1,117.37	1.90	1,118.41	4.31	1,119.45	5.78		
1,117.39	1.98	1,118.43	4.34	1,119.47	5.81		
1,117.41	2.05	1,118.45	4.38	1,119.49	5.83		
1,117.43	2.13	1,118.47	4.41	1,119.51	5.86		
1,117.45	2.20	1,118.49	4.44	1,119.53	5.88		
1,117.47	2.27	1,118.51	4.47	1,119.55	5.91		
1,117.49	2.34	1,118.53	4.51	1,119.57	5.93		
1,117.51	2.40	1,118.55	4.54	1,119.59	5.96		
1,117.53	2.47	1,118.57	4.57	1,119.61	5.98		
1,117.55	2.53	1,118.59	4.60	1,119.63	6.00		
1,117.57	2.58	1,118.61	4.63	1,119.65	6.03		
1,117.59	2.63	1,118.63	4.66	1,119.67	6.05		
1,117.61	2.67	1,118.65	4.69	1,119.69	6.07		
1,117.63	2.73	1,118.67	4.72	1,119.71	6.10		

Summary for Pond CULVERT#2: TO DP#1

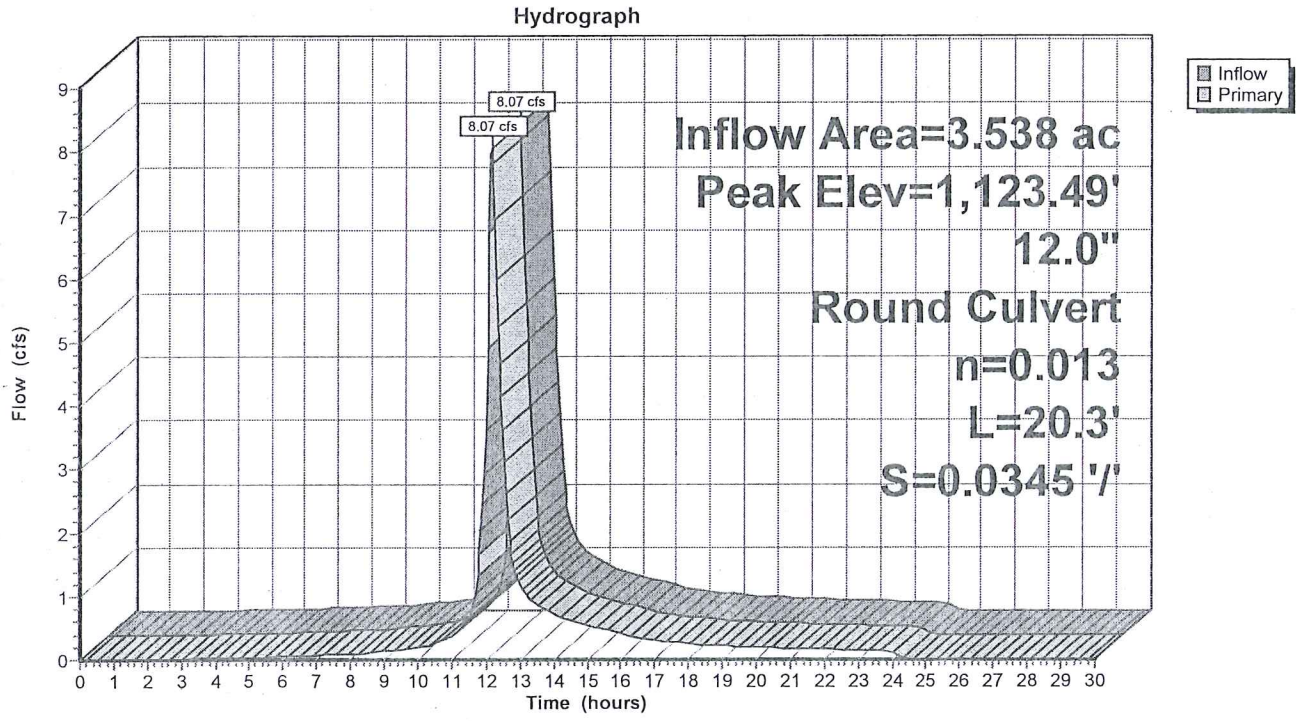
Inflow Area = 3.538 ac, 24.19% Impervious, Inflow Depth = 2.63" for 25-Year event
Inflow = 8.07 cfs @ 12.17 hrs, Volume= 0.774 af
Outflow = 8.07 cfs @ 12.17 hrs, Volume= 0.774 af, Atten= 0%, Lag= 0.0 min
Primary = 8.07 cfs @ 12.17 hrs, Volume= 0.774 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,123.49' @ 12.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,118.45'	**12.0" Round Culvert** L= 20.3' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,118.45' / 1,117.75' S= 0.0345 '/' Cc= 0.900 n= 0.013 Cast iron, coated, Flow Area= 0.79 sf

Primary OutFlow Max=7.90 cfs @ 12.17 hrs HW=1,123.32' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 7.90 cfs @ 10.06 fps)

Pond CULVERT#2: TO DP#1



Stage-Discharge for Pond CULVERT#2: TO DP#1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,118.45	0.00	1,121.05	5.48
1,118.50	0.01	1,121.10	5.55
1,118.55	0.04	1,121.15	5.61
1,118.60	0.10	1,121.20	5.67
1,118.65	0.17	1,121.25	5.74
1,118.70	0.26	1,121.30	5.80
1,118.75	0.37	1,121.35	5.86
1,118.80	0.49	1,121.40	5.92
1,118.85	0.63	1,121.45	5.98
1,118.90	0.78	1,121.50	6.04
1,118.95	0.95	1,121.55	6.10
1,119.00	1.12	1,121.60	6.16
1,119.05	1.30	1,121.65	6.21
1,119.10	1.48	1,121.70	6.27
1,119.15	1.67	1,121.75	6.33
1,119.20	1.86	1,121.80	6.38
1,119.25	2.05	1,121.85	6.44
1,119.30	2.23	1,121.90	6.50
1,119.35	2.40	1,121.95	6.55
1,119.40	2.56	1,122.00	6.60
1,119.45	2.67	1,122.05	6.66
1,119.50	2.80	1,122.10	6.71
1,119.55	2.93	1,122.15	6.76
1,119.60	3.05	1,122.20	6.82
1,119.65	3.16	1,122.25	6.87
1,119.70	3.28	1,122.30	6.92
1,119.75	3.38	1,122.35	6.97
1,119.80	3.49	1,122.40	7.02
1,119.85	3.59	1,122.45	7.07
1,119.90	3.69	1,122.50	7.13
1,119.95	3.78	1,122.55	7.18
1,120.00	3.88	1,122.60	7.22
1,120.05	3.97	1,122.65	7.27
1,120.10	4.06	1,122.70	7.32
1,120.15	4.14	1,122.75	7.37
1,120.20	4.23	1,122.80	7.42
1,120.25	4.31	1,122.85	7.47
1,120.30	4.39	1,122.90	7.52
1,120.35	4.47	1,122.95	7.56
1,120.40	4.55	1,123.00	7.61
1,120.45	4.63	1,123.05	7.66
1,120.50	4.71	1,123.10	7.70
1,120.55	4.78	1,123.15	7.75
1,120.60	4.86	1,123.20	7.80
1,120.65	4.93	1,123.25	7.84
1,120.70	5.00	1,123.30	7.89
1,120.75	5.07	1,123.35	7.93
1,120.80	5.14	1,123.40	**7.98**
1,120.85	5.21		
1,120.90	5.28		
1,120.95	5.35		
1,121.00	5.41		

Summary for Pond DCBH: TO DP#4

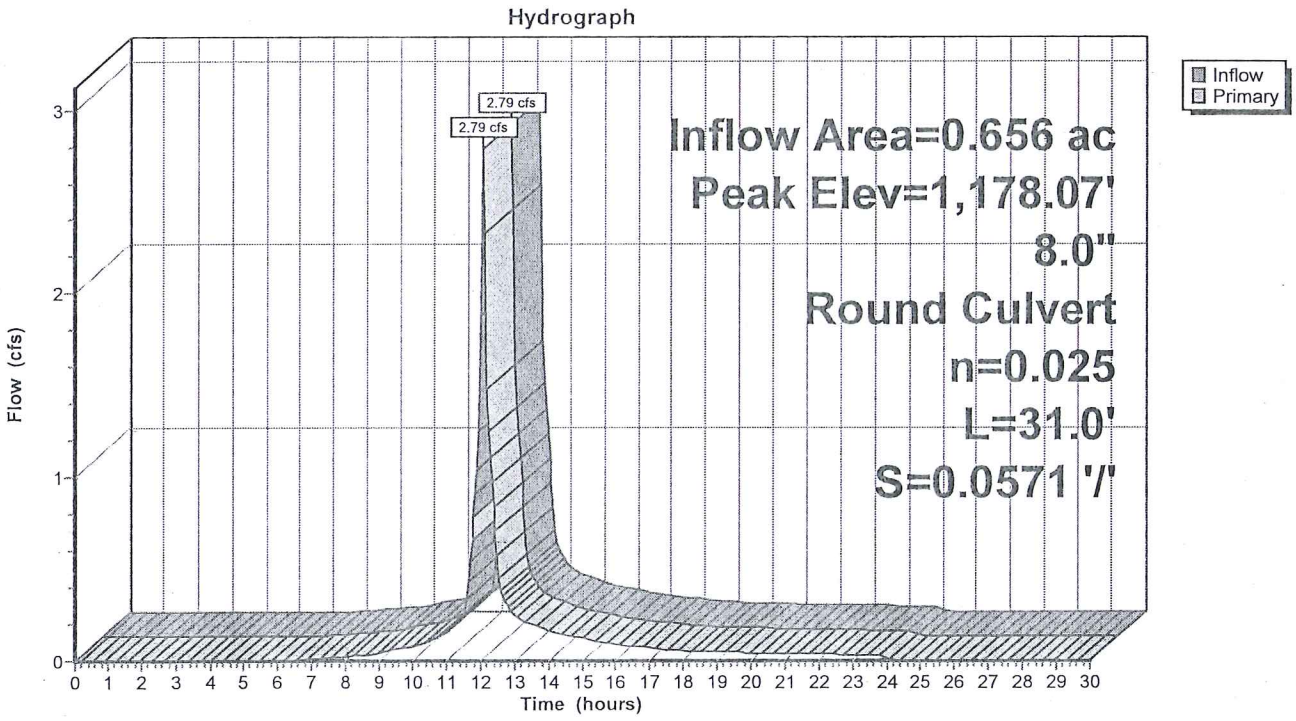
Inflow Area = 0.656 ac, 44.69% Impervious, Inflow Depth = 3.65" for 25-Year event
Inflow = 2.79 cfs @ 12.07 hrs, Volume= 0.199 af
Outflow = 2.79 cfs @ 12.07 hrs, Volume= 0.199 af, Atten= 0%, Lag= 0.0 min
Primary = 2.79 cfs @ 12.07 hrs, Volume= 0.199 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,178.07' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,171.67'	**8.0" Round Culvert** L= 31.0' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,171.67' / 1,169.90' S= 0.0571 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.35 sf

Primary OutFlow Max=2.68 cfs @ 12.07 hrs HW=1,177.61' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 2.68 cfs @ 7.68 fps)

Pond DCBH: TO DP#4



Stage-Discharge for Pond DCBH: TO DP#4

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,171.67	0.00	1,173.75	1.80	1,175.83	2.32
1,171.71	0.01	1,173.79	1.81	1,175.87	2.33
1,171.75	0.02	1,173.83	1.83	1,175.91	2.34
1,171.79	0.05	1,173.87	1.84	1,175.95	2.35
1,171.83	0.09	1,173.91	1.85	1,175.99	2.35
1,171.87	0.13	1,173.95	1.86	1,176.03	2.36
1,171.91	0.19	1,173.99	1.87	1,176.07	2.37
1,171.95	0.25	1,174.03	1.88	1,176.11	2.38
1,171.99	0.32	1,174.07	1.89	1,176.15	2.39
1,172.03	0.39	1,174.11	1.90	1,176.19	2.40
1,172.07	0.47	1,174.15	1.91	1,176.23	2.41
1,172.11	0.55	1,174.19	1.92	1,176.27	2.41
1,172.15	0.63	1,174.23	1.93	1,176.31	2.42
1,172.19	0.72	1,174.27	1.95	1,176.35	2.43
1,172.23	0.80	1,174.31	1.96	1,176.39	2.44
1,172.27	0.87	1,174.35	1.97	1,176.43	2.45
1,172.31	0.94	1,174.39	1.98	1,176.47	2.46
1,172.35	0.99	1,174.43	1.99	1,176.51	2.46
1,172.39	1.05	1,174.47	2.00	1,176.55	2.47
1,172.43	1.10	1,174.51	2.01	1,176.59	2.48
1,172.47	1.15	1,174.55	2.02	1,176.63	2.49
1,172.51	1.20	1,174.59	2.03	1,176.67	2.50
1,172.55	1.24	1,174.63	2.04	1,176.71	2.51
1,172.59	1.29	1,174.67	2.05	1,176.75	2.51
1,172.63	1.33	1,174.71	2.06	1,176.79	2.52
1,172.67	1.37	1,174.75	2.07	1,176.83	2.53
1,172.71	1.41	1,174.79	2.08	1,176.87	2.54
1,172.75	1.45	1,174.83	2.09	1,176.91	2.55
1,172.79	1.49	1,174.87	2.10	1,176.95	2.55
1,172.83	1.52	1,174.91	2.11	1,176.99	2.56
1,172.87	1.53	1,174.95	2.12	1,177.03	2.57
1,172.91	1.55	1,174.99	2.13	1,177.07	2.58
1,172.95	1.56	1,175.03	2.14	1,177.11	2.59
1,172.99	1.57	1,175.07	2.15	1,177.15	2.59
1,173.03	1.59	1,175.11	2.15	1,177.19	2.60
1,173.07	1.60	1,175.15	2.16	1,177.23	2.61
1,173.11	1.61	1,175.19	2.17	1,177.27	2.62
1,173.15	1.62	1,175.23	2.18	1,177.31	2.62
1,173.19	1.64	1,175.27	2.19	1,177.35	2.63
1,173.23	1.65	1,175.31	2.20	1,177.39	2.64
1,173.27	1.66	1,175.35	2.21	1,177.43	2.65
1,173.31	1.67	1,175.39	2.22	1,177.47	2.66
1,173.35	1.69	1,175.43	2.23	1,177.51	2.66
1,173.39	1.70	1,175.47	2.24	1,177.55	2.67
1,173.43	1.71	1,175.51	2.25	1,177.59	2.68
1,173.47	1.72	1,175.55	2.26	1,177.63	2.69
1,173.51	1.73	1,175.59	2.27	1,177.67	**2.69**
1,173.55	1.75	1,175.63	2.27		
1,173.59	1.76	1,175.67	2.28		
1,173.63	1.77	1,175.71	2.29		
1,173.67	1.78	1,175.75	2.30		
1,173.71	1.79	1,175.79	2.31		

Summary for Pond DCBI: TO DCB-F

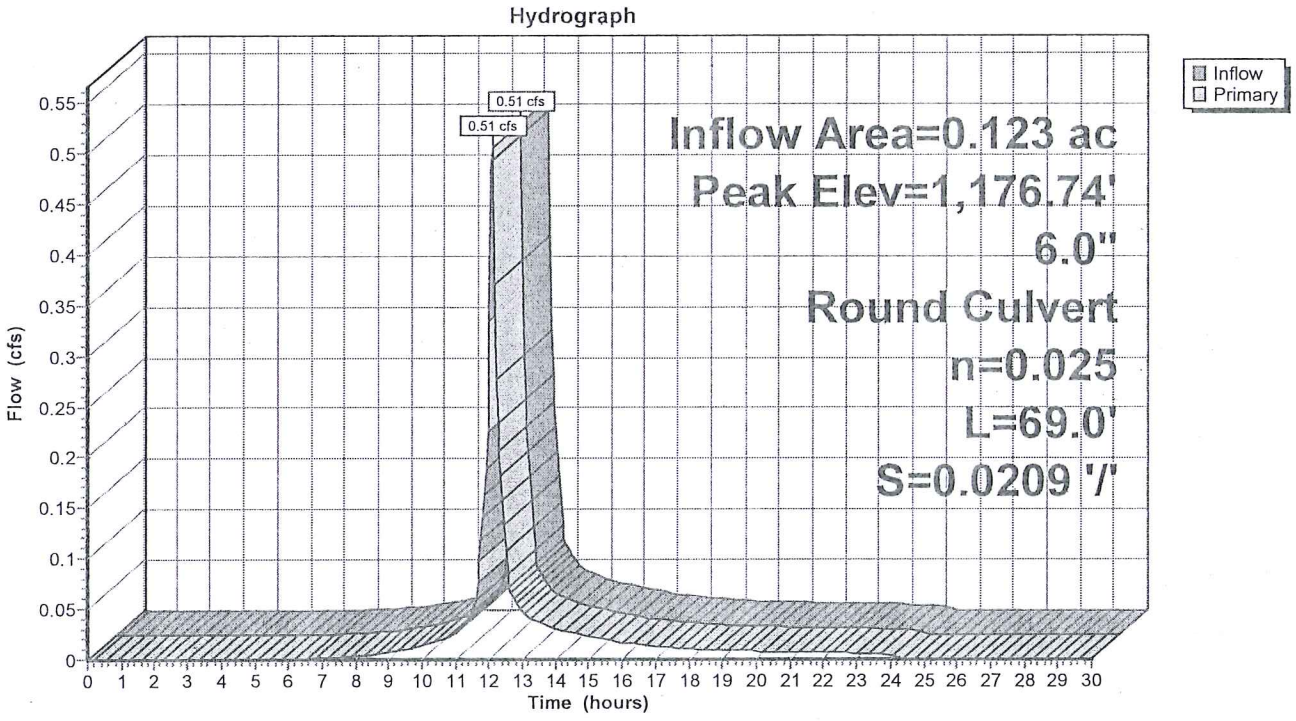
Inflow Area = 0.123 ac, 42.29% Impervious, Inflow Depth = 3.55" for 25-Year event
Inflow = 0.51 cfs @ 12.08 hrs, Volume= 0.036 af
Outflow = 0.51 cfs @ 12.08 hrs, Volume= 0.036 af, Atten= 0%, Lag= 0.0 min
Primary = 0.51 cfs @ 12.08 hrs, Volume= 0.036 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,176.74' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,175.50'	**6.0" Round Culvert** L= 69.0' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,175.50' / 1,174.06' S= 0.0209 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.20 sf

Primary OutFlow Max=0.49 cfs @ 12.08 hrs HW=1,176.65' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.49 cfs @ 2.49 fps)

Pond DCBI: TO DCB-F



Stage-Discharge for Pond DCBI: TO DCB-F

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,175.50	0.00	1,176.02	0.40	1,176.54	0.48
1,175.51	0.00	1,176.03	0.41	1,176.55	0.48
1,175.52	0.00	1,176.04	0.42	1,176.56	0.48
1,175.53	0.00	1,176.05	0.42	1,176.57	0.48
1,175.54	0.00	1,176.06	0.43	1,176.58	0.48
1,175.55	0.00	1,176.07	0.44	1,176.59	0.48
1,175.56	0.01	1,176.08	0.44	1,176.60	0.48
1,175.57	0.01	1,176.09	0.45	1,176.61	0.48
1,175.58	0.01	1,176.10	0.45	1,176.62	0.49
1,175.59	0.02	1,176.11	0.45	1,176.63	0.49
1,175.60	0.02	1,176.12	0.46	1,176.64	0.49
1,175.61	0.02	1,176.13	0.46	1,176.65	0.49
1,175.62	0.03	1,176.14	0.46	1,176.66	0.49
1,175.63	0.03	1,176.15	0.45	1,176.67	0.49
1,175.64	0.04	1,176.16	0.45	1,176.68	0.49
1,175.65	0.05	1,176.17	0.43	1,176.69	**0.49**
1,175.66	0.05	1,176.18	0.43		
1,175.67	0.06	1,176.19	0.43		
1,175.68	0.07	1,176.20	0.43		
1,175.69	0.07	1,176.21	0.43		
1,175.70	0.08	1,176.22	0.44		
1,175.71	0.09	1,176.23	0.44		
1,175.72	0.10	1,176.24	0.44		
1,175.73	0.11	1,176.25	0.44		
1,175.74	0.12	1,176.26	0.44		
1,175.75	0.13	1,176.27	0.44		
1,175.76	0.13	1,176.28	0.44		
1,175.77	0.14	1,176.29	0.45		
1,175.78	0.15	1,176.30	0.45		
1,175.79	0.16	1,176.31	0.45		
1,175.80	0.17	1,176.32	0.45		
1,175.81	0.18	1,176.33	0.45		
1,175.82	0.19	1,176.34	0.45		
1,175.83	0.21	1,176.35	0.45		
1,175.84	0.22	1,176.36	0.45		
1,175.85	0.23	1,176.37	0.46		
1,175.86	0.24	1,176.38	0.46		
1,175.87	0.25	1,176.39	0.46		
1,175.88	0.26	1,176.40	0.46		
1,175.89	0.27	1,176.41	0.46		
1,175.90	0.28	1,176.42	0.46		
1,175.91	0.29	1,176.43	0.46		
1,175.92	0.30	1,176.44	0.46		
1,175.93	0.31	1,176.45	0.47		
1,175.94	0.32	1,176.46	0.47		
1,175.95	0.33	1,176.47	0.47		
1,175.96	0.34	1,176.48	0.47		
1,175.97	0.35	1,176.49	0.47		
1,175.98	0.36	1,176.50	0.47		
1,175.99	0.37	1,176.51	0.47		
1,176.00	0.38	1,176.52	0.47		
1,176.01	0.39	1,176.53	0.47		

Summary for Pond DCBJ: TO DCB-K

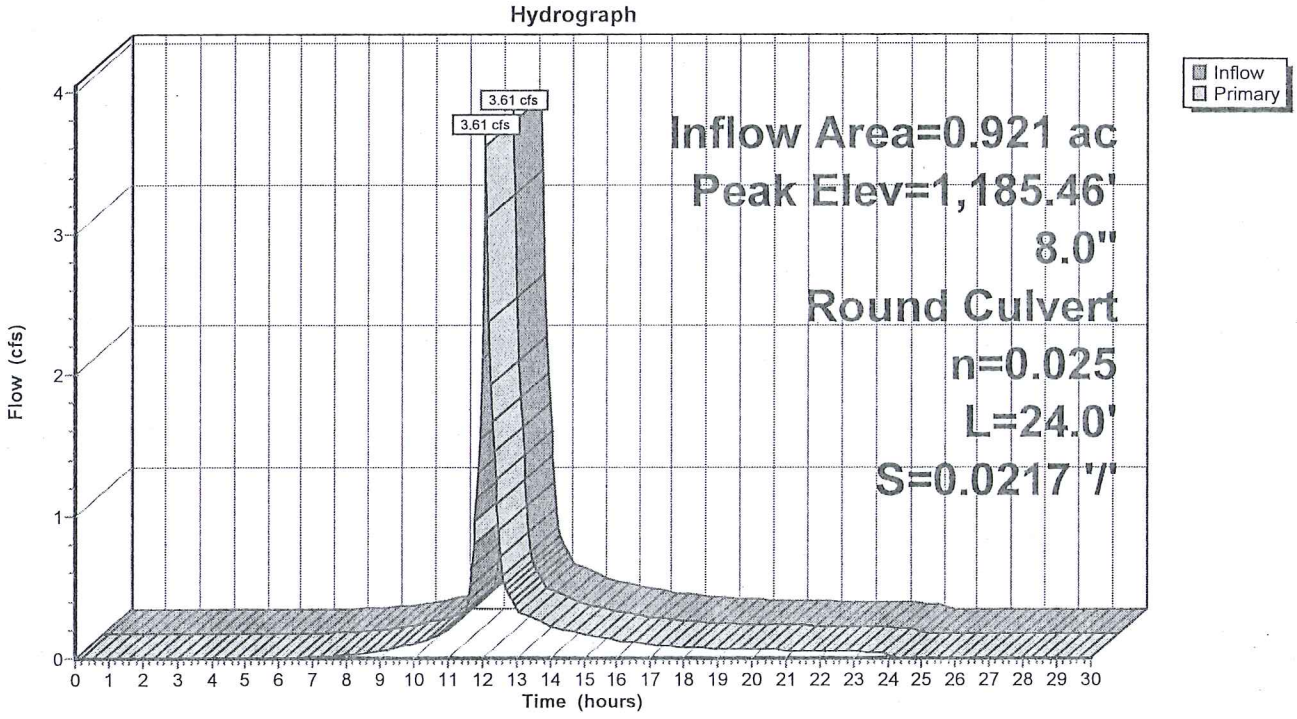
Inflow Area = 0.921 ac, 43.25% Impervious, Inflow Depth = 3.55" for 25-Year event
Inflow = 3.61 cfs @ 12.10 hrs, Volume= 0.272 af
Outflow = 3.61 cfs @ 12.10 hrs, Volume= 0.272 af, Atten= 0%, Lag= 0.0 min
Primary = 3.61 cfs @ 12.10 hrs, Volume= 0.272 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,185.46' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,174.86'	**8.0" Round Culvert** L= 24.0' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,174.86' / 1,174.34' S= 0.0217 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.35 sf

Primary OutFlow Max=3.61 cfs @ 12.10 hrs HW=1,185.45' (Free Discharge)
1=Culvert (Barrel Controls 3.61 cfs @ 10.35 fps)

Pond DCBJ: TO DCB-K



Stage-Discharge for Pond DCBJ: TO DCB-K

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,174.86	0.00	1,177.98	1.93	1,181.10	2.76	1,184.22	3.39
1,174.92	0.01	1,178.04	1.95	1,181.16	2.77	1,184.28	3.40
1,174.98	0.04	1,178.10	1.97	1,181.22	2.79	1,184.34	3.41
1,175.04	0.08	1,178.16	1.98	1,181.28	2.80	1,184.40	3.42
1,175.10	0.14	1,178.22	2.00	1,181.34	2.81	1,184.46	3.44
1,175.16	0.22	1,178.28	2.02	1,181.40	2.83	1,184.52	3.45
1,175.22	0.31	1,178.34	2.04	1,181.46	2.84	1,184.58	3.46
1,175.28	0.40	1,178.40	2.06	1,181.52	2.85	1,184.64	3.47
1,175.34	0.50	1,178.46	2.08	1,181.58	2.86	1,184.70	3.48
1,175.40	0.61	1,178.52	2.09	1,181.64	2.88	1,184.76	3.49
1,175.46	0.71	1,178.58	2.11	1,181.70	2.89	1,184.82	3.50
1,175.52	0.81	1,178.64	2.13	1,181.76	2.90	1,184.88	3.51
1,175.58	0.89	1,178.70	2.15	1,181.82	2.92	1,184.94	3.52
1,175.64	0.96	1,178.76	2.16	1,181.88	2.93	1,185.00	3.53
1,175.70	1.00	1,178.82	2.18	1,181.94	2.94	1,185.06	3.54
1,175.76	0.97	1,178.88	2.20	1,182.00	2.96	1,185.12	3.55
1,175.82	1.01	1,178.94	2.22	1,182.06	2.97	1,185.18	3.56
1,175.88	1.04	1,179.00	2.23	1,182.12	2.98	1,185.24	3.57
1,175.94	1.08	1,179.06	2.25	1,182.18	2.99	1,185.30	3.59
1,176.00	1.11	1,179.12	2.27	1,182.24	3.01	1,185.36	3.60
1,176.06	1.15	1,179.18	2.28	1,182.30	3.02	1,185.42	**3.61**
1,176.12	1.18	1,179.24	2.30	1,182.36	3.03		
1,176.18	1.21	1,179.30	2.32	1,182.42	3.04		
1,176.24	1.24	1,179.36	2.33	1,182.48	3.05		
1,176.30	1.27	1,179.42	2.35	1,182.54	3.07		
1,176.36	1.30	1,179.48	2.36	1,182.60	3.08		
1,176.42	1.33	1,179.54	2.38	1,182.66	3.09		
1,176.48	1.36	1,179.60	2.39	1,182.72	3.10		
1,176.54	1.38	1,179.66	2.41	1,182.78	3.12		
1,176.60	1.41	1,179.72	2.43	1,182.84	3.13		
1,176.66	1.44	1,179.78	2.44	1,182.90	3.14		
1,176.72	1.46	1,179.84	2.46	1,182.96	3.15		
1,176.78	1.49	1,179.90	2.47	1,183.02	3.16		
1,176.84	1.51	1,179.96	2.49	1,183.08	3.18		
1,176.90	1.54	1,180.02	2.50	1,183.14	3.19		
1,176.96	1.56	1,180.08	2.52	1,183.20	3.20		
1,177.02	1.59	1,180.14	2.53	1,183.26	3.21		
1,177.08	1.61	1,180.20	2.55	1,183.32	3.22		
1,177.14	1.63	1,180.26	2.56	1,183.38	3.23		
1,177.20	1.65	1,180.32	2.58	1,183.44	3.25		
1,177.26	1.68	1,180.38	2.59	1,183.50	3.26		
1,177.32	1.70	1,180.44	2.60	1,183.56	3.27		
1,177.38	1.72	1,180.50	2.62	1,183.62	3.28		
1,177.44	1.74	1,180.56	2.63	1,183.68	3.29		
1,177.50	1.76	1,180.62	2.65	1,183.74	3.30		
1,177.56	1.79	1,180.68	2.66	1,183.80	3.31		
1,177.62	1.81	1,180.74	2.68	1,183.86	3.32		
1,177.68	1.83	1,180.80	2.69	1,183.92	3.34		
1,177.74	1.85	1,180.86	2.70	1,183.98	3.35		
1,177.80	1.87	1,180.92	2.72	1,184.04	3.36		
1,177.86	1.89	1,180.98	2.73	1,184.10	3.37		
1,177.92	1.91	1,181.04	2.74	1,184.16	3.38		

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E11: TO WET Runoff Area=70,866 sf 3.65% Impervious Runoff Depth=2.63"
Flow Length=109' Slope=0.1500 '/' Tc=8.2 min CN=64 Runoff=4.48 cfs 0.356 af

Subcatchment E12: TO CULVERT#1 Runoff Area=185,198 sf 2.48% Impervious Runoff Depth=2.91"
Flow Length=683' Tc=20.6 min CN=67 Runoff=9.53 cfs 1.032 af

Subcatchment E14: TO CULVERT #2 Runoff Area=117,393 sf 2.76% Impervious Runoff Depth=2.82"
Flow Length=490' Tc=14.6 min CN=66 Runoff=6.67 cfs 0.633 af

Subcatchment E16: TO DCB-B Runoff Area=6,163 sf 78.74% Impervious Runoff Depth=5.68"
Flow Length=121' Slope=0.0500 '/' Tc=5.0 min CN=93 Runoff=0.88 cfs 0.067 af

Subcatchment E17: TO DCB-A Runoff Area=36,743 sf 92.67% Impervious Runoff Depth=6.03"
Flow Length=257' Tc=5.0 min CN=96 Runoff=5.36 cfs 0.424 af

Subcatchment E18: TO DP#2 Runoff Area=31,291 sf 68.41% Impervious Runoff Depth=5.33"
Flow Length=260' Tc=5.0 min CN=90 Runoff=4.28 cfs 0.319 af

Subcatchment E19: BUILDING Runoff Area=130,896 sf 100.00% Impervious Runoff Depth=6.26"
Tc=0.0 min CN=98 Runoff=21.92 cfs 1.568 af

Subcatchment E20: TO DCB-H Runoff Area=28,596 sf 44.69% Impervious Runoff Depth=4.78"
Flow Length=336' Tc=5.0 min CN=85 Runoff=3.61 cfs 0.261 af

Subcatchment E21: TO DCB-I Runoff Area=5,372 sf 42.29% Impervious Runoff Depth=4.67"
Flow Length=202' Tc=5.2 min CN=84 Runoff=0.66 cfs 0.048 af

Subcatchment E22: TO DCB-J Runoff Area=34,739 sf 43.40% Impervious Runoff Depth=4.67"
Flow Length=315' Tc=7.1 min CN=84 Runoff=4.07 cfs 0.310 af

Subcatchment E23: TO DCB-C Runoff Area=5,658 sf 89.66% Impervious Runoff Depth=6.03"
Flow Length=80' Slope=0.0080 '/' Tc=5.0 min CN=96 Runoff=0.82 cfs 0.065 af

Subcatchment E24: TO DCB-D Runoff Area=11,793 sf 83.76% Impervious Runoff Depth=5.79"
Flow Length=148' Slope=0.0600 '/' Tc=5.1 min CN=94 Runoff=1.68 cfs 0.131 af

Subcatchment E25: TO DCBE Runoff Area=5,688 sf 80.36% Impervious Runoff Depth=5.68"
Flow Length=145' Slope=0.0900 '/' Tc=5.0 min CN=93 Runoff=0.81 cfs 0.062 af

Subcatchment E26: TO DCB-F Runoff Area=3,403 sf 61.92% Impervious Runoff Depth=5.22"
Flow Length=142' Slope=0.0700 '/' Tc=5.0 min CN=89 Runoff=0.46 cfs 0.034 af

Subcatchment E27: TO DCB-G Runoff Area=9,638 sf 40.69% Impervious Runoff Depth=4.67"
Flow Length=181' Slope=0.0080 '/' Tc=5.0 min CN=84 Runoff=1.19 cfs 0.086 af

Reach DCB-K: TO DP#5 Inflow=4.71 cfs 0.358 af
Outflow=4.71 cfs 0.358 af

Reach DCBA: TO DMH-A Avg. Flow Depth=0.43' Max Vel=14.42 fps Inflow=5.36 cfs 0.424 af
15.0" Round Pipe n=0.011 L=10.0' S=0.0790 '/' Capacity=21.46 cfs Outflow=5.35 cfs 0.424 af

Reach DCBB: TO DMH-B Inflow=0.88 cfs 0.067 af
Outflow=0.88 cfs 0.067 af

Reach DCBC: TO DMH-B Inflow=0.82 cfs 0.065 af
Outflow=0.82 cfs 0.065 af

Reach DCBD: TO DMH-C Inflow=1.68 cfs 0.131 af
Outflow=1.68 cfs 0.131 af

Reach DCBE: TO DCB-F Avg. Flow Depth=0.76' Max Vel=6.41 fps Inflow=4.14 cfs 0.325 af
12.0" Round Pipe n=0.011 L=26.0' S=0.0112 '/' Capacity=4.45 cfs Outflow=4.13 cfs 0.325 af

Reach DCBF: TO DMH-D Inflow=4.59 cfs 0.359 af
Outflow=4.59 cfs 0.359 af

Reach DCBG: TO DP#3 Inflow=5.77 cfs 0.445 af
Outflow=5.77 cfs 0.445 af

Reach DMHA: TO DP#1 Avg. Flow Depth=0.60' Max Vel=9.05 fps Inflow=5.35 cfs 0.424 af
15.0" Round Pipe n=0.011 L=14.0' S=0.0221 '/' Capacity=11.36 cfs Outflow=5.34 cfs 0.424 af

Reach DMHB: TO DMH-C Inflow=1.70 cfs 0.132 af
Outflow=1.70 cfs 0.132 af

Reach DMHC: TO DCB-E Avg. Flow Depth=0.43' Max Vel=10.34 fps Inflow=3.38 cfs 0.263 af
12.0" Round Pipe n=0.010 L=85.0' S=0.0358 '/' Capacity=8.76 cfs Outflow=3.34 cfs 0.263 af

Reach DMHD: TO DCB-G Inflow=4.59 cfs 0.359 af
Outflow=4.59 cfs 0.359 af

Reach DP#1: CRYSTAL LAKE Inflow=22.23 cfs 2.444 af
Outflow=22.23 cfs 2.444 af

Reach DP#2: EX RAIN GARDEN Inflow=4.28 cfs 0.319 af
Outflow=4.28 cfs 0.319 af

Reach DP#3: DMH-E Inflow=5.77 cfs 0.445 af
Outflow=5.77 cfs 0.445 af

Reach DP#4: DCB-J Inflow=3.61 cfs 0.261 af
Outflow=3.61 cfs 0.261 af

Reach DP#5: DCB-K Inflow=4.71 cfs 0.358 af
Outflow=4.71 cfs 0.358 af

Reach OL1: OVERLAND FLOW Avg. Flow Depth=0.14' Max Vel=3.44 fps Inflow=5.34 cfs 0.424 af
n=0.070 L=20.0' S=0.4500 '/' Capacity=216.87 cfs Outflow=5.30 cfs 0.424 af

Reach OL2: OVERLAND FLOW Avg. Flow Depth=0.17' Max Vel=2.54 fps Inflow=5.30 cfs 0.424 af
n=0.070 L=243.0' S=0.1770 '/' Capacity=136.00 cfs Outflow=4.97 cfs 0.424 af

Reach OL3: OVERLAND FLOW Avg. Flow Depth=0.25' Max Vel=1.57 fps Inflow=4.97 cfs 0.424 af
n=0.070 L=45.0' S=0.0444 '/' Capacity=68.16 cfs Outflow=4.88 cfs 0.424 af

Reach OL4: OVERLAND FLOW Avg. Flow Depth=0.25' Max Vel=3.47 fps Inflow=11.06 cfs 1.056 af
n=0.070 L=74.0' S=0.2162 '/' Capacity=150.33 cfs Outflow=10.89 cfs 1.056 af

Reach OL5: OVERLAND FLOW Avg. Flow Depth=0.26' Max Vel=2.86 fps Inflow=9.53 cfs 1.032 af
n=0.070 L=102.0' S=0.1382 '/' Capacity=120.20 cfs Outflow=9.48 cfs 1.032 af

Pond CULVERT#1: TO DP#1 Peak Elev=1,123.46' Inflow=9.53 cfs 1.032 af
12.0" Round Culvert n=0.013 L=28.6' S=0.0867 '/' Outflow=9.53 cfs 1.032 af

Pond CULVERT#2: TO DP#1 Peak Elev=1,127.49' Inflow=11.06 cfs 1.056 af
12.0" Round Culvert n=0.013 L=20.3' S=0.0345 '/' Outflow=11.06 cfs 1.056 af

Pond DCBH: TO DP#4 Peak Elev=1,183.18' Inflow=3.61 cfs 0.261 af
8.0" Round Culvert n=0.025 L=31.0' S=0.0571 '/' Outflow=3.61 cfs 0.261 af

Pond DCBI: TO DCB-F Peak Elev=1,178.31' Inflow=0.66 cfs 0.048 af
6.0" Round Culvert n=0.025 L=69.0' S=0.0209 '/' Outflow=0.66 cfs 0.048 af

Pond DCBJ: TO DCB-K Peak Elev=1,192.75' Inflow=4.71 cfs 0.358 af
8.0" Round Culvert n=0.025 L=24.0' S=0.0217 '/' Outflow=4.71 cfs 0.358 af

Total Runoff Area = 15.690 ac Runoff Volume = 5.396 af Average Runoff Depth = 4.13"
62.35% Pervious = 9.783 ac 37.65% Impervious = 5.907 ac

Summary for Subcatchment E11: TO WET

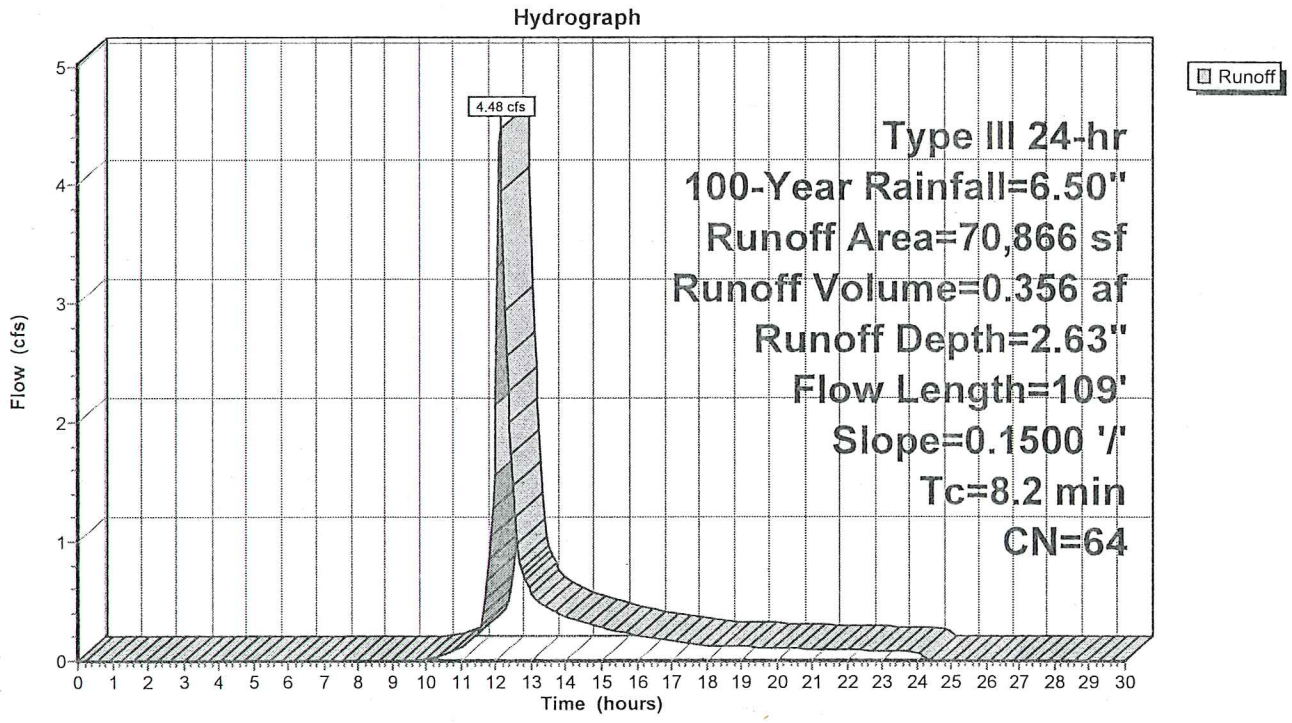
Runoff = 4.48 cfs @ 12.12 hrs, Volume= 0.356 af, Depth= 2.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
8,033	61	>75% Grass cover, Good, HSG B
30,342	55	Woods, Good, HSG B
2,584	98	Paved parking, HSG B
1,398	74	>75% Grass cover, Good, HSG C
28,509	70	Woods, Good, HSG C
70,866	64	Weighted Average
68,282		96.35% Pervious Area
2,584		3.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	75	0.1500	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.3	34	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	109	Total			

Subcatchment E11: TO WET



Summary for Subcatchment E12: TO CULVERT#1

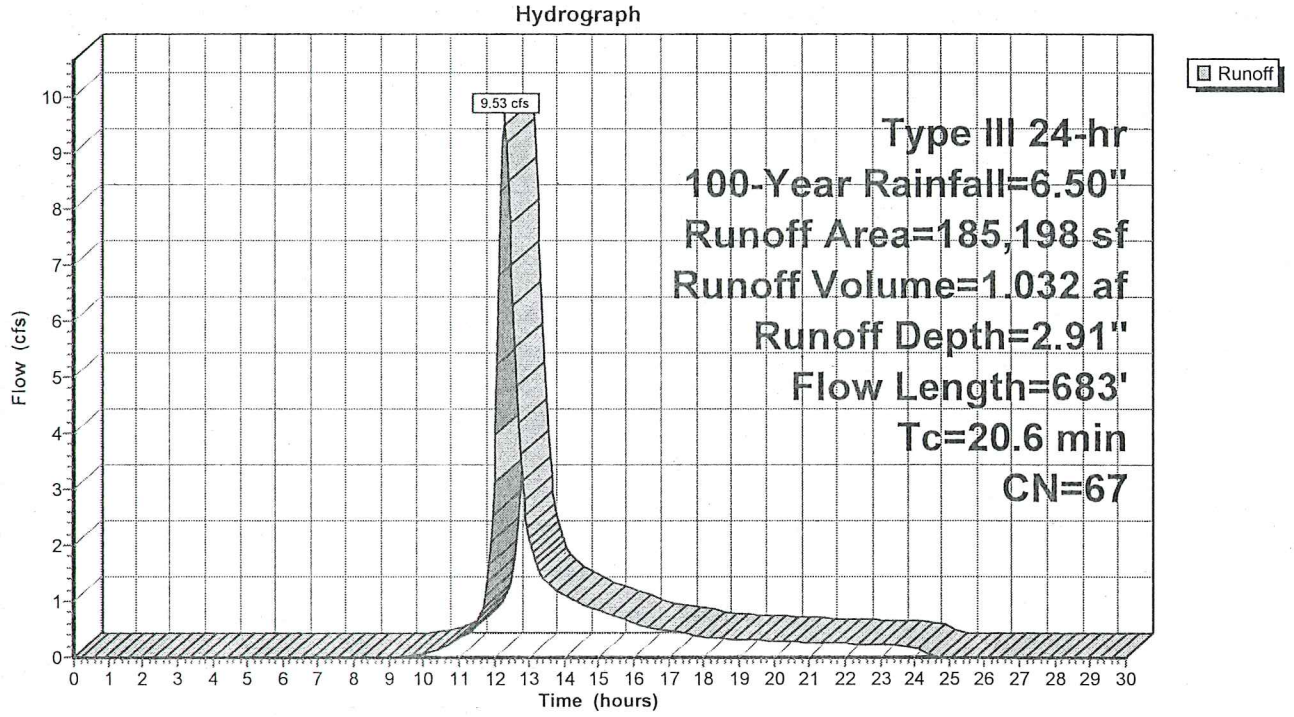
Runoff = 9.53 cfs @ 12.30 hrs, Volume= 1.032 af, Depth= 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
4,394	61	>75% Grass cover, Good, HSG B
44,375	55	Woods, Good, HSG B
3,012	98	Paved parking, HSG B
4,011	74	>75% Grass cover, Good, HSG C
127,833	70	Woods, Good, HSG C
1,573	98	Paved parking, HSG C
185,198	67	Weighted Average
180,613		97.52% Pervious Area
4,585		2.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	36	0.0700	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
3.6	39	0.2800	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
3.0	366	0.1700	2.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.1	242	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.6	683	Total			

Subcatchment E12: TO CULVERT#1



Summary for Subcatchment E14: TO CULVERT #2

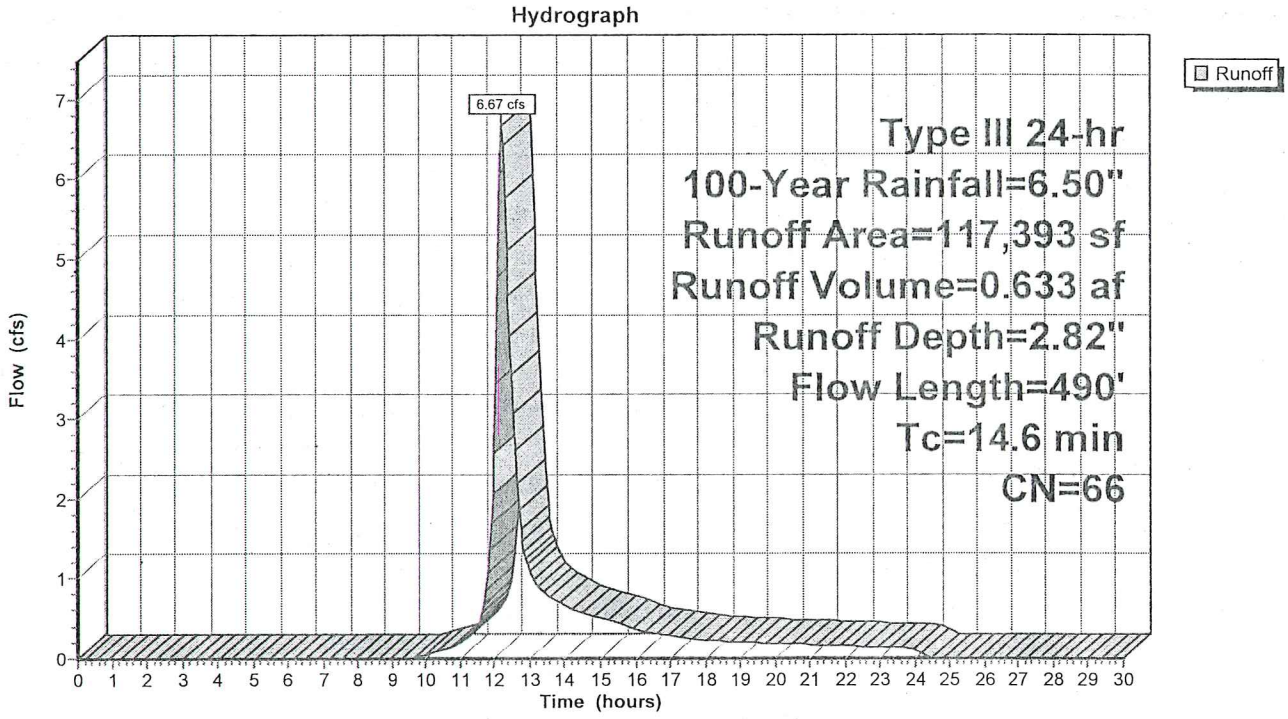
Runoff = 6.67 cfs @ 12.21 hrs, Volume= 0.633 af, Depth= 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
4,416	61	>75% Grass cover, Good, HSG B
947	98	Paved parking, HSG B
35,087	55	Woods, Good, HSG B
6,594	74	>75% Grass cover, Good, HSG C
67,351	70	Woods, Good, HSG C
2,290	98	Paved parking, HSG C
708	96	Gravel surface, HSG C
117,393	66	Weighted Average
114,156		97.24% Pervious Area
3,237		2.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	75	0.0500	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	43	0.4200	3.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.0	137	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.8	235	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.6	490	Total			

Subcatchment E14: TO CULVERT #2



Summary for Subcatchment E16: TO DCB-B

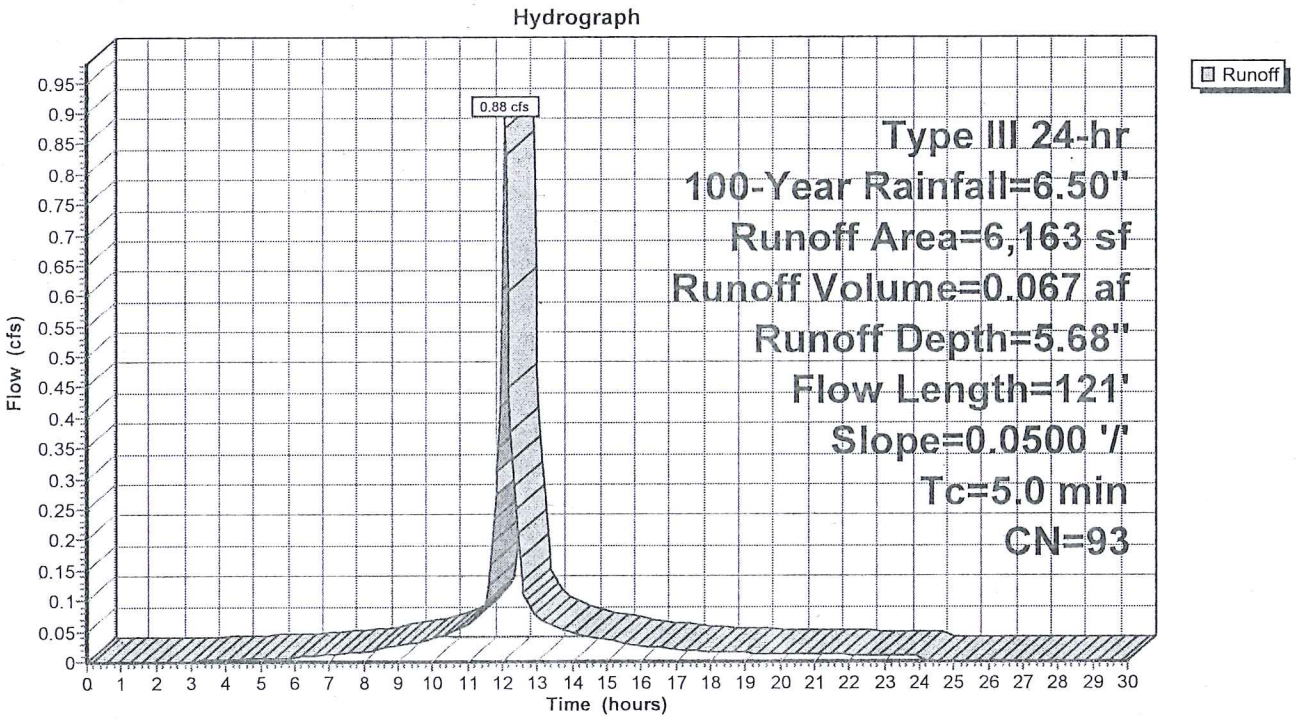
Runoff = 0.88 cfs @ 12.07 hrs, Volume= 0.067 af, Depth= 5.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
1,299	74	>75% Grass cover, Good, HSG C
4,853	98	Paved parking, HSG C
11	70	Woods, Good, HSG C
6,163	93	Weighted Average
1,310		21.26% Pervious Area
4,853		78.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	34	0.0500	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	16	0.0500	1.33		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	71	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.5	121	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E16: TO DCB-B



Summary for Subcatchment E17: TO DCB-A

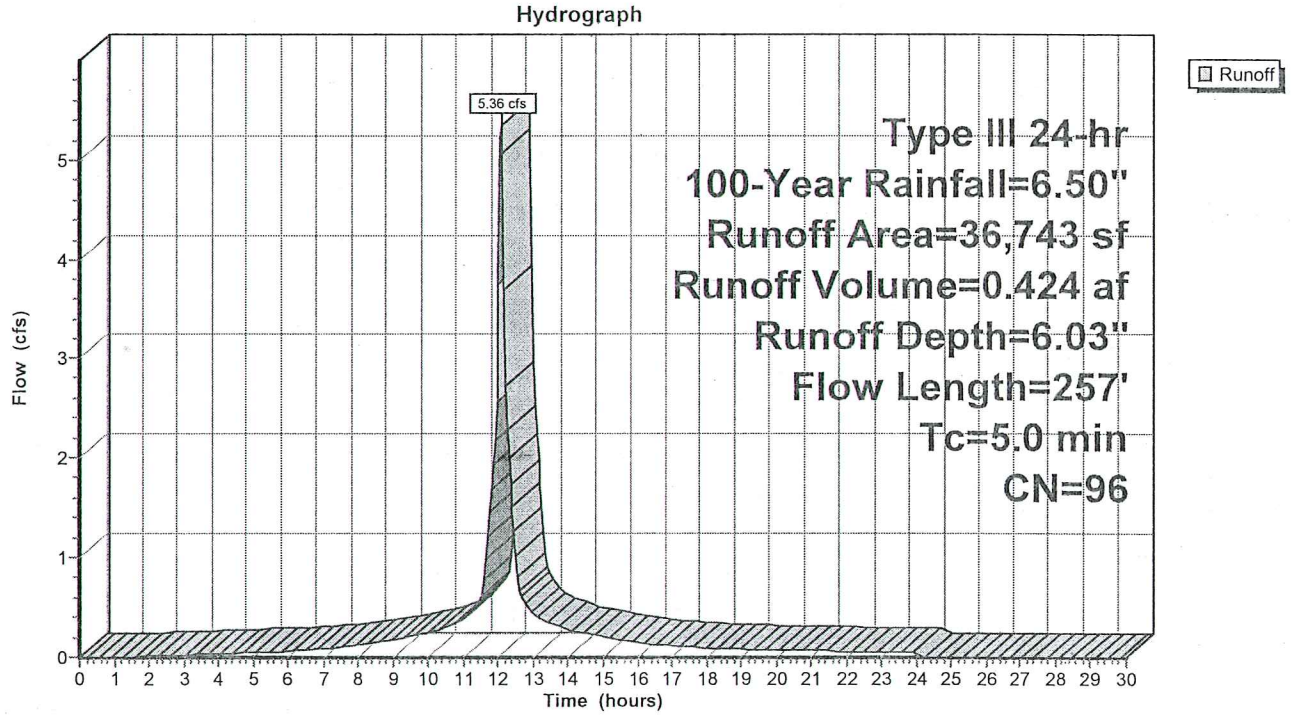
Runoff = 5.36 cfs @ 12.07 hrs, Volume= 0.424 af, Depth= 6.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
2,694	74	>75% Grass cover, Good, HSG C
34,049	98	Paved parking, HSG C
36,743	96	Weighted Average
2,694		7.33% Pervious Area
34,049		92.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	50	0.0400	1.53		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.2	41	0.0400	4.06		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	166	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	257	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E17: TO DCB-A



Summary for Subcatchment E18: TO DP#2

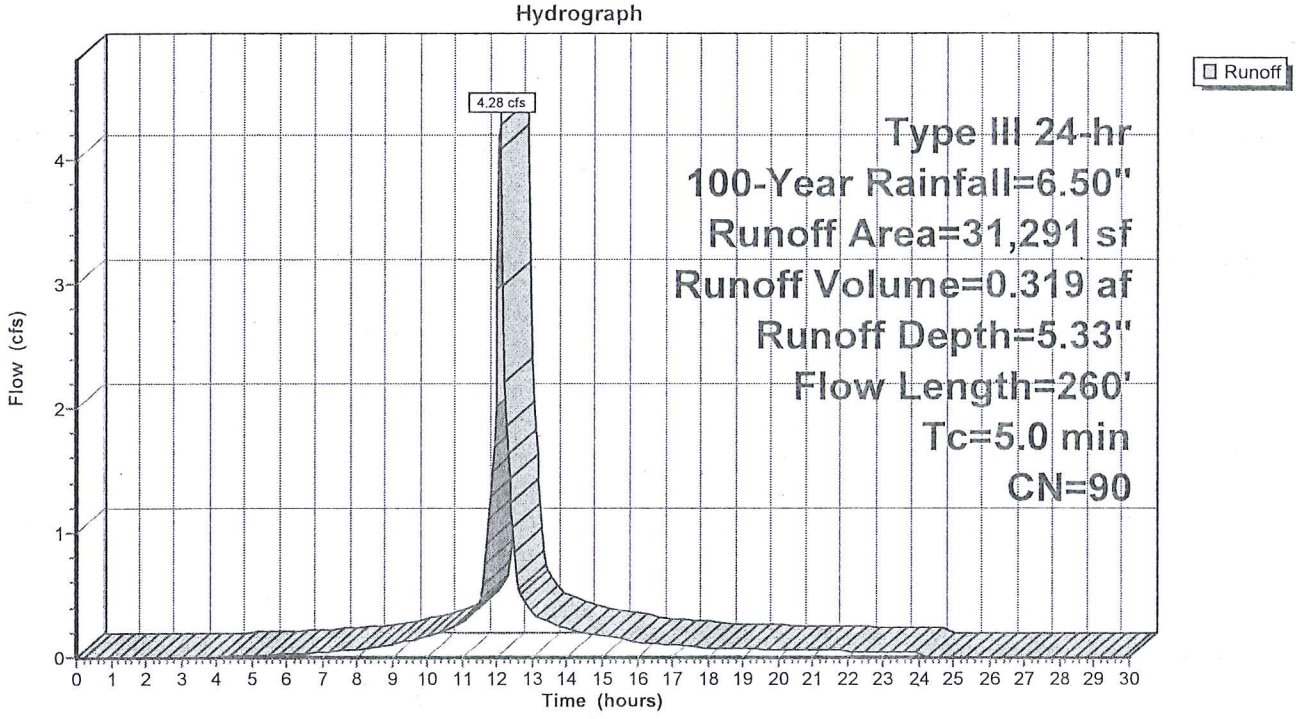
Runoff = 4.28 cfs @ 12.07 hrs, Volume= 0.319 af, Depth= 5.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
9,885	74	>75% Grass cover, Good, HSG C
21,406	98	Paved parking, HSG C
31,291	90	Weighted Average
9,885		31.59% Pervious Area
21,406		68.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0700	1.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	127	0.0700	5.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	83	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	260	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E18: TO DP#2



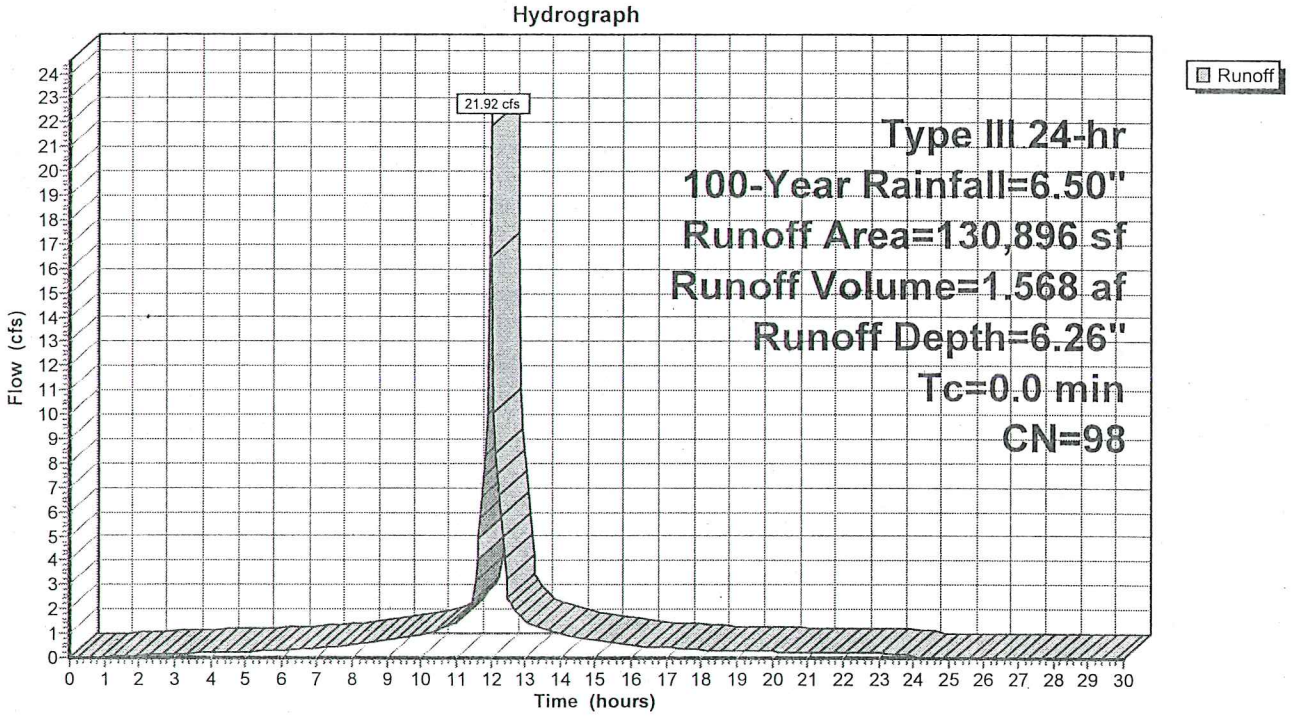
Summary for Subcatchment E19: BUILDING

Runoff = 21.92 cfs @ 12.00 hrs, Volume= 1.568 af, Depth= 6.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
130,896	98	Paved parking, HSG C
130,896		100.00% Impervious Area

Subcatchment E19: BUILDING



Summary for Subcatchment E20: TO DCB-H

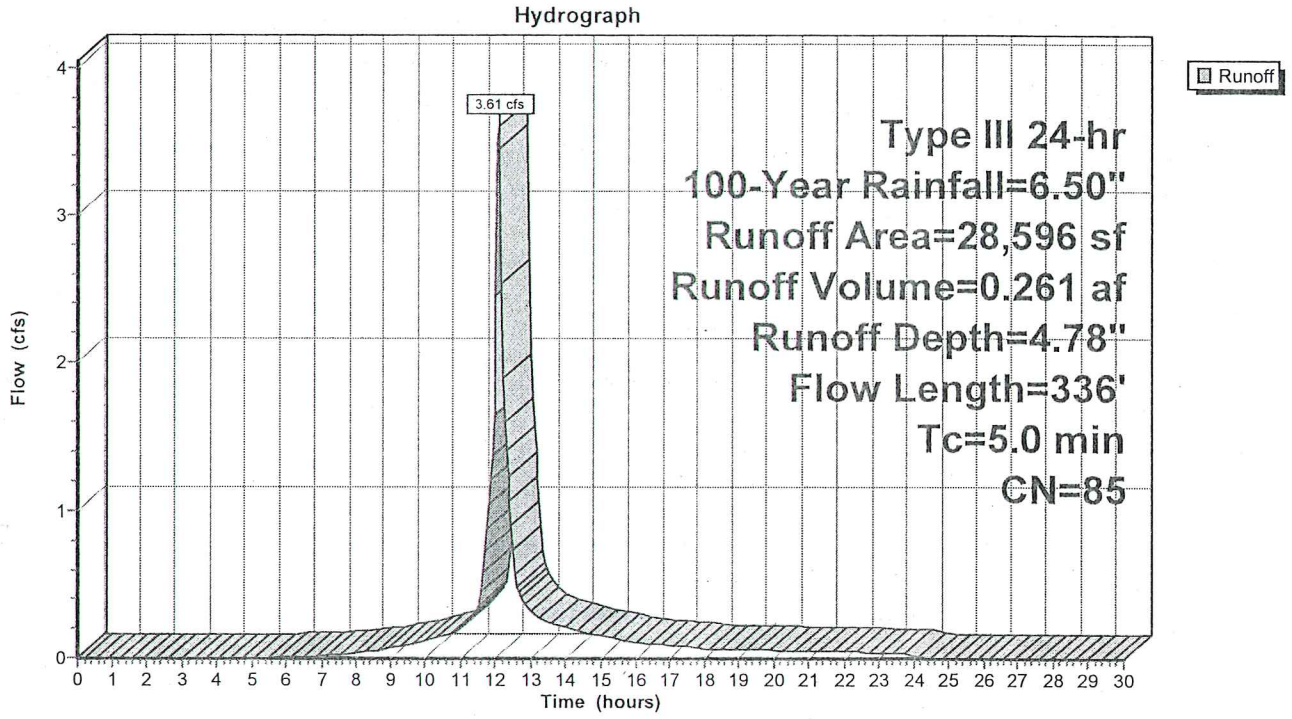
Runoff = 3.61 cfs @ 12.07 hrs, Volume= 0.261 af, Depth= 4.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
14,304	74	>75% Grass cover, Good, HSG C
12,780	98	Paved parking, HSG C
756	70	Woods, Good, HSG C
756	96	Gravel surface, HSG C
28,596	85	Weighted Average
15,816		55.31% Pervious Area
12,780		44.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	20	0.1000	1.84		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	30	0.1000	1.99		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	107	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.0	179	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.8	336	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E20: TO DCB-H



Summary for Subcatchment E21: TO DCB-I

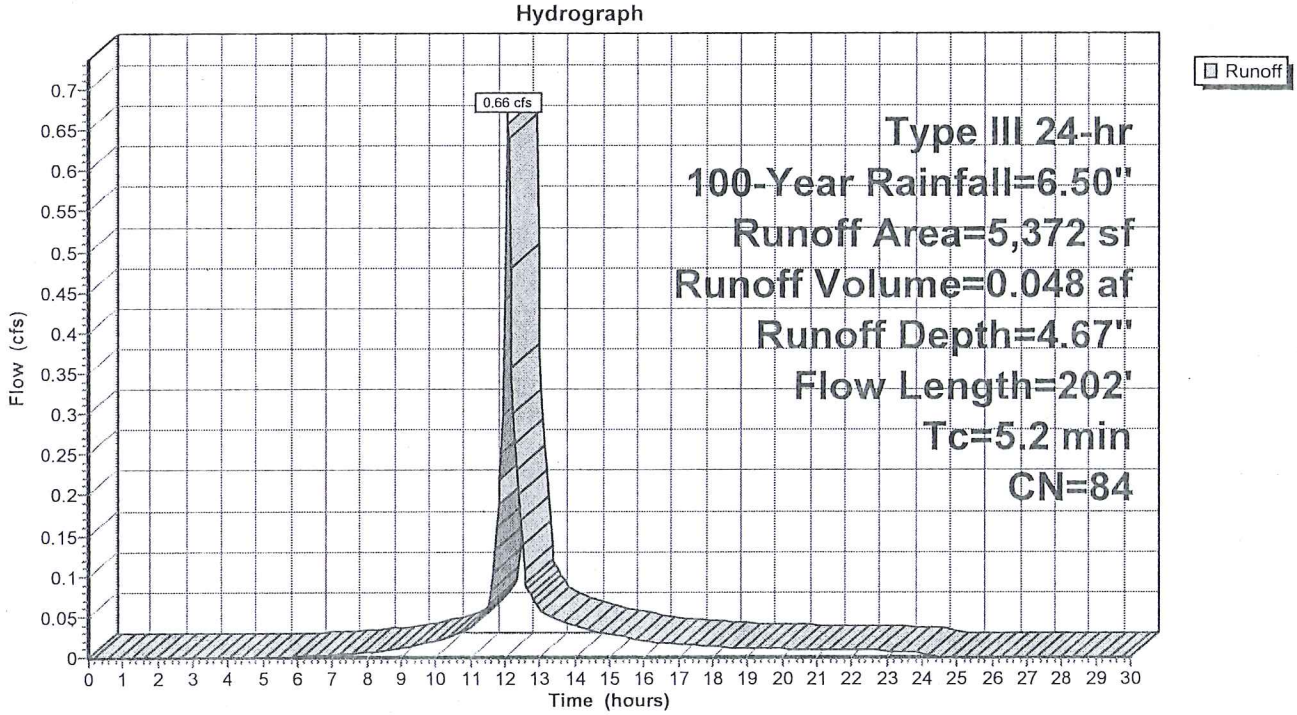
Runoff = 0.66 cfs @ 12.08 hrs, Volume= 0.048 af, Depth= 4.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
3,100	74	>75% Grass cover, Good, HSG C
2,272	98	Paved parking, HSG C
5,372	84	Weighted Average
3,100		57.71% Pervious Area
2,272		42.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	75	0.0900	0.28		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	64	0.0900	4.83		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	63	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
5.2	202	Total			

Subcatchment E21: TO DCB-I



Summary for Subcatchment E22: TO DCB-J

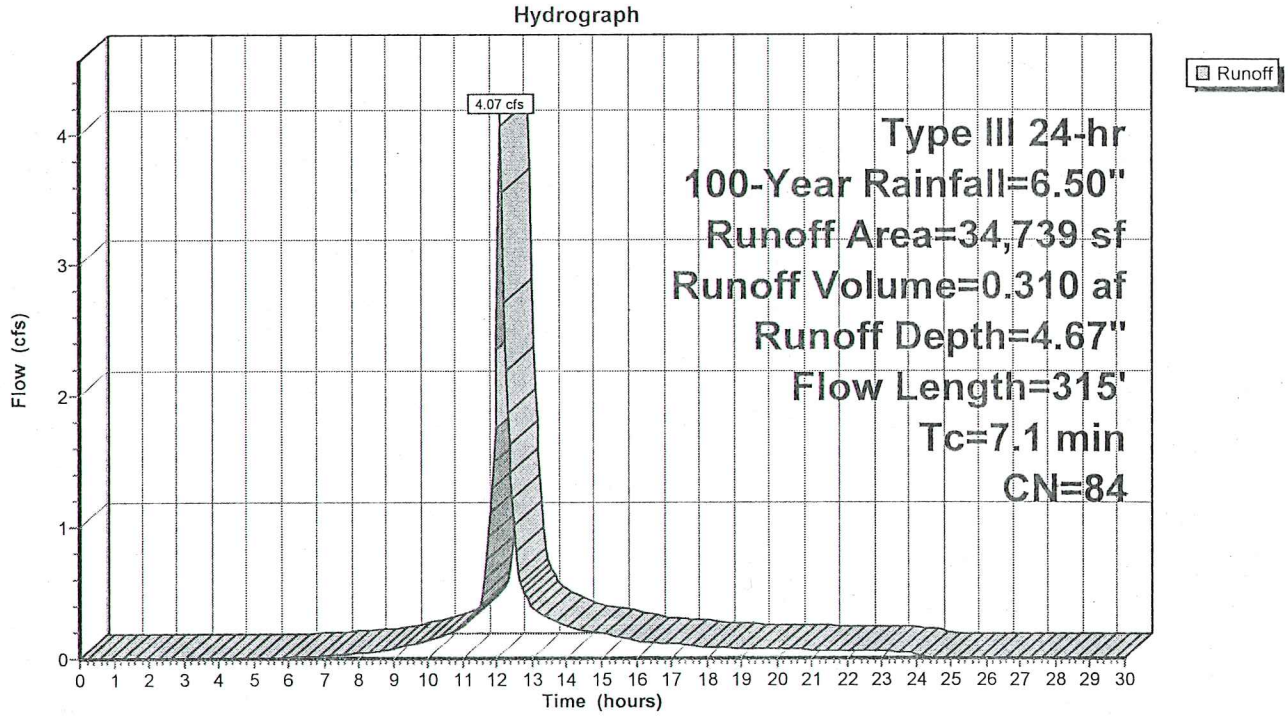
Runoff = 4.07 cfs @ 12.10 hrs, Volume= 0.310 af, Depth= 4.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
17,024	74	>75% Grass cover, Good, HSG C
15,076	98	Paved parking, HSG C
2,639	70	Woods, Good, HSG C
34,739	84	Weighted Average
19,663		56.60% Pervious Area
15,076		43.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.7	56	0.3000	0.20		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.4	259	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.1	315	Total			

Subcatchment E22: TO DCB-J



Summary for Subcatchment E23: TO DCB-C

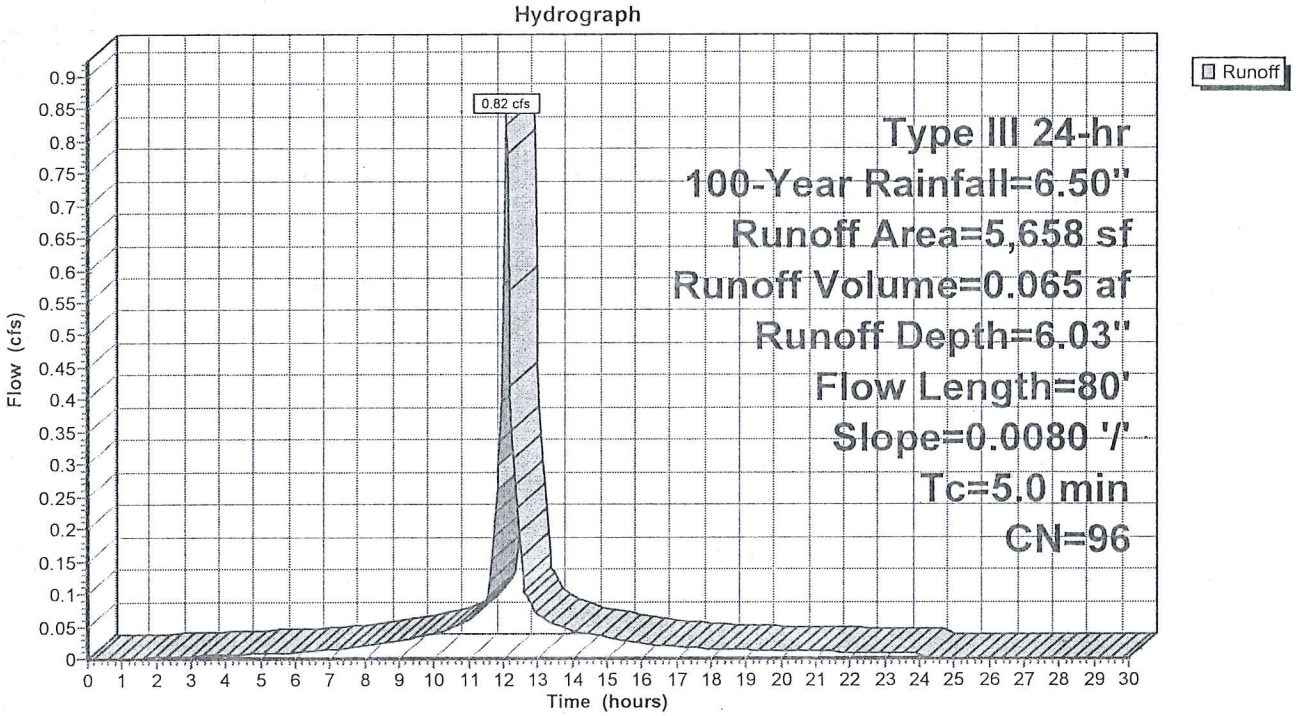
Runoff = 0.82 cfs @ 12.07 hrs, Volume= 0.065 af, Depth= 6.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
585	74	>75% Grass cover, Good, HSG C
5,073	98	Paved parking, HSG C
5,658	96	Weighted Average
585		10.34% Pervious Area
5,073		89.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	10	0.0080	0.07		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.9	40	0.0080	0.77		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	30	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.5	80	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E23: TO DCB-C



Summary for Subcatchment E24: TO DCB-D

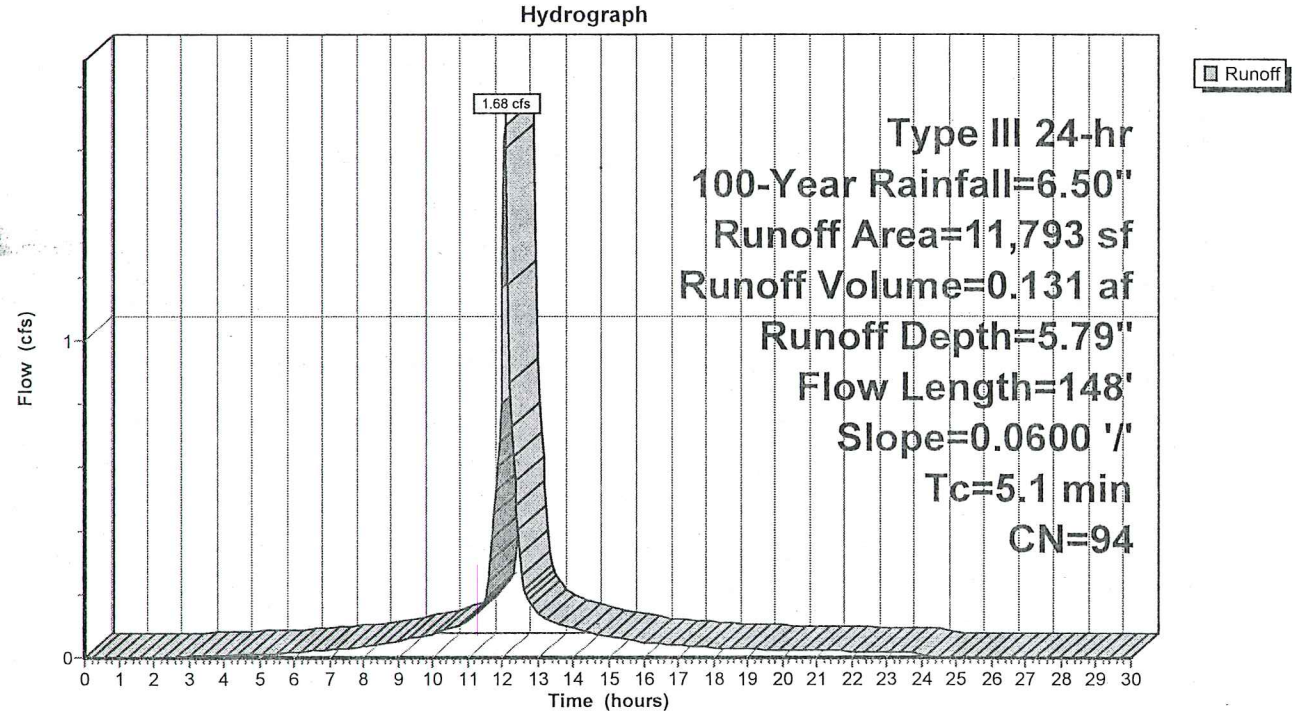
Runoff = 1.68 cfs @ 12.07 hrs, Volume= 0.131 af, Depth= 5.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
1,915	74	>75% Grass cover, Good, HSG C
9,878	98	Paved parking, HSG C
11,793	94	Weighted Average
1,915		16.24% Pervious Area
9,878		83.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	69	0.0600	0.24		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.3	79	0.0600	4.97		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
5.1	148	Total			

Subcatchment E24: TO DCB-D



Summary for Subcatchment E25: TO DCBE

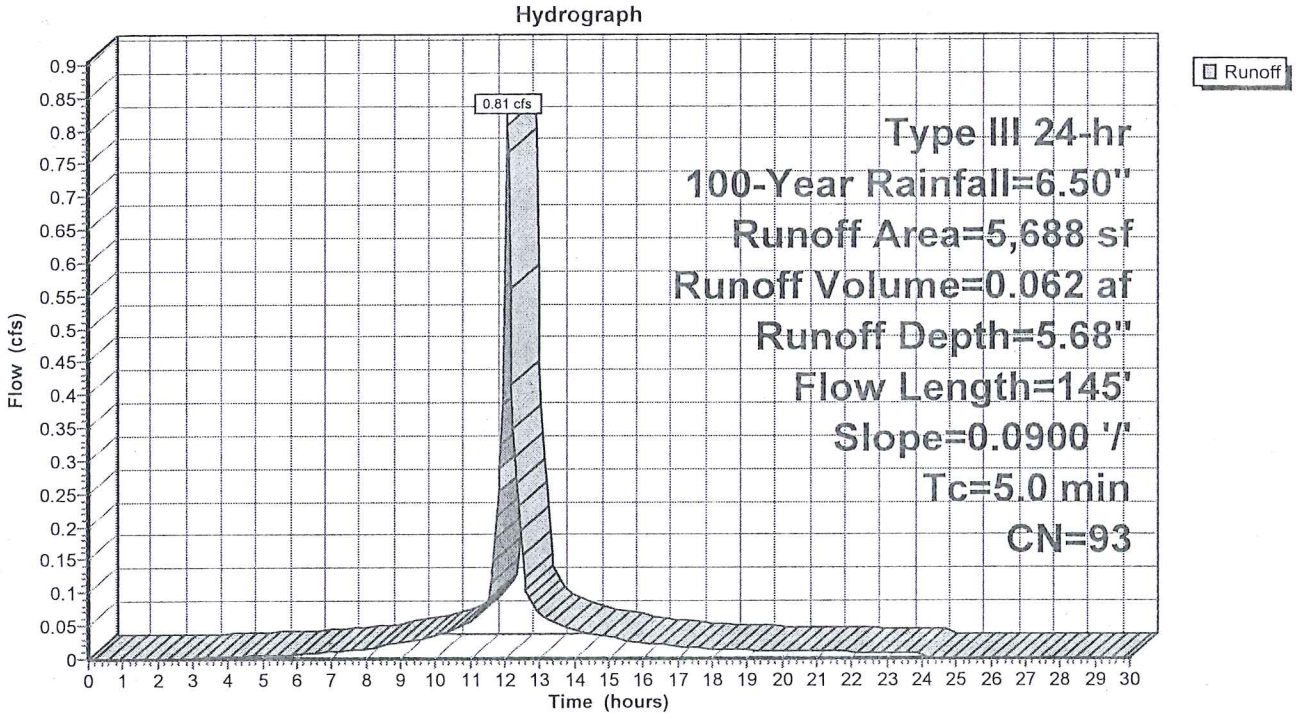
Runoff = 0.81 cfs @ 12.07 hrs, Volume= 0.062 af, Depth= 5.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
1,117	74	>75% Grass cover, Good, HSG C
4,571	98	Paved parking, HSG C
5,688	93	Weighted Average
1,117		19.64% Pervious Area
4,571		80.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0900	2.12		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	95	0.0900	6.09		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	145	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E25: TO DCBE



Summary for Subcatchment E26: TO DCB-F

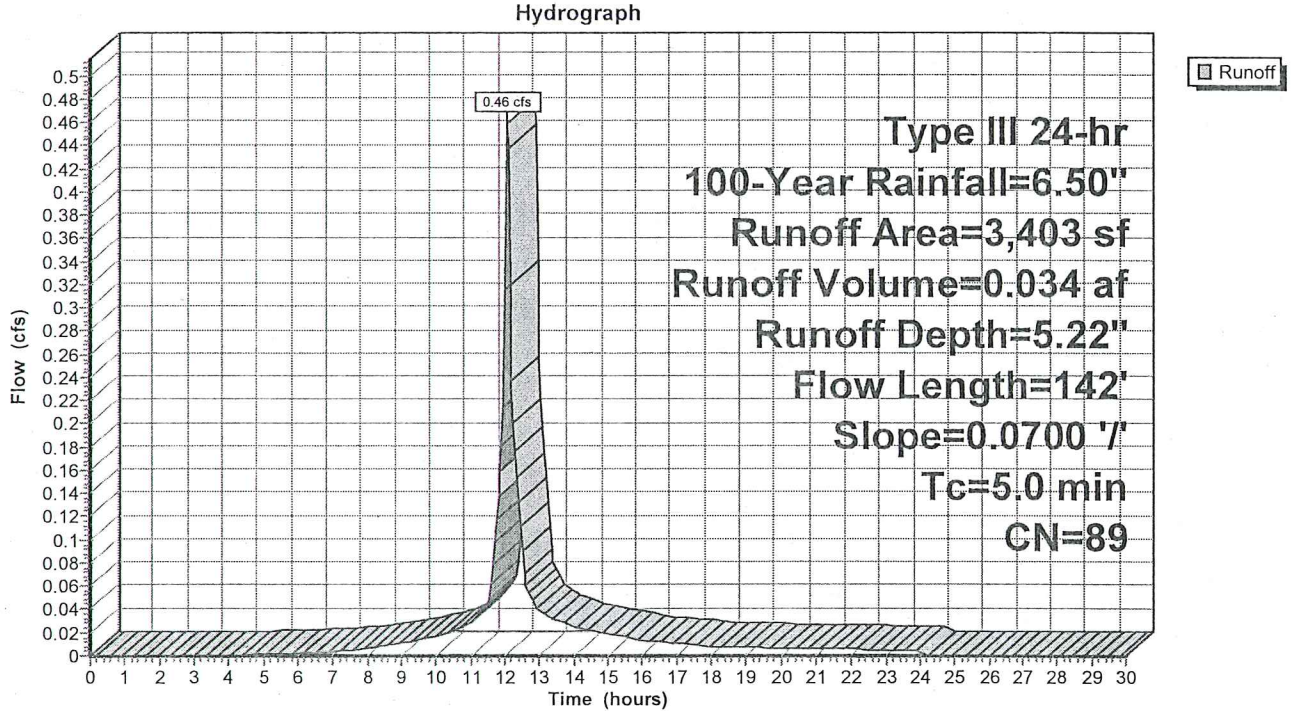
Runoff = 0.46 cfs @ 12.07 hrs, Volume= 0.034 af, Depth= 5.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
1,296	74	>75% Grass cover, Good, HSG C
2,107	98	Paved parking, HSG C
3,403	89	Weighted Average
1,296		38.08% Pervious Area
2,107		61.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0700	1.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	92	0.0700	5.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	142	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E26: TO DCB-F



Summary for Subcatchment E27: TO DCB-G

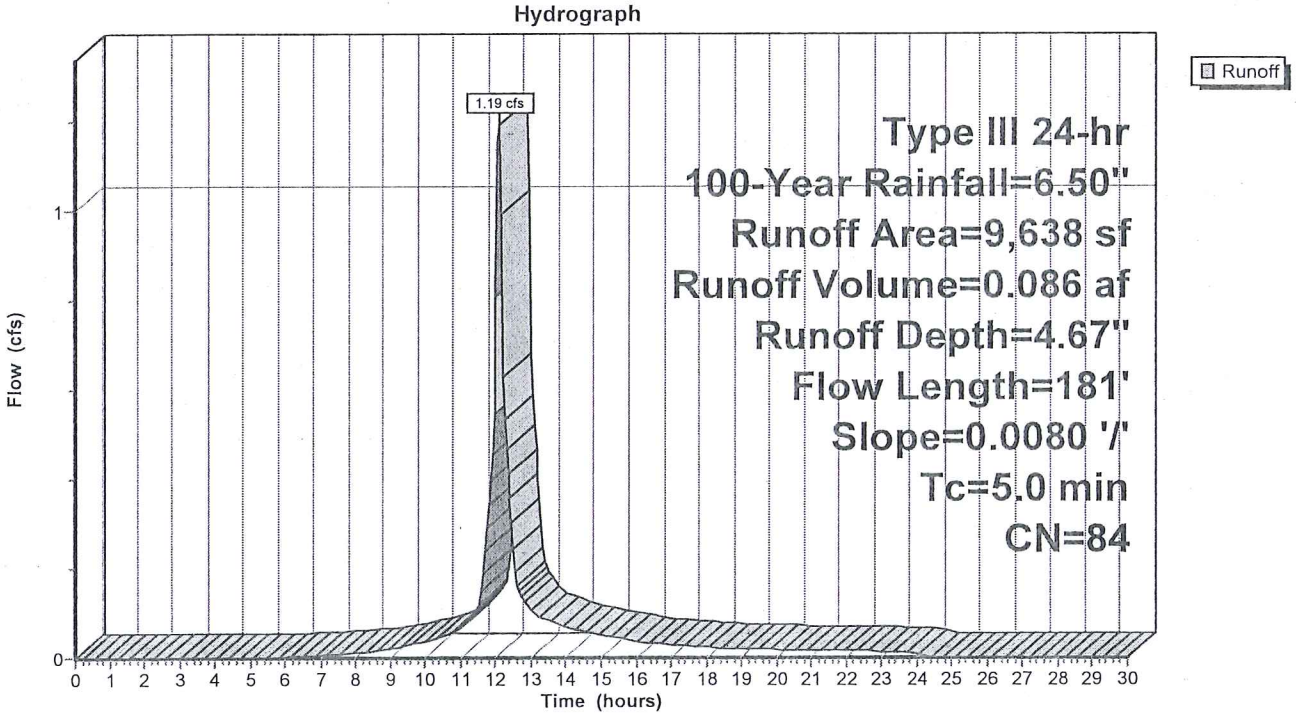
Runoff = 1.19 cfs @ 12.07 hrs, Volume= 0.086 af, Depth= 4.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
5,716	74	>75% Grass cover, Good, HSG C
3,922	98	Paved parking, HSG C
9,638	84	Weighted Average
5,716		59.31% Pervious Area
3,922		40.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	50	0.0080	0.80		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.2	131	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	181	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E27: TO DCB-G

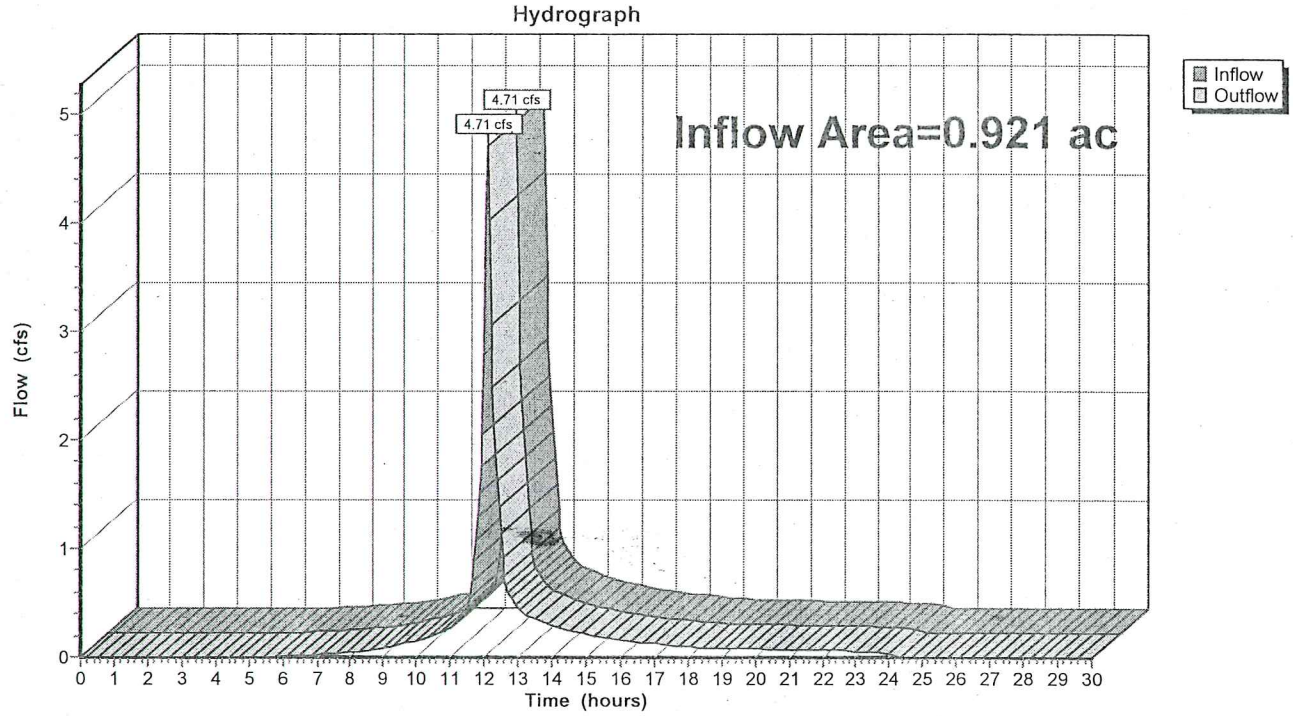


Summary for Reach DCB-K: TO DP#5

Inflow Area = 0.921 ac, 43.25% Impervious, Inflow Depth = 4.67" for 100-Year event
Inflow = 4.71 cfs @ 12.10 hrs, Volume= 0.358 af
Outflow = 4.71 cfs @ 12.10 hrs, Volume= 0.358 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DCB-K: TO DP#5



Summary for Reach DCBA: TO DMH-A

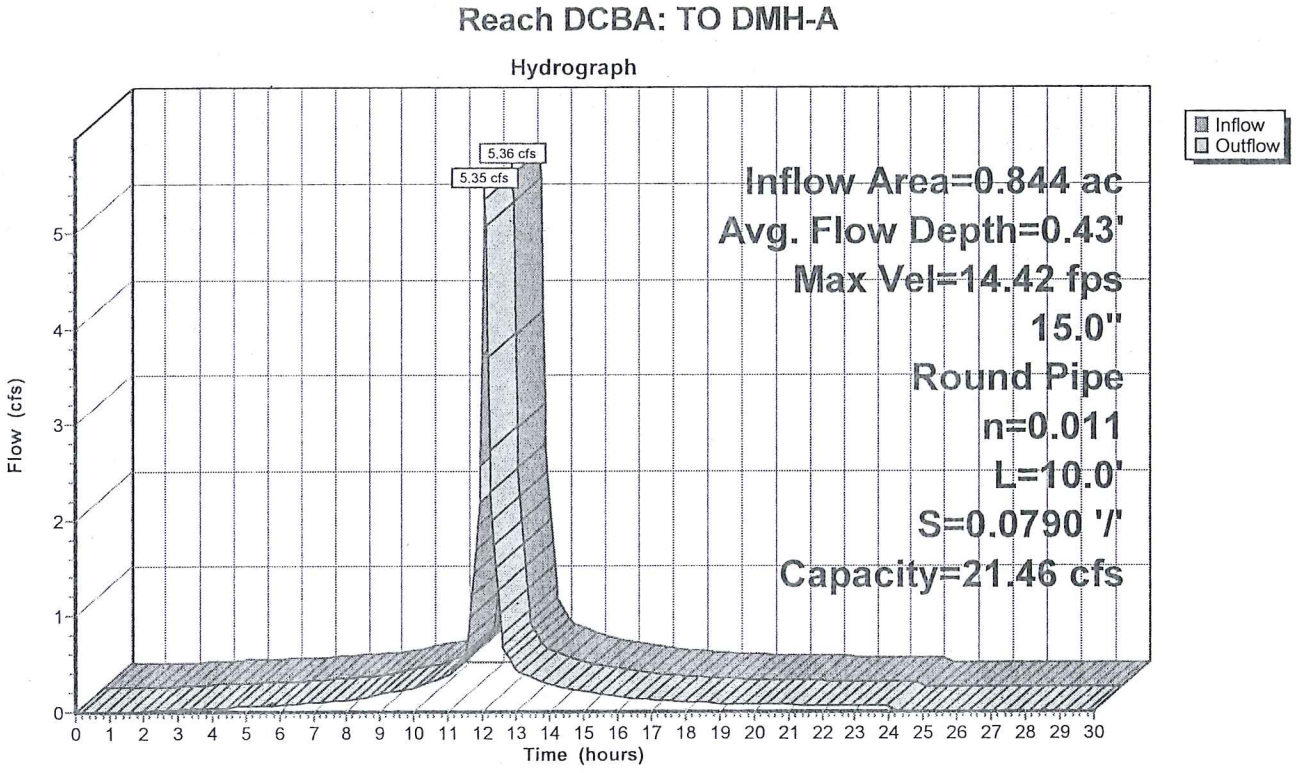
Inflow Area = 0.844 ac, 92.67% Impervious, Inflow Depth = 6.03" for 100-Year event
Inflow = 5.36 cfs @ 12.07 hrs, Volume= 0.424 af
Outflow = 5.35 cfs @ 12.07 hrs, Volume= 0.424 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 14.42 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 4.77 fps, Avg. Travel Time= 0.0 min

Peak Storage= 4 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.43'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 21.46 cfs

15.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 10.0' Slope= 0.0790 '/'
Inlet Invert= 1,176.20', Outlet Invert= 1,175.41'





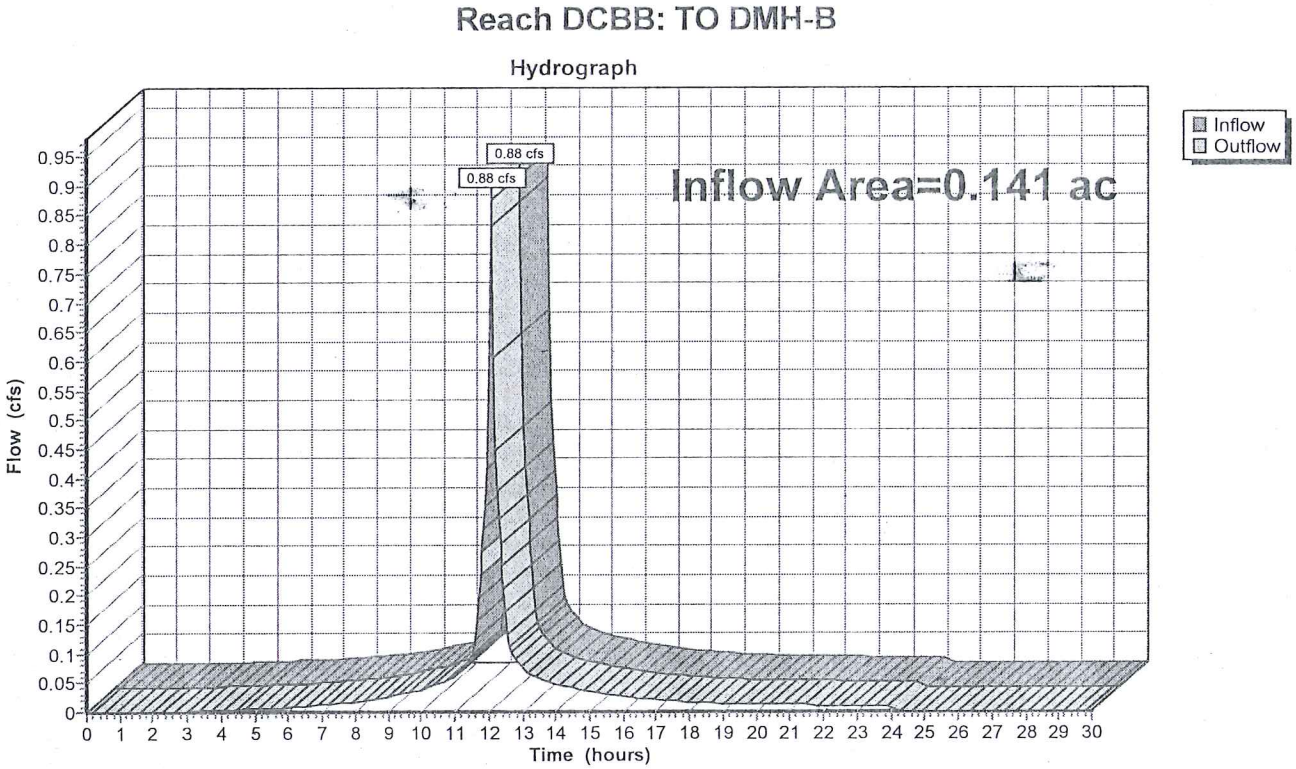
Stage-Discharge for Reach DCBA: TO DMH-A

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,176.20	0.00	0.00
1,176.21	1.24	0.00
1,176.22	2.10	0.01
1,176.23	2.76	0.02
1,176.24	3.35	0.04
1,176.25	3.88	0.06
1,176.26	4.37	0.10
1,176.27	4.83	0.13
1,176.28	5.27	0.18
1,176.29	5.69	0.22
1,176.30	6.09	0.28
1,176.31	6.47	0.34
1,176.32	6.83	0.41
1,176.33	7.19	0.49
1,176.34	7.53	0.57
1,176.35	7.87	0.66
1,176.36	8.19	0.75
1,176.37	8.50	0.85
1,176.38	8.81	0.96
1,176.39	9.11	1.07
1,176.40	9.40	1.19
1,176.41	9.68	1.32
1,176.42	9.96	1.45
1,176.43	10.23	1.59
1,176.44	10.50	1.73
1,176.45	10.75	1.88
1,176.46	11.01	2.03
1,176.47	11.25	2.20
1,176.48	11.50	2.36
1,176.49	11.73	2.53
1,176.50	11.97	2.71
1,176.51	12.19	2.89
1,176.52	12.42	3.08
1,176.53	12.64	3.27
1,176.54	12.85	3.47
1,176.55	13.06	3.67
1,176.56	13.27	3.88
1,176.57	13.47	4.10
1,176.58	13.67	4.31
1,176.59	13.86	4.53
1,176.60	14.06	4.76
1,176.61	14.24	4.99
1,176.62	14.43	5.22
1,176.63	14.61	5.46
1,176.64	14.78	5.70
1,176.65	14.96	5.95
1,176.66	15.13	6.20
1,176.67	15.29	6.45
1,176.68	15.46	6.71
1,176.69	15.62	6.97
1,176.70	15.77	7.23
1,176.71	15.93	7.50
1,176.72	16.08	7.77
1,176.73	16.23	8.04
1,176.74	16.37	8.31
1,176.75	16.51	8.59
1,176.76	16.65	8.87
1,176.77	16.79	9.15
1,176.78	16.92	9.43
1,176.79	17.05	9.72
1,176.80	17.18	10.00
1,176.81	17.30	10.29
1,176.82	17.43	10.58
1,176.83	17.54	10.87
1,176.84	17.66	11.17
1,176.85	17.77	11.46
1,176.86	17.88	11.76
1,176.87	17.99	12.05
1,176.88	18.10	12.35
1,176.89	18.20	12.64
1,176.90	18.30	12.94
1,176.91	18.39	13.23
1,176.92	18.49	13.53
1,176.93	18.58	13.83
1,176.94	18.67	14.12
1,176.95	18.75	14.42
1,176.96	18.83	14.71
1,176.97	18.91	15.00
1,176.98	18.99	15.29
1,176.99	19.06	15.58
1,177.00	19.14	15.87
1,177.01	19.20	16.16
1,177.02	19.27	16.44
1,177.03	19.33	16.73
1,177.04	19.39	17.01
1,177.05	19.45	17.28
1,177.06	19.50	17.56
1,177.07	19.55	17.83
1,177.08	19.60	18.10
1,177.09	19.65	18.36
1,177.10	19.69	18.62
1,177.11	19.73	18.88
1,177.12	19.76	19.13
1,177.13	19.80	19.38
1,177.14	19.83	19.63
1,177.15	19.85	19.87
1,177.16	19.87	20.10
1,177.17	19.89	20.33
1,177.18	19.91	20.55
1,177.19	19.92	20.76
1,177.20	19.93	20.97
1,177.21	19.93	21.18
1,177.22	**19.93**	21.37
1,177.23	19.93	21.56
1,177.24	19.92	21.74
1,177.25	19.91	21.91
1,177.26	19.89	22.07
1,177.27	19.87	22.22
1,177.28	19.84	22.37
1,177.29	19.81	22.50
1,177.30	19.78	22.62
1,177.31	19.73	22.73
1,177.32	19.68	22.82
1,177.33	19.63	22.91
1,177.34	19.57	22.98
1,177.35	19.50	23.03
1,177.36	19.42	23.06
1,177.37	19.33	**23.08**
1,177.38	19.23	23.07
1,177.39	19.11	23.04
1,177.40	18.99	22.99
1,177.41	18.84	22.89
1,177.42	18.66	22.75
1,177.43	18.44	22.55
1,177.44	18.10	22.18
1,177.45	17.49	21.46

Summary for Reach DCBB: TO DMH-B

Inflow Area = 0.141 ac, 78.74% Impervious, Inflow Depth = 5.68" for 100-Year event
Inflow = 0.88 cfs @ 12.07 hrs, Volume= 0.067 af
Outflow = 0.88 cfs @ 12.07 hrs, Volume= 0.067 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

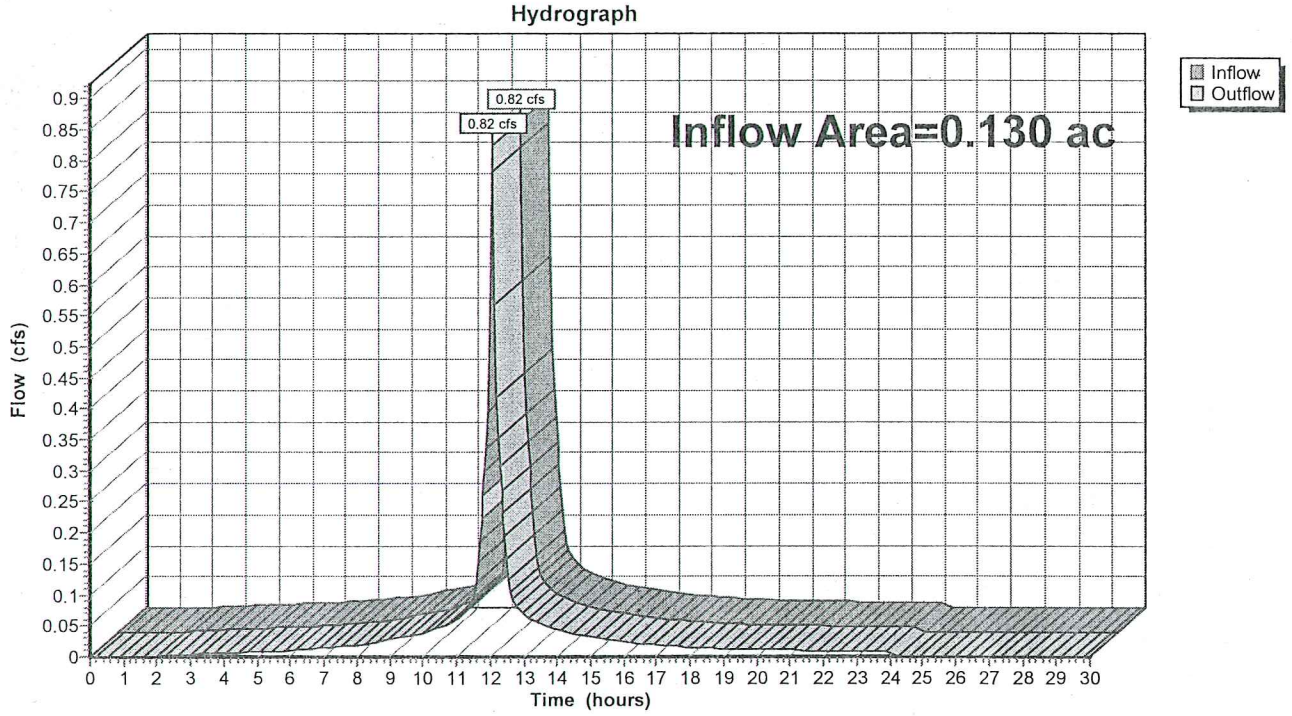


Summary for Reach DCBC: TO DMH-B

Inflow Area = 0.130 ac, 89.66% Impervious, Inflow Depth = 6.03" for 100-Year event
Inflow = 0.82 cfs @ 12.07 hrs, Volume= 0.065 af
Outflow = 0.82 cfs @ 12.07 hrs, Volume= 0.065 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DCBC: TO DMH-B

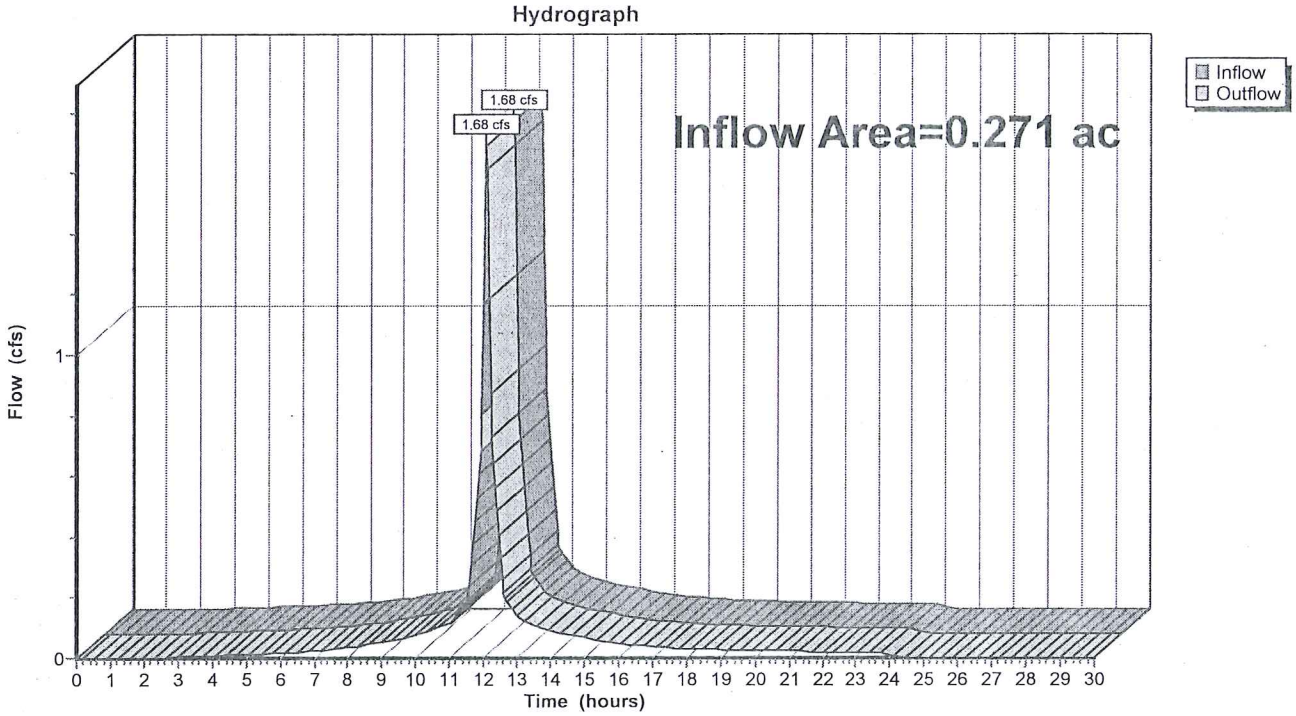


Summary for Reach DCBD: TO DMH-C

Inflow Area = 0.271 ac, 83.76% Impervious, Inflow Depth = 5.79" for 100-Year event
Inflow = 1.68 cfs @ 12.07 hrs, Volume= 0.131 af
Outflow = 1.68 cfs @ 12.07 hrs, Volume= 0.131 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DCBD: TO DMH-C



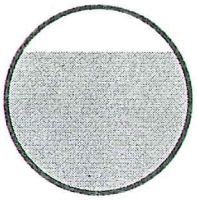
Summary for Reach DCBE: TO DCB-F

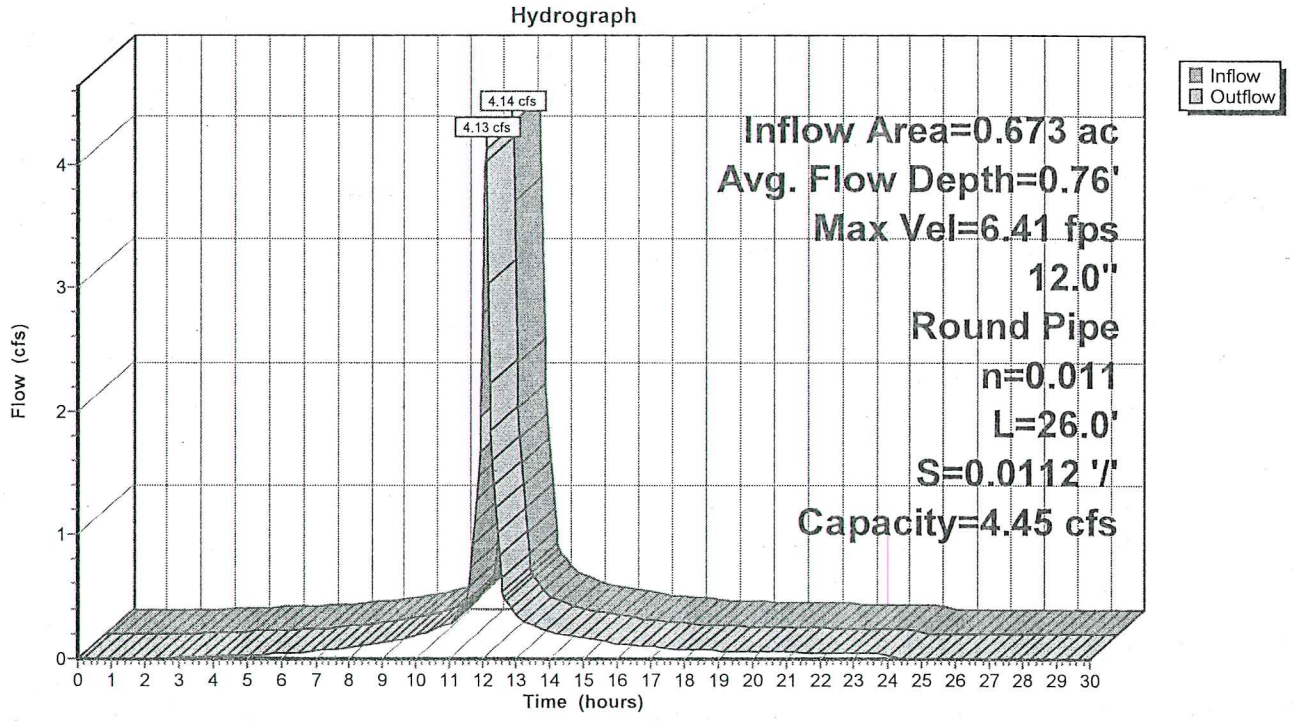
Inflow Area = 0.673 ac, 83.19% Impervious, Inflow Depth = 5.79" for 100-Year event
Inflow = 4.14 cfs @ 12.08 hrs, Volume= 0.325 af
Outflow = 4.13 cfs @ 12.08 hrs, Volume= 0.325 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.41 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.23 fps, Avg. Travel Time= 0.2 min

Peak Storage= 17 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.76'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.45 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 26.0' Slope= 0.0112 '/'
Inlet Invert= 1,176.29', Outlet Invert= 1,176.00'





Stage-Discharge for Reach DCBE: TO DCB-F

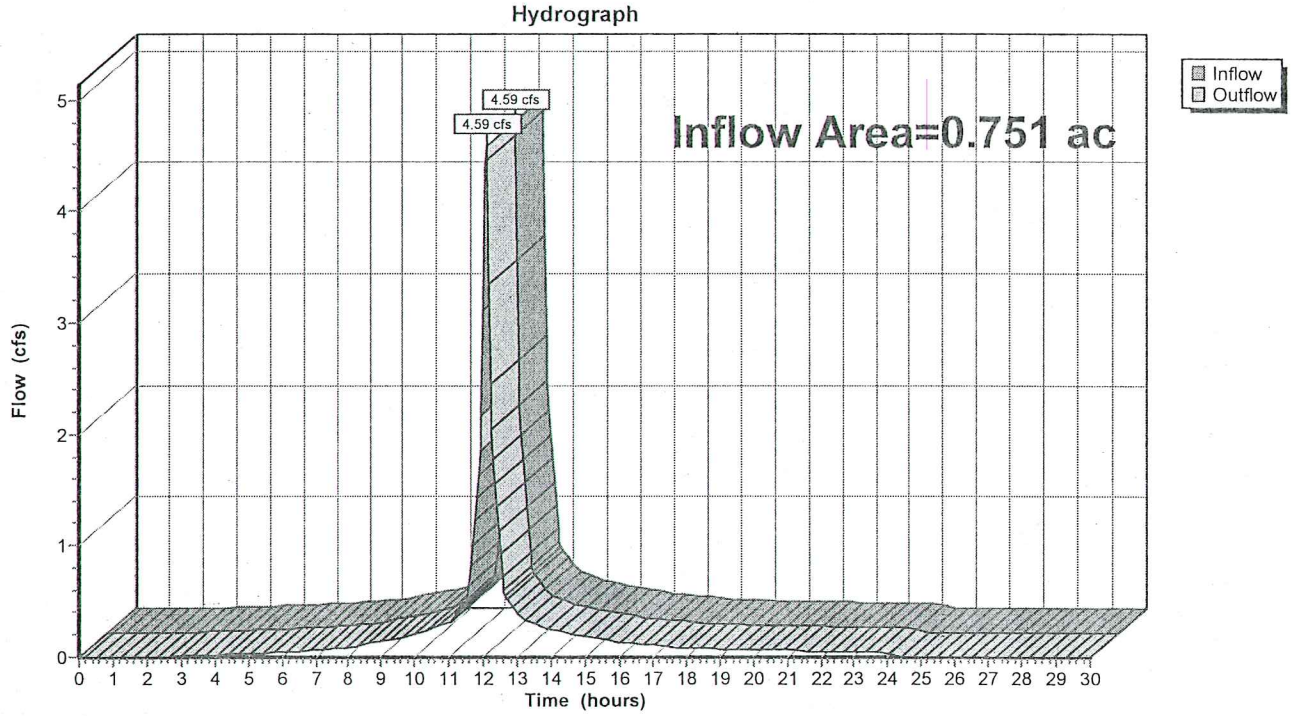
Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,176.29	0.00	0.00
1,176.30	0.50	0.00
1,176.31	0.80	0.00
1,176.32	1.04	0.01
1,176.33	1.26	0.01
1,176.34	1.45	0.02
1,176.35	1.64	0.03
1,176.36	1.81	0.04
1,176.37	1.97	0.06
1,176.38	2.12	0.07
1,176.39	2.27	0.09
1,176.40	2.41	0.11
1,176.41	2.55	0.14
1,176.42	2.68	0.16
1,176.43	2.80	0.19
1,176.44	2.93	0.22
1,176.45	3.04	0.25
1,176.46	3.16	0.28
1,176.47	3.27	0.31
1,176.48	3.38	0.35
1,176.49	3.48	0.39
1,176.50	3.58	0.43
1,176.51	3.68	0.47
1,176.52	3.78	0.52
1,176.53	3.88	0.56
1,176.54	3.97	0.61
1,176.55	4.06	0.66
1,176.56	4.14	0.71
1,176.57	4.23	0.76
1,176.58	4.31	0.82
1,176.59	4.39	0.87
1,176.60	4.47	0.93
1,176.61	4.55	0.99
1,176.62	4.63	1.05
1,176.63	4.70	1.11
1,176.64	4.77	1.17
1,176.65	4.84	1.23
1,176.66	4.91	1.30
1,176.67	4.98	1.36
1,176.68	5.04	1.43
1,176.69	5.11	1.50
1,176.70	5.17	1.57
1,176.71	5.23	1.64
1,176.72	5.29	1.71
1,176.73	5.35	1.78
1,176.74	5.40	1.85
1,176.75	5.46	1.93
1,176.76	5.51	2.00
1,176.77	5.56	2.07
1,176.78	5.61	2.15
1,176.79	5.66	2.22
1,176.80	5.71	2.30
1,176.81	5.76	2.38
1,176.82	5.80	2.45
1,176.83	5.84	2.53
1,176.84	5.88	2.60
1,176.85	5.92	2.68
1,176.86	5.96	2.76
1,176.87	6.00	2.83
1,176.88	6.04	2.91
1,176.89	6.07	2.99
1,176.90	6.11	3.06
1,176.91	6.14	3.14
1,176.92	6.17	3.21
1,176.93	6.20	3.29
1,176.94	6.22	3.36
1,176.95	6.25	3.44
1,176.96	6.27	3.51
1,176.97	6.30	3.58
1,176.98	6.32	3.65
1,176.99	6.34	3.72
1,177.00	6.36	3.79
1,177.01	6.38	3.86
1,177.02	6.39	3.93
1,177.03	6.41	3.99
1,177.04	6.42	4.06
1,177.05	6.43	4.12
1,177.06	6.44	4.18
1,177.07	6.44	4.24
1,177.08	6.45	4.29
1,177.09	6.45	4.35
1,177.10	**6.45**	4.40
1,177.11	6.45	4.45
1,177.12	6.45	4.50
1,177.13	6.45	4.54
1,177.14	6.44	4.58
1,177.15	6.43	4.62
1,177.16	6.42	4.66
1,177.17	6.40	4.69
1,177.18	6.39	4.72
1,177.19	6.37	4.74
1,177.20	6.34	4.76
1,177.21	6.31	4.77
1,177.22	6.28	4.78
1,177.23	6.24	**4.78**
1,177.24	6.20	4.78
1,177.25	6.15	4.76
1,177.26	6.09	4.74
1,177.27	6.01	4.70
1,177.28	5.91	4.63
1,177.29	5.66	4.45

Summary for Reach DCBF: TO DMH-D

Inflow Area = 0.751 ac, 80.97% Impervious, Inflow Depth = 5.73" for 100-Year event
Inflow = 4.59 cfs @ 12.08 hrs, Volume= 0.359 af
Outflow = 4.59 cfs @ 12.08 hrs, Volume= 0.359 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

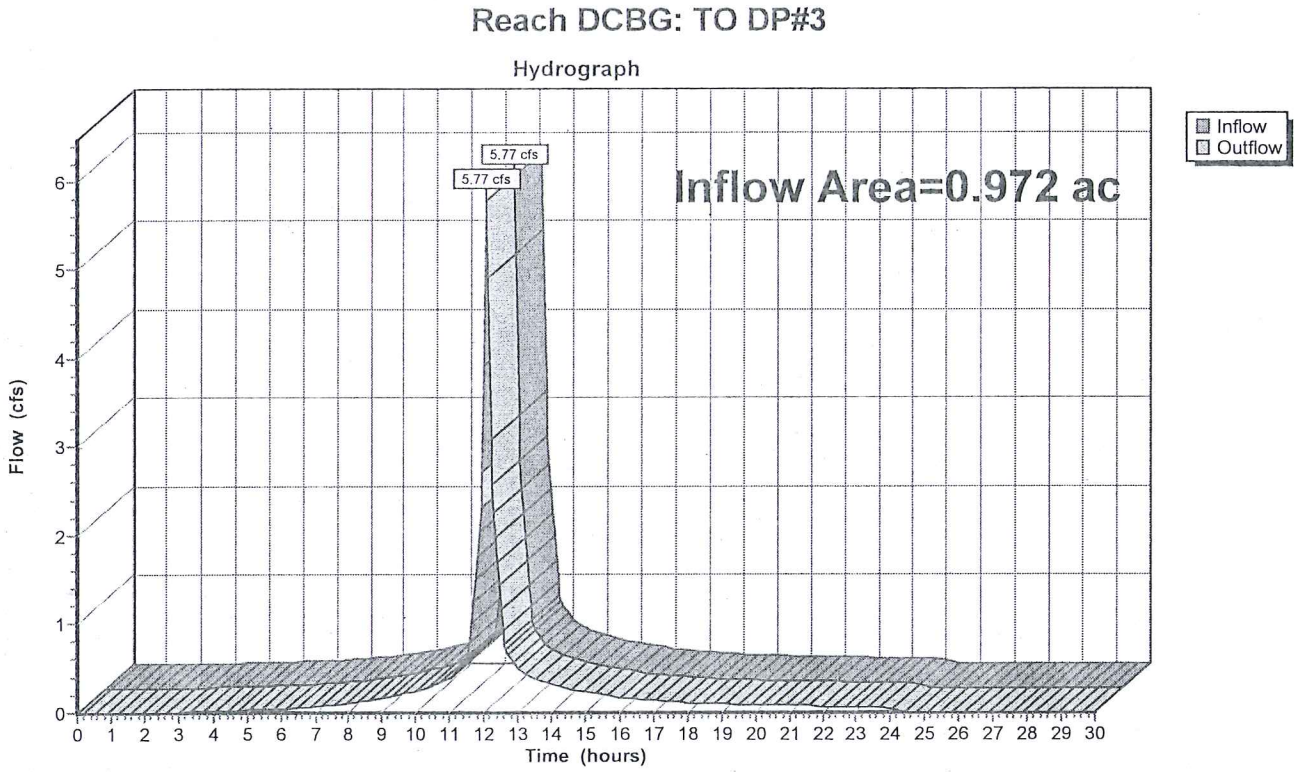
Reach DCBF: TO DMH-D



Summary for Reach DCBG: TO DP#3

Inflow Area = 0.972 ac, 71.80% Impervious, Inflow Depth = 5.49" for 100-Year event
Inflow = 5.77 cfs @ 12.08 hrs, Volume= 0.445 af
Outflow = 5.77 cfs @ 12.08 hrs, Volume= 0.445 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs



Summary for Reach DMHA: TO DP#1

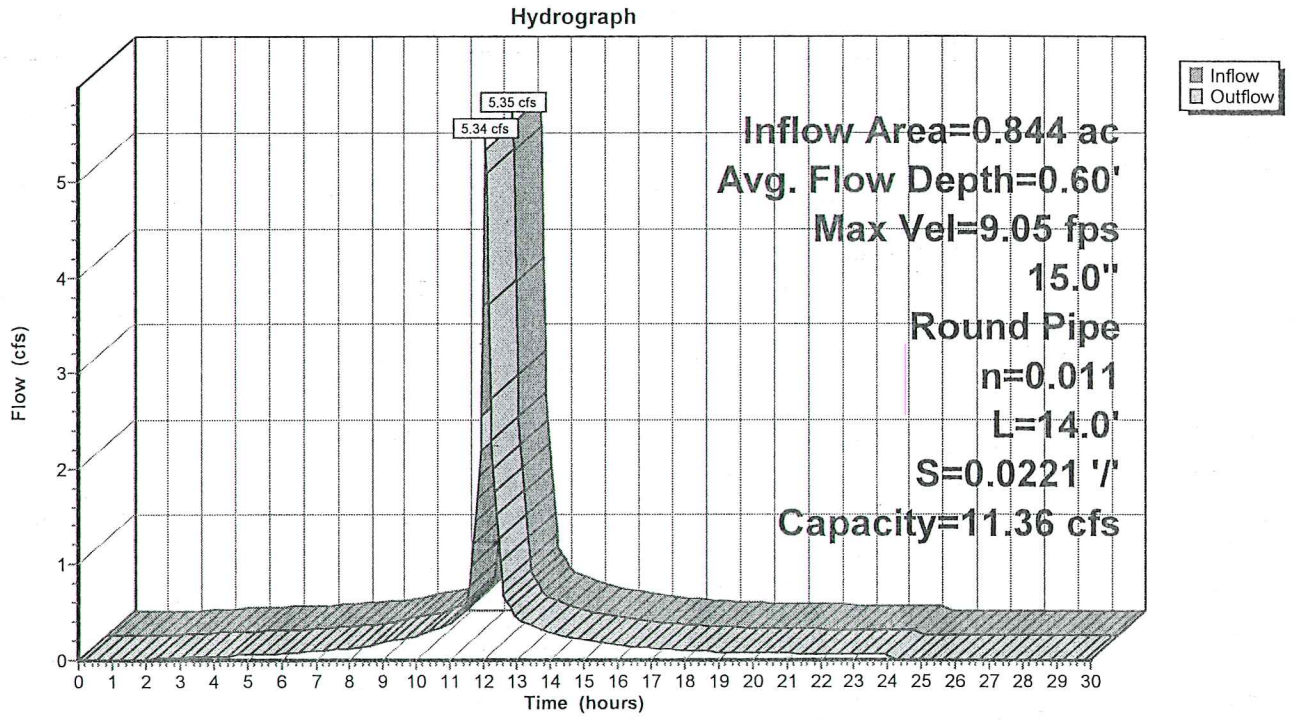
Inflow Area = 0.844 ac, 92.67% Impervious, Inflow Depth = 6.03" for 100-Year event
Inflow = 5.35 cfs @ 12.07 hrs, Volume= 0.424 af
Outflow = 5.34 cfs @ 12.07 hrs, Volume= 0.424 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.05 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.05 fps, Avg. Travel Time= 0.1 min

Peak Storage= 8 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.60'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 11.36 cfs

15.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 14.0' Slope= 0.0221 '/'
Inlet Invert= 1,175.35', Outlet Invert= 1,175.04'





Stage-Discharge for Reach DMHA: TO DP#1

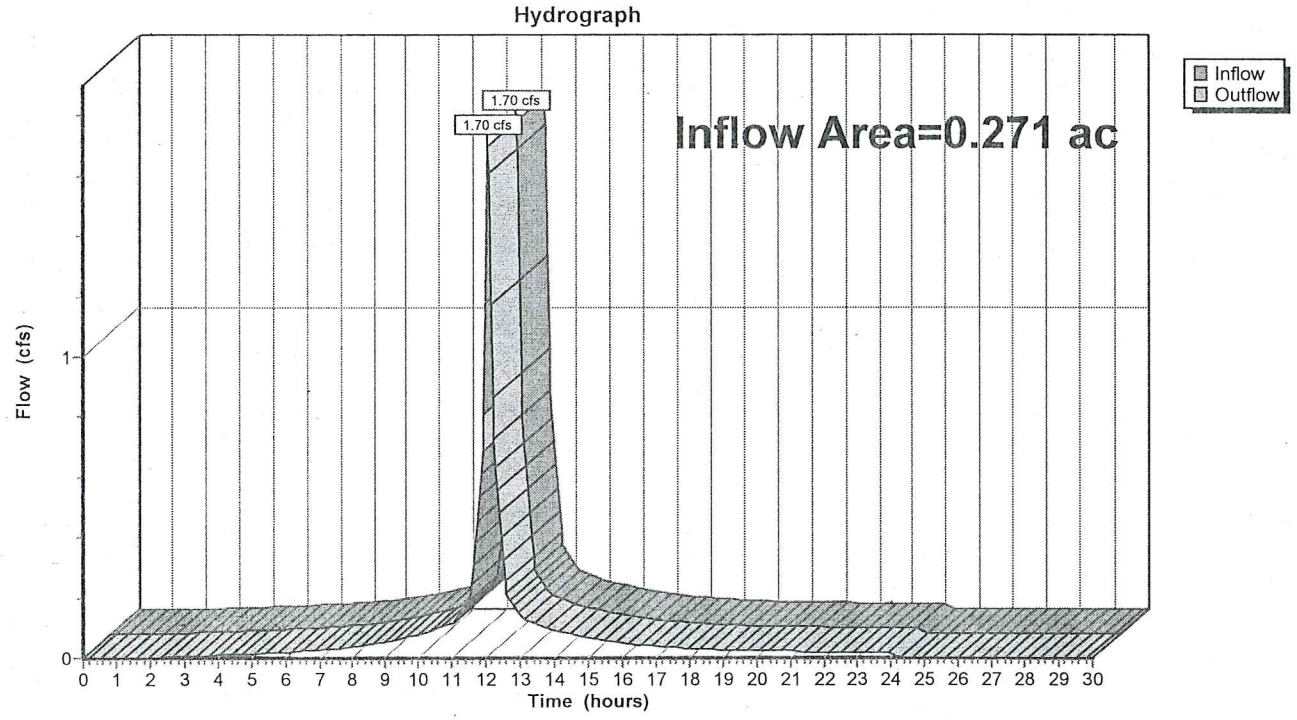
Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.35	0.00	0.00
1,175.36	0.66	0.00
1,175.37	1.11	0.01
1,175.38	1.46	0.01
1,175.39	1.77	0.02
1,175.40	2.06	0.03
1,175.41	2.31	0.05
1,175.42	2.56	0.07
1,175.43	2.79	0.09
1,175.44	3.01	0.12
1,175.45	3.22	0.15
1,175.46	3.42	0.18
1,175.47	3.62	0.22
1,175.48	3.81	0.26
1,175.49	3.99	0.30
1,175.50	4.17	0.35
1,175.51	4.34	0.40
1,175.52	4.50	0.45
1,175.53	4.66	0.51
1,175.54	4.82	0.57
1,175.55	4.98	0.63
1,175.56	5.13	0.70
1,175.57	5.27	0.77
1,175.58	5.42	0.84
1,175.59	5.56	0.92
1,175.60	5.69	0.99
1,175.61	5.83	1.08
1,175.62	5.96	1.16
1,175.63	6.09	1.25
1,175.64	6.21	1.34
1,175.65	6.34	1.43
1,175.66	6.46	1.53
1,175.67	6.57	1.63
1,175.68	6.69	1.73
1,175.69	6.80	1.84
1,175.70	6.92	1.95
1,175.71	7.02	2.06
1,175.72	7.13	2.17
1,175.73	7.24	2.28
1,175.74	7.34	2.40
1,175.75	7.44	2.52
1,175.76	7.54	2.64
1,175.77	7.64	2.77
1,175.78	7.73	2.89
1,175.79	7.83	3.02
1,175.80	7.92	3.15
1,175.81	8.01	3.28
1,175.82	8.10	3.42
1,175.83	8.18	3.55
1,175.84	8.27	3.69
1,175.85	8.35	3.83
1,175.86	8.43	3.97
1,175.87	8.51	4.11
1,175.88	8.59	4.26
1,175.89	8.67	4.40
1,175.90	8.74	4.55
1,175.91	8.82	4.69
1,175.92	8.89	4.84
1,175.93	8.96	4.99
1,175.94	9.03	5.14
1,175.95	9.10	5.30
1,175.96	9.16	5.45
1,175.97	9.23	5.60
1,175.98	9.29	5.76
1,175.99	9.35	5.91
1,176.00	9.41	6.07
1,176.01	9.47	6.22
1,176.02	9.52	6.38
1,176.03	9.58	6.54
1,176.04	9.63	6.69
1,176.05	9.69	6.85
1,176.06	9.74	7.01
1,176.07	9.79	7.16
1,176.08	9.84	7.32
1,176.09	9.88	7.48
1,176.10	9.93	7.63
1,176.11	9.97	7.79
1,176.12	10.01	7.94
1,176.13	10.05	8.10
1,176.14	10.09	8.25
1,176.15	10.13	8.40
1,176.16	10.17	8.56
1,176.17	10.20	8.71
1,176.18	10.24	8.86
1,176.19	10.27	9.00
1,176.20	10.30	9.15
1,176.21	10.33	9.30
1,176.22	10.35	9.44
1,176.23	10.38	9.58
1,176.24	10.40	9.72
1,176.25	10.42	9.86
1,176.26	10.44	10.00
1,176.27	10.46	10.13
1,176.28	10.48	10.26
1,176.29	10.50	10.39
1,176.30	10.51	10.52
1,176.31	10.52	10.64
1,176.32	10.53	10.76
1,176.33	10.54	10.88
1,176.34	10.55	10.99
1,176.35	10.55	11.10
1,176.36	10.55	11.21
1,176.37	**10.55**	11.31
1,176.38	10.55	11.41
1,176.39	10.55	11.51
1,176.40	10.54	11.60
1,176.41	10.53	11.68
1,176.42	10.52	11.77
1,176.43	10.51	11.84
1,176.44	10.49	11.91
1,176.45	10.47	11.98
1,176.46	10.45	12.03
1,176.47	10.42	12.08
1,176.48	10.39	12.13
1,176.49	10.36	12.16
1,176.50	10.32	12.19
1,176.51	10.28	12.21
1,176.52	10.23	**12.22**
1,176.53	10.18	12.21
1,176.54	10.12	12.20
1,176.55	10.05	12.17
1,176.56	9.97	12.12
1,176.57	9.88	12.05
1,176.58	9.76	11.94
1,176.59	9.58	11.74
1,176.60	9.26	11.36

Summary for Reach DMHB: TO DMH-C

Inflow Area = 0.271 ac, 83.97% Impervious, Inflow Depth = 5.84" for 100-Year event
Inflow = 1.70 cfs @ 12.07 hrs, Volume= 0.132 af
Outflow = 1.70 cfs @ 12.07 hrs, Volume= 0.132 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DMHB: TO DMH-C



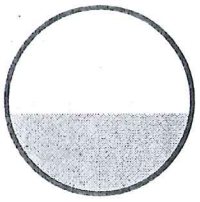
Summary for Reach DMHC: TO DCB-E

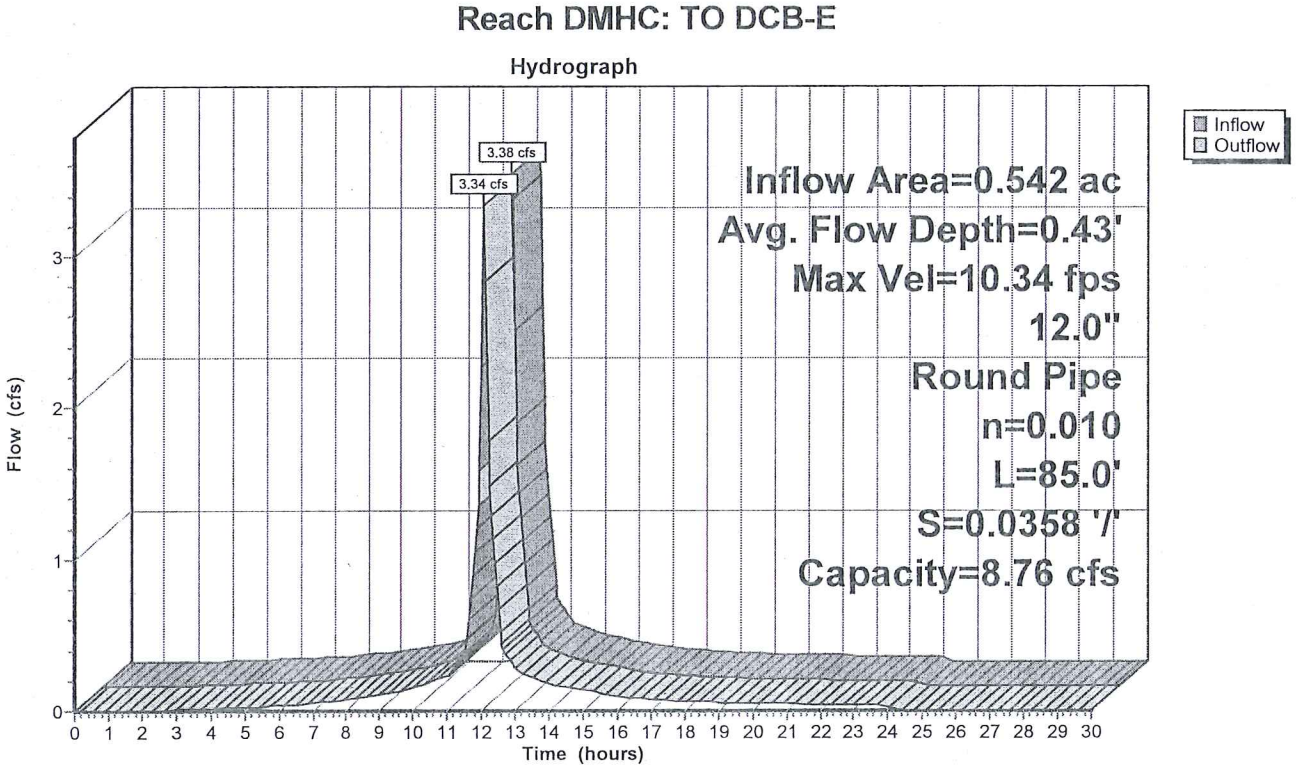
Inflow Area = 0.542 ac, 83.87% Impervious, Inflow Depth = 5.82" for 100-Year event
Inflow = 3.38 cfs @ 12.07 hrs, Volume= 0.263 af
Outflow = 3.34 cfs @ 12.08 hrs, Volume= 0.263 af, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.34 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.40 fps, Avg. Travel Time= 0.4 min

Peak Storage= 28 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.43'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.76 cfs

12.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 85.0' Slope= 0.0358 '/'
Inlet Invert= 1,179.53', Outlet Invert= 1,176.49'





Stage-Discharge for Reach DMHC: TO DCB-E

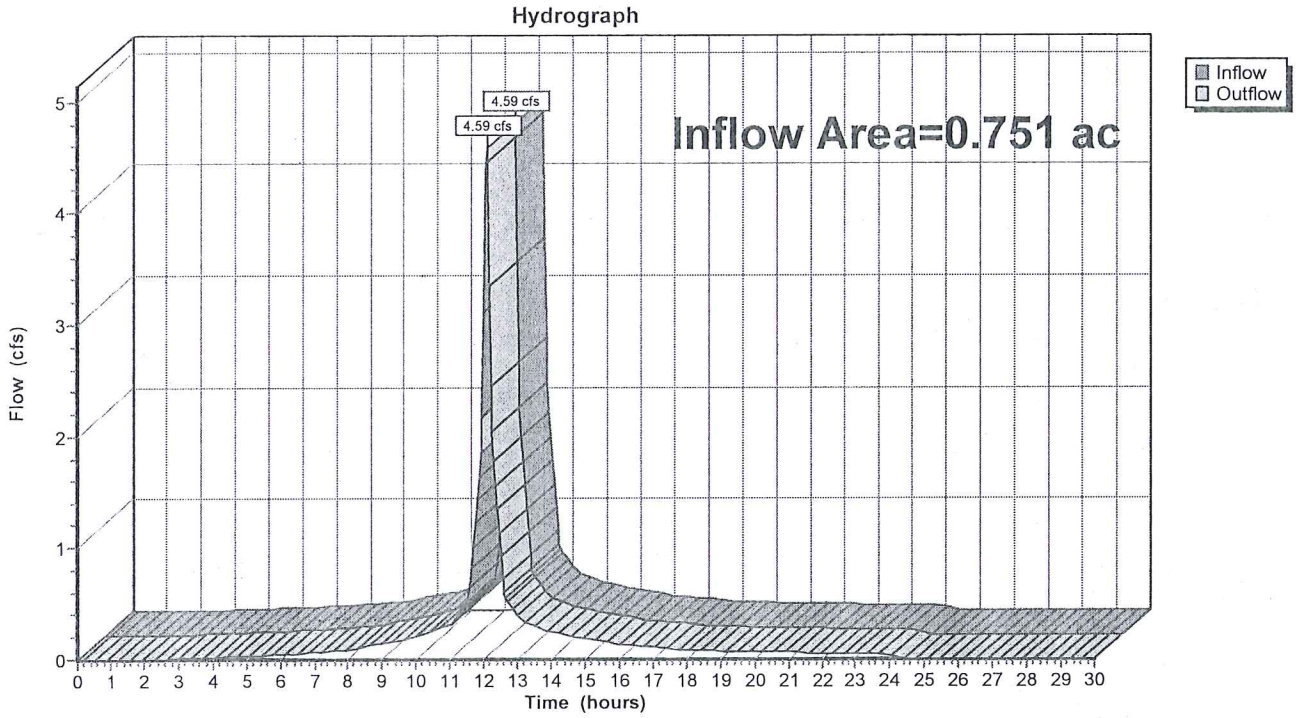
Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.53	0.00	0.00
1,179.54	0.99	0.00
1,179.55	1.57	0.01
1,179.56	2.05	0.01
1,179.57	2.48	0.03
1,179.58	2.86	0.04
1,179.59	3.22	0.06
1,179.60	3.56	0.09
1,179.61	3.88	0.11
1,179.62	4.18	0.15
1,179.63	4.47	0.18
1,179.64	4.75	0.22
1,179.65	5.02	0.27
1,179.66	5.28	0.32
1,179.67	5.52	0.37
1,179.68	5.76	0.43
1,179.69	6.00	0.49
1,179.70	6.22	0.55
1,179.71	6.44	0.62
1,179.72	6.65	0.69
1,179.73	6.86	0.77
1,179.74	7.06	0.85
1,179.75	7.26	0.93
1,179.76	7.45	1.02
1,179.77	7.63	1.11
1,179.78	7.81	1.20
1,179.79	7.99	1.30
1,179.80	8.16	1.40
1,179.81	8.33	1.50
1,179.82	8.50	1.61
1,179.83	8.66	1.72
1,179.84	8.81	1.83
1,179.85	8.96	1.94
1,179.86	9.11	2.06
1,179.87	9.26	2.18
1,179.88	9.40	2.30
1,179.89	9.54	2.43
1,179.90	9.68	2.56
1,179.91	9.81	2.69
1,179.92	9.94	2.82
1,179.93	10.06	2.95
1,179.94	10.18	3.09
1,179.95	10.30	3.23
1,179.96	10.42	3.36
1,179.97	10.53	3.51
1,179.98	10.64	3.65
1,179.99	10.75	3.79
1,180.00	10.86	3.94
1,180.01	10.96	4.08
1,180.02	11.06	4.23
1,180.03	11.15	4.38
1,180.04	11.25	4.53
1,180.05	11.34	4.68
1,180.06	11.42	4.83
1,180.07	11.51	4.98
1,180.08	11.59	5.13
1,180.09	11.67	5.28
1,180.10	11.75	5.43
1,180.11	11.82	5.58
1,180.12	11.89	5.73
1,180.13	11.96	5.88
1,180.14	12.03	6.03
1,180.15	12.09	6.18
1,180.16	12.15	6.33
1,180.17	12.21	6.48
1,180.18	12.26	6.63
1,180.19	12.31	6.77
1,180.20	12.36	6.91
1,180.21	12.41	7.06
1,180.22	12.45	7.20
1,180.23	12.49	7.33
1,180.24	12.53	7.47
1,180.25	12.56	7.60
1,180.26	12.59	7.73
1,180.27	12.62	7.86
1,180.28	12.64	7.99
1,180.29	12.66	8.11
1,180.30	12.68	8.23
1,180.31	12.69	8.34
1,180.32	12.70	8.45
1,180.33	12.71	8.56
1,180.34	**12.71**	8.66
1,180.35	12.71	8.76
1,180.36	12.71	8.86
1,180.37	12.70	8.94
1,180.38	12.69	9.03
1,180.39	12.67	9.10
1,180.40	12.64	9.17
1,180.41	12.61	9.23
1,180.42	12.58	9.29
1,180.43	12.54	9.34
1,180.44	12.49	9.37
1,180.45	12.44	9.40
1,180.46	12.37	9.42
1,180.47	12.30	**9.42**
1,180.48	12.21	9.41
1,180.49	12.11	9.38
1,180.50	11.99	9.34
1,180.51	11.84	9.26
1,180.52	11.64	9.13
1,180.53	11.15	8.76

Summary for Reach DMHD: TO DCB-G

Inflow Area = 0.751 ac, 80.97% Impervious, Inflow Depth = 5.73" for 100-Year event
Inflow = 4.59 cfs @ 12.08 hrs, Volume= 0.359 af
Outflow = 4.59 cfs @ 12.08 hrs, Volume= 0.359 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DMHD: TO DCB-G

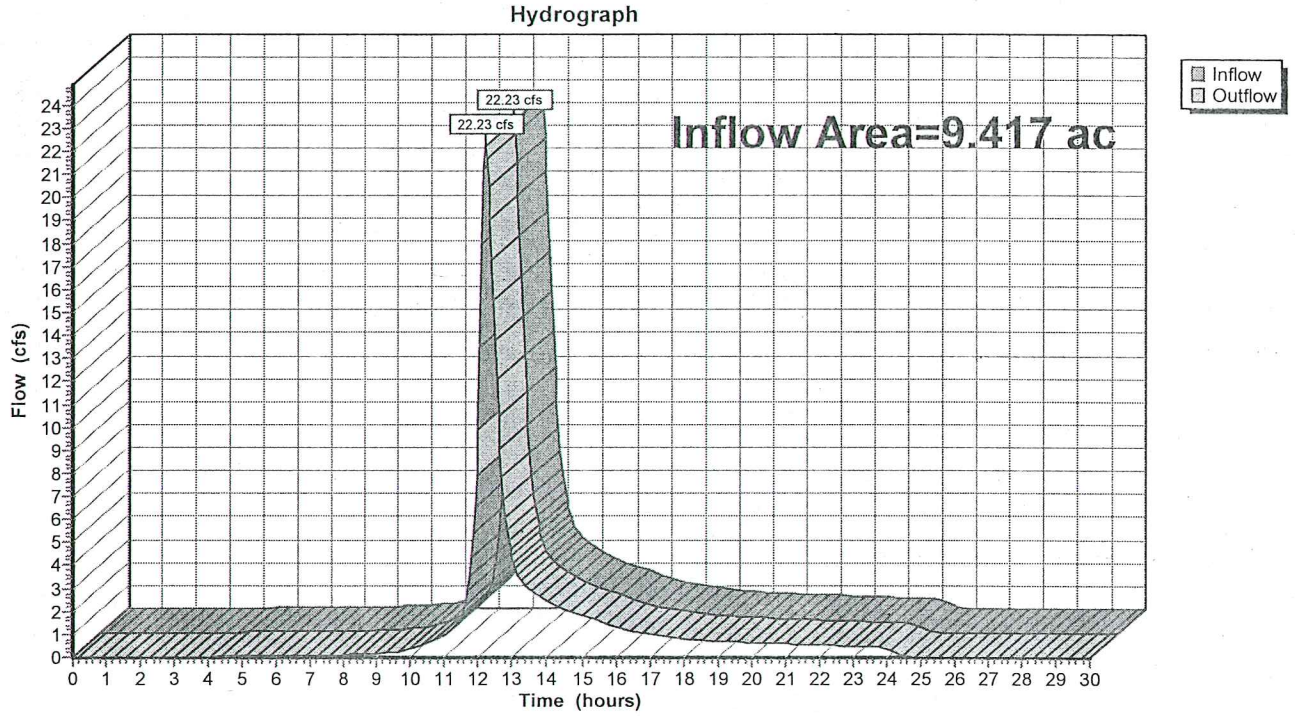


Summary for Reach DP#1: CRYSTAL LAKE

Inflow Area = 9.417 ac, 10.84% Impervious, Inflow Depth = 3.11" for 100-Year event
Inflow = 22.23 cfs @ 12.21 hrs, Volume= 2.444 af
Outflow = 22.23 cfs @ 12.21 hrs, Volume= 2.444 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DP#1: CRYSTAL LAKE

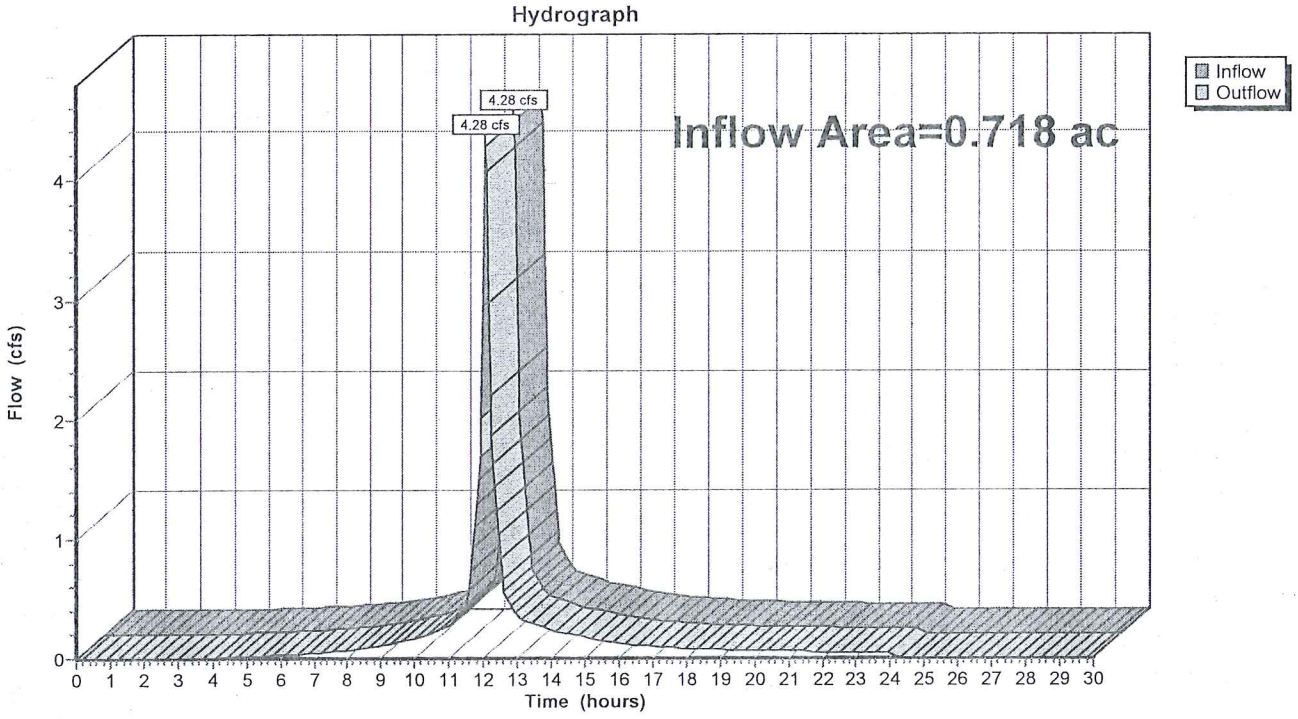


Summary for Reach DP#2: EX RAIN GARDEN

Inflow Area = 0.718 ac, 68.41% Impervious, Inflow Depth = 5.33" for 100-Year event
Inflow = 4.28 cfs @ 12.07 hrs, Volume= 0.319 af
Outflow = 4.28 cfs @ 12.07 hrs, Volume= 0.319 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DP#2: EX RAIN GARDEN

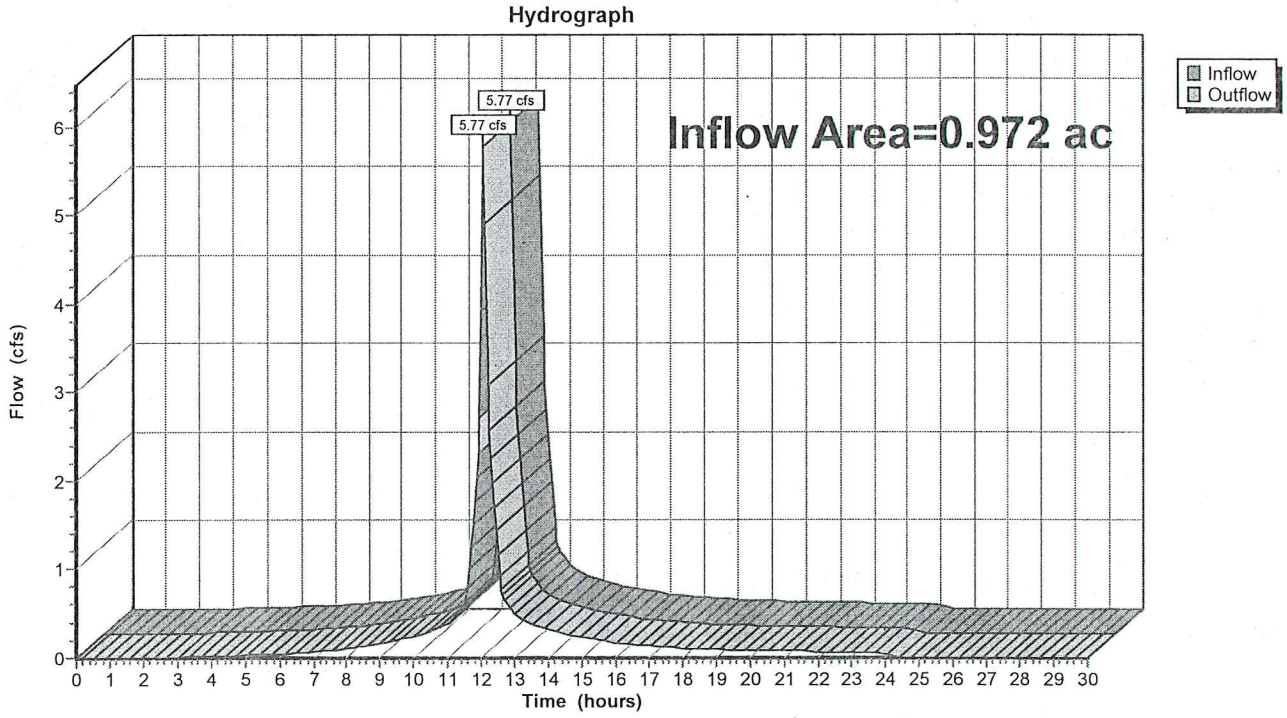


Summary for Reach DP#3: DMH-E

Inflow Area = 0.972 ac, 71.80% Impervious, Inflow Depth = 5.49" for 100-Year event
Inflow = 5.77 cfs @ 12.08 hrs, Volume= 0.445 af
Outflow = 5.77 cfs @ 12.08 hrs, Volume= 0.445 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DP#3: DMH-E

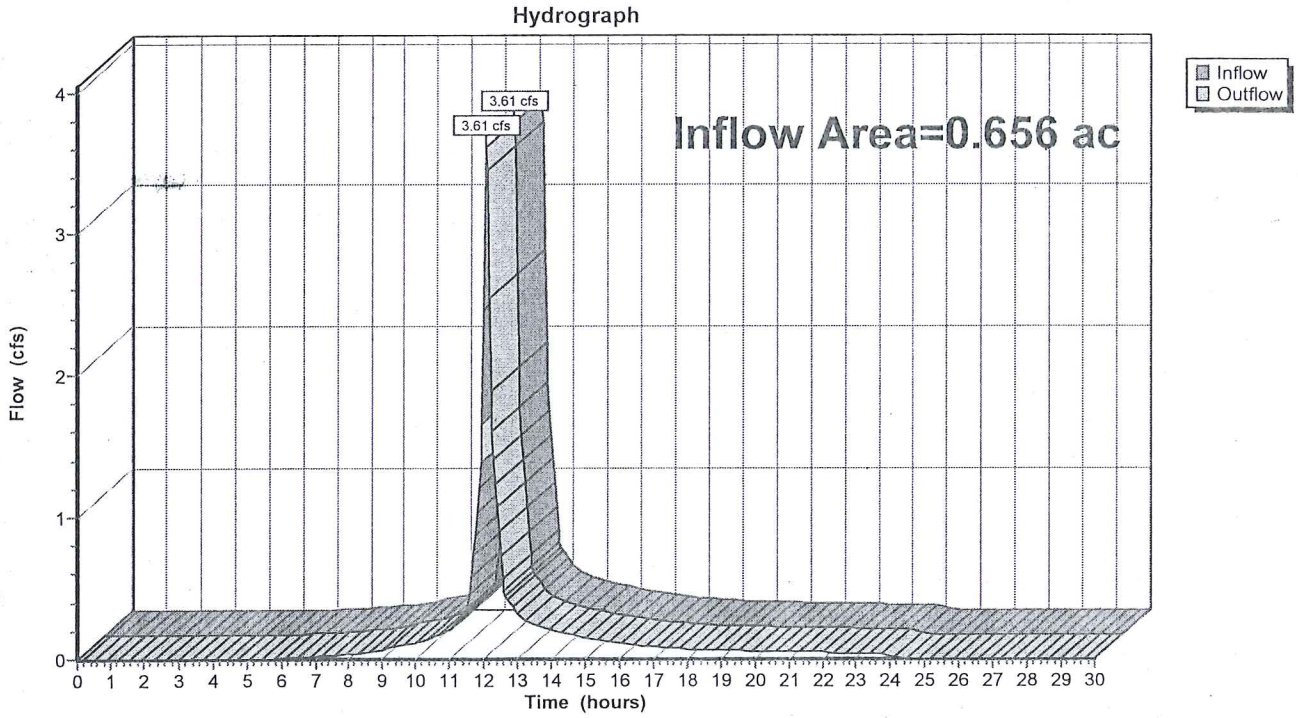


Summary for Reach DP#4: DCB-J

Inflow Area = 0.656 ac, 44.69% Impervious, Inflow Depth = 4.78" for 100-Year event
Inflow = 3.61 cfs @ 12.07 hrs, Volume= 0.261 af
Outflow = 3.61 cfs @ 12.07 hrs, Volume= 0.261 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

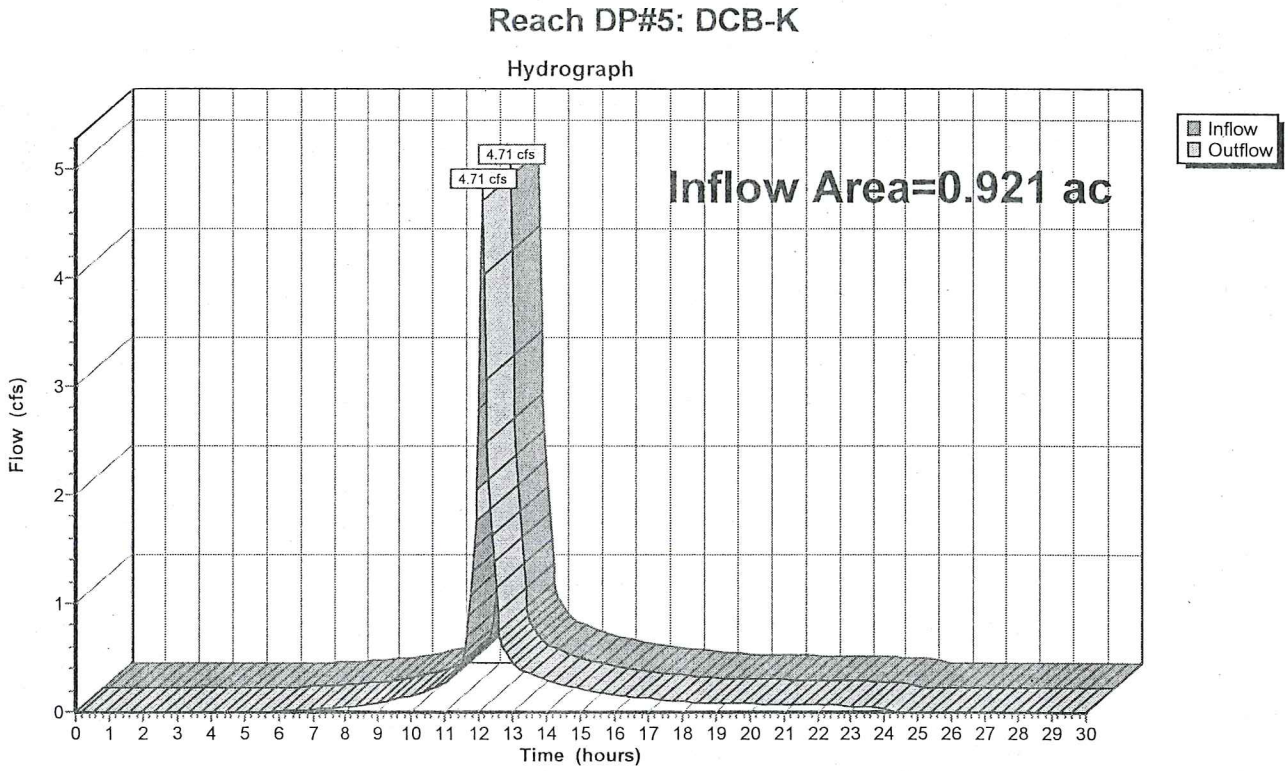
Reach DP#4: DCB-J



Summary for Reach DP#5: DCB-K

Inflow Area = 0.921 ac, 43.25% Impervious, Inflow Depth = 4.67" for 100-Year event
Inflow = 4.71 cfs @ 12.10 hrs, Volume= 0.358 af
Outflow = 4.71 cfs @ 12.10 hrs, Volume= 0.358 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs



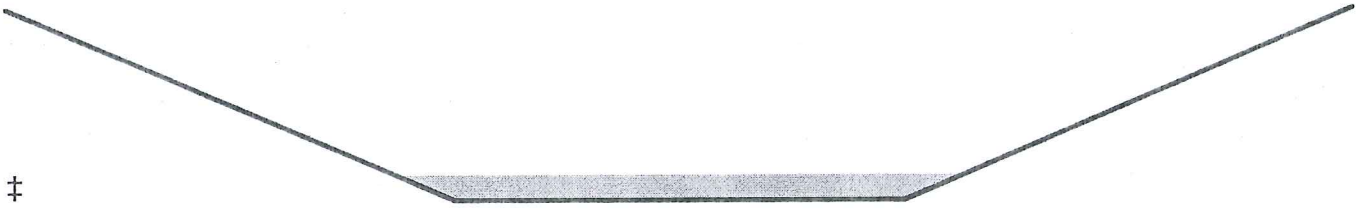
Summary for Reach OL1: OVERLAND FLOW

Inflow Area = 0.844 ac, 92.67% Impervious, Inflow Depth = 6.03" for 100-Year event
Inflow = 5.34 cfs @ 12.07 hrs, Volume= 0.424 af
Outflow = 5.30 cfs @ 12.07 hrs, Volume= 0.424 af, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.44 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 0.92 fps, Avg. Travel Time= 0.4 min

Peak Storage= 31 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.14'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 216.87 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 20.0' Slope= 0.4500 '/'
Inlet Invert= 1,175.00', Outlet Invert= 1,166.00'



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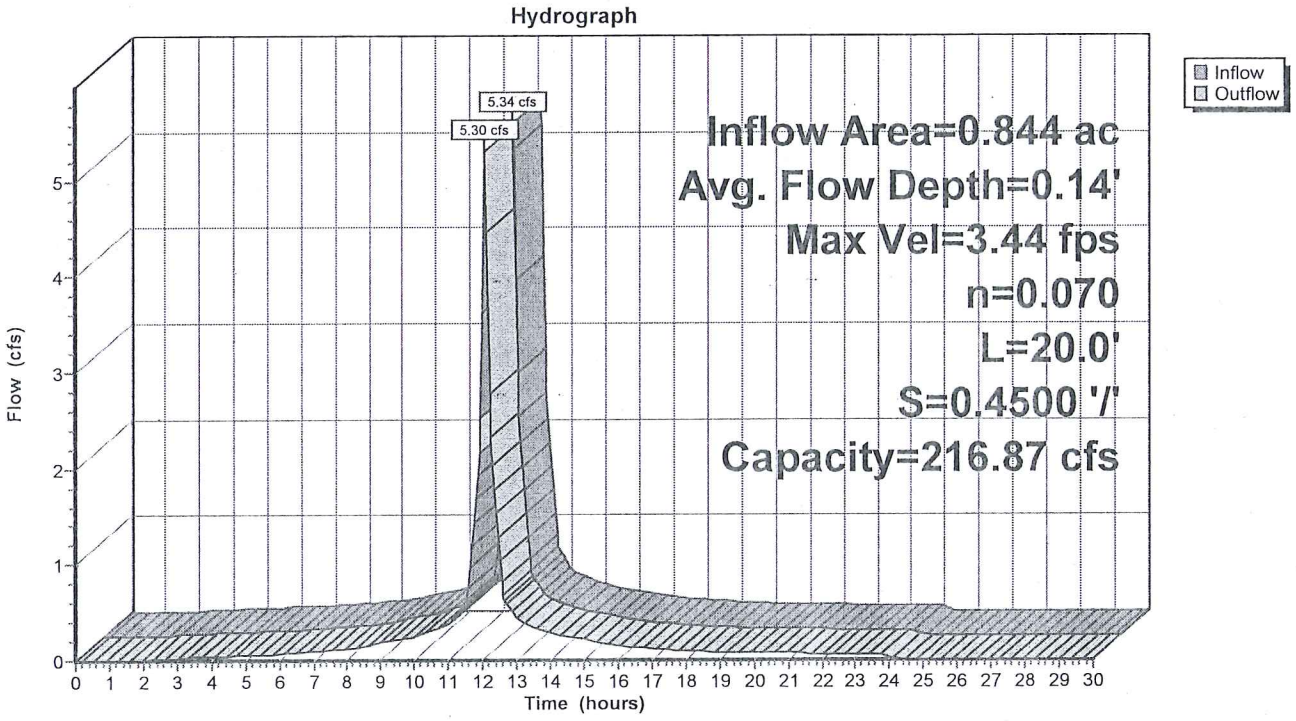
Reach OL1: OVERLAND FLOW



Stage-Discharge for Reach OL1: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.00	0.00	0.00
1,175.01	0.66	0.07
1,175.02	1.04	0.21
1,175.03	1.35	0.42
1,175.04	1.62	0.68
1,175.05	1.87	0.98
1,175.06	2.10	1.34
1,175.07	2.32	1.74
1,175.08	2.52	2.18
1,175.09	2.71	2.66
1,175.10	2.89	3.18
1,175.11	3.07	3.75
1,175.12	3.24	4.35
1,175.13	3.40	4.99
1,175.14	3.55	5.67
1,175.15	3.70	6.39
1,175.16	3.85	7.14
1,175.17	3.99	7.93
1,175.18	4.13	8.76
1,175.19	4.26	9.63
1,175.20	4.39	10.54
1,175.21	4.52	11.48
1,175.22	4.64	12.46
1,175.23	4.76	13.48
1,175.24	4.88	14.53
1,175.25	5.00	15.62
1,175.26	5.11	16.75
1,175.27	5.23	17.92
1,175.28	5.34	19.12
1,175.29	5.44	20.36
1,175.30	5.55	21.64
1,175.31	5.65	22.96
1,175.32	5.76	24.32
1,175.33	5.86	25.71
1,175.34	5.96	27.15
1,175.35	6.06	28.62
1,175.36	6.15	30.13
1,175.37	6.25	31.68
1,175.38	6.34	33.27
1,175.39	6.44	34.89
1,175.40	6.53	36.56
1,175.41	6.62	38.27
1,175.42	6.71	40.01
1,175.43	6.80	41.80
1,175.44	6.89	43.63
1,175.45	6.97	45.50
1,175.46	7.06	47.40
1,175.47	7.14	49.35
1,175.48	7.23	51.34
1,175.49	7.31	53.38
1,175.50	7.39	55.45
1,175.51	7.47	57.56
1,175.52	7.56	59.72
1,175.53	7.64	61.92
1,175.54	7.72	64.16
1,175.55	7.79	66.44
1,175.56	7.87	68.77
1,175.57	7.95	71.14
1,175.58	8.03	73.55
1,175.59	8.10	76.01
1,175.60	8.18	78.51
1,175.61	8.25	81.05
1,175.62	8.33	83.64
1,175.63	8.40	86.27
1,175.64	8.47	88.95
1,175.65	8.55	91.67
1,175.66	8.62	94.44
1,175.67	8.69	97.25
1,175.68	8.76	100.10
1,175.69	8.83	103.01
1,175.70	8.90	105.96
1,175.71	8.97	108.95
1,175.72	9.04	111.99
1,175.73	9.11	115.08
1,175.74	9.18	118.21
1,175.75	9.25	121.39
1,175.76	9.32	124.62
1,175.77	9.38	127.90
1,175.78	9.45	131.22
1,175.79	9.52	134.60
1,175.80	9.58	138.02
1,175.81	9.65	141.48
1,175.82	9.72	145.00
1,175.83	9.78	148.57
1,175.84	9.85	152.18
1,175.85	9.91	155.85
1,175.86	9.97	159.56
1,175.87	10.04	163.32
1,175.88	10.10	167.14
1,175.89	10.17	171.00
1,175.90	10.23	174.91
1,175.91	10.29	178.88
1,175.92	10.35	182.89
1,175.93	10.42	186.96
1,175.94	10.48	191.08
1,175.95	10.54	195.25
1,175.96	10.60	199.47
1,175.97	10.66	203.74
1,175.98	10.72	208.06
1,175.99	10.78	212.44
1,176.00	**10.84**	**216.87**

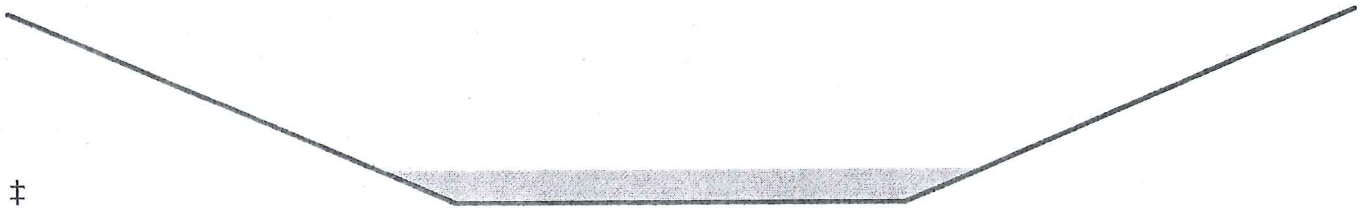
Summary for Reach OL2: OVERLAND FLOW

Inflow Area = 0.844 ac, 92.67% Impervious, Inflow Depth = 6.03" for 100-Year event
Inflow = 5.30 cfs @ 12.07 hrs, Volume= 0.424 af
Outflow = 4.97 cfs @ 12.12 hrs, Volume= 0.424 af, Atten= 6%, Lag= 2.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.54 fps, Min. Travel Time= 1.6 min
Avg. Velocity = 0.66 fps, Avg. Travel Time= 6.1 min

Peak Storage= 499 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.17'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 136.00 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 243.0' Slope= 0.1770 '/'
Inlet Invert= 1,166.00', Outlet Invert= 1,123.00'



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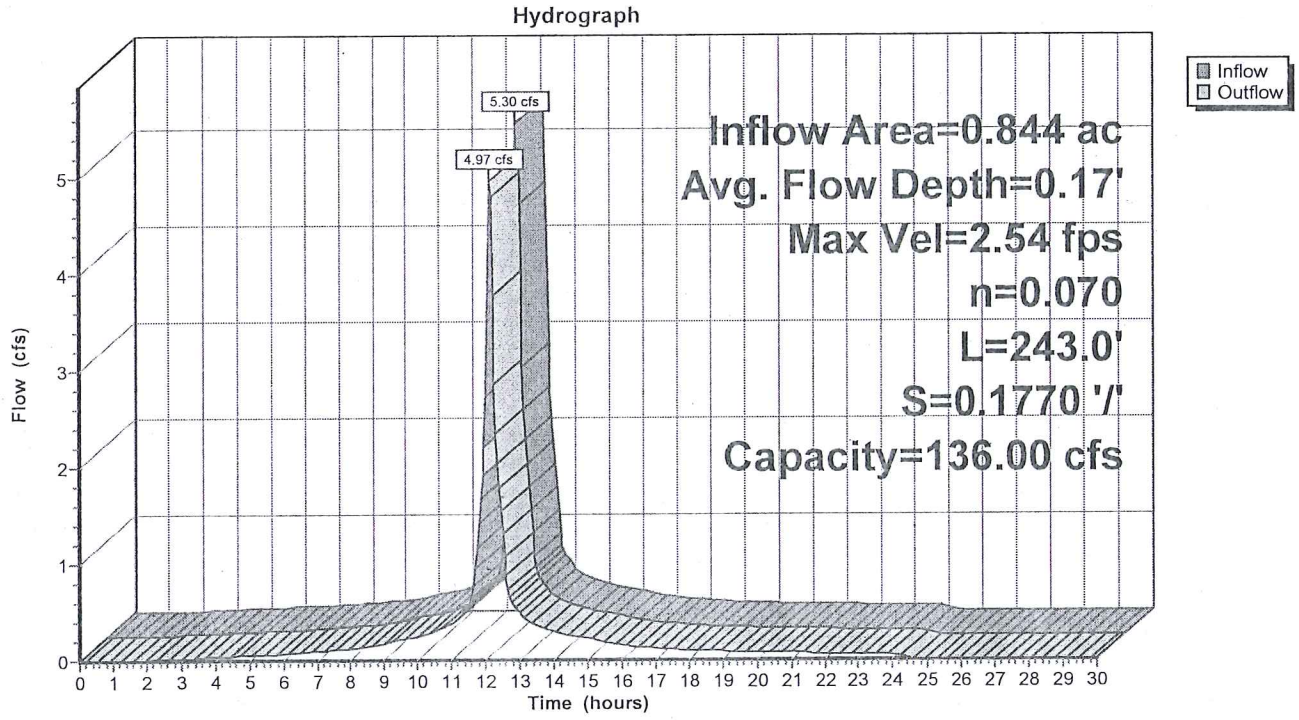
Reach OL2: OVERLAND FLOW



Stage-Discharge for Reach OL2: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,166.00	0.00	0.00
1,166.01	0.41	0.04
1,166.02	0.65	0.13
1,166.03	0.85	0.26
1,166.04	1.02	0.42
1,166.05	1.17	0.62
1,166.06	1.32	0.84
1,166.07	1.45	1.09
1,166.08	1.58	1.37
1,166.09	1.70	1.67
1,166.10	1.81	2.00
1,166.11	1.92	2.35
1,166.12	2.03	2.73
1,166.13	2.13	3.13
1,166.14	2.23	3.55
1,166.15	2.32	4.00
1,166.16	2.41	4.48
1,166.17	2.50	4.98
1,166.18	2.59	5.50
1,166.19	2.67	6.04
1,166.20	2.75	6.61
1,166.21	2.83	7.20
1,166.22	2.91	7.81
1,166.23	2.99	8.45
1,166.24	3.06	9.11
1,166.25	3.13	9.80
1,166.26	3.21	10.50
1,166.27	3.28	11.24
1,166.28	3.35	11.99
1,166.29	3.41	12.77
1,166.30	3.48	13.57
1,166.31	3.55	14.40
1,166.32	3.61	15.25
1,166.33	3.67	16.12
1,166.34	3.74	17.02
1,166.35	3.80	17.95
1,166.36	3.86	18.89
1,166.37	3.92	19.86
1,166.38	3.98	20.86
1,166.39	4.04	21.88
1,166.40	4.09	22.93
1,166.41	4.15	24.00
1,166.42	4.21	25.09
1,166.43	4.26	26.21
1,166.44	4.32	27.36
1,166.45	4.37	28.53
1,166.46	4.43	29.73
1,166.47	4.48	30.95
1,166.48	4.53	32.20
1,166.49	4.58	33.47
1,166.50	4.64	34.77
1,166.51	4.69	36.10
1,166.52	4.74	37.45
1,166.53	4.79	38.83
1,166.54	4.84	40.23
1,166.55	4.89	41.67
1,166.56	4.94	43.12
1,166.57	4.98	44.61
1,166.58	5.03	46.12
1,166.59	5.08	47.66
1,166.60	5.13	49.23
1,166.61	5.18	50.83
1,166.62	5.22	52.45
1,166.63	5.27	54.10
1,166.64	5.31	55.78
1,166.65	5.36	57.48
1,166.66	5.41	59.22
1,166.67	5.45	60.98
1,166.68	5.49	62.77
1,166.69	5.54	64.59
1,166.70	5.58	66.44
1,166.71	5.63	68.32
1,166.72	5.67	70.23
1,166.73	5.71	72.16
1,166.74	5.76	74.13
1,166.75	5.80	76.12
1,166.76	5.84	78.15
1,166.77	5.88	80.20
1,166.78	5.93	82.29
1,166.79	5.97	84.40
1,166.80	6.01	86.55
1,166.81	6.05	88.72
1,166.82	6.09	90.93
1,166.83	6.13	93.16
1,166.84	6.17	95.43
1,166.85	6.21	97.73
1,166.86	6.26	100.06
1,166.87	6.30	102.42
1,166.88	6.34	104.81
1,166.89	6.37	107.23
1,166.90	6.41	109.68
1,166.91	6.45	112.17
1,166.92	6.49	114.69
1,166.93	6.53	117.24
1,166.94	6.57	119.82
1,166.95	6.61	122.44
1,166.96	6.65	125.08
1,166.97	6.69	127.76
1,166.98	6.72	130.47
1,166.99	6.76	133.22
1,167.00	**6.80**	**136.00**

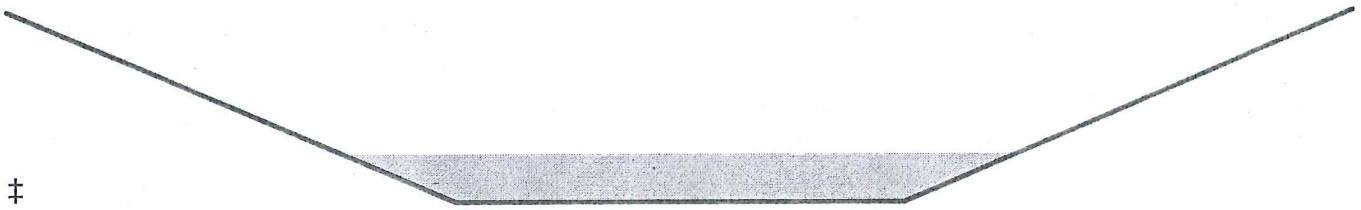
Summary for Reach OL3: OVERLAND FLOW

Inflow Area = 0.844 ac, 92.67% Impervious, Inflow Depth = 6.03" for 100-Year event
Inflow = 4.97 cfs @ 12.12 hrs, Volume= 0.424 af
Outflow = 4.88 cfs @ 12.14 hrs, Volume= 0.424 af, Atten= 2%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.57 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.42 fps, Avg. Travel Time= 1.8 min

Peak Storage= 142 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.25'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 68.16 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 45.0' Slope= 0.0444 '/'
Inlet Invert= 1,122.00', Outlet Invert= 1,120.00'



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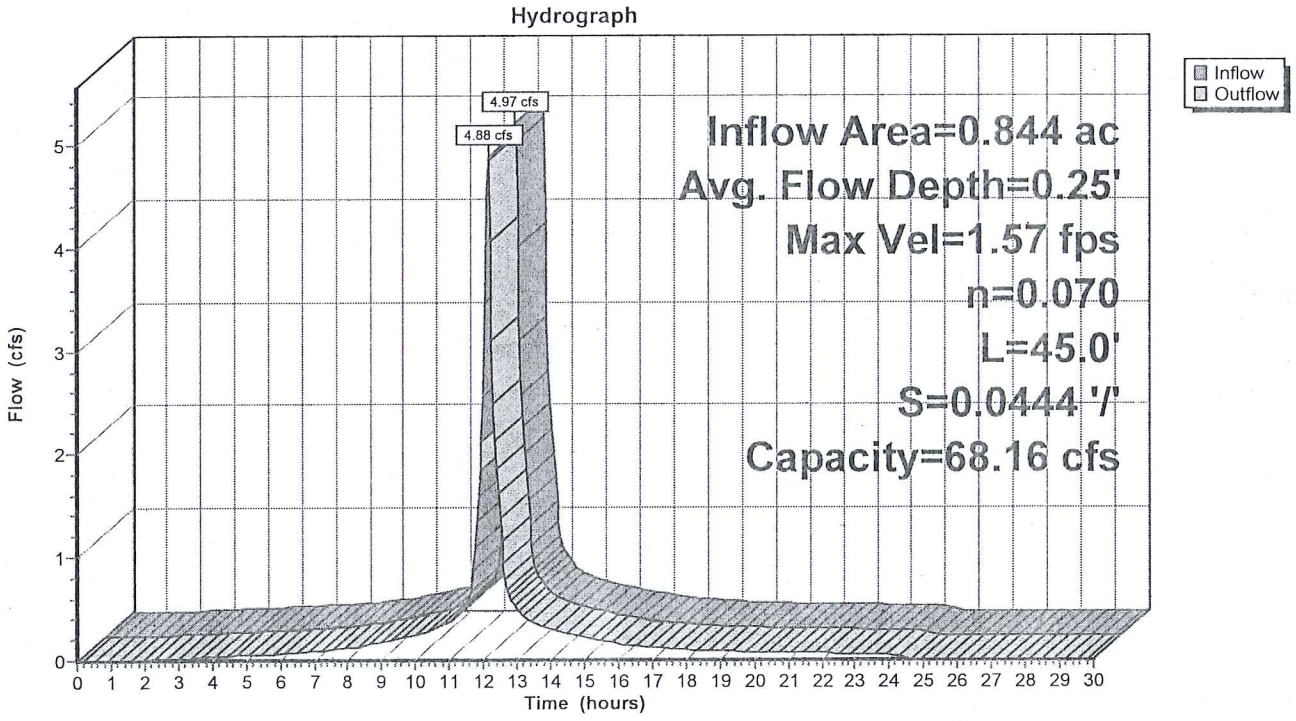
Reach OL3: OVERLAND FLOW



Stage-Discharge for Reach OL3: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,122.00	0.00	0.00
1,122.01	0.21	0.02
1,122.02	0.33	0.07
1,122.03	0.42	0.13
1,122.04	0.51	0.21
1,122.05	0.59	0.31
1,122.06	0.66	0.42
1,122.07	0.73	0.55
1,122.08	0.79	0.68
1,122.09	0.85	0.84
1,122.10	0.91	1.00
1,122.11	0.96	1.18
1,122.12	1.02	1.37
1,122.13	1.07	1.57
1,122.14	1.12	1.78
1,122.15	1.16	2.01
1,122.16	1.21	2.24
1,122.17	1.25	2.49
1,122.18	1.30	2.75
1,122.19	1.34	3.03
1,122.20	1.38	3.31
1,122.21	1.42	3.61
1,122.22	1.46	3.92
1,122.23	1.50	4.24
1,122.24	1.53	4.57
1,122.25	1.57	4.91
1,122.26	1.61	5.26
1,122.27	1.64	5.63
1,122.28	1.68	6.01
1,122.29	1.71	6.40
1,122.30	1.74	6.80
1,122.31	1.78	7.22
1,122.32	1.81	7.64
1,122.33	1.84	8.08
1,122.34	1.87	8.53
1,122.35	1.90	8.99
1,122.36	1.93	9.47
1,122.37	1.96	9.96
1,122.38	1.99	10.45
1,122.39	2.02	10.97
1,122.40	2.05	11.49
1,122.41	2.08	12.03
1,122.42	2.11	12.58
1,122.43	2.14	13.14
1,122.44	2.16	13.71
1,122.45	2.19	14.30
1,122.46	2.22	14.90
1,122.47	2.24	15.51
1,122.48	2.27	16.14
1,122.49	2.30	16.77
1,122.50	2.32	17.43
1,122.51	2.35	18.09
1,122.52	2.37	18.77
1,122.53	2.40	19.46
1,122.54	2.42	20.16
1,122.55	2.45	20.88
1,122.56	2.47	21.61
1,122.57	2.50	22.36
1,122.58	2.52	23.12
1,122.59	2.55	23.89
1,122.60	2.57	24.67
1,122.61	2.59	25.47
1,122.62	2.62	26.29
1,122.63	2.64	27.11
1,122.64	2.66	27.95
1,122.65	2.69	28.81
1,122.66	2.71	29.68
1,122.67	2.73	30.56
1,122.68	2.75	31.46
1,122.69	2.78	32.37
1,122.70	2.80	33.30
1,122.71	2.82	34.24
1,122.72	2.84	35.20
1,122.73	2.86	36.17
1,122.74	2.89	37.15
1,122.75	2.91	38.15
1,122.76	2.93	39.17
1,122.77	2.95	40.20
1,122.78	2.97	41.24
1,122.79	2.99	42.30
1,122.80	3.01	43.37
1,122.81	3.03	44.46
1,122.82	3.05	45.57
1,122.83	3.07	46.69
1,122.84	3.09	47.83
1,122.85	3.11	48.98
1,122.86	3.13	50.14
1,122.87	3.15	51.33
1,122.88	3.17	52.53
1,122.89	3.19	53.74
1,122.90	3.21	54.97
1,122.91	3.23	56.22
1,122.92	3.25	57.48
1,122.93	3.27	58.76
1,122.94	3.29	60.05
1,122.95	3.31	61.36
1,122.96	3.33	62.69
1,122.97	3.35	64.03
1,122.98	3.37	65.39
1,122.99	3.39	66.76
1,123.00	**3.41**	**68.16**

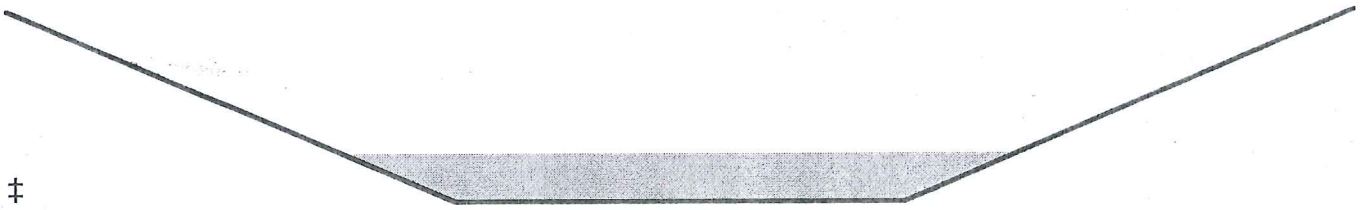
Summary for Reach OL4: OVERLAND FLOW

Inflow Area = 3.538 ac, 24.19% Impervious, Inflow Depth = 3.58" for 100-Year event
Inflow = 11.06 cfs @ 12.17 hrs, Volume= 1.056 af
Outflow = 10.89 cfs @ 12.18 hrs, Volume= 1.056 af, Atten= 2%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.47 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 0.94 fps, Avg. Travel Time= 1.3 min

Peak Storage= 235 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.25'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 150.33 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 74.0' Slope= 0.2162 '/'
Inlet Invert= 1,117.75', Outlet Invert= 1,101.75'



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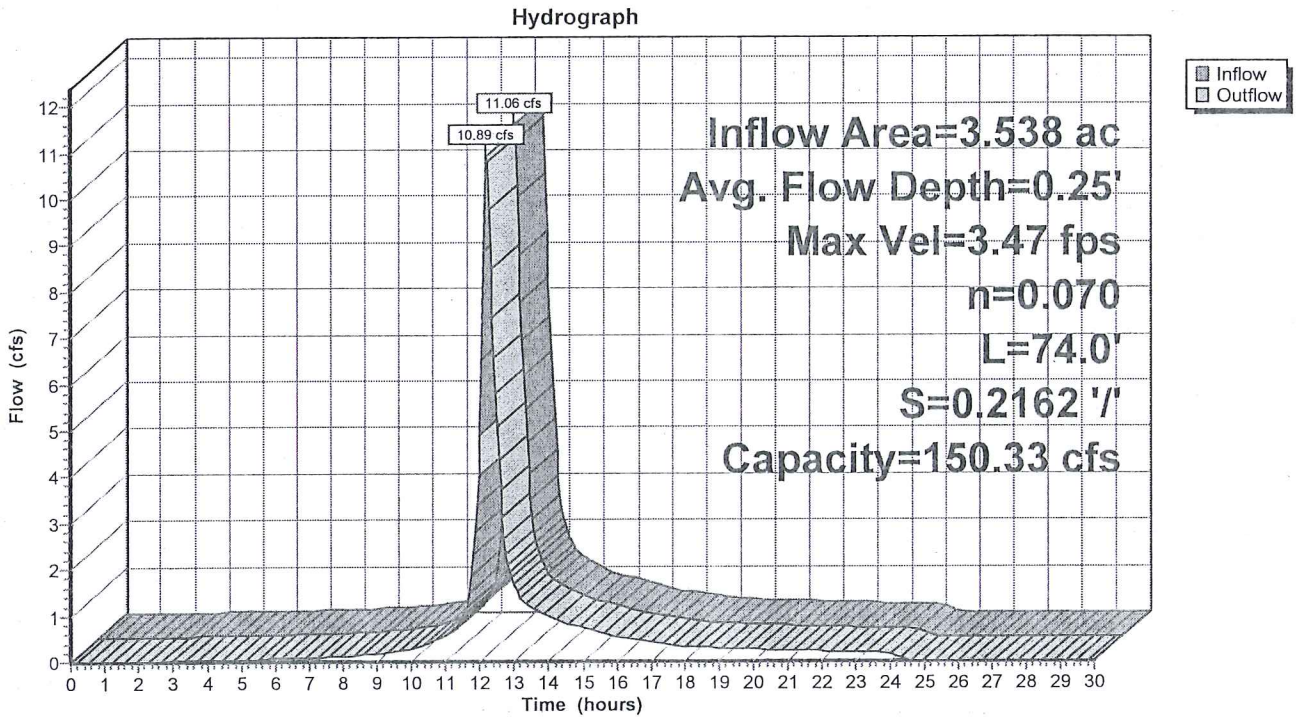
Reach OL4: OVERLAND FLOW



Stage-Discharge for Reach OL4: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,117.75	0.00	0.00
1,117.76	0.46	0.05
1,117.77	0.72	0.15
1,117.78	0.93	0.29
1,117.79	1.13	0.47
1,117.80	1.30	0.68
1,117.81	1.46	0.93
1,117.82	1.61	1.20
1,117.83	1.75	1.51
1,117.84	1.88	1.84
1,117.85	2.01	2.21
1,117.86	2.13	2.60
1,117.87	2.24	3.01
1,117.88	2.35	3.46
1,117.89	2.46	3.93
1,117.90	2.57	4.43
1,117.91	2.67	4.95
1,117.92	2.76	5.50
1,117.93	2.86	6.08
1,117.94	2.95	6.68
1,117.95	3.04	7.30
1,117.96	3.13	7.96
1,117.97	3.22	8.64
1,117.98	3.30	9.34
1,117.99	3.38	10.07
1,118.00	3.47	10.83
1,118.01	3.54	11.61
1,118.02	3.62	12.42
1,118.03	3.70	13.25
1,118.04	3.77	14.12
1,118.05	3.85	15.00
1,118.06	3.92	15.92
1,118.07	3.99	16.86
1,118.08	4.06	17.82
1,118.09	4.13	18.82
1,118.10	4.20	19.84
1,118.11	4.27	20.88
1,118.12	4.33	21.96
1,118.13	4.40	23.06
1,118.14	4.46	24.19
1,118.15	4.53	25.34
1,118.16	4.59	26.53
1,118.17	4.65	27.74
1,118.18	4.71	28.98
1,118.19	4.77	30.24
1,118.20	4.83	31.54
1,118.21	4.89	32.86
1,118.22	4.95	34.21
1,118.23	5.01	35.59
1,118.24	5.07	37.00
1,118.25	5.12	38.43
1,118.26	5.18	39.90
1,118.27	5.24	41.40
1,118.28	5.29	42.92
1,118.29	5.35	44.47
1,118.30	5.40	46.06
1,118.31	5.46	47.67
1,118.32	5.51	49.31
1,118.33	5.56	50.98
1,118.34	5.62	52.69
1,118.35	5.67	54.42
1,118.36	5.72	56.18
1,118.37	5.77	57.98
1,118.38	5.82	59.80
1,118.39	5.87	61.66
1,118.40	5.92	63.54
1,118.41	5.97	65.46
1,118.42	6.02	67.41
1,118.43	6.07	69.39
1,118.44	6.12	71.40
1,118.45	6.17	73.44
1,118.46	6.22	75.52
1,118.47	6.27	77.63
1,118.48	6.32	79.77
1,118.49	6.36	81.94
1,118.50	6.41	84.15
1,118.51	6.46	86.39
1,118.52	6.50	88.66
1,118.53	6.55	90.96
1,118.54	6.60	93.30
1,118.55	6.64	95.67
1,118.56	6.69	98.07
1,118.57	6.73	100.51
1,118.58	6.78	102.98
1,118.59	6.82	105.49
1,118.60	6.87	108.03
1,118.61	6.91	110.60
1,118.62	6.96	113.21
1,118.63	7.00	115.85
1,118.64	7.05	118.53
1,118.65	7.09	121.24
1,118.66	7.13	123.99
1,118.67	7.18	126.78
1,118.68	7.22	129.59
1,118.69	7.26	132.45
1,118.70	7.31	135.34
1,118.71	7.35	138.26
1,118.72	7.39	141.23
1,118.73	7.43	144.22
1,118.74	7.47	147.26
1,118.75	**7.52**	**150.33**

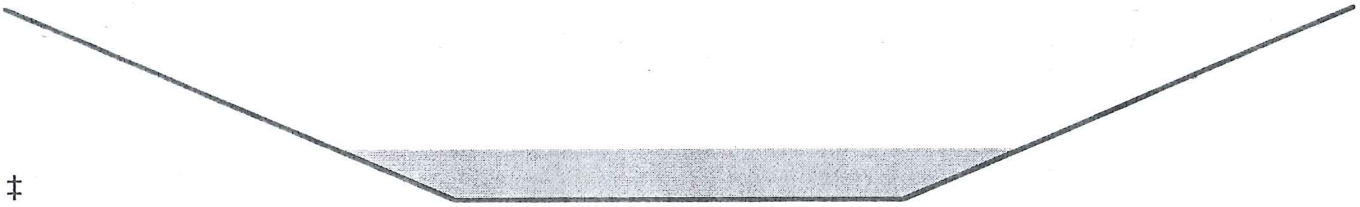
Summary for Reach OL5: OVERLAND FLOW

Inflow Area = 4.252 ac, 2.48% Impervious, Inflow Depth = 2.91" for 100-Year event
Inflow = 9.53 cfs @ 12.30 hrs, Volume= 1.032 af
Outflow = 9.48 cfs @ 12.31 hrs, Volume= 1.032 af, Atten= 0%, Lag= 1.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.86 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 0.98 fps, Avg. Travel Time= 1.7 min

Peak Storage= 340 cf @ 12.30 hrs
Average Depth at Peak Storage= 0.26'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 120.20 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 102.0' Slope= 0.1382 '/'
Inlet Invert= 1,114.10', Outlet Invert= 1,100.00'



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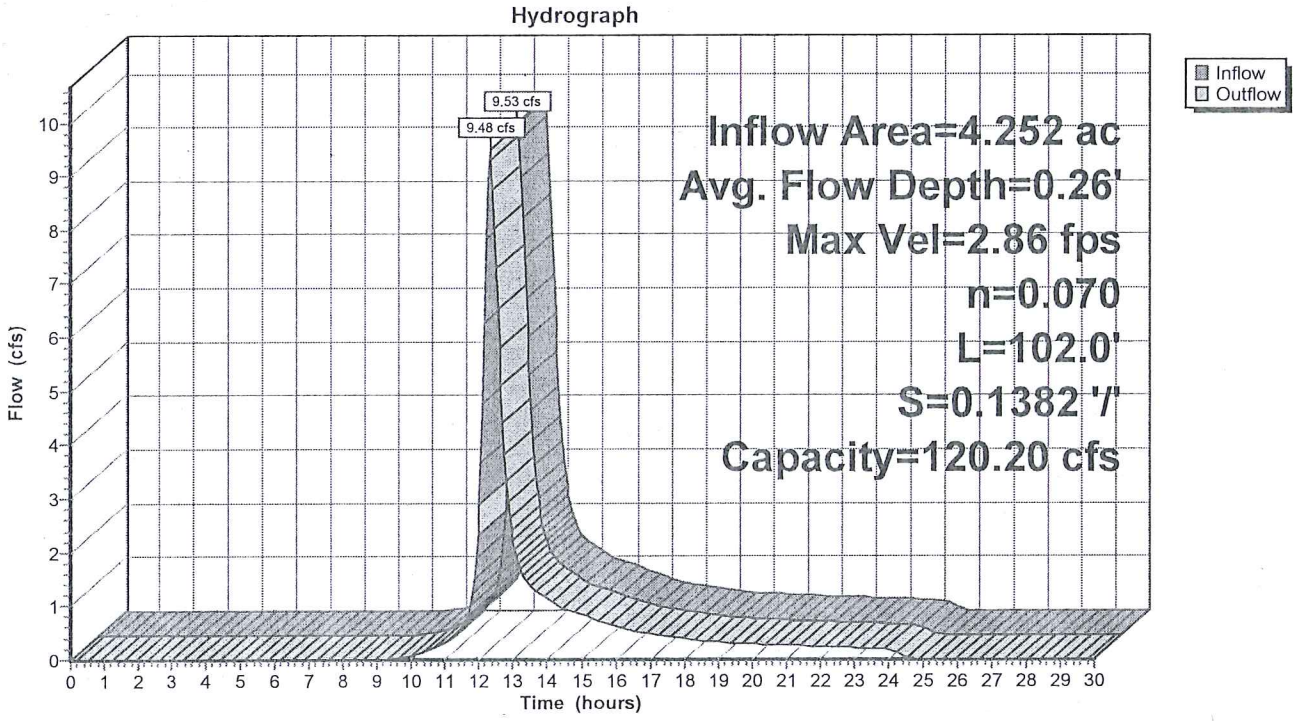
Reach OL5: OVERLAND FLOW



Stage-Discharge for Reach OL5: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,114.10	0.00	0.00
1,114.11	0.36	0.04
1,114.12	0.57	0.12
1,114.13	0.75	0.23
1,114.14	0.90	0.37
1,114.15	1.04	0.55
1,114.16	1.17	0.74
1,114.17	1.28	0.96
1,114.18	1.40	1.21
1,114.19	1.50	1.47
1,114.20	1.60	1.76
1,114.21	1.70	2.08
1,114.22	1.79	2.41
1,114.23	1.88	2.77
1,114.24	1.97	3.14
1,114.25	2.05	3.54
1,114.26	2.13	3.96
1,114.27	2.21	4.40
1,114.28	2.29	4.86
1,114.29	2.36	5.34
1,114.30	2.43	5.84
1,114.31	2.50	6.36
1,114.32	2.57	6.91
1,114.33	2.64	7.47
1,114.34	2.71	8.05
1,114.35	2.77	8.66
1,114.36	2.83	9.28
1,114.37	2.90	9.93
1,114.38	2.96	10.60
1,114.39	3.02	11.29
1,114.40	3.08	12.00
1,114.41	3.13	12.73
1,114.42	3.19	13.48
1,114.43	3.25	14.25
1,114.44	3.30	15.05
1,114.45	3.36	15.86
1,114.46	3.41	16.70
1,114.47	3.46	17.56
1,114.48	3.52	18.44
1,114.49	3.57	19.34
1,114.50	3.62	20.26
1,114.51	3.67	21.21
1,114.52	3.72	22.18
1,114.53	3.77	23.17
1,114.54	3.82	24.18
1,114.55	3.86	25.22
1,114.56	3.91	26.27
1,114.57	3.96	27.35
1,114.58	4.01	28.46
1,114.59	4.05	29.58
1,114.60	4.10	30.73
1,114.61	4.14	31.90
1,114.62	4.19	33.10
1,114.63	4.23	34.32
1,114.64	4.28	35.56
1,114.65	4.32	36.83
1,114.66	4.36	38.12
1,114.67	4.41	39.43
1,114.68	4.45	40.77
1,114.69	4.49	42.13
1,114.70	4.53	43.51
1,114.71	4.57	44.92
1,114.72	4.62	46.36
1,114.73	4.66	47.82
1,114.74	4.70	49.30
1,114.75	4.74	50.81
1,114.76	4.78	52.34
1,114.77	4.82	53.90
1,114.78	4.86	55.48
1,114.79	4.90	57.09
1,114.80	4.93	58.73
1,114.81	4.97	60.39
1,114.82	5.01	62.07
1,114.83	5.05	63.78
1,114.84	5.09	65.52
1,114.85	5.13	67.28
1,114.86	5.16	69.07
1,114.87	5.20	70.89
1,114.88	5.24	72.73
1,114.89	5.28	74.60
1,114.90	5.31	76.49
1,114.91	5.35	78.42
1,114.92	5.39	80.37
1,114.93	5.42	82.34
1,114.94	5.46	84.35
1,114.95	5.49	86.38
1,114.96	5.53	88.44
1,114.97	5.56	90.52
1,114.98	5.60	92.63
1,114.99	5.63	94.78
1,115.00	5.67	96.94
1,115.01	5.70	99.14
1,115.02	5.74	101.37
1,115.03	5.77	103.62
1,115.04	5.81	105.90
1,115.05	5.84	108.21
1,115.06	5.88	110.55
1,115.07	5.91	112.92
1,115.08	5.94	115.32
1,115.09	5.98	117.74
1,115.10	**6.01**	**120.20**

Summary for Pond CULVERT#1: TO DP#1

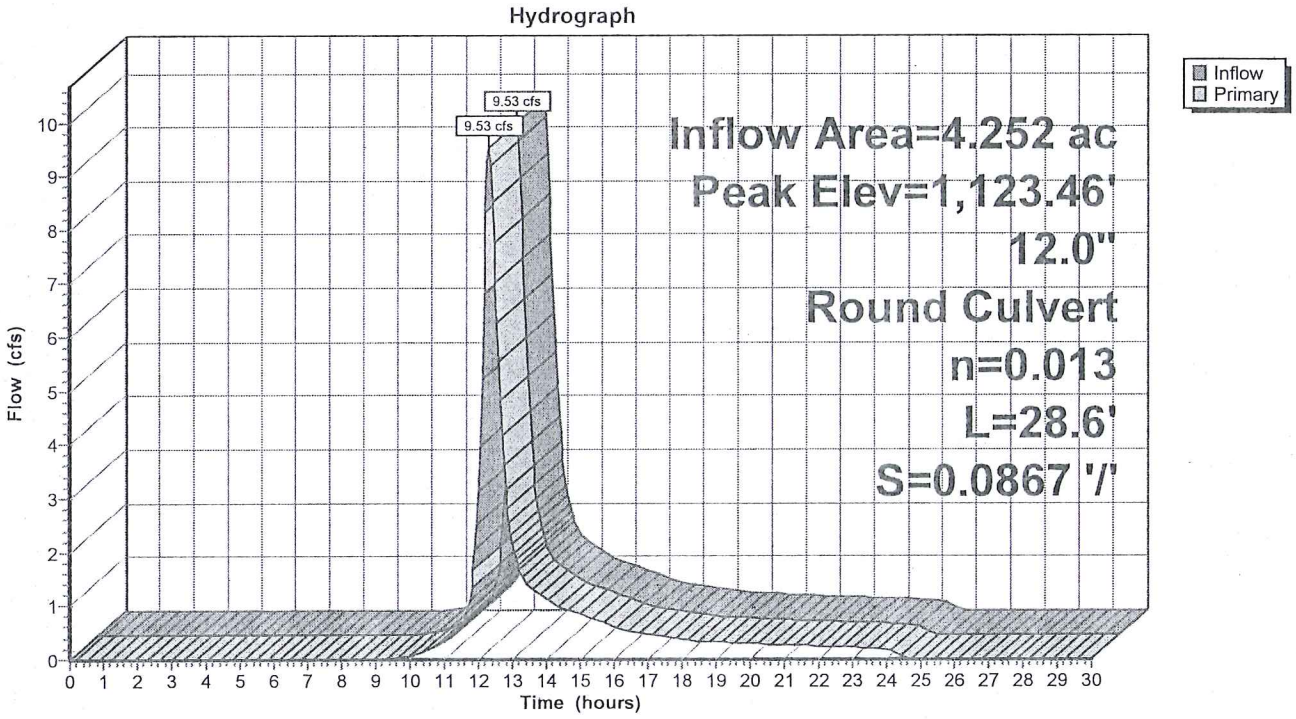
Inflow Area = 4.252 ac, 2.48% Impervious, Inflow Depth = 2.91" for 100-Year event
Inflow = 9.53 cfs @ 12.30 hrs, Volume= 1.032 af
Outflow = 9.53 cfs @ 12.30 hrs, Volume= 1.032 af, Atten= 0%, Lag= 0.0 min
Primary = 9.53 cfs @ 12.30 hrs, Volume= 1.032 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,123.46' @ 12.30 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,116.61'	**12.0" Round Culvert** L= 28.6' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,116.61' / 1,114.13' S= 0.0867 '/' Cc= 0.900 n= 0.013 Cast iron, coated, Flow Area= 0.79 sf

Primary OutFlow Max=9.51 cfs @ 12.30 hrs HW=1,123.43' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 9.51 cfs @ 12.10 fps)

Pond CULVERT#1: TO DP#1



Stage-Discharge for Pond CULVERT#1: TO DP#1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,116.61	0.00	1,118.69	4.75	1,120.77	7.23	1,122.85	9.06
1,116.65	0.01	1,118.73	4.81	1,120.81	7.27	1,122.89	9.09
1,116.69	0.03	1,118.77	4.87	1,120.85	7.31	1,122.93	9.12
1,116.73	0.06	1,118.81	4.93	1,120.89	7.35	1,122.97	9.15
1,116.77	0.11	1,118.85	4.99	1,120.93	7.39	1,123.01	9.19
1,116.81	0.17	1,118.89	5.05	1,120.97	7.43	1,123.05	9.22
1,116.85	0.24	1,118.93	5.10	1,121.01	7.47	1,123.09	9.25
1,116.89	0.32	1,118.97	5.16	1,121.05	7.51	1,123.13	9.28
1,116.93	0.42	1,119.01	5.21	1,121.09	7.54	1,123.17	9.31
1,116.97	0.52	1,119.05	5.27	1,121.13	7.58	1,123.21	9.34
1,117.01	0.63	1,119.09	5.32	1,121.17	7.62	1,123.25	9.37
1,117.05	0.75	1,119.13	5.37	1,121.21	7.66	1,123.29	9.40
1,117.09	0.88	1,119.17	5.43	1,121.25	7.69	1,123.33	9.43
1,117.13	1.01	1,119.21	5.48	1,121.29	7.73	1,123.37	9.46
1,117.17	1.15	1,119.25	5.53	1,121.33	7.77	1,123.41	9.49
1,117.21	1.30	1,119.29	5.58	1,121.37	7.81	1,123.45	9.52
1,117.25	1.45	1,119.33	5.63	1,121.41	7.84	1,123.49	**9.55**
1,117.29	1.60	1,119.37	5.69	1,121.45	7.88		
1,117.33	1.75	1,119.41	5.74	1,121.49	7.91		
1,117.37	1.90	1,119.45	5.78	1,121.53	7.95		
1,117.41	2.05	1,119.49	5.83	1,121.57	7.99		
1,117.45	2.20	1,119.53	5.88	1,121.61	8.02		
1,117.49	2.34	1,119.57	5.93	1,121.65	8.06		
1,117.53	2.47	1,119.61	5.98	1,121.69	8.09		
1,117.57	2.58	1,119.65	6.03	1,121.73	8.13		
1,117.61	2.67	1,119.69	6.07	1,121.77	8.16		
1,117.65	2.78	1,119.73	6.12	1,121.81	8.20		
1,117.69	2.88	1,119.77	6.17	1,121.85	8.23		
1,117.73	2.98	1,119.81	6.21	1,121.89	8.27		
1,117.77	3.07	1,119.85	6.26	1,121.93	8.30		
1,117.81	3.16	1,119.89	6.31	1,121.97	8.34		
1,117.85	3.25	1,119.93	6.35	1,122.01	8.37		
1,117.89	3.34	1,119.97	6.40	1,122.05	8.41		
1,117.93	3.42	1,120.01	6.44	1,122.09	8.44		
1,117.97	3.51	1,120.05	6.48	1,122.13	8.47		
1,118.01	3.59	1,120.09	6.53	1,122.17	8.51		
1,118.05	3.67	1,120.13	6.57	1,122.21	8.54		
1,118.09	3.74	1,120.17	6.62	1,122.25	8.57		
1,118.13	3.82	1,120.21	6.66	1,122.29	8.61		
1,118.17	3.89	1,120.25	6.70	1,122.33	8.64		
1,118.21	3.97	1,120.29	6.74	1,122.37	8.67		
1,118.25	4.04	1,120.33	6.79	1,122.41	8.71		
1,118.29	4.11	1,120.37	6.83	1,122.45	8.74		
1,118.33	4.18	1,120.41	6.87	1,122.49	8.77		
1,118.37	4.24	1,120.45	6.91	1,122.53	8.80		
1,118.41	4.31	1,120.49	6.95	1,122.57	8.84		
1,118.45	4.38	1,120.53	6.99	1,122.61	8.87		
1,118.49	4.44	1,120.57	7.03	1,122.65	8.90		
1,118.53	4.51	1,120.61	7.07	1,122.69	8.93		
1,118.57	4.57	1,120.65	7.12	1,122.73	8.97		
1,118.61	4.63	1,120.69	7.16	1,122.77	9.00		
1,118.65	4.69	1,120.73	7.20	1,122.81	9.03		

Summary for Pond CULVERT#2: TO DP#1

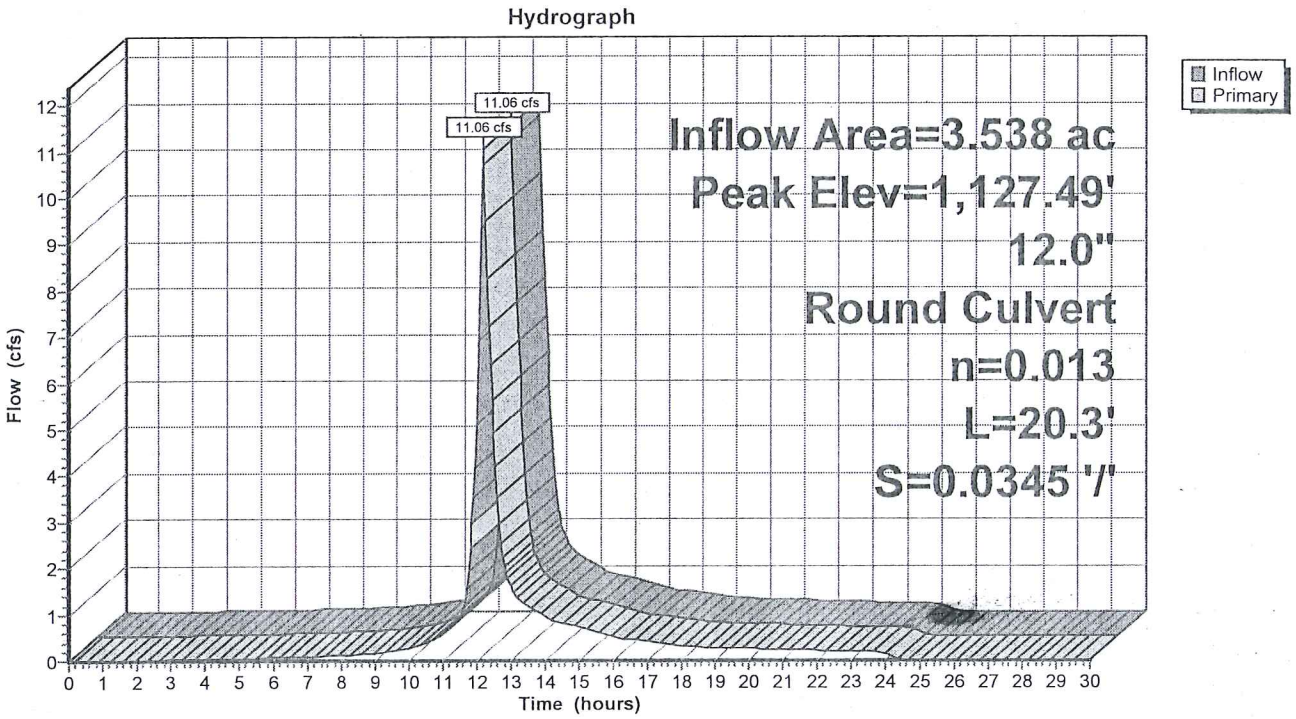
Inflow Area = 3.538 ac, 24.19% Impervious, Inflow Depth = 3.58" for 100-Year event
Inflow = 11.06 cfs @ 12.17 hrs, Volume= 1.056 af
Outflow = 11.06 cfs @ 12.17 hrs, Volume= 1.056 af, Atten= 0%, Lag= 0.0 min
Primary = 11.06 cfs @ 12.17 hrs, Volume= 1.056 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,127.49' @ 12.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,118.45'	**12.0" Round Culvert** L= 20.3' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,118.45' / 1,117.75' S= 0.0345 '/' Cc= 0.900 n= 0.013 Cast iron, coated, Flow Area= 0.79 sf

Primary OutFlow Max=10.85 cfs @ 12.17 hrs HW=1,127.19' (Free Discharge)
↑**1=Culvert** (Inlet Controls 10.85 cfs @ 13.82 fps)

Pond CULVERT#2: TO DP#1



Stage-Discharge for Pond CULVERT#2: TO DP#1

Elevation (feet)	Primary (cfs)
1,118.45	0.00
1,118.55	0.04
1,118.65	0.17
1,118.75	0.37
1,118.85	0.63
1,118.95	0.95
1,119.05	1.30
1,119.15	1.67
1,119.25	2.05
1,119.35	2.40
1,119.45	2.67
1,119.55	2.93
1,119.65	3.16
1,119.75	3.38
1,119.85	3.59
1,119.95	3.78
1,120.05	3.97
1,120.15	4.14
1,120.25	4.31
1,120.35	4.47
1,120.45	4.63
1,120.55	4.78
1,120.65	4.93
1,120.75	5.07
1,120.85	5.21
1,120.95	5.35
1,121.05	5.48
1,121.15	5.61
1,121.25	5.74
1,121.35	5.86
1,121.45	5.98
1,121.55	6.10
1,121.65	6.21
1,121.75	6.33
1,121.85	6.44
1,121.95	6.55
1,122.05	6.66
1,122.15	6.76
1,122.25	6.87
1,122.35	6.97
1,122.45	7.07
1,122.55	7.18
1,122.65	7.27
1,122.75	7.37
1,122.85	7.47
1,122.95	7.56
1,123.05	7.66
1,123.15	7.75
1,123.25	7.84
1,123.35	7.93
1,123.45	8.02
1,123.55	8.11
1,123.65	8.20
1,123.75	8.29
1,123.85	8.37
1,123.95	8.46
1,124.05	8.54
1,124.15	8.62
1,124.25	8.71
1,124.35	8.79
1,124.45	8.87
1,124.55	8.95
1,124.65	9.03
1,124.75	9.11
1,124.85	9.19
1,124.95	9.26
1,125.05	9.34
1,125.15	9.42
1,125.25	9.49
1,125.35	9.57
1,125.45	9.64
1,125.55	9.72
1,125.65	9.79
1,125.75	9.86
1,125.85	9.93
1,125.95	10.01
1,126.05	10.08
1,126.15	10.15
1,126.25	10.22
1,126.35	10.29
1,126.45	10.36
1,126.55	10.43
1,126.65	10.49
1,126.75	10.56
1,126.85	10.63
1,126.95	10.70
1,127.05	10.76
1,127.15	10.83
1,127.25	**10.89**

Summary for Pond DCBH: TO DP#4

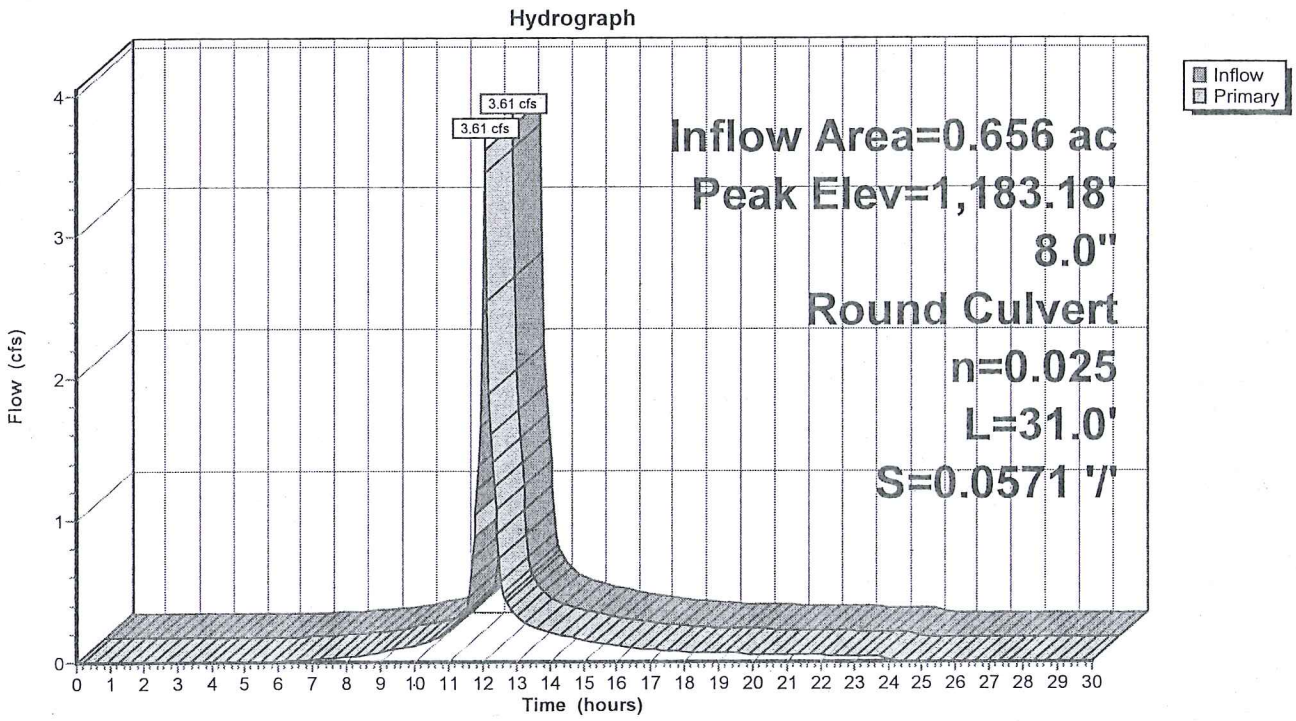
Inflow Area = 0.656 ac, 44.69% Impervious, Inflow Depth = 4.78" for 100-Year event
Inflow = 3.61 cfs @ 12.07 hrs, Volume= 0.261 af
Outflow = 3.61 cfs @ 12.07 hrs, Volume= 0.261 af, Atten= 0%, Lag= 0.0 min
Primary = 3.61 cfs @ 12.07 hrs, Volume= 0.261 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,183.18' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,171.67'	**8.0" Round Culvert** L= 31.0' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,171.67' / 1,169.90' S= 0.0571 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.35 sf

Primary OutFlow Max=3.48 cfs @ 12.07 hrs HW=1,182.39' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 3.48 cfs @ 9.96 fps)

Pond DCBH: TO DP#4



Stage-Discharge for Pond DCBH: TO DP#4

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,171.67	0.00	1,174.79	2.08	1,177.91	2.74	1,181.03	3.27
1,171.73	0.01	1,174.85	2.09	1,177.97	2.75	1,181.09	3.28
1,171.79	0.05	1,174.91	2.11	1,178.03	2.76	1,181.15	3.29
1,171.85	0.11	1,174.97	2.12	1,178.09	2.77	1,181.21	3.30
1,171.91	0.19	1,175.03	2.14	1,178.15	2.78	1,181.27	3.31
1,171.97	0.28	1,175.09	2.15	1,178.21	2.79	1,181.33	3.32
1,172.03	0.39	1,175.15	2.16	1,178.27	2.81	1,181.39	3.33
1,172.09	0.51	1,175.21	2.18	1,178.33	2.82	1,181.45	3.33
1,172.15	0.63	1,175.27	2.19	1,178.39	2.83	1,181.51	3.34
1,172.21	0.76	1,175.33	2.21	1,178.45	2.84	1,181.57	3.35
1,172.27	0.87	1,175.39	2.22	1,178.51	2.85	1,181.63	3.36
1,172.33	0.96	1,175.45	2.23	1,178.57	2.86	1,181.69	3.37
1,172.39	1.05	1,175.51	2.25	1,178.63	2.87	1,181.75	3.38
1,172.45	1.12	1,175.57	2.26	1,178.69	2.88	1,181.81	3.39
1,172.51	1.20	1,175.63	2.27	1,178.75	2.89	1,181.87	3.40
1,172.57	1.27	1,175.69	2.29	1,178.81	2.90	1,181.93	3.41
1,172.63	1.33	1,175.75	2.30	1,178.87	2.91	1,181.99	3.42
1,172.69	1.39	1,175.81	2.31	1,178.93	2.92	1,182.05	3.43
1,172.75	1.45	1,175.87	2.33	1,178.99	2.93	1,182.11	3.43
1,172.81	1.51	1,175.93	2.34	1,179.05	2.94	1,182.17	3.44
1,172.87	1.53	1,175.99	2.35	1,179.11	2.95	1,182.23	3.45
1,172.93	1.55	1,176.05	2.37	1,179.17	2.96	1,182.29	3.46
1,172.99	1.57	1,176.11	2.38	1,179.23	2.98	1,182.35	3.47
1,173.05	1.59	1,176.17	2.39	1,179.29	2.99	1,182.41	3.48
1,173.11	1.61	1,176.23	2.41	1,179.35	3.00	1,182.47	3.49
1,173.17	1.63	1,176.29	2.42	1,179.41	3.01	1,182.53	**3.50**
1,173.23	1.65	1,176.35	2.43	1,179.47	3.02		
1,173.29	1.67	1,176.41	2.44	1,179.53	3.03		
1,173.35	1.69	1,176.47	2.46	1,179.59	3.04		
1,173.41	1.70	1,176.53	2.47	1,179.65	3.05		
1,173.47	1.72	1,176.59	2.48	1,179.71	3.06		
1,173.53	1.74	1,176.65	2.49	1,179.77	3.07		
1,173.59	1.76	1,176.71	2.51	1,179.83	3.08		
1,173.65	1.77	1,176.77	2.52	1,179.89	3.09		
1,173.71	1.79	1,176.83	2.53	1,179.95	3.10		
1,173.77	1.81	1,176.89	2.54	1,180.01	3.11		
1,173.83	1.83	1,176.95	2.55	1,180.07	3.12		
1,173.89	1.84	1,177.01	2.57	1,180.13	3.13		
1,173.95	1.86	1,177.07	2.58	1,180.19	3.14		
1,174.01	1.88	1,177.13	2.59	1,180.25	3.15		
1,174.07	1.89	1,177.19	2.60	1,180.31	3.16		
1,174.13	1.91	1,177.25	2.61	1,180.37	3.16		
1,174.19	1.92	1,177.31	2.62	1,180.43	3.17		
1,174.25	1.94	1,177.37	2.64	1,180.49	3.18		
1,174.31	1.96	1,177.43	2.65	1,180.55	3.19		
1,174.37	1.97	1,177.49	2.66	1,180.61	3.20		
1,174.43	1.99	1,177.55	2.67	1,180.67	3.21		
1,174.49	2.00	1,177.61	2.68	1,180.73	3.22		
1,174.55	2.02	1,177.67	2.69	1,180.79	3.23		
1,174.61	2.03	1,177.73	2.71	1,180.85	3.24		
1,174.67	2.05	1,177.79	2.72	1,180.91	3.25		
1,174.73	2.06	1,177.85	2.73	1,180.97	3.26		

Summary for Pond DCBI: TO DCB-F

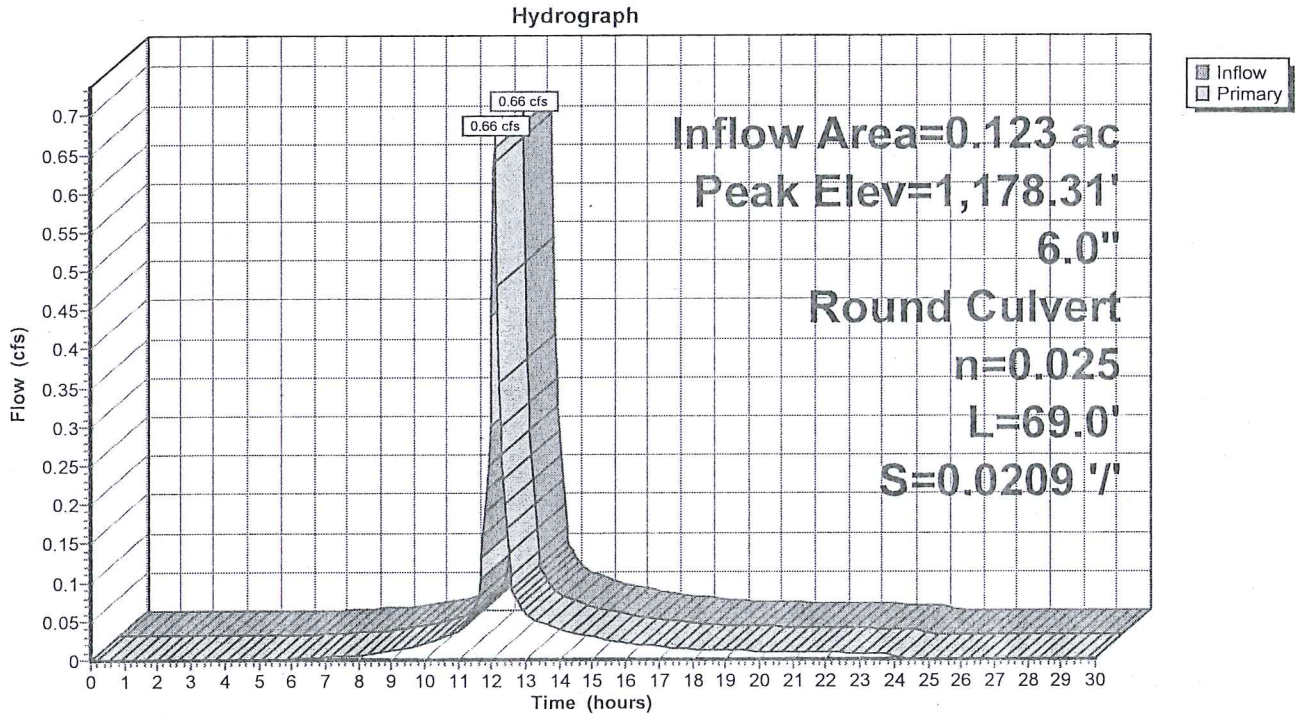
Inflow Area = 0.123 ac, 42.29% Impervious, Inflow Depth = 4.67" for 100-Year event
Inflow = 0.66 cfs @ 12.08 hrs, Volume= 0.048 af
Outflow = 0.66 cfs @ 12.08 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.0 min
Primary = 0.66 cfs @ 12.08 hrs, Volume= 0.048 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,178.31' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,175.50'	**6.0" Round Culvert** L= 69.0' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,175.50' / 1,174.06' S= 0.0209 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.20 sf

Primary OutFlow Max=0.64 cfs @ 12.08 hrs HW=1,178.10' (Free Discharge)
↑**1=Culvert** (Barrel Controls 0.64 cfs @ 3.24 fps)

Pond DCBI: TO DCB-F



Stage-Discharge for Pond DCBI: TO DCB-F

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,175.50	0.00	1,176.54	0.48	1,177.58	0.59
1,175.52	0.00	1,176.56	0.48	1,177.60	0.59
1,175.54	0.00	1,176.58	0.48	1,177.62	0.59
1,175.56	0.01	1,176.60	0.48	1,177.64	0.59
1,175.58	0.01	1,176.62	0.49	1,177.66	0.60
1,175.60	0.02	1,176.64	0.49	1,177.68	0.60
1,175.62	0.03	1,176.66	0.49	1,177.70	0.60
1,175.64	0.04	1,176.68	0.49	1,177.72	0.60
1,175.66	0.05	1,176.70	0.50	1,177.74	0.60
1,175.68	0.07	1,176.72	0.50	1,177.76	0.61
1,175.70	0.08	1,176.74	0.50	1,177.78	0.61
1,175.72	0.10	1,176.76	0.50	1,177.80	0.61
1,175.74	0.12	1,176.78	0.50	1,177.82	0.61
1,175.76	0.13	1,176.80	0.51	1,177.84	0.61
1,175.78	0.15	1,176.82	0.51	1,177.86	0.61
1,175.80	0.17	1,176.84	0.51	1,177.88	0.62
1,175.82	0.19	1,176.86	0.51	1,177.90	0.62
1,175.84	0.22	1,176.88	0.52	1,177.92	0.62
1,175.86	0.24	1,176.90	0.52	1,177.94	0.62
1,175.88	0.26	1,176.92	0.52	1,177.96	0.62
1,175.90	0.28	1,176.94	0.52	1,177.98	0.63
1,175.92	0.30	1,176.96	0.52	1,178.00	0.63
1,175.94	0.32	1,176.98	0.53	1,178.02	0.63
1,175.96	0.34	1,177.00	0.53	1,178.04	0.63
1,175.98	0.36	1,177.02	0.53	1,178.06	0.63
1,176.00	0.38	1,177.04	0.53	1,178.08	0.63
1,176.02	0.40	1,177.06	0.54	1,178.10	0.64
1,176.04	0.42	1,177.08	0.54	1,178.12	0.64
1,176.06	0.43	1,177.10	0.54	1,178.14	0.64
1,176.08	0.44	1,177.12	0.54	1,178.16	**0.64**
1,176.10	0.45	1,177.14	0.54		
1,176.12	0.46	1,177.16	0.55		
1,176.14	0.46	1,177.18	0.55		
1,176.16	0.45	1,177.20	0.55		
1,176.18	0.43	1,177.22	0.55		
1,176.20	0.43	1,177.24	0.55		
1,176.22	0.44	1,177.26	0.56		
1,176.24	0.44	1,177.28	0.56		
1,176.26	0.44	1,177.30	0.56		
1,176.28	0.44	1,177.32	0.56		
1,176.30	0.45	1,177.34	0.56		
1,176.32	0.45	1,177.36	0.57		
1,176.34	0.45	1,177.38	0.57		
1,176.36	0.45	1,177.40	0.57		
1,176.38	0.46	1,177.42	0.57		
1,176.40	0.46	1,177.44	0.57		
1,176.42	0.46	1,177.46	0.58		
1,176.44	0.46	1,177.48	0.58		
1,176.46	0.47	1,177.50	0.58		
1,176.48	0.47	1,177.52	0.58		
1,176.50	0.47	1,177.54	0.58		
1,176.52	0.47	1,177.56	0.59		

Summary for Pond DCBJ: TO DCB-K

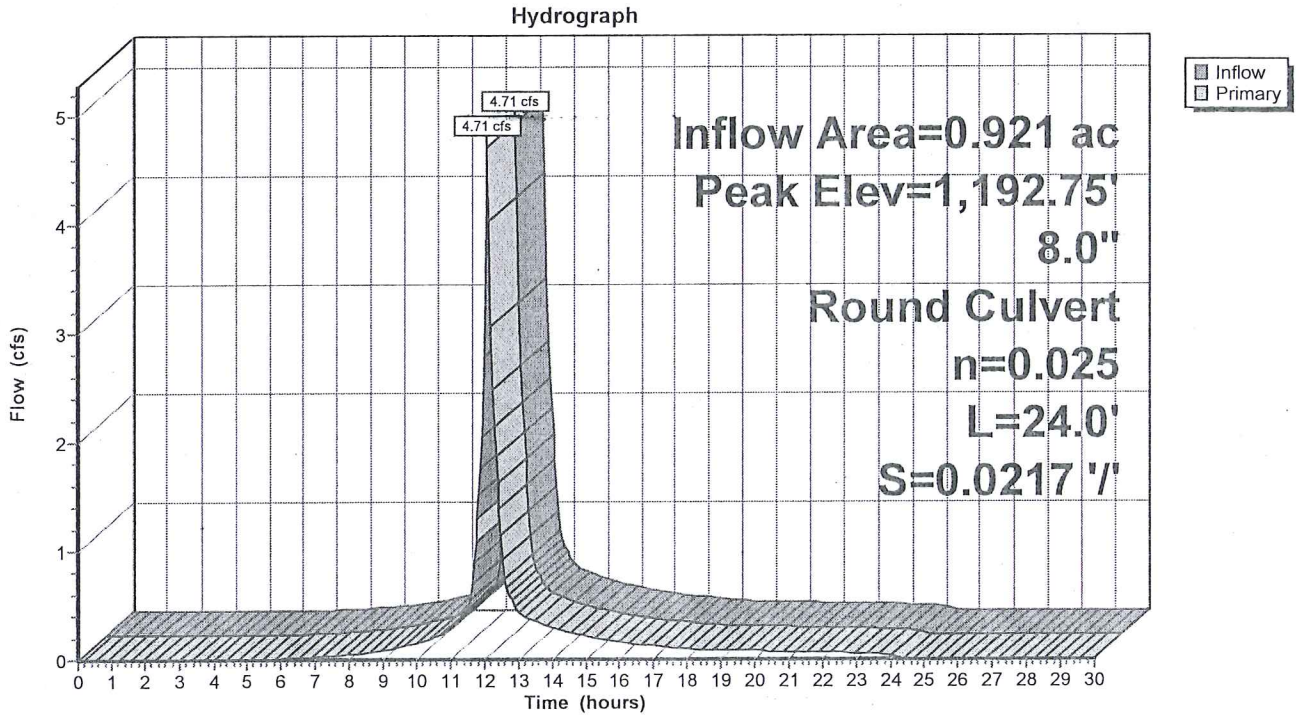
Inflow Area = 0.921 ac, 43.25% Impervious, Inflow Depth = 4.67" for 100-Year event
Inflow = 4.71 cfs @ 12.10 hrs, Volume= 0.358 af
Outflow = 4.71 cfs @ 12.10 hrs, Volume= 0.358 af, Atten= 0%, Lag= 0.0 min
Primary = 4.71 cfs @ 12.10 hrs, Volume= 0.358 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,192.75' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,174.86'	**8.0" Round Culvert** L= 24.0' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,174.86' / 1,174.34' S= 0.0217 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.35 sf

Primary OutFlow Max=4.70 cfs @ 12.10 hrs HW=1,192.66' (Free Discharge)
1=Culvert (Barrel Controls 4.70 cfs @ 13.45 fps)

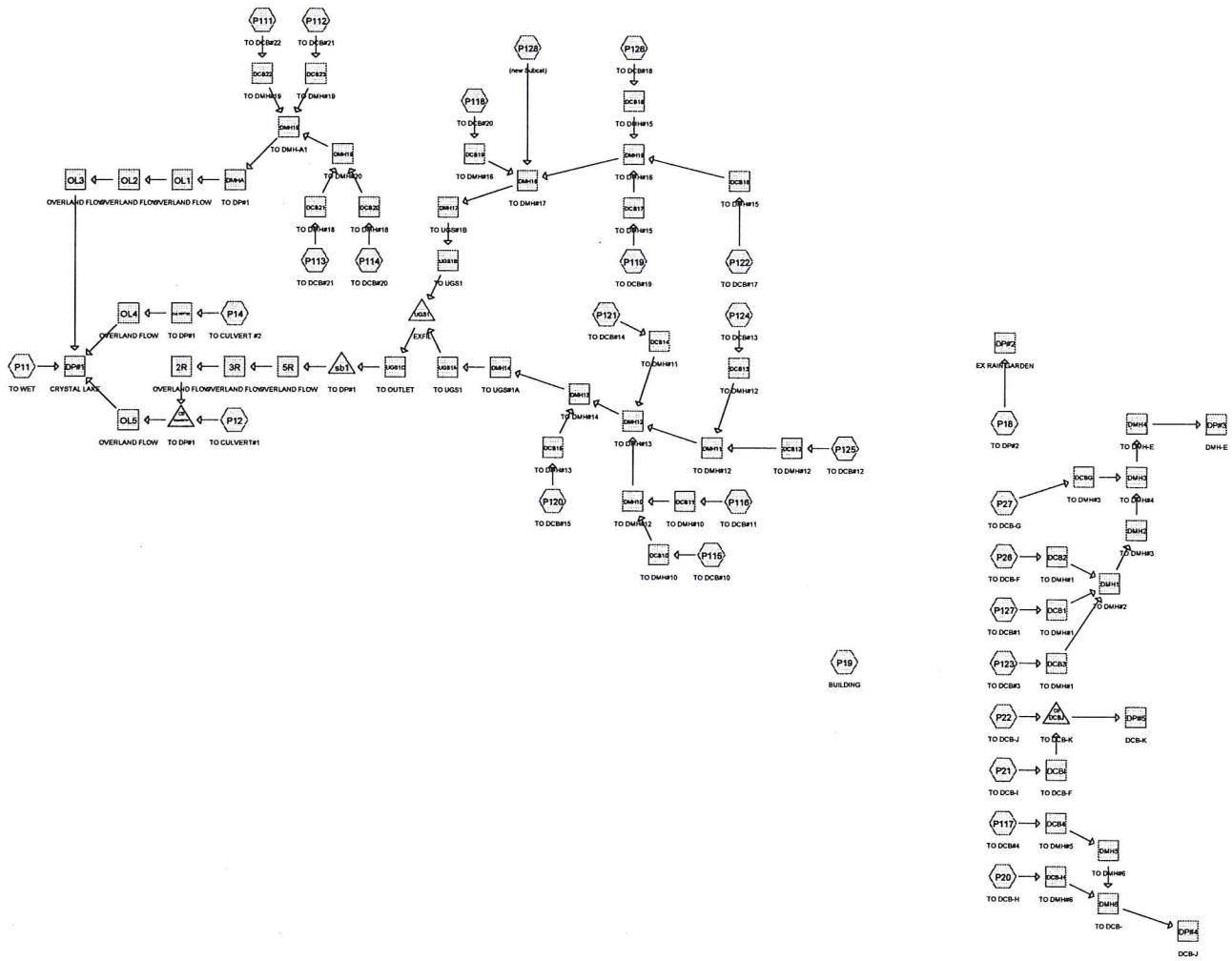
Pond DCBJ: TO DCB-K



Stage-Discharge for Pond DCBJ: TO DCB-K

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,174.86	0.00	1,185.26	3.58
1,175.06	0.10	1,185.46	3.61
1,175.26	0.37	1,185.66	3.65
1,175.46	0.71	1,185.86	3.68
1,175.66	0.98	1,186.06	3.72
1,175.86	1.03	1,186.26	3.75
1,176.06	1.15	1,186.46	3.78
1,176.26	1.25	1,186.66	3.81
1,176.46	1.35	1,186.86	3.85
1,176.66	1.44	1,187.06	3.88
1,176.86	1.52	1,187.26	3.91
1,177.06	1.60	1,187.46	3.94
1,177.26	1.68	1,187.66	3.97
1,177.46	1.75	1,187.86	4.01
1,177.66	1.82	1,188.06	4.04
1,177.86	1.89	1,188.26	4.07
1,178.06	1.95	1,188.46	4.10
1,178.26	2.02	1,188.66	4.13
1,178.46	2.08	1,188.86	4.16
1,178.66	2.14	1,189.06	4.19
1,178.86	2.19	1,189.26	4.22
1,179.06	2.25	1,189.46	4.25
1,179.26	2.30	1,189.66	4.28
1,179.46	2.36	1,189.86	4.31
1,179.66	2.41	1,190.06	4.34
1,179.86	2.46	1,190.26	4.36
1,180.06	2.51	1,190.46	4.39
1,180.26	2.56	1,190.66	4.42
1,180.46	2.61	1,190.86	4.45
1,180.66	2.66	1,191.06	4.48
1,180.86	2.70	1,191.26	4.50
1,181.06	2.75	1,191.46	4.53
1,181.26	2.79	1,191.66	4.56
1,181.46	2.84	1,191.86	4.59
1,181.66	2.88	1,192.06	4.61
1,181.86	2.93	1,192.26	4.64
1,182.06	2.97	1,192.46	4.67
1,182.26	3.01	1,192.66	**4.69**
1,182.46	3.05		
1,182.66	3.09		
1,182.86	3.13		
1,183.06	3.17		
1,183.26	3.21		
1,183.46	3.25		
1,183.66	3.29		
1,183.86	3.32		
1,184.06	3.36		
1,184.26	3.40		
1,184.46	3.44		
1,184.66	3.47		
1,184.86	3.51		
1,185.06	3.54		

2.2
POST DEVELOPMENT CALCULATIONS



Subcat Reach Pond Link

Routing Diagram for 2670-Heywood Post

Prepared by HANNIGAN ENGINEERING, INC., Printed 5/14/2021

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.394	61	>75% Grass cover, Good, HSG B (P11, P12, P14)
1.681	74	>75% Grass cover, Good, HSG C (P11, P111, P112, P113, P114, P115, P116, P117, P118, P119, P12, P120, P121, P122, P123, P124, P125, P126, P127, P14, P18, P20, P21, P22, P26, P27)
0.150	98	Paved parking, HSG B (P11, P12, P14)
7.494	98	Paved parking, HSG C (P111, P112, P113, P114, P115, P116, P117, P118, P119, P12, P120, P121, P122, P123, P124, P125, P126, P127, P128, P14, P18, P19, P20, P21, P22, P26, P27)
2.521	55	Woods, Good, HSG B (P11, P12, P14)
3.450	70	Woods, Good, HSG C (P11, P12, P14, P20)
15.689	**81**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
3.064	HSG B	P11, P12, P14
12.625	HSG C	P11, P111, P112, P113, P114, P115, P116, P117, P118, P119, P12, P120, P121, P122, P123, P124, P125, P126, P127, P128, P14, P18, P19, P20, P21, P22, P26, P27
0.000	HSG D	
0.000	Other	
15.689		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.394	1.681	0.000	0.000	2.075	>75% Grass cover, Good	P11, P111, P112, P113, P114, P115, P116, P117, P118, P119, P12, P120, P121, P122, P123, P124, P125, P126, P127, P14, P18, P20, P21, P22, P26, P27
0.000	0.150	7.494	0.000	0.000	7.644	Paved parking	P11, P111, P112, P113, P114, P115, P116, P117, P118, P119, P12, P120, P121, P122, P123, P124, P125, P126, P127,

Ground Covers (all nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	2.521	3.450	0.000	0.000	5.970	Woods, Good	P11, P12, P14, P20
0.000	**3.064**	**12.625**	**0.000**	**0.000**	**15.689**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	CULVERT#2	1,118.45	1,117.75	20.3	0.0345	0.013	12.0	0.0	0.0
2	DCB-H	1,171.70	1,171.50	6.0	0.0333	0.010	8.0	0.0	0.0
3	DCB1	1,178.00	1,175.30	40.0	0.0675	0.011	12.0	0.0	0.0
4	DCB10	1,179.20	1,179.00	28.0	0.0071	0.013	12.0	0.0	0.0
5	DCB11	1,179.20	1,179.00	8.0	0.0250	0.013	12.0	0.0	0.0
6	DCB12	1,180.80	1,180.40	42.0	0.0095	0.013	12.0	0.0	0.0
7	DCB13	1,180.80	1,180.40	16.0	0.0250	0.013	12.0	0.0	0.0
8	DCB14	1,180.50	1,180.00	8.0	0.0625	0.013	12.0	0.0	0.0
9	DCB15	1,181.80	1,181.60	4.0	0.0500	0.013	12.0	0.0	0.0
10	DCB16	1,181.70	1,180.30	46.0	0.0304	0.013	12.0	0.0	0.0
11	DCB17	1,180.80	1,180.40	6.0	0.0667	0.013	12.0	0.0	0.0
12	DCB18	1,180.50	1,180.30	15.0	0.0133	0.013	12.0	0.0	0.0
13	DCB19	1,181.50	1,181.30	7.0	0.0286	0.013	12.0	0.0	0.0
14	DCB2	1,175.50	1,175.30	8.0	0.0250	0.011	12.0	0.0	0.0
15	DCB20	1,179.60	1,179.30	6.0	0.0500	0.013	12.0	0.0	0.0
16	DCB21	1,179.60	1,179.30	21.0	0.0143	0.013	12.0	0.0	0.0
17	DCB22	1,178.50	1,178.30	16.0	0.0125	0.013	12.0	0.0	0.0
18	DCB23	1,178.50	1,178.30	18.0	0.0111	0.013	12.0	0.0	0.0
19	DCB3	1,181.80	1,175.30	123.0	0.0528	0.013	12.0	0.0	0.0
20	DCB4	1,173.00	1,172.00	33.0	0.0303	0.011	12.0	0.0	0.0
21	DCBG	1,174.80	1,174.50	8.0	0.0375	0.011	12.0	0.0	0.0
22	DCBI	1,175.50	1,174.06	69.0	0.0209	0.025	6.0	0.0	0.0
23	DMH1	1,175.00	1,174.70	16.0	0.0187	0.011	12.0	0.0	0.0
24	DMH10	1,178.90	1,178.60	35.0	0.0086	0.013	12.0	0.0	0.0
25	DMH11	1,180.30	1,178.60	47.0	0.0362	0.013	12.0	0.0	0.0
26	DMH12	1,178.50	1,177.90	68.0	0.0088	0.013	15.0	0.0	0.0
27	DMH13	1,177.80	1,177.50	38.0	0.0079	0.013	18.0	0.0	0.0
28	DMH14	1,177.30	1,177.20	10.0	0.0100	0.013	18.0	0.0	0.0
29	DMH15	1,180.20	1,179.70	63.0	0.0079	0.013	15.0	0.0	0.0
30	DMH16	1,179.60	1,178.75	71.0	0.0120	0.013	18.0	0.0	0.0
31	DMH17	1,178.50	1,178.30	10.0	0.0200	0.013	18.0	0.0	0.0
32	DMH18	1,179.20	1,177.70	155.0	0.0097	0.013	12.0	0.0	0.0
33	DMH19	1,177.10	1,175.40	31.0	0.0548	0.013	12.0	0.0	0.0
34	DMH2	1,174.60	1,173.30	91.0	0.0143	0.011	12.0	0.0	0.0
35	DMH3	1,173.30	1,172.80	30.0	0.0167	0.011	12.0	0.0	0.0
36	DMH4	1,172.80	1,172.00	15.0	0.0533	0.011	12.0	0.0	0.0
37	DMH5	1,171.90	1,171.00	78.0	0.0115	0.011	12.0	0.0	0.0
38	DMH6	1,170.90	1,170.00	20.0	0.0450	0.011	12.0	0.0	0.0
39	DMHA	1,175.35	1,175.04	14.0	0.0221	0.011	15.0	0.0	0.0
40	UGS1C	1,172.00	1,170.00	98.0	0.0204	0.013	15.0	0.0	0.0
41	CULVERT#1	1,116.61	1,114.13	28.6	0.0867	0.013	12.0	0.0	0.0

Pipe Listing (all nodes) (continued)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
42	DCBJ	1,174.86	1,174.34	24.0	0.0217	0.025	8.0	0.0	0.0
43	UGS1	1,174.80	1,163.00	98.0	0.1204	0.013	15.0	0.0	0.0

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P11: TO WET Runoff Area=70,866 sf 3.65% Impervious Runoff Depth=0.47"
Flow Length=109' Slope=0.1500 '/' Tc=8.2 min CN=64 Runoff=0.56 cfs 0.064 af

Subcatchment P111: TO DCB#22 Runoff Area=8,514 sf 87.17% Impervious Runoff Depth=2.45"
Flow Length=164' Tc=5.0 min CN=95 Runoff=0.54 cfs 0.040 af

Subcatchment P112: TO DCB#21 Runoff Area=9,201 sf 82.40% Impervious Runoff Depth=2.35"
Flow Length=155' Tc=5.0 min CN=94 Runoff=0.56 cfs 0.041 af

Subcatchment P113: TO DCB#21 Runoff Area=6,921 sf 80.93% Impervious Runoff Depth=2.25"
Flow Length=240' Slope=0.0150 '/' Tc=5.0 min CN=93 Runoff=0.41 cfs 0.030 af

Subcatchment P114: TO DCB#20 Runoff Area=6,898 sf 72.11% Impervious Runoff Depth=2.07"
Flow Length=214' Slope=0.0150 '/' Tc=5.0 min CN=91 Runoff=0.38 cfs 0.027 af

Subcatchment P115: TO DCB#10 Runoff Area=1,813 sf 80.86% Impervious Runoff Depth=2.25"
Flow Length=121' Slope=0.0150 '/' Tc=5.0 min CN=93 Runoff=0.11 cfs 0.008 af

Subcatchment P116: TO DCB#11 Runoff Area=11,690 sf 78.25% Impervious Runoff Depth=2.25"
Flow Length=175' Slope=0.0150 '/' Tc=5.0 min CN=93 Runoff=0.69 cfs 0.050 af

Subcatchment P117: TO DCB#4 Runoff Area=5,999 sf 68.08% Impervious Runoff Depth=1.98"
Flow Length=153' Tc=5.0 min CN=90 Runoff=0.32 cfs 0.023 af

Subcatchment P118: TO DCB#20 Runoff Area=6,282 sf 89.61% Impervious Runoff Depth=2.55"
Flow Length=134' Slope=0.0150 '/' Tc=5.0 min CN=96 Runoff=0.41 cfs 0.031 af

Subcatchment P119: TO DCB#19 Runoff Area=5,964 sf 89.42% Impervious Runoff Depth=2.45"
Flow Length=134' Slope=0.0150 '/' Tc=5.0 min CN=95 Runoff=0.38 cfs 0.028 af

Subcatchment P12: TO CULVERT#1 Runoff Area=144,472 sf 3.17% Impervious Runoff Depth=0.54"
Flow Length=587' Tc=17.1 min CN=66 Runoff=1.15 cfs 0.151 af

Subcatchment P120: TO DCB#15 Runoff Area=7,759 sf 87.98% Impervious Runoff Depth=2.45"
Flow Length=158' Slope=0.0150 '/' Tc=5.0 min CN=95 Runoff=0.49 cfs 0.036 af

Subcatchment P121: TO DCB#14 Runoff Area=7,473 sf 90.41% Impervious Runoff Depth=2.55"
Flow Length=158' Slope=0.0150 '/' Tc=5.0 min CN=96 Runoff=0.48 cfs 0.036 af

Subcatchment P122: TO DCB#17 Runoff Area=5,642 sf 91.39% Impervious Runoff Depth=2.55"
Flow Length=175' Slope=0.0250 '/' Tc=5.0 min CN=96 Runoff=0.36 cfs 0.028 af

Subcatchment P123: TO DCB#3 Runoff Area=9,992 sf 89.92% Impervious Runoff Depth=2.55"
Flow Length=195' Slope=0.0200 '/' Tc=5.0 min CN=96 Runoff=0.65 cfs 0.049 af

Subcatchment P124: TO DCB#13 Runoff Area=7,557 sf 91.70% Impervious Runoff Depth=2.55"
Flow Length=161' Slope=0.0250 '/' Tc=5.0 min CN=96 Runoff=0.49 cfs 0.037 af

Subcatchment P125: TO DCB#12 Runoff Area=10,810 sf 86.00% Impervious Runoff Depth=2.45"
Flow Length=217' Slope=0.0250 '/' Tc=5.0 min CN=95 Runoff=0.68 cfs 0.051 af

Subcatchment P126: TO DCB#18 Runoff Area=23,746 sf 84.68% Impervious Runoff Depth=2.35"
Flow Length=207' Slope=0.0150 '/' Tc=5.0 min CN=94 Runoff=1.45 cfs 0.107 af

Subcatchment P127: TO DCB#1 Runoff Area=11,126 sf 81.84% Impervious Runoff Depth=2.35"
Flow Length=140' Slope=0.0200 '/' Tc=5.0 min CN=94 Runoff=0.68 cfs 0.050 af

Subcatchment P128: (new Subcat) Runoff Area=28,389 sf 100.00% Impervious Runoff Depth=2.77"
Flow Length=140' Slope=0.0200 '/' Tc=5.0 min CN=98 Runoff=1.91 cfs 0.150 af

Subcatchment P14: TO CULVERT #2 Runoff Area=90,019 sf 3.60% Impervious Runoff Depth=0.51"
Flow Length=490' Tc=14.6 min CN=65 Runoff=0.68 cfs 0.087 af

Subcatchment P18: TO DP#2 Runoff Area=29,367 sf 66.34% Impervious Runoff Depth=1.98"
Flow Length=260' Tc=5.0 min CN=90 Runoff=1.56 cfs 0.111 af

Subcatchment P19: BUILDING Runoff Area=127,442 sf 100.00% Impervious Runoff Depth=2.77"
Tc=0.0 min CN=98 Runoff=9.73 cfs 0.675 af

Subcatchment P20: TO DCB-H Runoff Area=15,545 sf 45.15% Impervious Runoff Depth=1.59"
Flow Length=200' Tc=5.0 min CN=85 Runoff=0.67 cfs 0.047 af

Subcatchment P21: TO DCB-I Runoff Area=2,507 sf 56.44% Impervious Runoff Depth=1.82"
Flow Length=85' Tc=5.0 min CN=88 Runoff=0.12 cfs 0.009 af

Subcatchment P22: TO DCB-J Runoff Area=9,732 sf 52.34% Impervious Runoff Depth=1.74"
Flow Length=283' Tc=5.0 min CN=87 Runoff=0.46 cfs 0.032 af

Subcatchment P26: TO DCB-F Runoff Area=5,800 sf 68.40% Impervious Runoff Depth=1.98"
Flow Length=161' Tc=5.0 min CN=90 Runoff=0.31 cfs 0.022 af

Subcatchment P27: TO DCB-G Runoff Area=11,905 sf 45.12% Impervious Runoff Depth=1.59"
Flow Length=181' Slope=0.0080 '/' Tc=5.0 min CN=85 Runoff=0.51 cfs 0.036 af

Reach 2R: OVERLAND FLOW Avg. Flow Depth=0.11' Max Vel=0.46 fps Inflow=0.55 cfs 0.490 af
n=0.070 L=117.0' S=0.0103 '/' Capacity=32.74 cfs Outflow=0.55 cfs 0.490 af

Reach 3R: OVERLAND FLOW Avg. Flow Depth=0.05' Max Vel=1.16 fps Inflow=0.55 cfs 0.490 af
n=0.070 L=209.0' S=0.1923 '/' Capacity=141.79 cfs Outflow=0.55 cfs 0.490 af

Reach 5R: OVERLAND FLOW Avg. Flow Depth=0.05' Max Vel=0.96 fps Inflow=0.55 cfs 0.490 af
n=0.070 L=38.0' S=0.1053 '/' Capacity=104.89 cfs Outflow=0.55 cfs 0.490 af

Reach CULVERT#2: TO DP#1 Avg. Flow Depth=0.22' Max Vel=5.42 fps Inflow=0.68 cfs 0.087 af
12.0" Round Pipe n=0.013 L=20.3' S=0.0345 '/' Capacity=6.62 cfs Outflow=0.68 cfs 0.087 af

Reach DCB-H: TO DMH#6 Avg. Flow Depth=0.22' Max Vel=6.64 fps Inflow=0.67 cfs 0.047 af
8.0" Round Pipe n=0.010 L=6.0' S=0.0333 '/' Capacity=2.87 cfs Outflow=0.66 cfs 0.047 af

Reach DCB1: TO DMH#1 Avg. Flow Depth=0.17' Max Vel=7.67 fps Inflow=0.68 cfs 0.050 af
12.0" Round Pipe n=0.011 L=40.0' S=0.0675 '/' Capacity=10.94 cfs Outflow=0.67 cfs 0.050 af

Reach DCB10: TO DMH#10 Avg. Flow Depth=0.13' Max Vel=1.79 fps Inflow=0.11 cfs 0.008 af
12.0" Round Pipe n=0.013 L=28.0' S=0.0071 '/' Capacity=3.01 cfs Outflow=0.11 cfs 0.008 af

Reach DCB11: TO DMH#10 Avg. Flow Depth=0.24' Max Vel=4.83 fps Inflow=0.69 cfs 0.050 af
12.0" Round Pipe n=0.013 L=8.0' S=0.0250 '/' Capacity=5.63 cfs Outflow=0.69 cfs 0.050 af

Reach DCB12: TO DMH#12 Avg. Flow Depth=0.30' Max Vel=3.40 fps Inflow=0.68 cfs 0.051 af
12.0" Round Pipe n=0.013 L=42.0' S=0.0095 '/' Capacity=3.48 cfs Outflow=0.67 cfs 0.051 af

Reach DCB13: TO DMH#12 Avg. Flow Depth=0.20' Max Vel=4.36 fps Inflow=0.49 cfs 0.037 af
12.0" Round Pipe n=0.013 L=16.0' S=0.0250 '/' Capacity=5.63 cfs Outflow=0.49 cfs 0.037 af

Reach DCB14: TO DMH#11 Avg. Flow Depth=0.16' Max Vel=6.00 fps Inflow=0.48 cfs 0.036 af
12.0" Round Pipe n=0.013 L=8.0' S=0.0625 '/' Capacity=8.91 cfs Outflow=0.48 cfs 0.036 af

Reach DCB15: TO DMH#13 Avg. Flow Depth=0.17' Max Vel=5.57 fps Inflow=0.49 cfs 0.036 af
12.0" Round Pipe n=0.013 L=4.0' S=0.0500 '/' Capacity=7.97 cfs Outflow=0.49 cfs 0.036 af

Reach DCB16: TO DMH#15 Avg. Flow Depth=0.16' Max Vel=4.28 fps Inflow=0.36 cfs 0.028 af
12.0" Round Pipe n=0.013 L=46.0' S=0.0304 '/' Capacity=6.22 cfs Outflow=0.36 cfs 0.028 af

Reach DCB17: TO DMH#15 Avg. Flow Depth=0.14' Max Vel=5.70 fps Inflow=0.38 cfs 0.028 af
12.0" Round Pipe n=0.013 L=6.0' S=0.0667 '/' Capacity=9.20 cfs Outflow=0.38 cfs 0.028 af

Reach DCB18: TO DMH#15 Avg. Flow Depth=0.41' Max Vel=4.74 fps Inflow=1.45 cfs 0.107 af
12.0" Round Pipe n=0.013 L=15.0' S=0.0133 '/' Capacity=4.11 cfs Outflow=1.45 cfs 0.107 af

Reach DCB19: TO DMH#16 Avg. Flow Depth=0.18' Max Vel=4.33 fps Inflow=0.41 cfs 0.031 af
12.0" Round Pipe n=0.013 L=7.0' S=0.0286 '/' Capacity=6.02 cfs Outflow=0.41 cfs 0.031 af

Reach DCB2: TO DMH#1 Avg. Flow Depth=0.15' Max Vel=4.27 fps Inflow=0.31 cfs 0.022 af
12.0" Round Pipe n=0.011 L=8.0' S=0.0250 '/' Capacity=6.66 cfs Outflow=0.31 cfs 0.022 af

Reach DCB20: TO DMH#18 Avg. Flow Depth=0.15' Max Vel=5.17 fps Inflow=0.38 cfs 0.027 af
12.0" Round Pipe n=0.013 L=6.0' S=0.0500 '/' Capacity=7.97 cfs Outflow=0.38 cfs 0.027 af

Reach DCB21: TO DMH#18 Avg. Flow Depth=0.21' Max Vel=3.39 fps Inflow=0.41 cfs 0.030 af
12.0" Round Pipe n=0.013 L=21.0' S=0.0143 '/' Capacity=4.26 cfs Outflow=0.41 cfs 0.030 af

Reach DCB22: TO DMH#19 Avg. Flow Depth=0.25' Max Vel=3.50 fps Inflow=0.54 cfs 0.040 af
12.0" Round Pipe n=0.013 L=16.0' S=0.0125 '/' Capacity=3.98 cfs Outflow=0.53 cfs 0.040 af

Reach DCB23: TO DMH#19 Avg. Flow Depth=0.26' Max Vel=3.40 fps Inflow=0.56 cfs 0.041 af
12.0" Round Pipe n=0.013 L=18.0' S=0.0111 '/' Capacity=3.76 cfs Outflow=0.56 cfs 0.041 af

Reach DCB3: TO DMH#1 Avg. Flow Depth=0.19' Max Vel=6.16 fps Inflow=0.65 cfs 0.049 af
12.0" Round Pipe n=0.013 L=123.0' S=0.0528 '/' Capacity=8.19 cfs Outflow=0.63 cfs 0.049 af

Reach DCB4: TO DMH#5 Avg. Flow Depth=0.14' Max Vel=4.62 fps Inflow=0.32 cfs 0.023 af
12.0" Round Pipe n=0.011 L=33.0' S=0.0303 '/' Capacity=7.33 cfs Outflow=0.32 cfs 0.023 af

Reach DCBG: TO DMH#3 Avg. Flow Depth=0.17' Max Vel=5.74 fps Inflow=0.51 cfs 0.036 af
12.0" Round Pipe n=0.011 L=8.0' S=0.0375 '/' Capacity=8.15 cfs Outflow=0.51 cfs 0.036 af

Reach DCBI: TO DCB-F Avg. Flow Depth=0.19' Max Vel=1.86 fps Inflow=0.12 cfs 0.009 af
6.0" Round Pipe n=0.025 L=69.0' S=0.0209 '/' Capacity=0.42 cfs Outflow=0.12 cfs 0.009 af

Reach DMH1: TO DMH#2 Avg. Flow Depth=0.36' Max Vel=6.26 fps Inflow=1.61 cfs 0.121 af
12.0" Round Pipe n=0.011 L=16.0' S=0.0187 '/' Capacity=5.77 cfs Outflow=1.61 cfs 0.121 af

Reach DMH10: TO DMH#12 Avg. Flow Depth=0.33' Max Vel=3.43 fps Inflow=0.80 cfs 0.058 af
12.0" Round Pipe n=0.013 L=35.0' S=0.0086 '/' Capacity=3.30 cfs Outflow=0.79 cfs 0.058 af

Reach DMH11: TO DMH#12 Avg. Flow Depth=0.28' Max Vel=6.39 fps Inflow=1.15 cfs 0.088 af
12.0" Round Pipe n=0.013 L=47.0' S=0.0362 '/' Capacity=6.78 cfs Outflow=1.15 cfs 0.088 af

Reach DMH12: TO DMH#13 Avg. Flow Depth=0.55' Max Vel=4.65 fps Inflow=2.41 cfs 0.182 af
15.0" Round Pipe n=0.013 L=68.0' S=0.0088 '/' Capacity=6.07 cfs Outflow=2.40 cfs 0.182 af

Reach DMH13: TO DMH#14 Avg. Flow Depth=0.57' Max Vel=4.64 fps Inflow=2.88 cfs 0.219 af
18.0" Round Pipe n=0.013 L=38.0' S=0.0079 '/' Capacity=9.33 cfs Outflow=2.87 cfs 0.219 af

Reach DMH14: TO UGS#1A Avg. Flow Depth=0.54' Max Vel=5.05 fps Inflow=2.87 cfs 0.219 af
18.0" Round Pipe n=0.013 L=10.0' S=0.0100 '/' Capacity=10.50 cfs Outflow=2.86 cfs 0.219 af

Reach DMH15: TO DMH#16 Avg. Flow Depth=0.53' Max Vel=4.34 fps Inflow=2.18 cfs 0.162 af
15.0" Round Pipe n=0.013 L=63.0' S=0.0079 '/' Capacity=5.75 cfs Outflow=2.15 cfs 0.162 af

Reach DMH16: TO DMH#17 Avg. Flow Depth=0.65' Max Vel=6.06 fps Inflow=4.44 cfs 0.343 af
18.0" Round Pipe n=0.013 L=71.0' S=0.0120 '/' Capacity=11.49 cfs Outflow=4.41 cfs 0.343 af

Reach DMH17: TO UGS#1B Avg. Flow Depth=0.56' Max Vel=7.30 fps Inflow=4.41 cfs 0.343 af
18.0" Round Pipe n=0.013 L=10.0' S=0.0200 '/' Capacity=14.86 cfs Outflow=4.41 cfs 0.343 af

Reach DMH18: TO DMH#20 Avg. Flow Depth=0.32' Max Vel=3.59 fps Inflow=0.78 cfs 0.057 af
12.0" Round Pipe n=0.013 L=155.0' S=0.0097 '/' Capacity=3.50 cfs Outflow=0.77 cfs 0.057 af

Reach DMH19: TO DMH-A1 Avg. Flow Depth=0.32' Max Vel=8.50 fps Inflow=1.84 cfs 0.138 af
12.0" Round Pipe n=0.013 L=31.0' S=0.0548 '/' Capacity=8.34 cfs Outflow=1.84 cfs 0.138 af

Reach DMH2: TO DMH#3 Avg. Flow Depth=0.39' Max Vel=5.69 fps Inflow=1.61 cfs 0.121 af
12.0" Round Pipe n=0.011 L=91.0' S=0.0143 '/' Capacity=5.03 cfs Outflow=1.60 cfs 0.121 af

Reach DMH3: TO DMH#4 Avg. Flow Depth=0.43' Max Vel=6.47 fps Inflow=2.10 cfs 0.157 af
12.0" Round Pipe n=0.011 L=30.0' S=0.0167 '/' Capacity=5.44 cfs Outflow=2.10 cfs 0.157 af

Reach DMH4: TO DMH-E Avg. Flow Depth=0.32' Max Vel=9.86 fps Inflow=2.10 cfs 0.157 af
12.0" Round Pipe n=0.011 L=15.0' S=0.0533 '/' Capacity=9.72 cfs Outflow=2.10 cfs 0.157 af

Reach DMH5: TO DMH#6 Avg. Flow Depth=0.18' Max Vel=3.31 fps Inflow=0.32 cfs 0.023 af
12.0" Round Pipe n=0.011 L=78.0' S=0.0115 '/' Capacity=4.52 cfs Outflow=0.31 cfs 0.023 af

Reach DMH6: TO DCB- Avg. Flow Depth=0.22' Max Vel=7.43 fps Inflow=0.98 cfs 0.070 af
12.0" Round Pipe n=0.011 L=20.0' S=0.0450 '/' Capacity=8.93 cfs Outflow=0.97 cfs 0.070 af

Reach DMHA: TO DP#1 Avg. Flow Depth=0.34' Max Vel=6.79 fps Inflow=1.84 cfs 0.138 af
15.0" Round Pipe n=0.011 L=14.0' S=0.0221 '/' Capacity=11.36 cfs Outflow=1.83 cfs 0.138 af

Reach DP#1: CRYSTAL LAKE Inflow=4.13 cfs 0.930 af
Outflow=4.13 cfs 0.930 af

Reach DP#2: EX RAIN GARDEN Inflow=1.56 cfs 0.111 af
Outflow=1.56 cfs 0.111 af

Reach DP#3: DMH-E Inflow=2.10 cfs 0.157 af
Outflow=2.10 cfs 0.157 af

Reach DP#4: DCB-J Inflow=0.97 cfs 0.070 af
Outflow=0.97 cfs 0.070 af

Reach DP#5: DCB-K Inflow=0.57 cfs 0.041 af
Outflow=0.57 cfs 0.041 af

Reach OL1: OVERLAND FLOW Avg. Flow Depth=0.07' Max Vel=2.36 fps Inflow=1.83 cfs 0.138 af
n=0.070 L=20.0' S=0.4500 '/' Capacity=216.87 cfs Outflow=1.83 cfs 0.138 af

Reach OL2: OVERLAND FLOW Avg. Flow Depth=0.09' Max Vel=1.72 fps Inflow=1.83 cfs 0.138 af
n=0.070 L=243.0' S=0.1770 '/' Capacity=136.00 cfs Outflow=1.72 cfs 0.138 af

Reach OL3: OVERLAND FLOW Avg. Flow Depth=0.14' Max Vel=1.10 fps Inflow=1.72 cfs 0.138 af
n=0.070 L=45.0' S=0.0444 '/' Capacity=68.16 cfs Outflow=1.66 cfs 0.138 af

Reach OL4: OVERLAND FLOW Avg. Flow Depth=0.05' Max Vel=1.29 fps Inflow=0.68 cfs 0.087 af
n=0.070 L=74.0' S=0.2162 '/' Capacity=150.33 cfs Outflow=0.67 cfs 0.087 af

Reach OL5: OVERLAND FLOW Avg. Flow Depth=0.10' Max Vel=1.58 fps Inflow=1.70 cfs 0.641 af
n=0.070 L=102.0' S=0.1382 '/' Capacity=120.20 cfs Outflow=1.69 cfs 0.641 af

Reach UGS1A: TO UGS1 Inflow=2.86 cfs 0.219 af
Outflow=2.86 cfs 0.219 af

Reach UGS1B: TO UGS1 Inflow=4.41 cfs 0.343 af
Outflow=4.41 cfs 0.343 af

Reach UGS1C: TO OUTLET Avg. Flow Depth=0.21' Max Vel=4.14 fps Inflow=0.55 cfs 0.496 af
15.0" Round Pipe n=0.013 L=98.0' S=0.0204 '/' Capacity=9.23 cfs Outflow=0.55 cfs 0.496 af

Pond CULVERT#1: TO DP#1 Peak Elev=1,117.32' Inflow=1.70 cfs 0.641 af
12.0" Round Culvert n=0.013 L=28.6' S=0.0867 '/' Outflow=1.70 cfs 0.641 af

Pond DCBJ: TO DCB-K Peak Elev=1,175.38' Inflow=0.57 cfs 0.041 af
8.0" Round Culvert n=0.025 L=24.0' S=0.0217 '/' Outflow=0.57 cfs 0.041 af

Pond sb1: TO DP#1 Peak Elev=1,163.08' Storage=290 cf Inflow=0.55 cfs 0.496 af
Outflow=0.55 cfs 0.490 af

Pond UGS1: EXFIL Peak Elev=1,178.64' Storage=0.256 af Inflow=7.27 cfs 0.562 af
Discarded=0.04 cfs 0.064 af Primary=0.55 cfs 0.496 af Outflow=0.59 cfs 0.560 af

Total Runoff Area = 15.689 ac Runoff Volume = 2.056 af Average Runoff Depth = 1.57"
51.28% Pervious = 8.045 ac 48.72% Impervious = 7.644 ac

Summary for Subcatchment P11: TO WET

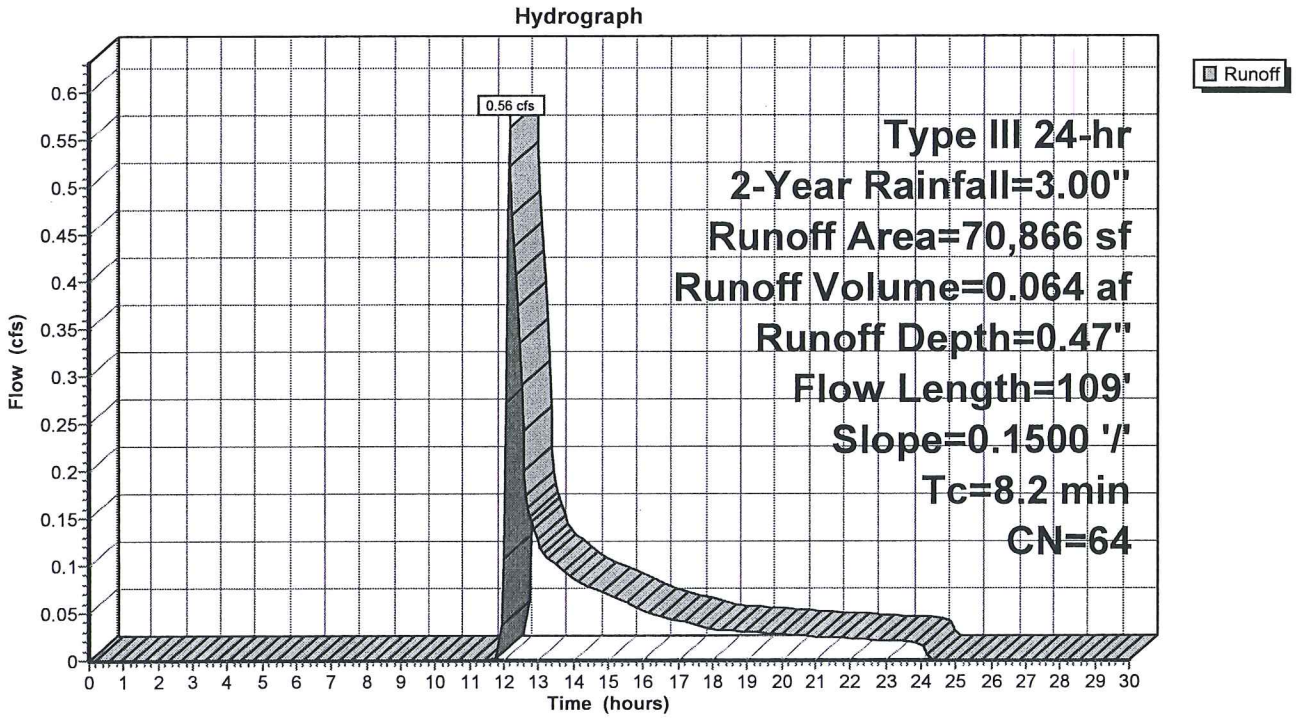
Runoff = 0.56 cfs @ 12.16 hrs, Volume= 0.064 af, Depth= 0.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
8,033	61	>75% Grass cover, Good, HSG B
30,342	55	Woods, Good, HSG B
2,584	98	Paved parking, HSG B
1,398	74	>75% Grass cover, Good, HSG C
28,509	70	Woods, Good, HSG C
70,866	64	Weighted Average
68,282		96.35% Pervious Area
2,584		3.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	75	0.1500	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.3	34	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	109	Total			

Subcatchment P11: TO WET



Summary for Subcatchment P111: TO DCB#22

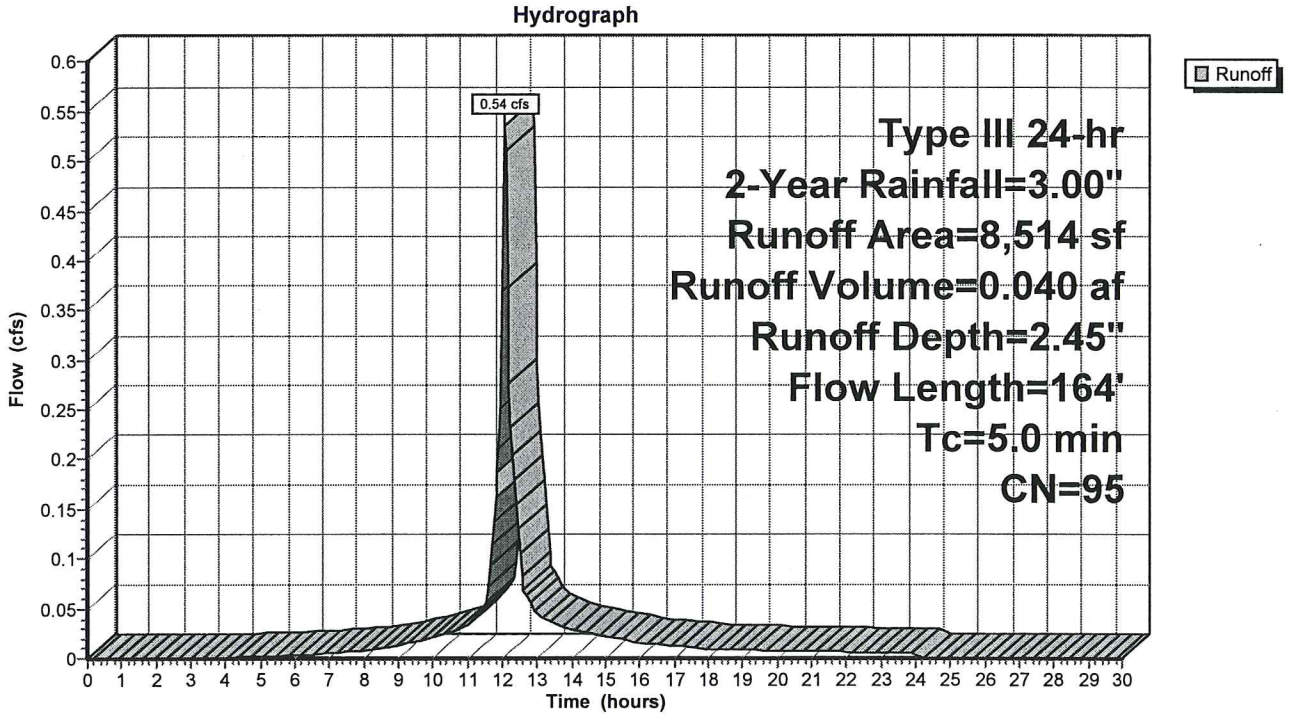
Runoff = 0.54 cfs @ 12.07 hrs, Volume= 0.040 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
1,092	74	>75% Grass cover, Good, HSG C
7,422	98	Paved parking, HSG C
8,514	95	Weighted Average
1,092		12.83% Pervious Area
7,422		87.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	114	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	164	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P111: TO DCB#22



Summary for Subcatchment P112: TO DCB#21

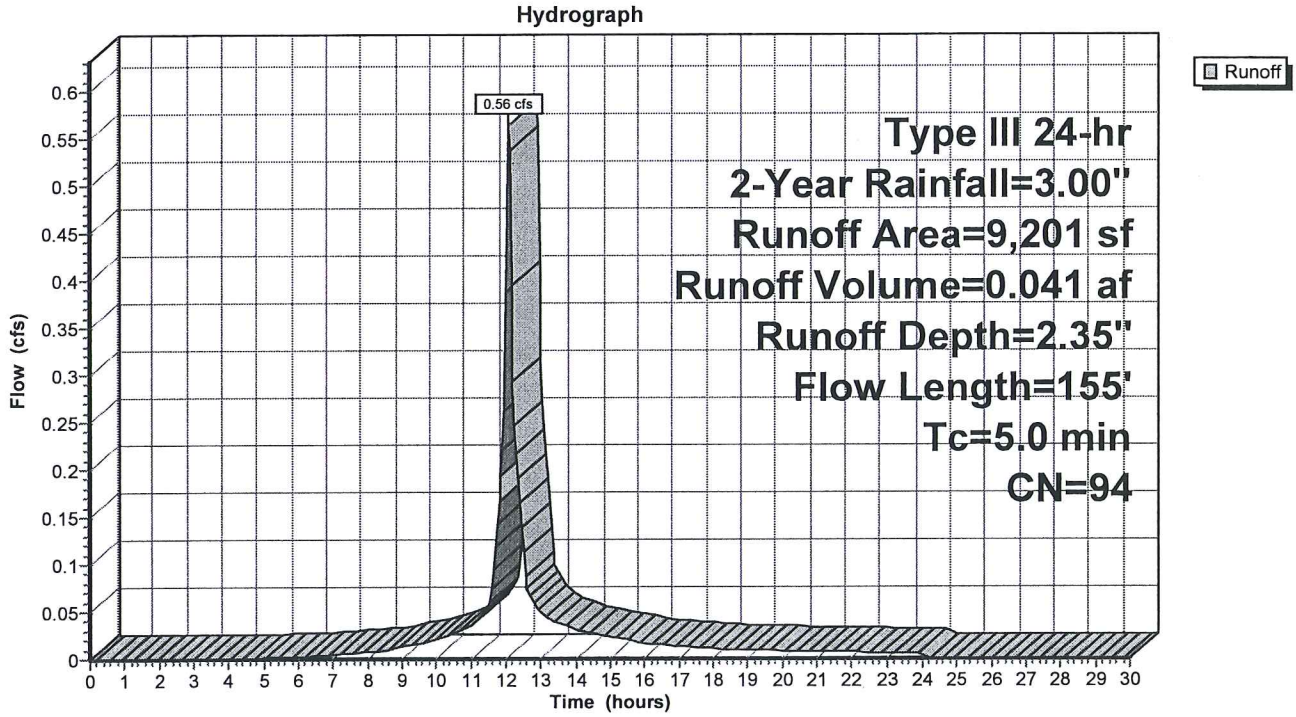
Runoff = 0.56 cfs @ 12.07 hrs, Volume= 0.041 af, Depth= 2.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
1,619	74	>75% Grass cover, Good, HSG C
7,582	98	Paved parking, HSG C
9,201	94	Weighted Average
1,619		17.60% Pervious Area
7,582		82.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.7	105	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	155	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P112: TO DCB#21



Summary for Subcatchment P113: TO DCB#21

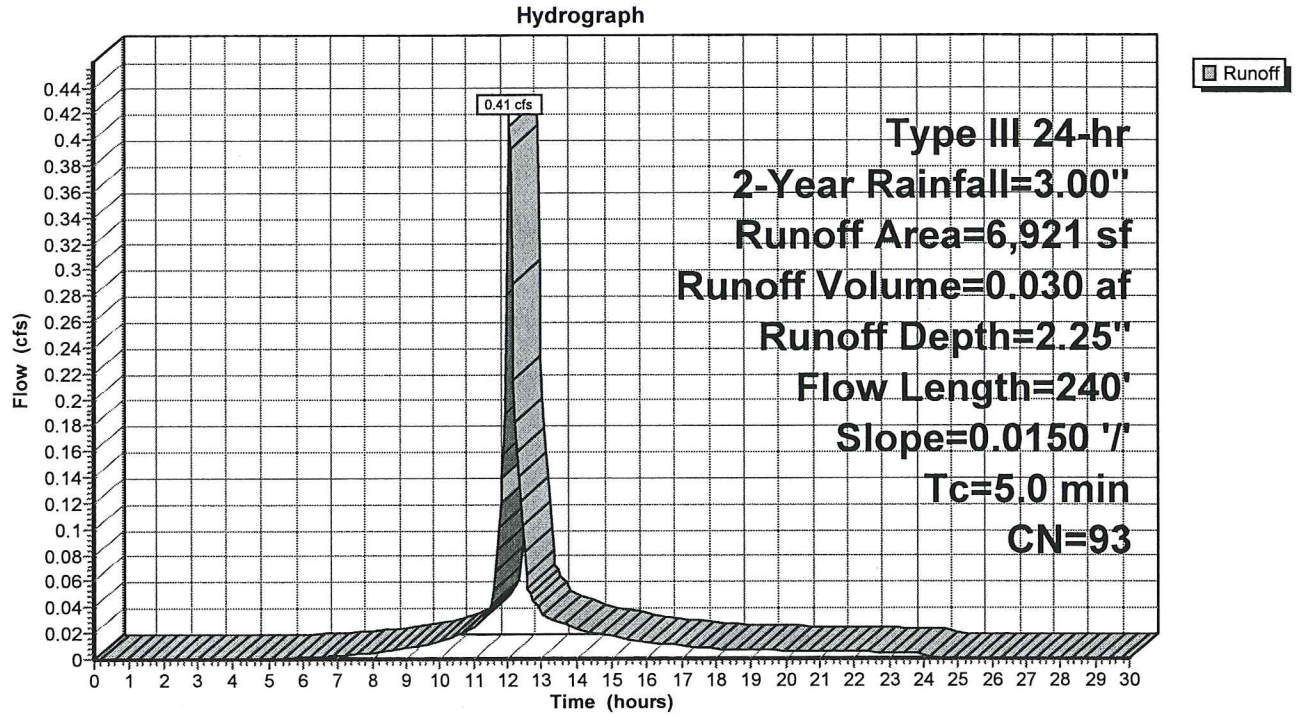
Runoff = 0.41 cfs @ 12.07 hrs, Volume= 0.030 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
1,320	74	>75% Grass cover, Good, HSG C
5,601	98	Paved parking, HSG C
6,921	93	Weighted Average
1,320		19.07% Pervious Area
5,601		80.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.3	190	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.1	240	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P113: TO DCB#21



Summary for Subcatchment P114: TO DCB#20

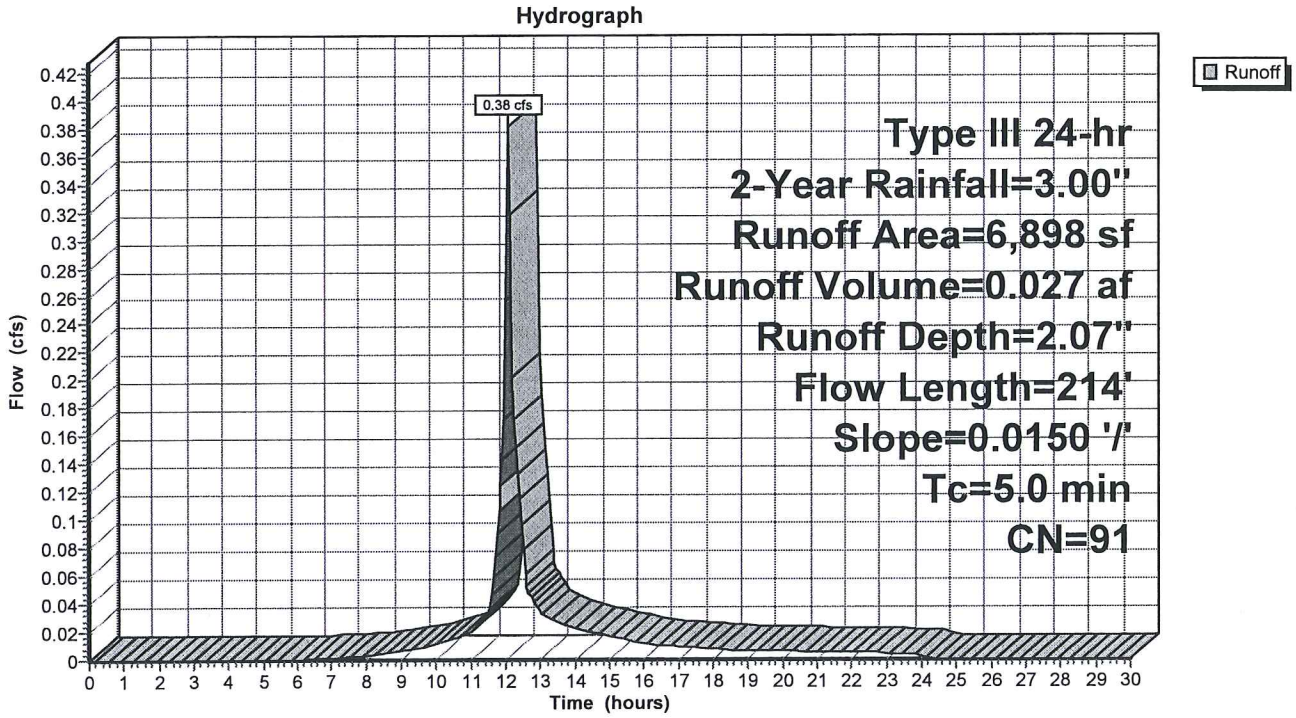
Runoff = 0.38 cfs @ 12.07 hrs, Volume= 0.027 af, Depth= 2.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
1,924	74	>75% Grass cover, Good, HSG C
4,974	98	Paved parking, HSG C
6,898	91	Weighted Average
1,924		27.89% Pervious Area
4,974		72.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	12	0.0150	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.6	38	0.0150	0.98		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.1	164	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.8	214	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P114: TO DCB#20



Summary for Subcatchment P115: TO DCB#10

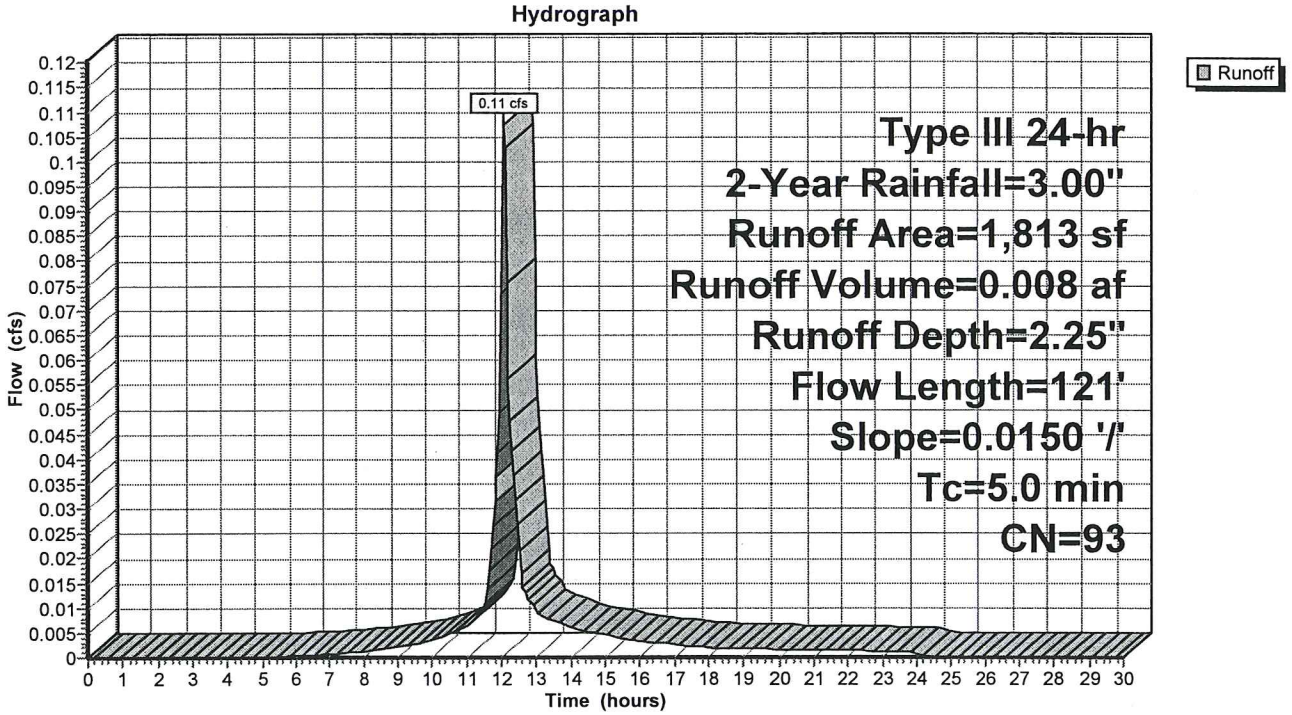
Runoff = 0.11 cfs @ 12.07 hrs, Volume= 0.008 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
347	74	>75% Grass cover, Good, HSG C
1,466	98	Paved parking, HSG C
1,813	93	Weighted Average
347		19.14% Pervious Area
1,466		80.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	71	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	121	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P115: TO DCB#10



Summary for Subcatchment P116: TO DCB#11

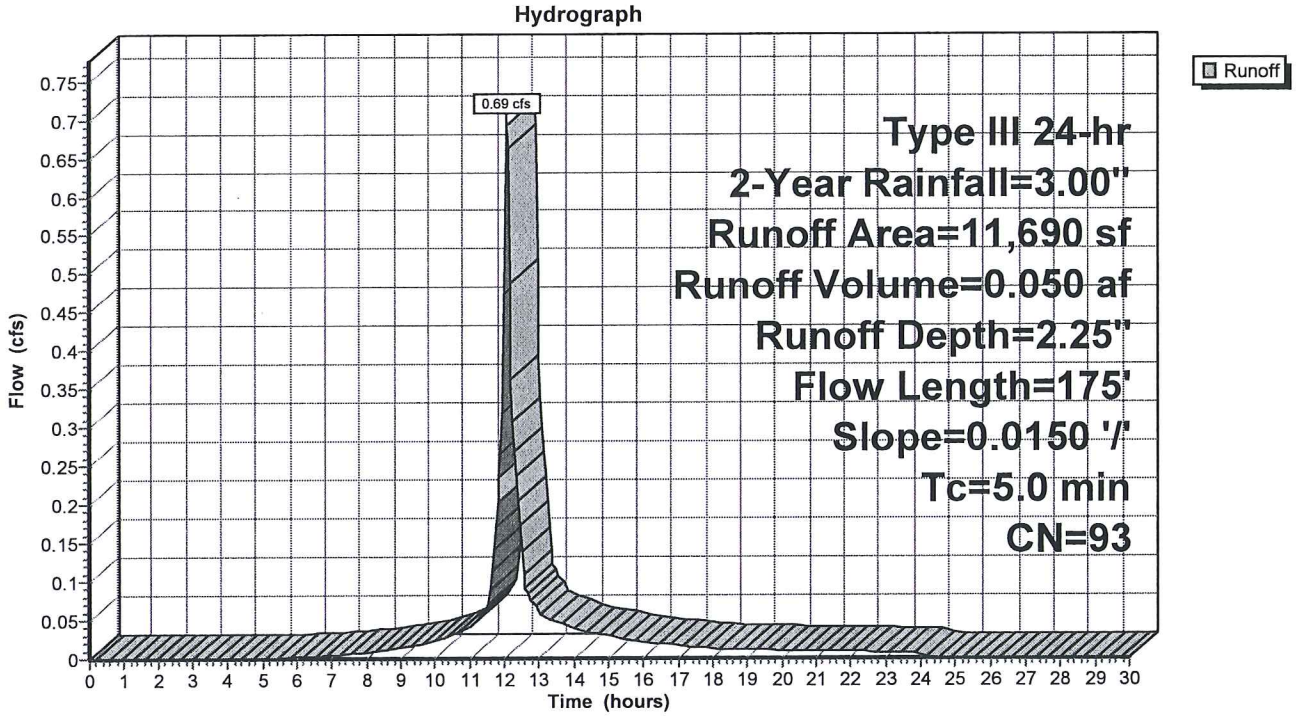
Runoff = 0.69 cfs @ 12.07 hrs, Volume= 0.050 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
2,542	74	>75% Grass cover, Good, HSG C
9,148	98	Paved parking, HSG C
11,690	93	Weighted Average
2,542		21.75% Pervious Area
9,148		78.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	125	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	175	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P116: TO DCB#11



Summary for Subcatchment P117: TO DCB#4

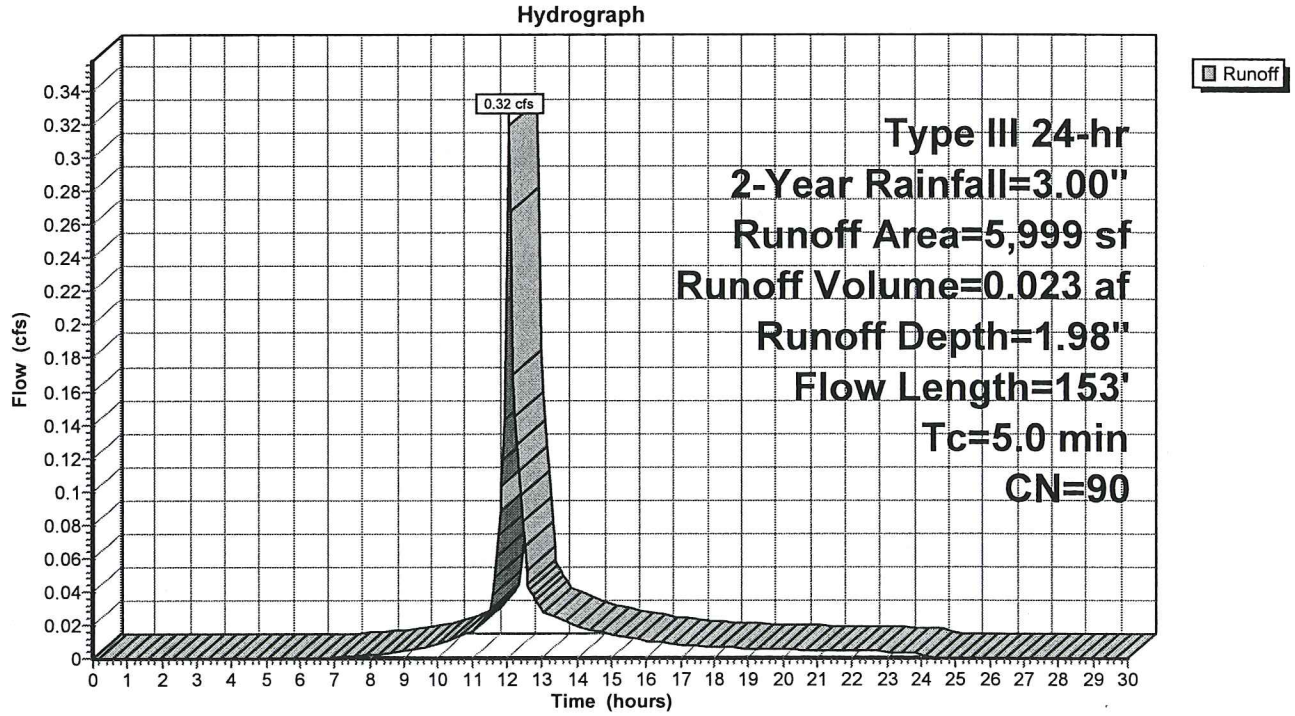
Runoff = 0.32 cfs @ 12.07 hrs, Volume= 0.023 af, Depth= 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
1,915	74	>75% Grass cover, Good, HSG C
4,084	98	Paved parking, HSG C
5,999	90	Weighted Average
1,915		31.92% Pervious Area
4,084		68.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	13	0.0150	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.4	37	0.0500	1.57		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	103	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0	153	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P117: TO DCB#4



Summary for Subcatchment P118: TO DCB#20

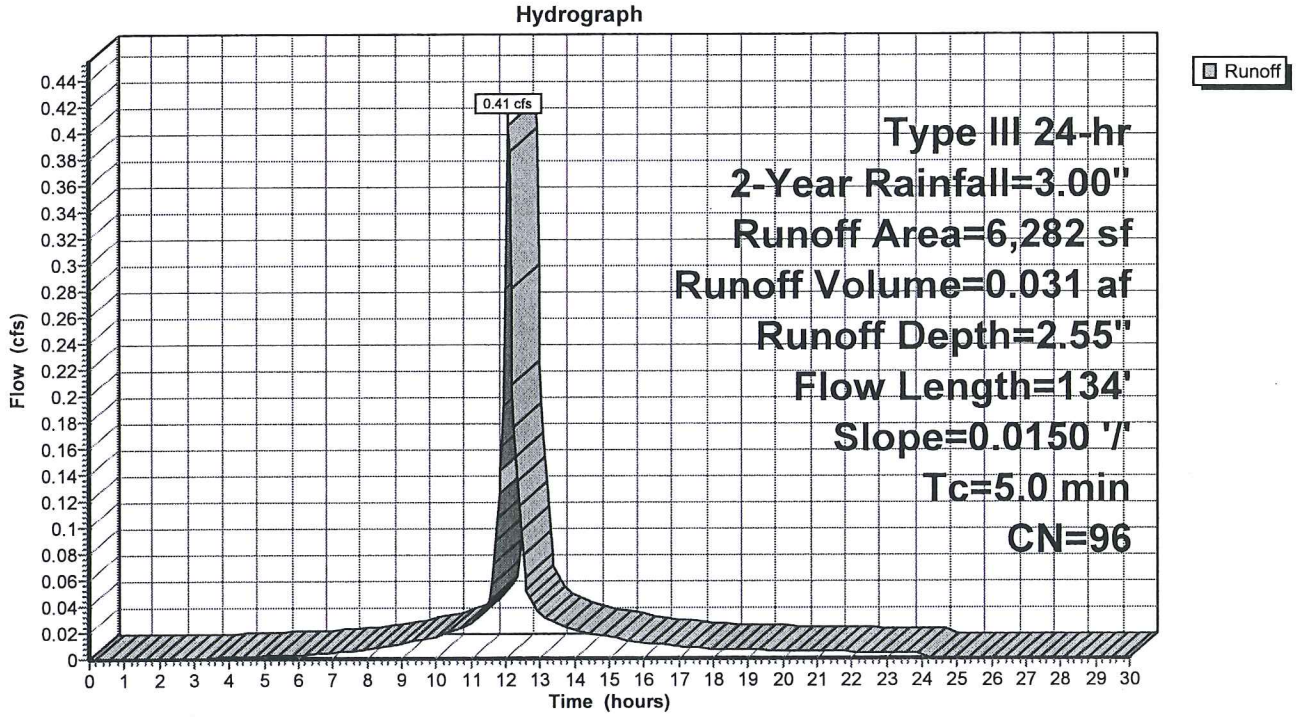
Runoff = 0.41 cfs @ 12.07 hrs, Volume= 0.031 af, Depth= 2.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
653	74	>75% Grass cover, Good, HSG C
5,629	98	Paved parking, HSG C
6,282	96	Weighted Average
653		10.39% Pervious Area
5,629		89.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	84	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	134	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P118: TO DCB#20



Summary for Subcatchment P119: TO DCB#19

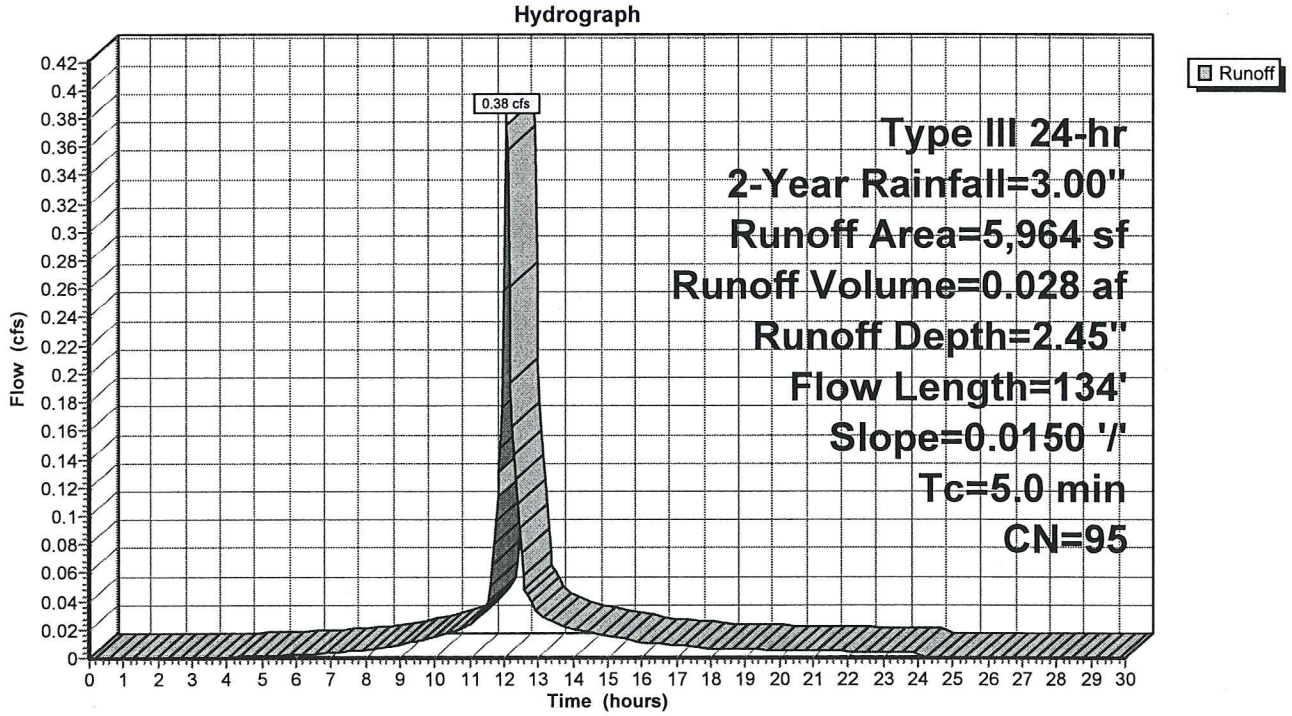
Runoff = 0.38 cfs @ 12.07 hrs, Volume= 0.028 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
631	74	>75% Grass cover, Good, HSG C
5,333	98	Paved parking, HSG C
5,964	95	Weighted Average
631		10.58% Pervious Area
5,333		89.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	84	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	134	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P119: TO DCB#19



Summary for Subcatchment P12: TO CULVERT#1

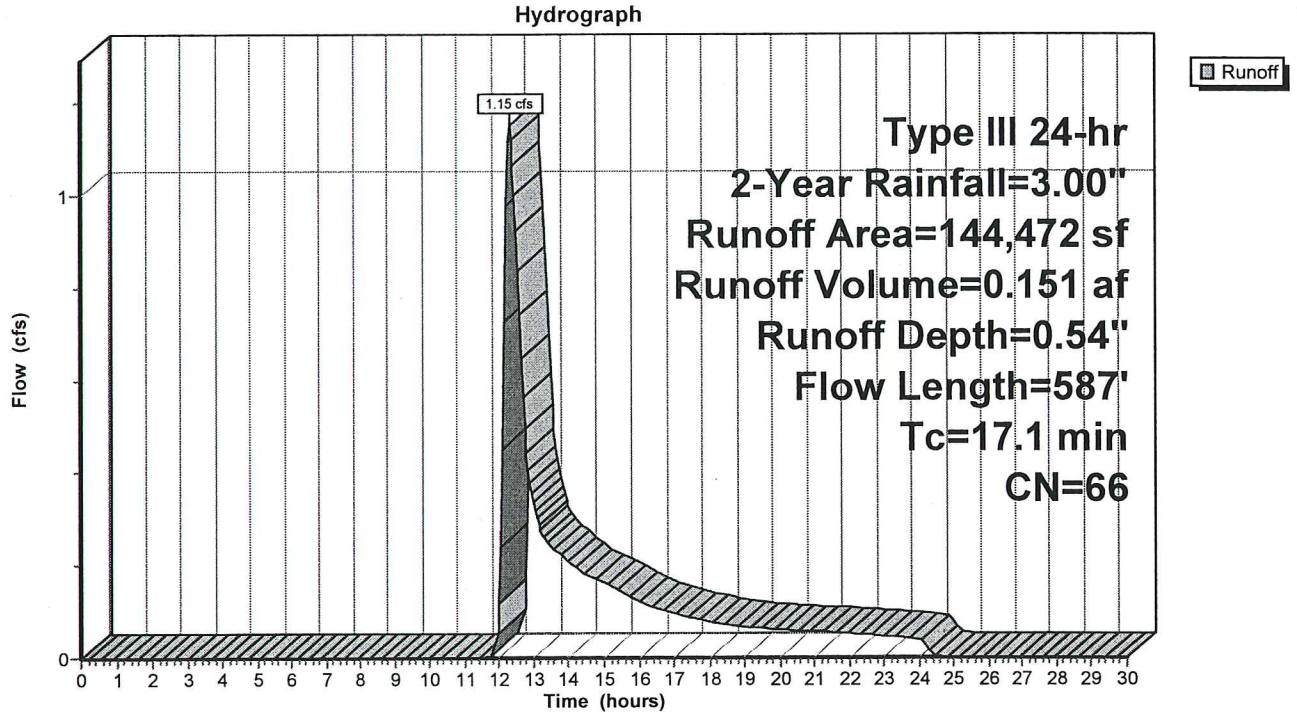
Runoff = 1.15 cfs @ 12.30 hrs, Volume= 0.151 af, Depth= 0.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
4,698	61	>75% Grass cover, Good, HSG B
44,370	55	Woods, Good, HSG B
3,012	98	Paved parking, HSG B
10,573	74	>75% Grass cover, Good, HSG C
80,246	70	Woods, Good, HSG C
1,573	98	Paved parking, HSG C
144,472	66	Weighted Average
139,887		96.83% Pervious Area
4,585		3.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	30	0.5000	0.47		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
4.1	45	0.2800	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.6	202	0.1700	2.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.3	310	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
17.1	587	Total			

Subcatchment P12: TO CULVERT#1



Summary for Subcatchment P120: TO DCB#15

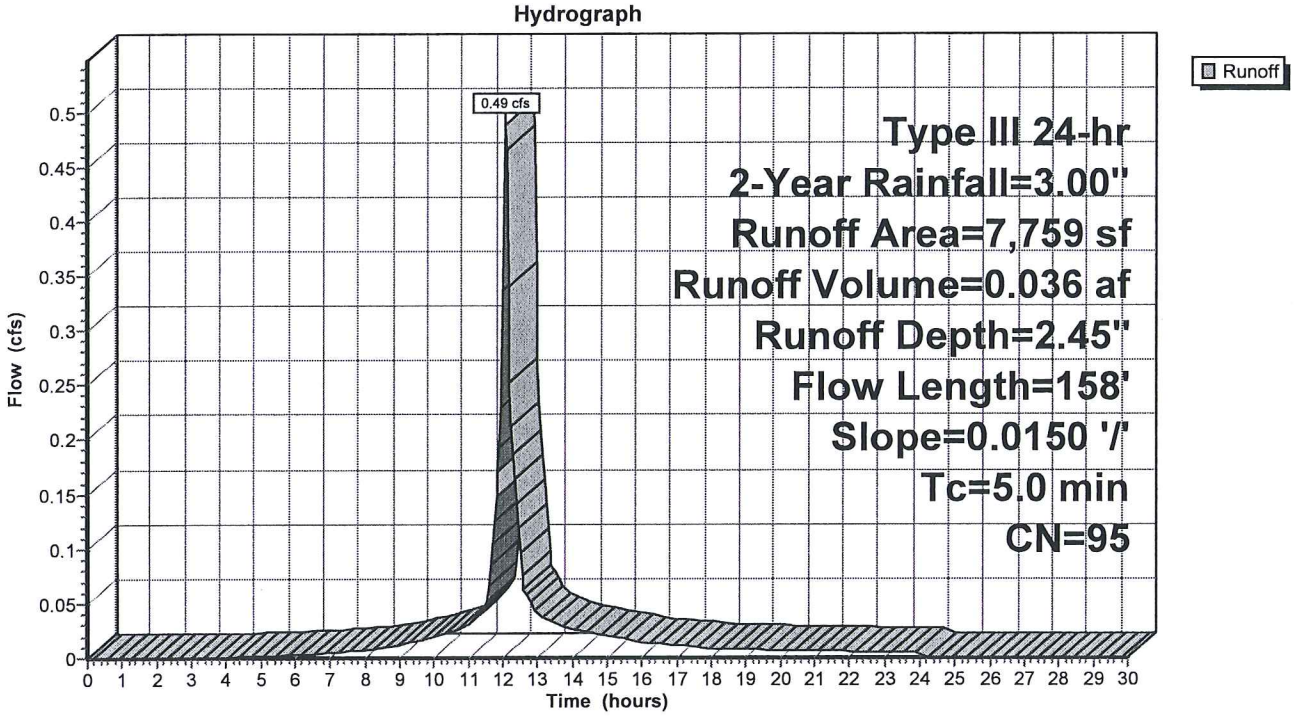
Runoff = 0.49 cfs @ 12.07 hrs, Volume= 0.036 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
933	74	>75% Grass cover, Good, HSG C
6,826	98	Paved parking, HSG C
7,759	95	Weighted Average
933		12.02% Pervious Area
6,826		87.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.7	108	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	158	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P120: TO DCB#15



Summary for Subcatchment P121: TO DCB#14

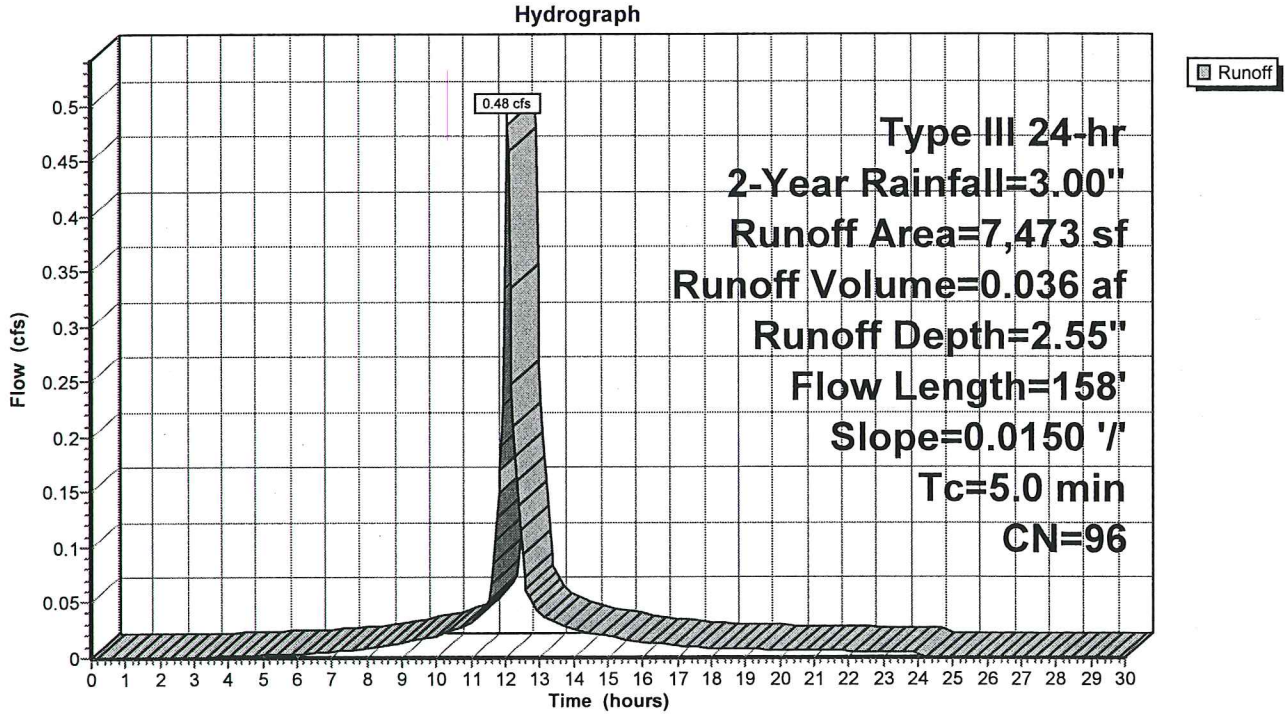
Runoff = 0.48 cfs @ 12.07 hrs, Volume= 0.036 af, Depth= 2.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
717	74	>75% Grass cover, Good, HSG C
6,756	98	Paved parking, HSG C
7,473	96	Weighted Average
717		9.59% Pervious Area
6,756		90.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.7	108	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	158	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P121: TO DCB#14



Summary for Subcatchment P122: TO DCB#17

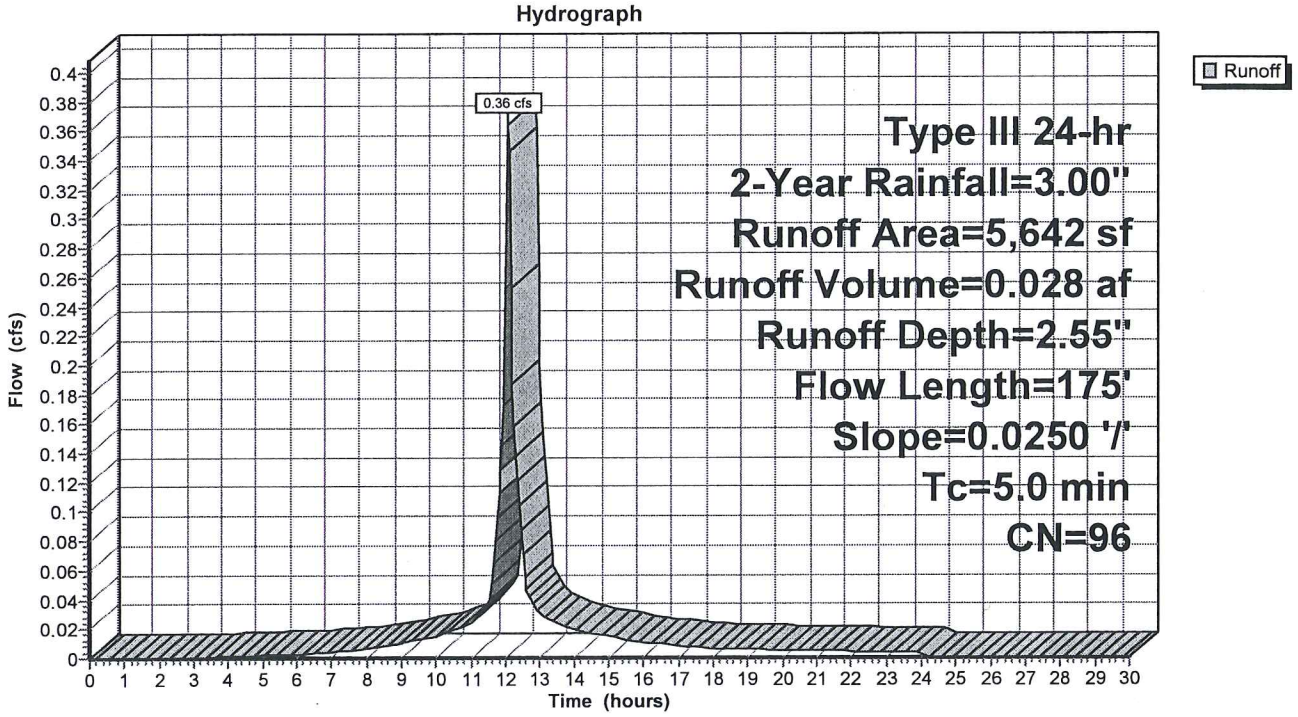
Runoff = 0.36 cfs @ 12.07 hrs, Volume= 0.028 af, Depth= 2.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
486	74	>75% Grass cover, Good, HSG C
5,156	98	Paved parking, HSG C
5,642	96	Weighted Average
486		8.61% Pervious Area
5,156		91.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0250	1.27		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	125	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	175	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P122: TO DCB#17



Summary for Subcatchment P123: TO DCB#3

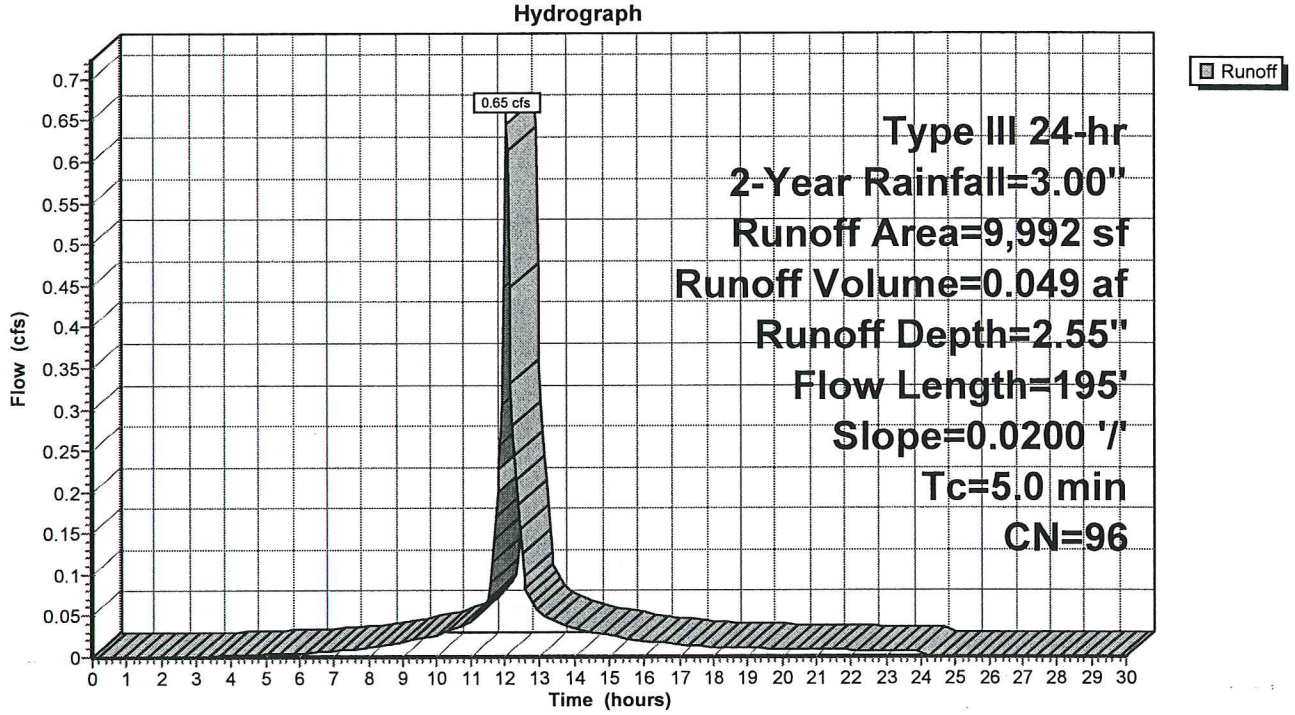
Runoff = 0.65 cfs @ 12.07 hrs, Volume= 0.049 af, Depth= 2.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
1,007	74	>75% Grass cover, Good, HSG C
8,985	98	Paved parking, HSG C
9,992	96	Weighted Average
1,007		10.08% Pervious Area
8,985		89.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0200	1.16		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	145	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	195	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P123: TO DCB#3



Summary for Subcatchment P124: TO DCB#13

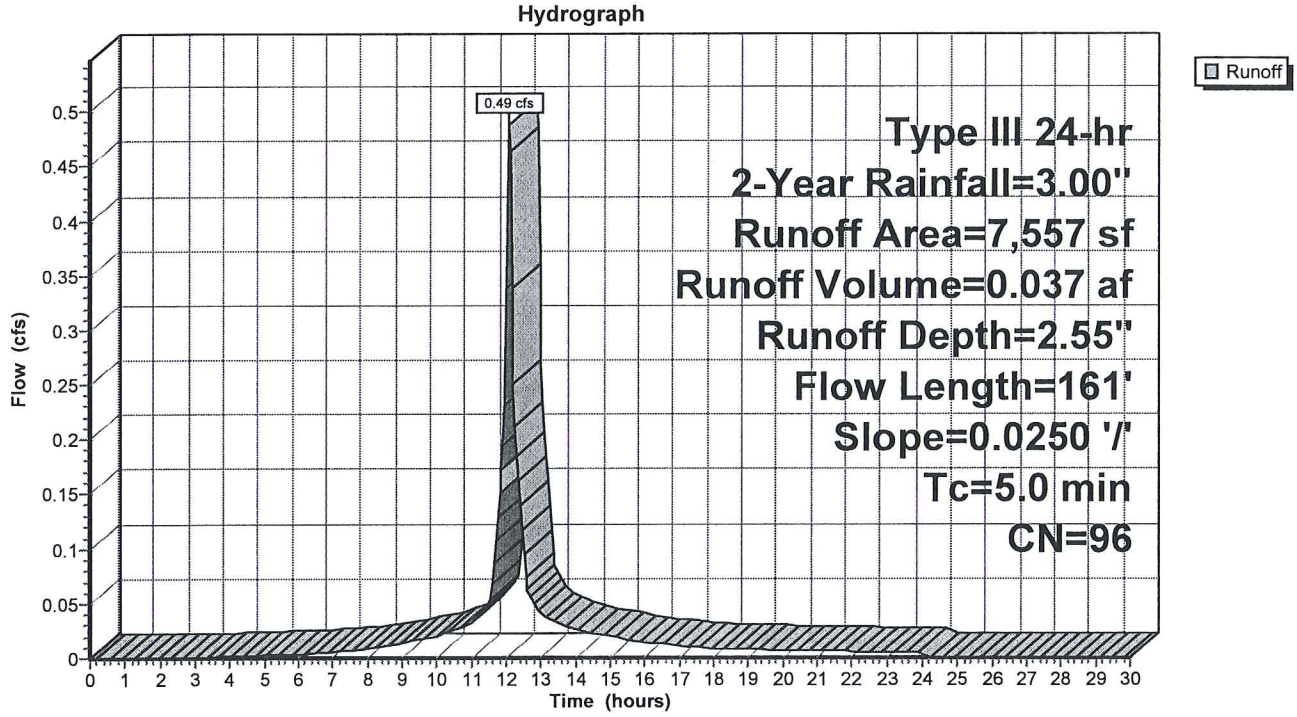
Runoff = 0.49 cfs @ 12.07 hrs, Volume= 0.037 af, Depth= 2.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
627	74	>75% Grass cover, Good, HSG C
6,930	98	Paved parking, HSG C
7,557	96	Weighted Average
627		8.30% Pervious Area
6,930		91.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0250	1.27		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	111	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	161	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P124: TO DCB#13



Summary for Subcatchment P125: TO DCB#12

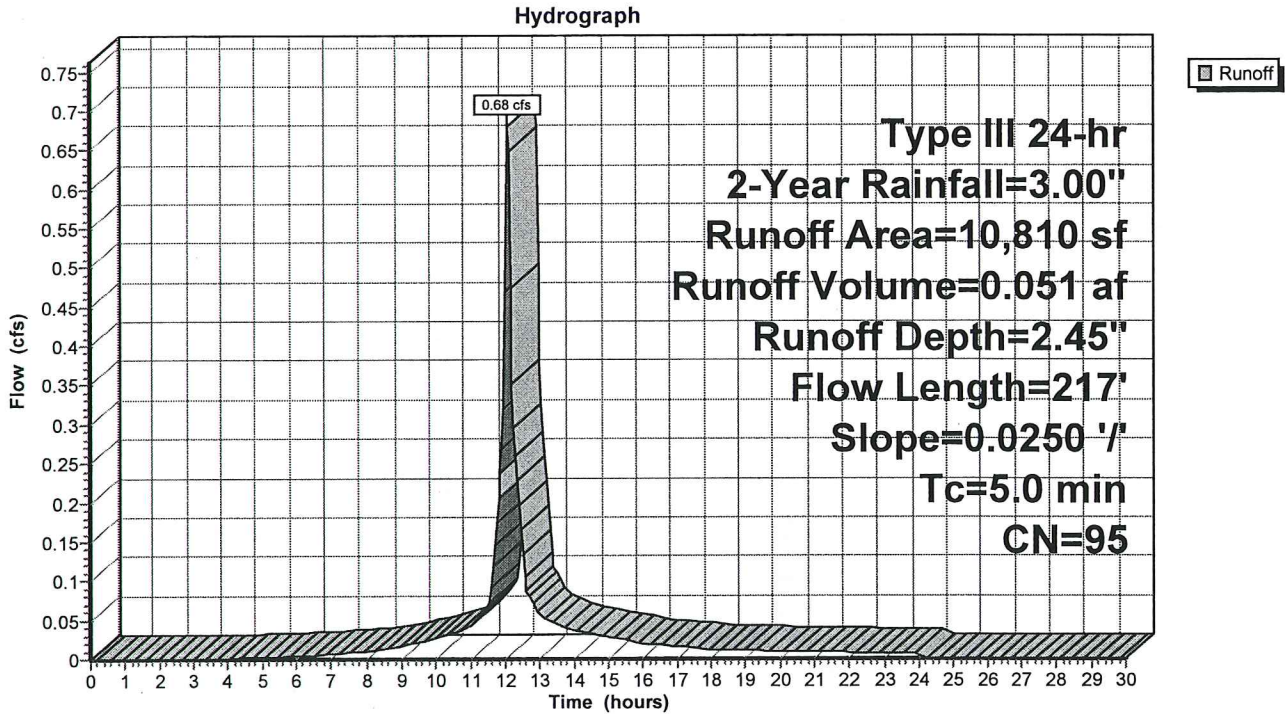
Runoff = 0.68 cfs @ 12.07 hrs, Volume= 0.051 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
1,513	74	>75% Grass cover, Good, HSG C
9,297	98	Paved parking, HSG C
10,810	95	Weighted Average
1,513		14.00% Pervious Area
9,297		86.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0250	1.27		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.9	167	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	217	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P125: TO DCB#12



Summary for Subcatchment P126: TO DCB#18

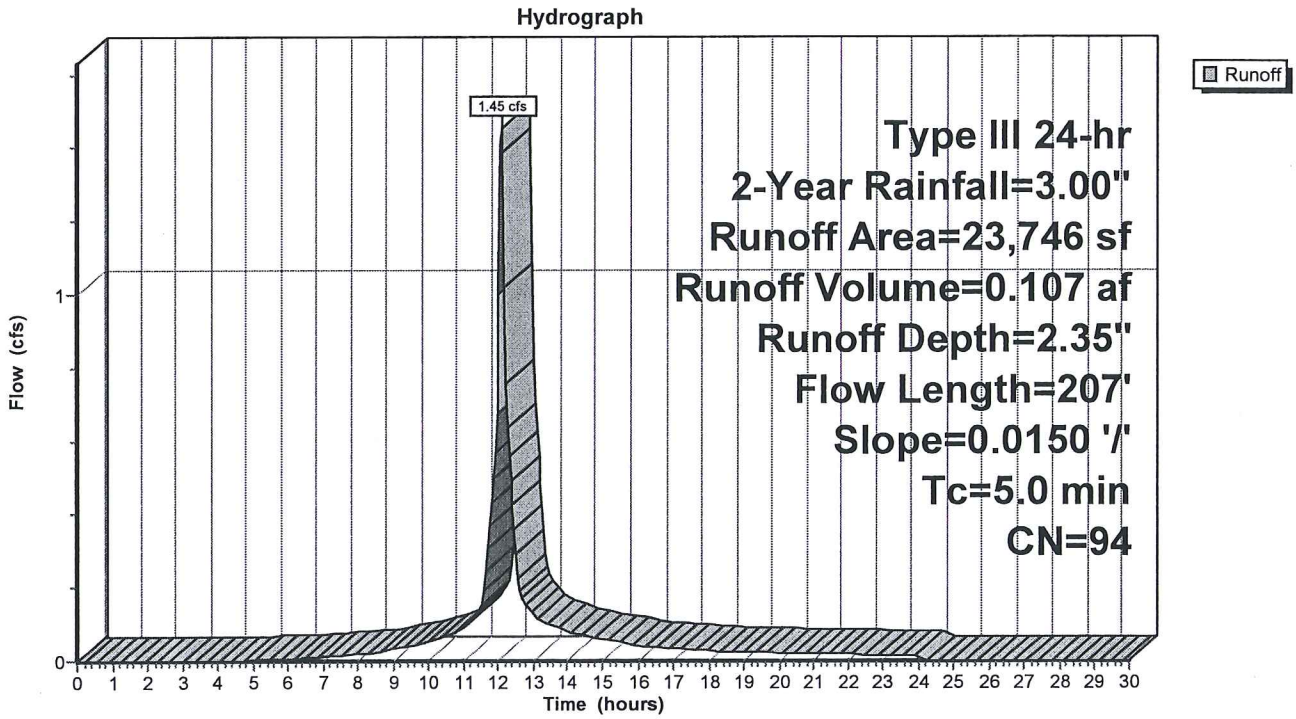
Runoff = 1.45 cfs @ 12.07 hrs, Volume= 0.107 af, Depth= 2.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
3,639	74	>75% Grass cover, Good, HSG C
20,107	98	Paved parking, HSG C
23,746	94	Weighted Average
3,639		15.32% Pervious Area
20,107		84.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	6	0.0150	0.08		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.7	44	0.0150	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.1	157	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0	207	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P126: TO DCB#18



Summary for Subcatchment P127: TO DCB#1

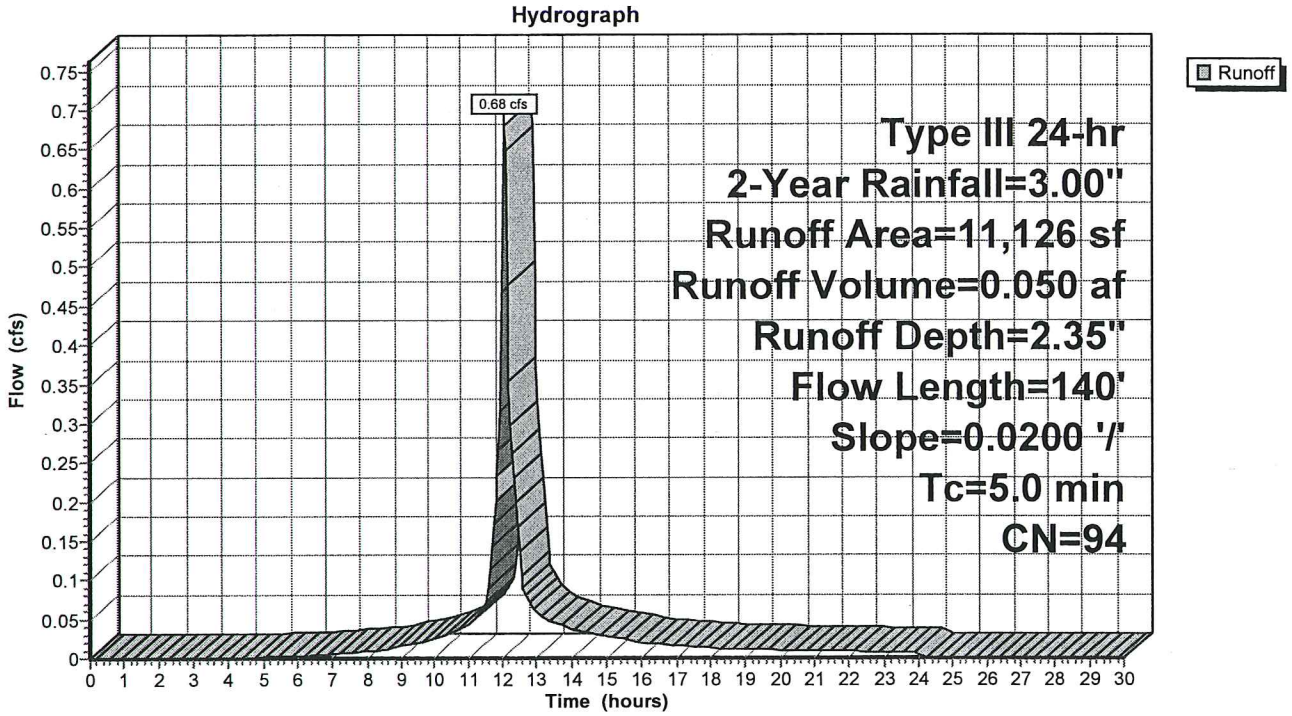
Runoff = 0.68 cfs @ 12.07 hrs, Volume= 0.050 af, Depth= 2.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
2,020	74	>75% Grass cover, Good, HSG C
9,106	98	Paved parking, HSG C
11,126	94	Weighted Average
2,020		18.16% Pervious Area
9,106		81.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0200	1.16		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	90	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.2	140	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P127: TO DCB#1



Summary for Subcatchment P128: (new Subcat)

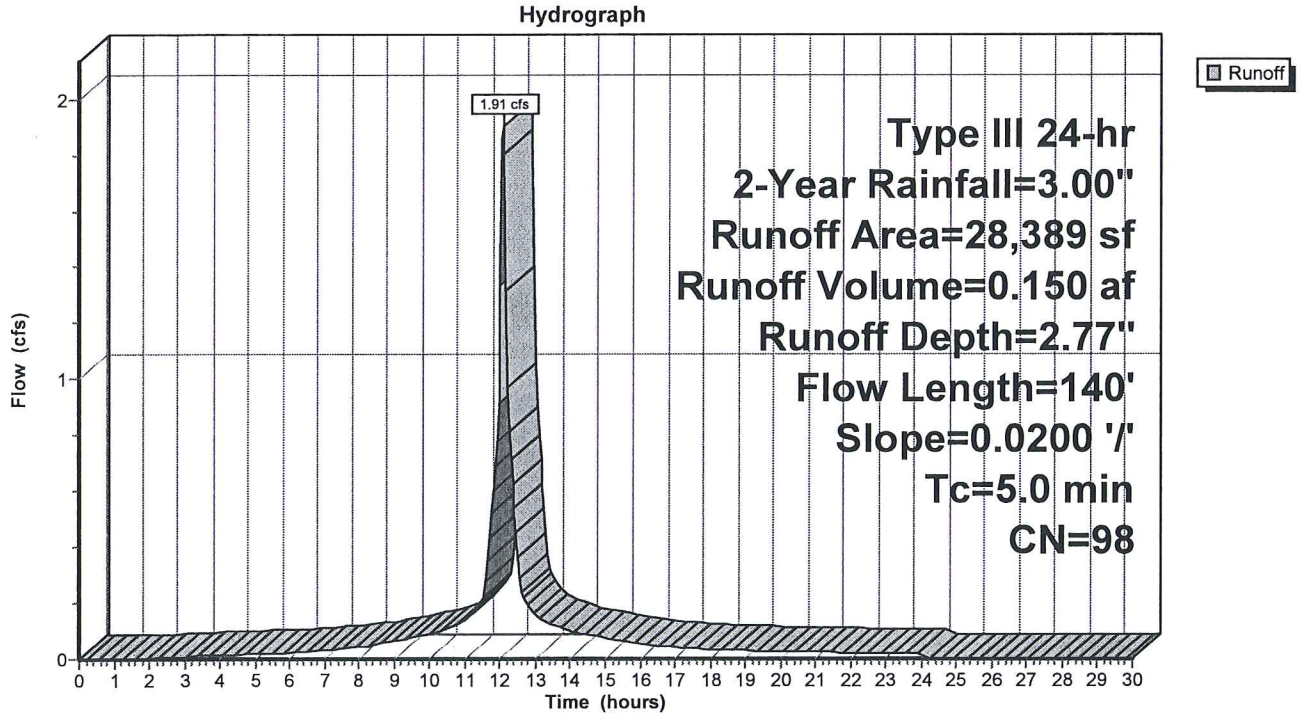
Runoff = 1.91 cfs @ 12.07 hrs, Volume= 0.150 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
28,389	98	Paved parking, HSG C
28,389		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0200	1.16		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	90	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.2	140	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P128: (new Subcat)



Summary for Subcatchment P14: TO CULVERT #2

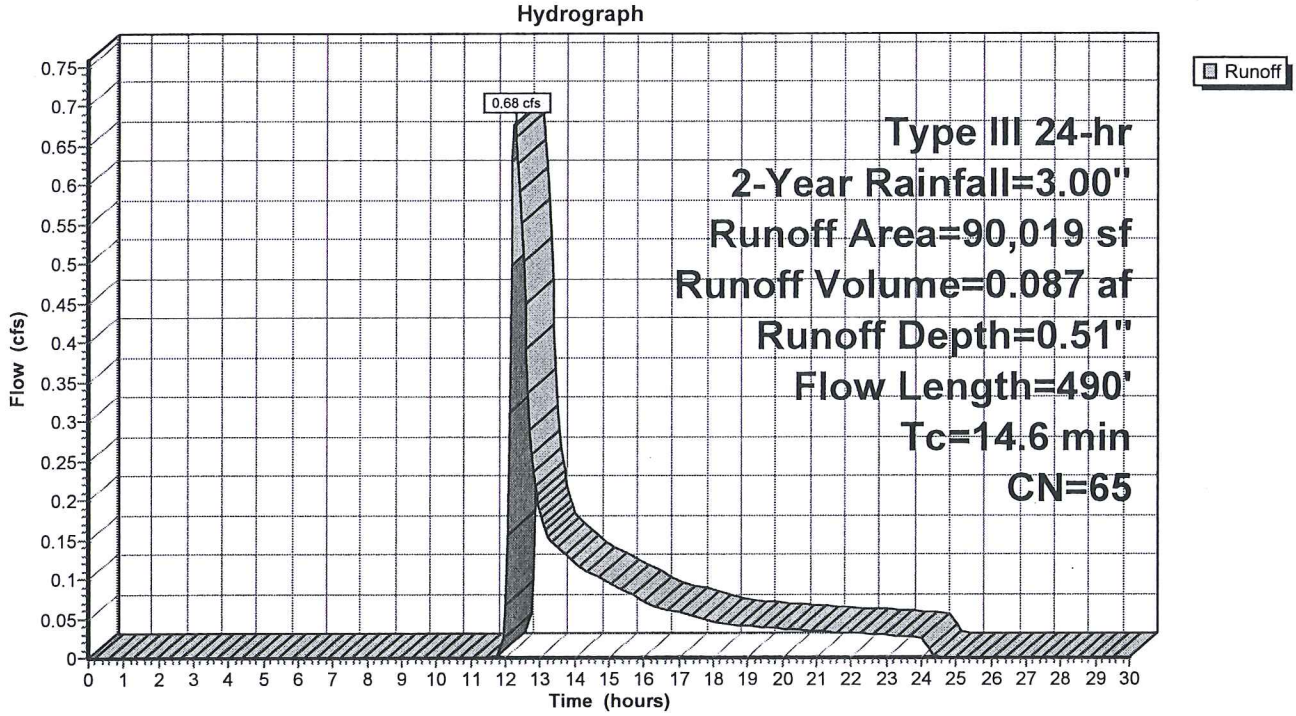
Runoff = 0.68 cfs @ 12.26 hrs, Volume= 0.087 af, Depth= 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
4,416	61	>75% Grass cover, Good, HSG B
947	98	Paved parking, HSG B
35,087	55	Woods, Good, HSG B
6,523	74	>75% Grass cover, Good, HSG C
40,756	70	Woods, Good, HSG C
2,290	98	Paved parking, HSG C
90,019	65	Weighted Average
86,782		96.40% Pervious Area
3,237		3.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	75	0.0500	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	43	0.4200	3.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.0	137	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.8	235	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.6	490	Total			

Subcatchment P14: TO CULVERT #2



Summary for Subcatchment P18: TO DP#2

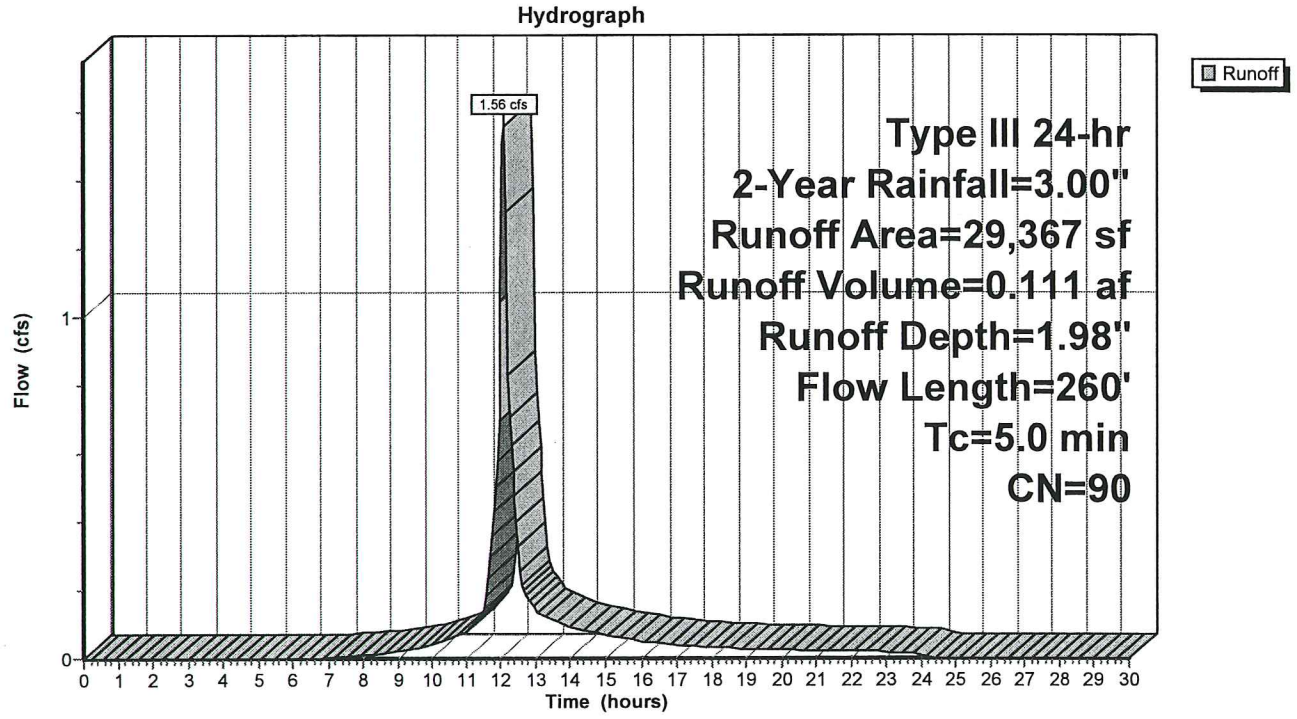
Runoff = 1.56 cfs @ 12.07 hrs, Volume= 0.111 af, Depth= 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
9,885	74	>75% Grass cover, Good, HSG C
19,482	98	Paved parking, HSG C
29,367	90	Weighted Average
9,885		33.66% Pervious Area
19,482		66.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0700	1.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	127	0.0700	5.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	83	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	260	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P18: TO DP#2



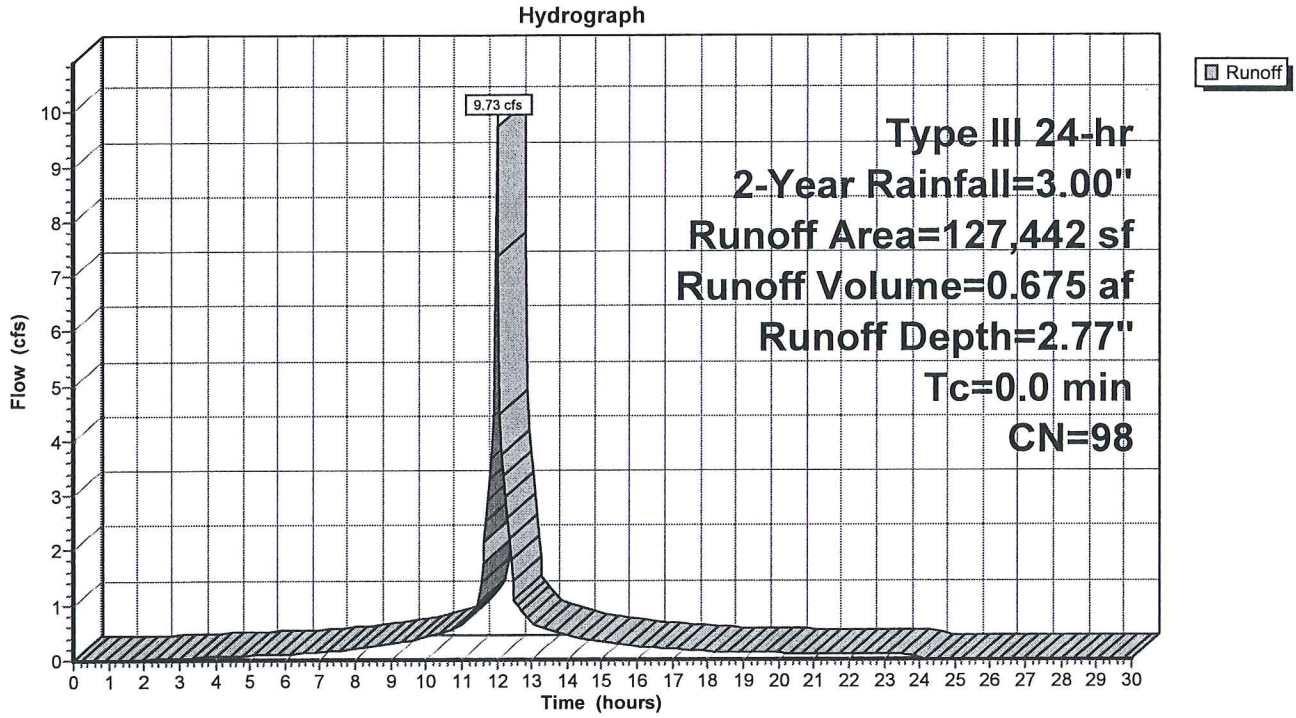
Summary for Subcatchment P19: BUILDING

Runoff = 9.73 cfs @ 12.00 hrs, Volume= 0.675 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
127,442	98	Paved parking, HSG C
127,442		100.00% Impervious Area

Subcatchment P19: BUILDING



Summary for Subcatchment P20: TO DCB-H

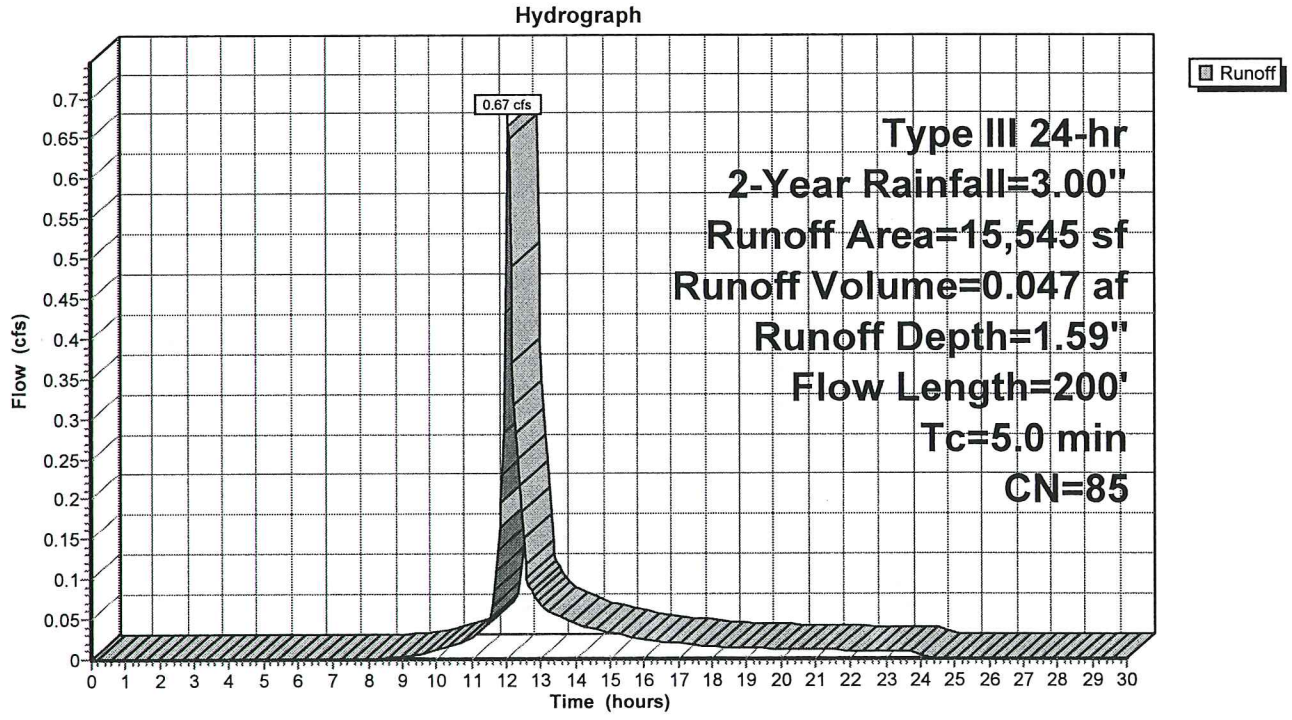
Runoff = 0.67 cfs @ 12.08 hrs, Volume= 0.047 af, Depth= 1.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
7,771	74	>75% Grass cover, Good, HSG C
7,018	98	Paved parking, HSG C
756	70	Woods, Good, HSG C
15,545	85	Weighted Average
8,527		54.85% Pervious Area
7,018		45.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	17	0.3300	0.35		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.5	33	0.0200	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.9	150	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	200	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P20: TO DCB-H



Summary for Subcatchment P21: TO DCB-I

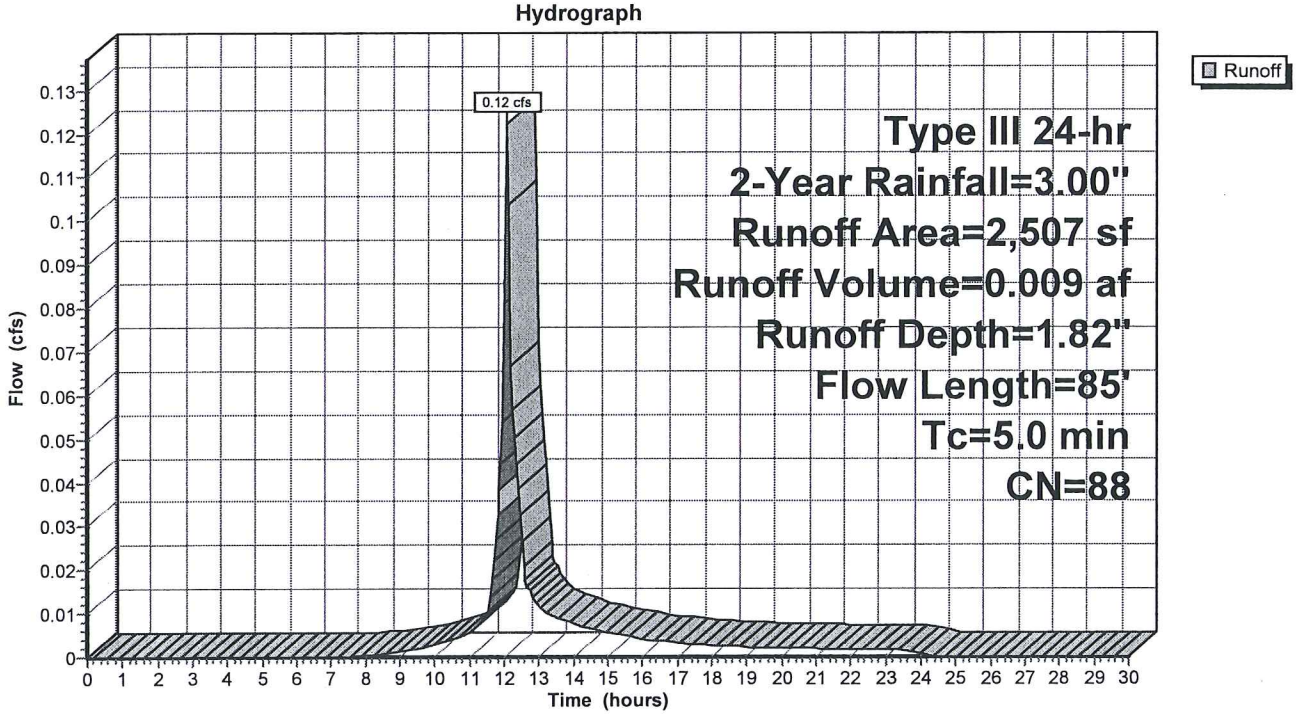
Runoff = 0.12 cfs @ 12.08 hrs, Volume= 0.009 af, Depth= 1.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
1,092	74	>75% Grass cover, Good, HSG C
1,415	98	Paved parking, HSG C
2,507	88	Weighted Average
1,092		43.56% Pervious Area
1,415		56.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	17	0.3300	0.35		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	33	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	35	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.2	85	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P21: TO DCB-I



Summary for Subcatchment P22: TO DCB-J

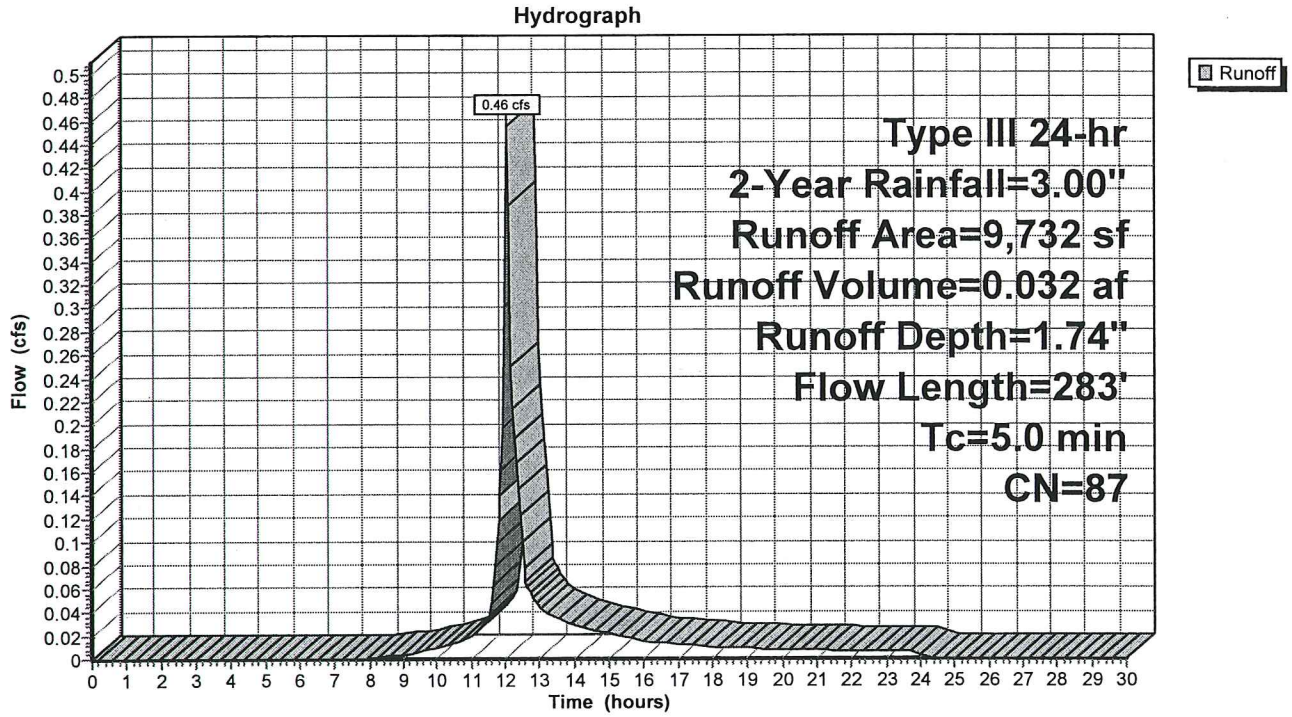
Runoff = 0.46 cfs @ 12.08 hrs, Volume= 0.032 af, Depth= 1.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
4,638	74	>75% Grass cover, Good, HSG C
5,094	98	Paved parking, HSG C
9,732	87	Weighted Average
4,638		47.66% Pervious Area
5,094		52.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	18	0.3300	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.5	32	0.0200	1.06		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.1	233	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.4	283	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P22: TO DCB-J



Summary for Subcatchment P26: TO DCB-F

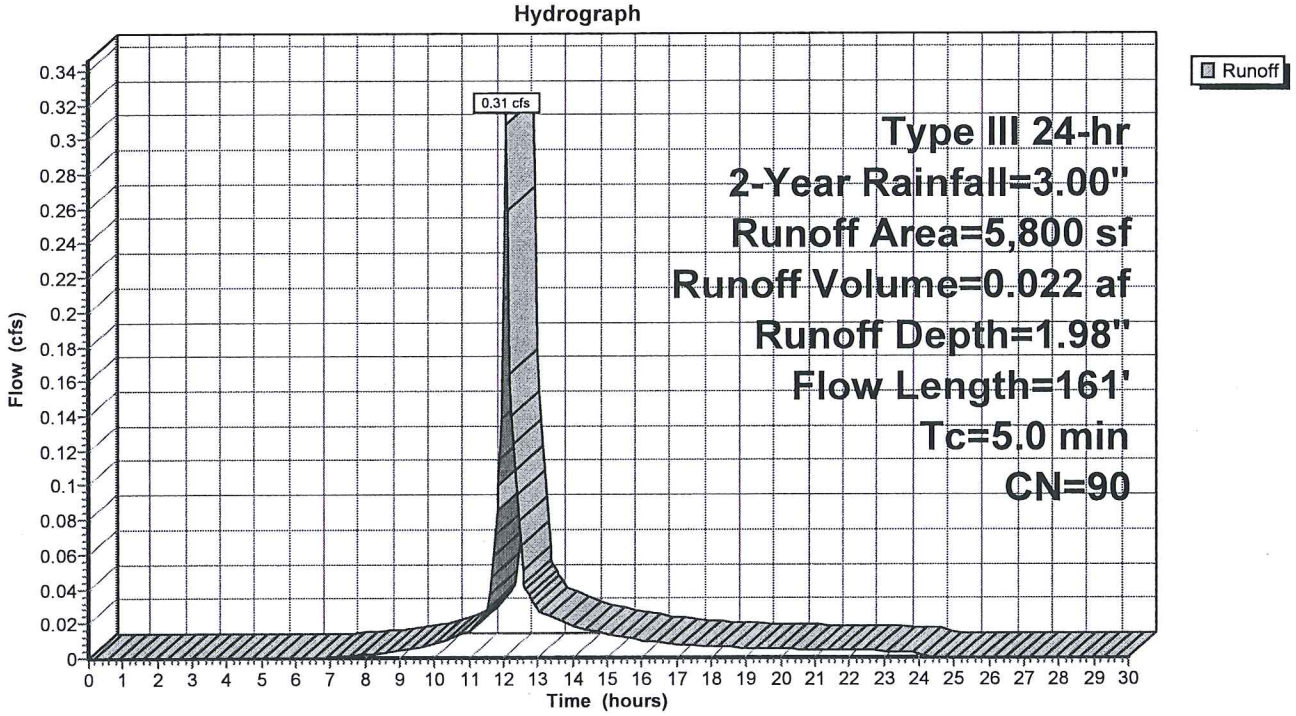
Runoff = 0.31 cfs @ 12.07 hrs, Volume= 0.022 af, Depth= 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
1,833	74	>75% Grass cover, Good, HSG C
3,967	98	Paved parking, HSG C
5,800	90	Weighted Average
1,833		31.60% Pervious Area
3,967		68.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	6	0.0200	0.09		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.6	44	0.0200	1.13		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	111	0.0650	5.18		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.1	161	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P26: TO DCB-F



Summary for Subcatchment P27: TO DCB-G

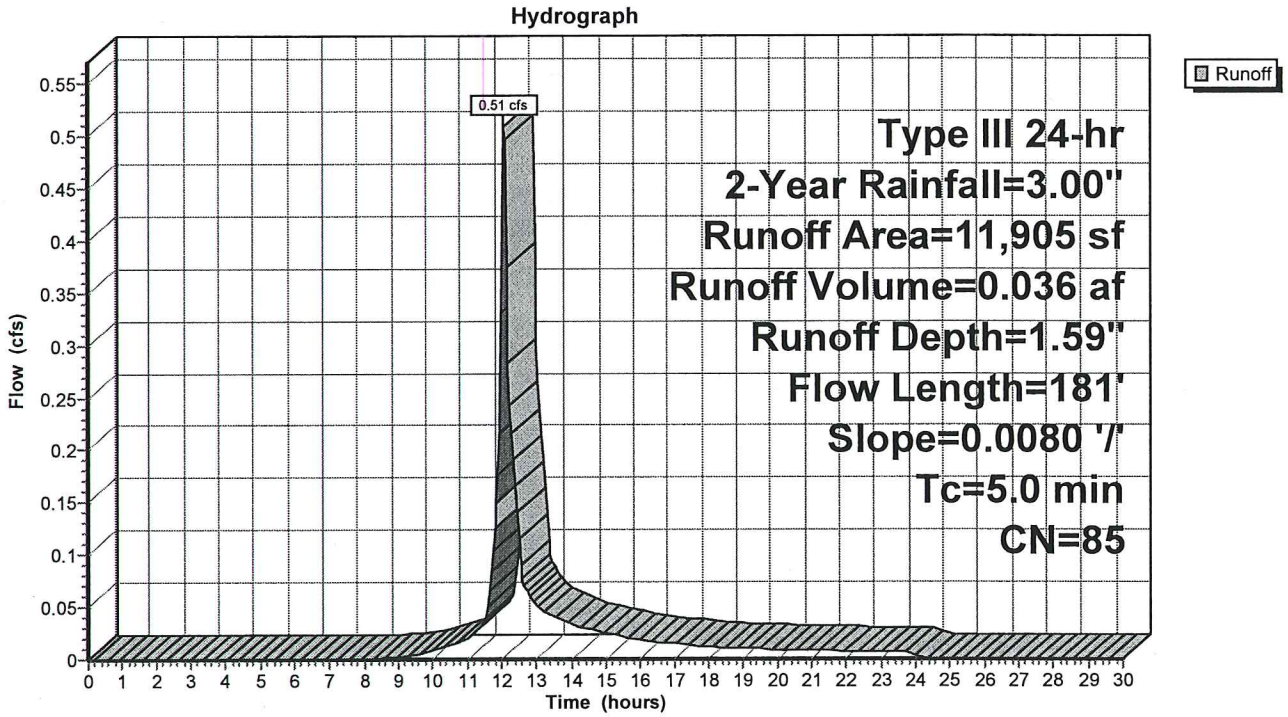
Runoff = 0.51 cfs @ 12.08 hrs, Volume= 0.036 af, Depth= 1.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
6,533	74	>75% Grass cover, Good, HSG C
5,372	98	Paved parking, HSG C
11,905	85	Weighted Average
6,533		54.88% Pervious Area
5,372		45.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	50	0.0080	0.80		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.2	131	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	181	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P27: TO DCB-G



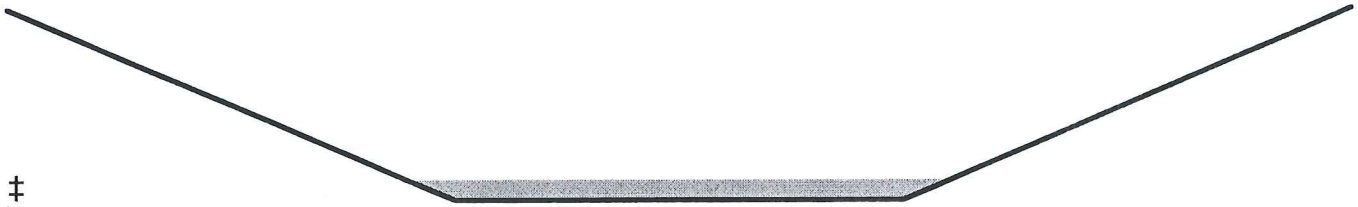
Summary for Reach 2R: OVERLAND FLOW

Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 2.19" for 2-Year event
Inflow = 0.55 cfs @ 12.06 hrs, Volume= 0.490 af
Outflow = 0.55 cfs @ 12.71 hrs, Volume= 0.490 af, Atten= 0%, Lag= 39.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.46 fps, Min. Travel Time= 4.3 min
Avg. Velocity = 0.34 fps, Avg. Travel Time= 5.8 min

Peak Storage= 140 cf @ 12.55 hrs
Average Depth at Peak Storage= 0.11'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 32.74 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 117.0' Slope= 0.0103 '/'
Inlet Invert= 1,117.80', Outlet Invert= 1,116.60'



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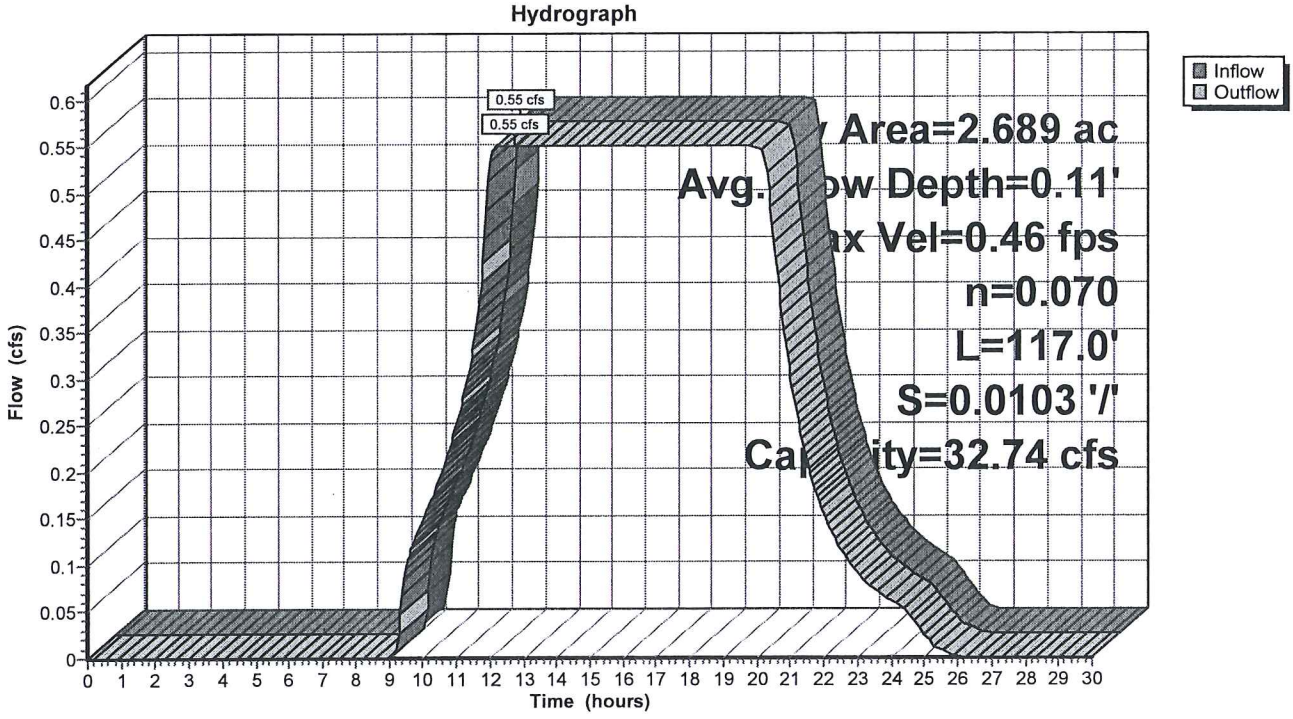
Reach 2R: OVERLAND FLOW



Stage-Discharge for Reach 2R: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,117.80	0.00	0.00
1,117.81	0.10	0.01
1,117.82	0.16	0.03
1,117.83	0.20	0.06
1,117.84	0.25	0.10
1,117.85	0.28	0.15
1,117.86	0.32	0.20
1,117.87	0.35	0.26
1,117.88	0.38	0.33
1,117.89	0.41	0.40
1,117.90	0.44	0.48
1,117.91	0.46	0.57
1,117.92	0.49	0.66
1,117.93	0.51	0.75
1,117.94	0.54	0.86
1,117.95	0.56	0.96
1,117.96	0.58	1.08
1,117.97	0.60	1.20
1,117.98	0.62	1.32
1,117.99	0.64	1.45
1,118.00	0.66	1.59
1,118.01	0.68	1.73
1,118.02	0.70	1.88
1,118.03	0.72	2.03
1,118.04	0.74	2.19
1,118.05	0.75	2.36
1,118.06	0.77	2.53
1,118.07	0.79	2.71
1,118.08	0.81	2.89
1,118.09	0.82	3.07
1,118.10	0.84	3.27
1,118.11	0.85	3.47
1,118.12	0.87	3.67
1,118.13	0.88	3.88
1,118.14	0.90	4.10
1,118.15	0.91	4.32
1,118.16	0.93	4.55
1,118.17	0.94	4.78
1,118.18	0.96	5.02
1,118.19	0.97	5.27
1,118.20	0.99	5.52
1,118.21	1.00	5.78
1,118.22	1.01	6.04
1,118.23	1.03	6.31
1,118.24	1.04	6.59
1,118.25	1.05	6.87
1,118.26	1.07	7.16
1,118.27	1.08	7.45
1,118.28	1.09	7.75
1,118.29	1.10	8.06
1,118.30	1.12	8.37
1,118.31	1.13	8.69
1,118.32	1.14	9.02
1,118.33	1.15	9.35
1,118.34	1.16	9.69
1,118.35	1.18	10.03
1,118.36	1.19	10.38
1,118.37	1.20	10.74
1,118.38	1.21	11.10
1,118.39	1.22	11.47
1,118.40	1.23	11.85
1,118.41	1.25	12.24
1,118.42	1.26	12.63
1,118.43	1.27	13.02
1,118.44	1.28	13.43
1,118.45	1.29	13.84
1,118.46	1.30	14.26
1,118.47	1.31	14.68
1,118.48	1.32	15.11
1,118.49	1.33	15.55
1,118.50	1.34	16.00
1,118.51	1.35	16.45
1,118.52	1.37	16.91
1,118.53	1.38	17.37
1,118.54	1.39	17.85
1,118.55	1.40	18.33
1,118.56	1.41	18.81
1,118.57	1.42	19.31
1,118.58	1.43	19.81
1,118.59	1.44	20.32
1,118.60	1.45	20.84
1,118.61	1.46	21.36
1,118.62	1.47	21.89
1,118.63	1.48	22.43
1,118.64	1.49	22.97
1,118.65	1.50	23.53
1,118.66	1.51	24.09
1,118.67	1.52	24.66
1,118.68	1.53	25.23
1,118.69	1.53	25.82
1,118.70	1.54	26.41
1,118.71	1.55	27.01
1,118.72	1.56	27.61
1,118.73	1.57	28.23
1,118.74	1.58	28.85
1,118.75	1.59	29.48
1,118.76	1.60	30.11
1,118.77	1.61	30.76
1,118.78	1.62	31.41
1,118.79	1.63	32.07
1,118.80	**1.64**	**32.74**

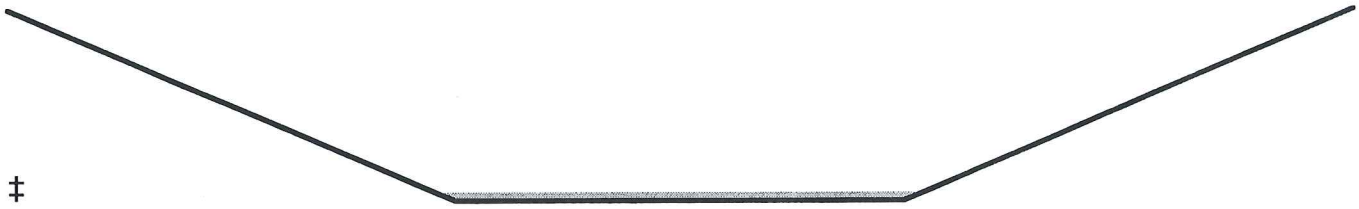
Summary for Reach 3R: OVERLAND FLOW

Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 2.19" for 2-Year event
Inflow = 0.55 cfs @ 11.85 hrs, Volume= 0.490 af
Outflow = 0.55 cfs @ 12.06 hrs, Volume= 0.490 af, Atten= 0%, Lag= 12.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.16 fps, Min. Travel Time= 3.0 min
Avg. Velocity = 0.92 fps, Avg. Travel Time= 3.8 min

Peak Storage= 99 cf @ 12.01 hrs
Average Depth at Peak Storage= 0.05'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 141.79 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 209.0' Slope= 0.1923 '/'
Inlet Invert= 1,158.00', Outlet Invert= 1,117.80'



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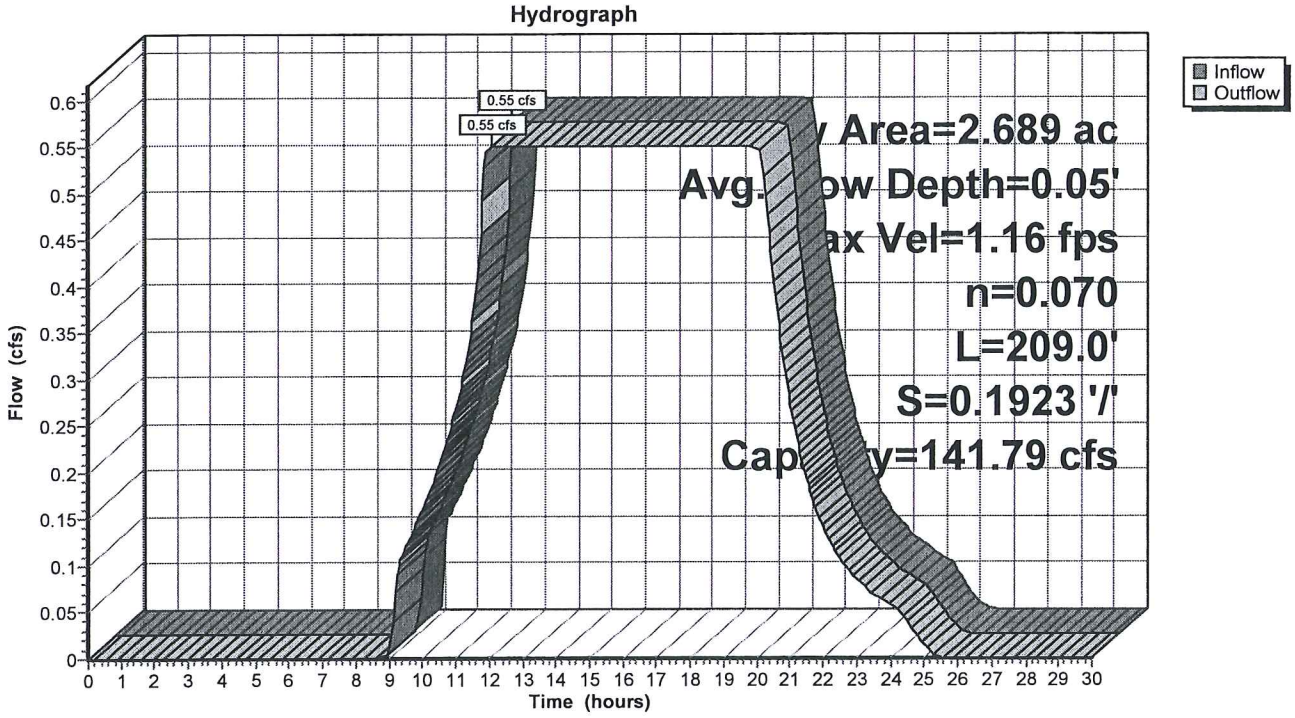
Reach 3R: OVERLAND FLOW



Stage-Discharge for Reach 3R: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,158.00	0.00	0.00
1,158.01	0.43	0.04
1,158.02	0.68	0.14
1,158.03	0.88	0.27
1,158.04	1.06	0.44
1,158.05	1.22	0.64
1,158.06	1.37	0.87
1,158.07	1.52	1.13
1,158.08	1.65	1.42
1,158.09	1.77	1.74
1,158.10	1.89	2.08
1,158.11	2.01	2.45
1,158.12	2.12	2.84
1,158.13	2.22	3.26
1,158.14	2.32	3.71
1,158.15	2.42	4.17
1,158.16	2.52	4.67
1,158.17	2.61	5.19
1,158.18	2.70	5.73
1,158.19	2.79	6.30
1,158.20	2.87	6.89
1,158.21	2.95	7.50
1,158.22	3.03	8.15
1,158.23	3.11	8.81
1,158.24	3.19	9.50
1,158.25	3.27	10.21
1,158.26	3.34	10.95
1,158.27	3.42	11.71
1,158.28	3.49	12.50
1,158.29	3.56	13.31
1,158.30	3.63	14.15
1,158.31	3.70	15.01
1,158.32	3.76	15.90
1,158.33	3.83	16.81
1,158.34	3.90	17.75
1,158.35	3.96	18.71
1,158.36	4.02	19.70
1,158.37	4.09	20.71
1,158.38	4.15	21.75
1,158.39	4.21	22.81
1,158.40	4.27	23.90
1,158.41	4.33	25.02
1,158.42	4.39	26.16
1,158.43	4.44	27.33
1,158.44	4.50	28.52
1,158.45	4.56	29.74
1,158.46	4.61	30.99
1,158.47	4.67	32.27
1,158.48	4.73	33.57
1,158.49	4.78	34.90
1,158.50	4.83	36.25
1,158.51	4.89	37.63
1,158.52	4.94	39.04
1,158.53	4.99	40.48
1,158.54	5.04	41.95
1,158.55	5.10	43.44
1,158.56	5.15	44.96
1,158.57	5.20	46.51
1,158.58	5.25	48.09
1,158.59	5.30	49.69
1,158.60	5.35	51.33
1,158.61	5.40	52.99
1,158.62	5.44	54.68
1,158.63	5.49	56.40
1,158.64	5.54	58.15
1,158.65	5.59	59.93
1,158.66	5.64	61.74
1,158.67	5.68	63.58
1,158.68	5.73	65.45
1,158.69	5.78	67.34
1,158.70	5.82	69.27
1,158.71	5.87	71.23
1,158.72	5.91	73.22
1,158.73	5.96	75.24
1,158.74	6.00	77.29
1,158.75	6.05	79.37
1,158.76	6.09	81.48
1,158.77	6.14	83.62
1,158.78	6.18	85.79
1,158.79	6.22	88.00
1,158.80	6.27	90.23
1,158.81	6.31	92.50
1,158.82	6.35	94.80
1,158.83	6.39	97.13
1,158.84	6.44	99.49
1,158.85	6.48	101.89
1,158.86	6.52	104.32
1,158.87	6.56	106.78
1,158.88	6.60	109.27
1,158.89	6.65	111.80
1,158.90	6.69	114.36
1,158.91	6.73	116.95
1,158.92	6.77	119.57
1,158.93	6.81	122.23
1,158.94	6.85	124.92
1,158.95	6.89	127.65
1,158.96	6.93	130.41
1,158.97	6.97	133.20
1,158.98	7.01	136.03
1,158.99	7.05	138.89
1,159.00	**7.09**	**141.79**

Summary for Reach 5R: OVERLAND FLOW

Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 2.19" for 2-Year event
Inflow = 0.55 cfs @ 11.80 hrs, Volume= 0.490 af
Outflow = 0.55 cfs @ 11.85 hrs, Volume= 0.490 af, Atten= 0%, Lag= 3.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.96 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 0.77 fps, Avg. Travel Time= 0.8 min

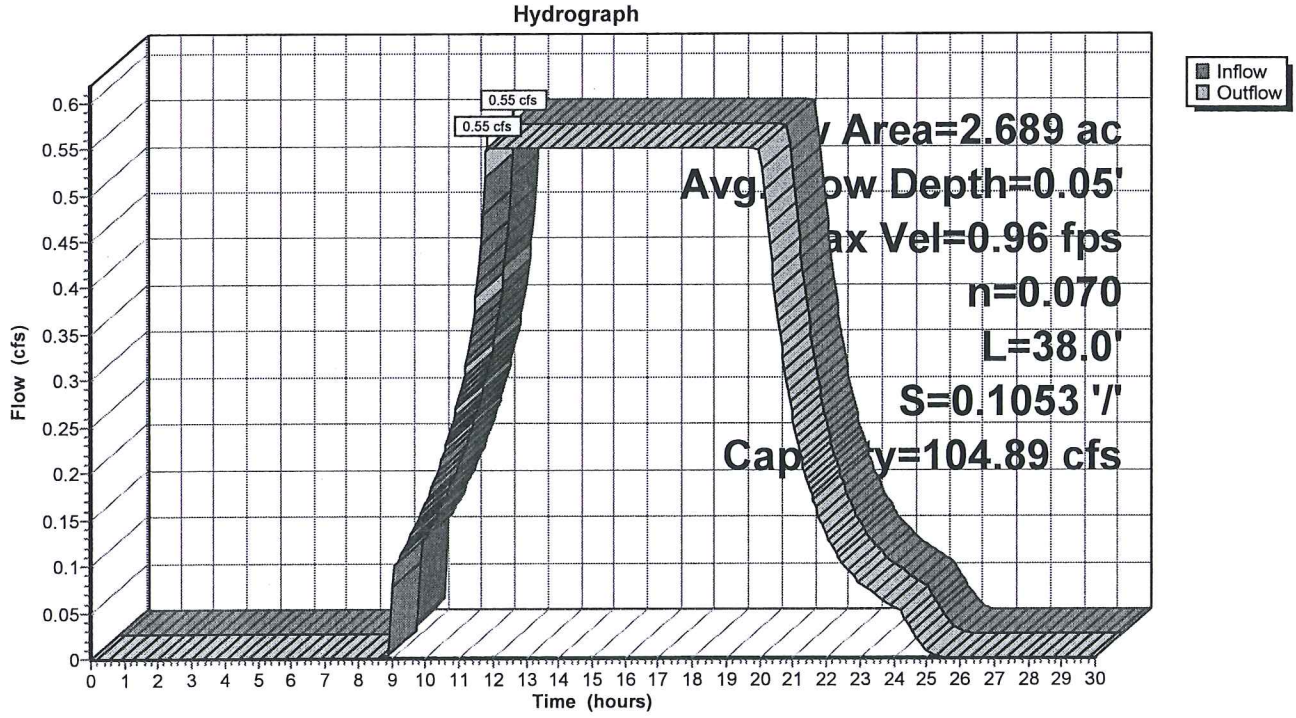
Peak Storage= 22 cf @ 11.80 hrs
Average Depth at Peak Storage= 0.05'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 104.89 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 38.0' Slope= 0.1053 '/'
Inlet Invert= 1,162.00', Outlet Invert= 1,158.00'



‡

Reach 5R: OVERLAND FLOW



Stage-Discharge for Reach 5R: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,162.00	0.00	0.00
1,162.01	0.32	0.03
1,162.02	0.50	0.10
1,162.03	0.65	0.20
1,162.04	0.79	0.33
1,162.05	0.91	0.48
1,162.06	1.02	0.65
1,162.07	1.12	0.84
1,162.08	1.22	1.05
1,162.09	1.31	1.29
1,162.10	1.40	1.54
1,162.11	1.48	1.81
1,162.12	1.56	2.10
1,162.13	1.64	2.41
1,162.14	1.72	2.74
1,162.15	1.79	3.09
1,162.16	1.86	3.45
1,162.17	1.93	3.84
1,162.18	2.00	4.24
1,162.19	2.06	4.66
1,162.20	2.12	5.10
1,162.21	2.18	5.55
1,162.22	2.25	6.03
1,162.23	2.30	6.52
1,162.24	2.36	7.03
1,162.25	2.42	7.56
1,162.26	2.47	8.10
1,162.27	2.53	8.67
1,162.28	2.58	9.25
1,162.29	2.63	9.85
1,162.30	2.68	10.47
1,162.31	2.73	11.11
1,162.32	2.78	11.76
1,162.33	2.83	12.44
1,162.34	2.88	13.13
1,162.35	2.93	13.84
1,162.36	2.98	14.57
1,162.37	3.02	15.32
1,162.38	3.07	16.09
1,162.39	3.11	16.88
1,162.40	3.16	17.68
1,162.41	3.20	18.51
1,162.42	3.24	19.35
1,162.43	3.29	20.22
1,162.44	3.33	21.10
1,162.45	3.37	22.00
1,162.46	3.41	22.93
1,162.47	3.45	23.87
1,162.48	3.50	24.83
1,162.49	3.54	25.82
1,162.50	3.58	26.82
1,162.51	3.62	27.84
1,162.52	3.65	28.88
1,162.53	3.69	29.95
1,162.54	3.73	31.03
1,162.55	3.77	32.14
1,162.56	3.81	33.26
1,162.57	3.84	34.41
1,162.58	3.88	35.57
1,162.59	3.92	36.76
1,162.60	3.96	37.97
1,162.61	3.99	39.20
1,162.62	4.03	40.45
1,162.63	4.06	41.72
1,162.64	4.10	43.02
1,162.65	4.13	44.34
1,162.66	4.17	45.67
1,162.67	4.20	47.03
1,162.68	4.24	48.42
1,162.69	4.27	49.82
1,162.70	4.31	51.25
1,162.71	4.34	52.69
1,162.72	4.37	54.16
1,162.73	4.41	55.66
1,162.74	4.44	57.17
1,162.75	4.47	58.71
1,162.76	4.51	60.27
1,162.77	4.54	61.86
1,162.78	4.57	63.47
1,162.79	4.60	65.10
1,162.80	4.64	66.75
1,162.81	4.67	68.43
1,162.82	4.70	70.13
1,162.83	4.73	71.85
1,162.84	4.76	73.60
1,162.85	4.79	75.37
1,162.86	4.82	77.17
1,162.87	4.86	78.99
1,162.88	4.89	80.84
1,162.89	4.92	82.70
1,162.90	4.95	84.60
1,162.91	4.98	86.51
1,162.92	5.01	88.46
1,162.93	5.04	90.42
1,162.94	5.07	92.41
1,162.95	5.10	94.43
1,162.96	5.13	96.47
1,162.97	5.16	98.54
1,162.98	5.19	100.63
1,162.99	5.22	102.75
1,163.00	**5.24**	**104.89**

Summary for Reach CULVERT#2: TO DP#1

Inflow Area = 2.067 ac, 3.60% Impervious, Inflow Depth = 0.51" for 2-Year event
Inflow = 0.68 cfs @ 12.26 hrs, Volume= 0.087 af
Outflow = 0.68 cfs @ 12.26 hrs, Volume= 0.087 af, Atten= 0%, Lag= 0.1 min

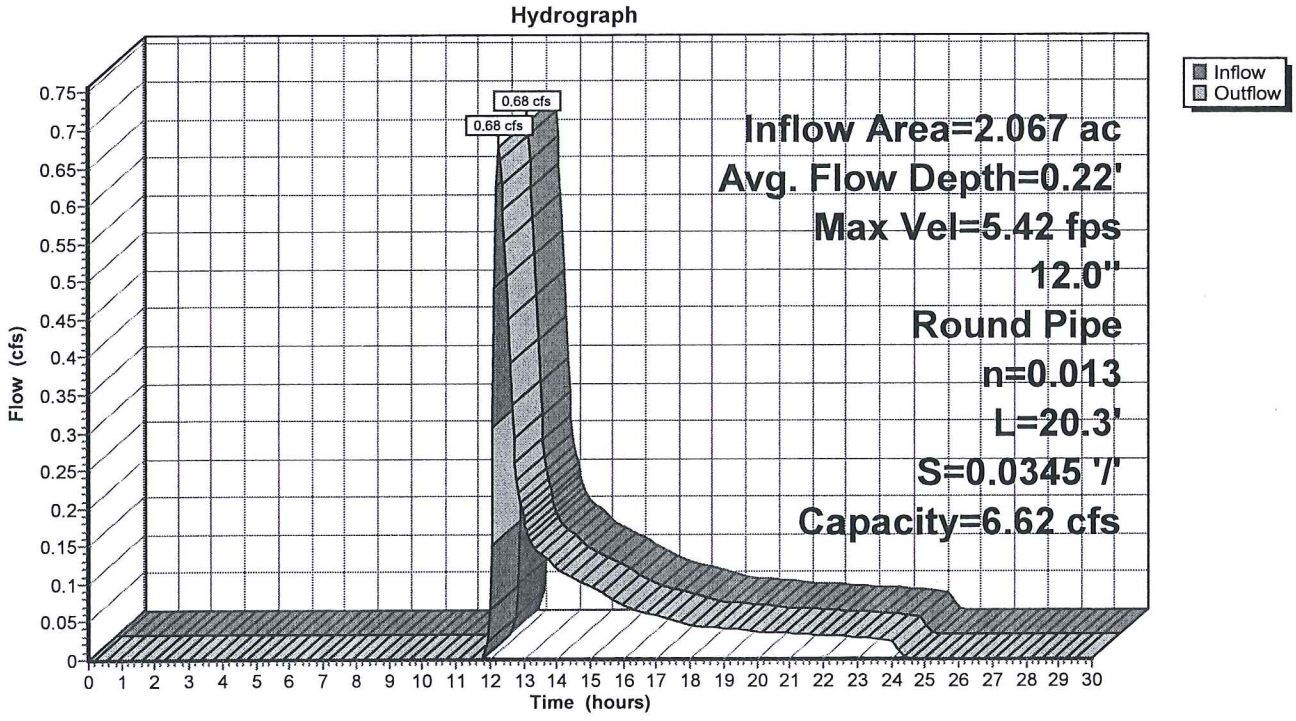
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.42 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.61 fps, Avg. Travel Time= 0.1 min

Peak Storage= 3 cf @ 12.26 hrs
Average Depth at Peak Storage= 0.22'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.62 cfs

12.0" Round Pipe
n= 0.013 Cast iron, coated
Length= 20.3' Slope= 0.0345 '/'
Inlet Invert= 1,118.45', Outlet Invert= 1,117.75'



Reach CULVERT#2: TO DP#1



Stage-Discharge for Reach CULVERT#2: TO DP#1

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,118.45	0.00	0.00
1,118.46	0.75	0.00
1,118.47	1.19	0.00
1,118.48	1.55	0.01
1,118.49	1.87	0.02
1,118.50	2.16	0.03
1,118.51	2.44	0.05
1,118.52	2.69	0.07
1,118.53	2.93	0.09
1,118.54	3.16	0.11
1,118.55	3.38	0.14
1,118.56	3.59	0.17
1,118.57	3.79	0.20
1,118.58	3.98	0.24
1,118.59	4.17	0.28
1,118.60	4.35	0.32
1,118.61	4.53	0.37
1,118.62	4.70	0.42
1,118.63	4.86	0.47
1,118.64	5.02	0.52
1,118.65	5.18	0.58
1,118.66	5.33	0.64
1,118.67	5.48	0.70
1,118.68	5.62	0.77
1,118.69	5.77	0.84
1,118.70	5.90	0.91
1,118.71	6.04	0.98
1,118.72	6.17	1.05
1,118.73	6.29	1.13
1,118.74	6.42	1.21
1,118.75	6.54	1.30
1,118.76	6.66	1.38
1,118.77	6.77	1.47
1,118.78	6.88	1.56
1,118.79	6.99	1.65
1,118.80	7.10	1.74
1,118.81	7.21	1.83
1,118.82	7.31	1.93
1,118.83	7.41	2.03
1,118.84	7.50	2.13
1,118.85	7.60	2.23
1,118.86	7.69	2.33
1,118.87	7.78	2.44
1,118.88	7.87	2.54
1,118.89	7.96	2.65
1,118.90	8.04	2.76
1,118.91	8.12	2.86
1,118.92	8.20	2.97
1,118.93	8.28	3.08
1,118.94	8.35	3.20
1,118.95	8.42	3.31
1,118.96	8.49	3.42
1,118.97	8.56	3.53
1,118.98	8.63	3.65
1,118.99	8.69	3.76
1,119.00	8.75	3.88
1,119.01	8.81	3.99
1,119.02	8.87	4.10
1,119.03	8.93	4.22
1,119.04	8.98	4.33
1,119.05	9.03	4.44
1,119.06	9.08	4.56
1,119.07	9.13	4.67
1,119.08	9.18	4.78
1,119.09	9.22	4.89
1,119.10	9.26	5.00
1,119.11	9.30	5.11
1,119.12	9.34	5.22
1,119.13	9.37	5.33
1,119.14	9.40	5.43
1,119.15	9.43	5.54
1,119.16	9.46	5.64
1,119.17	9.49	5.74
1,119.18	9.51	5.84
1,119.19	9.53	5.94
1,119.20	9.55	6.03
1,119.21	9.56	6.13
1,119.22	9.58	6.21
1,119.23	9.59	6.30
1,119.24	9.60	6.39
1,119.25	9.60	6.47
1,119.26	**9.60**	6.54
1,119.27	9.60	6.62
1,119.28	9.60	6.69
1,119.29	9.59	6.76
1,119.30	9.58	6.82
1,119.31	9.57	6.87
1,119.32	9.55	6.93
1,119.33	9.53	6.97
1,119.34	9.50	7.02
1,119.35	9.47	7.05
1,119.36	9.43	7.08
1,119.37	9.39	7.10
1,119.38	9.34	7.11
1,119.39	9.29	**7.12**
1,119.40	9.22	7.11
1,119.41	9.15	7.09
1,119.42	9.06	7.05
1,119.43	8.94	6.99
1,119.44	8.79	6.89
1,119.45	8.42	6.62

Summary for Reach DCB-H: TO DMH#6

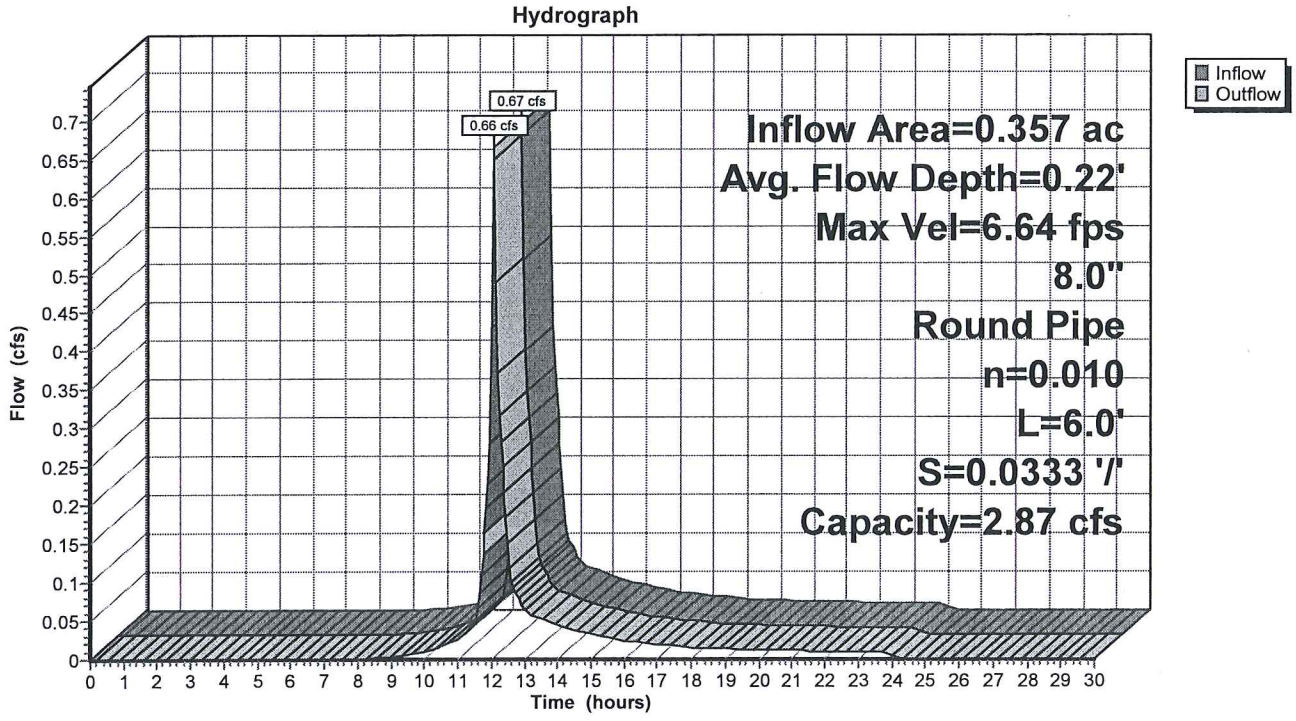
Inflow Area = 0.357 ac, 45.15% Impervious, Inflow Depth = 1.59" for 2-Year event
Inflow = 0.67 cfs @ 12.08 hrs, Volume= 0.047 af
Outflow = 0.66 cfs @ 12.08 hrs, Volume= 0.047 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.64 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.39 fps, Avg. Travel Time= 0.0 min

Peak Storage= 1 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.22'
Bank-Full Depth= 0.67' Flow Area= 0.3 sf, Capacity= 2.87 cfs

8.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 6.0' Slope= 0.0333 '/'
Inlet Invert= 1,171.70', Outlet Invert= 1,171.50'





Stage-Discharge for Reach DCB-H: TO DMH#6

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,171.70	0.00	0.00
1,171.71	0.94	0.00
1,171.72	1.51	0.00
1,171.73	1.97	0.01
1,171.74	2.38	0.02
1,171.75	2.74	0.03
1,171.76	3.08	0.05
1,171.77	3.40	0.07
1,171.78	3.70	0.09
1,171.79	3.98	0.11
1,171.80	4.25	0.14
1,171.81	4.50	0.17
1,171.82	4.74	0.20
1,171.83	4.98	0.24
1,171.84	5.20	0.28
1,171.85	5.42	0.32
1,171.86	5.62	0.36
1,171.87	5.82	0.41
1,171.88	6.01	0.46
1,171.89	6.20	0.51
1,171.90	6.38	0.56
1,171.91	6.55	0.62
1,171.92	6.71	0.67
1,171.93	6.87	0.73
1,171.94	7.03	0.80
1,171.95	7.18	0.86
1,171.96	7.32	0.92
1,171.97	7.46	0.99
1,171.98	7.59	1.06
1,171.99	7.72	1.12
1,172.00	7.84	1.19
1,172.01	7.96	1.27
1,172.02	8.07	1.34
1,172.03	8.18	1.41
1,172.04	8.29	1.48
1,172.05	8.38	1.56
1,172.06	8.48	1.63
1,172.07	8.57	1.70
1,172.08	8.65	1.78
1,172.09	8.74	1.85
1,172.10	8.81	1.93
1,172.11	8.88	2.00
1,172.12	8.95	2.07
1,172.13	9.01	2.15
1,172.14	9.07	2.22
1,172.15	9.12	2.29
1,172.16	9.17	2.36
1,172.17	9.21	2.42
1,172.18	9.25	2.49
1,172.19	9.29	2.55
1,172.20	9.31	2.62
1,172.21	9.34	2.67
1,172.22	9.35	2.73
1,172.23	9.36	2.79
1,172.24	**9.37**	2.84
1,172.25	9.36	2.88
1,172.26	9.36	2.93
1,172.27	9.34	2.97
1,172.28	9.31	3.00
1,172.29	9.28	3.03
1,172.30	9.24	3.06
1,172.31	9.18	3.07
1,172.32	9.11	**3.08**
1,172.33	9.03	3.08
1,172.34	8.92	3.07
1,172.35	8.78	3.04
1,172.36	8.58	2.99
1,172.37	8.04	2.81

Summary for Reach DCB1: TO DMH#1

Inflow Area = 0.255 ac, 81.84% Impervious, Inflow Depth = 2.35" for 2-Year event
Inflow = 0.68 cfs @ 12.07 hrs, Volume= 0.050 af
Outflow = 0.67 cfs @ 12.08 hrs, Volume= 0.050 af, Atten= 1%, Lag= 0.2 min

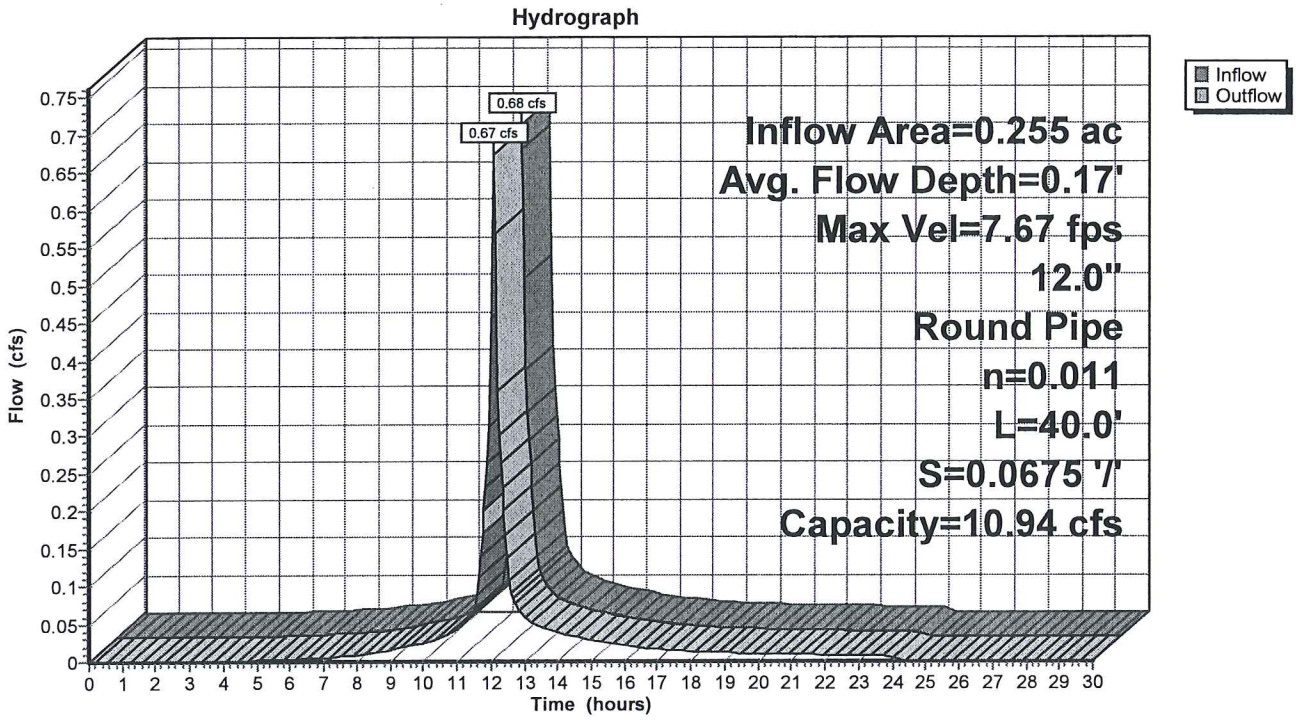
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.67 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.54 fps, Avg. Travel Time= 0.3 min

Peak Storage= 4 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.17'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 10.94 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 40.0' Slope= 0.0675 '/'
Inlet Invert= 1,178.00', Outlet Invert= 1,175.30'



Reach DCB1: TO DMH#1



Stage-Discharge for Reach DCB1: TO DMH#1

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.00	0.00	0.00
1,178.01	1.24	0.00
1,178.02	1.96	0.01
1,178.03	2.56	0.02
1,178.04	3.09	0.03
1,178.05	3.58	0.05
1,178.06	4.03	0.08
1,178.07	4.45	0.11
1,178.08	4.85	0.14
1,178.09	5.23	0.18
1,178.10	5.59	0.23
1,178.11	5.93	0.28
1,178.12	6.27	0.33
1,178.13	6.59	0.40
1,178.14	6.90	0.46
1,178.15	7.20	0.53
1,178.16	7.49	0.61
1,178.17	7.77	0.69
1,178.18	8.04	0.77
1,178.19	8.31	0.86
1,178.20	8.57	0.96
1,178.21	8.82	1.06
1,178.22	9.06	1.16
1,178.23	9.30	1.27
1,178.24	9.53	1.38
1,178.25	9.76	1.50
1,178.26	9.98	1.62
1,178.27	10.20	1.74
1,178.28	10.41	1.87
1,178.29	10.61	2.01
1,178.30	10.81	2.14
1,178.31	11.01	2.28
1,178.32	11.20	2.43
1,178.33	11.38	2.57
1,178.34	11.56	2.72
1,178.35	11.74	2.88
1,178.36	11.91	3.03
1,178.37	12.08	3.19
1,178.38	12.25	3.35
1,178.39	12.41	3.52
1,178.40	12.57	3.69
1,178.41	12.72	3.86
1,178.42	12.87	4.03
1,178.43	13.01	4.20
1,178.44	13.16	4.38
1,178.45	13.29	4.56
1,178.46	13.43	4.74
1,178.47	13.56	4.92
1,178.48	13.68	5.10
1,178.49	13.81	5.28
1,178.50	13.93	5.47
1,178.51	14.04	5.66
1,178.52	14.16	5.84
1,178.53	14.27	6.03
1,178.54	14.37	6.22
1,178.55	14.48	6.41
1,178.56	14.58	6.60
1,178.57	14.67	6.78
1,178.58	14.76	6.97
1,178.59	14.85	7.16
1,178.60	14.94	7.35
1,178.61	15.02	7.54
1,178.62	15.10	7.72
1,178.63	15.17	7.91
1,178.64	15.24	8.09
1,178.65	15.31	8.27
1,178.66	15.38	8.46
1,178.67	15.44	8.63
1,178.68	15.49	8.81
1,178.69	15.55	8.99
1,178.70	15.60	9.16
1,178.71	15.64	9.33
1,178.72	15.68	9.50
1,178.73	15.72	9.66
1,178.74	15.76	9.82
1,178.75	15.79	9.98
1,178.76	15.81	10.13
1,178.77	15.84	10.28
1,178.78	15.85	10.42
1,178.79	15.87	10.56
1,178.80	15.87	10.69
1,178.81	**15.88**	10.82
1,178.82	15.88	10.94
1,178.83	15.87	11.06
1,178.84	15.86	11.17
1,178.85	15.84	11.27
1,178.86	15.82	11.37
1,178.87	15.79	11.45
1,178.88	15.75	11.53
1,178.89	15.71	11.60
1,178.90	15.66	11.66
1,178.91	15.60	11.71
1,178.92	15.53	11.74
1,178.93	15.45	11.76
1,178.94	15.36	**11.77**
1,178.95	15.25	11.75
1,178.96	15.13	11.72
1,178.97	14.98	11.66
1,178.98	14.79	11.56
1,178.99	14.54	11.40
1,179.00	13.93	10.94

Summary for Reach DCB10: TO DMH#10

Inflow Area = 0.042 ac, 80.86% Impervious, Inflow Depth = 2.25" for 2-Year event
Inflow = 0.11 cfs @ 12.07 hrs, Volume= 0.008 af
Outflow = 0.11 cfs @ 12.08 hrs, Volume= 0.008 af, Atten= 2%, Lag= 0.6 min

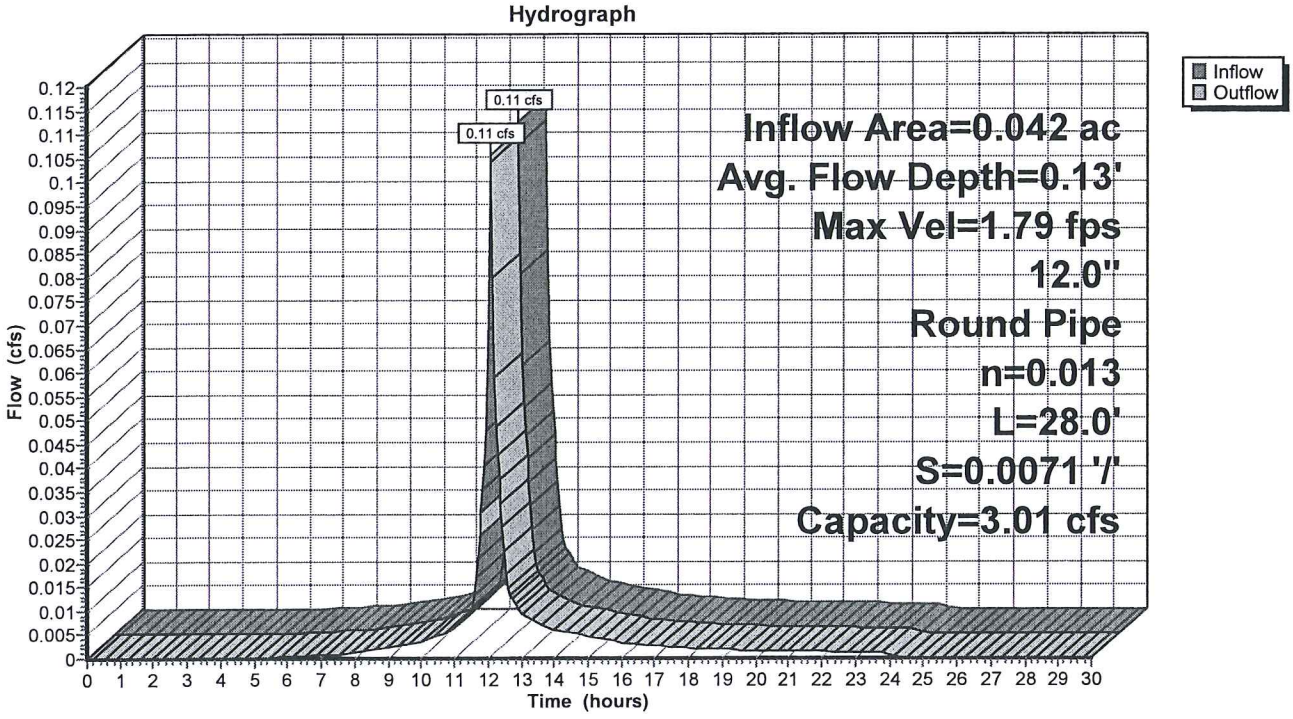
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.79 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 0.60 fps, Avg. Travel Time= 0.8 min

Peak Storage= 2 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.13'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.01 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 28.0' Slope= 0.0071 '/'
Inlet Invert= 1,179.20', Outlet Invert= 1,179.00'



Reach DCB10: TO DMH#10



Stage-Discharge for Reach DCB10: TO DMH#10

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.20	0.00	0.00
1,179.21	0.34	0.00
1,179.22	0.54	0.00
1,179.23	0.71	0.00
1,179.24	0.85	0.01
1,179.25	0.98	0.01
1,179.26	1.11	0.02
1,179.27	1.22	0.03
1,179.28	1.33	0.04
1,179.29	1.44	0.05
1,179.30	1.54	0.06
1,179.31	1.63	0.08
1,179.32	1.73	0.09
1,179.33	1.81	0.11
1,179.34	1.90	0.13
1,179.35	1.98	0.15
1,179.36	2.06	0.17
1,179.37	2.14	0.19
1,179.38	2.21	0.21
1,179.39	2.29	0.24
1,179.40	2.36	0.26
1,179.41	2.43	0.29
1,179.42	2.49	0.32
1,179.43	2.56	0.35
1,179.44	2.62	0.38
1,179.45	2.69	0.41
1,179.46	2.75	0.45
1,179.47	2.81	0.48
1,179.48	2.86	0.52
1,179.49	2.92	0.55
1,179.50	2.98	0.59
1,179.51	3.03	0.63
1,179.52	3.08	0.67
1,179.53	3.13	0.71
1,179.54	3.18	0.75
1,179.55	3.23	0.79
1,179.56	3.28	0.83
1,179.57	3.33	0.88
1,179.58	3.37	0.92
1,179.59	3.42	0.97
1,179.60	3.46	1.01
1,179.61	3.50	1.06
1,179.62	3.54	1.11
1,179.63	3.58	1.16
1,179.64	3.62	1.21
1,179.65	3.66	1.25
1,179.66	3.70	1.30
1,179.67	3.73	1.35
1,179.68	3.77	1.40
1,179.69	3.80	1.45
1,179.70	3.83	1.51
1,179.71	3.87	1.56
1,179.72	3.90	1.61
1,179.73	3.93	1.66
1,179.74	3.96	1.71
1,179.75	3.98	1.76
1,179.76	4.01	1.82
1,179.77	4.04	1.87
1,179.78	4.06	1.92
1,179.79	4.09	1.97
1,179.80	4.11	2.02
1,179.81	4.13	2.07
1,179.82	4.16	2.13
1,179.83	4.18	2.18
1,179.84	4.20	2.23
1,179.85	4.21	2.28
1,179.86	4.23	2.33
1,179.87	4.25	2.38
1,179.88	4.26	2.43
1,179.89	4.28	2.47
1,179.90	4.29	2.52
1,179.91	4.31	2.57
1,179.92	4.32	2.61
1,179.93	4.33	2.66
1,179.94	4.34	2.70
1,179.95	4.35	2.75
1,179.96	4.35	2.79
1,179.97	4.36	2.83
1,179.98	4.36	2.87
1,179.99	4.37	2.91
1,180.00	4.37	2.94
1,180.01	**4.37**	2.98
1,180.02	4.37	3.01
1,180.03	4.37	3.04
1,180.04	4.37	3.07
1,180.05	4.36	3.10
1,180.06	4.35	3.13
1,180.07	4.35	3.15
1,180.08	4.34	3.17
1,180.09	4.32	3.19
1,180.10	4.31	3.21
1,180.11	4.29	3.22
1,180.12	4.28	3.23
1,180.13	4.25	3.24
1,180.14	4.23	**3.24**
1,180.15	4.20	3.24
1,180.16	4.16	3.23
1,180.17	4.12	3.21
1,180.18	4.07	3.18
1,180.19	4.00	3.14
1,180.20	3.83	3.01

Summary for Reach DCB11: TO DMH#10

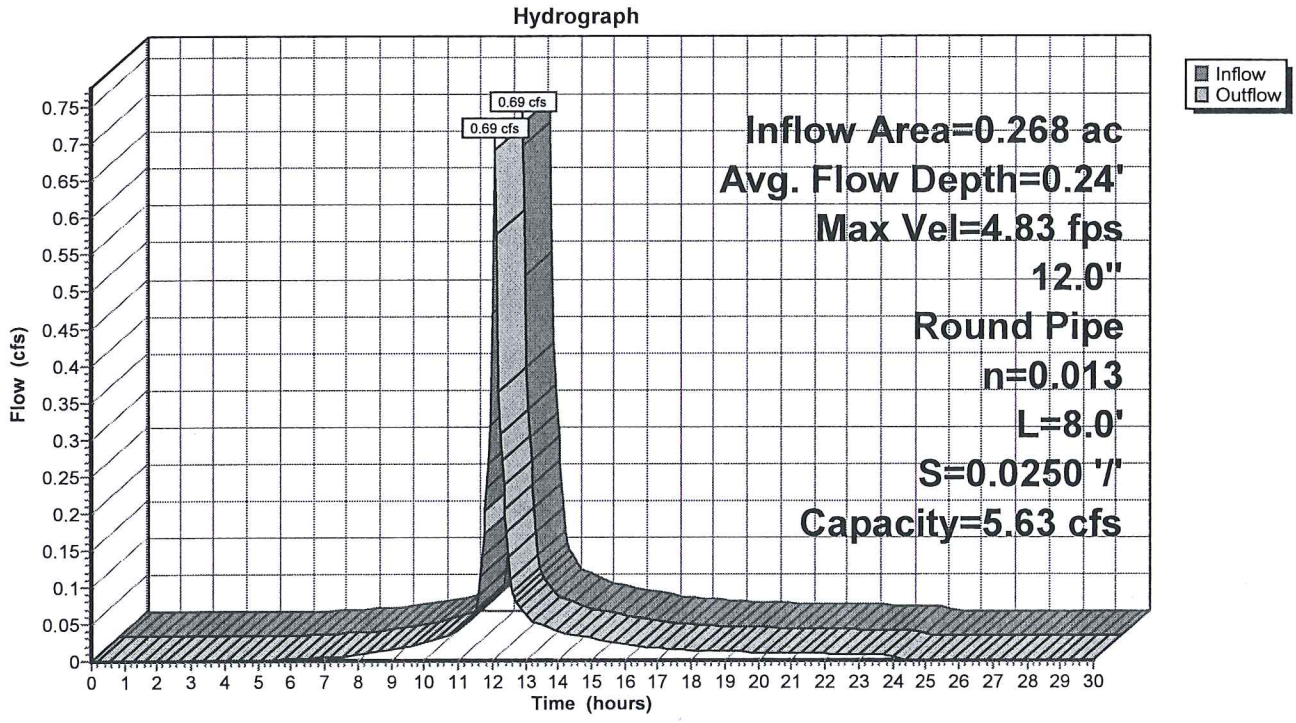
Inflow Area = 0.268 ac, 78.25% Impervious, Inflow Depth = 2.25" for 2-Year event
Inflow = 0.69 cfs @ 12.07 hrs, Volume= 0.050 af
Outflow = 0.69 cfs @ 12.07 hrs, Volume= 0.050 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.83 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.60 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.24'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.63 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 8.0' Slope= 0.0250 '/'
Inlet Invert= 1,179.20', Outlet Invert= 1,179.00'





Stage-Discharge for Reach DCB11: TO DMH#10

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.20	0.00	0.00
1,179.21	0.64	0.00
1,179.22	1.01	0.00
1,179.23	1.32	0.01
1,179.24	1.59	0.02
1,179.25	1.84	0.03
1,179.26	2.07	0.04
1,179.27	2.29	0.06
1,179.28	2.50	0.07
1,179.29	2.69	0.09
1,179.30	2.88	0.12
1,179.31	3.06	0.14
1,179.32	3.23	0.17
1,179.33	3.39	0.20
1,179.34	3.55	0.24
1,179.35	3.71	0.27
1,179.36	3.86	0.31
1,179.37	4.00	0.35
1,179.38	4.14	0.40
1,179.39	4.28	0.44
1,179.40	4.41	0.49
1,179.41	4.54	0.54
1,179.42	4.67	0.60
1,179.43	4.79	0.65
1,179.44	4.91	0.71
1,179.45	5.03	0.77
1,179.46	5.14	0.83
1,179.47	5.25	0.90
1,179.48	5.36	0.96
1,179.49	5.46	1.03
1,179.50	5.57	1.10
1,179.51	5.67	1.18
1,179.52	5.77	1.25
1,179.53	5.86	1.32
1,179.54	5.95	1.40
1,179.55	6.05	1.48
1,179.56	6.14	1.56
1,179.57	6.22	1.64
1,179.58	6.31	1.73
1,179.59	6.39	1.81
1,179.60	6.47	1.90
1,179.61	6.55	1.99
1,179.62	6.63	2.07
1,179.63	6.70	2.16
1,179.64	6.77	2.25
1,179.65	6.85	2.35
1,179.66	6.91	2.44
1,179.67	6.98	2.53
1,179.68	7.05	2.63
1,179.69	7.11	2.72
1,179.70	7.17	2.82
1,179.71	7.23	2.91
1,179.72	7.29	3.01
1,179.73	7.35	3.11
1,179.74	7.40	3.20
1,179.75	7.45	3.30
1,179.76	7.51	3.40
1,179.77	7.55	3.49
1,179.78	7.60	3.59
1,179.79	7.65	3.69
1,179.80	7.69	3.78
1,179.81	7.73	3.88
1,179.82	7.77	3.98
1,179.83	7.81	4.07
1,179.84	7.85	4.17
1,179.85	7.88	4.26
1,179.86	7.92	4.35
1,179.87	7.95	4.45
1,179.88	7.98	4.54
1,179.89	8.01	4.63
1,179.90	8.03	4.72
1,179.91	8.06	4.80
1,179.92	8.08	4.89
1,179.93	8.10	4.97
1,179.94	8.11	5.06
1,179.95	8.13	5.14
1,179.96	8.14	5.22
1,179.97	8.15	5.29
1,179.98	8.16	5.37
1,179.99	8.17	5.44
1,180.00	8.17	5.51
1,180.01	**8.18**	5.57
1,180.02	8.18	5.64
1,180.03	8.17	5.70
1,180.04	8.17	5.75
1,180.05	8.16	5.80
1,180.06	8.15	5.85
1,180.07	8.13	5.90
1,180.08	8.11	5.94
1,180.09	8.09	5.97
1,180.10	8.06	6.00
1,180.11	8.03	6.03
1,180.12	8.00	6.05
1,180.13	7.96	6.06
1,180.14	7.91	**6.06**
1,180.15	7.85	6.05
1,180.16	7.79	6.04
1,180.17	7.71	6.00
1,180.18	7.62	5.95
1,180.19	7.49	5.87
1,180.20	7.17	5.63

Summary for Reach DCB12: TO DMH#12

Inflow Area = 0.248 ac, 86.00% Impervious, Inflow Depth = 2.45" for 2-Year event
Inflow = 0.68 cfs @ 12.07 hrs, Volume= 0.051 af
Outflow = 0.67 cfs @ 12.08 hrs, Volume= 0.051 af, Atten= 2%, Lag= 0.5 min

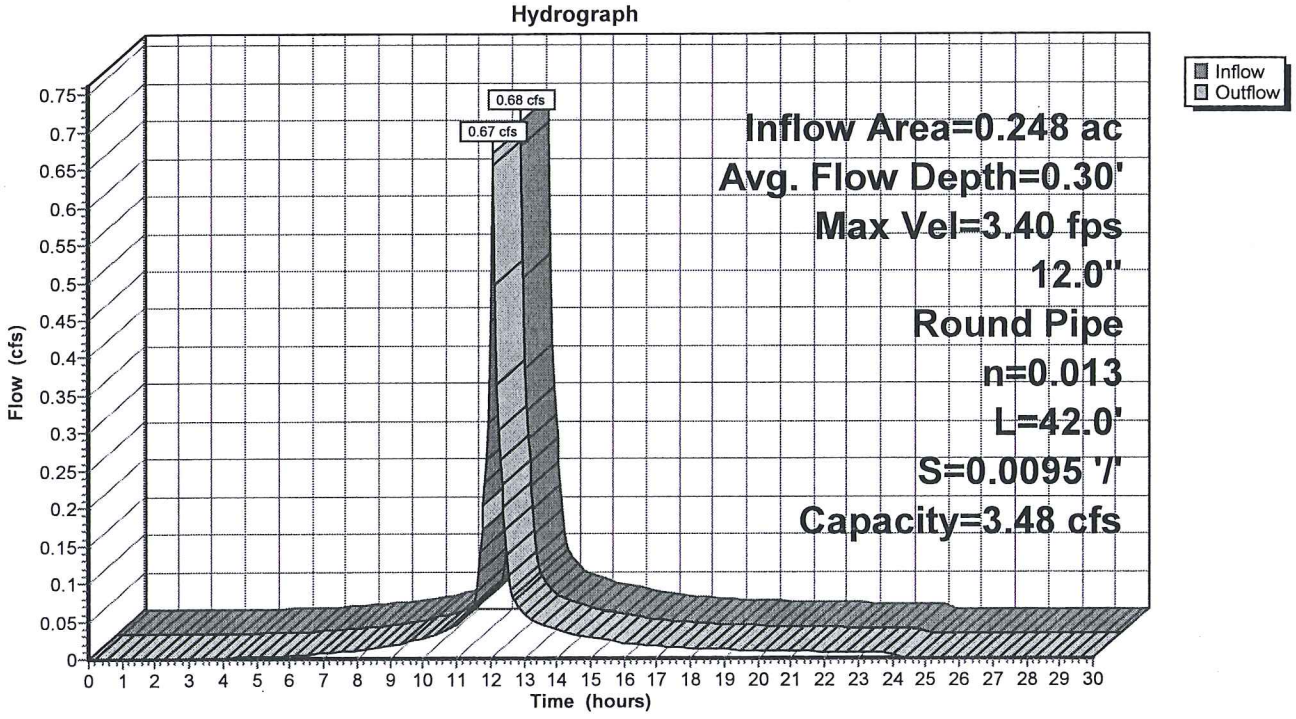
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.40 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.12 fps, Avg. Travel Time= 0.6 min

Peak Storage= 8 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.30'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.48 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 42.0' Slope= 0.0095 '/'
Inlet Invert= 1,180.80', Outlet Invert= 1,180.40'



Reach DCB12: TO DMH#12



Stage-Discharge for Reach DCB12: TO DMH#12

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.80	0.00	0.00
1,180.81	0.39	0.00
1,180.82	0.62	0.00
1,180.83	0.81	0.01
1,180.84	0.98	0.01
1,180.85	1.14	0.02
1,180.86	1.28	0.02
1,180.87	1.41	0.03
1,180.88	1.54	0.05
1,180.89	1.66	0.06
1,180.90	1.78	0.07
1,180.91	1.89	0.09
1,180.92	1.99	0.11
1,180.93	2.09	0.13
1,180.94	2.19	0.15
1,180.95	2.29	0.17
1,180.96	2.38	0.19
1,180.97	2.47	0.22
1,180.98	2.56	0.25
1,180.99	2.64	0.27
1,181.00	2.72	0.30
1,181.01	2.80	0.34
1,181.02	2.88	0.37
1,181.03	2.96	0.40
1,181.04	3.03	0.44
1,181.05	3.10	0.48
1,181.06	3.17	0.51
1,181.07	3.24	0.55
1,181.08	3.31	0.60
1,181.09	3.37	0.64
1,181.10	3.44	0.68
1,181.11	3.50	0.73
1,181.12	3.56	0.77
1,181.13	3.62	0.82
1,181.14	3.68	0.87
1,181.15	3.73	0.91
1,181.16	3.79	0.96
1,181.17	3.84	1.01
1,181.18	3.89	1.07
1,181.19	3.94	1.12
1,181.20	3.99	1.17
1,181.21	4.04	1.23
1,181.22	4.09	1.28
1,181.23	4.14	1.34
1,181.24	4.18	1.39
1,181.25	4.22	1.45
1,181.26	4.27	1.51
1,181.27	4.31	1.56
1,181.28	4.35	1.62
1,181.29	4.39	1.68
1,181.30	4.43	1.74
1,181.31	4.46	1.80
1,181.32	4.50	1.86
1,181.33	4.53	1.92
1,181.34	4.57	1.98
1,181.35	4.60	2.04
1,181.36	4.63	2.10
1,181.37	4.66	2.16
1,181.38	4.69	2.22
1,181.39	4.72	2.28
1,181.40	4.75	2.34
1,181.41	4.77	2.40
1,181.42	4.80	2.45
1,181.43	4.82	2.51
1,181.44	4.85	2.57
1,181.45	4.87	2.63
1,181.46	4.89	2.69
1,181.47	4.91	2.74
1,181.48	4.92	2.80
1,181.49	4.94	2.86
1,181.50	4.96	2.91
1,181.51	4.97	2.96
1,181.52	4.99	3.02
1,181.53	5.00	3.07
1,181.54	5.01	3.12
1,181.55	5.02	3.17
1,181.56	5.03	3.22
1,181.57	5.03	3.27
1,181.58	5.04	3.31
1,181.59	5.04	3.36
1,181.60	5.05	3.40
1,181.61	**5.05**	3.44
1,181.62	5.05	3.48
1,181.63	5.04	3.52
1,181.64	5.04	3.55
1,181.65	5.04	3.58
1,181.66	5.03	3.61
1,181.67	5.02	3.64
1,181.68	5.01	3.67
1,181.69	4.99	3.69
1,181.70	4.98	3.71
1,181.71	4.96	3.72
1,181.72	4.94	3.73
1,181.73	4.91	3.74
1,181.74	4.88	**3.74**
1,181.75	4.85	3.74
1,181.76	4.81	3.73
1,181.77	4.76	3.71
1,181.78	4.70	3.67
1,181.79	4.62	3.62
1,181.80	4.43	3.48

Summary for Reach DCB13: TO DMH#12

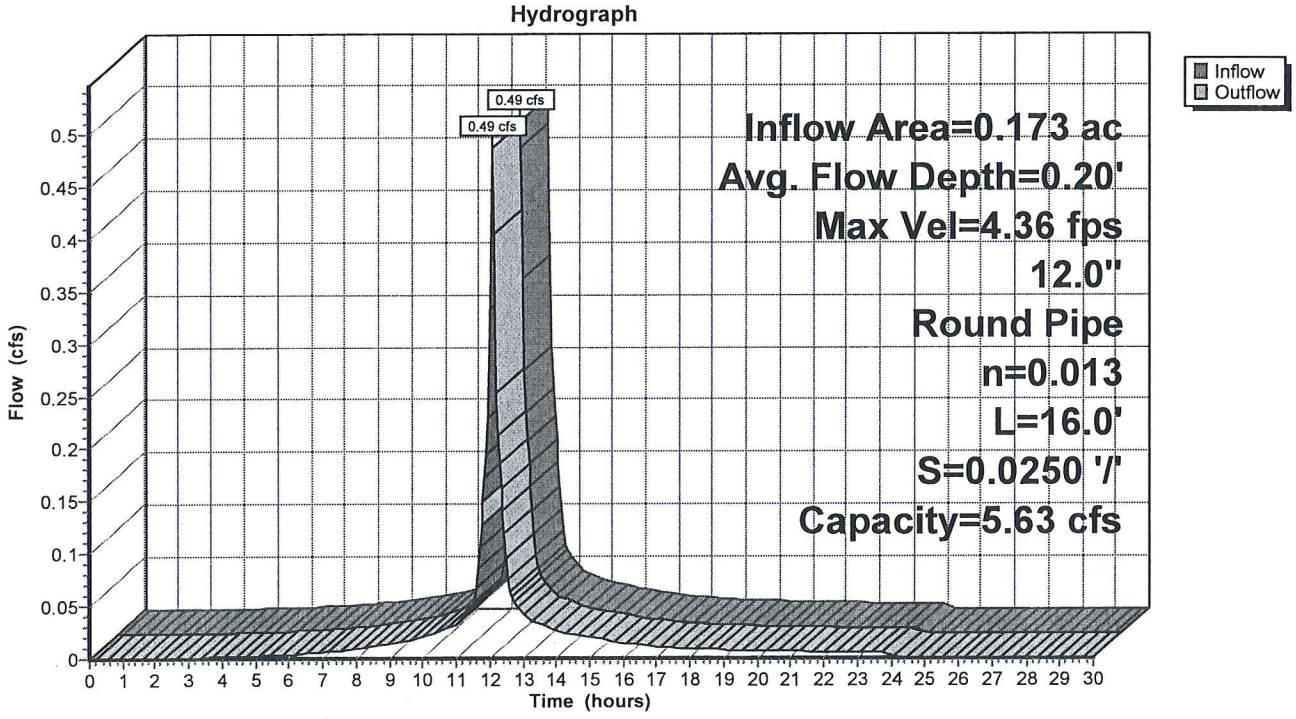
Inflow Area = 0.173 ac, 91.70% Impervious, Inflow Depth = 2.55" for 2-Year event
Inflow = 0.49 cfs @ 12.07 hrs, Volume= 0.037 af
Outflow = 0.49 cfs @ 12.07 hrs, Volume= 0.037 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.36 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.43 fps, Avg. Travel Time= 0.2 min

Peak Storage= 2 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.20'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.63 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 16.0' Slope= 0.0250 '/'
Inlet Invert= 1,180.80', Outlet Invert= 1,180.40'





Stage-Discharge for Reach DCB13: TO DMH#12

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.80	0.00	0.00
1,180.81	0.64	0.00
1,180.82	1.01	0.00
1,180.83	1.32	0.01
1,180.84	1.59	0.02
1,180.85	1.84	0.03
1,180.86	2.07	0.04
1,180.87	2.29	0.06
1,180.88	2.50	0.07
1,180.89	2.69	0.09
1,180.90	2.88	0.12
1,180.91	3.06	0.14
1,180.92	3.23	0.17
1,180.93	3.39	0.20
1,180.94	3.55	0.24
1,180.95	3.71	0.27
1,180.96	3.86	0.31
1,180.97	4.00	0.35
1,180.98	4.14	0.40
1,180.99	4.28	0.44
1,181.00	4.41	0.49
1,181.01	4.54	0.54
1,181.02	4.67	0.60
1,181.03	4.79	0.65
1,181.04	4.91	0.71
1,181.05	5.03	0.77
1,181.06	5.14	0.83
1,181.07	5.25	0.90
1,181.08	5.36	0.96
1,181.09	5.46	1.03
1,181.10	5.57	1.10
1,181.11	5.67	1.18
1,181.12	5.77	1.25
1,181.13	5.86	1.32
1,181.14	5.95	1.40
1,181.15	6.05	1.48
1,181.16	6.14	1.56
1,181.17	6.22	1.64
1,181.18	6.31	1.73
1,181.19	6.39	1.81
1,181.20	6.47	1.90
1,181.21	6.55	1.99
1,181.22	6.63	2.07
1,181.23	6.70	2.16
1,181.24	6.77	2.25
1,181.25	6.85	2.35
1,181.26	6.91	2.44
1,181.27	6.98	2.53
1,181.28	7.05	2.63
1,181.29	7.11	2.72
1,181.30	7.17	2.82
1,181.31	7.23	2.91
1,181.32	7.29	3.01
1,181.33	7.35	3.11
1,181.34	7.40	3.20
1,181.35	7.45	3.30
1,181.36	7.51	3.40
1,181.37	7.55	3.49
1,181.38	7.60	3.59
1,181.39	7.65	3.69
1,181.40	7.69	3.78
1,181.41	7.73	3.88
1,181.42	7.77	3.98
1,181.43	7.81	4.07
1,181.44	7.85	4.17
1,181.45	7.88	4.26
1,181.46	7.92	4.35
1,181.47	7.95	4.45
1,181.48	7.98	4.54
1,181.49	8.01	4.63
1,181.50	8.03	4.72
1,181.51	8.06	4.80
1,181.52	8.08	4.89
1,181.53	8.10	4.97
1,181.54	8.11	5.06
1,181.55	8.13	5.14
1,181.56	8.14	5.22
1,181.57	8.15	5.29
1,181.58	8.16	5.37
1,181.59	8.17	5.44
1,181.60	8.17	5.51
1,181.61	**8.18**	5.57
1,181.62	8.18	5.64
1,181.63	8.17	5.70
1,181.64	8.17	5.75
1,181.65	8.16	5.80
1,181.66	8.15	5.85
1,181.67	8.13	5.90
1,181.68	8.11	5.94
1,181.69	8.09	5.97
1,181.70	8.06	6.00
1,181.71	8.03	6.03
1,181.72	8.00	6.05
1,181.73	7.96	6.06
1,181.74	7.91	**6.06**
1,181.75	7.85	6.05
1,181.76	7.79	6.04
1,181.77	7.71	6.00
1,181.78	7.62	5.95
1,181.79	7.49	5.87
1,181.80	7.17	5.63

Summary for Reach DCB14: TO DMH#11

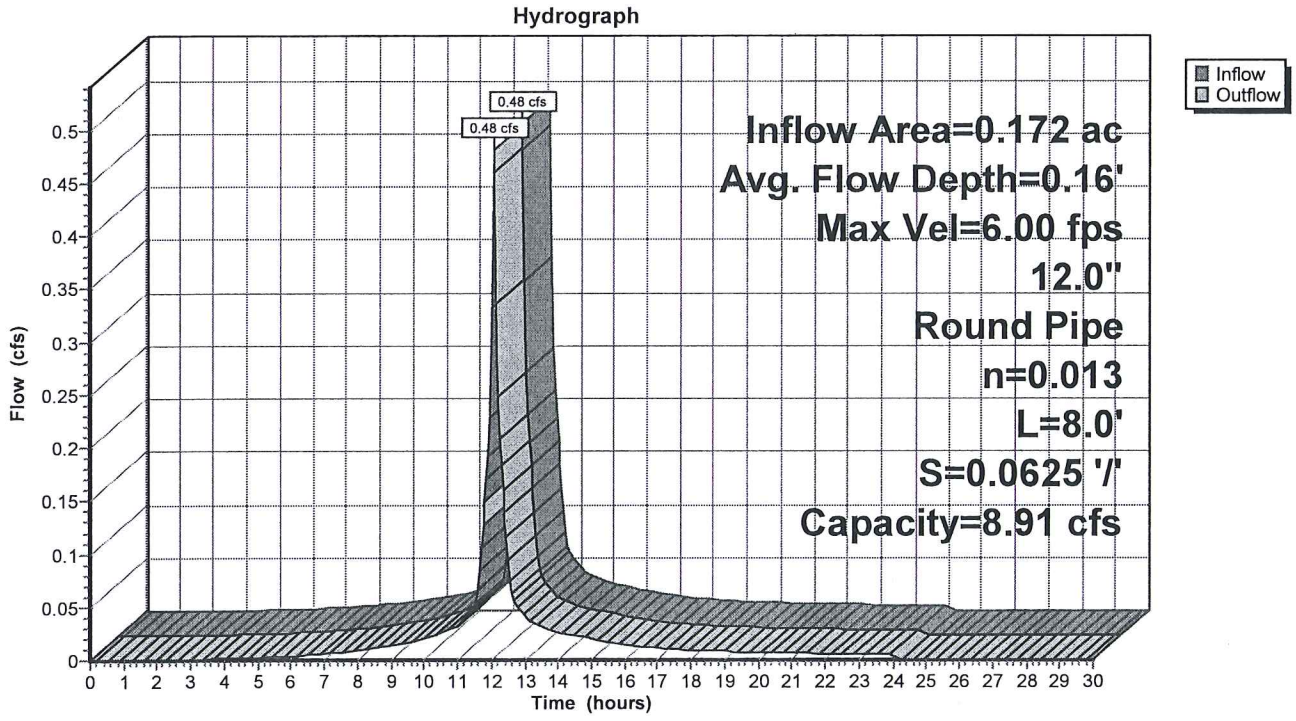
Inflow Area = 0.172 ac, 90.41% Impervious, Inflow Depth = 2.55" for 2-Year event
Inflow = 0.48 cfs @ 12.07 hrs, Volume= 0.036 af
Outflow = 0.48 cfs @ 12.07 hrs, Volume= 0.036 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.97 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.16'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.91 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 8.0' Slope= 0.0625 '/'
Inlet Invert= 1,180.50', Outlet Invert= 1,180.00'





Stage-Discharge for Reach DCB14: TO DMH#11

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.50	0.00	0.00
1,180.51	1.01	0.00
1,180.52	1.60	0.01
1,180.53	2.09	0.01
1,180.54	2.52	0.03
1,180.55	2.91	0.04
1,180.56	3.28	0.06
1,180.57	3.62	0.09
1,180.58	3.95	0.12
1,180.59	4.25	0.15
1,180.60	4.55	0.19
1,180.61	4.83	0.23
1,180.62	5.10	0.27
1,180.63	5.36	0.32
1,180.64	5.62	0.38
1,180.65	5.86	0.43
1,180.66	6.10	0.49
1,180.67	6.33	0.56
1,180.68	6.55	0.63
1,180.69	6.77	0.70
1,180.70	6.98	0.78
1,180.71	7.18	0.86
1,180.72	7.38	0.95
1,180.73	7.57	1.03
1,180.74	7.76	1.13
1,180.75	7.95	1.22
1,180.76	8.13	1.32
1,180.77	8.30	1.42
1,180.78	8.47	1.53
1,180.79	8.64	1.63
1,180.80	8.80	1.74
1,180.81	8.96	1.86
1,180.82	9.12	1.98
1,180.83	9.27	2.09
1,180.84	9.42	2.22
1,180.85	9.56	2.34
1,180.86	9.70	2.47
1,180.87	9.84	2.60
1,180.88	9.97	2.73
1,180.89	10.10	2.87
1,180.90	10.23	3.00
1,180.91	10.36	3.14
1,180.92	10.48	3.28
1,180.93	10.60	3.42
1,180.94	10.71	3.57
1,180.95	10.82	3.71
1,180.96	10.93	3.86
1,180.97	11.04	4.00
1,180.98	11.14	4.15
1,180.99	11.24	4.30
1,181.00	11.34	4.45
1,181.01	11.44	4.61
1,181.02	11.53	4.76
1,181.03	11.62	4.91
1,181.04	11.70	5.06
1,181.05	11.79	5.22
1,181.06	11.87	5.37
1,181.07	11.95	5.52
1,181.08	12.02	5.68
1,181.09	12.09	5.83
1,181.10	12.16	5.98
1,181.11	12.23	6.14
1,181.12	12.29	6.29
1,181.13	12.35	6.44
1,181.14	12.41	6.59
1,181.15	12.47	6.74
1,181.16	12.52	6.88
1,181.17	12.57	7.03
1,181.18	12.62	7.17
1,181.19	12.66	7.32
1,181.20	12.70	7.46
1,181.21	12.74	7.60
1,181.22	12.77	7.73
1,181.23	12.80	7.86
1,181.24	12.83	7.99
1,181.25	12.85	8.12
1,181.26	12.88	8.25
1,181.27	12.89	8.37
1,181.28	12.91	8.48
1,181.29	12.92	8.60
1,181.30	12.93	8.71
1,181.31	**12.93**	8.81
1,181.32	12.93	8.91
1,181.33	12.92	9.01
1,181.34	12.91	9.09
1,181.35	12.90	9.18
1,181.36	12.88	9.26
1,181.37	12.86	9.33
1,181.38	12.83	9.39
1,181.39	12.79	9.45
1,181.40	12.75	9.49
1,181.41	12.70	9.53
1,181.42	12.65	9.56
1,181.43	12.58	9.58
1,181.44	12.51	**9.58**
1,181.45	12.42	9.57
1,181.46	12.32	9.54
1,181.47	12.19	9.49
1,181.48	12.04	9.41
1,181.49	11.84	9.28
1,181.50	11.34	8.91

Summary for Reach DCB15: TO DMH#13

Inflow Area = 0.178 ac, 87.98% Impervious, Inflow Depth = 2.45" for 2-Year event
Inflow = 0.49 cfs @ 12.07 hrs, Volume= 0.036 af
Outflow = 0.49 cfs @ 12.07 hrs, Volume= 0.036 af, Atten= 0%, Lag= 0.0 min

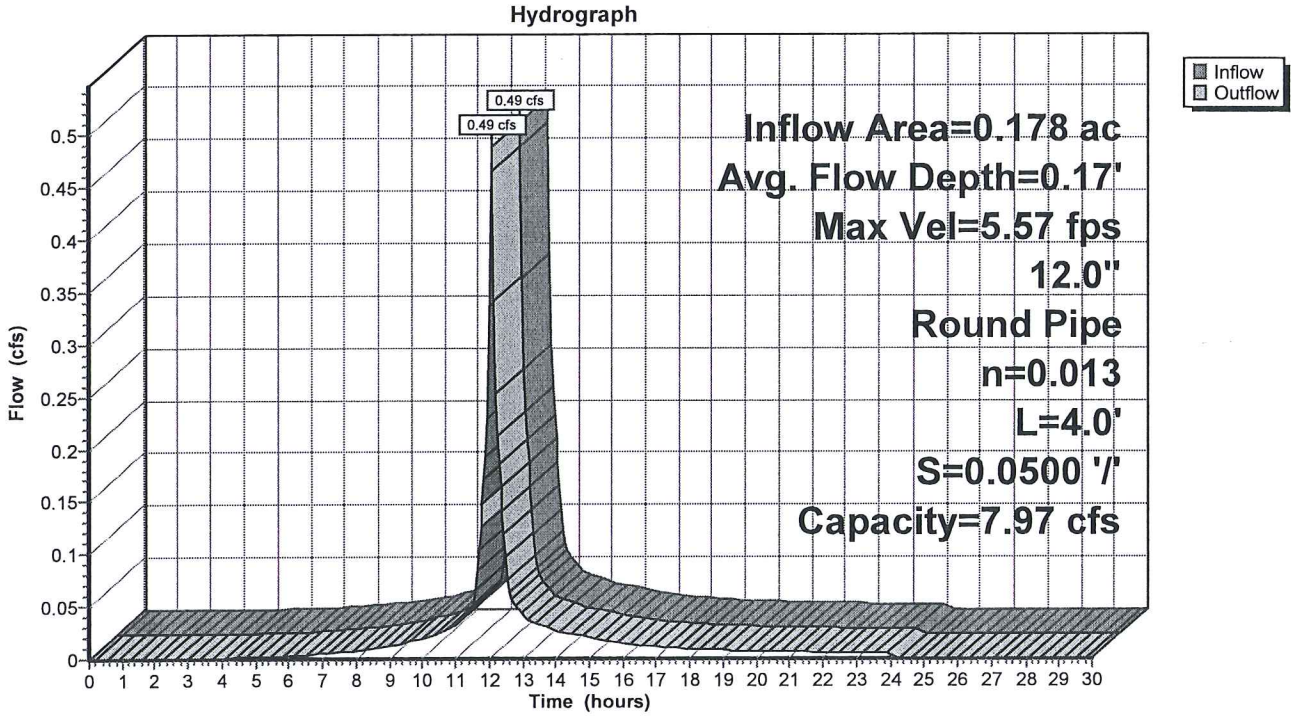
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.57 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.83 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.17'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 7.97 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 4.0' Slope= 0.0500 '/'
Inlet Invert= 1,181.80', Outlet Invert= 1,181.60'



Reach DCB15: TO DMH#13



Stage-Discharge for Reach DCB15: TO DMH#13

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,181.80	0.00	0.00
1,181.81	0.90	0.00
1,181.82	1.43	0.01
1,181.83	1.87	0.01
1,181.84	2.25	0.02
1,181.85	2.61	0.04
1,181.86	2.93	0.06
1,181.87	3.24	0.08
1,181.88	3.53	0.10
1,181.89	3.81	0.13
1,181.90	4.07	0.17
1,181.91	4.32	0.20
1,181.92	4.56	0.24
1,181.93	4.80	0.29
1,181.94	5.02	0.34
1,181.95	5.24	0.39
1,181.96	5.45	0.44
1,181.97	5.66	0.50
1,181.98	5.86	0.56
1,181.99	6.05	0.63
1,182.00	6.24	0.70
1,182.01	6.42	0.77
1,182.02	6.60	0.85
1,182.03	6.77	0.92
1,182.04	6.94	1.01
1,182.05	7.11	1.09
1,182.06	7.27	1.18
1,182.07	7.42	1.27
1,182.08	7.58	1.36
1,182.09	7.73	1.46
1,182.10	7.87	1.56
1,182.11	8.01	1.66
1,182.12	8.15	1.77
1,182.13	8.29	1.87
1,182.14	8.42	1.98
1,182.15	8.55	2.09
1,182.16	8.68	2.21
1,182.17	8.80	2.32
1,182.18	8.92	2.44
1,182.19	9.04	2.56
1,182.20	9.15	2.68
1,182.21	9.26	2.81
1,182.22	9.37	2.93
1,182.23	9.48	3.06
1,182.24	9.58	3.19
1,182.25	9.68	3.32
1,182.26	9.78	3.45
1,182.27	9.87	3.58
1,182.28	9.97	3.71
1,182.29	10.06	3.85
1,182.30	10.14	3.98
1,182.31	10.23	4.12
1,182.32	10.31	4.26
1,182.33	10.39	4.39
1,182.34	10.47	4.53
1,182.35	10.54	4.67
1,182.36	10.61	4.80
1,182.37	10.68	4.94
1,182.38	10.75	5.08
1,182.39	10.82	5.22
1,182.40	10.88	5.35
1,182.41	10.94	5.49
1,182.42	10.99	5.62
1,182.43	11.05	5.76
1,182.44	11.10	5.89
1,182.45	11.15	6.03
1,182.46	11.20	6.16
1,182.47	11.24	6.29
1,182.48	11.28	6.42
1,182.49	11.32	6.54
1,182.50	11.36	6.67
1,182.51	11.39	6.79
1,182.52	11.42	6.91
1,182.53	11.45	7.03
1,182.54	11.48	7.15
1,182.55	11.50	7.26
1,182.56	11.52	7.38
1,182.57	11.53	7.48
1,182.58	11.55	7.59
1,182.59	11.55	7.69
1,182.60	11.56	7.79
1,182.61	**11.56**	7.88
1,182.62	11.56	7.97
1,182.63	11.56	8.05
1,182.64	11.55	8.13
1,182.65	11.54	8.21
1,182.66	11.52	8.28
1,182.67	11.50	8.34
1,182.68	11.47	8.40
1,182.69	11.44	8.45
1,182.70	11.40	8.49
1,182.71	11.36	8.53
1,182.72	11.31	8.55
1,182.73	11.25	8.57
1,182.74	11.19	**8.57**
1,182.75	11.11	8.56
1,182.76	11.02	8.54
1,182.77	10.91	8.49
1,182.78	10.77	8.42
1,182.79	10.59	8.30
1,182.80	10.14	7.97

Summary for Reach DCB16: TO DMH#15

Inflow Area = 0.130 ac, 91.39% Impervious, Inflow Depth = 2.55" for 2-Year event
Inflow = 0.36 cfs @ 12.07 hrs, Volume= 0.028 af
Outflow = 0.36 cfs @ 12.08 hrs, Volume= 0.028 af, Atten= 1%, Lag= 0.4 min

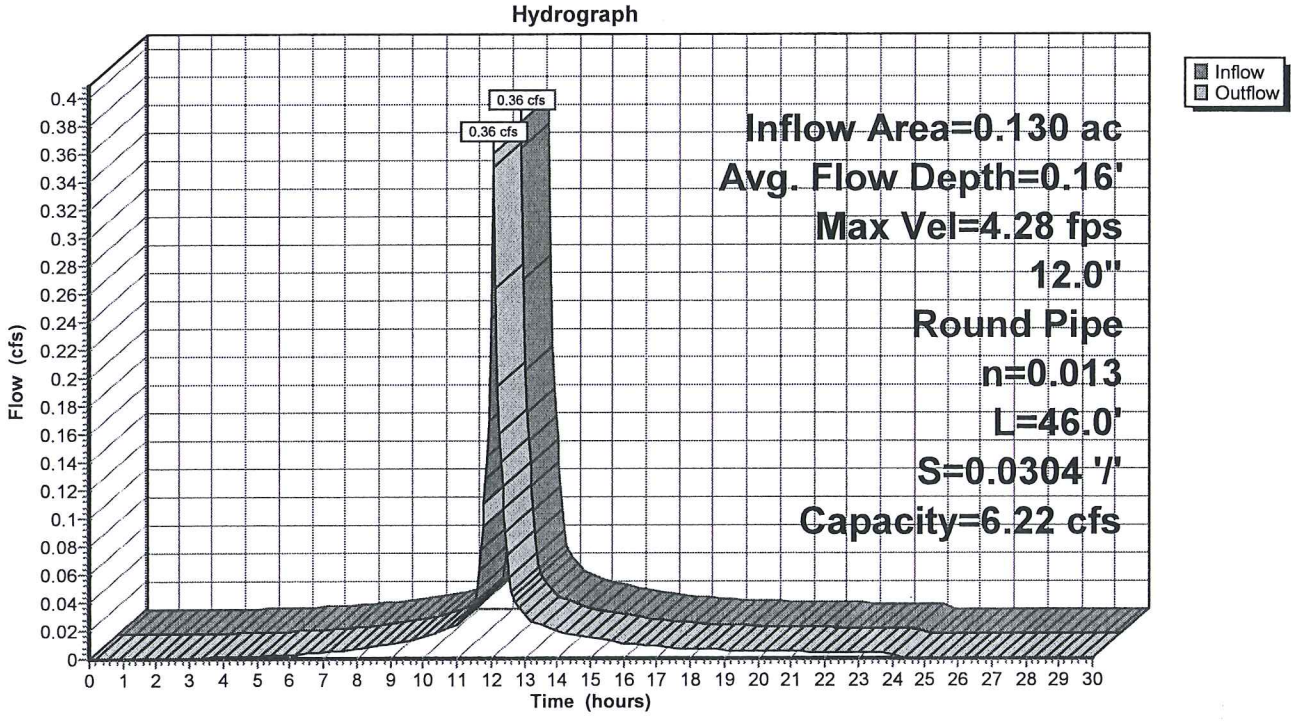
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.28 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.41 fps, Avg. Travel Time= 0.5 min

Peak Storage= 4 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.16'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.22 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 46.0' Slope= 0.0304 '/'
Inlet Invert= 1,181.70', Outlet Invert= 1,180.30'



Reach DCB16: TO DMH#15



Stage-Discharge for Reach DCB16: TO DMH#15

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,181.70	0.00	0.00
1,181.71	0.70	0.00
1,181.72	1.11	0.00
1,181.73	1.46	0.01
1,181.74	1.76	0.02
1,181.75	2.03	0.03
1,181.76	2.29	0.04
1,181.77	2.53	0.06
1,181.78	2.75	0.08
1,181.79	2.97	0.10
1,181.80	3.17	0.13
1,181.81	3.37	0.16
1,181.82	3.56	0.19
1,181.83	3.74	0.22
1,181.84	3.92	0.26
1,181.85	4.09	0.30
1,181.86	4.25	0.35
1,181.87	4.41	0.39
1,181.88	4.57	0.44
1,181.89	4.72	0.49
1,181.90	4.87	0.54
1,181.91	5.01	0.60
1,181.92	5.15	0.66
1,181.93	5.28	0.72
1,181.94	5.42	0.79
1,181.95	5.54	0.85
1,181.96	5.67	0.92
1,181.97	5.79	0.99
1,181.98	5.91	1.06
1,181.99	6.03	1.14
1,182.00	6.14	1.22
1,182.01	6.25	1.30
1,182.02	6.36	1.38
1,182.03	6.47	1.46
1,182.04	6.57	1.55
1,182.05	6.67	1.63
1,182.06	6.77	1.72
1,182.07	6.87	1.81
1,182.08	6.96	1.91
1,182.09	7.05	2.00
1,182.10	7.14	2.09
1,182.11	7.23	2.19
1,182.12	7.31	2.29
1,182.13	7.39	2.39
1,182.14	7.47	2.49
1,182.15	7.55	2.59
1,182.16	7.63	2.69
1,182.17	7.70	2.79
1,182.18	7.78	2.90
1,182.19	7.85	3.00
1,182.20	7.91	3.11
1,182.21	7.98	3.21
1,182.22	8.04	3.32
1,182.23	8.11	3.43
1,182.24	8.17	3.53
1,182.25	8.22	3.64
1,182.26	8.28	3.75
1,182.27	8.34	3.85
1,182.28	8.39	3.96
1,182.29	8.44	4.07
1,182.30	8.49	4.18
1,182.31	8.53	4.28
1,182.32	8.58	4.39
1,182.33	8.62	4.49
1,182.34	8.66	4.60
1,182.35	8.70	4.70
1,182.36	8.74	4.80
1,182.37	8.77	4.91
1,182.38	8.80	5.01
1,182.39	8.83	5.11
1,182.40	8.86	5.20
1,182.41	8.89	5.30
1,182.42	8.91	5.39
1,182.43	8.93	5.49
1,182.44	8.95	5.58
1,182.45	8.97	5.67
1,182.46	8.98	5.75
1,182.47	9.00	5.84
1,182.48	9.01	5.92
1,182.49	9.01	6.00
1,182.50	9.02	6.08
1,182.51	**9.02**	6.15
1,182.52	9.02	6.22
1,182.53	9.02	6.28
1,182.54	9.01	6.35
1,182.55	9.00	6.40
1,182.56	8.99	6.46
1,182.57	8.97	6.51
1,182.58	8.95	6.55
1,182.59	8.93	6.59
1,182.60	8.90	6.62
1,182.61	8.86	6.65
1,182.62	8.82	6.67
1,182.63	8.78	6.68
1,182.64	8.73	**6.69**
1,182.65	8.67	6.68
1,182.66	8.59	6.66
1,182.67	8.51	6.62
1,182.68	8.40	6.57
1,182.69	8.26	6.48
1,182.70	7.91	6.22

Summary for Reach DCB17: TO DMH#15

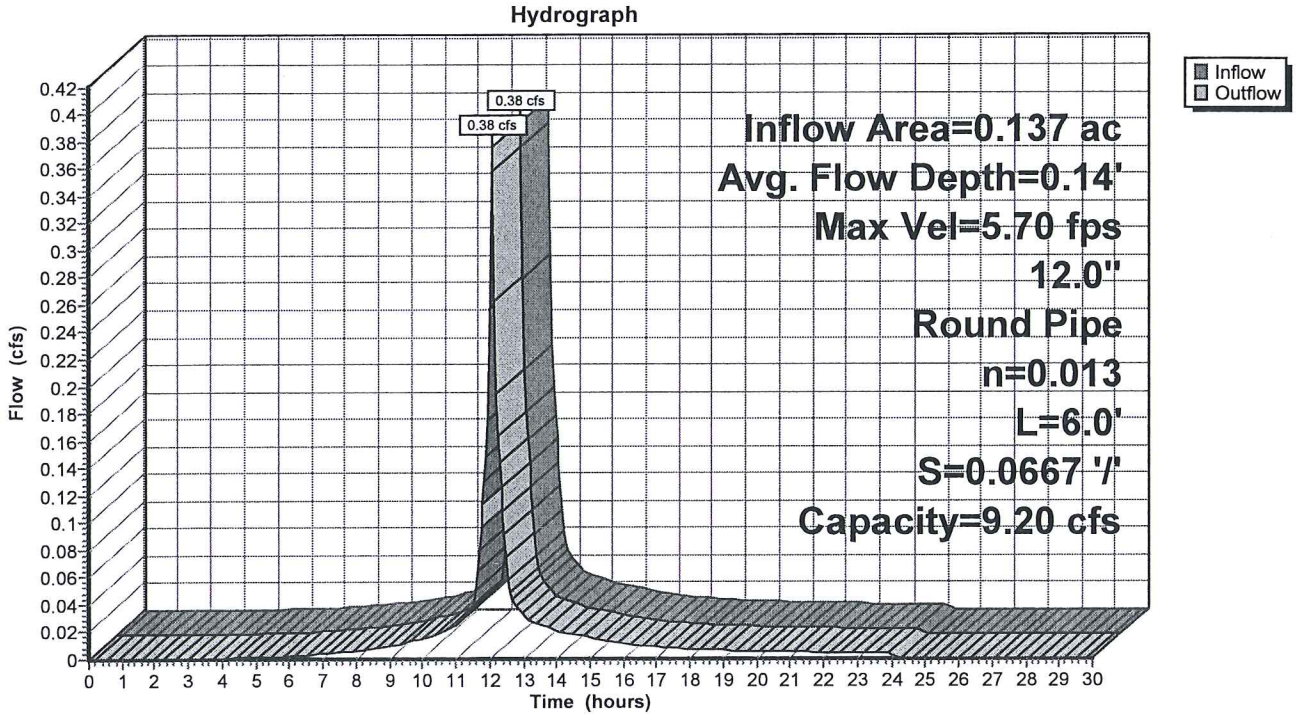
Inflow Area = 0.137 ac, 89.42% Impervious, Inflow Depth = 2.45" for 2-Year event
Inflow = 0.38 cfs @ 12.07 hrs, Volume= 0.028 af
Outflow = 0.38 cfs @ 12.07 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.70 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.89 fps, Avg. Travel Time= 0.1 min

Peak Storage= 0 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.14'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 9.20 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 6.0' Slope= 0.0667 '/'
Inlet Invert= 1,180.80', Outlet Invert= 1,180.40'





Stage-Discharge for Reach DCB17: TO DMH#15

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.80	0.00	0.00
1,180.81	1.04	0.00
1,180.82	1.65	0.01
1,180.83	2.15	0.01
1,180.84	2.60	0.03
1,180.85	3.01	0.04
1,180.86	3.39	0.07
1,180.87	3.74	0.09
1,180.88	4.08	0.12
1,180.89	4.39	0.15
1,180.90	4.70	0.19
1,180.91	4.99	0.23
1,180.92	5.27	0.28
1,180.93	5.54	0.33
1,180.94	5.80	0.39
1,180.95	6.05	0.45
1,180.96	6.30	0.51
1,180.97	6.53	0.58
1,180.98	6.76	0.65
1,180.99	6.99	0.73
1,181.00	7.20	0.81
1,181.01	7.42	0.89
1,181.02	7.62	0.98
1,181.03	7.82	1.07
1,181.04	8.02	1.16
1,181.05	8.21	1.26
1,181.06	8.39	1.36
1,181.07	8.57	1.47
1,181.08	8.75	1.58
1,181.09	8.92	1.69
1,181.10	9.09	1.80
1,181.11	9.25	1.92
1,181.12	9.42	2.04
1,181.13	9.57	2.16
1,181.14	9.72	2.29
1,181.15	9.87	2.42
1,181.16	10.02	2.55
1,181.17	10.16	2.68
1,181.18	10.30	2.82
1,181.19	10.43	2.96
1,181.20	10.57	3.10
1,181.21	10.70	3.24
1,181.22	10.82	3.39
1,181.23	10.94	3.53
1,181.24	11.06	3.68
1,181.25	11.18	3.83
1,181.26	11.29	3.98
1,181.27	11.40	4.14
1,181.28	11.51	4.29
1,181.29	11.61	4.44
1,181.30	11.71	4.60
1,181.31	11.81	4.76
1,181.32	11.91	4.91
1,181.33	12.00	5.07
1,181.34	12.09	5.23
1,181.35	12.17	5.39
1,181.36	12.26	5.55
1,181.37	12.34	5.71
1,181.38	12.41	5.86
1,181.39	12.49	6.02
1,181.40	12.56	6.18
1,181.41	12.63	6.34
1,181.42	12.70	6.49
1,181.43	12.76	6.65
1,181.44	12.82	6.80
1,181.45	12.88	6.96
1,181.46	12.93	7.11
1,181.47	12.98	7.26
1,181.48	13.03	7.41
1,181.49	13.07	7.56
1,181.50	13.12	7.70
1,181.51	13.15	7.84
1,181.52	13.19	7.98
1,181.53	13.22	8.12
1,181.54	13.25	8.26
1,181.55	13.28	8.39
1,181.56	13.30	8.52
1,181.57	13.32	8.64
1,181.58	13.33	8.76
1,181.59	13.34	8.88
1,181.60	13.35	8.99
1,181.61	**13.35**	9.10
1,181.62	13.35	9.20
1,181.63	13.35	9.30
1,181.64	13.34	9.39
1,181.65	13.32	9.48
1,181.66	13.30	9.56
1,181.67	13.28	9.63
1,181.68	13.25	9.70
1,181.69	13.21	9.76
1,181.70	13.17	9.80
1,181.71	13.12	9.84
1,181.72	13.06	9.87
1,181.73	12.99	9.89
1,181.74	12.92	**9.90**
1,181.75	12.83	9.88
1,181.76	12.72	9.86
1,181.77	12.59	9.80
1,181.78	12.44	9.72
1,181.79	12.22	9.59
1,181.80	11.71	9.20

Summary for Reach DCB18: TO DMH#15

Inflow Area = 0.545 ac, 84.68% Impervious, Inflow Depth = 2.35" for 2-Year event
Inflow = 1.45 cfs @ 12.07 hrs, Volume= 0.107 af
Outflow = 1.45 cfs @ 12.07 hrs, Volume= 0.107 af, Atten= 0%, Lag= 0.1 min

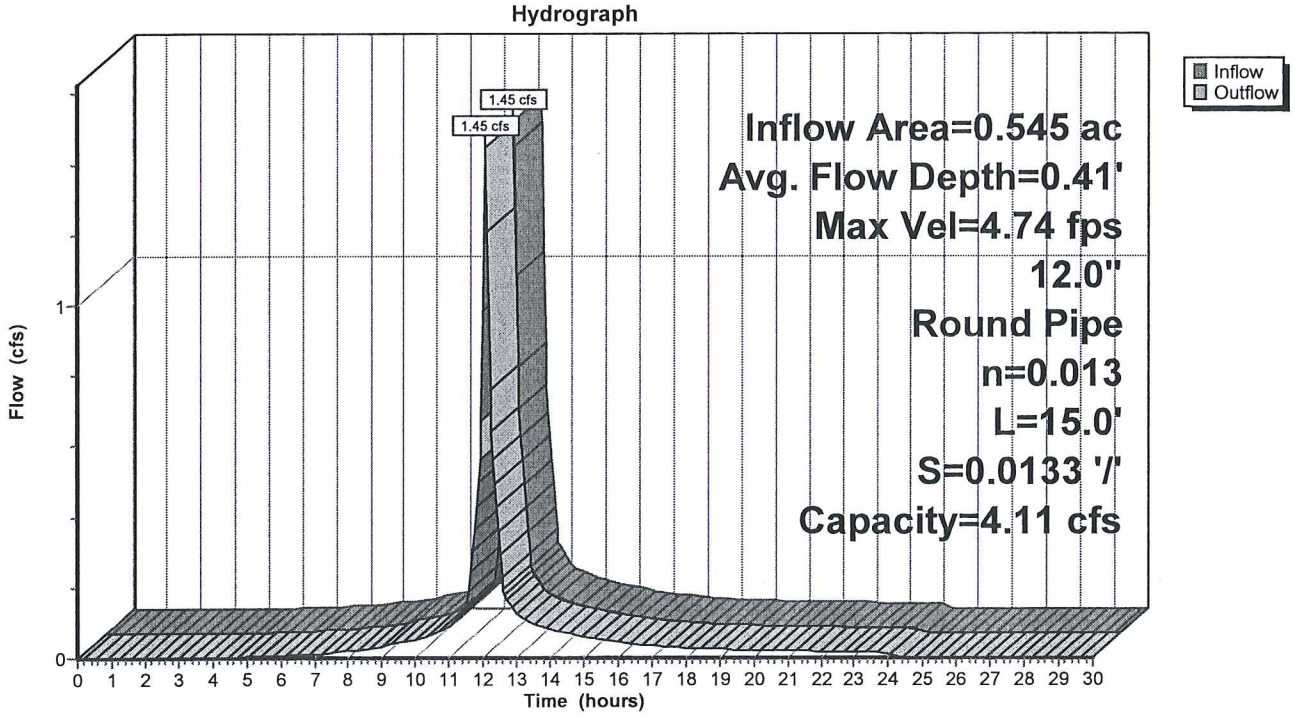
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.74 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.59 fps, Avg. Travel Time= 0.2 min

Peak Storage= 5 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.41'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.11 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 15.0' Slope= 0.0133 '/'
Inlet Invert= 1,180.50', Outlet Invert= 1,180.30'



Reach DCB18: TO DMH#15



Stage-Discharge for Reach DCB18: TO DMH#15

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.50	0.00	0.00
1,180.51	0.47	0.00
1,180.52	0.74	0.00
1,180.53	0.96	0.01
1,180.54	1.16	0.01
1,180.55	1.35	0.02
1,180.56	1.51	0.03
1,180.57	1.67	0.04
1,180.58	1.82	0.05
1,180.59	1.97	0.07
1,180.60	2.10	0.09
1,180.61	2.23	0.10
1,180.62	2.36	0.13
1,180.63	2.48	0.15
1,180.64	2.59	0.17
1,180.65	2.71	0.20
1,180.66	2.82	0.23
1,180.67	2.92	0.26
1,180.68	3.02	0.29
1,180.69	3.12	0.32
1,180.70	3.22	0.36
1,180.71	3.32	0.40
1,180.72	3.41	0.44
1,180.73	3.50	0.48
1,180.74	3.59	0.52
1,180.75	3.67	0.56
1,180.76	3.75	0.61
1,180.77	3.83	0.66
1,180.78	3.91	0.70
1,180.79	3.99	0.75
1,180.80	4.07	0.81
1,180.81	4.14	0.86
1,180.82	4.21	0.91
1,180.83	4.28	0.97
1,180.84	4.35	1.02
1,180.85	4.42	1.08
1,180.86	4.48	1.14
1,180.87	4.54	1.20
1,180.88	4.61	1.26
1,180.89	4.67	1.32
1,180.90	4.73	1.39
1,180.91	4.78	1.45
1,180.92	4.84	1.51
1,180.93	4.89	1.58
1,180.94	4.95	1.65
1,180.95	5.00	1.71
1,180.96	5.05	1.78
1,180.97	5.10	1.85
1,180.98	5.15	1.92
1,180.99	5.19	1.99
1,181.00	5.24	2.06
1,181.01	5.28	2.13
1,181.02	5.32	2.20
1,181.03	5.37	2.27
1,181.04	5.41	2.34
1,181.05	5.44	2.41
1,181.06	5.48	2.48
1,181.07	5.52	2.55
1,181.08	5.55	2.62
1,181.09	5.59	2.69
1,181.10	5.62	2.76
1,181.11	5.65	2.83
1,181.12	5.68	2.90
1,181.13	5.71	2.97
1,181.14	5.73	3.04
1,181.15	5.76	3.11
1,181.16	5.78	3.18
1,181.17	5.81	3.25
1,181.18	5.83	3.31
1,181.19	5.85	3.38
1,181.20	5.87	3.44
1,181.21	5.88	3.51
1,181.22	5.90	3.57
1,181.23	5.91	3.63
1,181.24	5.93	3.69
1,181.25	5.94	3.75
1,181.26	5.95	3.81
1,181.27	5.96	3.86
1,181.28	5.96	3.92
1,181.29	5.97	3.97
1,181.30	5.97	4.02
1,181.31	**5.97**	4.07
1,181.32	5.97	4.12
1,181.33	5.97	4.16
1,181.34	5.96	4.20
1,181.35	5.96	4.24
1,181.36	5.95	4.27
1,181.37	5.94	4.31
1,181.38	5.92	4.34
1,181.39	5.91	4.36
1,181.40	5.89	4.38
1,181.41	5.87	4.40
1,181.42	5.84	4.42
1,181.43	5.81	4.42
1,181.44	5.78	**4.43**
1,181.45	5.74	4.42
1,181.46	5.69	4.41
1,181.47	5.63	4.38
1,181.48	5.56	4.35
1,181.49	5.47	4.29
1,181.50	5.24	4.11

Summary for Reach DCB19: TO DMH#16

Inflow Area = 0.144 ac, 89.61% Impervious, Inflow Depth = 2.55" for 2-Year event
Inflow = 0.41 cfs @ 12.07 hrs, Volume= 0.031 af
Outflow = 0.41 cfs @ 12.07 hrs, Volume= 0.031 af, Atten= 0%, Lag= 0.1 min

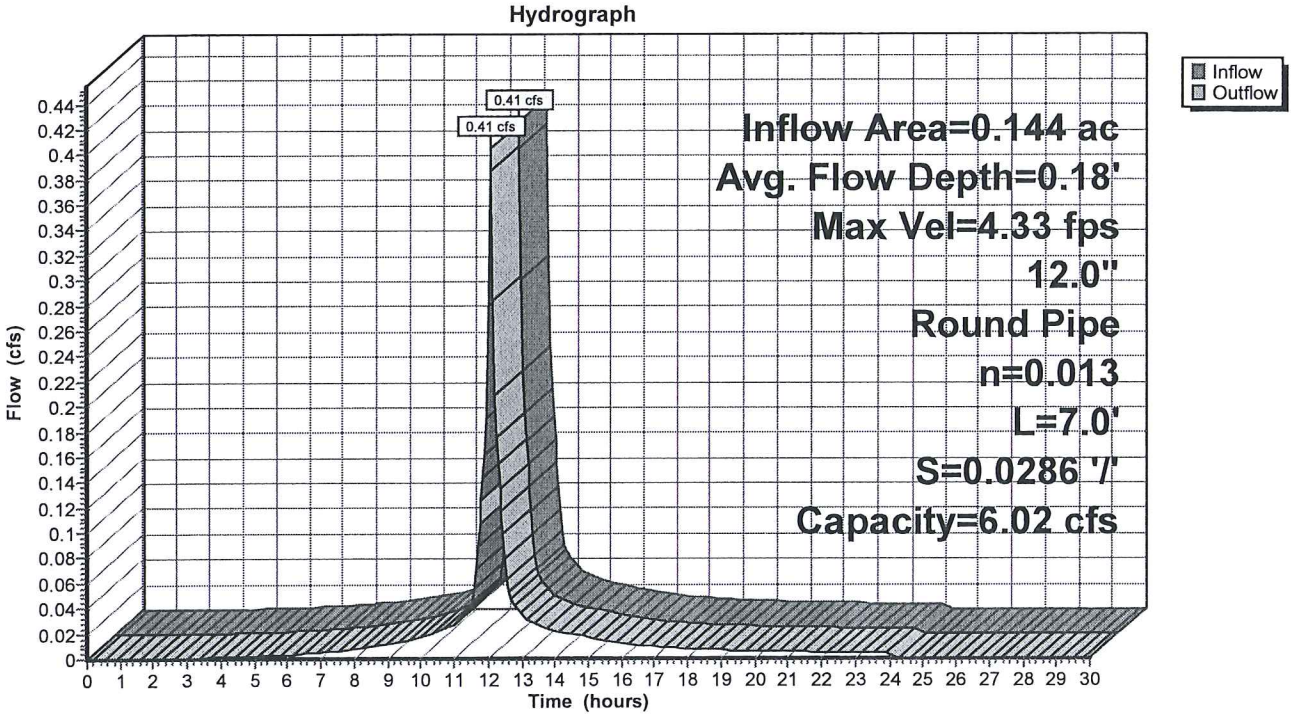
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.33 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.42 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.18'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.02 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 7.0' Slope= 0.0286 '/'
Inlet Invert= 1,181.50', Outlet Invert= 1,181.30'



Reach DCB19: TO DMH#16



Stage-Discharge for Reach DCB19: TO DMH#16

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,181.50	0.00	0.00
1,181.51	0.68	0.00
1,181.52	1.08	0.00
1,181.53	1.41	0.01
1,181.54	1.70	0.02
1,181.55	1.97	0.03
1,181.56	2.22	0.04
1,181.57	2.45	0.06
1,181.58	2.67	0.08
1,181.59	2.88	0.10
1,181.60	3.08	0.13
1,181.61	3.27	0.15
1,181.62	3.45	0.18
1,181.63	3.63	0.22
1,181.64	3.80	0.25
1,181.65	3.96	0.29
1,181.66	4.12	0.33
1,181.67	4.28	0.38
1,181.68	4.43	0.43
1,181.69	4.57	0.48
1,181.70	4.72	0.53
1,181.71	4.85	0.58
1,181.72	4.99	0.64
1,181.73	5.12	0.70
1,181.74	5.25	0.76
1,181.75	5.37	0.82
1,181.76	5.49	0.89
1,181.77	5.61	0.96
1,181.78	5.73	1.03
1,181.79	5.84	1.10
1,181.80	5.95	1.18
1,181.81	6.06	1.26
1,181.82	6.16	1.34
1,181.83	6.27	1.42
1,181.84	6.37	1.50
1,181.85	6.46	1.58
1,181.86	6.56	1.67
1,181.87	6.65	1.76
1,181.88	6.74	1.85
1,181.89	6.83	1.94
1,181.90	6.92	2.03
1,181.91	7.00	2.12
1,181.92	7.08	2.22
1,181.93	7.16	2.31
1,181.94	7.24	2.41
1,181.95	7.32	2.51
1,181.96	7.39	2.61
1,181.97	7.46	2.71
1,181.98	7.53	2.81
1,181.99	7.60	2.91
1,182.00	7.67	3.01
1,182.01	7.73	3.11
1,182.02	7.79	3.22
1,182.03	7.85	3.32
1,182.04	7.91	3.42
1,182.05	7.97	3.53
1,182.06	8.02	3.63
1,182.07	8.08	3.74
1,182.08	8.13	3.84
1,182.09	8.18	3.94
1,182.10	8.22	4.05
1,182.11	8.27	4.15
1,182.12	8.31	4.25
1,182.13	8.35	4.35
1,182.14	8.39	4.45
1,182.15	8.43	4.56
1,182.16	8.46	4.65
1,182.17	8.50	4.75
1,182.18	8.53	4.85
1,182.19	8.56	4.95
1,182.20	8.59	5.04
1,182.21	8.61	5.14
1,182.22	8.63	5.23
1,182.23	8.66	5.32
1,182.24	8.67	5.41
1,182.25	8.69	5.49
1,182.26	8.71	5.58
1,182.27	8.72	5.66
1,182.28	8.73	5.74
1,182.29	8.73	5.81
1,182.30	8.74	5.89
1,182.31	**8.74**	5.96
1,182.32	8.74	6.02
1,182.33	8.74	6.09
1,182.34	8.73	6.15
1,182.35	8.72	6.21
1,182.36	8.71	6.26
1,182.37	8.69	6.31
1,182.38	8.67	6.35
1,182.39	8.65	6.39
1,182.40	8.62	6.42
1,182.41	8.59	6.44
1,182.42	8.55	6.46
1,182.43	8.51	6.48
1,182.44	8.46	**6.48**
1,182.45	8.40	6.47
1,182.46	8.33	6.45
1,182.47	8.24	6.42
1,182.48	8.14	6.36
1,182.49	8.00	6.27
1,182.50	7.67	6.02

Summary for Reach DCB2: TO DMH#1

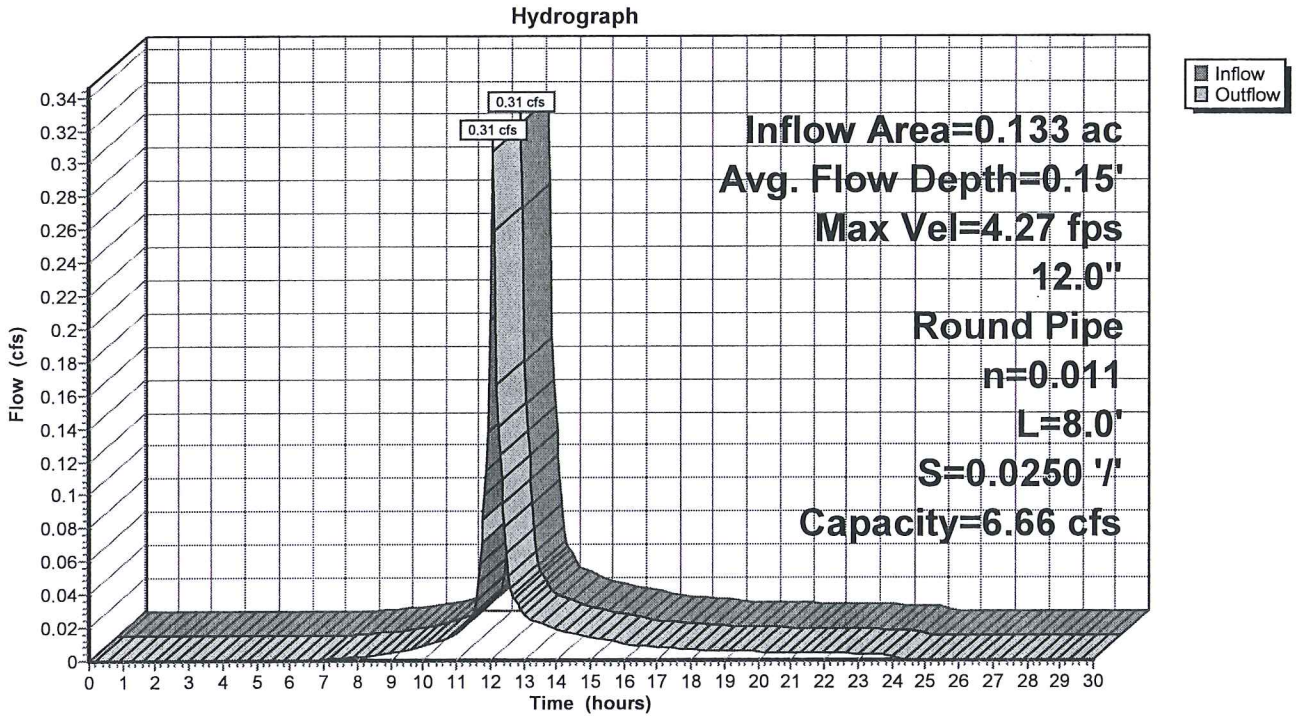
Inflow Area = 0.133 ac, 68.40% Impervious, Inflow Depth = 1.98" for 2-Year event
Inflow = 0.31 cfs @ 12.07 hrs, Volume= 0.022 af
Outflow = 0.31 cfs @ 12.08 hrs, Volume= 0.022 af, Atten= 1%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.27 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.47 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.15'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.66 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 8.0' Slope= 0.0250 '/'
Inlet Invert= 1,175.50', Outlet Invert= 1,175.30'





Stage-Discharge for Reach DCB2: TO DMH#1

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.50	0.00	0.00
1,175.51	0.75	0.00
1,175.52	1.19	0.00
1,175.53	1.56	0.01
1,175.54	1.88	0.02
1,175.55	2.18	0.03
1,175.56	2.45	0.05
1,175.57	2.71	0.07
1,175.58	2.95	0.09
1,175.59	3.18	0.11
1,175.60	3.40	0.14
1,175.61	3.61	0.17
1,175.62	3.81	0.20
1,175.63	4.01	0.24
1,175.64	4.20	0.28
1,175.65	4.38	0.32
1,175.66	4.56	0.37
1,175.67	4.73	0.42
1,175.68	4.89	0.47
1,175.69	5.06	0.53
1,175.70	5.21	0.58
1,175.71	5.37	0.64
1,175.72	5.52	0.71
1,175.73	5.66	0.77
1,175.74	5.80	0.84
1,175.75	5.94	0.91
1,175.76	6.07	0.99
1,175.77	6.20	1.06
1,175.78	6.33	1.14
1,175.79	6.46	1.22
1,175.80	6.58	1.30
1,175.81	6.70	1.39
1,175.82	6.81	1.48
1,175.83	6.93	1.57
1,175.84	7.04	1.66
1,175.85	7.15	1.75
1,175.86	7.25	1.85
1,175.87	7.35	1.94
1,175.88	7.45	2.04
1,175.89	7.55	2.14
1,175.90	7.65	2.24
1,175.91	7.74	2.35
1,175.92	7.83	2.45
1,175.93	7.92	2.56
1,175.94	8.01	2.66
1,175.95	8.09	2.77
1,175.96	8.17	2.88
1,175.97	8.25	2.99
1,175.98	8.33	3.10
1,175.99	8.40	3.22
1,176.00	8.48	3.33
1,176.01	8.55	3.44
1,176.02	8.62	3.56
1,176.03	8.68	3.67
1,176.04	8.75	3.78
1,176.05	8.81	3.90
1,176.06	8.87	4.01
1,176.07	8.93	4.13
1,176.08	8.98	4.24
1,176.09	9.04	4.36
1,176.10	9.09	4.47
1,176.11	9.14	4.59
1,176.12	9.19	4.70
1,176.13	9.23	4.81
1,176.14	9.28	4.92
1,176.15	9.32	5.04
1,176.16	9.36	5.15
1,176.17	9.39	5.25
1,176.18	9.43	5.36
1,176.19	9.46	5.47
1,176.20	9.49	5.57
1,176.21	9.52	5.68
1,176.22	9.55	5.78
1,176.23	9.57	5.88
1,176.24	9.59	5.98
1,176.25	9.61	6.07
1,176.26	9.62	6.16
1,176.27	9.64	6.25
1,176.28	9.65	6.34
1,176.29	9.66	6.43
1,176.30	9.66	6.51
1,176.31	**9.66**	6.59
1,176.32	9.66	6.66
1,176.33	9.66	6.73
1,176.34	9.65	6.80
1,176.35	9.64	6.86
1,176.36	9.63	6.92
1,176.37	9.61	6.97
1,176.38	9.59	7.02
1,176.39	9.56	7.06
1,176.40	9.53	7.10
1,176.41	9.49	7.12
1,176.42	9.45	7.15
1,176.43	9.40	7.16
1,176.44	9.35	**7.16**
1,176.45	9.28	7.15
1,176.46	9.21	7.13
1,176.47	9.11	7.10
1,176.48	9.00	7.03
1,176.49	8.85	6.94
1,176.50	8.48	6.66

Summary for Reach DCB20: TO DMH#18

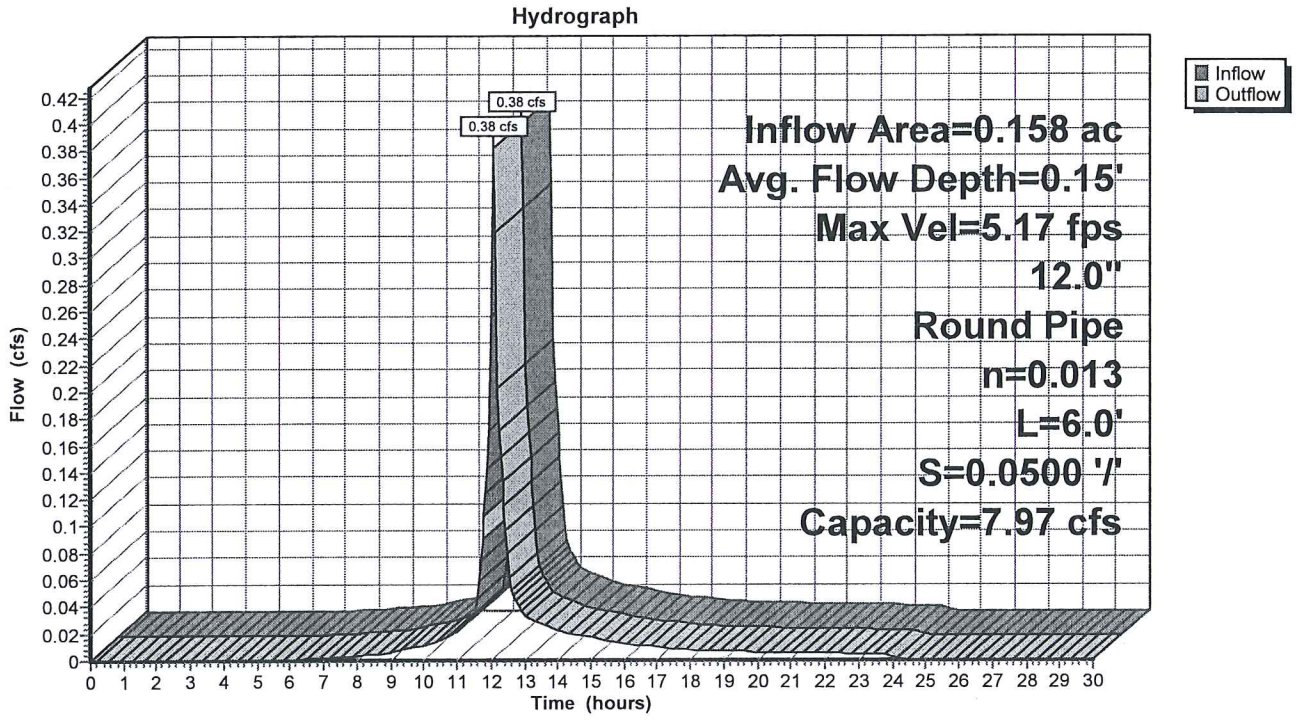
Inflow Area = 0.158 ac, 72.11% Impervious, Inflow Depth = 2.07" for 2-Year event
Inflow = 0.38 cfs @ 12.07 hrs, Volume= 0.027 af
Outflow = 0.38 cfs @ 12.07 hrs, Volume= 0.027 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.17 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.76 fps, Avg. Travel Time= 0.1 min

Peak Storage= 0 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.15'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 7.97 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 6.0' Slope= 0.0500 '/'
Inlet Invert= 1,179.60', Outlet Invert= 1,179.30'





Stage-Discharge for Reach DCB20: TO DMH#18

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.60	0.00	0.00
1,179.61	0.90	0.00
1,179.62	1.43	0.01
1,179.63	1.87	0.01
1,179.64	2.25	0.02
1,179.65	2.61	0.04
1,179.66	2.93	0.06
1,179.67	3.24	0.08
1,179.68	3.53	0.10
1,179.69	3.81	0.13
1,179.70	4.07	0.17
1,179.71	4.32	0.20
1,179.72	4.56	0.24
1,179.73	4.80	0.29
1,179.74	5.02	0.34
1,179.75	5.24	0.39
1,179.76	5.45	0.44
1,179.77	5.66	0.50
1,179.78	5.86	0.56
1,179.79	6.05	0.63
1,179.80	6.24	0.70
1,179.81	6.42	0.77
1,179.82	6.60	0.85
1,179.83	6.77	0.92
1,179.84	6.94	1.01
1,179.85	7.11	1.09
1,179.86	7.27	1.18
1,179.87	7.42	1.27
1,179.88	7.58	1.36
1,179.89	7.73	1.46
1,179.90	7.87	1.56
1,179.91	8.01	1.66
1,179.92	8.15	1.77
1,179.93	8.29	1.87
1,179.94	8.42	1.98
1,179.95	8.55	2.09
1,179.96	8.68	2.21
1,179.97	8.80	2.32
1,179.98	8.92	2.44
1,179.99	9.04	2.56
1,180.00	9.15	2.68
1,180.01	9.26	2.81
1,180.02	9.37	2.93
1,180.03	9.48	3.06
1,180.04	9.58	3.19
1,180.05	9.68	3.32
1,180.06	9.78	3.45
1,180.07	9.87	3.58
1,180.08	9.97	3.71
1,180.09	10.06	3.85
1,180.10	10.14	3.98
1,180.11	10.23	4.12
1,180.12	10.31	4.26
1,180.13	10.39	4.39
1,180.14	10.47	4.53
1,180.15	10.54	4.67
1,180.16	10.61	4.80
1,180.17	10.68	4.94
1,180.18	10.75	5.08
1,180.19	10.82	5.22
1,180.20	10.88	5.35
1,180.21	10.94	5.49
1,180.22	10.99	5.62
1,180.23	11.05	5.76
1,180.24	11.10	5.89
1,180.25	11.15	6.03
1,180.26	11.20	6.16
1,180.27	11.24	6.29
1,180.28	11.28	6.42
1,180.29	11.32	6.54
1,180.30	11.36	6.67
1,180.31	11.39	6.79
1,180.32	11.42	6.91
1,180.33	11.45	7.03
1,180.34	11.48	7.15
1,180.35	11.50	7.26
1,180.36	11.52	7.38
1,180.37	11.53	7.48
1,180.38	11.55	7.59
1,180.39	11.55	7.69
1,180.40	11.56	7.79
1,180.41	**11.56**	7.88
1,180.42	11.56	7.97
1,180.43	11.56	8.05
1,180.44	11.55	8.13
1,180.45	11.54	8.21
1,180.46	11.52	8.28
1,180.47	11.50	8.34
1,180.48	11.47	8.40
1,180.49	11.44	8.45
1,180.50	11.40	8.49
1,180.51	11.36	8.53
1,180.52	11.31	8.55
1,180.53	11.25	8.57
1,180.54	11.19	**8.57**
1,180.55	11.11	8.56
1,180.56	11.02	8.54
1,180.57	10.91	8.49
1,180.58	10.77	8.42
1,180.59	10.59	8.30
1,180.60	10.14	7.97

Summary for Reach DCB21: TO DMH#18

Inflow Area = 0.159 ac, 80.93% Impervious, Inflow Depth = 2.25" for 2-Year event
Inflow = 0.41 cfs @ 12.07 hrs, Volume= 0.030 af
Outflow = 0.41 cfs @ 12.08 hrs, Volume= 0.030 af, Atten= 1%, Lag= 0.2 min

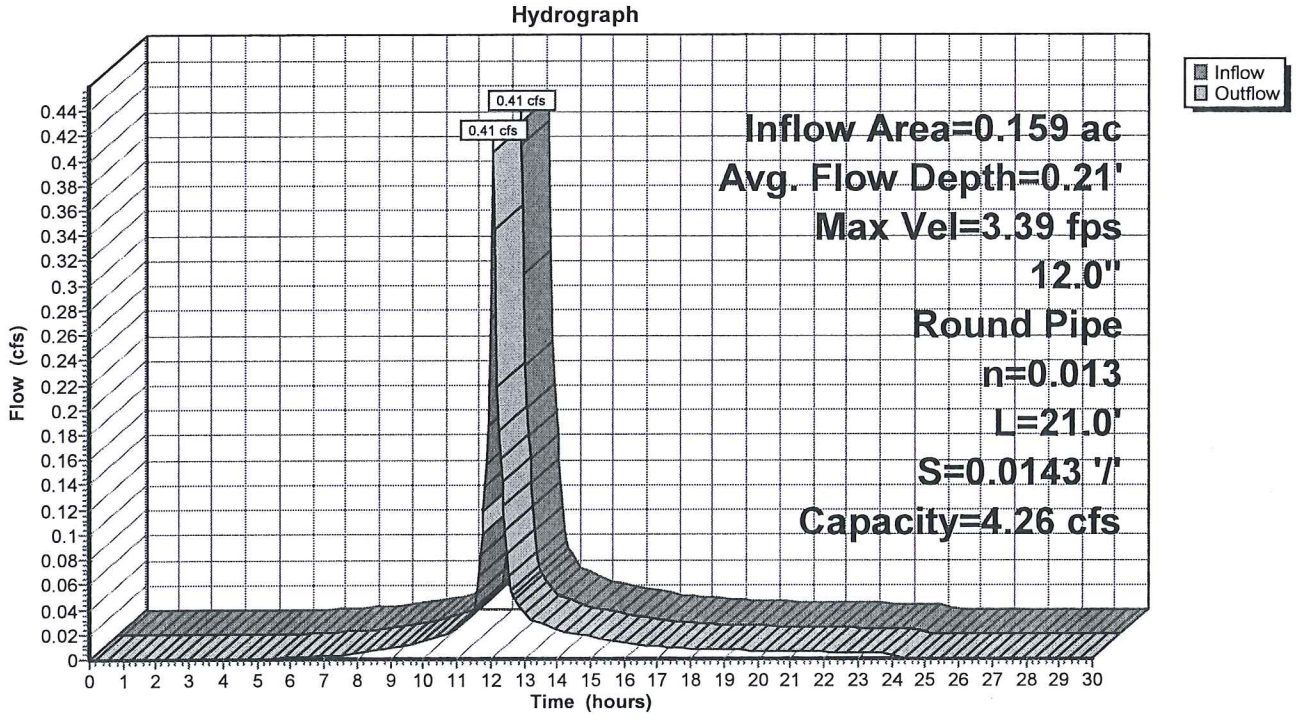
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.39 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.13 fps, Avg. Travel Time= 0.3 min

Peak Storage= 3 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.21'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.26 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 21.0' Slope= 0.0143 '/'
Inlet Invert= 1,179.60', Outlet Invert= 1,179.30'



Reach DCB21: TO DMH#18



Stage-Discharge for Reach DCB21: TO DMH#18

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.60	0.00	0.00
1,179.61	0.48	0.00
1,179.62	0.76	0.00
1,179.63	1.00	0.01
1,179.64	1.20	0.01
1,179.65	1.39	0.02
1,179.66	1.57	0.03
1,179.67	1.73	0.04
1,179.68	1.89	0.06
1,179.69	2.03	0.07
1,179.70	2.18	0.09
1,179.71	2.31	0.11
1,179.72	2.44	0.13
1,179.73	2.56	0.15
1,179.74	2.69	0.18
1,179.75	2.80	0.21
1,179.76	2.92	0.24
1,179.77	3.02	0.27
1,179.78	3.13	0.30
1,179.79	3.23	0.34
1,179.80	3.33	0.37
1,179.81	3.43	0.41
1,179.82	3.53	0.45
1,179.83	3.62	0.49
1,179.84	3.71	0.54
1,179.85	3.80	0.58
1,179.86	3.88	0.63
1,179.87	3.97	0.68
1,179.88	4.05	0.73
1,179.89	4.13	0.78
1,179.90	4.21	0.83
1,179.91	4.28	0.89
1,179.92	4.36	0.94
1,179.93	4.43	1.00
1,179.94	4.50	1.06
1,179.95	4.57	1.12
1,179.96	4.64	1.18
1,179.97	4.70	1.24
1,179.98	4.77	1.31
1,179.99	4.83	1.37
1,180.00	4.89	1.44
1,180.01	4.95	1.50
1,180.02	5.01	1.57
1,180.03	5.07	1.64
1,180.04	5.12	1.70
1,180.05	5.17	1.77
1,180.06	5.23	1.84
1,180.07	5.28	1.91
1,180.08	5.33	1.99
1,180.09	5.38	2.06
1,180.10	5.42	2.13
1,180.11	5.47	2.20
1,180.12	5.51	2.27
1,180.13	5.55	2.35
1,180.14	5.60	2.42
1,180.15	5.64	2.49
1,180.16	5.67	2.57
1,180.17	5.71	2.64
1,180.18	5.75	2.71
1,180.19	5.78	2.79
1,180.20	5.81	2.86
1,180.21	5.85	2.93
1,180.22	5.88	3.01
1,180.23	5.91	3.08
1,180.24	5.93	3.15
1,180.25	5.96	3.22
1,180.26	5.99	3.29
1,180.27	6.01	3.36
1,180.28	6.03	3.43
1,180.29	6.05	3.50
1,180.30	6.07	3.57
1,180.31	6.09	3.63
1,180.32	6.11	3.70
1,180.33	6.12	3.76
1,180.34	6.13	3.82
1,180.35	6.15	3.88
1,180.36	6.16	3.94
1,180.37	6.16	4.00
1,180.38	6.17	4.06
1,180.39	6.18	4.11
1,180.40	6.18	4.16
1,180.41	**6.18**	4.21
1,180.42	6.18	4.26
1,180.43	6.18	4.31
1,180.44	6.17	4.35
1,180.45	6.17	4.39
1,180.46	6.16	4.42
1,180.47	6.15	4.46
1,180.48	6.13	4.49
1,180.49	6.12	4.52
1,180.50	6.10	4.54
1,180.51	6.07	4.56
1,180.52	6.05	4.57
1,180.53	6.01	4.58
1,180.54	5.98	**4.58**
1,180.55	5.94	4.58
1,180.56	5.89	4.56
1,180.57	5.83	4.54
1,180.58	5.76	4.50
1,180.59	5.66	4.44
1,180.60	5.42	4.26

Summary for Reach DCB22: TO DMH#19

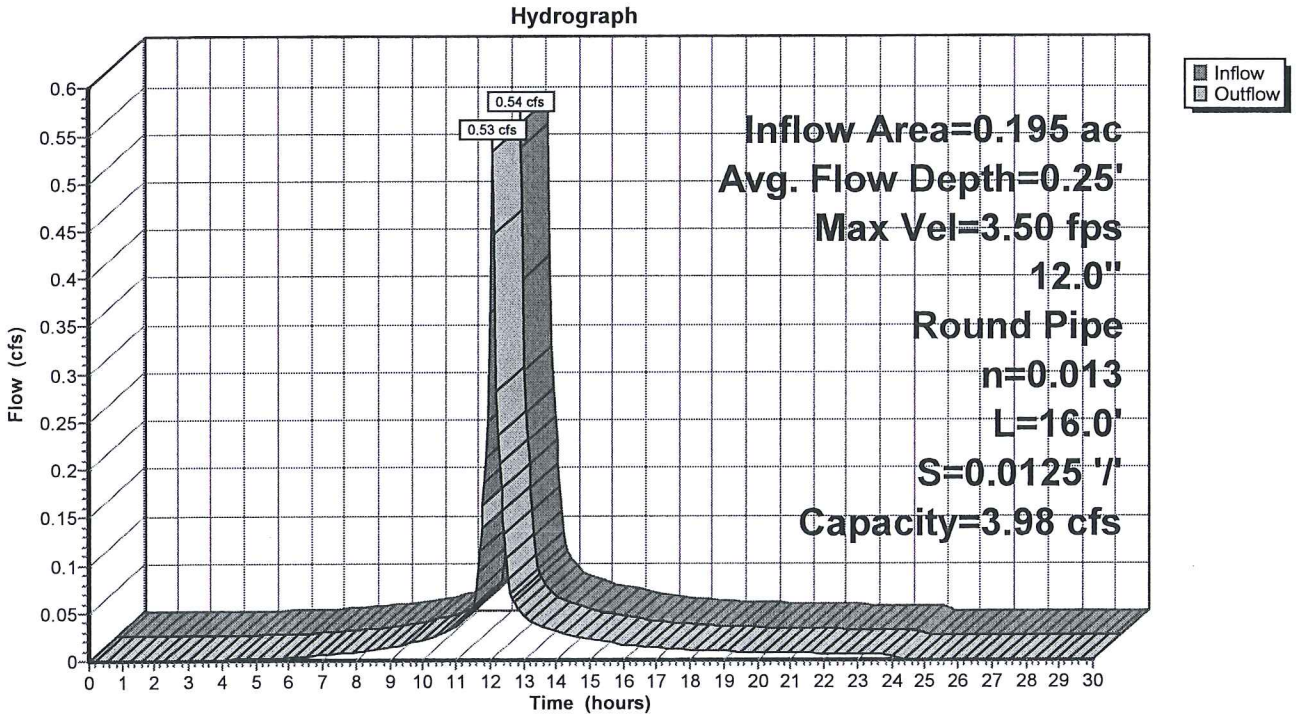
Inflow Area = 0.195 ac, 87.17% Impervious, Inflow Depth = 2.45" for 2-Year event
Inflow = 0.54 cfs @ 12.07 hrs, Volume= 0.040 af
Outflow = 0.53 cfs @ 12.07 hrs, Volume= 0.040 af, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.50 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.15 fps, Avg. Travel Time= 0.2 min

Peak Storage= 2 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.25'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.98 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 16.0' Slope= 0.0125 '/'
Inlet Invert= 1,178.50', Outlet Invert= 1,178.30'





Stage-Discharge for Reach DCB22: TO DMH#19

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.50	0.00	0.00
1,178.51	0.45	0.00
1,178.52	0.71	0.00
1,178.53	0.93	0.01
1,178.54	1.13	0.01
1,178.55	1.30	0.02
1,178.56	1.47	0.03
1,178.57	1.62	0.04
1,178.58	1.77	0.05
1,178.59	1.90	0.07
1,178.60	2.03	0.08
1,178.61	2.16	0.10
1,178.62	2.28	0.12
1,178.63	2.40	0.14
1,178.64	2.51	0.17
1,178.65	2.62	0.19
1,178.66	2.73	0.22
1,178.67	2.83	0.25
1,178.68	2.93	0.28
1,178.69	3.03	0.31
1,178.70	3.12	0.35
1,178.71	3.21	0.38
1,178.72	3.30	0.42
1,178.73	3.39	0.46
1,178.74	3.47	0.50
1,178.75	3.55	0.55
1,178.76	3.63	0.59
1,178.77	3.71	0.64
1,178.78	3.79	0.68
1,178.79	3.86	0.73
1,178.80	3.94	0.78
1,178.81	4.01	0.83
1,178.82	4.08	0.88
1,178.83	4.14	0.94
1,178.84	4.21	0.99
1,178.85	4.28	1.05
1,178.86	4.34	1.10
1,178.87	4.40	1.16
1,178.88	4.46	1.22
1,178.89	4.52	1.28
1,178.90	4.58	1.34
1,178.91	4.63	1.40
1,178.92	4.69	1.47
1,178.93	4.74	1.53
1,178.94	4.79	1.59
1,178.95	4.84	1.66
1,178.96	4.89	1.72
1,178.97	4.94	1.79
1,178.98	4.98	1.86
1,178.99	5.03	1.92
1,179.00	5.07	1.99
1,179.01	5.11	2.06
1,179.02	5.16	2.13
1,179.03	5.20	2.20
1,179.04	5.23	2.26
1,179.05	5.27	2.33
1,179.06	5.31	2.40
1,179.07	5.34	2.47
1,179.08	5.38	2.54
1,179.09	5.41	2.61
1,179.10	5.44	2.68
1,179.11	5.47	2.74
1,179.12	5.50	2.81
1,179.13	5.52	2.88
1,179.14	5.55	2.95
1,179.15	5.58	3.01
1,179.16	5.60	3.08
1,179.17	5.62	3.14
1,179.18	5.64	3.21
1,179.19	5.66	3.27
1,179.20	5.68	3.33
1,179.21	5.70	3.40
1,179.22	5.71	3.46
1,179.23	5.73	3.52
1,179.24	5.74	3.58
1,179.25	5.75	3.63
1,179.26	5.76	3.69
1,179.27	5.77	3.74
1,179.28	5.77	3.79
1,179.29	5.78	3.84
1,179.30	5.78	3.89
1,179.31	**5.78**	3.94
1,179.32	5.78	3.98
1,179.33	5.78	4.03
1,179.34	5.77	4.07
1,179.35	5.77	4.10
1,179.36	5.76	4.14
1,179.37	5.75	4.17
1,179.38	5.74	4.20
1,179.39	5.72	4.22
1,179.40	5.70	4.25
1,179.41	5.68	4.26
1,179.42	5.66	4.28
1,179.43	5.63	4.28
1,179.44	5.59	**4.28**
1,179.45	5.55	4.28
1,179.46	5.51	4.27
1,179.47	5.45	4.25
1,179.48	5.38	4.21
1,179.49	5.29	4.15
1,179.50	5.07	3.98

Summary for Reach DCB23: TO DMH#19

Inflow Area = 0.211 ac, 82.40% Impervious, Inflow Depth = 2.35" for 2-Year event
Inflow = 0.56 cfs @ 12.07 hrs, Volume= 0.041 af
Outflow = 0.56 cfs @ 12.08 hrs, Volume= 0.041 af, Atten= 1%, Lag= 0.2 min

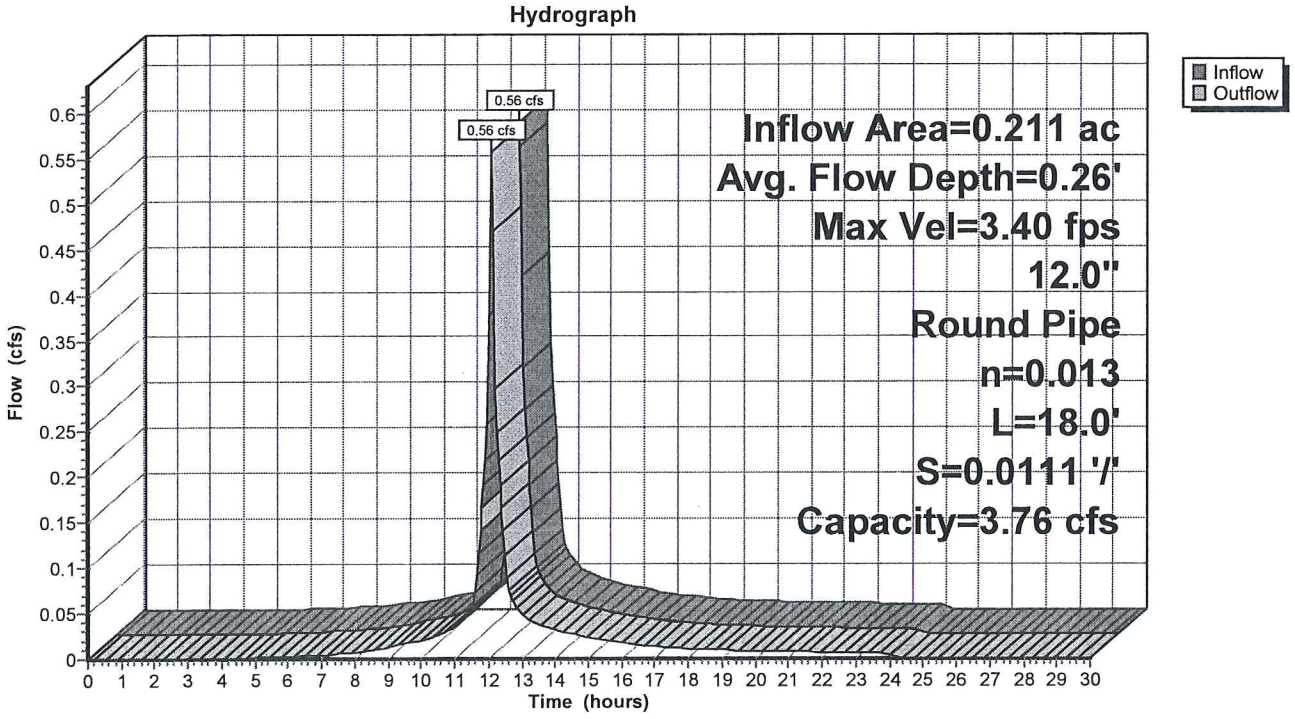
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.40 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.13 fps, Avg. Travel Time= 0.3 min

Peak Storage= 3 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.26'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.76 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 18.0' Slope= 0.0111 '/'
Inlet Invert= 1,178.50', Outlet Invert= 1,178.30'



Reach DCB23: TO DMH#19



Stage-Discharge for Reach DCB23: TO DMH#19

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.50	0.00	0.00
1,178.51	0.43	0.00
1,178.52	0.67	0.00
1,178.53	0.88	0.01
1,178.54	1.06	0.01
1,178.55	1.23	0.02
1,178.56	1.38	0.03
1,178.57	1.53	0.04
1,178.58	1.66	0.05
1,178.59	1.79	0.06
1,178.60	1.92	0.08
1,178.61	2.04	0.10
1,178.62	2.15	0.11
1,178.63	2.26	0.14
1,178.64	2.37	0.16
1,178.65	2.47	0.18
1,178.66	2.57	0.21
1,178.67	2.67	0.24
1,178.68	2.76	0.27
1,178.69	2.85	0.30
1,178.70	2.94	0.33
1,178.71	3.03	0.36
1,178.72	3.11	0.40
1,178.73	3.19	0.44
1,178.74	3.27	0.47
1,178.75	3.35	0.51
1,178.76	3.43	0.56
1,178.77	3.50	0.60
1,178.78	3.57	0.64
1,178.79	3.64	0.69
1,178.80	3.71	0.74
1,178.81	3.78	0.78
1,178.82	3.84	0.83
1,178.83	3.91	0.88
1,178.84	3.97	0.93
1,178.85	4.03	0.99
1,178.86	4.09	1.04
1,178.87	4.15	1.10
1,178.88	4.20	1.15
1,178.89	4.26	1.21
1,178.90	4.31	1.27
1,178.91	4.37	1.32
1,178.92	4.42	1.38
1,178.93	4.47	1.44
1,178.94	4.52	1.50
1,178.95	4.56	1.56
1,178.96	4.61	1.63
1,178.97	4.65	1.69
1,178.98	4.70	1.75
1,178.99	4.74	1.81
1,179.00	4.78	1.88
1,179.01	4.82	1.94
1,179.02	4.86	2.01
1,179.03	4.90	2.07
1,179.04	4.93	2.13
1,179.05	4.97	2.20
1,179.06	5.00	2.26
1,179.07	5.04	2.33
1,179.08	5.07	2.39
1,179.09	5.10	2.46
1,179.10	5.13	2.52
1,179.11	5.16	2.59
1,179.12	5.18	2.65
1,179.13	5.21	2.71
1,179.14	5.23	2.78
1,179.15	5.26	2.84
1,179.16	5.28	2.90
1,179.17	5.30	2.96
1,179.18	5.32	3.03
1,179.19	5.34	3.09
1,179.20	5.35	3.14
1,179.21	5.37	3.20
1,179.22	5.38	3.26
1,179.23	5.40	3.32
1,179.24	5.41	3.37
1,179.25	5.42	3.42
1,179.26	5.43	3.48
1,179.27	5.44	3.53
1,179.28	5.44	3.58
1,179.29	5.45	3.62
1,179.30	5.45	3.67
1,179.31	**5.45**	3.71
1,179.32	5.45	3.76
1,179.33	5.45	3.80
1,179.34	5.44	3.83
1,179.35	5.44	3.87
1,179.36	5.43	3.90
1,179.37	5.42	3.93
1,179.38	5.41	3.96
1,179.39	5.39	3.98
1,179.40	5.38	4.00
1,179.41	5.36	4.02
1,179.42	5.33	4.03
1,179.43	5.30	4.04
1,179.44	5.27	**4.04**
1,179.45	5.24	4.04
1,179.46	5.19	4.02
1,179.47	5.14	4.00
1,179.48	5.08	3.97
1,179.49	4.99	3.91
1,179.50	4.78	3.76

Summary for Reach DCB3: TO DMH#1

Inflow Area = 0.229 ac, 89.92% Impervious, Inflow Depth = 2.55" for 2-Year event
Inflow = 0.65 cfs @ 12.07 hrs, Volume= 0.049 af
Outflow = 0.63 cfs @ 12.08 hrs, Volume= 0.049 af, Atten= 2%, Lag= 0.7 min

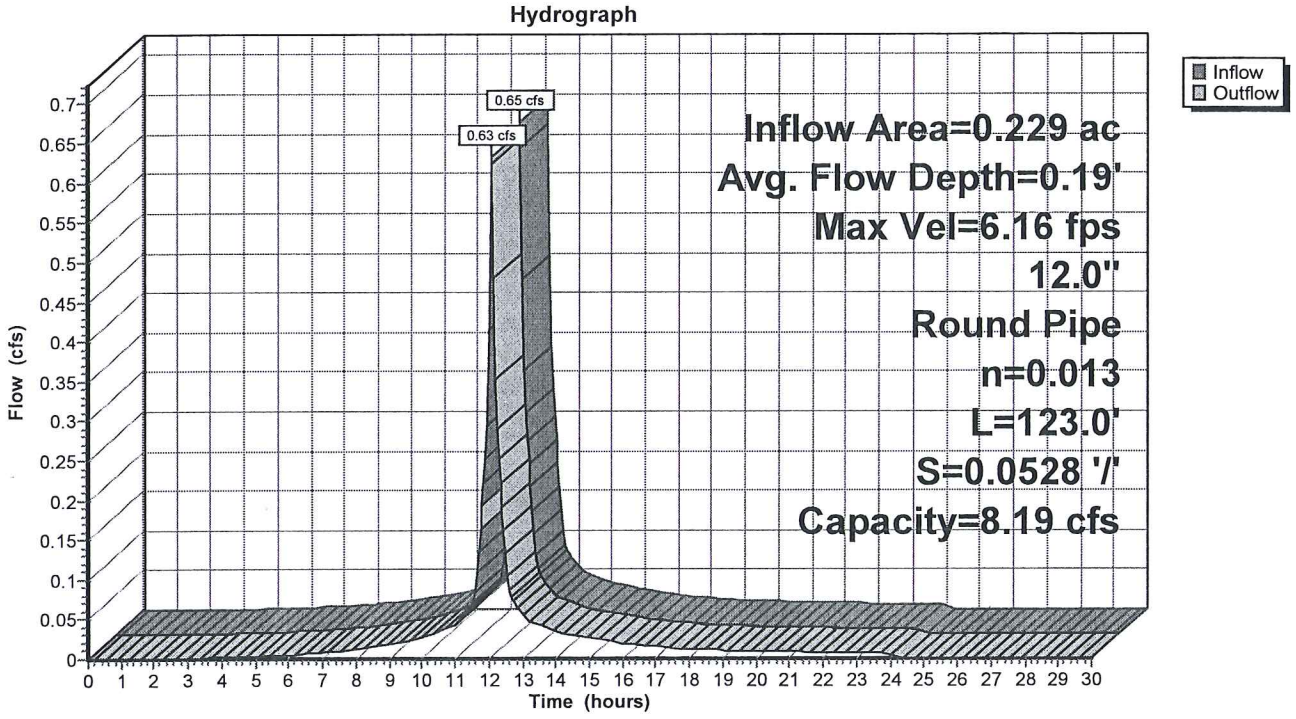
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.16 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.02 fps, Avg. Travel Time= 1.0 min

Peak Storage= 13 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.19'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.19 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 123.0' Slope= 0.0528 '/'
Inlet Invert= 1,181.80', Outlet Invert= 1,175.30'



Reach DCB3: TO DMH#1



Stage-Discharge for Reach DCB3: TO DMH#1

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,181.80	0.00	0.00
1,181.81	0.93	0.00
1,181.82	1.47	0.01
1,181.83	1.92	0.01
1,181.84	2.32	0.02
1,181.85	2.68	0.04
1,181.86	3.02	0.06
1,181.87	3.33	0.08
1,181.88	3.63	0.11
1,181.89	3.91	0.14
1,181.90	4.18	0.17
1,181.91	4.44	0.21
1,181.92	4.69	0.25
1,181.93	4.93	0.30
1,181.94	5.16	0.35
1,181.95	5.39	0.40
1,181.96	5.61	0.45
1,181.97	5.82	0.52
1,181.98	6.02	0.58
1,181.99	6.22	0.65
1,182.00	6.41	0.72
1,182.01	6.60	0.79
1,182.02	6.79	0.87
1,182.03	6.96	0.95
1,182.04	7.14	1.03
1,182.05	7.31	1.12
1,182.06	7.47	1.21
1,182.07	7.63	1.31
1,182.08	7.79	1.40
1,182.09	7.94	1.50
1,182.10	8.09	1.60
1,182.11	8.24	1.71
1,182.12	8.38	1.82
1,182.13	8.52	1.93
1,182.14	8.66	2.04
1,182.15	8.79	2.15
1,182.16	8.92	2.27
1,182.17	9.05	2.39
1,182.18	9.17	2.51
1,182.19	9.29	2.63
1,182.20	9.41	2.76
1,182.21	9.52	2.89
1,182.22	9.63	3.02
1,182.23	9.74	3.15
1,182.24	9.85	3.28
1,182.25	9.95	3.41
1,182.26	10.05	3.55
1,182.27	10.15	3.68
1,182.28	10.25	3.82
1,182.29	10.34	3.96
1,182.30	10.43	4.10
1,182.31	10.52	4.23
1,182.32	10.60	4.37
1,182.33	10.68	4.52
1,182.34	10.76	4.66
1,182.35	10.84	4.80
1,182.36	10.91	4.94
1,182.37	10.98	5.08
1,182.38	11.05	5.22
1,182.39	11.12	5.36
1,182.40	11.18	5.50
1,182.41	11.24	5.64
1,182.42	11.30	5.78
1,182.43	11.36	5.92
1,182.44	11.41	6.06
1,182.45	11.46	6.20
1,182.46	11.51	6.33
1,182.47	11.56	6.46
1,182.48	11.60	6.60
1,182.49	11.64	6.73
1,182.50	11.68	6.86
1,182.51	11.71	6.98
1,182.52	11.74	7.11
1,182.53	11.77	7.23
1,182.54	11.80	7.35
1,182.55	11.82	7.47
1,182.56	11.84	7.58
1,182.57	11.86	7.69
1,182.58	11.87	7.80
1,182.59	11.88	7.91
1,182.60	11.89	8.01
1,182.61	**11.89**	8.10
1,182.62	11.89	8.19
1,182.63	11.88	8.28
1,182.64	11.87	8.36
1,182.65	11.86	8.44
1,182.66	11.84	8.51
1,182.67	11.82	8.58
1,182.68	11.80	8.63
1,182.69	11.76	8.69
1,182.70	11.72	8.73
1,182.71	11.68	8.76
1,182.72	11.63	8.79
1,182.73	11.57	8.81
1,182.74	11.50	**8.81**
1,182.75	11.42	8.80
1,182.76	11.32	8.77
1,182.77	11.21	8.73
1,182.78	11.07	8.65
1,182.79	10.88	8.53
1,182.80	10.43	8.19

Summary for Reach DCB4: TO DMH#5

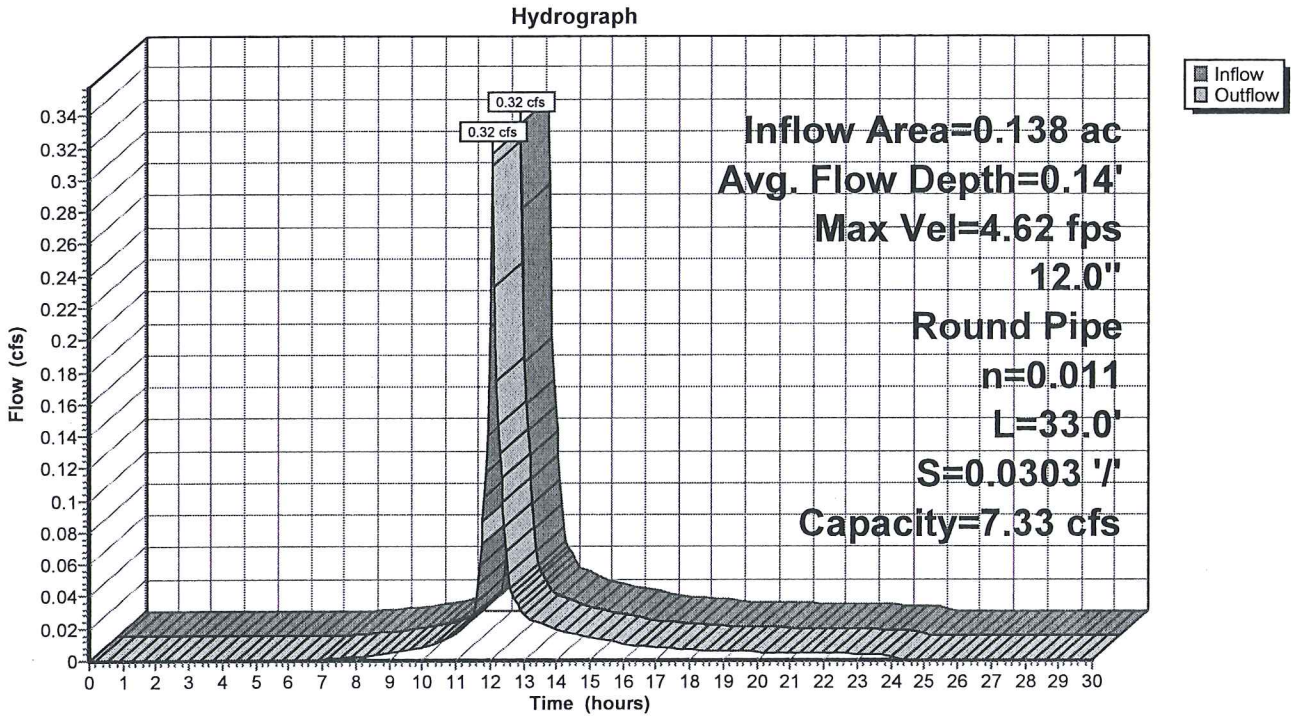
Inflow Area = 0.138 ac, 68.08% Impervious, Inflow Depth = 1.98" for 2-Year event
Inflow = 0.32 cfs @ 12.07 hrs, Volume= 0.023 af
Outflow = 0.32 cfs @ 12.08 hrs, Volume= 0.023 af, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.62 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.59 fps, Avg. Travel Time= 0.3 min

Peak Storage= 2 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.14'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 7.33 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 33.0' Slope= 0.0303 '/'
Inlet Invert= 1,173.00', Outlet Invert= 1,172.00'





Stage-Discharge for Reach DCB4: TO DMH#5

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,173.00	0.00	0.00
1,173.01	0.83	0.00
1,173.02	1.31	0.00
1,173.03	1.72	0.01
1,173.04	2.07	0.02
1,173.05	2.40	0.04
1,173.06	2.70	0.05
1,173.07	2.98	0.07
1,173.08	3.25	0.10
1,173.09	3.50	0.12
1,173.10	3.74	0.15
1,173.11	3.98	0.19
1,173.12	4.20	0.22
1,173.13	4.41	0.26
1,173.14	4.62	0.31
1,173.15	4.82	0.36
1,173.16	5.02	0.41
1,173.17	5.21	0.46
1,173.18	5.39	0.52
1,173.19	5.57	0.58
1,173.20	5.74	0.64
1,173.21	5.91	0.71
1,173.22	6.07	0.78
1,173.23	6.23	0.85
1,173.24	6.39	0.93
1,173.25	6.54	1.00
1,173.26	6.69	1.09
1,173.27	6.83	1.17
1,173.28	6.97	1.26
1,173.29	7.11	1.34
1,173.30	7.24	1.44
1,173.31	7.37	1.53
1,173.32	7.50	1.63
1,173.33	7.63	1.72
1,173.34	7.75	1.82
1,173.35	7.87	1.93
1,173.36	7.98	2.03
1,173.37	8.10	2.14
1,173.38	8.21	2.25
1,173.39	8.31	2.36
1,173.40	8.42	2.47
1,173.41	8.52	2.58
1,173.42	8.62	2.70
1,173.43	8.72	2.82
1,173.44	8.81	2.93
1,173.45	8.91	3.05
1,173.46	9.00	3.17
1,173.47	9.08	3.29
1,173.48	9.17	3.42
1,173.49	9.25	3.54
1,173.50	9.33	3.66
1,173.51	9.41	3.79
1,173.52	9.49	3.91
1,173.53	9.56	4.04
1,173.54	9.63	4.17
1,173.55	9.70	4.29
1,173.56	9.77	4.42
1,173.57	9.83	4.55
1,173.58	9.89	4.67
1,173.59	9.95	4.80
1,173.60	10.01	4.92
1,173.61	10.06	5.05
1,173.62	10.12	5.17
1,173.63	10.17	5.30
1,173.64	10.21	5.42
1,173.65	10.26	5.54
1,173.66	10.30	5.67
1,173.67	10.34	5.79
1,173.68	10.38	5.90
1,173.69	10.42	6.02
1,173.70	10.45	6.14
1,173.71	10.48	6.25
1,173.72	10.51	6.36
1,173.73	10.53	6.47
1,173.74	10.56	6.58
1,173.75	10.58	6.68
1,173.76	10.60	6.79
1,173.77	10.61	6.89
1,173.78	10.62	6.98
1,173.79	10.63	7.07
1,173.80	10.64	7.16
1,173.81	**10.64**	7.25
1,173.82	10.64	7.33
1,173.83	10.63	7.41
1,173.84	10.63	7.48
1,173.85	10.61	7.55
1,173.86	10.60	7.62
1,173.87	10.58	7.67
1,173.88	10.56	7.73
1,173.89	10.53	7.77
1,173.90	10.49	7.81
1,173.91	10.45	7.84
1,173.92	10.41	7.87
1,173.93	10.35	7.88
1,173.94	10.29	**7.88**
1,173.95	10.22	7.88
1,173.96	10.13	7.85
1,173.97	10.03	7.81
1,173.98	9.91	7.75
1,173.99	9.74	7.64
1,174.00	9.33	7.33

Summary for Reach DCBG: TO DMH#3

Inflow Area = 0.273 ac, 45.12% Impervious, Inflow Depth = 1.59" for 2-Year event
Inflow = 0.51 cfs @ 12.08 hrs, Volume= 0.036 af
Outflow = 0.51 cfs @ 12.08 hrs, Volume= 0.036 af, Atten= 0%, Lag= 0.1 min

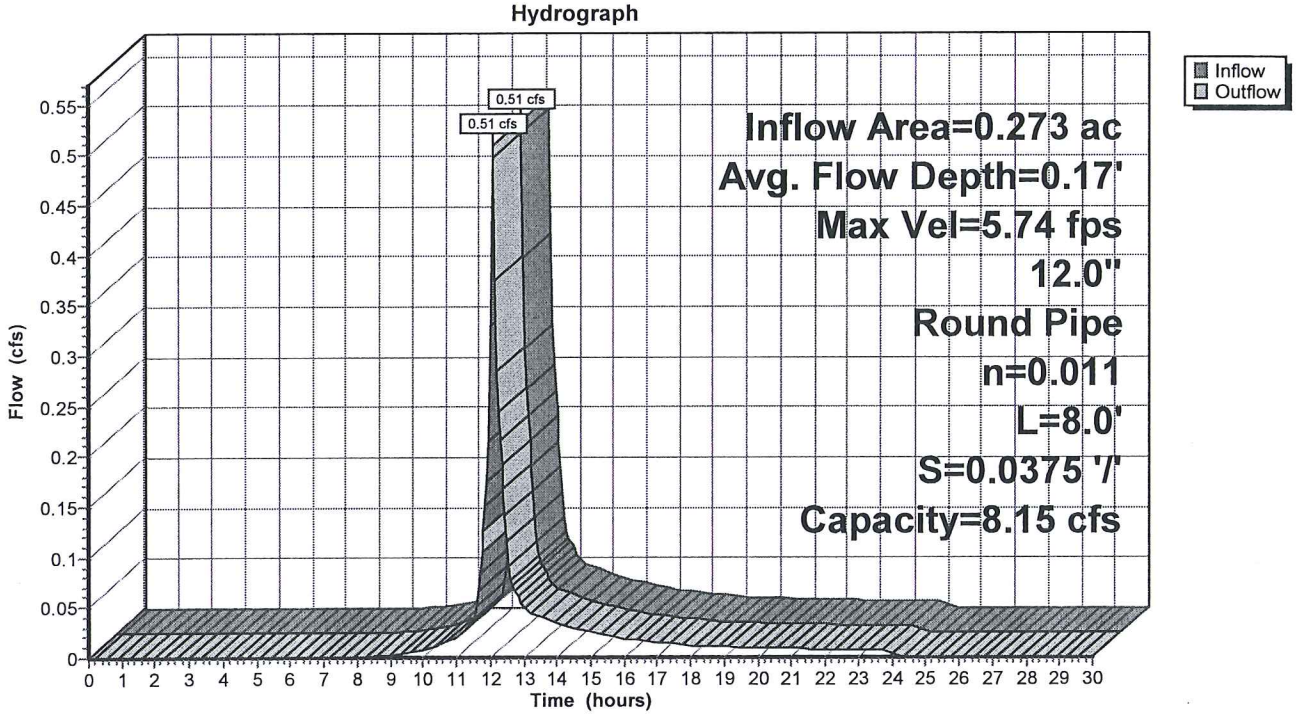
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.74 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.05 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.17'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.15 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 8.0' Slope= 0.0375 '/'
Inlet Invert= 1,174.80', Outlet Invert= 1,174.50'



Reach DCBG: TO DMH#3



Stage-Discharge for Reach DCBG: TO DMH#3

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,174.80	0.00	0.00
1,174.81	0.92	0.00
1,174.82	1.46	0.01
1,174.83	1.91	0.01
1,174.84	2.31	0.02
1,174.85	2.67	0.04
1,174.86	3.00	0.06
1,174.87	3.32	0.08
1,174.88	3.61	0.11
1,174.89	3.90	0.14
1,174.90	4.16	0.17
1,174.91	4.42	0.21
1,174.92	4.67	0.25
1,174.93	4.91	0.29
1,174.94	5.14	0.34
1,174.95	5.37	0.40
1,174.96	5.58	0.45
1,174.97	5.79	0.51
1,174.98	6.00	0.58
1,174.99	6.19	0.64
1,175.00	6.39	0.71
1,175.01	6.57	0.79
1,175.02	6.75	0.87
1,175.03	6.93	0.95
1,175.04	7.11	1.03
1,175.05	7.27	1.12
1,175.06	7.44	1.21
1,175.07	7.60	1.30
1,175.08	7.76	1.40
1,175.09	7.91	1.50
1,175.10	8.06	1.60
1,175.11	8.20	1.70
1,175.12	8.35	1.81
1,175.13	8.48	1.92
1,175.14	8.62	2.03
1,175.15	8.75	2.14
1,175.16	8.88	2.26
1,175.17	9.01	2.38
1,175.18	9.13	2.50
1,175.19	9.25	2.62
1,175.20	9.37	2.75
1,175.21	9.48	2.87
1,175.22	9.59	3.00
1,175.23	9.70	3.13
1,175.24	9.81	3.26
1,175.25	9.91	3.40
1,175.26	10.01	3.53
1,175.27	10.11	3.67
1,175.28	10.20	3.80
1,175.29	10.29	3.94
1,175.30	10.38	4.08
1,175.31	10.47	4.22
1,175.32	10.55	4.36
1,175.33	10.63	4.49
1,175.34	10.71	4.64
1,175.35	10.79	4.78
1,175.36	10.86	4.92
1,175.37	10.94	5.06
1,175.38	11.00	5.20
1,175.39	11.07	5.34
1,175.40	11.13	5.48
1,175.41	11.19	5.62
1,175.42	11.25	5.76
1,175.43	11.31	5.89
1,175.44	11.36	6.03
1,175.45	11.41	6.17
1,175.46	11.46	6.30
1,175.47	11.51	6.44
1,175.48	11.55	6.57
1,175.49	11.59	6.70
1,175.50	11.63	6.83
1,175.51	11.66	6.95
1,175.52	11.69	7.08
1,175.53	11.72	7.20
1,175.54	11.74	7.32
1,175.55	11.77	7.44
1,175.56	11.79	7.55
1,175.57	11.80	7.66
1,175.58	11.82	7.77
1,175.59	11.83	7.87
1,175.60	11.83	7.97
1,175.61	**11.84**	8.07
1,175.62	11.83	8.16
1,175.63	11.83	8.24
1,175.64	11.82	8.33
1,175.65	11.81	8.40
1,175.66	11.79	8.47
1,175.67	11.77	8.54
1,175.68	11.74	8.60
1,175.69	11.71	8.65
1,175.70	11.67	8.69
1,175.71	11.63	8.73
1,175.72	11.58	8.75
1,175.73	11.52	8.77
1,175.74	11.45	**8.77**
1,175.75	11.37	8.76
1,175.76	11.27	8.74
1,175.77	11.16	8.69
1,175.78	11.02	8.62
1,175.79	10.84	8.50
1,175.80	10.38	8.15

Summary for Reach DCBI: TO DCB-F

Inflow Area = 0.058 ac, 56.44% Impervious, Inflow Depth = 1.82" for 2-Year event
Inflow = 0.12 cfs @ 12.08 hrs, Volume= 0.009 af
Outflow = 0.12 cfs @ 12.10 hrs, Volume= 0.009 af, Atten= 2%, Lag= 1.2 min

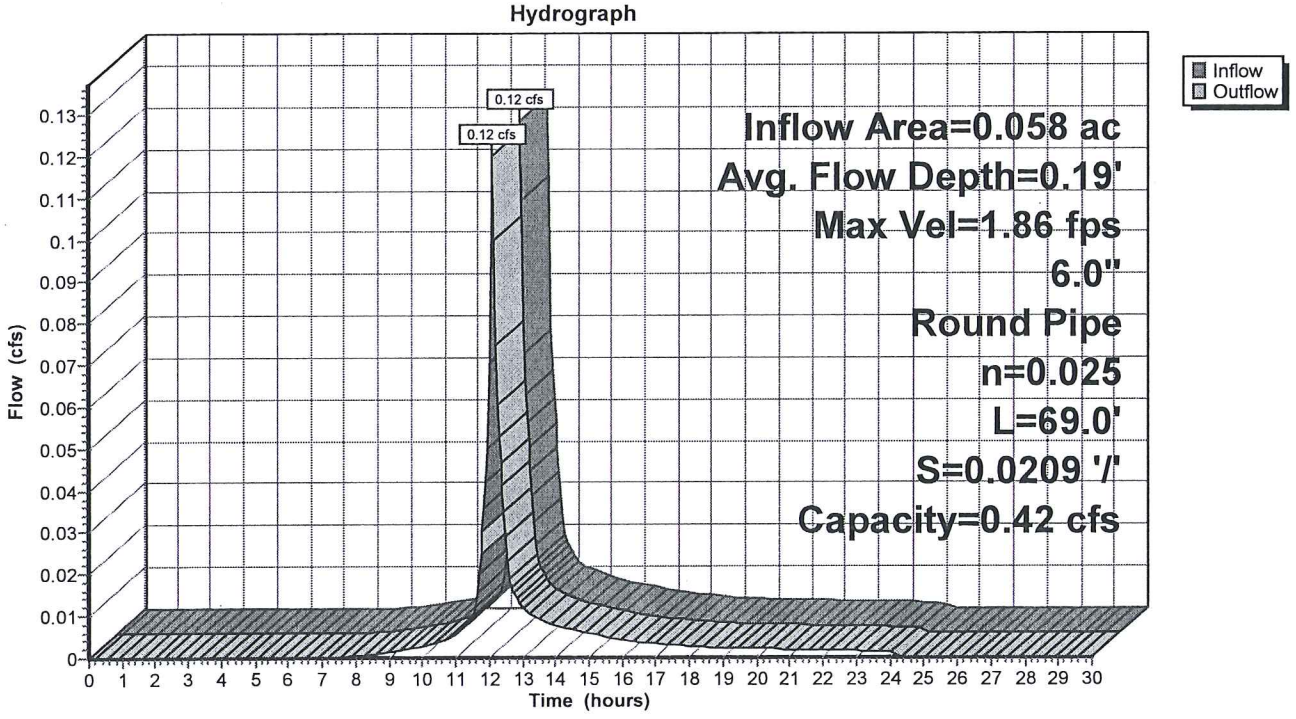
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.86 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 0.65 fps, Avg. Travel Time= 1.8 min

Peak Storage= 5 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.19'
Bank-Full Depth= 0.50' Flow Area= 0.2 sf, Capacity= 0.42 cfs

6.0" Round Pipe
n= 0.025 Corrugated metal
Length= 69.0' Slope= 0.0209 '/'
Inlet Invert= 1,175.50', Outlet Invert= 1,174.06'



Reach DCBI: TO DCB-F



Stage-Discharge for Reach DCBI: TO DCB-F

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.50	0.00	0.00
1,175.51	0.30	0.00
1,175.52	0.48	0.00
1,175.53	0.62	0.00
1,175.54	0.75	0.01
1,175.55	0.86	0.01
1,175.56	0.97	0.01
1,175.57	1.06	0.02
1,175.58	1.15	0.02
1,175.59	1.24	0.03
1,175.60	1.32	0.04
1,175.61	1.40	0.04
1,175.62	1.47	0.05
1,175.63	1.54	0.06
1,175.64	1.60	0.07
1,175.65	1.67	0.08
1,175.66	1.73	0.09
1,175.67	1.78	0.10
1,175.68	1.84	0.12
1,175.69	1.89	0.13
1,175.70	1.94	0.14
1,175.71	1.98	0.16
1,175.72	2.03	0.17
1,175.73	2.07	0.18
1,175.74	2.11	0.20
1,175.75	2.15	0.21
1,175.76	2.18	0.23
1,175.77	2.22	0.24
1,175.78	2.25	0.25
1,175.79	2.28	0.27
1,175.80	2.30	0.28
1,175.81	2.33	0.30
1,175.82	2.35	0.31
1,175.83	2.37	0.33
1,175.84	2.39	0.34
1,175.85	2.40	0.35
1,175.86	2.42	0.37
1,175.87	2.43	0.38
1,175.88	2.44	0.39
1,175.89	2.44	0.40
1,175.90	2.45	0.41
1,175.91	**2.45**	0.42
1,175.92	2.44	0.43
1,175.93	2.44	0.44
1,175.94	2.43	0.44
1,175.95	2.41	0.45
1,175.96	2.39	0.45
1,175.97	2.37	**0.45**
1,175.98	2.33	0.45
1,175.99	2.28	0.45
1,176.00	2.15	0.42

Summary for Reach DMH1: TO DMH#2

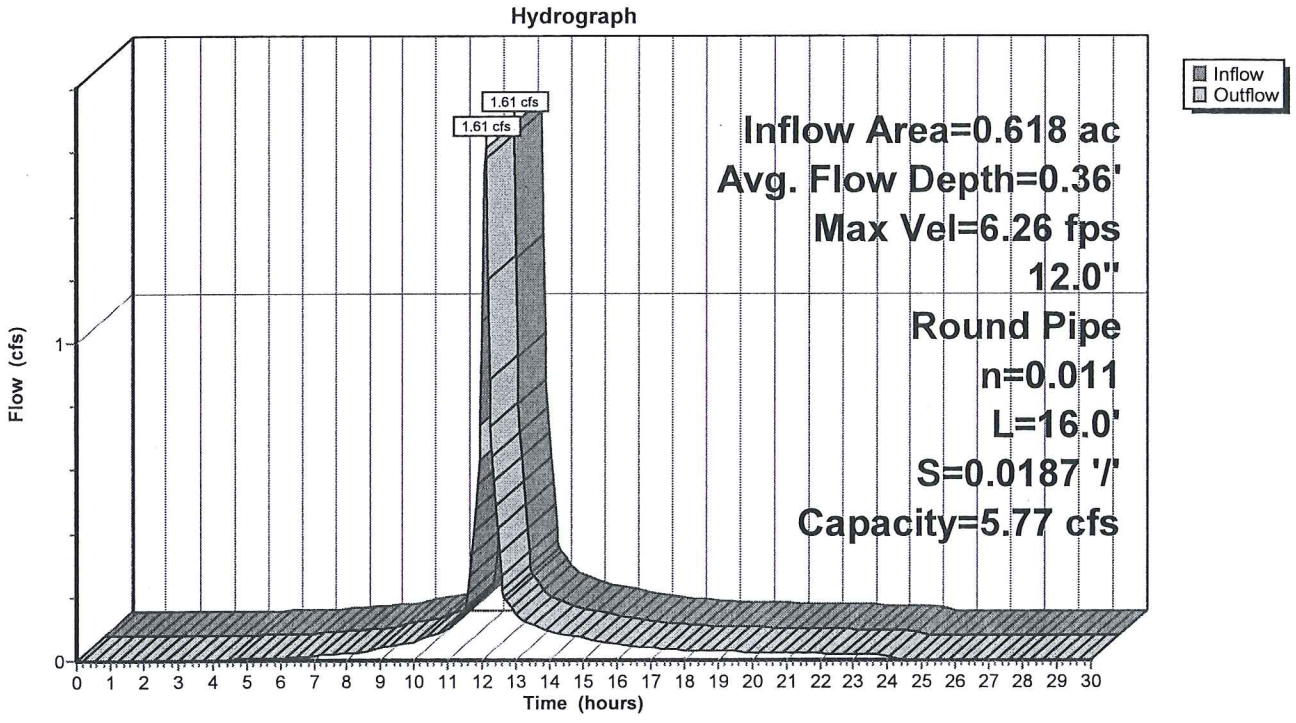
Inflow Area = 0.618 ac, 81.95% Impervious, Inflow Depth = 2.35" for 2-Year event
Inflow = 1.61 cfs @ 12.08 hrs, Volume= 0.121 af
Outflow = 1.61 cfs @ 12.08 hrs, Volume= 0.121 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.26 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.03 fps, Avg. Travel Time= 0.1 min

Peak Storage= 4 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.36'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.77 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 16.0' Slope= 0.0187 '/'
Inlet Invert= 1,175.00', Outlet Invert= 1,174.70'





Stage-Discharge for Reach DMH1: TO DMH#2

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.00	0.00	0.00
1,175.01	0.65	0.00
1,175.02	1.03	0.00
1,175.03	1.35	0.01
1,175.04	1.63	0.02
1,175.05	1.89	0.03
1,175.06	2.12	0.04
1,175.07	2.34	0.06
1,175.08	2.55	0.08
1,175.09	2.75	0.10
1,175.10	2.94	0.12
1,175.11	3.13	0.15
1,175.12	3.30	0.18
1,175.13	3.47	0.21
1,175.14	3.64	0.24
1,175.15	3.79	0.28
1,175.16	3.95	0.32
1,175.17	4.10	0.36
1,175.18	4.24	0.41
1,175.19	4.38	0.45
1,175.20	4.52	0.50
1,175.21	4.65	0.56
1,175.22	4.78	0.61
1,175.23	4.90	0.67
1,175.24	5.02	0.73
1,175.25	5.14	0.79
1,175.26	5.26	0.85
1,175.27	5.37	0.92
1,175.28	5.48	0.99
1,175.29	5.59	1.06
1,175.30	5.70	1.13
1,175.31	5.80	1.20
1,175.32	5.90	1.28
1,175.33	6.00	1.36
1,175.34	6.09	1.44
1,175.35	6.19	1.52
1,175.36	6.28	1.60
1,175.37	6.37	1.68
1,175.38	6.46	1.77
1,175.39	6.54	1.85
1,175.40	6.62	1.94
1,175.41	6.70	2.03
1,175.42	6.78	2.12
1,175.43	6.86	2.21
1,175.44	6.93	2.31
1,175.45	7.01	2.40
1,175.46	7.08	2.50
1,175.47	7.15	2.59
1,175.48	7.21	2.69
1,175.49	7.28	2.79
1,175.50	7.34	2.88
1,175.51	7.40	2.98
1,175.52	7.46	3.08
1,175.53	7.52	3.18
1,175.54	7.58	3.28
1,175.55	7.63	3.38
1,175.56	7.68	3.48
1,175.57	7.73	3.58
1,175.58	7.78	3.68
1,175.59	7.83	3.77
1,175.60	7.87	3.87
1,175.61	7.92	3.97
1,175.62	7.96	4.07
1,175.63	8.00	4.17
1,175.64	8.03	4.26
1,175.65	8.07	4.36
1,175.66	8.10	4.46
1,175.67	8.14	4.55
1,175.68	8.17	4.64
1,175.69	8.19	4.74
1,175.70	8.22	4.83
1,175.71	8.24	4.92
1,175.72	8.27	5.00
1,175.73	8.29	5.09
1,175.74	8.30	5.18
1,175.75	8.32	5.26
1,175.76	8.33	5.34
1,175.77	8.35	5.42
1,175.78	8.36	5.49
1,175.79	8.36	5.57
1,175.80	8.37	5.64
1,175.81	**8.37**	5.70
1,175.82	8.37	5.77
1,175.83	8.36	5.83
1,175.84	8.36	5.89
1,175.85	8.35	5.94
1,175.86	8.34	5.99
1,175.87	8.32	6.04
1,175.88	8.30	6.08
1,175.89	8.28	6.11
1,175.90	8.25	6.14
1,175.91	8.22	6.17
1,175.92	8.19	6.19
1,175.93	8.14	6.20
1,175.94	8.09	**6.20**
1,175.95	8.04	6.20
1,175.96	7.97	6.18
1,175.97	7.89	6.14
1,175.98	7.79	6.09
1,175.99	7.66	6.01
1,176.00	7.34	5.77

Summary for Reach DMH10: TO DMH#12

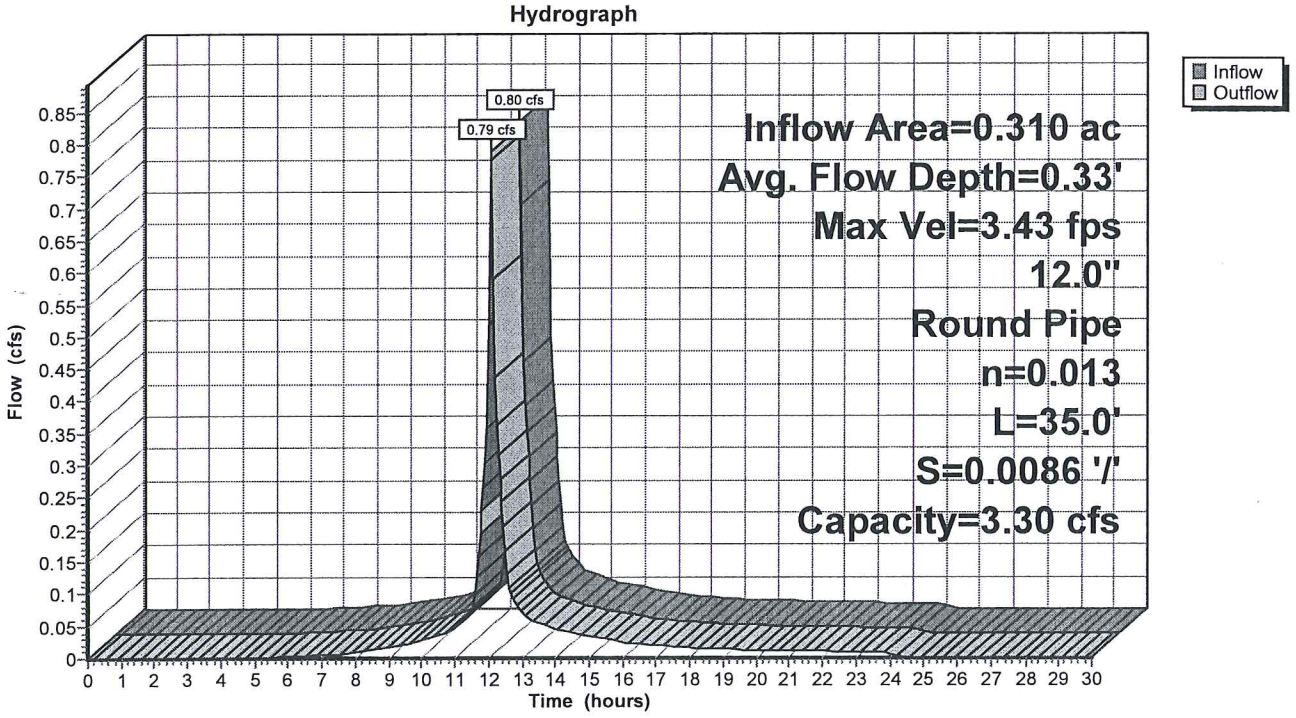
Inflow Area = 0.310 ac, 78.60% Impervious, Inflow Depth = 2.25" for 2-Year event
Inflow = 0.80 cfs @ 12.07 hrs, Volume= 0.058 af
Outflow = 0.79 cfs @ 12.08 hrs, Volume= 0.058 af, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.43 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.15 fps, Avg. Travel Time= 0.5 min

Peak Storage= 8 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.33'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.30 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 35.0' Slope= 0.0086 '/'
Inlet Invert= 1,178.90', Outlet Invert= 1,178.60'





Stage-Discharge for Reach DMH10: TO DMH#12

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.90	0.00	0.00
1,178.91	0.37	0.00
1,178.92	0.59	0.00
1,178.93	0.77	0.01
1,178.94	0.93	0.01
1,178.95	1.08	0.02
1,178.96	1.21	0.02
1,178.97	1.34	0.03
1,178.98	1.46	0.04
1,178.99	1.58	0.06
1,179.00	1.68	0.07
1,179.01	1.79	0.08
1,179.02	1.89	0.10
1,179.03	1.99	0.12
1,179.04	2.08	0.14
1,179.05	2.17	0.16
1,179.06	2.26	0.18
1,179.07	2.34	0.21
1,179.08	2.43	0.23
1,179.09	2.51	0.26
1,179.10	2.58	0.29
1,179.11	2.66	0.32
1,179.12	2.73	0.35
1,179.13	2.80	0.38
1,179.14	2.87	0.42
1,179.15	2.94	0.45
1,179.16	3.01	0.49
1,179.17	3.07	0.53
1,179.18	3.14	0.56
1,179.19	3.20	0.60
1,179.20	3.26	0.65
1,179.21	3.32	0.69
1,179.22	3.38	0.73
1,179.23	3.43	0.78
1,179.24	3.49	0.82
1,179.25	3.54	0.87
1,179.26	3.59	0.91
1,179.27	3.64	0.96
1,179.28	3.69	1.01
1,179.29	3.74	1.06
1,179.30	3.79	1.11
1,179.31	3.84	1.16
1,179.32	3.88	1.21
1,179.33	3.92	1.27
1,179.34	3.97	1.32
1,179.35	4.01	1.37
1,179.36	4.05	1.43
1,179.37	4.09	1.48
1,179.38	4.13	1.54
1,179.39	4.16	1.59
1,179.40	4.20	1.65
1,179.41	4.23	1.71
1,179.42	4.27	1.76
1,179.43	4.30	1.82
1,179.44	4.33	1.88
1,179.45	4.36	1.93
1,179.46	4.39	1.99
1,179.47	4.42	2.05
1,179.48	4.45	2.10
1,179.49	4.48	2.16
1,179.50	4.50	2.22
1,179.51	4.53	2.27
1,179.52	4.55	2.33
1,179.53	4.57	2.38
1,179.54	4.60	2.44
1,179.55	4.62	2.50
1,179.56	4.64	2.55
1,179.57	4.65	2.60
1,179.58	4.67	2.66
1,179.59	4.69	2.71
1,179.60	4.70	2.76
1,179.61	4.72	2.81
1,179.62	4.73	2.86
1,179.63	4.74	2.91
1,179.64	4.75	2.96
1,179.65	4.76	3.01
1,179.66	4.77	3.05
1,179.67	4.77	3.10
1,179.68	4.78	3.14
1,179.69	4.78	3.18
1,179.70	4.79	3.22
1,179.71	**4.79**	3.26
1,179.72	4.79	3.30
1,179.73	4.79	3.33
1,179.74	4.78	3.37
1,179.75	4.78	3.40
1,179.76	4.77	3.43
1,179.77	4.76	3.45
1,179.78	4.75	3.48
1,179.79	4.74	3.50
1,179.80	4.72	3.52
1,179.81	4.70	3.53
1,179.82	4.68	3.54
1,179.83	4.66	3.55
1,179.84	4.63	**3.55**
1,179.85	4.60	3.54
1,179.86	4.56	3.53
1,179.87	4.52	3.52
1,179.88	4.46	3.49
1,179.89	4.38	3.44
1,179.90	4.20	3.30

Summary for Reach DMH11: TO DMH#12

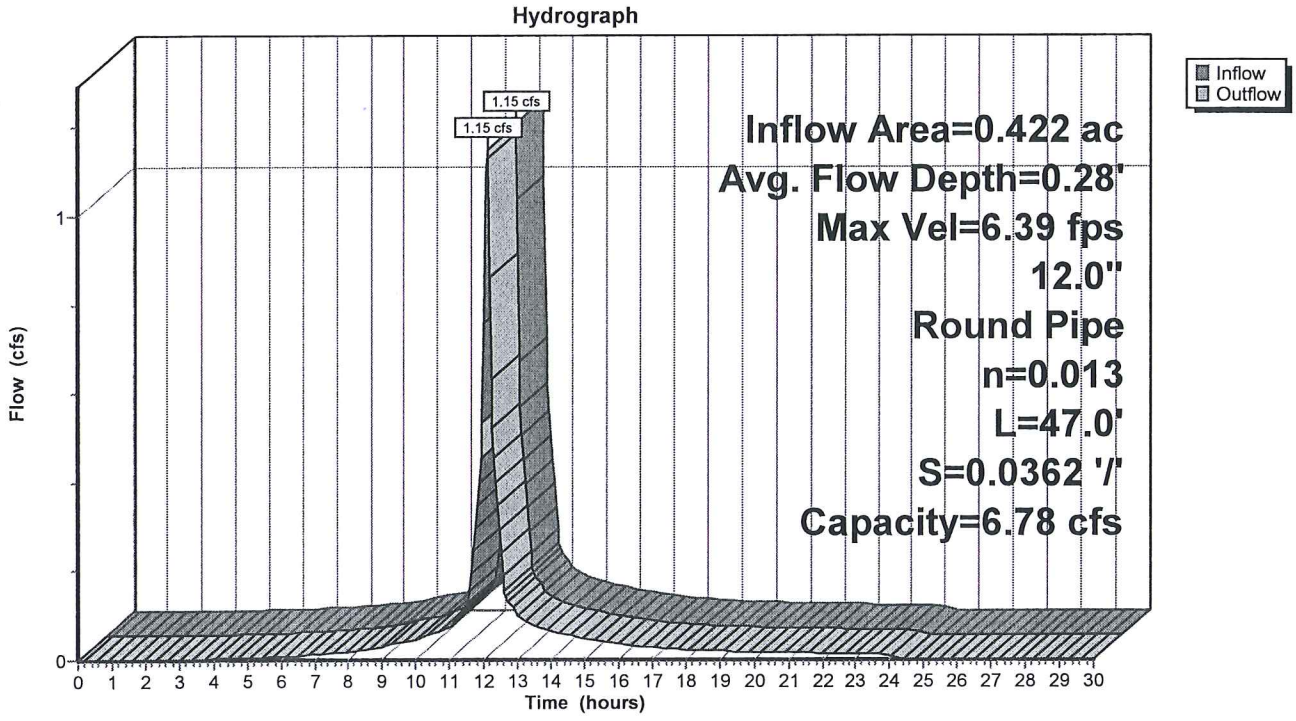
Inflow Area = 0.422 ac, 88.35% Impervious, Inflow Depth = 2.49" for 2-Year event
Inflow = 1.15 cfs @ 12.08 hrs, Volume= 0.088 af
Outflow = 1.15 cfs @ 12.08 hrs, Volume= 0.088 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.39 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.08 fps, Avg. Travel Time= 0.4 min

Peak Storage= 8 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.28'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.78 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 47.0' Slope= 0.0362 '/'
Inlet Invert= 1,180.30', Outlet Invert= 1,178.60'





Stage-Discharge for Reach DMH11: TO DMH#12

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.30	0.00	0.00
1,180.31	0.77	0.00
1,180.32	1.21	0.00
1,180.33	1.59	0.01
1,180.34	1.92	0.02
1,180.35	2.22	0.03
1,180.36	2.49	0.05
1,180.37	2.76	0.07
1,180.38	3.00	0.09
1,180.39	3.24	0.11
1,180.40	3.46	0.14
1,180.41	3.68	0.17
1,180.42	3.88	0.21
1,180.43	4.08	0.24
1,180.44	4.27	0.29
1,180.45	4.46	0.33
1,180.46	4.64	0.38
1,180.47	4.81	0.43
1,180.48	4.98	0.48
1,180.49	5.15	0.53
1,180.50	5.31	0.59
1,180.51	5.46	0.65
1,180.52	5.61	0.72
1,180.53	5.76	0.79
1,180.54	5.90	0.86
1,180.55	6.04	0.93
1,180.56	6.18	1.00
1,180.57	6.31	1.08
1,180.58	6.45	1.16
1,180.59	6.57	1.24
1,180.60	6.70	1.33
1,180.61	6.82	1.41
1,180.62	6.94	1.50
1,180.63	7.05	1.59
1,180.64	7.16	1.69
1,180.65	7.27	1.78
1,180.66	7.38	1.88
1,180.67	7.48	1.98
1,180.68	7.59	2.08
1,180.69	7.69	2.18
1,180.70	7.78	2.28
1,180.71	7.88	2.39
1,180.72	7.97	2.50
1,180.73	8.06	2.60
1,180.74	8.15	2.71
1,180.75	8.23	2.82
1,180.76	8.32	2.93
1,180.77	8.40	3.05
1,180.78	8.48	3.16
1,180.79	8.55	3.27
1,180.80	8.63	3.39
1,180.81	8.70	3.50
1,180.82	8.77	3.62
1,180.83	8.84	3.74
1,180.84	8.90	3.85
1,180.85	8.97	3.97
1,180.86	9.03	4.09
1,180.87	9.09	4.20
1,180.88	9.14	4.32
1,180.89	9.20	4.44
1,180.90	9.25	4.55
1,180.91	9.30	4.67
1,180.92	9.35	4.78
1,180.93	9.40	4.90
1,180.94	9.44	5.01
1,180.95	9.48	5.13
1,180.96	9.52	5.24
1,180.97	9.56	5.35
1,180.98	9.60	5.46
1,180.99	9.63	5.57
1,181.00	9.66	5.67
1,181.01	9.69	5.78
1,181.02	9.72	5.88
1,181.03	9.74	5.98
1,181.04	9.76	6.08
1,181.05	9.78	6.18
1,181.06	9.80	6.27
1,181.07	9.81	6.37
1,181.08	9.82	6.45
1,181.09	9.83	6.54
1,181.10	9.83	6.62
1,181.11	**9.84**	6.70
1,181.12	9.83	6.78
1,181.13	9.83	6.85
1,181.14	9.82	6.92
1,181.15	9.81	6.98
1,181.16	9.80	7.04
1,181.17	9.78	7.09
1,181.18	9.76	7.14
1,181.19	9.73	7.19
1,181.20	9.70	7.22
1,181.21	9.66	7.25
1,181.22	9.62	7.27
1,181.23	9.57	7.29
1,181.24	9.51	**7.29**
1,181.25	9.45	7.28
1,181.26	9.37	7.26
1,181.27	9.28	7.22
1,181.28	9.16	7.16
1,181.29	9.00	7.06
1,181.30	8.63	6.78

Summary for Reach DMH12: TO DMH#13

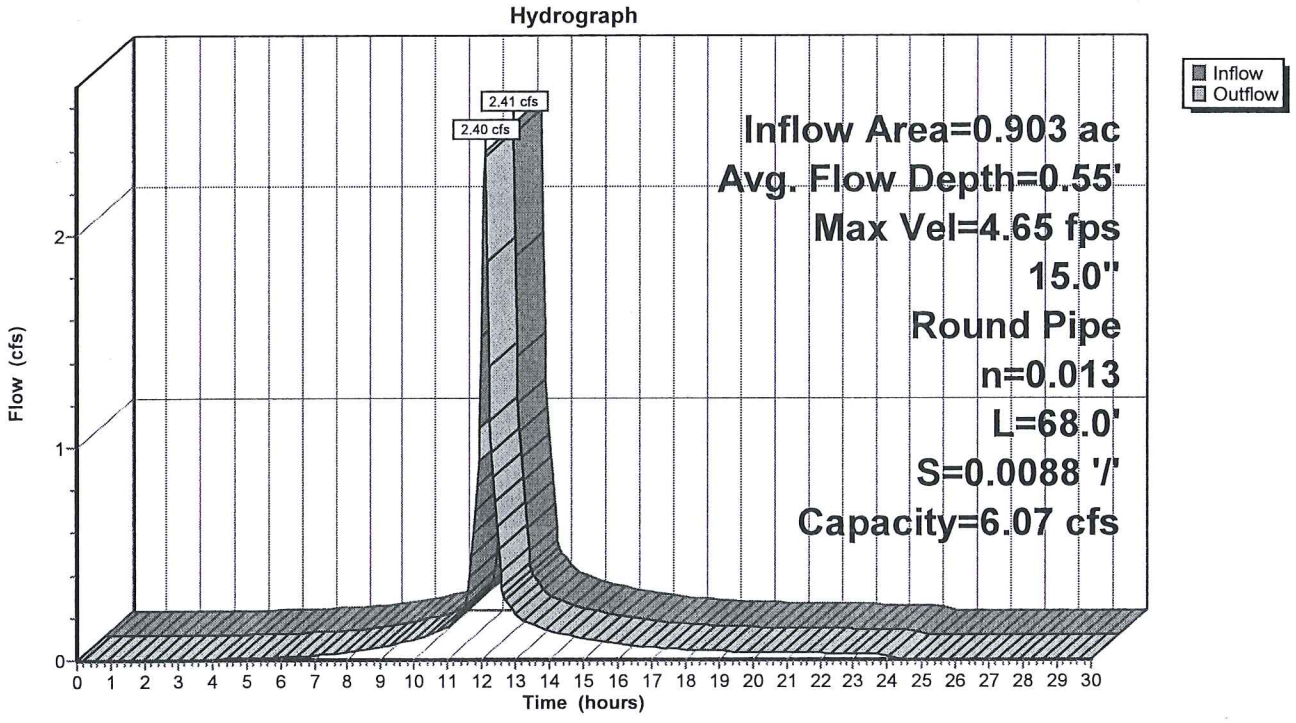
Inflow Area = 0.903 ac, 85.40% Impervious, Inflow Depth = 2.42" for 2-Year event
Inflow = 2.41 cfs @ 12.08 hrs, Volume= 0.182 af
Outflow = 2.40 cfs @ 12.09 hrs, Volume= 0.182 af, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.65 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.52 fps, Avg. Travel Time= 0.7 min

Peak Storage= 35 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.55'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 6.07 cfs

15.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 68.0' Slope= 0.0088 '/'
Inlet Invert= 1,178.50', Outlet Invert= 1,177.90'





Stage-Discharge for Reach DMH12: TO DMH#13

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.50	0.00	0.00
1,178.51	0.35	0.00
1,178.52	0.59	0.00
1,178.53	0.78	0.01
1,178.54	0.95	0.01
1,178.55	1.10	0.02
1,178.56	1.24	0.03
1,178.57	1.37	0.04
1,178.58	1.49	0.05
1,178.59	1.61	0.06
1,178.60	1.72	0.08
1,178.61	1.83	0.10
1,178.62	1.93	0.12
1,178.63	2.03	0.14
1,178.64	2.13	0.16
1,178.65	2.22	0.19
1,178.66	2.32	0.21
1,178.67	2.40	0.24
1,178.68	2.49	0.27
1,178.69	2.58	0.30
1,178.70	2.66	0.34
1,178.71	2.74	0.37
1,178.72	2.82	0.41
1,178.73	2.89	0.45
1,178.74	2.97	0.49
1,178.75	3.04	0.53
1,178.76	3.11	0.58
1,178.77	3.18	0.62
1,178.78	3.25	0.67
1,178.79	3.32	0.72
1,178.80	3.38	0.77
1,178.81	3.45	0.82
1,178.82	3.51	0.87
1,178.83	3.57	0.93
1,178.84	3.63	0.98
1,178.85	3.69	1.04
1,178.86	3.75	1.10
1,178.87	3.81	1.16
1,178.88	3.87	1.22
1,178.89	3.92	1.28
1,178.90	3.97	1.35
1,178.91	4.03	1.41
1,178.92	4.08	1.48
1,178.93	4.13	1.54
1,178.94	4.18	1.61
1,178.95	4.23	1.68
1,178.96	4.28	1.75
1,178.97	4.32	1.82
1,178.98	4.37	1.90
1,178.99	4.42	1.97
1,179.00	4.46	2.04
1,179.01	4.50	2.12
1,179.02	4.55	2.20
1,179.03	4.59	2.27
1,179.04	4.63	2.35
1,179.05	4.67	2.43
1,179.06	4.71	2.51
1,179.07	4.75	2.59
1,179.08	4.79	2.67
1,179.09	4.82	2.75
1,179.10	4.86	2.83
1,179.11	4.89	2.91
1,179.12	4.93	2.99
1,179.13	4.96	3.08
1,179.14	4.99	3.16
1,179.15	5.03	3.24
1,179.16	5.06	3.32
1,179.17	5.09	3.41
1,179.18	5.12	3.49
1,179.19	5.15	3.57
1,179.20	5.17	3.66
1,179.21	5.20	3.74
1,179.22	5.23	3.83
1,179.23	5.25	3.91
1,179.24	5.28	3.99
1,179.25	5.30	4.08
1,179.26	5.33	4.16
1,179.27	5.35	4.24
1,179.28	5.37	4.32
1,179.29	5.39	4.41
1,179.30	5.41	4.49
1,179.31	5.43	4.57
1,179.32	5.45	4.65
1,179.33	5.47	4.73
1,179.34	5.48	4.81
1,179.35	5.50	4.89
1,179.36	5.52	4.97
1,179.37	5.53	5.04
1,179.38	5.54	5.12
1,179.39	5.56	5.19
1,179.40	5.57	5.27
1,179.41	5.58	5.34
1,179.42	5.59	5.41
1,179.43	5.60	5.48
1,179.44	5.61	5.55
1,179.45	5.61	5.62
1,179.46	5.62	5.68
1,179.47	5.63	5.75
1,179.48	5.63	5.81
1,179.49	5.63	5.87
1,179.50	5.64	5.93
1,179.51	5.64	5.99
1,179.52	**5.64**	6.04
1,179.53	5.64	6.10
1,179.54	5.63	6.15
1,179.55	5.63	6.20
1,179.56	5.63	6.24
1,179.57	5.62	6.28
1,179.58	5.61	6.32
1,179.59	5.60	6.36
1,179.60	5.59	6.40
1,179.61	5.58	6.43
1,179.62	5.57	6.45
1,179.63	5.55	6.48
1,179.64	5.53	6.50
1,179.65	5.51	6.51
1,179.66	5.49	6.52
1,179.67	5.47	**6.53**
1,179.68	5.44	6.52
1,179.69	5.41	6.52
1,179.70	5.37	6.50
1,179.71	5.33	6.47
1,179.72	5.28	6.43
1,179.73	5.21	6.38
1,179.74	5.12	6.27
1,179.75	4.94	6.07

Summary for Reach DMH13: TO DMH#14

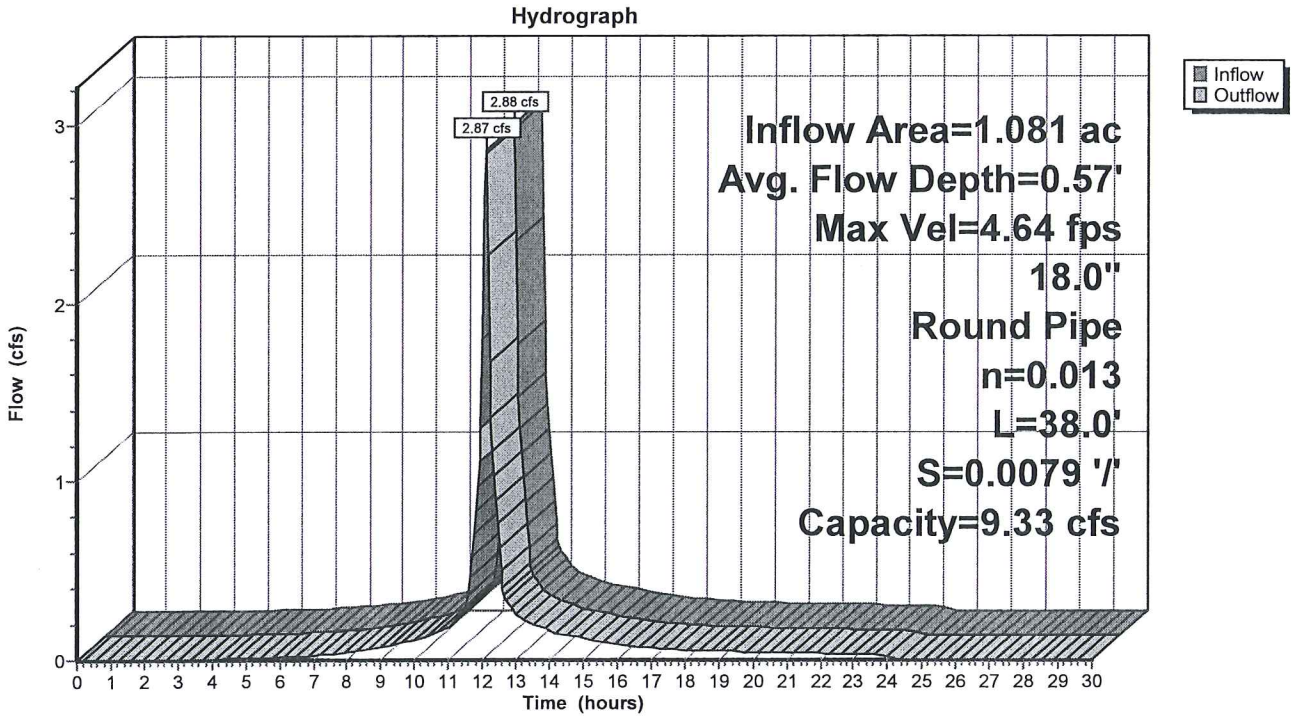
Inflow Area = 1.081 ac, 85.82% Impervious, Inflow Depth = 2.43" for 2-Year event
Inflow = 2.88 cfs @ 12.09 hrs, Volume= 0.219 af
Outflow = 2.87 cfs @ 12.09 hrs, Volume= 0.219 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.64 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.50 fps, Avg. Travel Time= 0.4 min

Peak Storage= 24 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.57'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 9.33 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 38.0' Slope= 0.0079 '/'
Inlet Invert= 1,177.80', Outlet Invert= 1,177.50'





Stage-Discharge for Reach DMH13: TO DMH#14

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,177.80	0.00	0.00
1,177.81	0.31	0.00
1,177.82	0.56	0.00
1,177.83	0.74	0.01
1,177.84	0.90	0.01
1,177.85	1.04	0.02
1,177.86	1.17	0.03
1,177.87	1.30	0.04
1,177.88	1.41	0.05
1,177.89	1.53	0.07
1,177.90	1.63	0.08
1,177.91	1.74	0.10
1,177.92	1.84	0.12
1,177.93	1.93	0.14
1,177.94	2.03	0.17
1,177.95	2.12	0.19
1,177.96	2.21	0.22
1,177.97	2.29	0.25
1,177.98	2.38	0.29
1,177.99	2.46	0.32
1,178.00	2.54	0.36
1,178.01	2.62	0.39
1,178.02	2.69	0.43
1,178.03	2.77	0.48
1,178.04	2.84	0.52
1,178.05	2.91	0.56
1,178.06	2.98	0.61
1,178.07	3.05	0.66
1,178.08	3.12	0.71
1,178.09	3.18	0.76
1,178.10	3.25	0.82
1,178.11	3.31	0.87
1,178.12	3.37	0.93
1,178.13	3.44	0.99
1,178.14	3.50	1.05
1,178.15	3.56	1.11
1,178.16	3.61	1.18
1,178.17	3.67	1.25
1,178.18	3.73	1.31
1,178.19	3.78	1.38
1,178.20	3.84	1.45
1,178.21	3.89	1.52
1,178.22	3.95	1.60
1,178.23	4.00	1.67
1,178.24	4.05	1.75
1,178.25	4.10	1.83
1,178.26	4.15	1.91
1,178.27	4.20	1.99
1,178.28	4.25	2.07
1,178.29	4.29	2.15
1,178.30	4.34	2.24
1,178.31	4.39	2.32
1,178.32	4.43	2.41
1,178.33	4.47	2.50
1,178.34	4.52	2.59
1,178.35	4.56	2.68
1,178.36	4.60	2.77
1,178.37	4.64	2.86
1,178.38	4.69	2.96
1,178.39	4.73	3.05
1,178.40	4.76	3.15
1,178.41	4.80	3.24
1,178.42	4.84	3.34
1,178.43	4.88	3.44
1,178.44	4.92	3.54
1,178.45	4.95	3.64
1,178.46	4.99	3.74
1,178.47	5.02	3.84
1,178.48	5.06	3.94
1,178.49	5.09	4.04
1,178.50	5.12	4.14
1,178.51	5.16	4.25
1,178.52	5.19	4.35
1,178.53	5.22	4.46
1,178.54	5.25	4.56
1,178.55	5.28	4.67
1,178.56	5.31	4.77
1,178.57	5.34	4.88
1,178.58	5.37	4.99
1,178.59	5.40	5.09
1,178.60	5.42	5.20
1,178.61	5.45	5.31
1,178.62	5.48	5.41
1,178.63	5.50	5.52
1,178.64	5.53	5.63
1,178.65	5.55	5.74
1,178.66	5.57	5.84
1,178.67	5.60	5.95
1,178.68	5.62	6.06
1,178.69	5.64	6.16
1,178.70	5.66	6.27
1,178.71	5.68	6.38
1,178.72	5.71	6.48
1,178.73	5.72	6.59
1,178.74	5.74	6.69
1,178.75	5.76	6.80
1,178.76	5.78	6.90
1,178.77	5.80	7.01
1,178.78	5.81	7.11
1,178.79	5.83	7.21
1,178.80	5.85	7.32
1,178.81	5.86	7.42
1,178.82	5.88	7.52
1,178.83	5.89	7.62
1,178.84	5.90	7.72
1,178.85	5.91	7.81
1,178.86	5.93	7.91
1,178.87	5.94	8.01
1,178.88	5.95	8.10
1,178.89	5.96	8.19
1,178.90	5.97	8.29
1,178.91	5.98	8.38
1,178.92	5.98	8.47
1,178.93	5.99	8.55
1,178.94	6.00	8.64
1,178.95	6.00	8.73
1,178.96	6.01	8.81
1,178.97	6.01	8.89
1,178.98	6.01	8.97
1,178.99	6.02	9.05
1,179.00	6.02	9.12
1,179.01	6.02	9.20
1,179.02	**6.02**	9.27
1,179.03	6.02	9.34
1,179.04	6.02	9.40
1,179.05	6.02	9.47
1,179.06	6.01	9.53
1,179.07	6.01	9.59
1,179.08	6.00	9.64
1,179.09	6.00	9.70
1,179.10	5.99	9.75
1,179.11	5.98	9.79
1,179.12	5.97	9.84
1,179.13	5.96	9.88
1,179.14	5.95	9.91
1,179.15	5.94	9.95
1,179.16	5.92	9.97
1,179.17	5.91	10.00
1,179.18	5.89	10.02
1,179.19	5.87	10.03
1,179.20	5.85	10.04
1,179.21	5.82	**10.04**
1,179.22	5.80	10.03
1,179.23	5.77	10.02
1,179.24	5.74	10.00
1,179.25	5.70	9.96
1,179.26	5.65	9.92
1,179.27	5.61	9.86
1,179.28	5.54	9.77
1,179.29	5.44	9.59
1,179.30	5.28	9.33

Summary for Reach DMH14: TO UGS#1A

Inflow Area = 1.081 ac, 85.82% Impervious, Inflow Depth = 2.43" for 2-Year event
Inflow = 2.87 cfs @ 12.09 hrs, Volume= 0.219 af
Outflow = 2.86 cfs @ 12.09 hrs, Volume= 0.219 af, Atten= 0%, Lag= 0.1 min

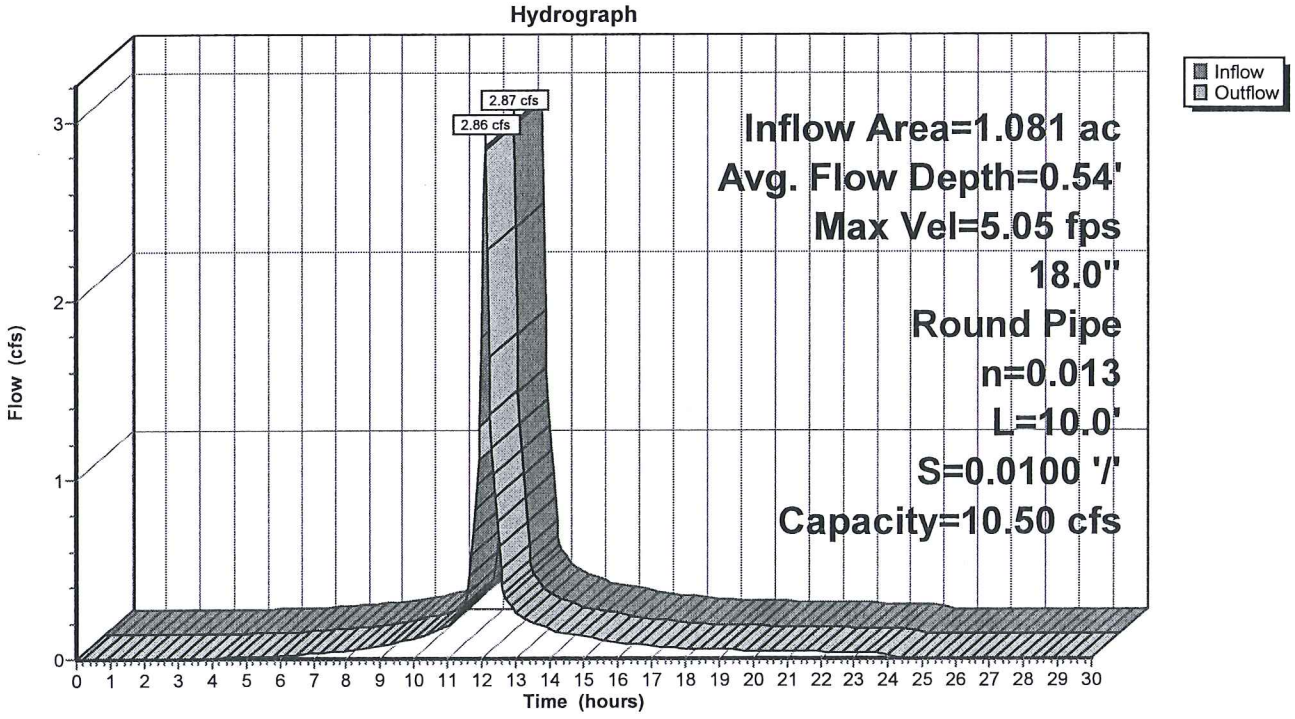
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.05 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.64 fps, Avg. Travel Time= 0.1 min

Peak Storage= 6 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.54'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 10.50 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 10.0' Slope= 0.0100 '/'
Inlet Invert= 1,177.30', Outlet Invert= 1,177.20'



Reach DMH14: TO UGS#1A



Stage-Discharge for Reach DMH14: TO UGS#1A

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,177.30	0.00	0.00
1,177.31	0.35	0.00
1,177.32	0.63	0.00
1,177.33	0.84	0.01
1,177.34	1.01	0.01
1,177.35	1.17	0.02
1,177.36	1.32	0.03
1,177.37	1.46	0.04
1,177.38	1.59	0.06
1,177.39	1.72	0.07
1,177.40	1.84	0.09
1,177.41	1.96	0.11
1,177.42	2.07	0.14
1,177.43	2.18	0.16
1,177.44	2.28	0.19
1,177.45	2.38	0.22
1,177.46	2.48	0.25
1,177.47	2.58	0.29
1,177.48	2.67	0.32
1,177.49	2.77	0.36
1,177.50	2.86	0.40
1,177.51	2.94	0.44
1,177.52	3.03	0.49
1,177.53	3.11	0.53
1,177.54	3.20	0.58
1,177.55	3.28	0.63
1,177.56	3.35	0.69
1,177.57	3.43	0.74
1,177.58	3.51	0.80
1,177.59	3.58	0.86
1,177.60	3.66	0.92
1,177.61	3.73	0.98
1,177.62	3.80	1.05
1,177.63	3.87	1.11
1,177.64	3.94	1.18
1,177.65	4.00	1.25
1,177.66	4.07	1.33
1,177.67	4.13	1.40
1,177.68	4.20	1.48
1,177.69	4.26	1.55
1,177.70	4.32	1.63
1,177.71	4.38	1.72
1,177.72	4.44	1.80
1,177.73	4.50	1.88
1,177.74	4.56	1.97
1,177.75	4.61	2.06
1,177.76	4.67	2.15
1,177.77	4.72	2.24
1,177.78	4.78	2.33
1,177.79	4.83	2.42
1,177.80	4.88	2.52
1,177.81	4.94	2.61
1,177.82	4.99	2.71
1,177.83	5.04	2.81
1,177.84	5.08	2.91
1,177.85	5.13	3.01
1,177.86	5.18	3.12
1,177.87	5.23	3.22
1,177.88	5.27	3.33
1,177.89	5.32	3.43
1,177.90	5.36	3.54
1,177.91	5.41	3.65
1,177.92	5.45	3.76
1,177.93	5.49	3.87
1,177.94	5.53	3.98
1,177.95	5.57	4.09
1,177.96	5.61	4.20
1,177.97	5.65	4.32
1,177.98	5.69	4.43
1,177.99	5.73	4.55
1,178.00	5.77	4.66
1,178.01	5.80	4.78
1,178.02	5.84	4.90
1,178.03	5.88	5.02
1,178.04	5.91	5.13
1,178.05	5.94	5.25
1,178.06	5.98	5.37
1,178.07	6.01	5.49
1,178.08	6.04	5.61
1,178.09	6.07	5.73
1,178.10	6.10	5.85
1,178.11	6.13	5.97
1,178.12	6.16	6.09
1,178.13	6.19	6.21
1,178.14	6.22	6.33
1,178.15	6.25	6.45
1,178.16	6.27	6.58
1,178.17	6.30	6.70
1,178.18	6.33	6.82
1,178.19	6.35	6.94
1,178.20	6.37	7.06
1,178.21	6.40	7.18
1,178.22	6.42	7.30
1,178.23	6.44	7.42
1,178.24	6.46	7.53
1,178.25	6.49	7.65
1,178.26	6.51	7.77
1,178.27	6.52	7.89
1,178.28	6.54	8.00
1,178.29	6.56	8.12
1,178.30	6.58	8.23
1,178.31	6.60	8.35
1,178.32	6.61	8.46
1,178.33	6.63	8.57
1,178.34	6.64	8.68
1,178.35	6.66	8.79
1,178.36	6.67	8.90
1,178.37	6.68	9.01
1,178.38	6.69	9.12
1,178.39	6.70	9.22
1,178.40	6.71	9.33
1,178.41	6.72	9.43
1,178.42	6.73	9.53
1,178.43	6.74	9.63
1,178.44	6.75	9.73
1,178.45	6.76	9.82
1,178.46	6.76	9.91
1,178.47	6.77	10.01
1,178.48	6.77	10.09
1,178.49	6.77	10.18
1,178.50	6.77	10.27
1,178.51	6.78	10.35
1,178.52	**6.78**	10.43
1,178.53	6.78	10.51
1,178.54	6.77	10.58
1,178.55	6.77	10.66
1,178.56	6.77	10.73
1,178.57	6.76	10.79
1,178.58	6.76	10.85
1,178.59	6.75	10.92
1,178.60	6.74	10.97
1,178.61	6.73	11.02
1,178.62	6.72	11.07
1,178.63	6.71	11.12
1,178.64	6.70	11.16
1,178.65	6.68	11.20
1,178.66	6.67	11.23
1,178.67	6.65	11.25
1,178.68	6.63	11.27
1,178.69	6.61	11.29
1,178.70	6.58	11.30
1,178.71	6.55	**11.30**
1,178.72	6.52	11.29
1,178.73	6.49	11.28
1,178.74	6.46	11.25
1,178.75	6.41	11.21
1,178.76	6.36	11.16
1,178.77	6.31	11.10
1,178.78	6.24	11.00
1,178.79	6.12	10.80
1,178.80	5.94	10.50

Summary for Reach DMH15: TO DMH#16

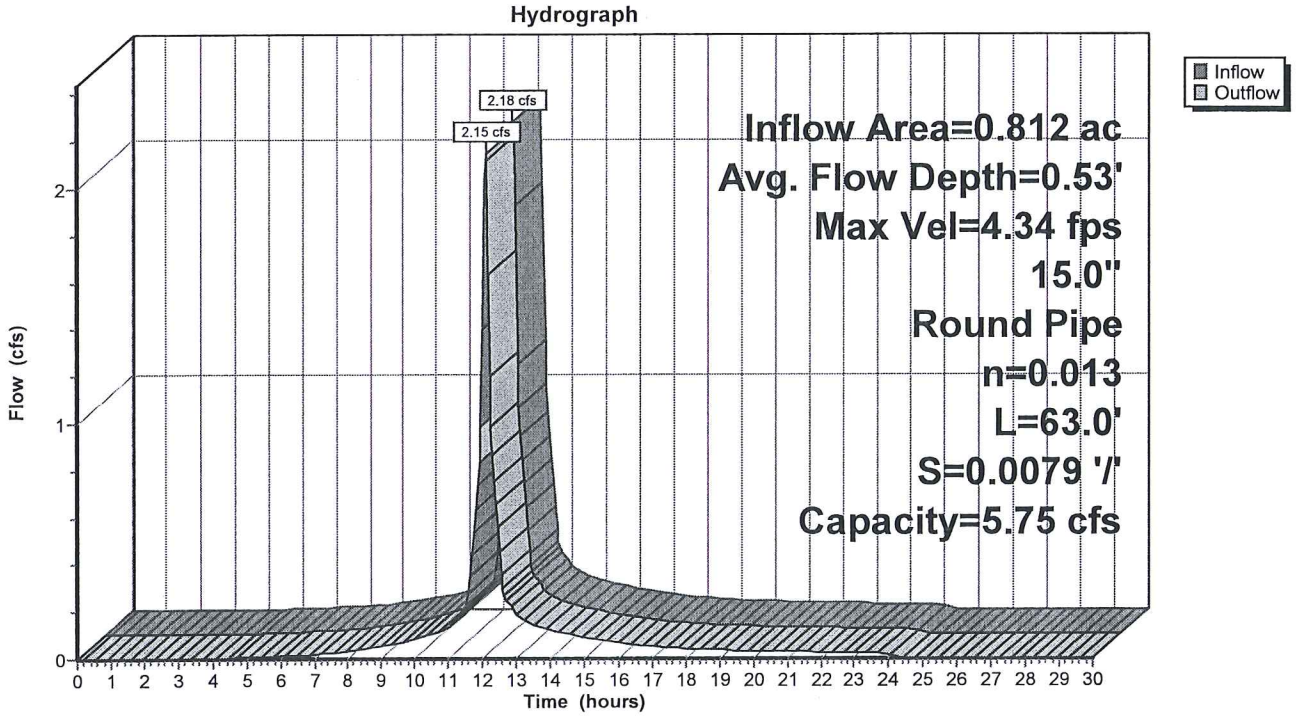
Inflow Area = 0.812 ac, 86.55% Impervious, Inflow Depth = 2.40" for 2-Year event
Inflow = 2.18 cfs @ 12.07 hrs, Volume= 0.162 af
Outflow = 2.15 cfs @ 12.08 hrs, Volume= 0.162 af, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.34 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.41 fps, Avg. Travel Time= 0.7 min

Peak Storage= 31 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.53'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.75 cfs

15.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 63.0' Slope= 0.0079 '/'
Inlet Invert= 1,180.20', Outlet Invert= 1,179.70'





Stage-Discharge for Reach DMH15: TO DMH#16

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.20	0.00	0.00
1,180.21	0.33	0.00
1,180.22	0.56	0.00
1,180.23	0.74	0.01
1,180.24	0.90	0.01
1,180.25	1.04	0.02
1,180.26	1.17	0.03
1,180.27	1.30	0.04
1,180.28	1.41	0.05
1,180.29	1.52	0.06
1,180.30	1.63	0.08
1,180.31	1.73	0.09
1,180.32	1.83	0.11
1,180.33	1.93	0.13
1,180.34	2.02	0.15
1,180.35	2.11	0.18
1,180.36	2.20	0.20
1,180.37	2.28	0.23
1,180.38	2.36	0.26
1,180.39	2.44	0.29
1,180.40	2.52	0.32
1,180.41	2.60	0.35
1,180.42	2.67	0.39
1,180.43	2.74	0.43
1,180.44	2.81	0.46
1,180.45	2.88	0.50
1,180.46	2.95	0.55
1,180.47	3.02	0.59
1,180.48	3.08	0.63
1,180.49	3.15	0.68
1,180.50	3.21	0.73
1,180.51	3.27	0.78
1,180.52	3.33	0.83
1,180.53	3.39	0.88
1,180.54	3.45	0.93
1,180.55	3.50	0.99
1,180.56	3.56	1.04
1,180.57	3.61	1.10
1,180.58	3.67	1.16
1,180.59	3.72	1.22
1,180.60	3.77	1.28
1,180.61	3.82	1.34
1,180.62	3.87	1.40
1,180.63	3.92	1.46
1,180.64	3.96	1.53
1,180.65	4.01	1.60
1,180.66	4.06	1.66
1,180.67	4.10	1.73
1,180.68	4.15	1.80
1,180.69	4.19	1.87
1,180.70	4.23	1.94
1,180.71	4.27	2.01
1,180.72	4.31	2.08
1,180.73	4.35	2.16
1,180.74	4.39	2.23
1,180.75	4.43	2.30
1,180.76	4.47	2.38
1,180.77	4.50	2.45
1,180.78	4.54	2.53
1,180.79	4.57	2.61
1,180.80	4.61	2.68
1,180.81	4.64	2.76
1,180.82	4.67	2.84
1,180.83	4.71	2.92
1,180.84	4.74	3.00
1,180.85	4.77	3.07
1,180.86	4.80	3.15
1,180.87	4.83	3.23
1,180.88	4.85	3.31
1,180.89	4.88	3.39
1,180.90	4.91	3.47
1,180.91	4.93	3.55
1,180.92	4.96	3.63
1,180.93	4.98	3.71
1,180.94	5.01	3.79
1,180.95	5.03	3.87
1,180.96	5.05	3.95
1,180.97	5.07	4.02
1,180.98	5.09	4.10
1,180.99	5.11	4.18
1,181.00	5.13	4.26
1,181.01	5.15	4.33
1,181.02	5.17	4.41
1,181.03	5.18	4.49
1,181.04	5.20	4.56
1,181.05	5.22	4.64
1,181.06	5.23	4.71
1,181.07	5.24	4.78
1,181.08	5.26	4.85
1,181.09	5.27	4.92
1,181.10	5.28	5.00
1,181.11	5.29	5.06
1,181.12	5.30	5.13
1,181.13	5.31	5.20
1,181.14	5.32	5.26
1,181.15	5.32	5.33
1,181.16	5.33	5.39
1,181.17	5.34	5.45
1,181.18	5.34	5.51
1,181.19	5.34	5.57
1,181.20	5.34	5.63
1,181.21	5.35	5.68
1,181.22	**5.35**	5.73
1,181.23	5.34	5.78
1,181.24	5.34	5.83
1,181.25	5.34	5.88
1,181.26	5.34	5.92
1,181.27	5.33	5.96
1,181.28	5.32	6.00
1,181.29	5.31	6.03
1,181.30	5.30	6.07
1,181.31	5.29	6.10
1,181.32	5.28	6.12
1,181.33	5.26	6.14
1,181.34	5.25	6.16
1,181.35	5.23	6.18
1,181.36	5.21	6.19
1,181.37	5.18	**6.19**
1,181.38	5.16	6.19
1,181.39	5.13	6.18
1,181.40	5.09	6.17
1,181.41	5.05	6.14
1,181.42	5.00	6.10
1,181.43	4.95	6.05
1,181.44	4.85	5.95
1,181.45	4.69	5.75

Summary for Reach DMH16: TO DMH#17

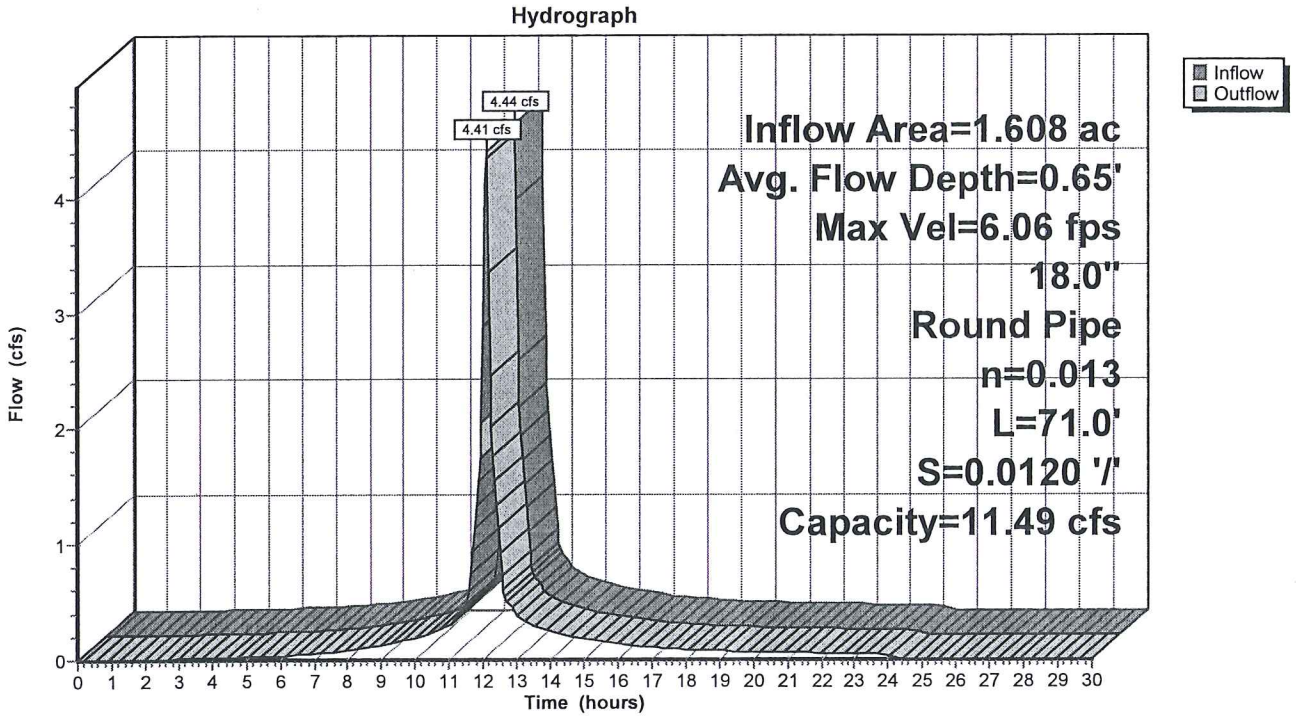
Inflow Area = 1.608 ac, 92.28% Impervious, Inflow Depth = 2.56" for 2-Year event
Inflow = 4.44 cfs @ 12.08 hrs, Volume= 0.343 af
Outflow = 4.41 cfs @ 12.08 hrs, Volume= 0.343 af, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.06 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.96 fps, Avg. Travel Time= 0.6 min

Peak Storage= 52 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.65'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 11.49 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 71.0' Slope= 0.0120 '/'
Inlet Invert= 1,179.60', Outlet Invert= 1,178.75'





Stage-Discharge for Reach DMH16: TO DMH#17

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.60	0.00	0.00
1,179.61	0.39	0.00
1,179.62	0.69	0.00
1,179.63	0.92	0.01
1,179.64	1.10	0.01
1,179.65	1.28	0.02
1,179.66	1.44	0.03
1,179.67	1.60	0.05
1,179.68	1.74	0.06
1,179.69	1.88	0.08
1,179.70	2.01	0.10
1,179.71	2.14	0.13
1,179.72	2.26	0.15
1,179.73	2.38	0.18
1,179.74	2.50	0.21
1,179.75	2.61	0.24
1,179.76	2.72	0.28
1,179.77	2.82	0.31
1,179.78	2.93	0.35
1,179.79	3.03	0.39
1,179.80	3.12	0.44
1,179.81	3.22	0.48
1,179.82	3.31	0.53
1,179.83	3.41	0.59
1,179.84	3.50	0.64
1,179.85	3.58	0.69
1,179.86	3.67	0.75
1,179.87	3.76	0.81
1,179.88	3.84	0.88
1,179.89	3.92	0.94
1,179.90	4.00	1.01
1,179.91	4.08	1.08
1,179.92	4.16	1.15
1,179.93	4.23	1.22
1,179.94	4.31	1.30
1,179.95	4.38	1.37
1,179.96	4.45	1.45
1,179.97	4.52	1.53
1,179.98	4.59	1.62
1,179.99	4.66	1.70
1,180.00	4.73	1.79
1,180.01	4.79	1.88
1,180.02	4.86	1.97
1,180.03	4.92	2.06
1,180.04	4.99	2.16
1,180.05	5.05	2.25
1,180.06	5.11	2.35
1,180.07	5.17	2.45
1,180.08	5.23	2.55
1,180.09	5.29	2.65
1,180.10	5.34	2.76
1,180.11	5.40	2.86
1,180.12	5.46	2.97
1,180.13	5.51	3.08
1,180.14	5.56	3.19
1,180.15	5.62	3.30
1,180.16	5.67	3.41
1,180.17	5.72	3.52
1,180.18	5.77	3.64
1,180.19	5.82	3.76
1,180.20	5.87	3.87
1,180.21	5.92	3.99
1,180.22	5.96	4.11
1,180.23	6.01	4.23
1,180.24	6.05	4.35
1,180.25	6.10	4.48
1,180.26	6.14	4.60
1,180.27	6.19	4.72
1,180.28	6.23	4.85
1,180.29	6.27	4.98
1,180.30	6.31	5.10
1,180.31	6.35	5.23
1,180.32	6.39	5.36
1,180.33	6.43	5.49
1,180.34	6.47	5.62
1,180.35	6.50	5.75
1,180.36	6.54	5.88
1,180.37	6.58	6.01
1,180.38	6.61	6.14
1,180.39	6.65	6.27
1,180.40	6.68	6.40
1,180.41	6.71	6.53
1,180.42	6.74	6.67
1,180.43	6.78	6.80
1,180.44	6.81	6.93
1,180.45	6.84	7.06
1,180.46	6.86	7.19
1,180.47	6.89	7.33
1,180.48	6.92	7.46
1,180.49	6.95	7.59
1,180.50	6.97	7.72
1,180.51	7.00	7.85
1,180.52	7.03	7.98
1,180.53	7.05	8.11
1,180.54	7.07	8.24
1,180.55	7.10	8.37
1,180.56	7.12	8.50
1,180.57	7.14	8.63
1,180.58	7.16	8.76
1,180.59	7.18	8.88
1,180.60	7.20	9.01
1,180.61	7.22	9.13
1,180.62	7.23	9.26
1,180.63	7.25	9.38
1,180.64	7.27	9.50
1,180.65	7.28	9.62
1,180.66	7.30	9.74
1,180.67	7.31	9.86
1,180.68	7.32	9.98
1,180.69	7.34	10.09
1,180.70	7.35	10.20
1,180.71	7.36	10.32
1,180.72	7.37	10.43
1,180.73	7.38	10.53
1,180.74	7.38	10.64
1,180.75	7.39	10.74
1,180.76	7.40	10.85
1,180.77	7.40	10.95
1,180.78	7.41	11.05
1,180.79	7.41	11.14
1,180.80	7.41	11.23
1,180.81	7.41	11.32
1,180.82	**7.41**	11.41
1,180.83	7.41	11.50
1,180.84	7.41	11.58
1,180.85	7.41	11.66
1,180.86	7.41	11.74
1,180.87	7.40	11.81
1,180.88	7.39	11.88
1,180.89	7.39	11.94
1,180.90	7.38	12.00
1,180.91	7.37	12.06
1,180.92	7.36	12.12
1,180.93	7.34	12.16
1,180.94	7.33	12.21
1,180.95	7.31	12.25
1,180.96	7.29	12.28
1,180.97	7.27	12.31
1,180.98	7.25	12.34
1,180.99	7.23	12.35
1,181.00	7.20	12.36
1,181.01	7.17	**12.36**
1,181.02	7.14	12.35
1,181.03	7.10	12.34
1,181.04	7.06	12.31
1,181.05	7.02	12.27
1,181.06	6.96	12.21
1,181.07	6.91	12.15
1,181.08	6.83	12.03
1,181.09	6.69	11.81
1,181.10	6.50	11.49

Summary for Reach DMH17: TO UGS#1B

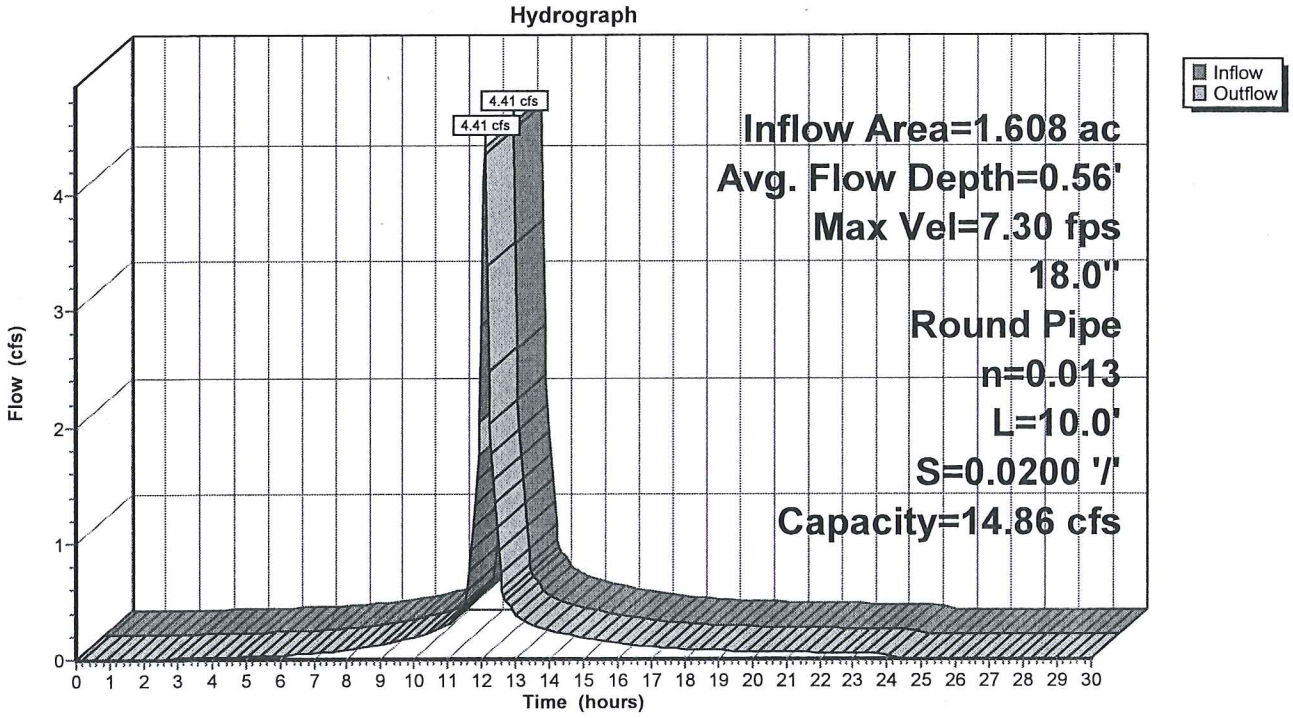
Inflow Area = 1.608 ac, 92.28% Impervious, Inflow Depth = 2.56" for 2-Year event
Inflow = 4.41 cfs @ 12.08 hrs, Volume= 0.343 af
Outflow = 4.41 cfs @ 12.08 hrs, Volume= 0.343 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.30 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.34 fps, Avg. Travel Time= 0.1 min

Peak Storage= 6 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.56'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 14.86 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 10.0' Slope= 0.0200 '/'
Inlet Invert= 1,178.50', Outlet Invert= 1,178.30'





Stage-Discharge for Reach DMH17: TO UGS#1B

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.50	0.00	0.00
1,178.51	0.50	0.00
1,178.52	0.89	0.00
1,178.53	1.18	0.01
1,178.54	1.43	0.02
1,178.55	1.65	0.03
1,178.56	1.87	0.04
1,178.57	2.06	0.06
1,178.58	2.25	0.08
1,178.59	2.43	0.11
1,178.60	2.60	0.13
1,178.61	2.77	0.16
1,178.62	2.93	0.19
1,178.63	3.08	0.23
1,178.64	3.23	0.27
1,178.65	3.37	0.31
1,178.66	3.51	0.36
1,178.67	3.65	0.40
1,178.68	3.78	0.45
1,178.69	3.91	0.51
1,178.70	4.04	0.57
1,178.71	4.16	0.63
1,178.72	4.28	0.69
1,178.73	4.40	0.76
1,178.74	4.52	0.82
1,178.75	4.63	0.90
1,178.76	4.74	0.97
1,178.77	4.85	1.05
1,178.78	4.96	1.13
1,178.79	5.07	1.22
1,178.80	5.17	1.30
1,178.81	5.27	1.39
1,178.82	5.37	1.48
1,178.83	5.47	1.58
1,178.84	5.57	1.67
1,178.85	5.66	1.77
1,178.86	5.75	1.88
1,178.87	5.84	1.98
1,178.88	5.93	2.09
1,178.89	6.02	2.20
1,178.90	6.11	2.31
1,178.91	6.20	2.43
1,178.92	6.28	2.54
1,178.93	6.36	2.66
1,178.94	6.44	2.79
1,178.95	6.52	2.91
1,178.96	6.60	3.04
1,178.97	6.68	3.16
1,178.98	6.76	3.29
1,178.99	6.83	3.43
1,179.00	6.91	3.56
1,179.01	6.98	3.70
1,179.02	7.05	3.84
1,179.03	7.12	3.98
1,179.04	7.19	4.12
1,179.05	7.26	4.26
1,179.06	7.33	4.41
1,179.07	7.39	4.56
1,179.08	7.46	4.70
1,179.09	7.52	4.85
1,179.10	7.58	5.01
1,179.11	7.65	5.16
1,179.12	7.71	5.31
1,179.13	7.77	5.47
1,179.14	7.82	5.63
1,179.15	7.88	5.79
1,179.16	7.94	5.95
1,179.17	8.00	6.11
1,179.18	8.05	6.27
1,179.19	8.10	6.43
1,179.20	8.16	6.60
1,179.21	8.21	6.76
1,179.22	8.26	6.93
1,179.23	8.31	7.09
1,179.24	8.36	7.26
1,179.25	8.41	7.43
1,179.26	8.45	7.60
1,179.27	8.50	7.77
1,179.28	8.54	7.93
1,179.29	8.59	8.10
1,179.30	8.63	8.27
1,179.31	8.67	8.44
1,179.32	8.72	8.62
1,179.33	8.76	8.79
1,179.34	8.80	8.96
1,179.35	8.84	9.13
1,179.36	8.87	9.30
1,179.37	8.91	9.47
1,179.38	8.95	9.64
1,179.39	8.98	9.81
1,179.40	9.02	9.98
1,179.41	9.05	10.15
1,179.42	9.08	10.32
1,179.43	9.11	10.49
1,179.44	9.14	10.66
1,179.45	9.17	10.82
1,179.46	9.20	10.99
1,179.47	9.23	11.15
1,179.48	9.25	11.32
1,179.49	9.28	11.48
1,179.50	9.30	11.64
1,179.51	9.33	11.81
1,179.52	9.35	11.97
1,179.53	9.37	12.12
1,179.54	9.39	12.28
1,179.55	9.41	12.44
1,179.56	9.43	12.59
1,179.57	9.45	12.74
1,179.58	9.47	12.89
1,179.59	9.48	13.04
1,179.60	9.50	13.19
1,179.61	9.51	13.33
1,179.62	9.52	13.48
1,179.63	9.53	13.62
1,179.64	9.54	13.75
1,179.65	9.55	13.89
1,179.66	9.56	14.02
1,179.67	9.57	14.15
1,179.68	9.57	14.28
1,179.69	9.58	14.40
1,179.70	9.58	14.52
1,179.71	9.58	14.64
1,179.72	**9.58**	14.75
1,179.73	9.58	14.86
1,179.74	9.58	14.97
1,179.75	9.58	15.07
1,179.76	9.57	15.17
1,179.77	9.57	15.26
1,179.78	9.56	15.35
1,179.79	9.55	15.44
1,179.80	9.54	15.52
1,179.81	9.52	15.59
1,179.82	9.51	15.66
1,179.83	9.49	15.72
1,179.84	9.47	15.78
1,179.85	9.45	15.83
1,179.86	9.43	15.88
1,179.87	9.40	15.91
1,179.88	9.37	15.94
1,179.89	9.34	15.96
1,179.90	9.31	15.97
1,179.91	9.27	**15.98**
1,179.92	9.23	15.97
1,179.93	9.18	15.95
1,179.94	9.13	15.92
1,179.95	9.07	15.86
1,179.96	9.00	15.79
1,179.97	8.93	15.70
1,179.98	8.82	15.55
1,179.99	8.65	15.27
1,180.00	8.41	14.86

Summary for Reach DMH18: TO DMH#20

Inflow Area = 0.317 ac, 76.53% Impervious, Inflow Depth = 2.16" for 2-Year event
Inflow = 0.78 cfs @ 12.08 hrs, Volume= 0.057 af
Outflow = 0.77 cfs @ 12.10 hrs, Volume= 0.057 af, Atten= 2%, Lag= 1.4 min

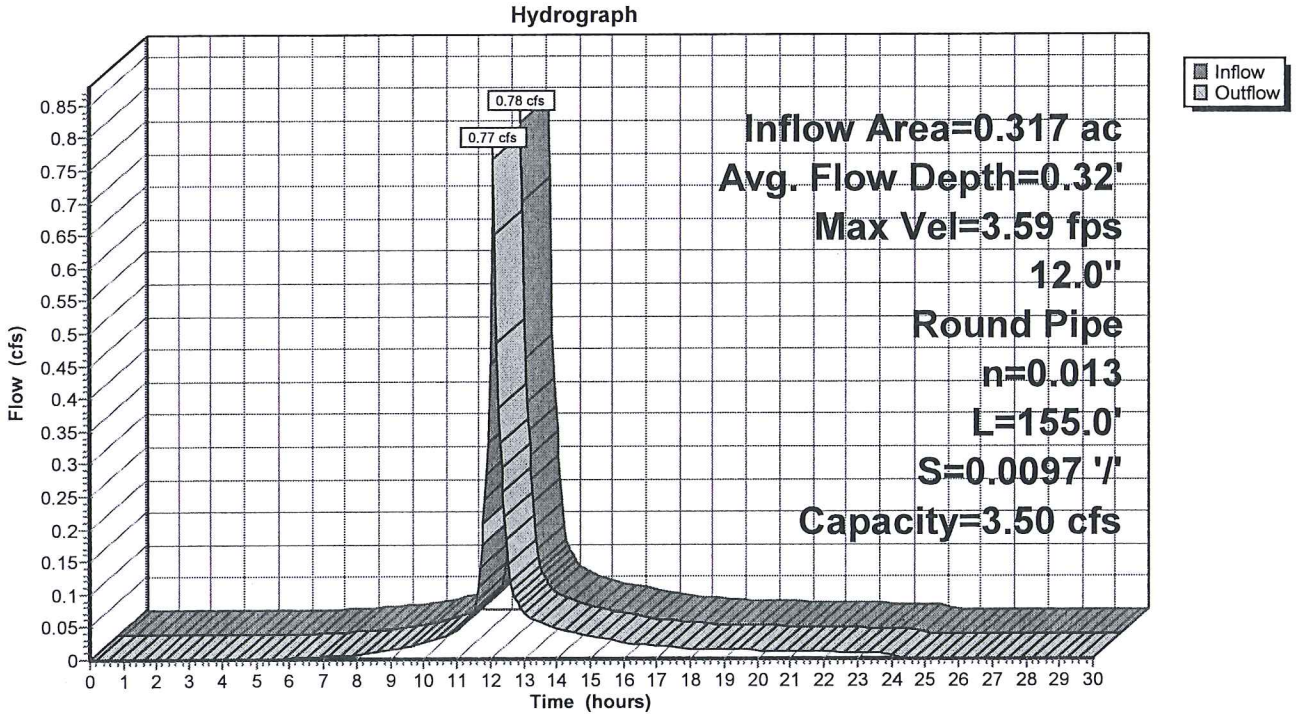
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.59 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.17 fps, Avg. Travel Time= 2.2 min

Peak Storage= 34 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.32'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.50 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 155.0' Slope= 0.0097 '/'
Inlet Invert= 1,179.20', Outlet Invert= 1,177.70'



Reach DMH18: TO DMH#20



Stage-Discharge for Reach DMH18: TO DMH#20

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.20	0.00	0.00
1,179.21	0.40	0.00
1,179.22	0.63	0.00
1,179.23	0.82	0.01
1,179.24	0.99	0.01
1,179.25	1.15	0.02
1,179.26	1.29	0.02
1,179.27	1.43	0.03
1,179.28	1.55	0.05
1,179.29	1.67	0.06
1,179.30	1.79	0.07
1,179.31	1.90	0.09
1,179.32	2.01	0.11
1,179.33	2.11	0.13
1,179.34	2.21	0.15
1,179.35	2.31	0.17
1,179.36	2.40	0.19
1,179.37	2.49	0.22
1,179.38	2.58	0.25
1,179.39	2.66	0.28
1,179.40	2.74	0.31
1,179.41	2.83	0.34
1,179.42	2.90	0.37
1,179.43	2.98	0.41
1,179.44	3.05	0.44
1,179.45	3.13	0.48
1,179.46	3.20	0.52
1,179.47	3.27	0.56
1,179.48	3.33	0.60
1,179.49	3.40	0.64
1,179.50	3.46	0.69
1,179.51	3.53	0.73
1,179.52	3.59	0.78
1,179.53	3.65	0.82
1,179.54	3.70	0.87
1,179.55	3.76	0.92
1,179.56	3.82	0.97
1,179.57	3.87	1.02
1,179.58	3.92	1.07
1,179.59	3.98	1.13
1,179.60	4.03	1.18
1,179.61	4.07	1.24
1,179.62	4.12	1.29
1,179.63	4.17	1.35
1,179.64	4.21	1.40
1,179.65	4.26	1.46
1,179.66	4.30	1.52
1,179.67	4.34	1.58
1,179.68	4.38	1.63
1,179.69	4.42	1.69
1,179.70	4.46	1.75
1,179.71	4.50	1.81
1,179.72	4.54	1.87
1,179.73	4.57	1.93
1,179.74	4.61	1.99
1,179.75	4.64	2.05
1,179.76	4.67	2.11
1,179.77	4.70	2.17
1,179.78	4.73	2.23
1,179.79	4.76	2.29
1,179.80	4.79	2.35
1,179.81	4.81	2.41
1,179.82	4.84	2.47
1,179.83	4.86	2.53
1,179.84	4.88	2.59
1,179.85	4.91	2.65
1,179.86	4.93	2.71
1,179.87	4.95	2.77
1,179.88	4.96	2.82
1,179.89	4.98	2.88
1,179.90	5.00	2.93
1,179.91	5.01	2.99
1,179.92	5.03	3.04
1,179.93	5.04	3.09
1,179.94	5.05	3.15
1,179.95	5.06	3.20
1,179.96	5.07	3.24
1,179.97	5.07	3.29
1,179.98	5.08	3.34
1,179.99	5.08	3.38
1,180.00	5.09	3.43
1,180.01	**5.09**	3.47
1,180.02	5.09	3.51
1,180.03	5.09	3.54
1,180.04	5.08	3.58
1,180.05	5.08	3.61
1,180.06	5.07	3.64
1,180.07	5.06	3.67
1,180.08	5.05	3.69
1,180.09	5.03	3.72
1,180.10	5.02	3.74
1,180.11	5.00	3.75
1,180.12	4.98	3.76
1,180.13	4.95	3.77
1,180.14	4.92	**3.77**
1,180.15	4.89	3.77
1,180.16	4.85	3.76
1,180.17	4.80	3.74
1,180.18	4.74	3.70
1,180.19	4.66	3.65
1,180.20	4.46	3.50

Summary for Reach DMH19: TO DMH-A1

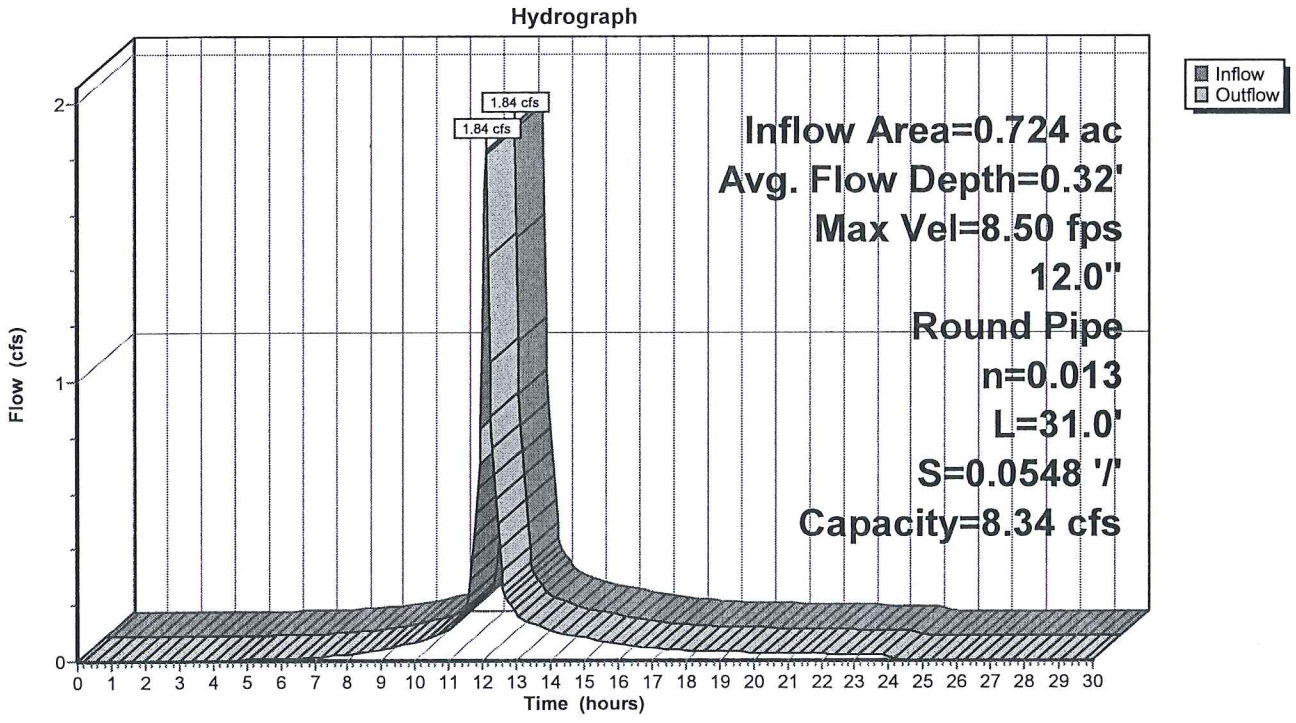
Inflow Area = 0.724 ac, 81.12% Impervious, Inflow Depth = 2.29" for 2-Year event
Inflow = 1.84 cfs @ 12.09 hrs, Volume= 0.138 af
Outflow = 1.84 cfs @ 12.09 hrs, Volume= 0.138 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.50 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.75 fps, Avg. Travel Time= 0.2 min

Peak Storage= 7 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.32'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.34 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 31.0' Slope= 0.0548 '/'
Inlet Invert= 1,177.10', Outlet Invert= 1,175.40'





Stage-Discharge for Reach DMH19: TO DMH-A1

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,177.10	0.00	0.00
1,177.11	0.95	0.00
1,177.12	1.50	0.01
1,177.13	1.95	0.01
1,177.14	2.36	0.02
1,177.15	2.73	0.04
1,177.16	3.07	0.06
1,177.17	3.39	0.08
1,177.18	3.70	0.11
1,177.19	3.99	0.14
1,177.20	4.26	0.17
1,177.21	4.53	0.21
1,177.22	4.78	0.26
1,177.23	5.02	0.30
1,177.24	5.26	0.35
1,177.25	5.49	0.41
1,177.26	5.71	0.46
1,177.27	5.93	0.52
1,177.28	6.13	0.59
1,177.29	6.34	0.66
1,177.30	6.53	0.73
1,177.31	6.73	0.81
1,177.32	6.91	0.89
1,177.33	7.09	0.97
1,177.34	7.27	1.05
1,177.35	7.44	1.14
1,177.36	7.61	1.24
1,177.37	7.78	1.33
1,177.38	7.94	1.43
1,177.39	8.09	1.53
1,177.40	8.24	1.63
1,177.41	8.39	1.74
1,177.42	8.54	1.85
1,177.43	8.68	1.96
1,177.44	8.82	2.08
1,177.45	8.95	2.19
1,177.46	9.09	2.31
1,177.47	9.22	2.43
1,177.48	9.34	2.56
1,177.49	9.46	2.68
1,177.50	9.58	2.81
1,177.51	9.70	2.94
1,177.52	9.81	3.07
1,177.53	9.93	3.21
1,177.54	10.03	3.34
1,177.55	10.14	3.48
1,177.56	10.24	3.61
1,177.57	10.34	3.75
1,177.58	10.44	3.89
1,177.59	10.53	4.03
1,177.60	10.62	4.17
1,177.61	10.71	4.31
1,177.62	10.80	4.46
1,177.63	10.88	4.60
1,177.64	10.96	4.74
1,177.65	11.04	4.89
1,177.66	11.12	5.03
1,177.67	11.19	5.17
1,177.68	11.26	5.32
1,177.69	11.33	5.46
1,177.70	11.39	5.61
1,177.71	11.45	5.75
1,177.72	11.51	5.89
1,177.73	11.57	6.03
1,177.74	11.63	6.17
1,177.75	11.68	6.31
1,177.76	11.73	6.45
1,177.77	11.77	6.59
1,177.78	11.82	6.72
1,177.79	11.86	6.85
1,177.80	11.90	6.99
1,177.81	11.93	7.11
1,177.82	11.96	7.24
1,177.83	11.99	7.37
1,177.84	12.02	7.49
1,177.85	12.04	7.61
1,177.86	12.06	7.72
1,177.87	12.08	7.84
1,177.88	12.09	7.95
1,177.89	12.10	8.05
1,177.90	12.11	8.16
1,177.91	**12.11**	8.25
1,177.92	12.11	8.35
1,177.93	12.10	8.44
1,177.94	12.10	8.52
1,177.95	12.08	8.60
1,177.96	12.07	8.67
1,177.97	12.04	8.74
1,177.98	12.02	8.80
1,177.99	11.98	8.85
1,178.00	11.94	8.89
1,178.01	11.90	8.93
1,178.02	11.85	8.95
1,178.03	11.78	8.97
1,178.04	11.71	**8.97**
1,178.05	11.63	8.96
1,178.06	11.54	8.94
1,178.07	11.42	8.89
1,178.08	11.28	8.82
1,178.09	11.09	8.69
1,178.10	10.62	8.34

Summary for Reach DMH2: TO DMH#3

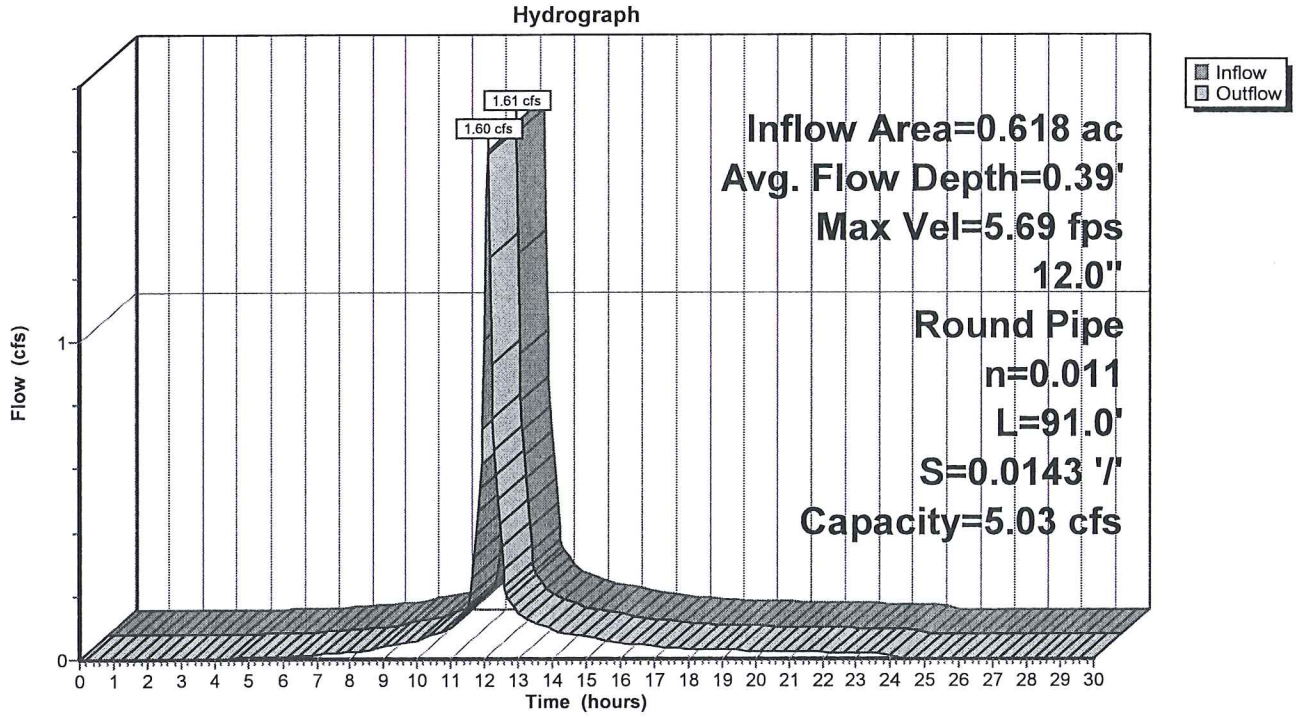
Inflow Area = 0.618 ac, 81.95% Impervious, Inflow Depth = 2.35" for 2-Year event
Inflow = 1.61 cfs @ 12.08 hrs, Volume= 0.121 af
Outflow = 1.60 cfs @ 12.09 hrs, Volume= 0.121 af, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.69 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.84 fps, Avg. Travel Time= 0.8 min

Peak Storage= 26 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.39'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.03 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 91.0' Slope= 0.0143 '/'
Inlet Invert= 1,174.60', Outlet Invert= 1,173.30'





Stage-Discharge for Reach DMH2: TO DMH#3

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,174.60	0.00	0.00
1,174.61	0.57	0.00
1,174.62	0.90	0.00
1,174.63	1.18	0.01
1,174.64	1.42	0.01
1,174.65	1.65	0.02
1,174.66	1.85	0.04
1,174.67	2.05	0.05
1,174.68	2.23	0.07
1,174.69	2.40	0.08
1,174.70	2.57	0.11
1,174.71	2.73	0.13
1,174.72	2.88	0.15
1,174.73	3.03	0.18
1,174.74	3.17	0.21
1,174.75	3.31	0.24
1,174.76	3.45	0.28
1,174.77	3.57	0.32
1,174.78	3.70	0.36
1,174.79	3.82	0.40
1,174.80	3.94	0.44
1,174.81	4.06	0.49
1,174.82	4.17	0.53
1,174.83	4.28	0.58
1,174.84	4.39	0.64
1,174.85	4.49	0.69
1,174.86	4.59	0.74
1,174.87	4.69	0.80
1,174.88	4.79	0.86
1,174.89	4.88	0.92
1,174.90	4.97	0.99
1,174.91	5.06	1.05
1,174.92	5.15	1.12
1,174.93	5.24	1.18
1,174.94	5.32	1.25
1,174.95	5.40	1.32
1,174.96	5.48	1.40
1,174.97	5.56	1.47
1,174.98	5.63	1.54
1,174.99	5.71	1.62
1,175.00	5.78	1.70
1,175.01	5.85	1.77
1,175.02	5.92	1.85
1,175.03	5.99	1.93
1,175.04	6.05	2.01
1,175.05	6.12	2.10
1,175.06	6.18	2.18
1,175.07	6.24	2.26
1,175.08	6.30	2.35
1,175.09	6.35	2.43
1,175.10	6.41	2.52
1,175.11	6.46	2.60
1,175.12	6.51	2.69
1,175.13	6.56	2.77
1,175.14	6.61	2.86
1,175.15	6.66	2.95
1,175.16	6.71	3.03
1,175.17	6.75	3.12
1,175.18	6.79	3.21
1,175.19	6.83	3.29
1,175.20	6.87	3.38
1,175.21	6.91	3.47
1,175.22	6.95	3.55
1,175.23	6.98	3.64
1,175.24	7.01	3.72
1,175.25	7.04	3.81
1,175.26	7.07	3.89
1,175.27	7.10	3.97
1,175.28	7.13	4.05
1,175.29	7.15	4.13
1,175.30	7.18	4.21
1,175.31	7.20	4.29
1,175.32	7.22	4.37
1,175.33	7.23	4.44
1,175.34	7.25	4.52
1,175.35	7.26	4.59
1,175.36	7.28	4.66
1,175.37	7.29	4.73
1,175.38	7.29	4.79
1,175.39	7.30	4.86
1,175.40	7.30	4.92
1,175.41	**7.30**	4.98
1,175.42	7.30	5.03
1,175.43	7.30	5.09
1,175.44	7.30	5.14
1,175.45	7.29	5.19
1,175.46	7.28	5.23
1,175.47	7.26	5.27
1,175.48	7.25	5.31
1,175.49	7.23	5.34
1,175.50	7.20	5.36
1,175.51	7.18	5.39
1,175.52	7.15	5.40
1,175.53	7.11	5.41
1,175.54	7.07	**5.41**
1,175.55	7.02	5.41
1,175.56	6.96	5.39
1,175.57	6.89	5.36
1,175.58	6.80	5.32
1,175.59	6.69	5.24
1,175.60	6.41	5.03

Summary for Reach DMH3: TO DMH#4

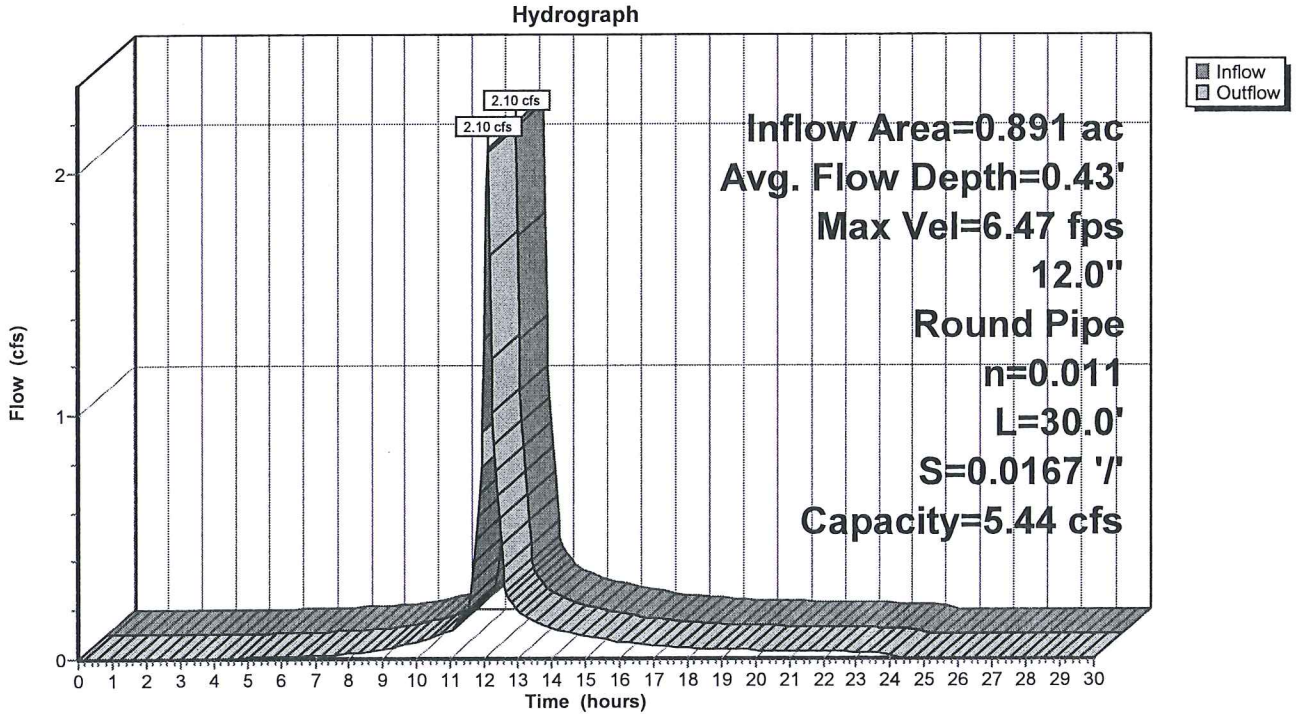
Inflow Area = 0.891 ac, 70.65% Impervious, Inflow Depth = 2.11" for 2-Year event
Inflow = 2.10 cfs @ 12.09 hrs, Volume= 0.157 af
Outflow = 2.10 cfs @ 12.09 hrs, Volume= 0.157 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.47 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.08 fps, Avg. Travel Time= 0.2 min

Peak Storage= 10 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.43'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.44 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 30.0' Slope= 0.0167 '/'
Inlet Invert= 1,173.30', Outlet Invert= 1,172.80'





Stage-Discharge for Reach DMH3: TO DMH#4

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,173.30	0.00	0.00
1,173.31	0.62	0.00
1,173.32	0.97	0.00
1,173.33	1.27	0.01
1,173.34	1.54	0.02
1,173.35	1.78	0.03
1,173.36	2.00	0.04
1,173.37	2.21	0.05
1,173.38	2.41	0.07
1,173.39	2.60	0.09
1,173.40	2.78	0.11
1,173.41	2.95	0.14
1,173.42	3.11	0.17
1,173.43	3.27	0.20
1,173.44	3.43	0.23
1,173.45	3.58	0.26
1,173.46	3.72	0.30
1,173.47	3.86	0.34
1,173.48	4.00	0.38
1,173.49	4.13	0.43
1,173.50	4.26	0.48
1,173.51	4.38	0.53
1,173.52	4.50	0.58
1,173.53	4.62	0.63
1,173.54	4.74	0.69
1,173.55	4.85	0.74
1,173.56	4.96	0.80
1,173.57	5.07	0.87
1,173.58	5.17	0.93
1,173.59	5.27	1.00
1,173.60	5.37	1.06
1,173.61	5.47	1.13
1,173.62	5.56	1.21
1,173.63	5.66	1.28
1,173.64	5.75	1.35
1,173.65	5.83	1.43
1,173.66	5.92	1.51
1,173.67	6.00	1.59
1,173.68	6.09	1.67
1,173.69	6.17	1.75
1,173.70	6.24	1.83
1,173.71	6.32	1.92
1,173.72	6.39	2.00
1,173.73	6.47	2.09
1,173.74	6.54	2.18
1,173.75	6.61	2.26
1,173.76	6.67	2.35
1,173.77	6.74	2.44
1,173.78	6.80	2.53
1,173.79	6.86	2.63
1,173.80	6.92	2.72
1,173.81	6.98	2.81
1,173.82	7.04	2.90
1,173.83	7.09	3.00
1,173.84	7.14	3.09
1,173.85	7.19	3.18
1,173.86	7.24	3.28
1,173.87	7.29	3.37
1,173.88	7.34	3.47
1,173.89	7.38	3.56
1,173.90	7.42	3.65
1,173.91	7.46	3.74
1,173.92	7.50	3.84
1,173.93	7.54	3.93
1,173.94	7.57	4.02
1,173.95	7.61	4.11
1,173.96	7.64	4.20
1,173.97	7.67	4.29
1,173.98	7.70	4.38
1,173.99	7.73	4.47
1,174.00	7.75	4.55
1,174.01	7.77	4.64
1,174.02	7.79	4.72
1,174.03	7.81	4.80
1,174.04	7.83	4.88
1,174.05	7.84	4.96
1,174.06	7.86	5.03
1,174.07	7.87	5.11
1,174.08	7.88	5.18
1,174.09	7.88	5.25
1,174.10	7.89	5.31
1,174.11	**7.89**	5.38
1,174.12	7.89	5.44
1,174.13	7.89	5.50
1,174.14	7.88	5.55
1,174.15	7.87	5.60
1,174.16	7.86	5.65
1,174.17	7.85	5.69
1,174.18	7.83	5.73
1,174.19	7.81	5.76
1,174.20	7.78	5.79
1,174.21	7.75	5.82
1,174.22	7.72	5.83
1,174.23	7.68	5.84
1,174.24	7.63	**5.85**
1,174.25	7.58	5.84
1,174.26	7.52	5.82
1,174.27	7.44	5.79
1,174.28	7.35	5.74
1,174.29	7.22	5.66
1,174.30	6.92	5.44

Summary for Reach DMH4: TO DMH-E

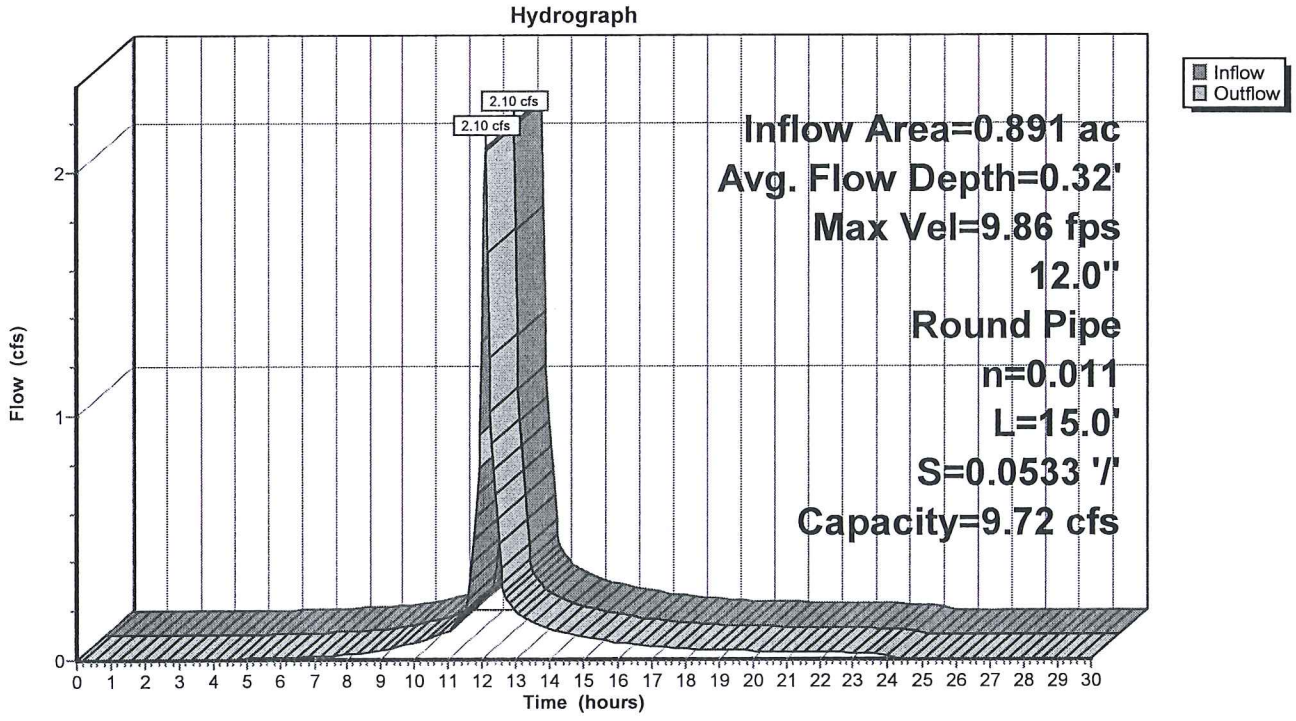
Inflow Area = 0.891 ac, 70.65% Impervious, Inflow Depth = 2.11" for 2-Year event
Inflow = 2.10 cfs @ 12.09 hrs, Volume= 0.157 af
Outflow = 2.10 cfs @ 12.09 hrs, Volume= 0.157 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.86 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.14 fps, Avg. Travel Time= 0.1 min

Peak Storage= 3 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.32'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 9.72 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 15.0' Slope= 0.0533 '/'
Inlet Invert= 1,172.80', Outlet Invert= 1,172.00'





Stage-Discharge for Reach DMH4: TO DMH-E

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,172.80	0.00	0.00
1,172.81	1.10	0.00
1,172.82	1.74	0.01
1,172.83	2.28	0.02
1,172.84	2.75	0.03
1,172.85	3.18	0.05
1,172.86	3.58	0.07
1,172.87	3.95	0.10
1,172.88	4.31	0.13
1,172.89	4.65	0.16
1,172.90	4.97	0.20
1,172.91	5.27	0.25
1,172.92	5.57	0.30
1,172.93	5.86	0.35
1,172.94	6.13	0.41
1,172.95	6.40	0.47
1,172.96	6.66	0.54
1,172.97	6.91	0.61
1,172.98	7.15	0.69
1,172.99	7.39	0.77
1,173.00	7.61	0.85
1,173.01	7.84	0.94
1,173.02	8.06	1.03
1,173.03	8.27	1.13
1,173.04	8.47	1.23
1,173.05	8.67	1.33
1,173.06	8.87	1.44
1,173.07	9.06	1.55
1,173.08	9.25	1.67
1,173.09	9.43	1.78
1,173.10	9.61	1.90
1,173.11	9.78	2.03
1,173.12	9.95	2.16
1,173.13	10.12	2.29
1,173.14	10.28	2.42
1,173.15	10.44	2.56
1,173.16	10.59	2.70
1,173.17	10.74	2.84
1,173.18	10.89	2.98
1,173.19	11.03	3.13
1,173.20	11.17	3.28
1,173.21	11.31	3.43
1,173.22	11.44	3.58
1,173.23	11.57	3.74
1,173.24	11.69	3.89
1,173.25	11.82	4.05
1,173.26	11.94	4.21
1,173.27	12.05	4.37
1,173.28	12.16	4.53
1,173.29	12.27	4.70
1,173.30	12.38	4.86
1,173.31	12.48	5.03
1,173.32	12.58	5.19
1,173.33	12.68	5.36
1,173.34	12.78	5.53
1,173.35	12.87	5.70
1,173.36	12.96	5.86
1,173.37	13.04	6.03
1,173.38	13.12	6.20
1,173.39	13.20	6.37
1,173.40	13.28	6.53
1,173.41	13.35	6.70
1,173.42	13.42	6.86
1,173.43	13.49	7.03
1,173.44	13.55	7.19
1,173.45	13.61	7.36
1,173.46	13.67	7.52
1,173.47	13.72	7.68
1,173.48	13.77	7.83
1,173.49	13.82	7.99
1,173.50	13.86	8.14
1,173.51	13.90	8.29
1,173.52	13.94	8.44
1,173.53	13.98	8.59
1,173.54	14.01	8.73
1,173.55	14.03	8.87
1,173.56	14.06	9.00
1,173.57	14.08	9.13
1,173.58	14.09	9.26
1,173.59	14.10	9.39
1,173.60	14.11	9.50
1,173.61	**14.11**	9.62
1,173.62	14.11	9.73
1,173.63	14.11	9.83
1,173.64	14.10	9.93
1,173.65	14.08	10.02
1,173.66	14.06	10.10
1,173.67	14.04	10.18
1,173.68	14.00	10.25
1,173.69	13.97	10.31
1,173.70	13.92	10.36
1,173.71	13.87	10.41
1,173.72	13.81	10.44
1,173.73	13.73	10.46
1,173.74	13.65	**10.46**
1,173.75	13.56	10.45
1,173.76	13.44	10.42
1,173.77	13.31	10.36
1,173.78	13.15	10.28
1,173.79	12.92	10.13
1,173.80	12.38	9.72

Summary for Reach DMH5: TO DMH#6

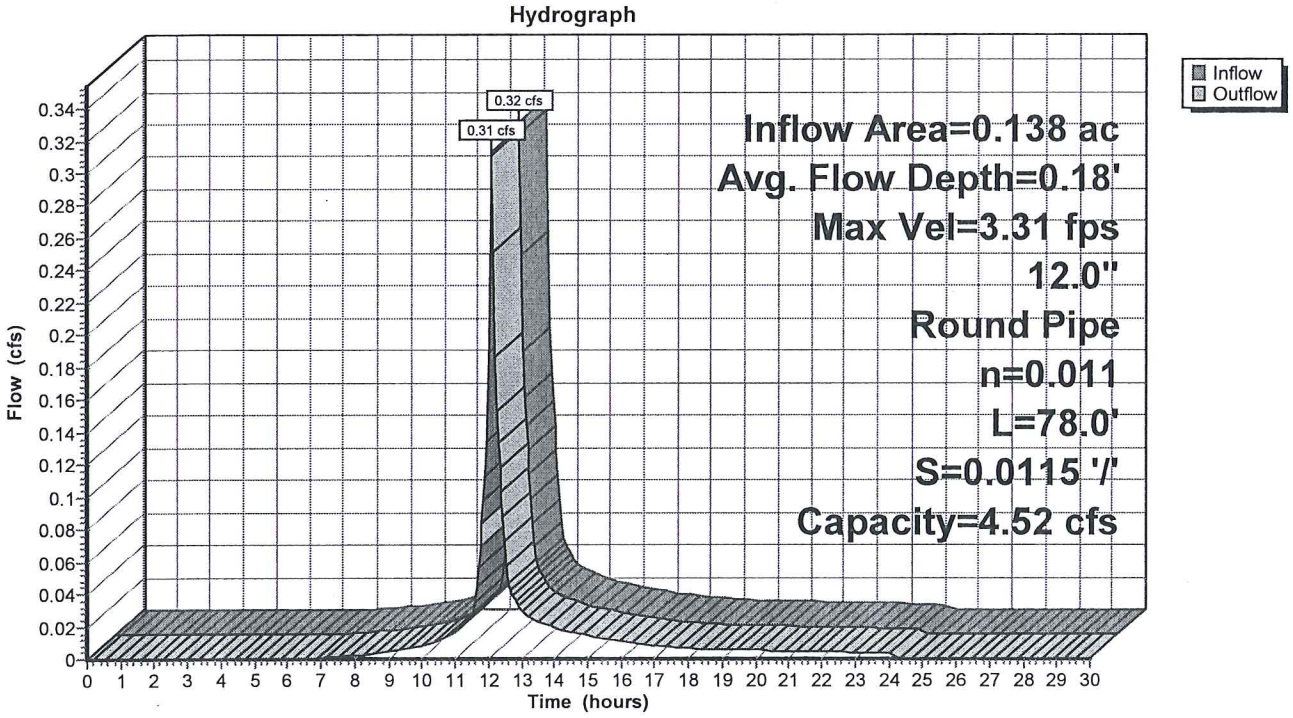
Inflow Area = 0.138 ac, 68.08% Impervious, Inflow Depth = 1.98" for 2-Year event
Inflow = 0.32 cfs @ 12.08 hrs, Volume= 0.023 af
Outflow = 0.31 cfs @ 12.09 hrs, Volume= 0.023 af, Atten= 1%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.31 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 1.12 fps, Avg. Travel Time= 1.2 min

Peak Storage= 7 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.18'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.52 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 78.0' Slope= 0.0115 '/'
Inlet Invert= 1,171.90', Outlet Invert= 1,171.00'





Stage-Discharge for Reach DMH5: TO DMH#6

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,171.90	0.00	0.00
1,171.91	0.51	0.00
1,171.92	0.81	0.00
1,171.93	1.06	0.01
1,171.94	1.28	0.01
1,171.95	1.48	0.02
1,171.96	1.67	0.03
1,171.97	1.84	0.04
1,171.98	2.00	0.06
1,171.99	2.16	0.08
1,172.00	2.31	0.09
1,172.01	2.45	0.12
1,172.02	2.59	0.14
1,172.03	2.72	0.16
1,172.04	2.85	0.19
1,172.05	2.98	0.22
1,172.06	3.10	0.25
1,172.07	3.21	0.28
1,172.08	3.33	0.32
1,172.09	3.44	0.36
1,172.10	3.54	0.40
1,172.11	3.65	0.44
1,172.12	3.75	0.48
1,172.13	3.85	0.52
1,172.14	3.94	0.57
1,172.15	4.03	0.62
1,172.16	4.13	0.67
1,172.17	4.22	0.72
1,172.18	4.30	0.77
1,172.19	4.39	0.83
1,172.20	4.47	0.89
1,172.21	4.55	0.94
1,172.22	4.63	1.00
1,172.23	4.71	1.06
1,172.24	4.78	1.13
1,172.25	4.85	1.19
1,172.26	4.93	1.25
1,172.27	5.00	1.32
1,172.28	5.06	1.39
1,172.29	5.13	1.45
1,172.30	5.20	1.52
1,172.31	5.26	1.59
1,172.32	5.32	1.67
1,172.33	5.38	1.74
1,172.34	5.44	1.81
1,172.35	5.50	1.88
1,172.36	5.55	1.96
1,172.37	5.61	2.03
1,172.38	5.66	2.11
1,172.39	5.71	2.18
1,172.40	5.76	2.26
1,172.41	5.81	2.34
1,172.42	5.85	2.42
1,172.43	5.90	2.49
1,172.44	5.94	2.57
1,172.45	5.99	2.65
1,172.46	6.03	2.73
1,172.47	6.07	2.81
1,172.48	6.10	2.88
1,172.49	6.14	2.96
1,172.50	6.18	3.04
1,172.51	6.21	3.12
1,172.52	6.24	3.19
1,172.53	6.27	3.27
1,172.54	6.30	3.35
1,172.55	6.33	3.42
1,172.56	6.36	3.50
1,172.57	6.38	3.57
1,172.58	6.41	3.64
1,172.59	6.43	3.72
1,172.60	6.45	3.79
1,172.61	6.47	3.86
1,172.62	6.48	3.93
1,172.63	6.50	3.99
1,172.64	6.51	4.06
1,172.65	6.53	4.12
1,172.66	6.54	4.19
1,172.67	6.55	4.25
1,172.68	6.55	4.31
1,172.69	6.56	4.37
1,172.70	6.56	4.42
1,172.71	**6.57**	4.47
1,172.72	6.56	4.52
1,172.73	6.56	4.57
1,172.74	6.56	4.62
1,172.75	6.55	4.66
1,172.76	6.54	4.70
1,172.77	6.53	4.74
1,172.78	6.51	4.77
1,172.79	6.50	4.80
1,172.80	6.47	4.82
1,172.81	6.45	4.84
1,172.82	6.42	4.85
1,172.83	6.39	4.86
1,172.84	6.35	**4.87**
1,172.85	6.31	4.86
1,172.86	6.25	4.85
1,172.87	6.19	4.82
1,172.88	6.11	4.78
1,172.89	6.01	4.71
1,172.90	5.76	4.52

Summary for Reach DMH6: TO DCB-

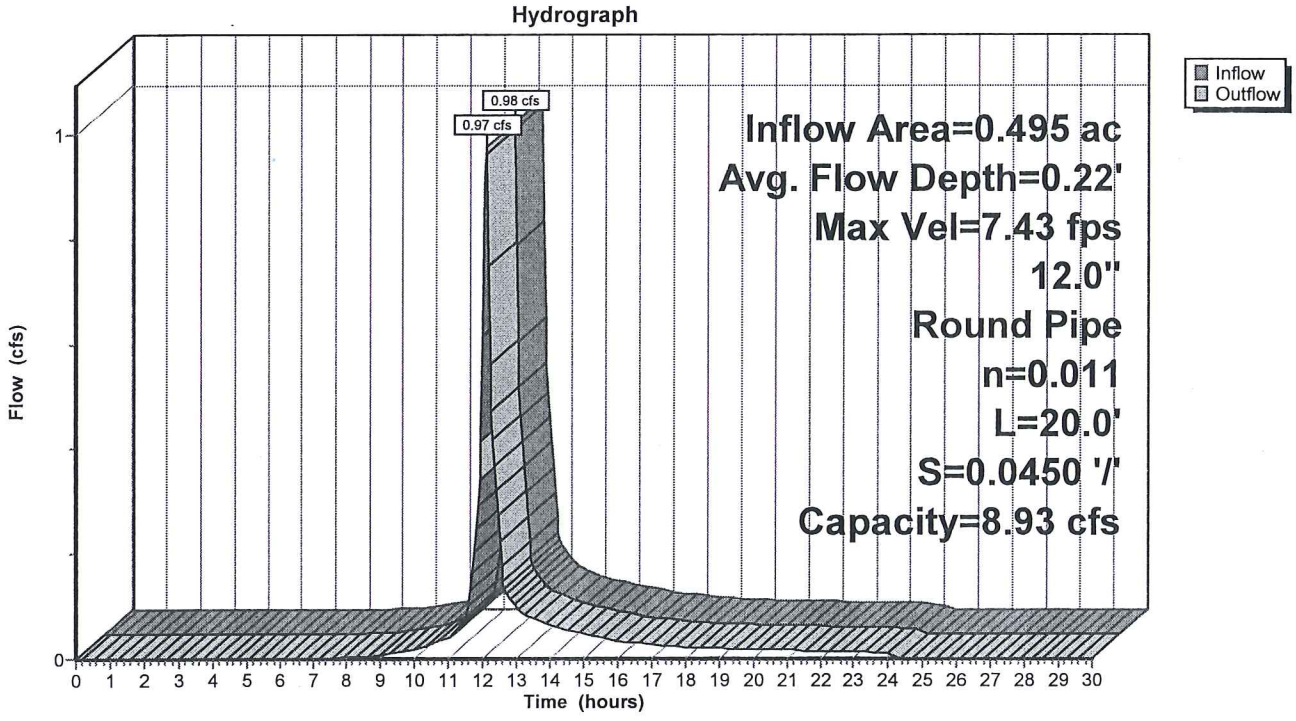
Inflow Area = 0.495 ac, 51.53% Impervious, Inflow Depth = 1.70" for 2-Year event
Inflow = 0.98 cfs @ 12.08 hrs, Volume= 0.070 af
Outflow = 0.97 cfs @ 12.08 hrs, Volume= 0.070 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.43 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.50 fps, Avg. Travel Time= 0.1 min

Peak Storage= 3 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.22'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.93 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 20.0' Slope= 0.0450 '/'
Inlet Invert= 1,170.90', Outlet Invert= 1,170.00'





Stage-Discharge for Reach DMH6: TO DCB-

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,170.90	0.00	0.00
1,170.91	1.01	0.00
1,170.92	1.60	0.01
1,170.93	2.09	0.01
1,170.94	2.53	0.03
1,170.95	2.92	0.04
1,170.96	3.29	0.06
1,170.97	3.63	0.09
1,170.98	3.96	0.12
1,170.99	4.27	0.15
1,171.00	4.56	0.19
1,171.01	4.85	0.23
1,171.02	5.12	0.27
1,171.03	5.38	0.32
1,171.04	5.63	0.38
1,171.05	5.88	0.43
1,171.06	6.11	0.50
1,171.07	6.34	0.56
1,171.08	6.57	0.63
1,171.09	6.78	0.70
1,171.10	6.99	0.78
1,171.11	7.20	0.86
1,171.12	7.40	0.95
1,171.13	7.59	1.04
1,171.14	7.78	1.13
1,171.15	7.97	1.22
1,171.16	8.15	1.32
1,171.17	8.32	1.42
1,171.18	8.50	1.53
1,171.19	8.66	1.64
1,171.20	8.83	1.75
1,171.21	8.99	1.86
1,171.22	9.14	1.98
1,171.23	9.29	2.10
1,171.24	9.44	2.22
1,171.25	9.59	2.35
1,171.26	9.73	2.48
1,171.27	9.87	2.61
1,171.28	10.00	2.74
1,171.29	10.13	2.87
1,171.30	10.26	3.01
1,171.31	10.38	3.15
1,171.32	10.51	3.29
1,171.33	10.63	3.43
1,171.34	10.74	3.58
1,171.35	10.85	3.72
1,171.36	10.96	3.87
1,171.37	11.07	4.02
1,171.38	11.17	4.16
1,171.39	11.27	4.31
1,171.40	11.37	4.47
1,171.41	11.47	4.62
1,171.42	11.56	4.77
1,171.43	11.65	4.92
1,171.44	11.74	5.08
1,171.45	11.82	5.23
1,171.46	11.90	5.39
1,171.47	11.98	5.54
1,171.48	12.05	5.69
1,171.49	12.13	5.85
1,171.50	12.20	6.00
1,171.51	12.26	6.15
1,171.52	12.33	6.31
1,171.53	12.39	6.46
1,171.54	12.45	6.61
1,171.55	12.50	6.76
1,171.56	12.55	6.90
1,171.57	12.60	7.05
1,171.58	12.65	7.19
1,171.59	12.69	7.34
1,171.60	12.73	7.48
1,171.61	12.77	7.62
1,171.62	12.81	7.75
1,171.63	12.84	7.89
1,171.64	12.87	8.02
1,171.65	12.89	8.14
1,171.66	12.91	8.27
1,171.67	12.93	8.39
1,171.68	12.94	8.51
1,171.69	12.95	8.62
1,171.70	12.96	8.73
1,171.71	**12.96**	8.84
1,171.72	12.96	8.94
1,171.73	12.96	9.03
1,171.74	12.95	9.12
1,171.75	12.94	9.20
1,171.76	12.92	9.28
1,171.77	12.89	9.35
1,171.78	12.86	9.42
1,171.79	12.83	9.47
1,171.80	12.79	9.52
1,171.81	12.74	9.56
1,171.82	12.68	9.59
1,171.83	12.62	9.60
1,171.84	12.54	**9.61**
1,171.85	12.45	9.60
1,171.86	12.35	9.57
1,171.87	12.23	9.52
1,171.88	12.07	9.44
1,171.89	11.87	9.31
1,171.90	11.37	8.93

Summary for Reach DMHA: TO DP#1

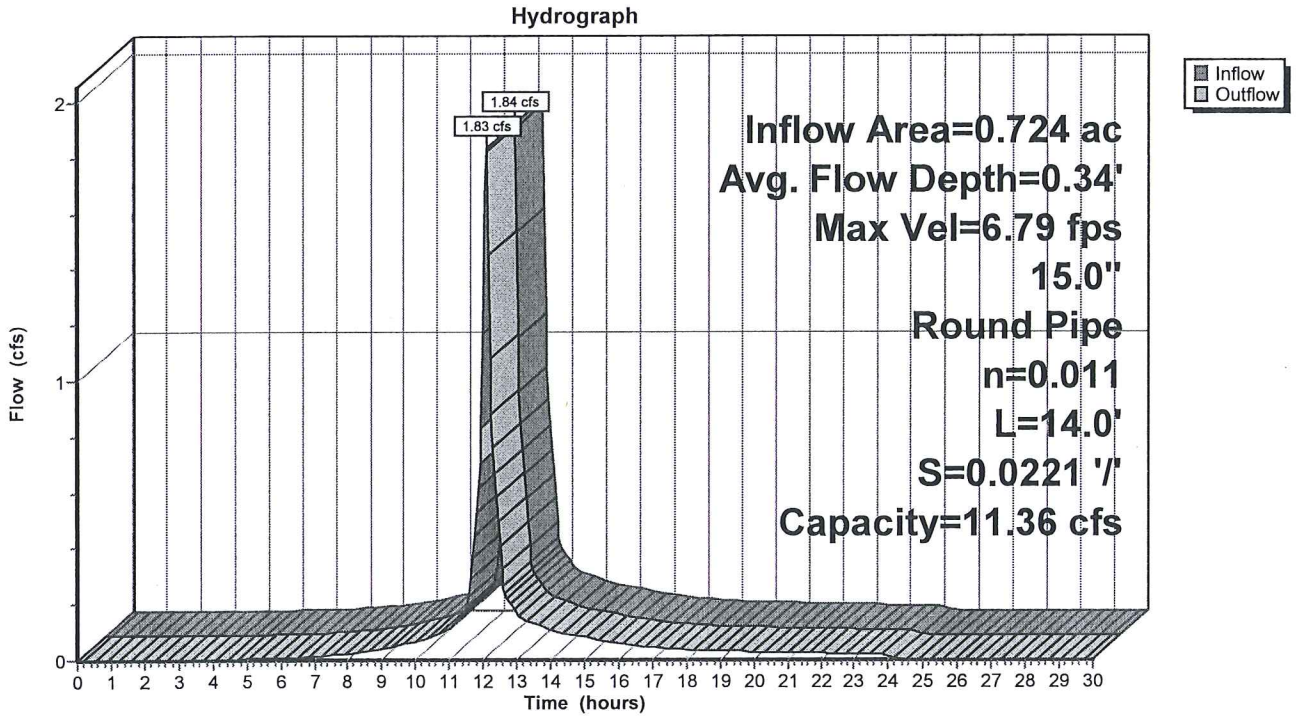
Inflow Area = 0.724 ac, 81.12% Impervious, Inflow Depth = 2.29" for 2-Year event
Inflow = 1.84 cfs @ 12.09 hrs, Volume= 0.138 af
Outflow = 1.83 cfs @ 12.09 hrs, Volume= 0.138 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.79 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.19 fps, Avg. Travel Time= 0.1 min

Peak Storage= 4 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.34'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 11.36 cfs

15.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 14.0' Slope= 0.0221 '/'
Inlet Invert= 1,175.35', Outlet Invert= 1,175.04'





Stage-Discharge for Reach DMHA: TO DP#1

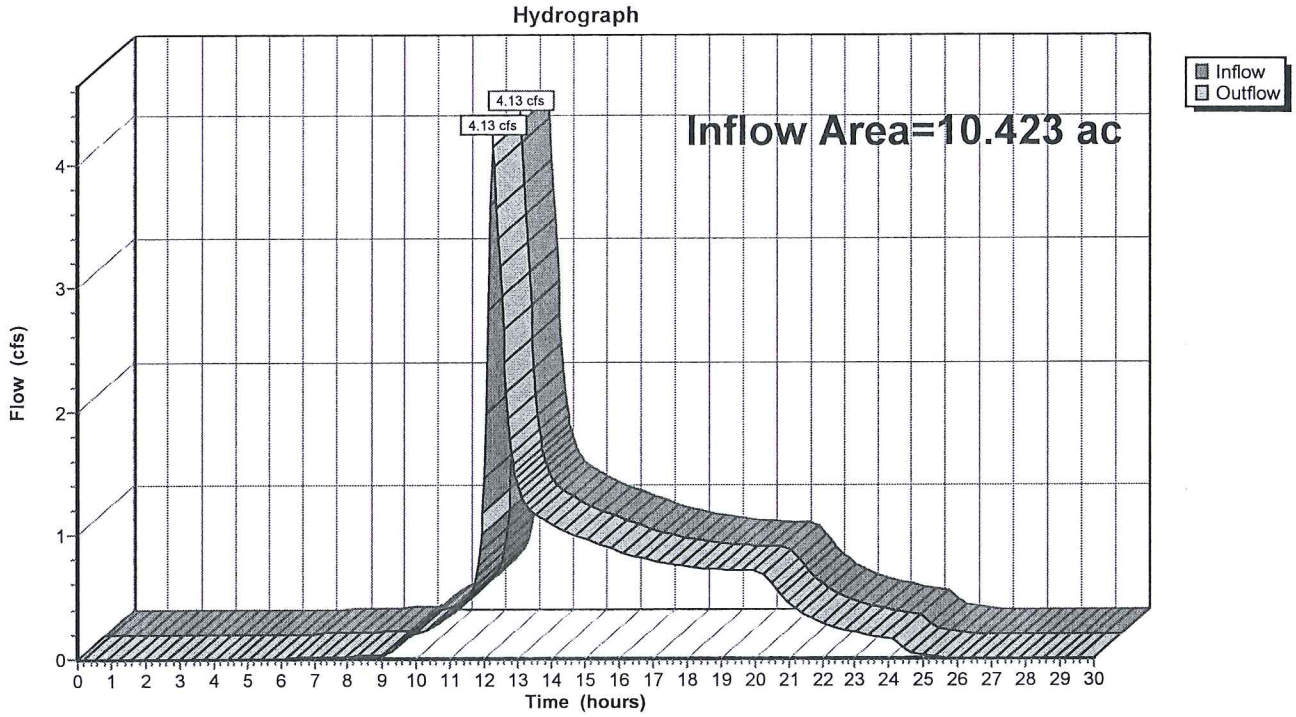
Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.35	0.00	0.00
1,175.36	0.66	0.00
1,175.37	1.11	0.01
1,175.38	1.46	0.01
1,175.39	1.77	0.02
1,175.40	2.06	0.03
1,175.41	2.31	0.05
1,175.42	2.56	0.07
1,175.43	2.79	0.09
1,175.44	3.01	0.12
1,175.45	3.22	0.15
1,175.46	3.42	0.18
1,175.47	3.62	0.22
1,175.48	3.81	0.26
1,175.49	3.99	0.30
1,175.50	4.17	0.35
1,175.51	4.34	0.40
1,175.52	4.50	0.45
1,175.53	4.66	0.51
1,175.54	4.82	0.57
1,175.55	4.98	0.63
1,175.56	5.13	0.70
1,175.57	5.27	0.77
1,175.58	5.42	0.84
1,175.59	5.56	0.92
1,175.60	5.69	0.99
1,175.61	5.83	1.08
1,175.62	5.96	1.16
1,175.63	6.09	1.25
1,175.64	6.21	1.34
1,175.65	6.34	1.43
1,175.66	6.46	1.53
1,175.67	6.57	1.63
1,175.68	6.69	1.73
1,175.69	6.80	1.84
1,175.70	6.92	1.95
1,175.71	7.02	2.06
1,175.72	7.13	2.17
1,175.73	7.24	2.28
1,175.74	7.34	2.40
1,175.75	7.44	2.52
1,175.76	7.54	2.64
1,175.77	7.64	2.77
1,175.78	7.73	2.89
1,175.79	7.83	3.02
1,175.80	7.92	3.15
1,175.81	8.01	3.28
1,175.82	8.10	3.42
1,175.83	8.18	3.55
1,175.84	8.27	3.69
1,175.85	8.35	3.83
1,175.86	8.43	3.97
1,175.87	8.51	4.11
1,175.88	8.59	4.26
1,175.89	8.67	4.40
1,175.90	8.74	4.55
1,175.91	8.82	4.69
1,175.92	8.89	4.84
1,175.93	8.96	4.99
1,175.94	9.03	5.14
1,175.95	9.10	5.30
1,175.96	9.16	5.45
1,175.97	9.23	5.60
1,175.98	9.29	5.76
1,175.99	9.35	5.91
1,176.00	9.41	6.07
1,176.01	9.47	6.22
1,176.02	9.52	6.38
1,176.03	9.58	6.54
1,176.04	9.63	6.69
1,176.05	9.69	6.85
1,176.06	9.74	7.01
1,176.07	9.79	7.16
1,176.08	9.84	7.32
1,176.09	9.88	7.48
1,176.10	9.93	7.63
1,176.11	9.97	7.79
1,176.12	10.01	7.94
1,176.13	10.05	8.10
1,176.14	10.09	8.25
1,176.15	10.13	8.40
1,176.16	10.17	8.56
1,176.17	10.20	8.71
1,176.18	10.24	8.86
1,176.19	10.27	9.00
1,176.20	10.30	9.15
1,176.21	10.33	9.30
1,176.22	10.35	9.44
1,176.23	10.38	9.58
1,176.24	10.40	9.72
1,176.25	10.42	9.86
1,176.26	10.44	10.00
1,176.27	10.46	10.13
1,176.28	10.48	10.26
1,176.29	10.50	10.39
1,176.30	10.51	10.52
1,176.31	10.52	10.64
1,176.32	10.53	10.76
1,176.33	10.54	10.88
1,176.34	10.55	10.99
1,176.35	10.55	11.10
1,176.36	10.55	11.21
1,176.37	**10.55**	11.31
1,176.38	10.55	11.41
1,176.39	10.55	11.51
1,176.40	10.54	11.60
1,176.41	10.53	11.68
1,176.42	10.52	11.77
1,176.43	10.51	11.84
1,176.44	10.49	11.91
1,176.45	10.47	11.98
1,176.46	10.45	12.03
1,176.47	10.42	12.08
1,176.48	10.39	12.13
1,176.49	10.36	12.16
1,176.50	10.32	12.19
1,176.51	10.28	12.21
1,176.52	10.23	**12.22**
1,176.53	10.18	12.21
1,176.54	10.12	12.20
1,176.55	10.05	12.17
1,176.56	9.97	12.12
1,176.57	9.88	12.05
1,176.58	9.76	11.94
1,176.59	9.58	11.74
1,176.60	9.26	11.36

Summary for Reach DP#1: CRYSTAL LAKE

Inflow Area = 10.423 ac, 31.06% Impervious, Inflow Depth = 1.07" for 2-Year event
Inflow = 4.13 cfs @ 12.22 hrs, Volume= 0.930 af
Outflow = 4.13 cfs @ 12.22 hrs, Volume= 0.930 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DP#1: CRYSTAL LAKE

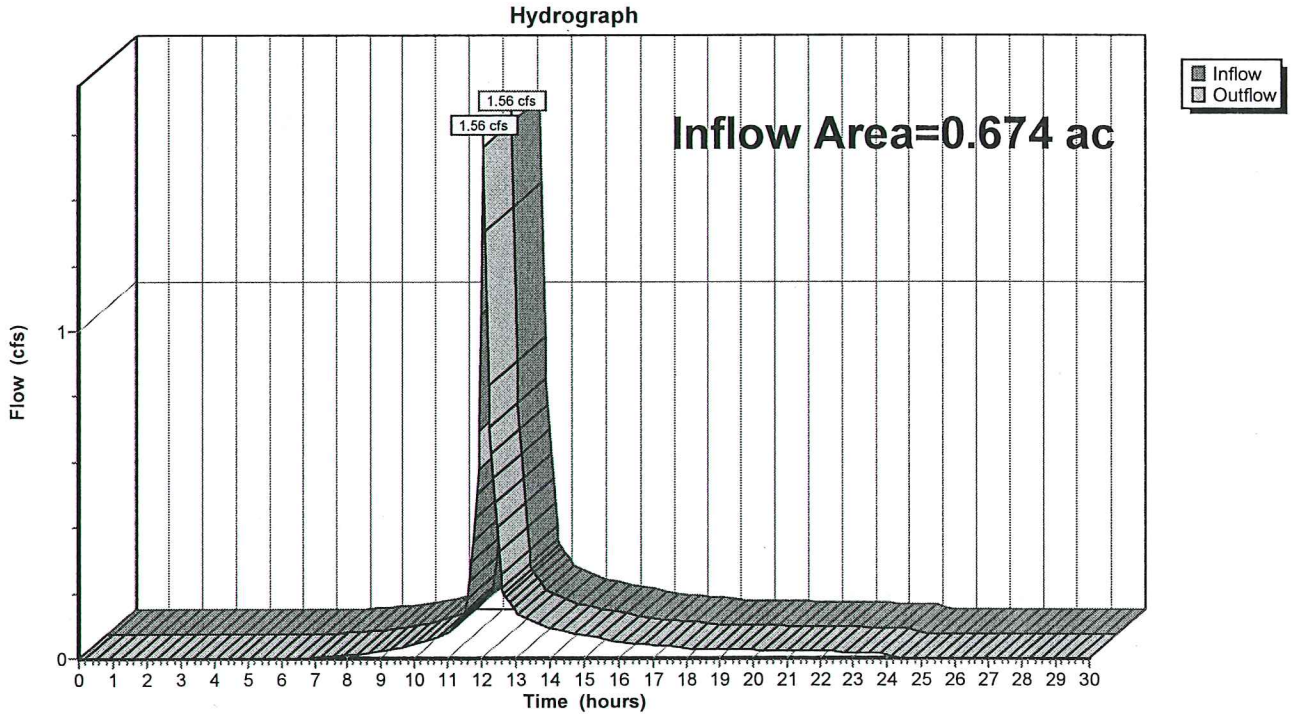


Summary for Reach DP#2: EX RAIN GARDEN

Inflow Area = 0.674 ac, 66.34% Impervious, Inflow Depth = 1.98" for 2-Year event
Inflow = 1.56 cfs @ 12.07 hrs, Volume= 0.111 af
Outflow = 1.56 cfs @ 12.07 hrs, Volume= 0.111 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DP#2: EX RAIN GARDEN

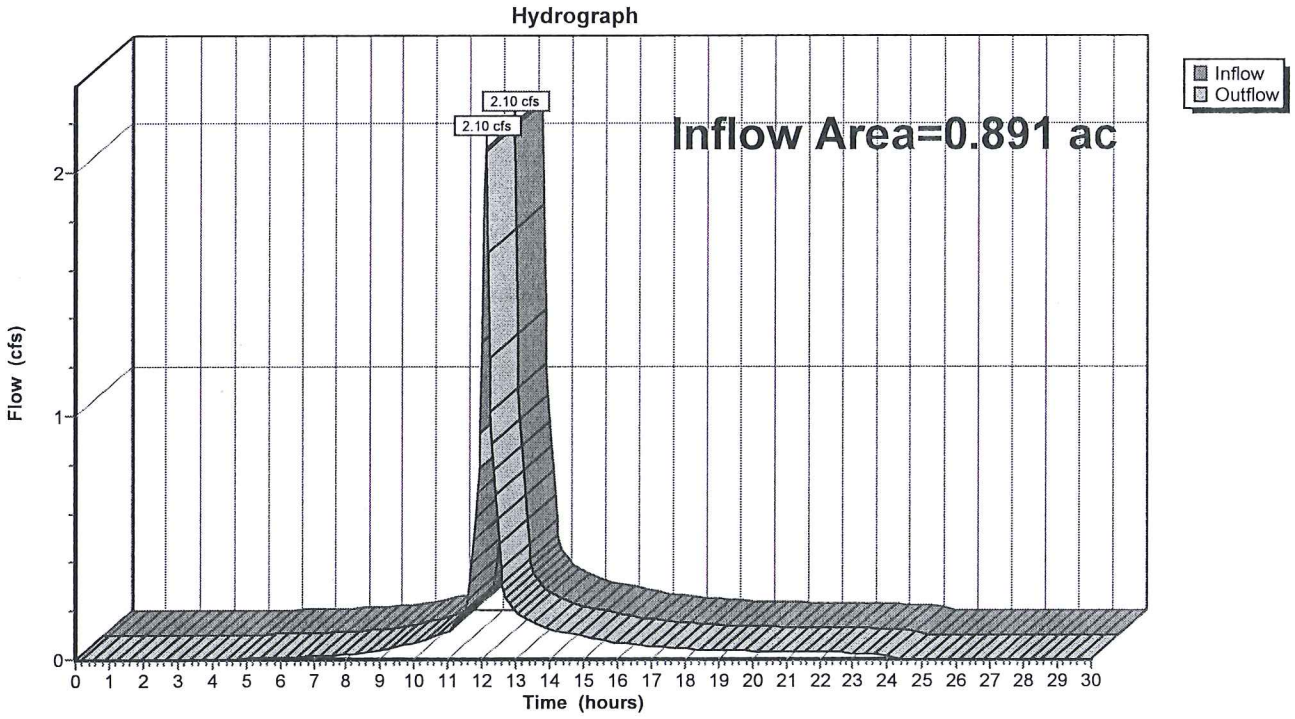


Summary for Reach DP#3: DMH-E

Inflow Area = 0.891 ac, 70.65% Impervious, Inflow Depth = 2.11" for 2-Year event
Inflow = 2.10 cfs @ 12.09 hrs, Volume= 0.157 af
Outflow = 2.10 cfs @ 12.09 hrs, Volume= 0.157 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DP#3: DMH-E

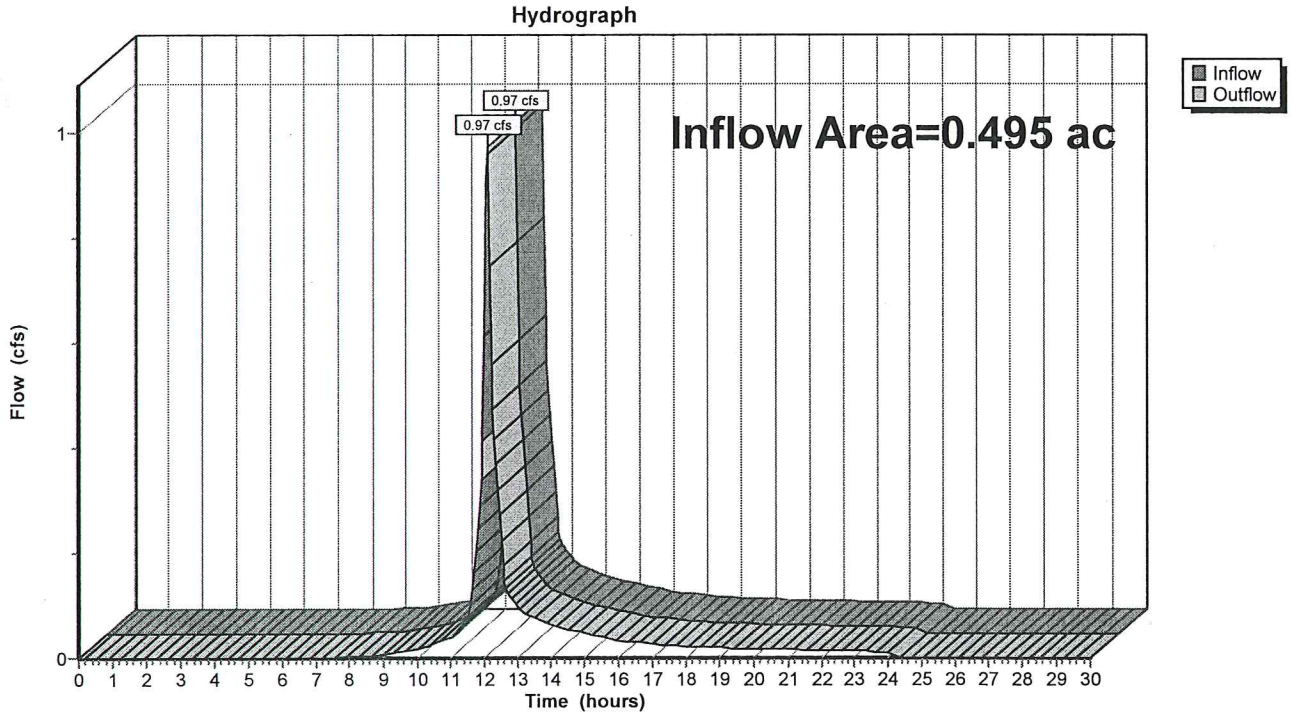


Summary for Reach DP#4: DCB-J

Inflow Area = 0.495 ac, 51.53% Impervious, Inflow Depth = 1.70" for 2-Year event
Inflow = 0.97 cfs @ 12.08 hrs, Volume= 0.070 af
Outflow = 0.97 cfs @ 12.08 hrs, Volume= 0.070 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DP#4: DCB-J

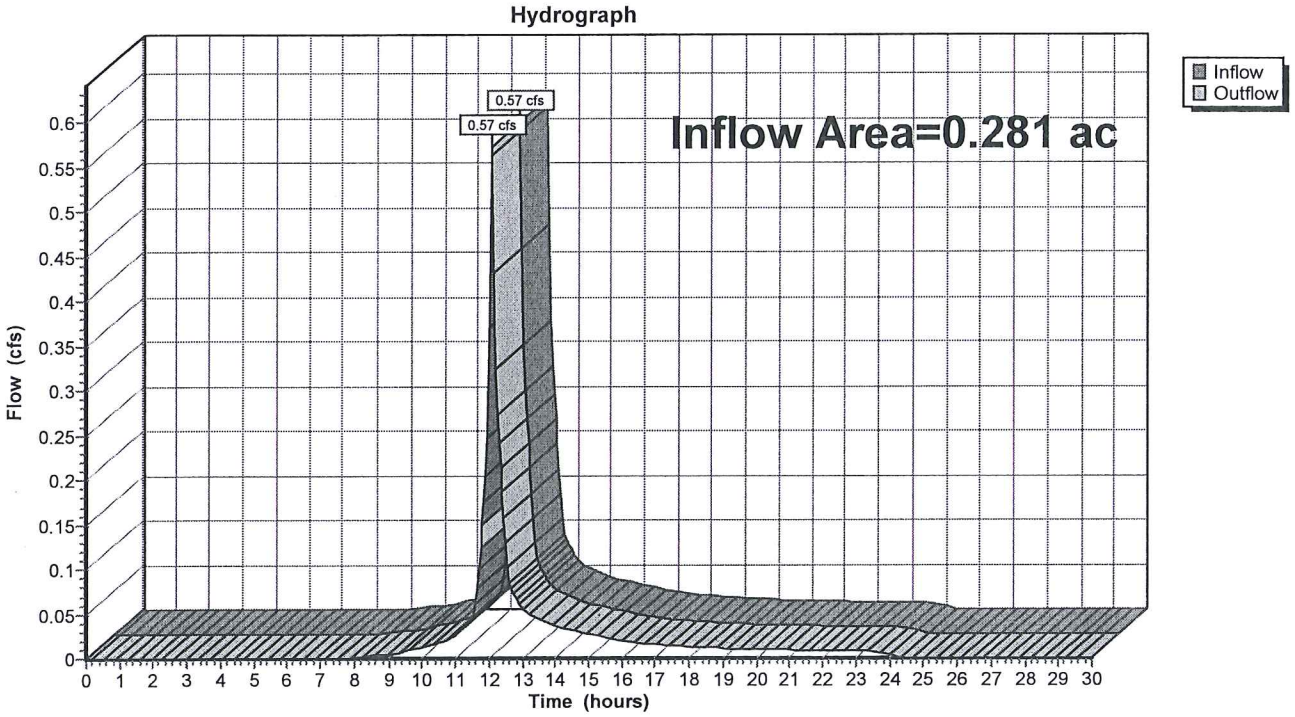


Summary for Reach DP#5: DCB-K

Inflow Area = 0.281 ac, 53.18% Impervious, Inflow Depth = 1.76" for 2-Year event
Inflow = 0.57 cfs @ 12.08 hrs, Volume= 0.041 af
Outflow = 0.57 cfs @ 12.08 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DP#5: DCB-K



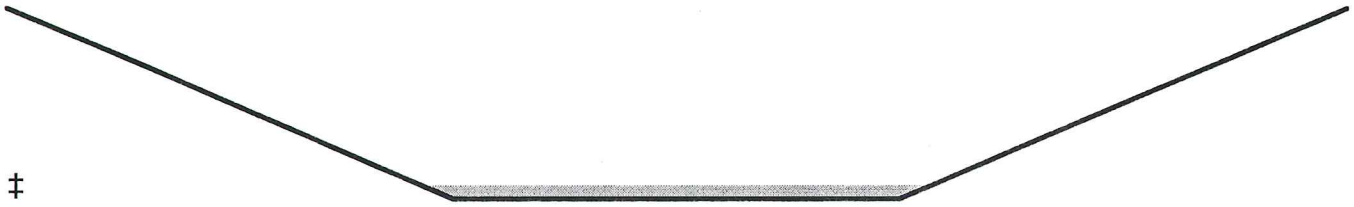
Summary for Reach OL1: OVERLAND FLOW

Inflow Area = 0.724 ac, 81.12% Impervious, Inflow Depth = 2.29" for 2-Year event
Inflow = 1.83 cfs @ 12.09 hrs, Volume= 0.138 af
Outflow = 1.83 cfs @ 12.09 hrs, Volume= 0.138 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.36 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 0.74 fps, Avg. Travel Time= 0.5 min

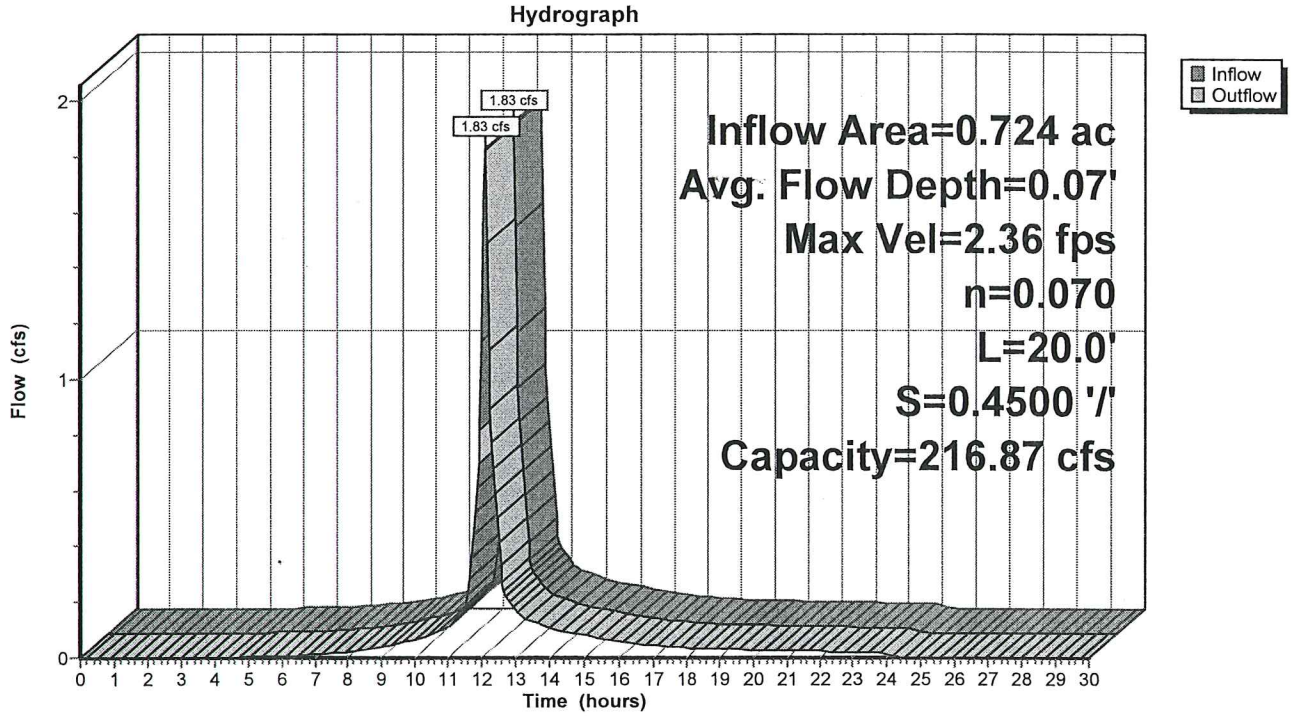
Peak Storage= 16 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.07'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 216.87 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 20.0' Slope= 0.4500 '/'
Inlet Invert= 1,175.00', Outlet Invert= 1,166.00'



‡

Reach OL1: OVERLAND FLOW



Stage-Discharge for Reach OL1: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.00	0.00	0.00
1,175.01	0.66	0.07
1,175.02	1.04	0.21
1,175.03	1.35	0.42
1,175.04	1.62	0.68
1,175.05	1.87	0.98
1,175.06	2.10	1.34
1,175.07	2.32	1.74
1,175.08	2.52	2.18
1,175.09	2.71	2.66
1,175.10	2.89	3.18
1,175.11	3.07	3.75
1,175.12	3.24	4.35
1,175.13	3.40	4.99
1,175.14	3.55	5.67
1,175.15	3.70	6.39
1,175.16	3.85	7.14
1,175.17	3.99	7.93
1,175.18	4.13	8.76
1,175.19	4.26	9.63
1,175.20	4.39	10.54
1,175.21	4.52	11.48
1,175.22	4.64	12.46
1,175.23	4.76	13.48
1,175.24	4.88	14.53
1,175.25	5.00	15.62
1,175.26	5.11	16.75
1,175.27	5.23	17.92
1,175.28	5.34	19.12
1,175.29	5.44	20.36
1,175.30	5.55	21.64
1,175.31	5.65	22.96
1,175.32	5.76	24.32
1,175.33	5.86	25.71
1,175.34	5.96	27.15
1,175.35	6.06	28.62
1,175.36	6.15	30.13
1,175.37	6.25	31.68
1,175.38	6.34	33.27
1,175.39	6.44	34.89
1,175.40	6.53	36.56
1,175.41	6.62	38.27
1,175.42	6.71	40.01
1,175.43	6.80	41.80
1,175.44	6.89	43.63
1,175.45	6.97	45.50
1,175.46	7.06	47.40
1,175.47	7.14	49.35
1,175.48	7.23	51.34
1,175.49	7.31	53.38
1,175.50	7.39	55.45
1,175.51	7.47	57.56
1,175.52	7.56	59.72
1,175.53	7.64	61.92
1,175.54	7.72	64.16
1,175.55	7.79	66.44
1,175.56	7.87	68.77
1,175.57	7.95	71.14
1,175.58	8.03	73.55
1,175.59	8.10	76.01
1,175.60	8.18	78.51
1,175.61	8.25	81.05
1,175.62	8.33	83.64
1,175.63	8.40	86.27
1,175.64	8.47	88.95
1,175.65	8.55	91.67
1,175.66	8.62	94.44
1,175.67	8.69	97.25
1,175.68	8.76	100.10
1,175.69	8.83	103.01
1,175.70	8.90	105.96
1,175.71	8.97	108.95
1,175.72	9.04	111.99
1,175.73	9.11	115.08
1,175.74	9.18	118.21
1,175.75	9.25	121.39
1,175.76	9.32	124.62
1,175.77	9.38	127.90
1,175.78	9.45	131.22
1,175.79	9.52	134.60
1,175.80	9.58	138.02
1,175.81	9.65	141.48
1,175.82	9.72	145.00
1,175.83	9.78	148.57
1,175.84	9.85	152.18
1,175.85	9.91	155.85
1,175.86	9.97	159.56
1,175.87	10.04	163.32
1,175.88	10.10	167.14
1,175.89	10.17	171.00
1,175.90	10.23	174.91
1,175.91	10.29	178.88
1,175.92	10.35	182.89
1,175.93	10.42	186.96
1,175.94	10.48	191.08
1,175.95	10.54	195.25
1,175.96	10.60	199.47
1,175.97	10.66	203.74
1,175.98	10.72	208.06
1,175.99	10.78	212.44
1,176.00	**10.84**	**216.87**

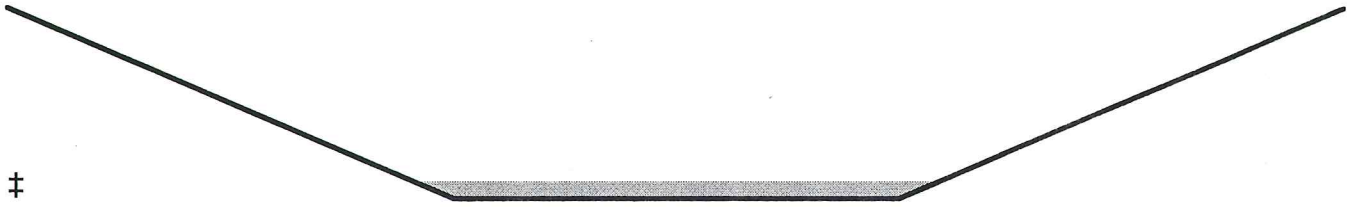
Summary for Reach OL2: OVERLAND FLOW

Inflow Area = 0.724 ac, 81.12% Impervious, Inflow Depth = 2.29" for 2-Year event
Inflow = 1.83 cfs @ 12.09 hrs, Volume= 0.138 af
Outflow = 1.72 cfs @ 12.16 hrs, Volume= 0.138 af, Atten= 6%, Lag= 4.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.72 fps, Min. Travel Time= 2.4 min
Avg. Velocity = 0.50 fps, Avg. Travel Time= 8.1 min

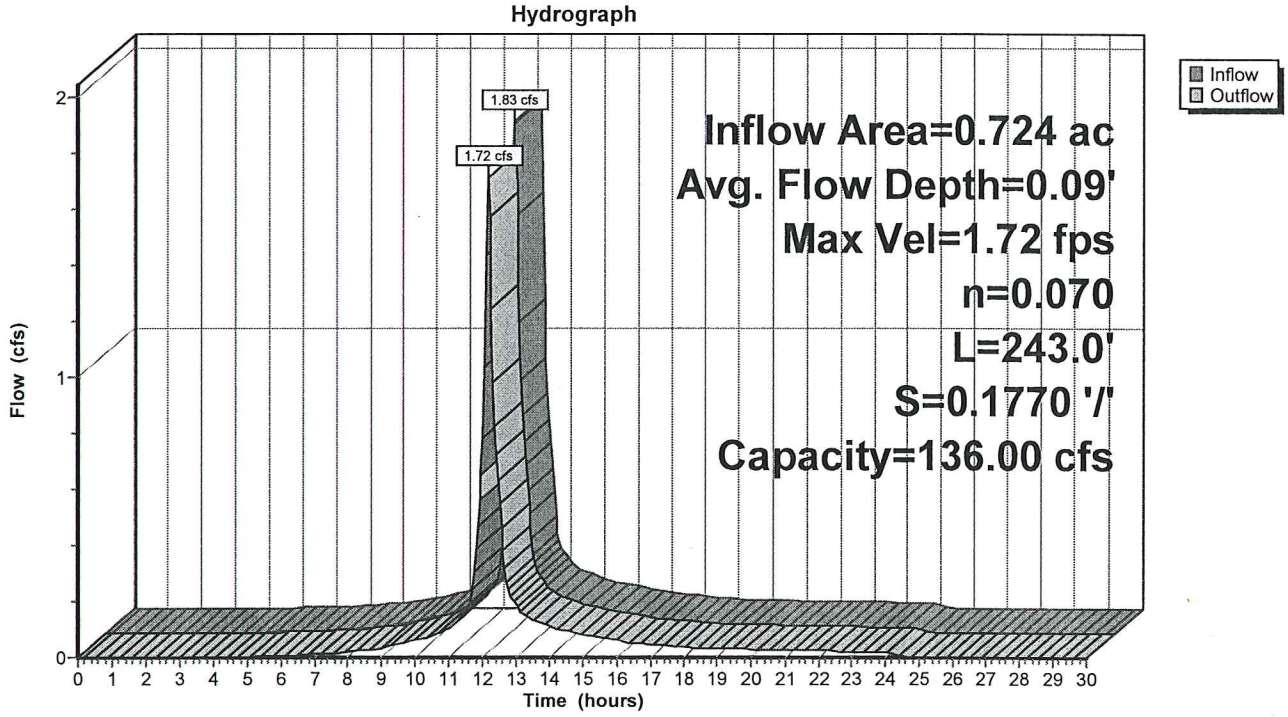
Peak Storage= 246 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.09'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 136.00 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 243.0' Slope= 0.1770 '/'
Inlet Invert= 1,166.00', Outlet Invert= 1,123.00'



‡

Reach OL2: OVERLAND FLOW



Stage-Discharge for Reach OL2: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,166.00	0.00	0.00
1,166.01	0.41	0.04
1,166.02	0.65	0.13
1,166.03	0.85	0.26
1,166.04	1.02	0.42
1,166.05	1.17	0.62
1,166.06	1.32	0.84
1,166.07	1.45	1.09
1,166.08	1.58	1.37
1,166.09	1.70	1.67
1,166.10	1.81	2.00
1,166.11	1.92	2.35
1,166.12	2.03	2.73
1,166.13	2.13	3.13
1,166.14	2.23	3.55
1,166.15	2.32	4.00
1,166.16	2.41	4.48
1,166.17	2.50	4.98
1,166.18	2.59	5.50
1,166.19	2.67	6.04
1,166.20	2.75	6.61
1,166.21	2.83	7.20
1,166.22	2.91	7.81
1,166.23	2.99	8.45
1,166.24	3.06	9.11
1,166.25	3.13	9.80
1,166.26	3.21	10.50
1,166.27	3.28	11.24
1,166.28	3.35	11.99
1,166.29	3.41	12.77
1,166.30	3.48	13.57
1,166.31	3.55	14.40
1,166.32	3.61	15.25
1,166.33	3.67	16.12
1,166.34	3.74	17.02
1,166.35	3.80	17.95
1,166.36	3.86	18.89
1,166.37	3.92	19.86
1,166.38	3.98	20.86
1,166.39	4.04	21.88
1,166.40	4.09	22.93
1,166.41	4.15	24.00
1,166.42	4.21	25.09
1,166.43	4.26	26.21
1,166.44	4.32	27.36
1,166.45	4.37	28.53
1,166.46	4.43	29.73
1,166.47	4.48	30.95
1,166.48	4.53	32.20
1,166.49	4.58	33.47
1,166.50	4.64	34.77
1,166.51	4.69	36.10
1,166.52	4.74	37.45
1,166.53	4.79	38.83
1,166.54	4.84	40.23
1,166.55	4.89	41.67
1,166.56	4.94	43.12
1,166.57	4.98	44.61
1,166.58	5.03	46.12
1,166.59	5.08	47.66
1,166.60	5.13	49.23
1,166.61	5.18	50.83
1,166.62	5.22	52.45
1,166.63	5.27	54.10
1,166.64	5.31	55.78
1,166.65	5.36	57.48
1,166.66	5.41	59.22
1,166.67	5.45	60.98
1,166.68	5.49	62.77
1,166.69	5.54	64.59
1,166.70	5.58	66.44
1,166.71	5.63	68.32
1,166.72	5.67	70.23
1,166.73	5.71	72.16
1,166.74	5.76	74.13
1,166.75	5.80	76.12
1,166.76	5.84	78.15
1,166.77	5.88	80.20
1,166.78	5.93	82.29
1,166.79	5.97	84.40
1,166.80	6.01	86.55
1,166.81	6.05	88.72
1,166.82	6.09	90.93
1,166.83	6.13	93.16
1,166.84	6.17	95.43
1,166.85	6.21	97.73
1,166.86	6.26	100.06
1,166.87	6.30	102.42
1,166.88	6.34	104.81
1,166.89	6.37	107.23
1,166.90	6.41	109.68
1,166.91	6.45	112.17
1,166.92	6.49	114.69
1,166.93	6.53	117.24
1,166.94	6.57	119.82
1,166.95	6.61	122.44
1,166.96	6.65	125.08
1,166.97	6.69	127.76
1,166.98	6.72	130.47
1,166.99	6.76	133.22
1,167.00	**6.80**	**136.00**

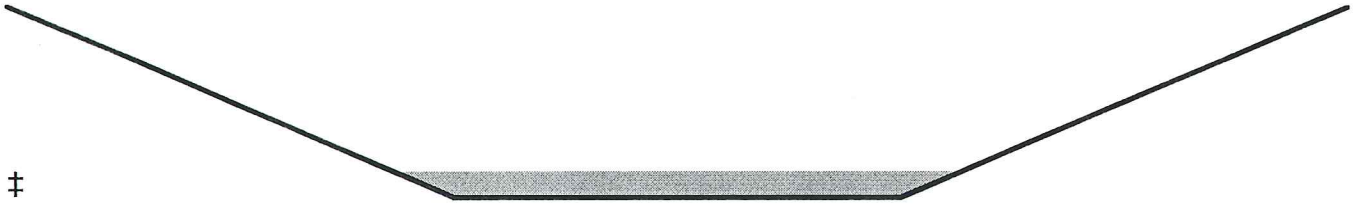
Summary for Reach OL3: OVERLAND FLOW

Inflow Area = 0.724 ac, 81.12% Impervious, Inflow Depth = 2.29" for 2-Year event
Inflow = 1.72 cfs @ 12.16 hrs, Volume= 0.138 af
Outflow = 1.66 cfs @ 12.18 hrs, Volume= 0.138 af, Atten= 3%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.10 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 0.30 fps, Avg. Travel Time= 2.5 min

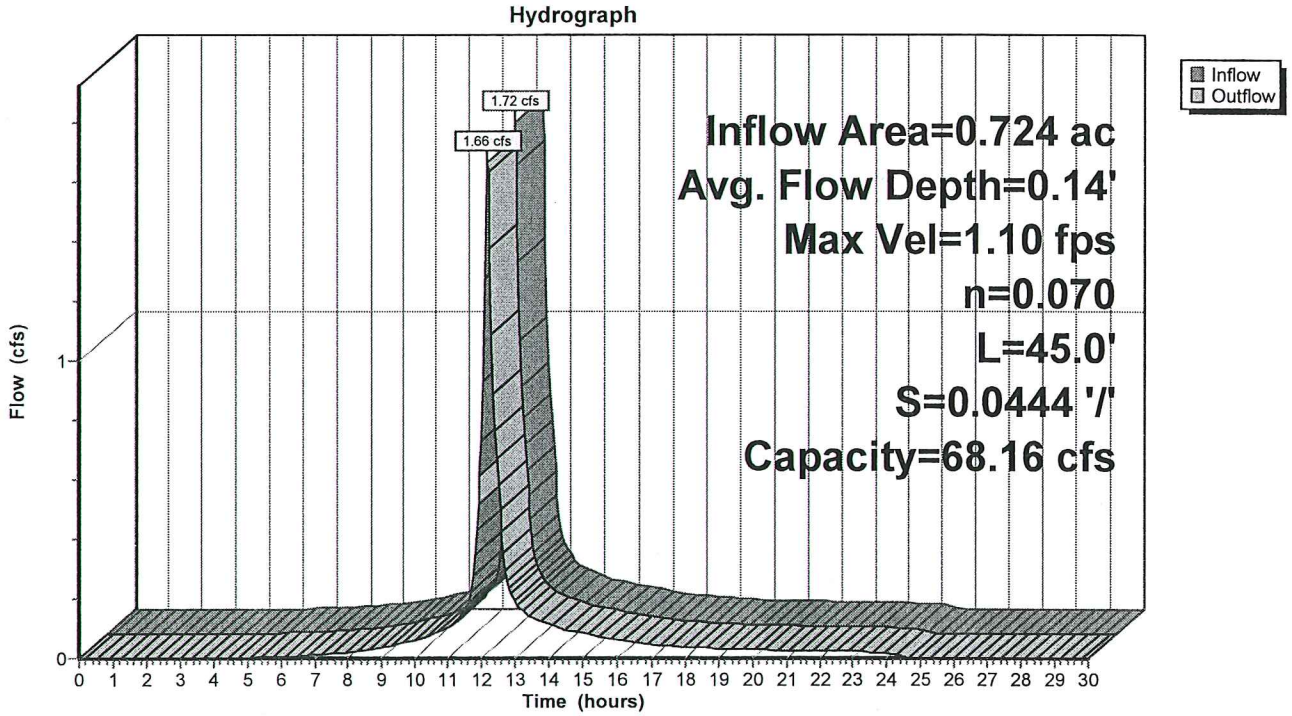
Peak Storage= 70 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.14'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 68.16 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 45.0' Slope= 0.0444 '/'
Inlet Invert= 1,122.00', Outlet Invert= 1,120.00'



‡

Reach OL3: OVERLAND FLOW



Stage-Discharge for Reach OL3: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,122.00	0.00	0.00
1,122.01	0.21	0.02
1,122.02	0.33	0.07
1,122.03	0.42	0.13
1,122.04	0.51	0.21
1,122.05	0.59	0.31
1,122.06	0.66	0.42
1,122.07	0.73	0.55
1,122.08	0.79	0.68
1,122.09	0.85	0.84
1,122.10	0.91	1.00
1,122.11	0.96	1.18
1,122.12	1.02	1.37
1,122.13	1.07	1.57
1,122.14	1.12	1.78
1,122.15	1.16	2.01
1,122.16	1.21	2.24
1,122.17	1.25	2.49
1,122.18	1.30	2.75
1,122.19	1.34	3.03
1,122.20	1.38	3.31
1,122.21	1.42	3.61
1,122.22	1.46	3.92
1,122.23	1.50	4.24
1,122.24	1.53	4.57
1,122.25	1.57	4.91
1,122.26	1.61	5.26
1,122.27	1.64	5.63
1,122.28	1.68	6.01
1,122.29	1.71	6.40
1,122.30	1.74	6.80
1,122.31	1.78	7.22
1,122.32	1.81	7.64
1,122.33	1.84	8.08
1,122.34	1.87	8.53
1,122.35	1.90	8.99
1,122.36	1.93	9.47
1,122.37	1.96	9.96
1,122.38	1.99	10.45
1,122.39	2.02	10.97
1,122.40	2.05	11.49
1,122.41	2.08	12.03
1,122.42	2.11	12.58
1,122.43	2.14	13.14
1,122.44	2.16	13.71
1,122.45	2.19	14.30
1,122.46	2.22	14.90
1,122.47	2.24	15.51
1,122.48	2.27	16.14
1,122.49	2.30	16.77
1,122.50	2.32	17.43
1,122.51	2.35	18.09
1,122.52	2.37	18.77
1,122.53	2.40	19.46
1,122.54	2.42	20.16
1,122.55	2.45	20.88
1,122.56	2.47	21.61
1,122.57	2.50	22.36
1,122.58	2.52	23.12
1,122.59	2.55	23.89
1,122.60	2.57	24.67
1,122.61	2.59	25.47
1,122.62	2.62	26.29
1,122.63	2.64	27.11
1,122.64	2.66	27.95
1,122.65	2.69	28.81
1,122.66	2.71	29.68
1,122.67	2.73	30.56
1,122.68	2.75	31.46
1,122.69	2.78	32.37
1,122.70	2.80	33.30
1,122.71	2.82	34.24
1,122.72	2.84	35.20
1,122.73	2.86	36.17
1,122.74	2.89	37.15
1,122.75	2.91	38.15
1,122.76	2.93	39.17
1,122.77	2.95	40.20
1,122.78	2.97	41.24
1,122.79	2.99	42.30
1,122.80	3.01	43.37
1,122.81	3.03	44.46
1,122.82	3.05	45.57
1,122.83	3.07	46.69
1,122.84	3.09	47.83
1,122.85	3.11	48.98
1,122.86	3.13	50.14
1,122.87	3.15	51.33
1,122.88	3.17	52.53
1,122.89	3.19	53.74
1,122.90	3.21	54.97
1,122.91	3.23	56.22
1,122.92	3.25	57.48
1,122.93	3.27	58.76
1,122.94	3.29	60.05
1,122.95	3.31	61.36
1,122.96	3.33	62.69
1,122.97	3.35	64.03
1,122.98	3.37	65.39
1,122.99	3.39	66.76
1,123.00	**3.41**	**68.16**

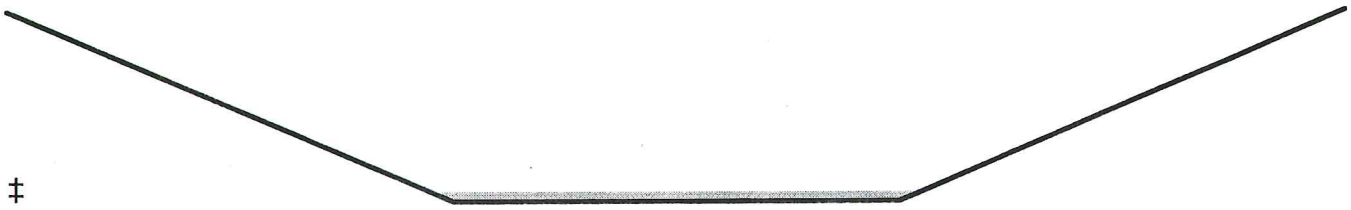
Summary for Reach OL4: OVERLAND FLOW

Inflow Area = 2.067 ac, 3.60% Impervious, Inflow Depth = 0.51" for 2-Year event
Inflow = 0.68 cfs @ 12.26 hrs, Volume= 0.087 af
Outflow = 0.67 cfs @ 12.30 hrs, Volume= 0.087 af, Atten= 1%, Lag= 2.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.29 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 0.55 fps, Avg. Travel Time= 2.2 min

Peak Storage= 39 cf @ 12.27 hrs
Average Depth at Peak Storage= 0.05'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 150.33 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 74.0' Slope= 0.2162 '/'
Inlet Invert= 1,117.75', Outlet Invert= 1,101.75'



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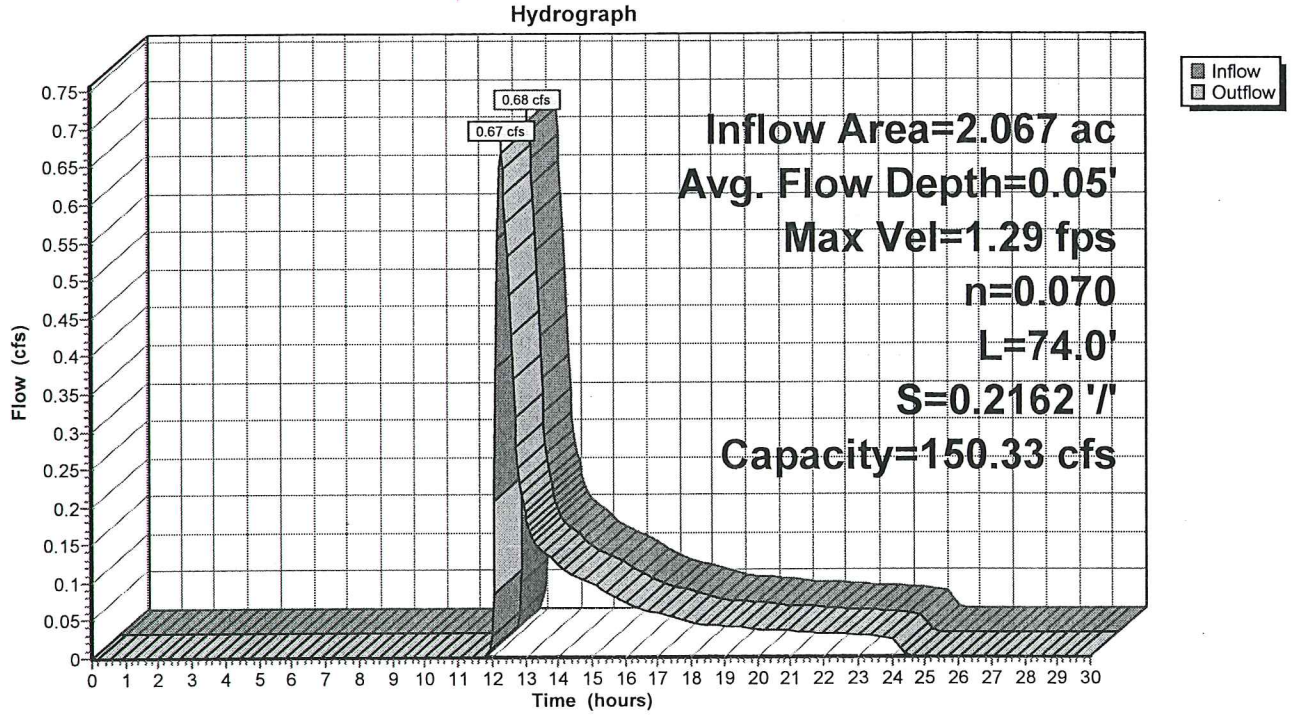
Reach OL4: OVERLAND FLOW



Stage-Discharge for Reach OL4: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,117.75	0.00	0.00
1,117.76	0.46	0.05
1,117.77	0.72	0.15
1,117.78	0.93	0.29
1,117.79	1.13	0.47
1,117.80	1.30	0.68
1,117.81	1.46	0.93
1,117.82	1.61	1.20
1,117.83	1.75	1.51
1,117.84	1.88	1.84
1,117.85	2.01	2.21
1,117.86	2.13	2.60
1,117.87	2.24	3.01
1,117.88	2.35	3.46
1,117.89	2.46	3.93
1,117.90	2.57	4.43
1,117.91	2.67	4.95
1,117.92	2.76	5.50
1,117.93	2.86	6.08
1,117.94	2.95	6.68
1,117.95	3.04	7.30
1,117.96	3.13	7.96
1,117.97	3.22	8.64
1,117.98	3.30	9.34
1,117.99	3.38	10.07
1,118.00	3.47	10.83
1,118.01	3.54	11.61
1,118.02	3.62	12.42
1,118.03	3.70	13.25
1,118.04	3.77	14.12
1,118.05	3.85	15.00
1,118.06	3.92	15.92
1,118.07	3.99	16.86
1,118.08	4.06	17.82
1,118.09	4.13	18.82
1,118.10	4.20	19.84
1,118.11	4.27	20.88
1,118.12	4.33	21.96
1,118.13	4.40	23.06
1,118.14	4.46	24.19
1,118.15	4.53	25.34
1,118.16	4.59	26.53
1,118.17	4.65	27.74
1,118.18	4.71	28.98
1,118.19	4.77	30.24
1,118.20	4.83	31.54
1,118.21	4.89	32.86
1,118.22	4.95	34.21
1,118.23	5.01	35.59
1,118.24	5.07	37.00
1,118.25	5.12	38.43
1,118.26	5.18	39.90
1,118.27	5.24	41.40
1,118.28	5.29	42.92
1,118.29	5.35	44.47
1,118.30	5.40	46.06
1,118.31	5.46	47.67
1,118.32	5.51	49.31
1,118.33	5.56	50.98
1,118.34	5.62	52.69
1,118.35	5.67	54.42
1,118.36	5.72	56.18
1,118.37	5.77	57.98
1,118.38	5.82	59.80
1,118.39	5.87	61.66
1,118.40	5.92	63.54
1,118.41	5.97	65.46
1,118.42	6.02	67.41
1,118.43	6.07	69.39
1,118.44	6.12	71.40
1,118.45	6.17	73.44
1,118.46	6.22	75.52
1,118.47	6.27	77.63
1,118.48	6.32	79.77
1,118.49	6.36	81.94
1,118.50	6.41	84.15
1,118.51	6.46	86.39
1,118.52	6.50	88.66
1,118.53	6.55	90.96
1,118.54	6.60	93.30
1,118.55	6.64	95.67
1,118.56	6.69	98.07
1,118.57	6.73	100.51
1,118.58	6.78	102.98
1,118.59	6.82	105.49
1,118.60	6.87	108.03
1,118.61	6.91	110.60
1,118.62	6.96	113.21
1,118.63	7.00	115.85
1,118.64	7.05	118.53
1,118.65	7.09	121.24
1,118.66	7.13	123.99
1,118.67	7.18	126.78
1,118.68	7.22	129.59
1,118.69	7.26	132.45
1,118.70	7.31	135.34
1,118.71	7.35	138.26
1,118.72	7.39	141.23
1,118.73	7.43	144.22
1,118.74	7.47	147.26
1,118.75	**7.52**	**150.33**

Summary for Reach OL5: OVERLAND FLOW

Inflow Area = 6.005 ac, 41.90% Impervious, Inflow Depth = 1.28" for 2-Year event
Inflow = 1.70 cfs @ 12.30 hrs, Volume= 0.641 af
Outflow = 1.69 cfs @ 12.33 hrs, Volume= 0.641 af, Atten= 1%, Lag= 1.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.58 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 0.86 fps, Avg. Travel Time= 2.0 min

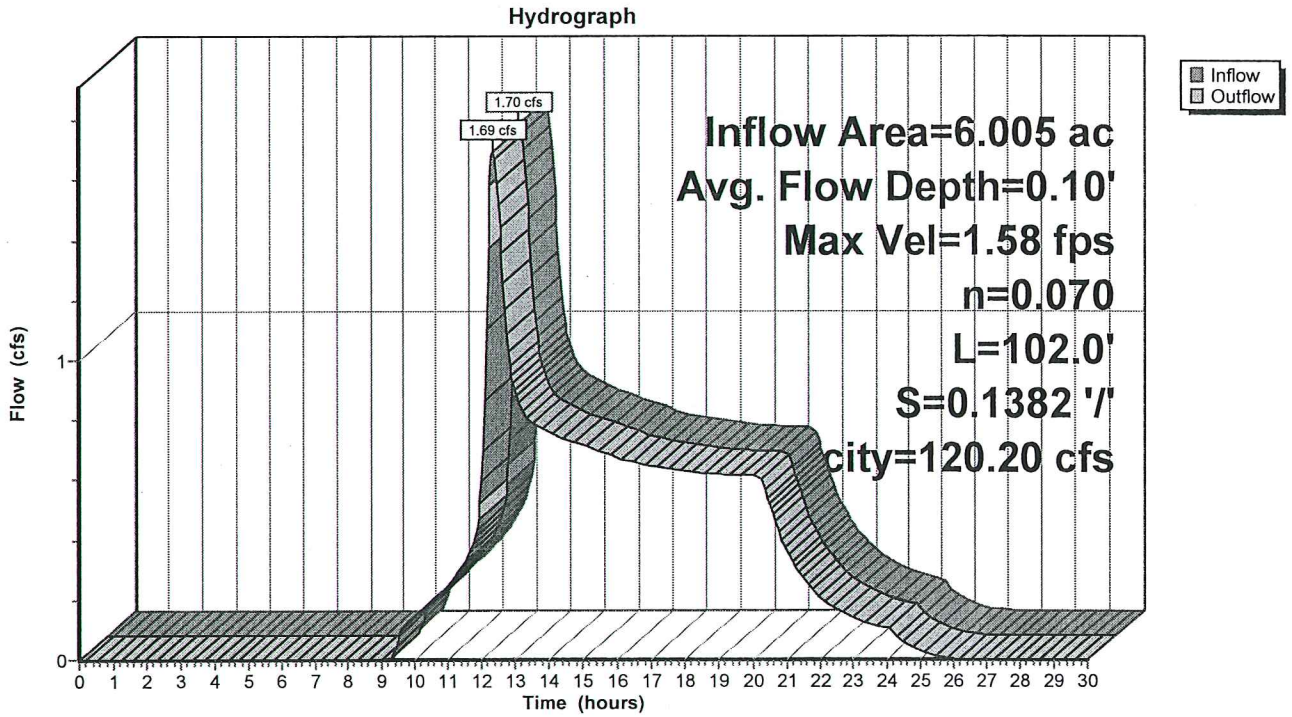
Peak Storage= 110 cf @ 12.31 hrs
Average Depth at Peak Storage= 0.10'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 120.20 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 102.0' Slope= 0.1382 '/'
Inlet Invert= 1,114.10', Outlet Invert= 1,100.00'



‡

Reach OL5: OVERLAND FLOW



Stage-Discharge for Reach OL5: OVERLAND FLOW

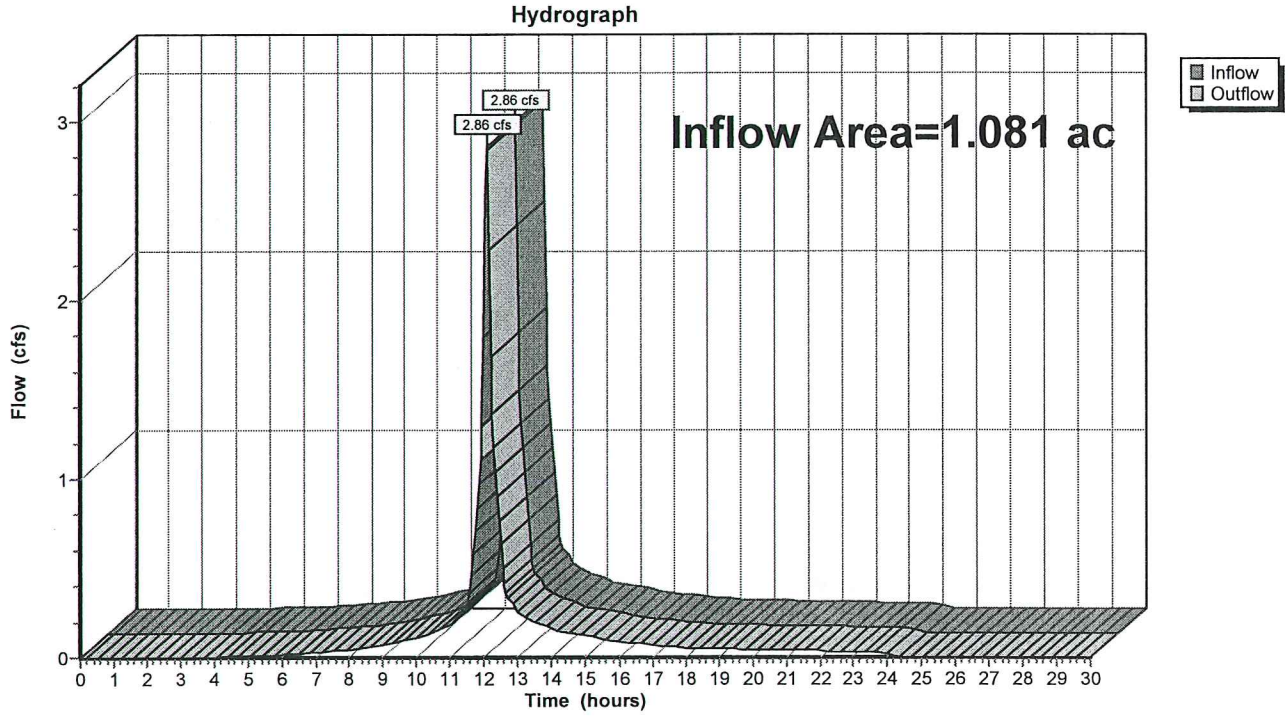
Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,114.10	0.00	0.00
1,114.11	0.36	0.04
1,114.12	0.57	0.12
1,114.13	0.75	0.23
1,114.14	0.90	0.37
1,114.15	1.04	0.55
1,114.16	1.17	0.74
1,114.17	1.28	0.96
1,114.18	1.40	1.21
1,114.19	1.50	1.47
1,114.20	1.60	1.76
1,114.21	1.70	2.08
1,114.22	1.79	2.41
1,114.23	1.88	2.77
1,114.24	1.97	3.14
1,114.25	2.05	3.54
1,114.26	2.13	3.96
1,114.27	2.21	4.40
1,114.28	2.29	4.86
1,114.29	2.36	5.34
1,114.30	2.43	5.84
1,114.31	2.50	6.36
1,114.32	2.57	6.91
1,114.33	2.64	7.47
1,114.34	2.71	8.05
1,114.35	2.77	8.66
1,114.36	2.83	9.28
1,114.37	2.90	9.93
1,114.38	2.96	10.60
1,114.39	3.02	11.29
1,114.40	3.08	12.00
1,114.41	3.13	12.73
1,114.42	3.19	13.48
1,114.43	3.25	14.25
1,114.44	3.30	15.05
1,114.45	3.36	15.86
1,114.46	3.41	16.70
1,114.47	3.46	17.56
1,114.48	3.52	18.44
1,114.49	3.57	19.34
1,114.50	3.62	20.26
1,114.51	3.67	21.21
1,114.52	3.72	22.18
1,114.53	3.77	23.17
1,114.54	3.82	24.18
1,114.55	3.86	25.22
1,114.56	3.91	26.27
1,114.57	3.96	27.35
1,114.58	4.01	28.46
1,114.59	4.05	29.58
1,114.60	4.10	30.73
1,114.61	4.14	31.90
1,114.62	4.19	33.10
1,114.63	4.23	34.32
1,114.64	4.28	35.56
1,114.65	4.32	36.83
1,114.66	4.36	38.12
1,114.67	4.41	39.43
1,114.68	4.45	40.77
1,114.69	4.49	42.13
1,114.70	4.53	43.51
1,114.71	4.57	44.92
1,114.72	4.62	46.36
1,114.73	4.66	47.82
1,114.74	4.70	49.30
1,114.75	4.74	50.81
1,114.76	4.78	52.34
1,114.77	4.82	53.90
1,114.78	4.86	55.48
1,114.79	4.90	57.09
1,114.80	4.93	58.73
1,114.81	4.97	60.39
1,114.82	5.01	62.07
1,114.83	5.05	63.78
1,114.84	5.09	65.52
1,114.85	5.13	67.28
1,114.86	5.16	69.07
1,114.87	5.20	70.89
1,114.88	5.24	72.73
1,114.89	5.28	74.60
1,114.90	5.31	76.49
1,114.91	5.35	78.42
1,114.92	5.39	80.37
1,114.93	5.42	82.34
1,114.94	5.46	84.35
1,114.95	5.49	86.38
1,114.96	5.53	88.44
1,114.97	5.56	90.52
1,114.98	5.60	92.63
1,114.99	5.63	94.78
1,115.00	5.67	96.94
1,115.01	5.70	99.14
1,115.02	5.74	101.37
1,115.03	5.77	103.62
1,115.04	5.81	105.90
1,115.05	5.84	108.21
1,115.06	5.88	110.55
1,115.07	5.91	112.92
1,115.08	5.94	115.32
1,115.09	5.98	117.74
1,115.10	**6.01**	**120.20**

Summary for Reach UGS1A: TO UGS1

Inflow Area = 1.081 ac, 85.82% Impervious, Inflow Depth = 2.43" for 2-Year event
Inflow = 2.86 cfs @ 12.09 hrs, Volume= 0.219 af
Outflow = 2.86 cfs @ 12.09 hrs, Volume= 0.219 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach UGS1A: TO UGS1

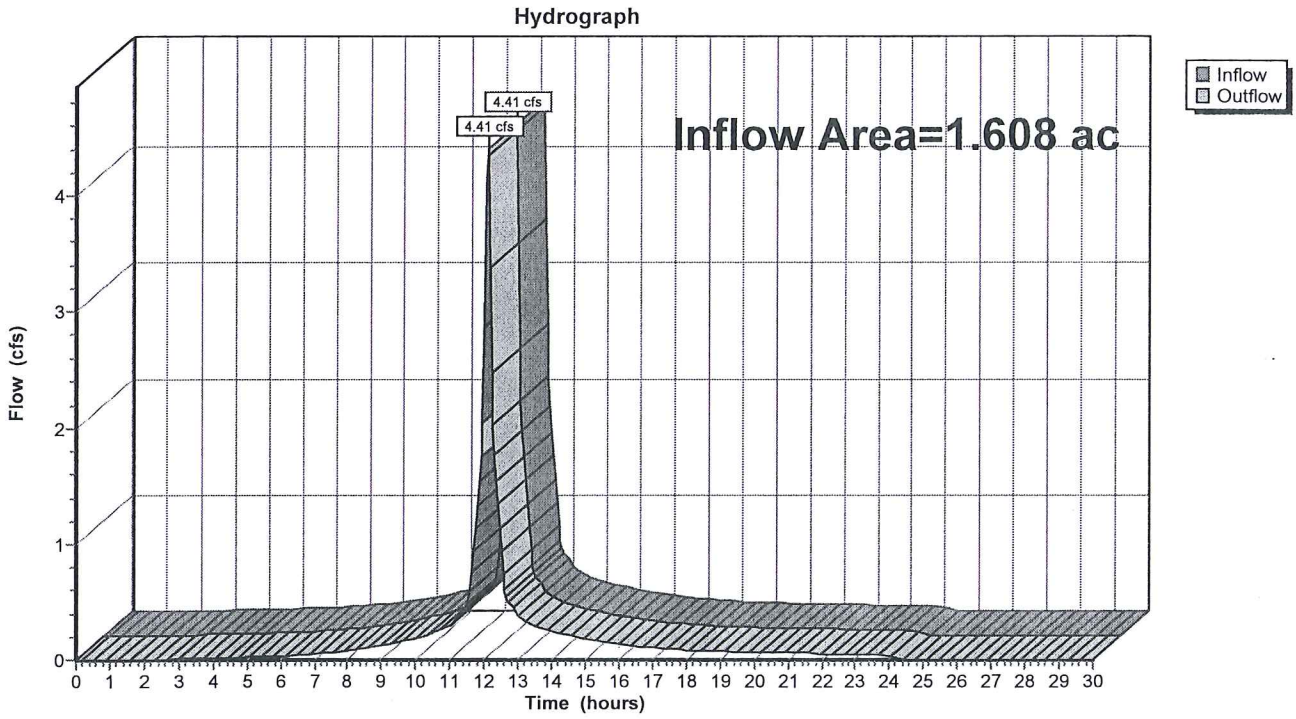


Summary for Reach UGS1B: TO UGS1

Inflow Area = 1.608 ac, 92.28% Impervious, Inflow Depth = 2.56" for 2-Year event
Inflow = 4.41 cfs @ 12.08 hrs, Volume= 0.343 af
Outflow = 4.41 cfs @ 12.08 hrs, Volume= 0.343 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach UGS1B: TO UGS1



Summary for Reach UGS1C: TO OUTLET

Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 2.22" for 2-Year event
Inflow = 0.55 cfs @ 11.75 hrs, Volume= 0.496 af
Outflow = 0.55 cfs @ 11.80 hrs, Volume= 0.496 af, Atten= 0%, Lag= 3.0 min

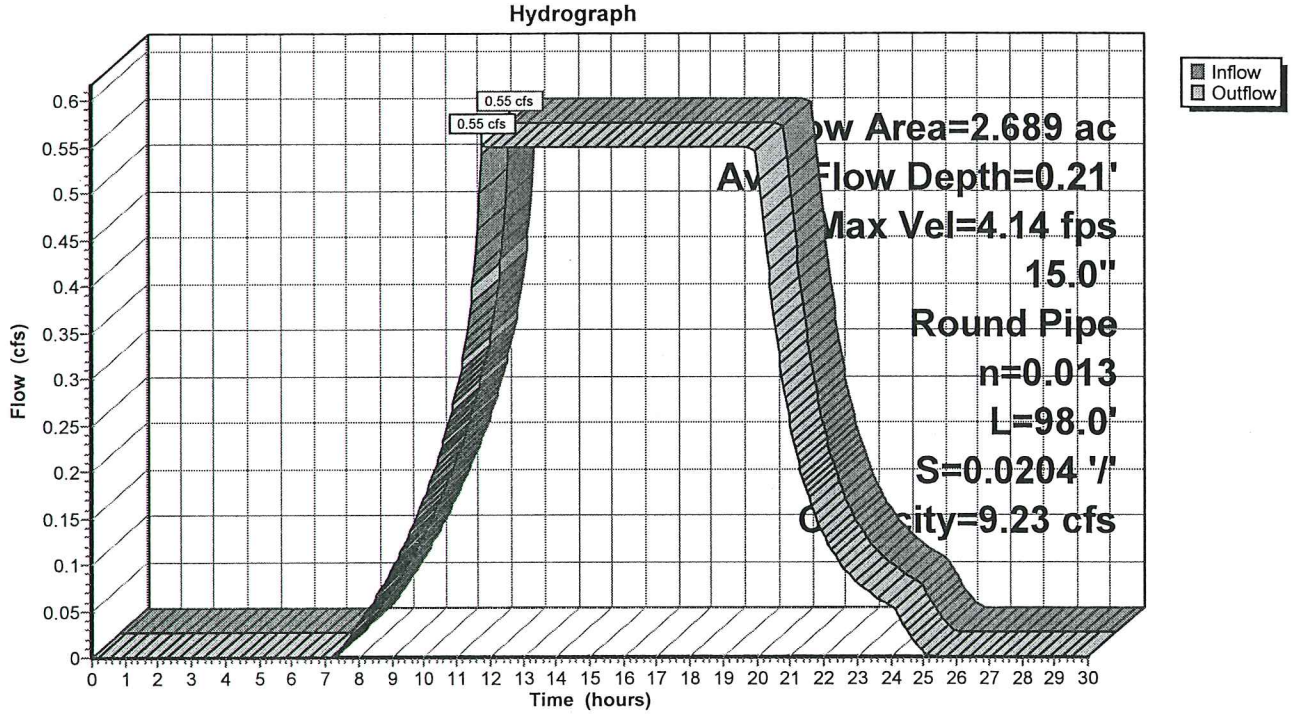
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.14 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 3.29 fps, Avg. Travel Time= 0.5 min

Peak Storage= 13 cf @ 11.80 hrs
Average Depth at Peak Storage= 0.21'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 9.23 cfs

15.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 98.0' Slope= 0.0204 '/'
Inlet Invert= 1,172.00', Outlet Invert= 1,170.00'



Reach UGS1C: TO OUTLET



Stage-Discharge for Reach UGS1C: TO OUTLET

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,172.00	0.00	0.00
1,172.01	0.54	0.00
1,172.02	0.90	0.00
1,172.03	1.19	0.01
1,172.04	1.44	0.02
1,172.05	1.67	0.03
1,172.06	1.88	0.04
1,172.07	2.08	0.06
1,172.08	2.27	0.08
1,172.09	2.44	0.10
1,172.10	2.62	0.12
1,172.11	2.78	0.15
1,172.12	2.94	0.18
1,172.13	3.09	0.21
1,172.14	3.24	0.24
1,172.15	3.38	0.28
1,172.16	3.52	0.32
1,172.17	3.66	0.37
1,172.18	3.79	0.41
1,172.19	3.92	0.46
1,172.20	4.04	0.51
1,172.21	4.16	0.57
1,172.22	4.28	0.62
1,172.23	4.40	0.68
1,172.24	4.51	0.74
1,172.25	4.63	0.81
1,172.26	4.73	0.88
1,172.27	4.84	0.94
1,172.28	4.94	1.02
1,172.29	5.05	1.09
1,172.30	5.15	1.17
1,172.31	5.24	1.24
1,172.32	5.34	1.33
1,172.33	5.43	1.41
1,172.34	5.53	1.49
1,172.35	5.62	1.58
1,172.36	5.71	1.67
1,172.37	5.79	1.76
1,172.38	5.88	1.85
1,172.39	5.96	1.95
1,172.40	6.04	2.05
1,172.41	6.13	2.15
1,172.42	6.20	2.25
1,172.43	6.28	2.35
1,172.44	6.36	2.45
1,172.45	6.43	2.56
1,172.46	6.51	2.67
1,172.47	6.58	2.77
1,172.48	6.65	2.89
1,172.49	6.72	3.00
1,172.50	6.78	3.11
1,172.51	6.85	3.22
1,172.52	6.92	3.34
1,172.53	6.98	3.46
1,172.54	7.04	3.57
1,172.55	7.10	3.69
1,172.56	7.16	3.81
1,172.57	7.22	3.93
1,172.58	7.28	4.06
1,172.59	7.33	4.18
1,172.60	7.39	4.30
1,172.61	7.44	4.43
1,172.62	7.49	4.55
1,172.63	7.55	4.68
1,172.64	7.59	4.80
1,172.65	7.64	4.93
1,172.66	7.69	5.06
1,172.67	7.74	5.18
1,172.68	7.78	5.31
1,172.69	7.83	5.44
1,172.70	7.87	5.56
1,172.71	7.91	5.69
1,172.72	7.95	5.82
1,172.73	7.99	5.95
1,172.74	8.03	6.07
1,172.75	8.06	6.20
1,172.76	8.10	6.33
1,172.77	8.13	6.45
1,172.78	8.17	6.58
1,172.79	8.20	6.70
1,172.80	8.23	6.83
1,172.81	8.26	6.95
1,172.82	8.29	7.07
1,172.83	8.31	7.19
1,172.84	8.34	7.31
1,172.85	8.36	7.43
1,172.86	8.39	7.55
1,172.87	8.41	7.67
1,172.88	8.43	7.78
1,172.89	8.45	7.90
1,172.90	8.47	8.01
1,172.91	8.48	8.12
1,172.92	8.50	8.23
1,172.93	8.51	8.34
1,172.94	8.53	8.44
1,172.95	8.54	8.54
1,172.96	8.55	8.64
1,172.97	8.56	8.74
1,172.98	8.56	8.84
1,172.99	8.57	8.93
1,173.00	8.57	9.02
1,173.01	8.57	9.11
1,173.02	**8.57**	9.19
1,173.03	8.57	9.27
1,173.04	8.57	9.35
1,173.05	8.56	9.42
1,173.06	8.56	9.49
1,173.07	8.55	9.56
1,173.08	8.53	9.62
1,173.09	8.52	9.68
1,173.10	8.51	9.73
1,173.11	8.49	9.77
1,173.12	8.47	9.82
1,173.13	8.44	9.85
1,173.14	8.42	9.88
1,173.15	8.39	9.90
1,173.16	8.35	9.92
1,173.17	8.31	**9.92**
1,173.18	8.27	9.92
1,173.19	8.22	9.91
1,173.20	8.17	9.89
1,173.21	8.10	9.85
1,173.22	8.02	9.78
1,173.23	7.93	9.70
1,173.24	7.78	9.54
1,173.25	7.52	9.23

Summary for Pond CULVERT#1: TO DP#1

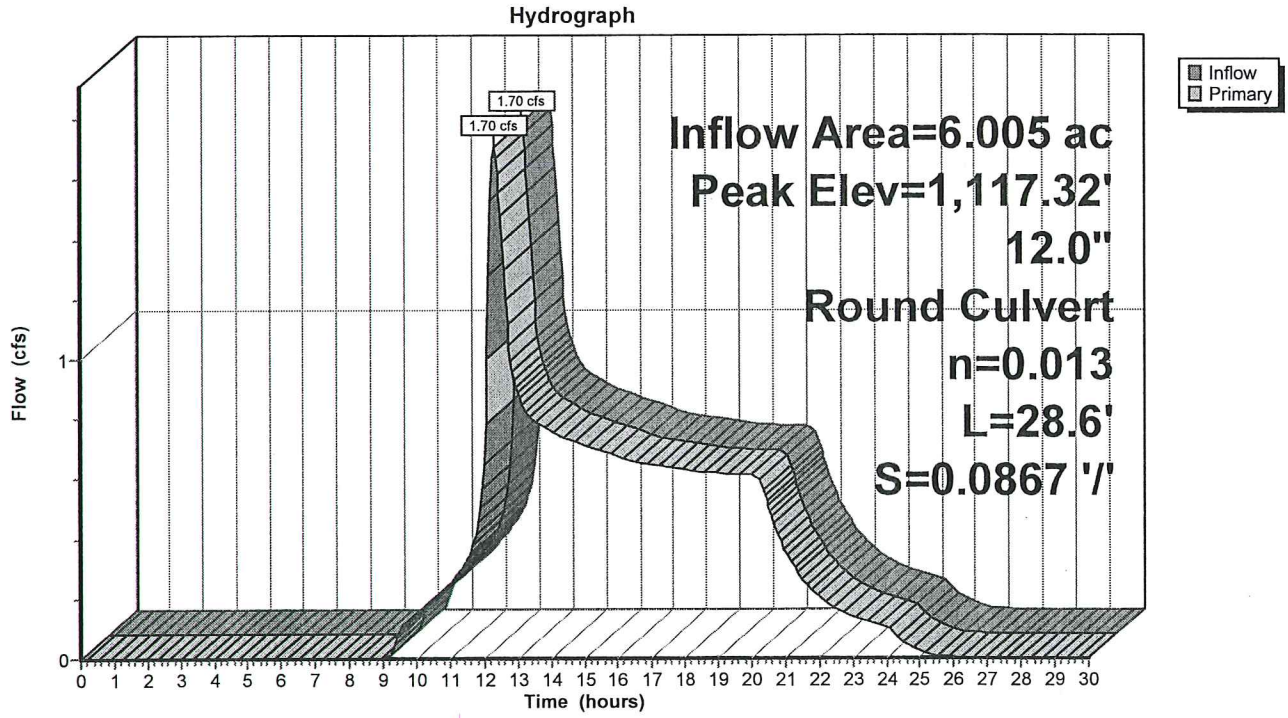
Inflow Area = 6.005 ac, 41.90% Impervious, Inflow Depth = 1.28" for 2-Year event
Inflow = 1.70 cfs @ 12.30 hrs, Volume= 0.641 af
Outflow = 1.70 cfs @ 12.30 hrs, Volume= 0.641 af, Atten= 0%, Lag= 0.0 min
Primary = 1.70 cfs @ 12.30 hrs, Volume= 0.641 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,117.32' @ 12.30 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,116.61'	**12.0" Round Culvert** L= 28.6' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,116.61' / 1,114.13' S= 0.0867 '/' Cc= 0.900 n= 0.013 Cast iron, coated, Flow Area= 0.79 sf

Primary OutFlow Max=1.70 cfs @ 12.30 hrs HW=1,117.32' (Free Discharge)
1=Culvert (Inlet Controls 1.70 cfs @ 2.86 fps)

Pond CULVERT#1: TO DP#1



Stage-Discharge for Pond CULVERT#1: TO DP#1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,116.61	0.00	1,117.13	1.01
1,116.62	0.00	1,117.14	1.05
1,116.63	0.00	1,117.15	1.08
1,116.64	0.00	1,117.16	1.12
1,116.65	0.01	1,117.17	1.15
1,116.66	0.01	1,117.18	1.19
1,116.67	0.02	1,117.19	1.22
1,116.68	0.02	1,117.20	1.26
1,116.69	0.03	1,117.21	1.30
1,116.70	0.04	1,117.22	1.33
1,116.71	0.04	1,117.23	1.37
1,116.72	0.05	1,117.24	1.41
1,116.73	0.06	1,117.25	1.45
1,116.74	0.07	1,117.26	1.48
1,116.75	0.09	1,117.27	1.52
1,116.76	0.10	1,117.28	1.56
1,116.77	0.11	1,117.29	1.60
1,116.78	0.12	1,117.30	1.63
1,116.79	0.14	1,117.31	1.67
1,116.80	0.15	1,117.32	1.71
1,116.81	0.17	1,117.33	1.75
1,116.82	0.19	1,117.34	1.79
1,116.83	0.20	1,117.35	1.83
1,116.84	0.22	1,117.36	1.86
1,116.85	0.24	1,117.37	1.90
1,116.86	0.26	1,117.38	1.94
1,116.87	0.28	1,117.39	1.98
1,116.88	0.30	1,117.40	2.01
1,116.89	0.32	1,117.41	2.05
1,116.90	0.35	1,117.42	2.09
1,116.91	0.37	1,117.43	2.13
1,116.92	0.39	1,117.44	2.16
1,116.93	0.42	1,117.45	2.20
1,116.94	0.44	1,117.46	2.23
1,116.95	0.47	1,117.47	2.27
1,116.96	0.49	1,117.48	2.30
1,116.97	0.52	1,117.49	2.34
1,116.98	0.55	1,117.50	2.37
1,116.99	0.57	1,117.51	2.40
1,117.00	0.60	1,117.52	2.44
1,117.01	0.63	1,117.53	2.47
1,117.02	0.66	1,117.54	2.50
1,117.03	0.69	1,117.55	2.53
1,117.04	0.72	1,117.56	2.56
1,117.05	0.75	1,117.57	2.58
1,117.06	0.78	1,117.58	2.61
1,117.07	0.81	1,117.59	2.63
1,117.08	0.85	1,117.60	2.66
1,117.09	0.88	1,117.61	**2.67**
1,117.10	0.91		
1,117.11	0.95		
1,117.12	0.98		

Summary for Pond DCBJ: TO DCB-K

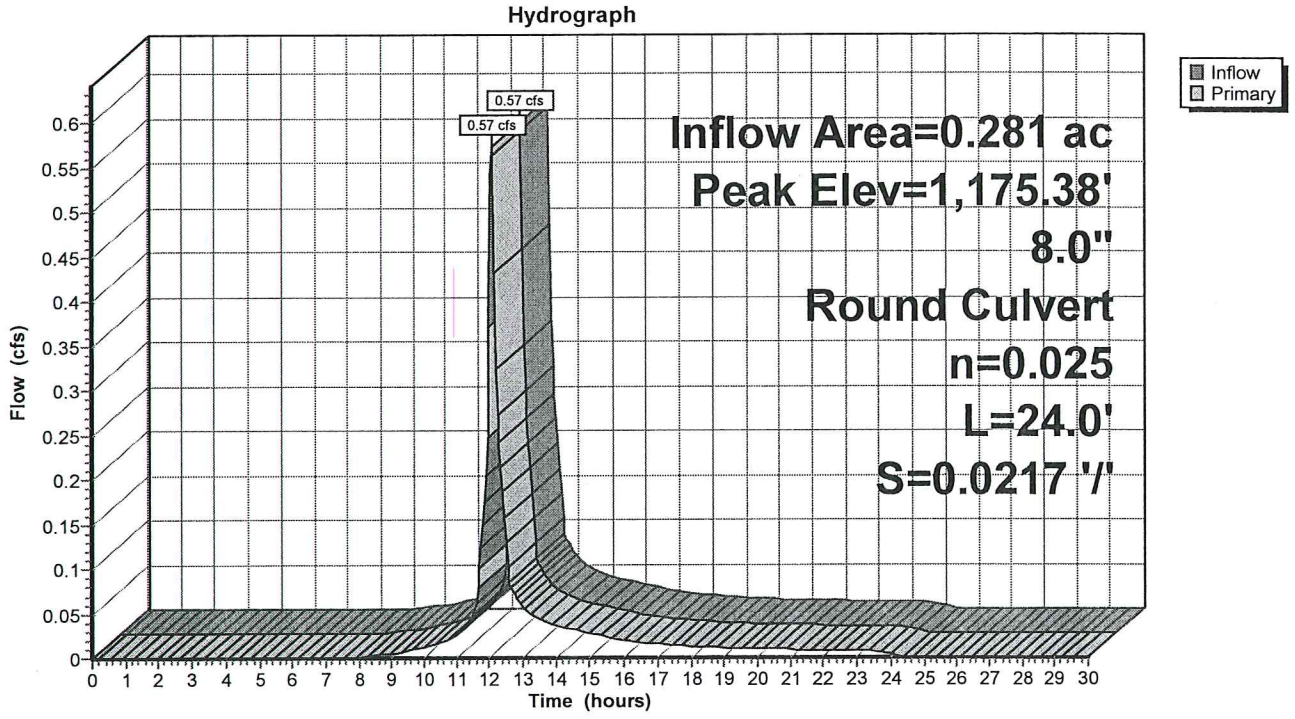
Inflow Area = 0.281 ac, 53.18% Impervious, Inflow Depth = 1.76" for 2-Year event
Inflow = 0.57 cfs @ 12.08 hrs, Volume= 0.041 af
Outflow = 0.57 cfs @ 12.08 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.0 min
Primary = 0.57 cfs @ 12.08 hrs, Volume= 0.041 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,175.38' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,174.86'	**8.0" Round Culvert** L= 24.0' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,174.86' / 1,174.34' S= 0.0217 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.35 sf

Primary OutFlow Max=0.56 cfs @ 12.08 hrs HW=1,175.37' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.56 cfs @ 2.68 fps)

Pond DCBJ: TO DCB-K



Stage-Discharge for Pond DCBJ: TO DCB-K

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,174.86	0.00	1,175.38	0.57
1,174.87	0.00	1,175.39	0.59
1,174.88	0.00	1,175.40	0.61
1,174.89	0.00	1,175.41	0.62
1,174.90	0.00	1,175.42	0.64
1,174.91	0.01	1,175.43	0.66
1,174.92	0.01	1,175.44	0.68
1,174.93	0.01	1,175.45	0.69
1,174.94	0.02	1,175.46	0.71
1,174.95	0.02	1,175.47	0.73
1,174.96	0.02	1,175.48	0.74
1,174.97	0.03	1,175.49	0.76
1,174.98	0.04	1,175.50	0.78
1,174.99	0.04	1,175.51	0.79
1,175.00	0.05	1,175.52	0.81
1,175.01	0.06	1,175.53	**0.82**
1,175.02	0.06		
1,175.03	0.07		
1,175.04	0.08		
1,175.05	0.09		
1,175.06	0.10		
1,175.07	0.11		
1,175.08	0.12		
1,175.09	0.13		
1,175.10	0.14		
1,175.11	0.16		
1,175.12	0.17		
1,175.13	0.18		
1,175.14	0.19		
1,175.15	0.21		
1,175.16	0.22		
1,175.17	0.23		
1,175.18	0.25		
1,175.19	0.26		
1,175.20	0.28		
1,175.21	0.29		
1,175.22	0.31		
1,175.23	0.32		
1,175.24	0.34		
1,175.25	0.35		
1,175.26	0.37		
1,175.27	0.39		
1,175.28	0.40		
1,175.29	0.42		
1,175.30	0.44		
1,175.31	0.45		
1,175.32	0.47		
1,175.33	0.49		
1,175.34	0.50		
1,175.35	0.52		
1,175.36	0.54		
1,175.37	0.56		

Summary for Pond sb1: TO DP#1

Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 2.22" for 2-Year event
Inflow = 0.55 cfs @ 11.80 hrs, Volume= 0.496 af
Outflow = 0.55 cfs @ 11.80 hrs, Volume= 0.490 af, Atten= 0%, Lag= 0.0 min
Primary = 0.55 cfs @ 11.80 hrs, Volume= 0.490 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,163.08' @ 11.80 hrs Surf.Area= 376 sf Storage= 290 cf

Plug-Flow detention time= 12.3 min calculated for 0.490 af (99% of inflow)
Center-of-Mass det. time= 6.5 min (962.1 - 955.7)

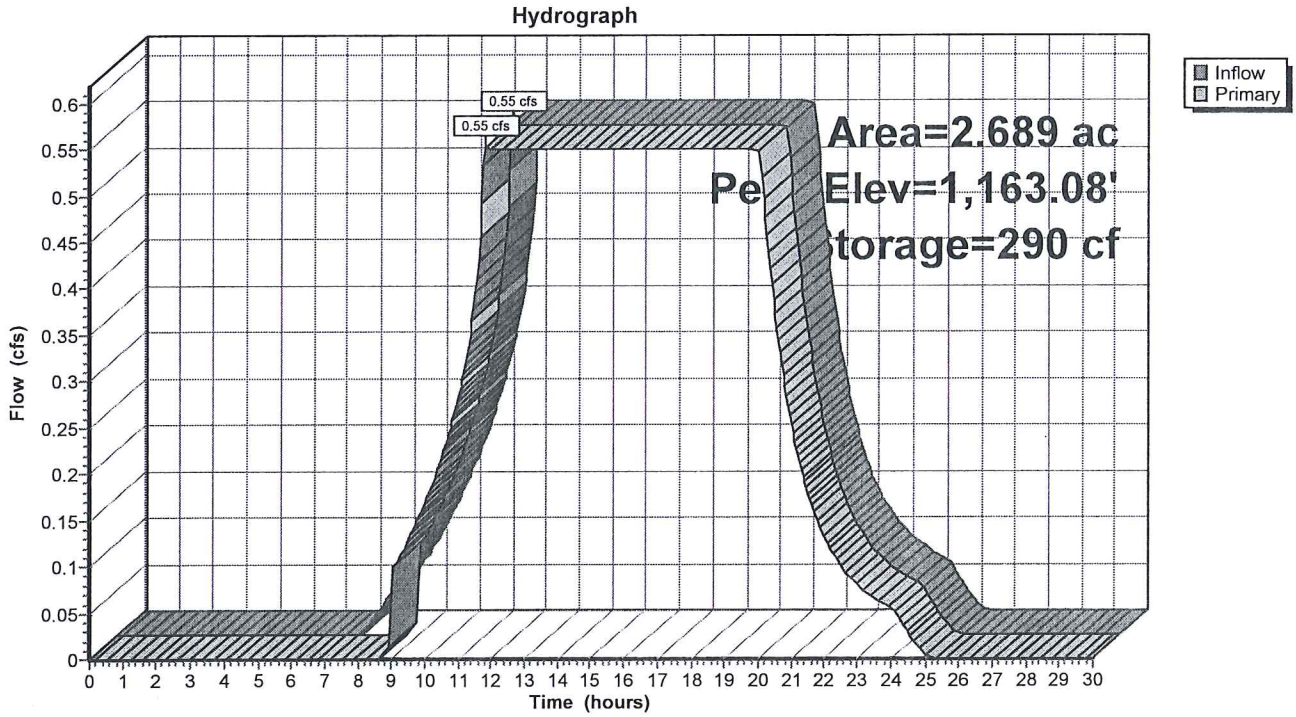
Volume	Invert	Avail.Storage	Storage Description
#1	1,162.00'	720 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,162.00	163	0	0
1,164.00	557	720	720

Device	Routing	Invert	Outlet Devices
#1	Primary	1,163.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.55 cfs @ 11.80 hrs HW=1,163.08' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.55 cfs @ 0.70 fps)

Pond sb1: TO DP#1



Stage-Discharge for Pond sb1: TO DP#1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,162.00	0.00	1,162.52	0.00	1,163.04	0.20	1,163.56	11.20
1,162.01	0.00	1,162.53	0.00	1,163.05	0.28	1,163.57	11.53
1,162.02	0.00	1,162.54	0.00	1,163.06	0.37	1,163.58	11.86
1,162.03	0.00	1,162.55	0.00	1,163.07	0.46	1,163.59	12.20
1,162.04	0.00	1,162.56	0.00	1,163.08	0.56	1,163.60	12.55
1,162.05	0.00	1,162.57	0.00	1,163.09	0.67	1,163.61	12.86
1,162.06	0.00	1,162.58	0.00	1,163.10	0.79	1,163.62	13.18
1,162.07	0.00	1,162.59	0.00	1,163.11	0.91	1,163.63	13.49
1,162.08	0.00	1,162.60	0.00	1,163.12	1.04	1,163.64	13.81
1,162.09	0.00	1,162.61	0.00	1,163.13	1.17	1,163.65	14.14
1,162.10	0.00	1,162.62	0.00	1,163.14	1.30	1,163.66	14.46
1,162.11	0.00	1,162.63	0.00	1,163.15	1.45	1,163.67	14.79
1,162.12	0.00	1,162.64	0.00	1,163.16	1.59	1,163.68	15.12
1,162.13	0.00	1,162.65	0.00	1,163.17	1.75	1,163.69	15.45
1,162.14	0.00	1,162.66	0.00	1,163.18	1.90	1,163.70	15.78
1,162.15	0.00	1,162.67	0.00	1,163.19	2.06	1,163.71	16.12
1,162.16	0.00	1,162.68	0.00	1,163.20	2.23	1,163.72	16.46
1,162.17	0.00	1,162.69	0.00	1,163.21	2.40	1,163.73	16.80
1,162.18	0.00	1,162.70	0.00	1,163.22	2.58	1,163.74	17.14
1,162.19	0.00	1,162.71	0.00	1,163.23	2.76	1,163.75	17.49
1,162.20	0.00	1,162.72	0.00	1,163.24	2.94	1,163.76	17.84
1,162.21	0.00	1,162.73	0.00	1,163.25	3.13	1,163.77	18.19
1,162.22	0.00	1,162.74	0.00	1,163.26	3.33	1,163.78	18.54
1,162.23	0.00	1,162.75	0.00	1,163.27	3.53	1,163.79	18.89
1,162.24	0.00	1,162.76	0.00	1,163.28	3.73	1,163.80	19.25
1,162.25	0.00	1,162.77	0.00	1,163.29	3.94	1,163.81	19.61
1,162.26	0.00	1,162.78	0.00	1,163.30	4.15	1,163.82	19.97
1,162.27	0.00	1,162.79	0.00	1,163.31	4.36	1,163.83	20.33
1,162.28	0.00	1,162.80	0.00	1,163.32	4.58	1,163.84	20.69
1,162.29	0.00	1,162.81	0.00	1,163.33	4.81	1,163.85	21.06
1,162.30	0.00	1,162.82	0.00	1,163.34	5.03	1,163.86	21.43
1,162.31	0.00	1,162.83	0.00	1,163.35	5.26	1,163.87	21.80
1,162.32	0.00	1,162.84	0.00	1,163.36	5.50	1,163.88	22.17
1,162.33	0.00	1,162.85	0.00	1,163.37	5.74	1,163.89	22.55
1,162.34	0.00	1,162.86	0.00	1,163.38	5.98	1,163.90	22.92
1,162.35	0.00	1,162.87	0.00	1,163.39	6.23	1,163.91	23.30
1,162.36	0.00	1,162.88	0.00	1,163.40	6.48	1,163.92	23.68
1,162.37	0.00	1,162.89	0.00	1,163.41	6.74	1,163.93	24.07
1,162.38	0.00	1,162.90	0.00	1,163.42	7.01	1,163.94	24.45
1,162.39	0.00	1,162.91	0.00	1,163.43	7.28	1,163.95	24.84
1,162.40	0.00	1,162.92	0.00	1,163.44	7.55	1,163.96	25.23
1,162.41	0.00	1,162.93	0.00	1,163.45	7.83	1,163.97	25.62
1,162.42	0.00	1,162.94	0.00	1,163.46	8.12	1,163.98	26.01
1,162.43	0.00	1,162.95	0.00	1,163.47	8.41	1,163.99	26.40
1,162.44	0.00	1,162.96	0.00	1,163.48	8.70	1,164.00	**26.80**
1,162.45	0.00	1,162.97	0.00	1,163.49	9.00		
1,162.46	0.00	1,162.98	0.00	1,163.50	9.30		
1,162.47	0.00	1,162.99	0.00	1,163.51	9.60		
1,162.48	0.00	1,163.00	0.00	1,163.52	9.91		
1,162.49	0.00	1,163.01	0.02	1,163.53	10.23		
1,162.50	0.00	1,163.02	0.07	1,163.54	10.55		
1,162.51	0.00	1,163.03	0.13	1,163.55	10.87		

Summary for Pond UGS1: EXFIL

Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 2.51" for 2-Year event
Inflow = 7.27 cfs @ 12.09 hrs, Volume= 0.562 af
Outflow = 0.59 cfs @ 13.09 hrs, Volume= 0.560 af, Atten= 92%, Lag= 60.0 min
Discarded = 0.04 cfs @ 13.09 hrs, Volume= 0.064 af
Primary = 0.55 cfs @ 11.75 hrs, Volume= 0.496 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,178.64' @ 13.09 hrs Surf.Area= 0.115 ac Storage= 0.256 af

Plug-Flow detention time= 183.5 min calculated for 0.559 af (100% of inflow)
Center-of-Mass det. time= 181.9 min (959.4 - 777.4)

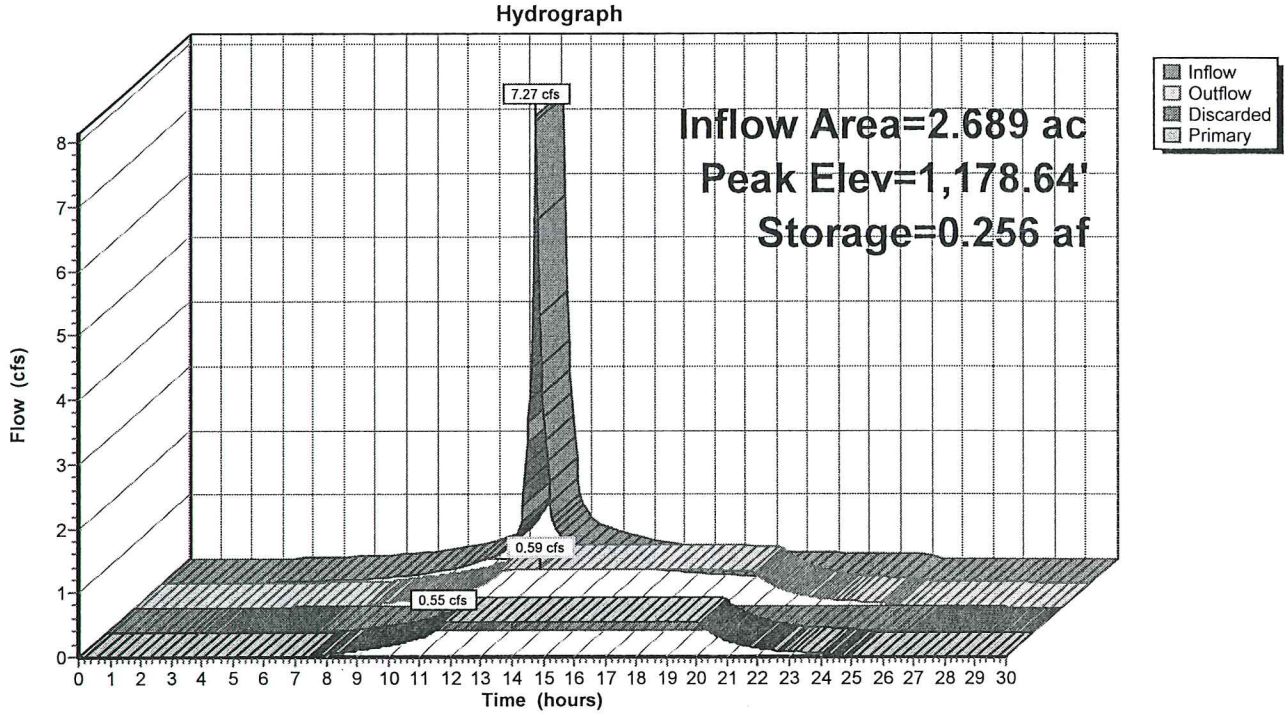
Volume	Invert	Avail.Storage	Storage Description
#1	1,175.00'	0.239 af	**44.00'W x 114.00'L x 7.90'H Prismatoid** 0.910 af Overall - 0.313 af Embedded = 0.596 af x 40.0% Voids
#2	1,176.90'	0.313 af	**ADS_StormTech MC-4500 +Cap @ 4.03' L** x 120 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.6 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 120 Chambers in 12 Rows Cap Storage= +35.7 cf x 2 x 12 rows = 856.8 cf
		0.552 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,175.00'	**0.270 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 320.00'
#2	Device 4	1,179.60'	**15.0" Vert. Orifice/Grate** C= 0.600
#3	Device 4	1,175.20'	**Special & User-Defined** Head (feet) 0.00 1.00 15.00 Disch. (cfs) 0.000 0.550 0.550
#4	Primary	1,174.80'	**15.0" Round Culvert** L= 98.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,174.80' / 1,163.00' S= 0.1204 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Discarded OutFlow Max=0.04 cfs @ 13.09 hrs HW=1,178.64' (Free Discharge)
└**1=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=0.55 cfs @ 11.75 hrs HW=1,176.23' (Free Discharge)
└**4=Culvert** (Passes 0.55 cfs of 4.18 cfs potential flow)
  ├**2=Orifice/Grate** (Controls 0.00 cfs)
  └**3=Special & User-Defined** (Custom Controls 0.55 cfs)

Pond UGS1: EXFIL



Stage-Discharge for Pond UGS1: EXFIL

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
1,175.00	0.00	0.00	0.00
1,175.20	0.03	0.03	0.00
1,175.40	0.14	0.03	0.11
1,175.60	0.25	0.03	0.22
1,175.80	0.36	0.03	0.33
1,176.00	0.47	0.03	0.44
1,176.20	0.58	0.03	0.55
1,176.40	0.58	0.03	0.55
1,176.60	0.58	0.03	0.55
1,176.80	0.58	0.03	0.55
1,177.00	0.59	0.04	0.55
1,177.20	0.59	0.04	0.55
1,177.40	0.59	0.04	0.55
1,177.60	0.59	0.04	0.55
1,177.80	0.59	0.04	0.55
1,178.00	0.59	0.04	0.55
1,178.20	0.59	0.04	0.55
1,178.40	0.59	0.04	0.55
1,178.60	0.59	0.04	0.55
1,178.80	0.59	0.04	0.55
1,179.00	0.59	0.04	0.55
1,179.20	0.59	0.04	0.55
1,179.40	0.59	0.04	0.55
1,179.60	0.59	0.04	0.55
1,179.80	0.78	0.04	0.74
1,180.00	1.32	0.04	1.28
1,180.20	2.13	0.04	2.09
1,180.40	3.12	0.04	3.08
1,180.60	4.18	0.04	4.13
1,180.80	5.11	0.04	5.07
1,181.00	5.80	0.04	5.75
1,181.20	6.43	0.04	6.38
1,181.40	7.00	0.04	6.96
1,181.60	7.52	0.04	7.48
1,181.80	8.01	0.05	7.97
1,182.00	8.47	0.05	8.42
1,182.20	8.90	0.05	8.85
1,182.40	9.31	0.05	9.26
1,182.60	9.70	0.05	9.66
1,182.80	10.08	0.05	10.03
1,183.00	10.44	0.05	10.39
1,183.20	10.79	0.05	10.74
1,183.40	11.13	0.05	11.08
1,183.60	11.45	0.05	11.41
1,183.80	11.77	0.05	11.72
1,184.00	12.08	0.05	12.03
1,184.20	12.38	0.05	12.33
1,184.40	12.67	0.05	12.62
1,184.60	12.96	0.05	12.91
1,184.80	13.24	0.05	13.19
1,185.00	13.51	0.05	13.46
1,185.20	13.78	0.05	13.73
1,185.40	14.04	0.05	13.99
1,185.60	14.30	0.05	14.25
1,185.80	14.55	0.05	14.50
1,186.00	14.80	0.05	14.75
1,186.20	15.04	0.05	14.99
1,186.40	15.28	0.05	15.23
1,186.60	15.52	0.05	15.47
1,186.80	15.75	0.05	15.70
1,187.00	15.92	0.05	15.87
1,187.20	16.06	0.05	16.01
1,187.40	16.19	0.05	16.14
1,187.60	16.32	0.05	16.28
1,187.80	16.46	0.05	16.41
1,188.00	16.59	0.05	16.54
1,188.20	16.72	0.05	16.67
1,188.40	16.85	0.05	16.80
1,188.60	16.98	0.05	16.93
1,188.80	17.11	0.05	17.06
1,189.00	17.24	0.05	17.19
1,189.20	17.36	0.05	17.31
1,189.40	17.49	0.05	17.44
1,189.60	17.61	0.05	17.56
1,189.80	17.73	0.05	17.69
1,190.00	17.86	0.05	17.81
1,190.20	**17.98**	**0.05**	**17.93**

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P11: TO WET Runoff Area=70,866 sf 3.65% Impervious Runoff Depth=1.27"
Flow Length=109' Slope=0.1500 '/' Tc=8.2 min CN=64 Runoff=2.00 cfs 0.172 af

Subcatchment P111: TO DCB#22 Runoff Area=8,514 sf 87.17% Impervious Runoff Depth=3.92"
Flow Length=164' Tc=5.0 min CN=95 Runoff=0.84 cfs 0.064 af

Subcatchment P112: TO DCB#21 Runoff Area=9,201 sf 82.40% Impervious Runoff Depth=3.82"
Flow Length=155' Tc=5.0 min CN=94 Runoff=0.89 cfs 0.067 af

Subcatchment P113: TO DCB#21 Runoff Area=6,921 sf 80.93% Impervious Runoff Depth=3.71"
Flow Length=240' Slope=0.0150 '/' Tc=5.0 min CN=93 Runoff=0.66 cfs 0.049 af

Subcatchment P114: TO DCB#20 Runoff Area=6,898 sf 72.11% Impervious Runoff Depth=3.50"
Flow Length=214' Slope=0.0150 '/' Tc=5.0 min CN=91 Runoff=0.63 cfs 0.046 af

Subcatchment P115: TO DCB#10 Runoff Area=1,813 sf 80.86% Impervious Runoff Depth=3.71"
Flow Length=121' Slope=0.0150 '/' Tc=5.0 min CN=93 Runoff=0.17 cfs 0.013 af

Subcatchment P116: TO DCB#11 Runoff Area=11,690 sf 78.25% Impervious Runoff Depth=3.71"
Flow Length=175' Slope=0.0150 '/' Tc=5.0 min CN=93 Runoff=1.11 cfs 0.083 af

Subcatchment P117: TO DCB#4 Runoff Area=5,999 sf 68.08% Impervious Runoff Depth=3.40"
Flow Length=153' Tc=5.0 min CN=90 Runoff=0.54 cfs 0.039 af

Subcatchment P118: TO DCB#20 Runoff Area=6,282 sf 89.61% Impervious Runoff Depth=4.04"
Flow Length=134' Slope=0.0150 '/' Tc=5.0 min CN=96 Runoff=0.63 cfs 0.049 af

Subcatchment P119: TO DCB#19 Runoff Area=5,964 sf 89.42% Impervious Runoff Depth=3.92"
Flow Length=134' Slope=0.0150 '/' Tc=5.0 min CN=95 Runoff=0.59 cfs 0.045 af

Subcatchment P12: TO CULVERT#1 Runoff Area=144,472 sf 3.17% Impervious Runoff Depth=1.40"
Flow Length=587' Tc=17.1 min CN=66 Runoff=3.62 cfs 0.386 af

Subcatchment P120: TO DCB#15 Runoff Area=7,759 sf 87.98% Impervious Runoff Depth=3.92"
Flow Length=158' Slope=0.0150 '/' Tc=5.0 min CN=95 Runoff=0.76 cfs 0.058 af

Subcatchment P121: TO DCB#14 Runoff Area=7,473 sf 90.41% Impervious Runoff Depth=4.04"
Flow Length=158' Slope=0.0150 '/' Tc=5.0 min CN=96 Runoff=0.74 cfs 0.058 af

Subcatchment P122: TO DCB#17 Runoff Area=5,642 sf 91.39% Impervious Runoff Depth=4.04"
Flow Length=175' Slope=0.0250 '/' Tc=5.0 min CN=96 Runoff=0.56 cfs 0.044 af

Subcatchment P123: TO DCB#3 Runoff Area=9,992 sf 89.92% Impervious Runoff Depth=4.04"
Flow Length=195' Slope=0.0200 '/' Tc=5.0 min CN=96 Runoff=1.00 cfs 0.077 af

Subcatchment P124: TO DCB#13 Runoff Area=7,557 sf 91.70% Impervious Runoff Depth=4.04"
Flow Length=161' Slope=0.0250 '/' Tc=5.0 min CN=96 Runoff=0.75 cfs 0.058 af

Subcatchment P125: TO DCB#12 Runoff Area=10,810 sf 86.00% Impervious Runoff Depth=3.92"
Flow Length=217' Slope=0.0250 '/' Tc=5.0 min CN=95 Runoff=1.06 cfs 0.081 af

Subcatchment P126: TO DCB#18 Runoff Area=23,746 sf 84.68% Impervious Runoff Depth=3.82"
Flow Length=207' Slope=0.0150 '/' Tc=5.0 min CN=94 Runoff=2.30 cfs 0.173 af

Subcatchment P127: TO DCB#1 Runoff Area=11,126 sf 81.84% Impervious Runoff Depth=3.82"
Flow Length=140' Slope=0.0200 '/' Tc=5.0 min CN=94 Runoff=1.08 cfs 0.081 af

Subcatchment P128: (new Subcat) Runoff Area=28,389 sf 100.00% Impervious Runoff Depth=4.26"
Flow Length=140' Slope=0.0200 '/' Tc=5.0 min CN=98 Runoff=2.88 cfs 0.232 af

Subcatchment P14: TO CULVERT #2 Runoff Area=90,019 sf 3.60% Impervious Runoff Depth=1.33"
Flow Length=490' Tc=14.6 min CN=65 Runoff=2.26 cfs 0.229 af

Subcatchment P18: TO DP#2 Runoff Area=29,367 sf 66.34% Impervious Runoff Depth=3.40"
Flow Length=260' Tc=5.0 min CN=90 Runoff=2.62 cfs 0.191 af

Subcatchment P19: BUILDING Runoff Area=127,442 sf 100.00% Impervious Runoff Depth=4.26"
Tc=0.0 min CN=98 Runoff=14.72 cfs 1.040 af

Subcatchment P20: TO DCB-H Runoff Area=15,545 sf 45.15% Impervious Runoff Depth=2.91"
Flow Length=200' Tc=5.0 min CN=85 Runoff=1.22 cfs 0.087 af

Subcatchment P21: TO DCB-I Runoff Area=2,507 sf 56.44% Impervious Runoff Depth=3.20"
Flow Length=85' Tc=5.0 min CN=88 Runoff=0.21 cfs 0.015 af

Subcatchment P22: TO DCB-J Runoff Area=9,732 sf 52.34% Impervious Runoff Depth=3.10"
Flow Length=283' Tc=5.0 min CN=87 Runoff=0.81 cfs 0.058 af

Subcatchment P26: TO DCB-F Runoff Area=5,800 sf 68.40% Impervious Runoff Depth=3.40"
Flow Length=161' Tc=5.0 min CN=90 Runoff=0.52 cfs 0.038 af

Subcatchment P27: TO DCB-G Runoff Area=11,905 sf 45.12% Impervious Runoff Depth=2.91"
Flow Length=181' Slope=0.0080 '/' Tc=5.0 min CN=85 Runoff=0.93 cfs 0.066 af

Reach 2R: OVERLAND FLOW Avg. Flow Depth=0.22' Max Vel=0.70 fps Inflow=1.93 cfs 0.809 af
n=0.070 L=117.0' S=0.0103 '/' Capacity=32.74 cfs Outflow=1.91 cfs 0.809 af

Reach 3R: OVERLAND FLOW Avg. Flow Depth=0.10' Max Vel=1.84 fps Inflow=1.95 cfs 0.809 af
n=0.070 L=209.0' S=0.1923 '/' Capacity=141.79 cfs Outflow=1.93 cfs 0.809 af

Reach 5R: OVERLAND FLOW Avg. Flow Depth=0.11' Max Vel=1.52 fps Inflow=1.95 cfs 0.809 af
n=0.070 L=38.0' S=0.1053 '/' Capacity=104.89 cfs Outflow=1.95 cfs 0.809 af

Reach CULVERT#2: TO DP#1 Avg. Flow Depth=0.40' Max Vel=7.60 fps Inflow=2.26 cfs 0.229 af
12.0" Round Pipe n=0.013 L=20.3' S=0.0345 '/' Capacity=6.62 cfs Outflow=2.26 cfs 0.229 af

Reach DCB-H: TO DMH#6 Avg. Flow Depth=0.30' Max Vel=7.80 fps Inflow=1.22 cfs 0.087 af
8.0" Round Pipe n=0.010 L=6.0' S=0.0333 '/' Capacity=2.87 cfs Outflow=1.21 cfs 0.087 af

Reach DCB1: TO DMH#1 Avg. Flow Depth=0.21' Max Vel=8.78 fps Inflow=1.08 cfs 0.081 af
12.0" Round Pipe n=0.011 L=40.0' S=0.0675 '/' Capacity=10.94 cfs Outflow=1.07 cfs 0.081 af

Reach DCB10: TO DMH#10 Avg. Flow Depth=0.16' Max Vel=2.06 fps Inflow=0.17 cfs 0.013 af
12.0" Round Pipe n=0.013 L=28.0' S=0.0071 '/' Capacity=3.01 cfs Outflow=0.17 cfs 0.013 af

Reach DCB11: TO DMH#10 Avg. Flow Depth=0.30' Max Vel=5.53 fps Inflow=1.11 cfs 0.083 af
12.0" Round Pipe n=0.013 L=8.0' S=0.0250 '/' Capacity=5.63 cfs Outflow=1.11 cfs 0.083 af

Reach DCB12: TO DMH#12 Avg. Flow Depth=0.38' Max Vel=3.85 fps Inflow=1.06 cfs 0.081 af
12.0" Round Pipe n=0.013 L=42.0' S=0.0095 '/' Capacity=3.48 cfs Outflow=1.05 cfs 0.081 af

Reach DCB13: TO DMH#12 Avg. Flow Depth=0.25' Max Vel=4.95 fps Inflow=0.75 cfs 0.058 af
12.0" Round Pipe n=0.013 L=16.0' S=0.0250 '/' Capacity=5.63 cfs Outflow=0.75 cfs 0.058 af

Reach DCB14: TO DMH#11 Avg. Flow Depth=0.20' Max Vel=6.83 fps Inflow=0.74 cfs 0.058 af
12.0" Round Pipe n=0.013 L=8.0' S=0.0625 '/' Capacity=8.91 cfs Outflow=0.74 cfs 0.058 af

Reach DCB15: TO DMH#13 Avg. Flow Depth=0.21' Max Vel=6.35 fps Inflow=0.76 cfs 0.058 af
12.0" Round Pipe n=0.013 L=4.0' S=0.0500 '/' Capacity=7.97 cfs Outflow=0.76 cfs 0.058 af

Reach DCB16: TO DMH#15 Avg. Flow Depth=0.20' Max Vel=4.86 fps Inflow=0.56 cfs 0.044 af
12.0" Round Pipe n=0.013 L=46.0' S=0.0304 '/' Capacity=6.22 cfs Outflow=0.55 cfs 0.044 af

Reach DCB17: TO DMH#15 Avg. Flow Depth=0.17' Max Vel=6.51 fps Inflow=0.59 cfs 0.045 af
12.0" Round Pipe n=0.013 L=6.0' S=0.0667 '/' Capacity=9.20 cfs Outflow=0.59 cfs 0.045 af

Reach DCB18: TO DMH#15 Avg. Flow Depth=0.53' Max Vel=5.34 fps Inflow=2.30 cfs 0.173 af
12.0" Round Pipe n=0.013 L=15.0' S=0.0133 '/' Capacity=4.11 cfs Outflow=2.29 cfs 0.173 af

Reach DCB19: TO DMH#16 Avg. Flow Depth=0.22' Max Vel=4.92 fps Inflow=0.63 cfs 0.049 af
12.0" Round Pipe n=0.013 L=7.0' S=0.0286 '/' Capacity=6.02 cfs Outflow=0.62 cfs 0.049 af

Reach DCB2: TO DMH#1 Avg. Flow Depth=0.19' Max Vel=4.99 fps Inflow=0.52 cfs 0.038 af
12.0" Round Pipe n=0.011 L=8.0' S=0.0250 '/' Capacity=6.66 cfs Outflow=0.52 cfs 0.038 af

Reach DCB20: TO DMH#18 Avg. Flow Depth=0.19' Max Vel=6.00 fps Inflow=0.63 cfs 0.046 af
12.0" Round Pipe n=0.013 L=6.0' S=0.0500 '/' Capacity=7.97 cfs Outflow=0.63 cfs 0.046 af

Reach DCB21: TO DMH#18 Avg. Flow Depth=0.27' Max Vel=3.90 fps Inflow=0.66 cfs 0.049 af
12.0" Round Pipe n=0.013 L=21.0' S=0.0143 '/' Capacity=4.26 cfs Outflow=0.65 cfs 0.049 af

Reach DCB22: TO DMH#19 Avg. Flow Depth=0.31' Max Vel=3.98 fps Inflow=0.84 cfs 0.064 af
12.0" Round Pipe n=0.013 L=16.0' S=0.0125 '/' Capacity=3.98 cfs Outflow=0.83 cfs 0.064 af

Reach DCB23: TO DMH#19 Avg. Flow Depth=0.33' Max Vel=3.88 fps Inflow=0.89 cfs 0.067 af
12.0" Round Pipe n=0.013 L=18.0' S=0.0111 '/' Capacity=3.76 cfs Outflow=0.88 cfs 0.067 af

Reach DCB3: TO DMH#1 Avg. Flow Depth=0.23' Max Vel=6.98 fps Inflow=1.00 cfs 0.077 af
12.0" Round Pipe n=0.013 L=123.0' S=0.0528 '/' Capacity=8.19 cfs Outflow=0.98 cfs 0.077 af

Reach DCB4: TO DMH#5 Avg. Flow Depth=0.18' Max Vel=5.38 fps Inflow=0.54 cfs 0.039 af
12.0" Round Pipe n=0.011 L=33.0' S=0.0303 '/' Capacity=7.33 cfs Outflow=0.53 cfs 0.039 af

Reach DCBG: TO DMH#3 Avg. Flow Depth=0.23' Max Vel=6.83 fps Inflow=0.93 cfs 0.066 af
12.0" Round Pipe n=0.011 L=8.0' S=0.0375 '/' Capacity=8.15 cfs Outflow=0.93 cfs 0.066 af

Reach DCBI: TO DCB-F Avg. Flow Depth=0.25' Max Vel=2.14 fps Inflow=0.21 cfs 0.015 af
6.0" Round Pipe n=0.025 L=69.0' S=0.0209 '/' Capacity=0.42 cfs Outflow=0.21 cfs 0.015 af

Reach DMH1: TO DMH#2 Avg. Flow Depth=0.47' Max Vel=7.07 fps Inflow=2.55 cfs 0.196 af
12.0" Round Pipe n=0.011 L=16.0' S=0.0187 '/' Capacity=5.77 cfs Outflow=2.55 cfs 0.196 af

Reach DMH10: TO DMH#12 Avg. Flow Depth=0.43' Max Vel=3.90 fps Inflow=1.28 cfs 0.096 af
12.0" Round Pipe n=0.013 L=35.0' S=0.0086 '/' Capacity=3.30 cfs Outflow=1.26 cfs 0.096 af

Reach DMH11: TO DMH#12 Avg. Flow Depth=0.35' Max Vel=7.23 fps Inflow=1.79 cfs 0.140 af
12.0" Round Pipe n=0.013 L=47.0' S=0.0362 '/' Capacity=6.78 cfs Outflow=1.78 cfs 0.140 af

Reach DMH12: TO DMH#13 Avg. Flow Depth=0.72' Max Vel=5.20 fps Inflow=3.78 cfs 0.293 af
15.0" Round Pipe n=0.013 L=68.0' S=0.0088 '/' Capacity=6.07 cfs Outflow=3.76 cfs 0.293 af

Reach DMH13: TO DMH#14 Avg. Flow Depth=0.74' Max Vel=5.22 fps Inflow=4.51 cfs 0.351 af
18.0" Round Pipe n=0.013 L=38.0' S=0.0079 '/' Capacity=9.33 cfs Outflow=4.49 cfs 0.351 af

Reach DMH14: TO UGS#1A Avg. Flow Depth=0.69' Max Vel=5.70 fps Inflow=4.49 cfs 0.351 af
18.0" Round Pipe n=0.013 L=10.0' S=0.0100 '/' Capacity=10.50 cfs Outflow=4.49 cfs 0.351 af

Reach DMH15: TO DMH#16 Avg. Flow Depth=0.69' Max Vel=4.86 fps Inflow=3.43 cfs 0.262 af
15.0" Round Pipe n=0.013 L=63.0' S=0.0079 '/' Capacity=5.75 cfs Outflow=3.38 cfs 0.262 af

Reach DMH16: TO DMH#17 Avg. Flow Depth=0.84' Max Vel=6.75 fps Inflow=6.85 cfs 0.542 af
18.0" Round Pipe n=0.013 L=71.0' S=0.0120 '/' Capacity=11.49 cfs Outflow=6.81 cfs 0.542 af

Reach DMH17: TO UGS#1B Avg. Flow Depth=0.71' Max Vel=8.19 fps Inflow=6.81 cfs 0.542 af
18.0" Round Pipe n=0.013 L=10.0' S=0.0200 '/' Capacity=14.86 cfs Outflow=6.81 cfs 0.542 af

Reach DMH18: TO DMH#20 Avg. Flow Depth=0.42' Max Vel=4.10 fps Inflow=1.28 cfs 0.095 af
12.0" Round Pipe n=0.013 L=155.0' S=0.0097 '/' Capacity=3.50 cfs Outflow=1.25 cfs 0.095 af

Reach DMH19: TO DMH-A1 Avg. Flow Depth=0.41' Max Vel=9.66 fps Inflow=2.94 cfs 0.226 af
12.0" Round Pipe n=0.013 L=31.0' S=0.0548 '/' Capacity=8.34 cfs Outflow=2.93 cfs 0.226 af

Reach DMH2: TO DMH#3 Avg. Flow Depth=0.50' Max Vel=6.41 fps Inflow=2.55 cfs 0.196 af
12.0" Round Pipe n=0.011 L=91.0' S=0.0143 '/' Capacity=5.03 cfs Outflow=2.53 cfs 0.196 af

Reach DMH3: TO DMH#4 Avg. Flow Depth=0.58' Max Vel=7.31 fps Inflow=3.45 cfs 0.262 af
12.0" Round Pipe n=0.011 L=30.0' S=0.0167 '/' Capacity=5.44 cfs Outflow=3.45 cfs 0.262 af

Reach DMH4: TO DMH-E Avg. Flow Depth=0.41' Max Vel=11.29 fps Inflow=3.45 cfs 0.262 af
12.0" Round Pipe n=0.011 L=15.0' S=0.0533 '/' Capacity=9.72 cfs Outflow=3.44 cfs 0.262 af

Reach DMH5: TO DMH#6 Avg. Flow Depth=0.23' Max Vel=3.84 fps Inflow=0.53 cfs 0.039 af
12.0" Round Pipe n=0.011 L=78.0' S=0.0115 '/' Capacity=4.52 cfs Outflow=0.52 cfs 0.039 af

Reach DMH6: TO DCB- Avg. Flow Depth=0.30' Max Vel=8.75 fps Inflow=1.73 cfs 0.125 af
12.0" Round Pipe n=0.011 L=20.0' S=0.0450 '/' Capacity=8.93 cfs Outflow=1.73 cfs 0.125 af

Reach DMHA: TO DP#1 Avg. Flow Depth=0.43' Max Vel=7.74 fps Inflow=2.93 cfs 0.226 af
15.0" Round Pipe n=0.011 L=14.0' S=0.0221 '/' Capacity=11.36 cfs Outflow=2.93 cfs 0.226 af

Reach DP#1: CRYSTAL LAKE Inflow=10.06 cfs 1.822 af
Outflow=10.06 cfs 1.822 af

Reach DP#2: EX RAIN GARDEN Inflow=2.62 cfs 0.191 af
Outflow=2.62 cfs 0.191 af

Reach DP#3: DMH-E Inflow=3.44 cfs 0.262 af
Outflow=3.44 cfs 0.262 af

Reach DP#4: DCB-J Inflow=1.73 cfs 0.125 af
Outflow=1.73 cfs 0.125 af

Reach DP#5: DCB-K Inflow=1.01 cfs 0.073 af
Outflow=1.01 cfs 0.073 af

Reach OL1: OVERLAND FLOW Avg. Flow Depth=0.10' Max Vel=2.80 fps Inflow=2.93 cfs 0.226 af
n=0.070 L=20.0' S=0.4500 '/' Capacity=216.87 cfs Outflow=2.92 cfs 0.226 af

Reach OL2: OVERLAND FLOW Avg. Flow Depth=0.12' Max Vel=2.05 fps Inflow=2.92 cfs 0.226 af
n=0.070 L=243.0' S=0.1770 '/' Capacity=136.00 cfs Outflow=2.75 cfs 0.226 af

Reach OL3: OVERLAND FLOW Avg. Flow Depth=0.18' Max Vel=1.29 fps Inflow=2.75 cfs 0.226 af
n=0.070 L=45.0' S=0.0444 '/' Capacity=68.16 cfs Outflow=2.68 cfs 0.226 af

Reach OL4: OVERLAND FLOW Avg. Flow Depth=0.10' Max Vel=2.01 fps Inflow=2.26 cfs 0.229 af
n=0.070 L=74.0' S=0.2162 '/' Capacity=150.33 cfs Outflow=2.23 cfs 0.229 af

Reach OL5: OVERLAND FLOW Avg. Flow Depth=0.16' Max Vel=2.17 fps Inflow=4.17 cfs 1.195 af
n=0.070 L=102.0' S=0.1382 '/' Capacity=120.20 cfs Outflow=4.13 cfs 1.195 af

Reach UGS1A: TO UGS1 Inflow=4.49 cfs 0.351 af
Outflow=4.49 cfs 0.351 af

Reach UGS1B: TO UGS1 Inflow=6.81 cfs 0.542 af
Outflow=6.81 cfs 0.542 af

Reach UGS1C: TO OUTLET Avg. Flow Depth=0.39' Max Vel=5.97 fps Inflow=1.96 cfs 0.815 af
15.0" Round Pipe n=0.013 L=98.0' S=0.0204 '/' Capacity=9.23 cfs Outflow=1.95 cfs 0.815 af

Pond CULVERT#1: TO DP#1 Peak Elev=1,118.33' Inflow=4.17 cfs 1.195 af
12.0" Round Culvert n=0.013 L=28.6' S=0.0867 '/' Outflow=4.17 cfs 1.195 af

Pond DCBJ: TO DCB-K Peak Elev=1,175.68' Inflow=1.01 cfs 0.073 af
8.0" Round Culvert n=0.025 L=24.0' S=0.0217 '/' Outflow=1.01 cfs 0.073 af

Pond sb1: TO DP#1 Peak Elev=1,163.18' Storage=331 cf Inflow=1.95 cfs 0.815 af
Outflow=1.95 cfs 0.809 af

Pond UGS1: EXFIL Peak Elev=1,180.17' Storage=0.392 af Inflow=11.30 cfs 0.893 af
Discarded=0.04 cfs 0.075 af Primary=1.96 cfs 0.815 af Outflow=2.00 cfs 0.890 af

Total Runoff Area = 15.689 ac Runoff Volume = 3.597 af Average Runoff Depth = 2.75"
51.28% Pervious = 8.045 ac 48.72% Impervious = 7.644 ac

Summary for Subcatchment P11: TO WET

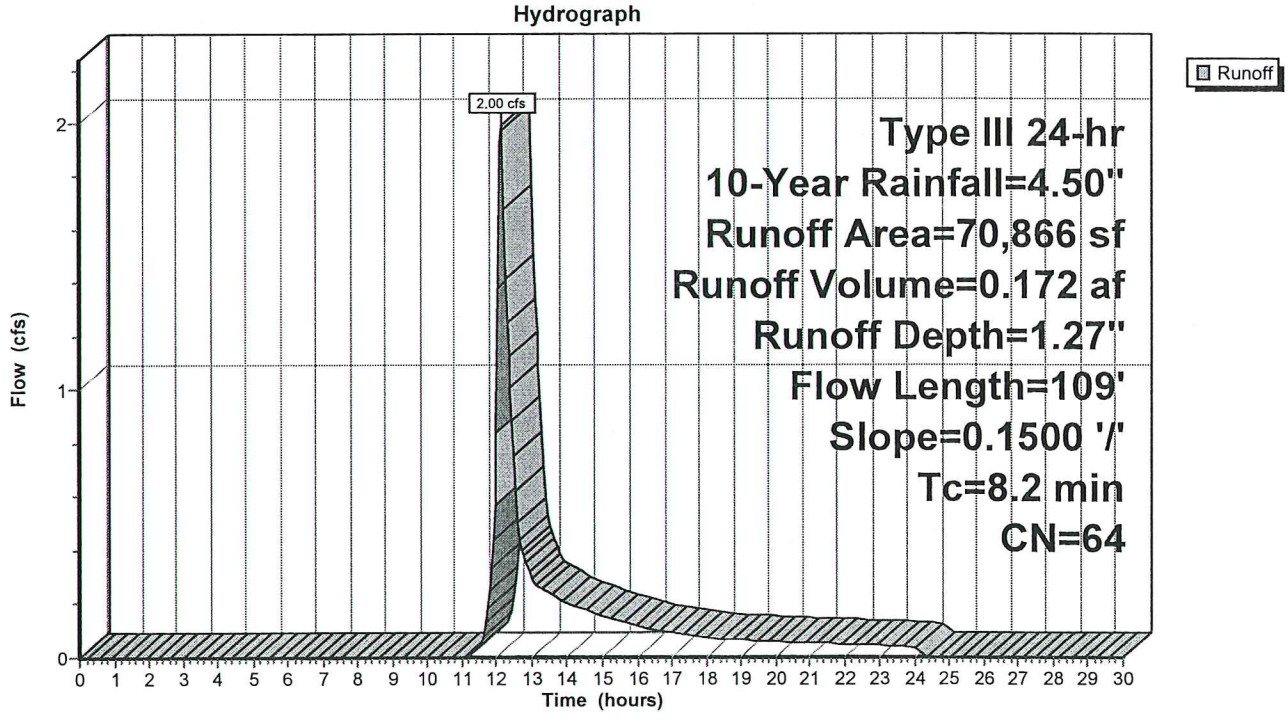
Runoff = 2.00 cfs @ 12.13 hrs, Volume= 0.172 af, Depth= 1.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
8,033	61	>75% Grass cover, Good, HSG B
30,342	55	Woods, Good, HSG B
2,584	98	Paved parking, HSG B
1,398	74	>75% Grass cover, Good, HSG C
28,509	70	Woods, Good, HSG C
70,866	64	Weighted Average
68,282		96.35% Pervious Area
2,584		3.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	75	0.1500	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.3	34	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	109	Total			

Subcatchment P11: TO WET



Summary for Subcatchment P111: TO DCB#22

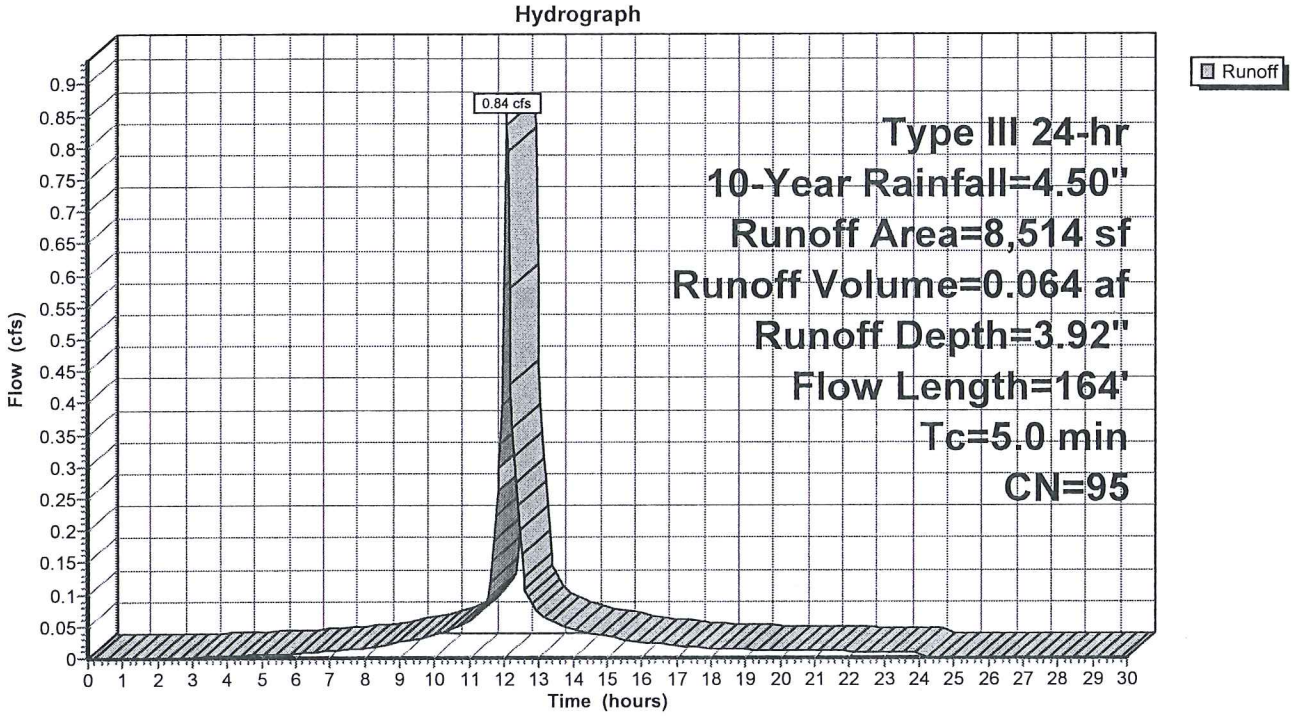
Runoff = 0.84 cfs @ 12.07 hrs, Volume= 0.064 af, Depth= 3.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
1,092	74	>75% Grass cover, Good, HSG C
7,422	98	Paved parking, HSG C
8,514	95	Weighted Average
1,092		12.83% Pervious Area
7,422		87.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	114	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	164	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P111: TO DCB#22



Summary for Subcatchment P112: TO DCB#21

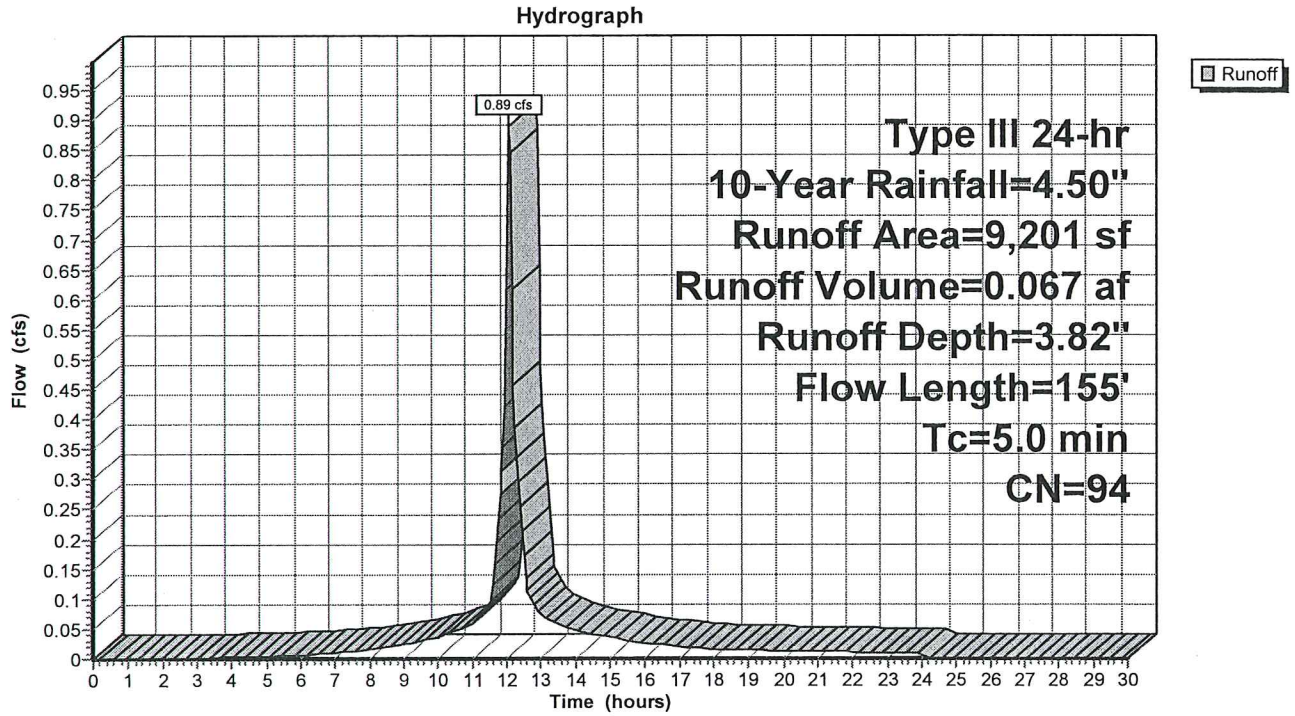
Runoff = 0.89 cfs @ 12.07 hrs, Volume= 0.067 af, Depth= 3.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
1,619	74	>75% Grass cover, Good, HSG C
7,582	98	Paved parking, HSG C
9,201	94	Weighted Average
1,619		17.60% Pervious Area
7,582		82.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.7	105	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	155	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P112: TO DCB#21



Summary for Subcatchment P113: TO DCB#21

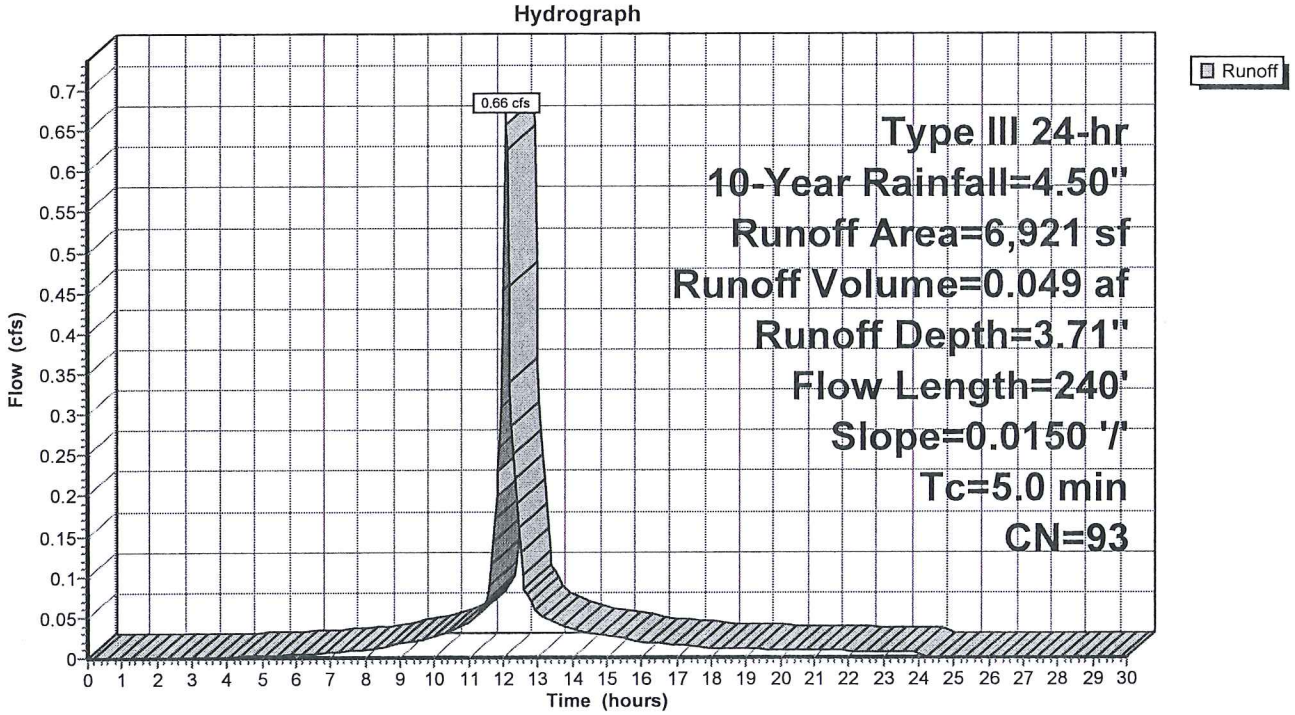
Runoff = 0.66 cfs @ 12.07 hrs, Volume= 0.049 af, Depth= 3.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
1,320	74	>75% Grass cover, Good, HSG C
5,601	98	Paved parking, HSG C
6,921	93	Weighted Average
1,320		19.07% Pervious Area
5,601		80.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.3	190	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.1	240	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P113: TO DCB#21



Summary for Subcatchment P114: TO DCB#20

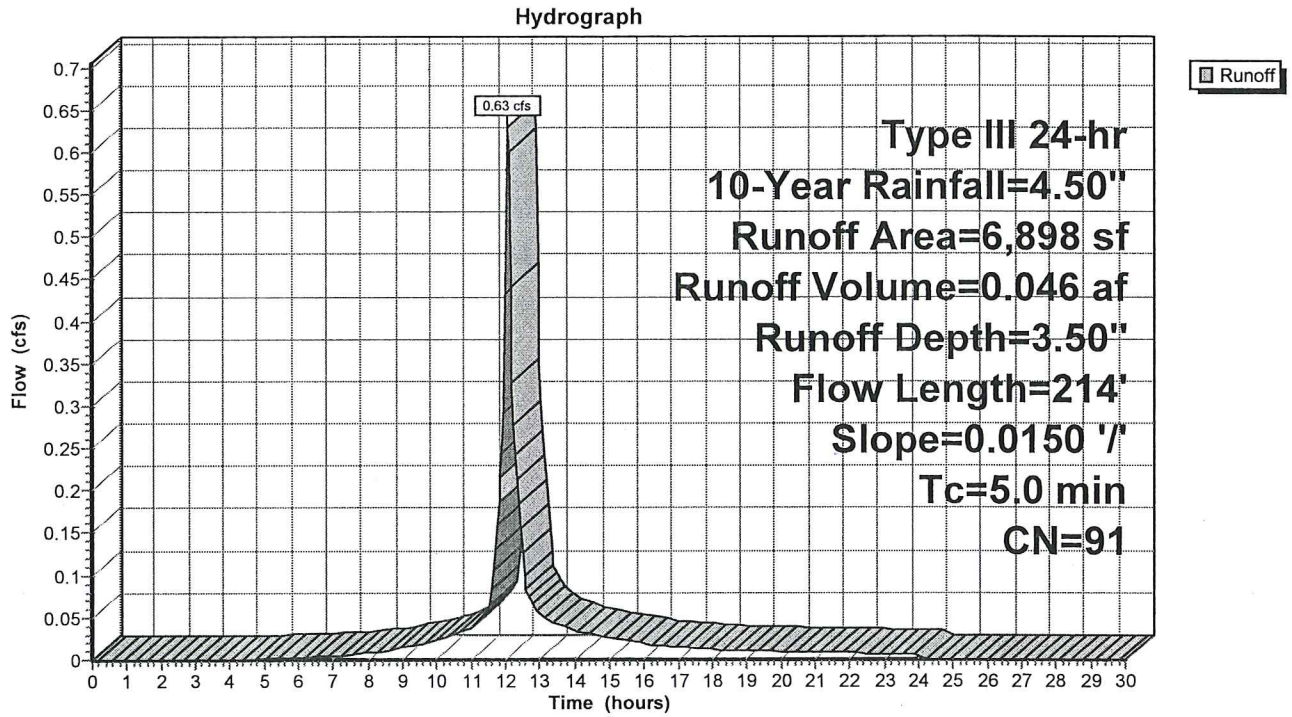
Runoff = 0.63 cfs @ 12.07 hrs, Volume= 0.046 af, Depth= 3.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
1,924	74	>75% Grass cover, Good, HSG C
4,974	98	Paved parking, HSG C
6,898	91	Weighted Average
1,924		27.89% Pervious Area
4,974		72.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	12	0.0150	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.6	38	0.0150	0.98		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.1	164	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.8	214	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P114: TO DCB#20



Summary for Subcatchment P115: TO DCB#10

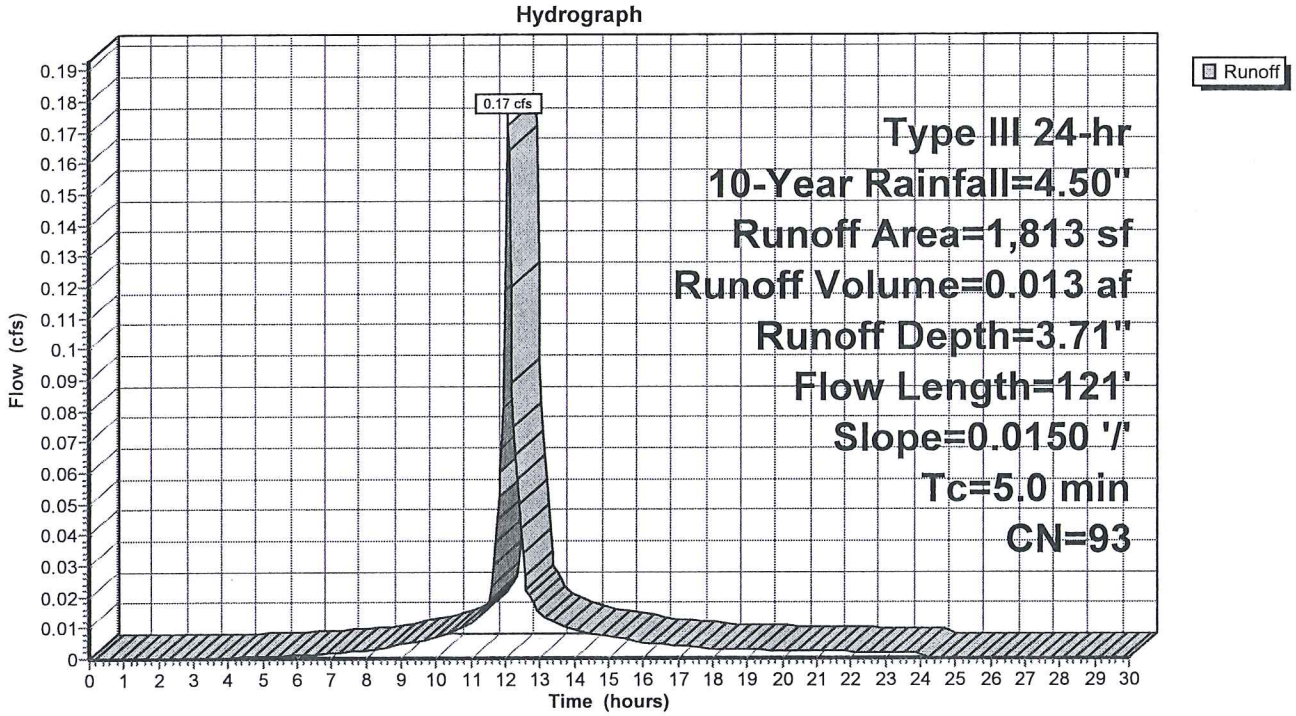
Runoff = 0.17 cfs @ 12.07 hrs, Volume= 0.013 af, Depth= 3.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
347	74	>75% Grass cover, Good, HSG C
1,466	98	Paved parking, HSG C
1,813	93	Weighted Average
347		19.14% Pervious Area
1,466		80.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	71	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	121	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P115: TO DCB#10



Summary for Subcatchment P116: TO DCB#11

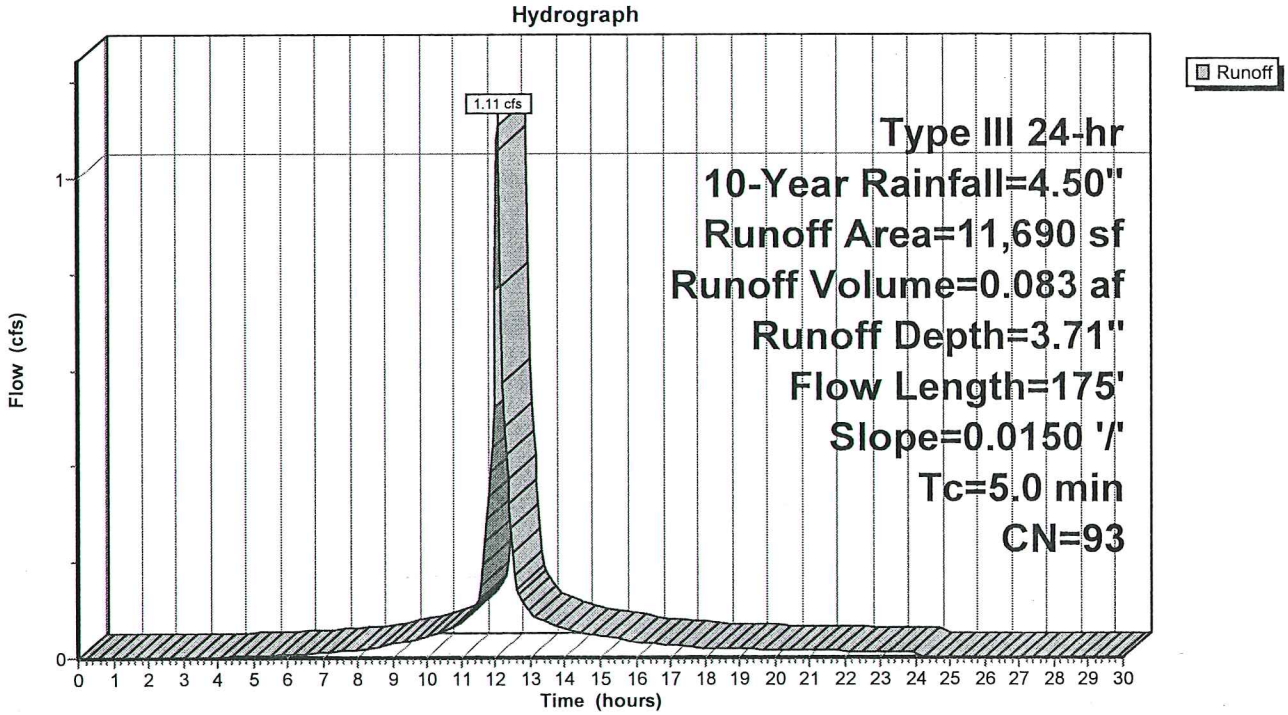
Runoff = 1.11 cfs @ 12.07 hrs, Volume= 0.083 af, Depth= 3.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
2,542	74	>75% Grass cover, Good, HSG C
9,148	98	Paved parking, HSG C
11,690	93	Weighted Average
2,542		21.75% Pervious Area
9,148		78.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	125	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	175	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P116: TO DCB#11



Summary for Subcatchment P117: TO DCB#4

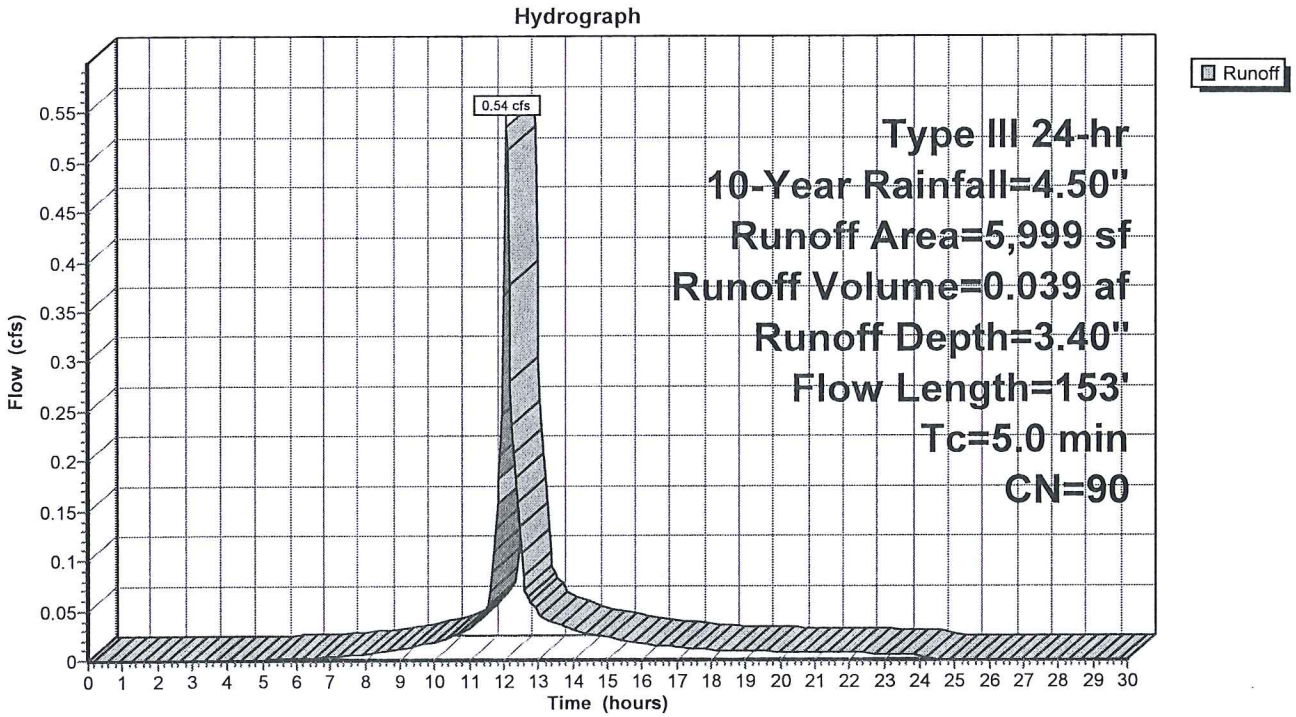
Runoff = 0.54 cfs @ 12.07 hrs, Volume= 0.039 af, Depth= 3.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
1,915	74	>75% Grass cover, Good, HSG C
4,084	98	Paved parking, HSG C
5,999	90	Weighted Average
1,915		31.92% Pervious Area
4,084		68.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	13	0.0150	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.4	37	0.0500	1.57		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	103	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0	153	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P117: TO DCB#4



Summary for Subcatchment P118: TO DCB#20

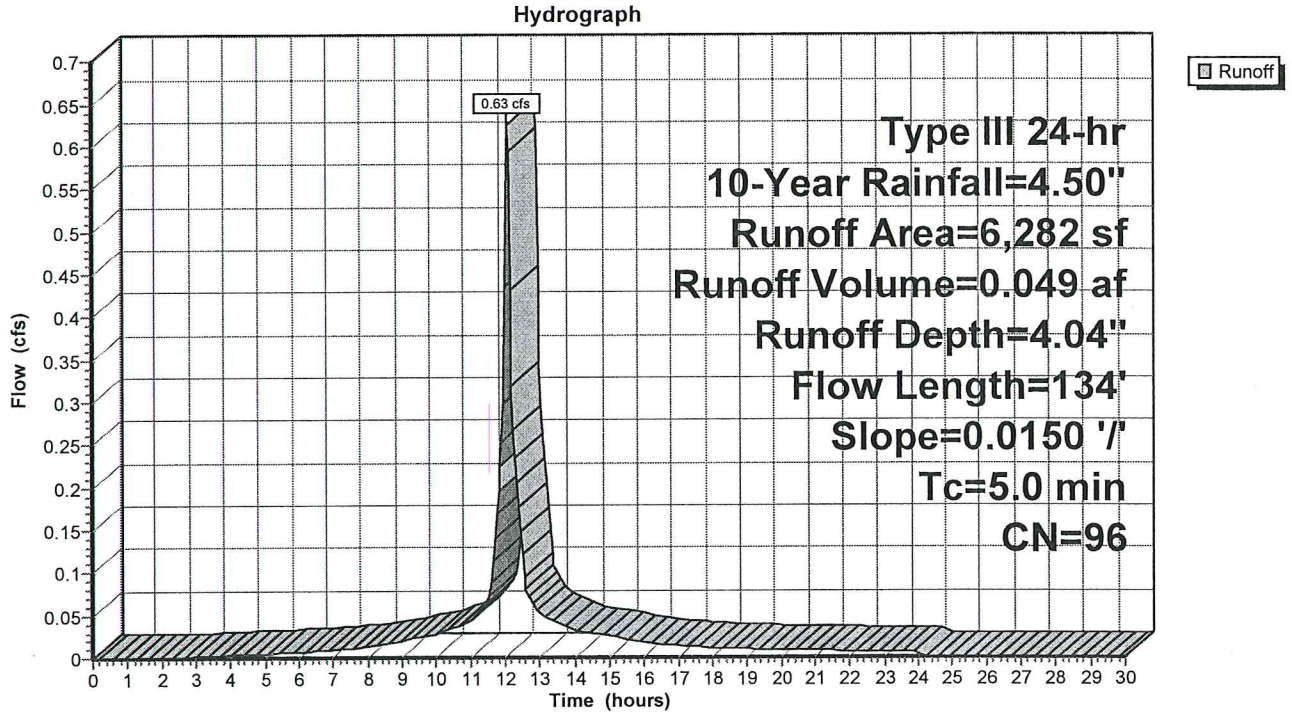
Runoff = 0.63 cfs @ 12.07 hrs, Volume= 0.049 af, Depth= 4.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
653	74	>75% Grass cover, Good, HSG C
5,629	98	Paved parking, HSG C
6,282	96	Weighted Average
653		10.39% Pervious Area
5,629		89.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	84	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	134	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P118: TO DCB#20



Summary for Subcatchment P119: TO DCB#19

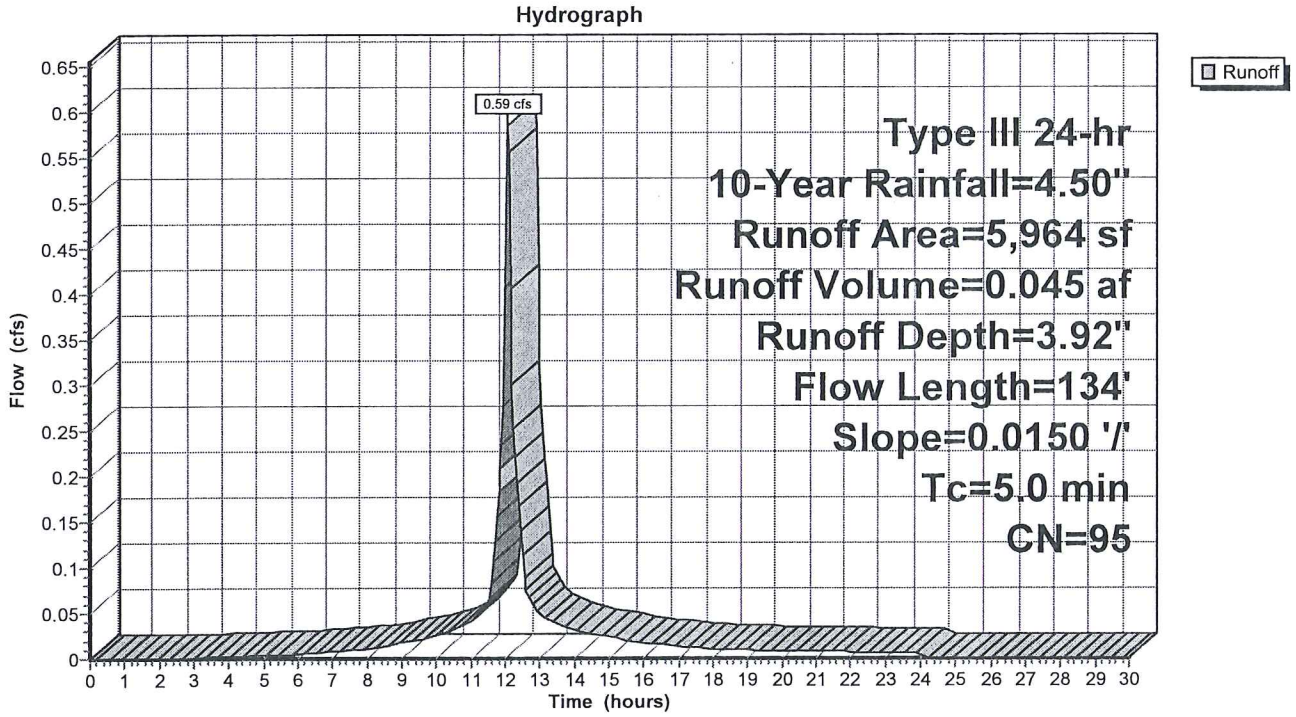
Runoff = 0.59 cfs @ 12.07 hrs, Volume= 0.045 af, Depth= 3.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
631	74	>75% Grass cover, Good, HSG C
5,333	98	Paved parking, HSG C
5,964	95	Weighted Average
631		10.58% Pervious Area
5,333		89.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	84	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	134	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P119: TO DCB#19



Summary for Subcatchment P12: TO CULVERT#1

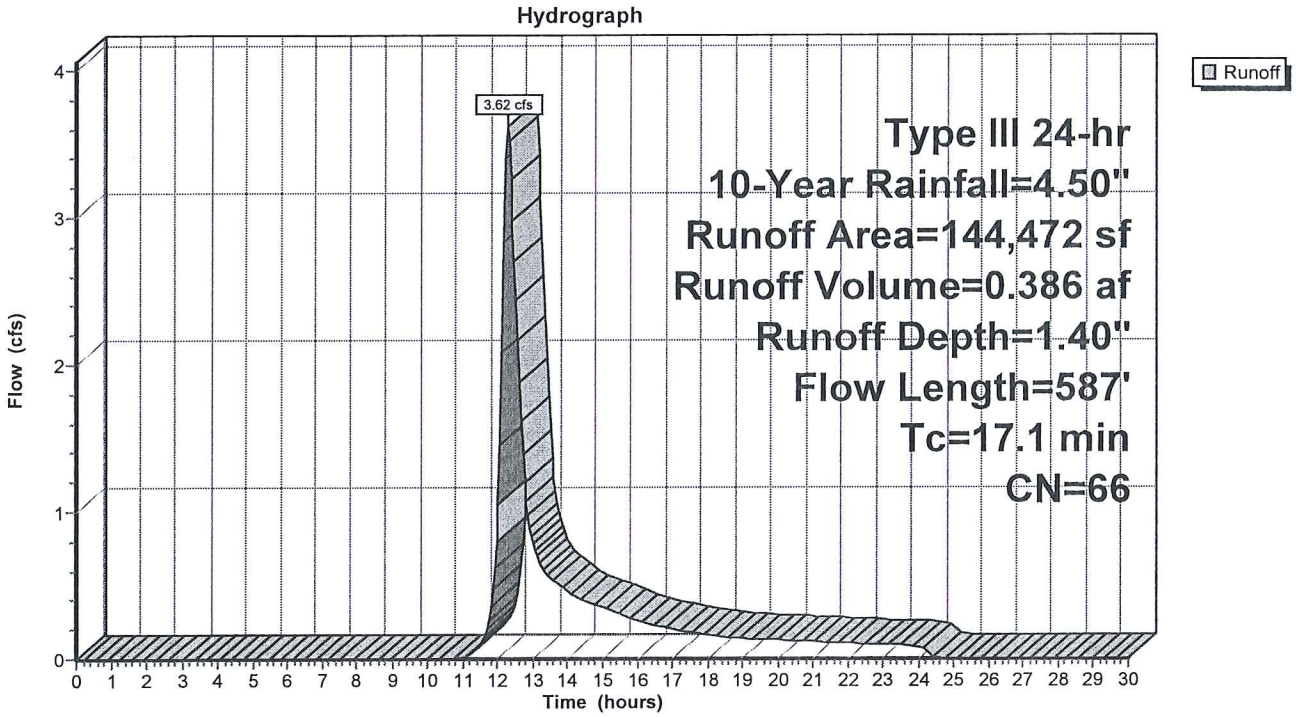
Runoff = 3.62 cfs @ 12.26 hrs, Volume= 0.386 af, Depth= 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
4,698	61	>75% Grass cover, Good, HSG B
44,370	55	Woods, Good, HSG B
3,012	98	Paved parking, HSG B
10,573	74	>75% Grass cover, Good, HSG C
80,246	70	Woods, Good, HSG C
1,573	98	Paved parking, HSG C
144,472	66	Weighted Average
139,887		96.83% Pervious Area
4,585		3.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	30	0.5000	0.47		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
4.1	45	0.2800	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.6	202	0.1700	2.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.3	310	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
17.1	587	Total			

Subcatchment P12: TO CULVERT#1



Summary for Subcatchment P120: TO DCB#15

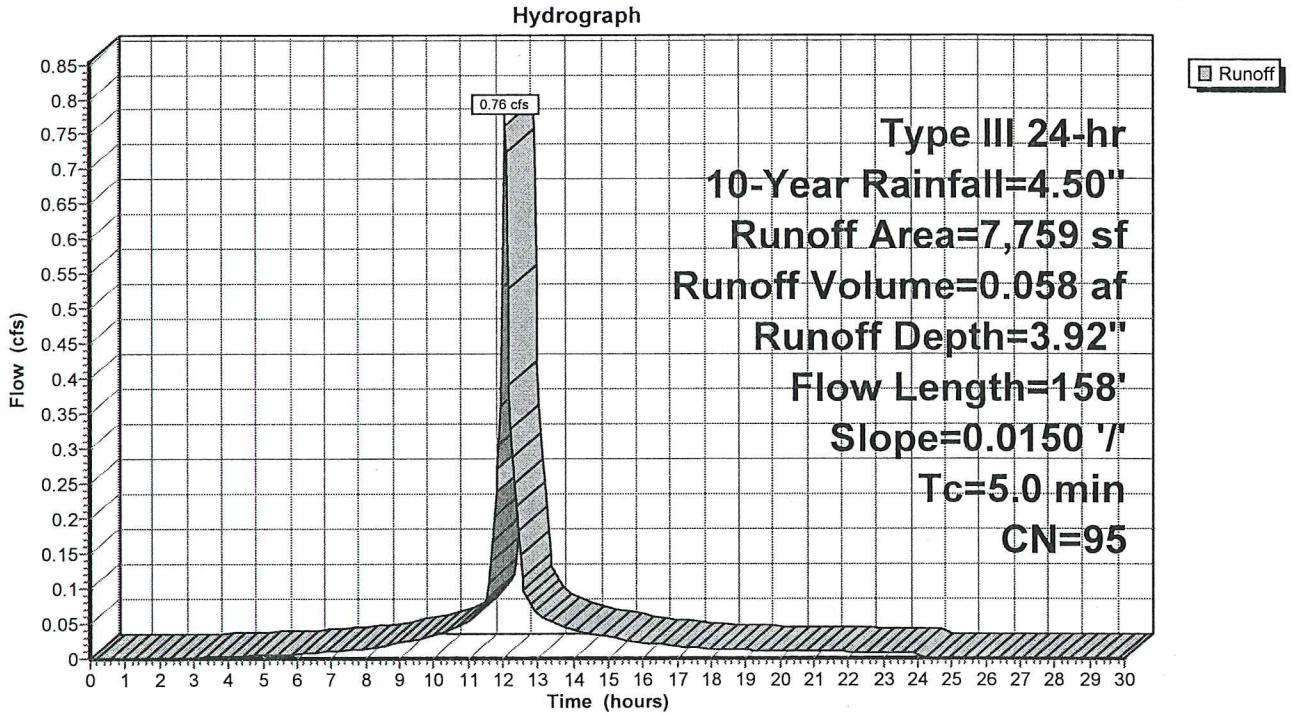
Runoff = 0.76 cfs @ 12.07 hrs, Volume= 0.058 af, Depth= 3.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
933	74	>75% Grass cover, Good, HSG C
6,826	98	Paved parking, HSG C
7,759	95	Weighted Average
933		12.02% Pervious Area
6,826		87.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.7	108	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	158	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P120: TO DCB#15



Summary for Subcatchment P121: TO DCB#14

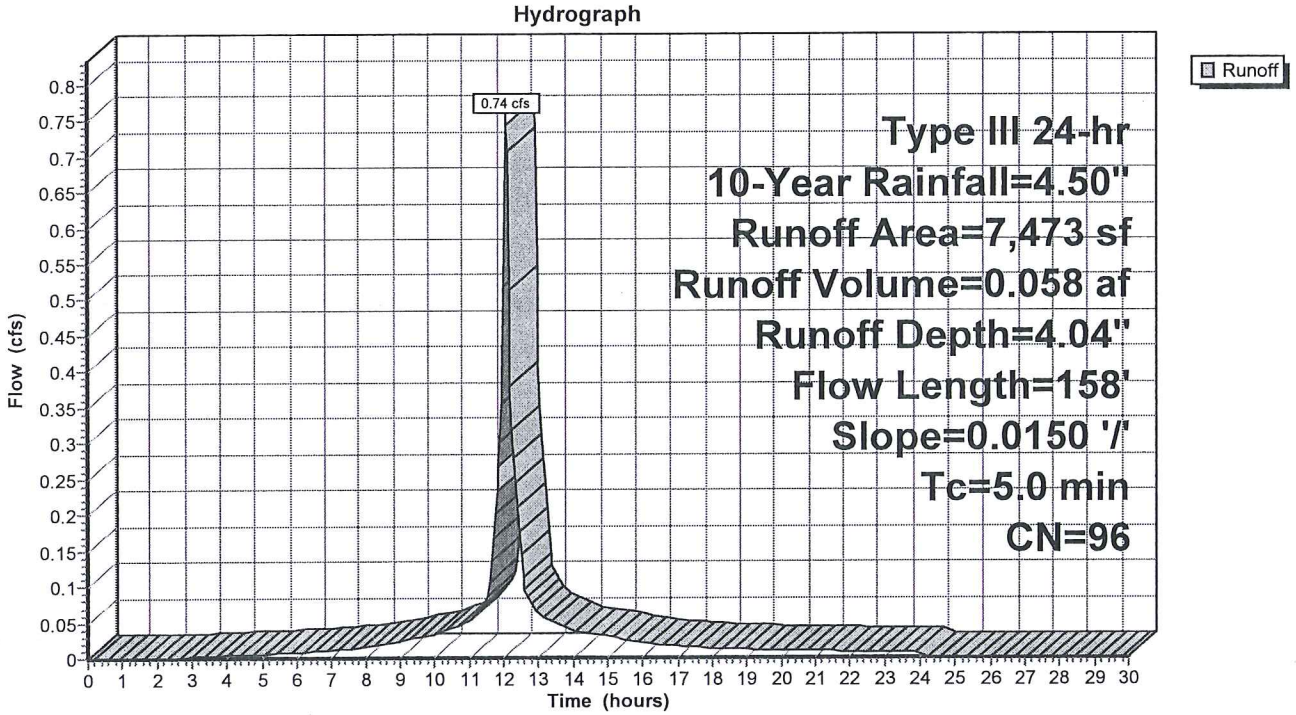
Runoff = 0.74 cfs @ 12.07 hrs, Volume= 0.058 af, Depth= 4.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
717	74	>75% Grass cover, Good, HSG C
6,756	98	Paved parking, HSG C
7,473	96	Weighted Average
717		9.59% Pervious Area
6,756		90.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.7	108	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	158	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P121: TO DCB#14



Summary for Subcatchment P122: TO DCB#17

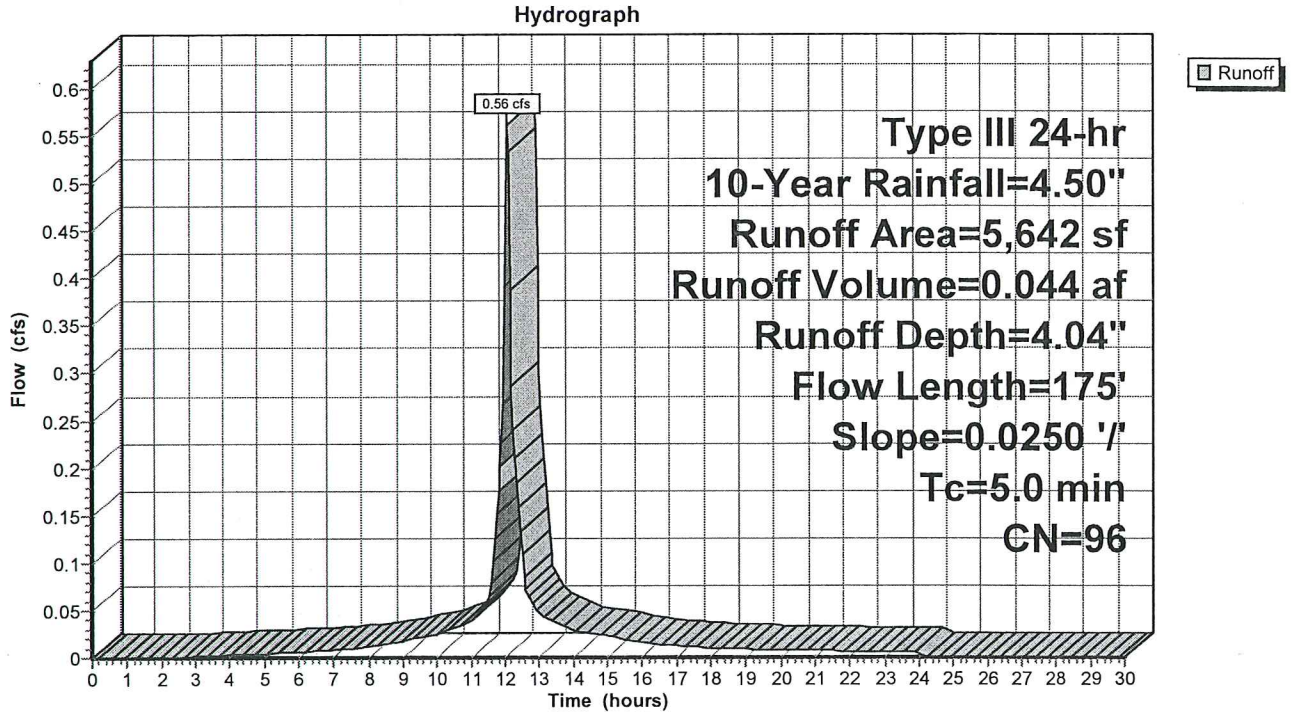
Runoff = 0.56 cfs @ 12.07 hrs, Volume= 0.044 af, Depth= 4.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
486	74	>75% Grass cover, Good, HSG C
5,156	98	Paved parking, HSG C
5,642	96	Weighted Average
486		8.61% Pervious Area
5,156		91.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0250	1.27		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	125	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	175	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P122: TO DCB#17



Summary for Subcatchment P123: TO DCB#3

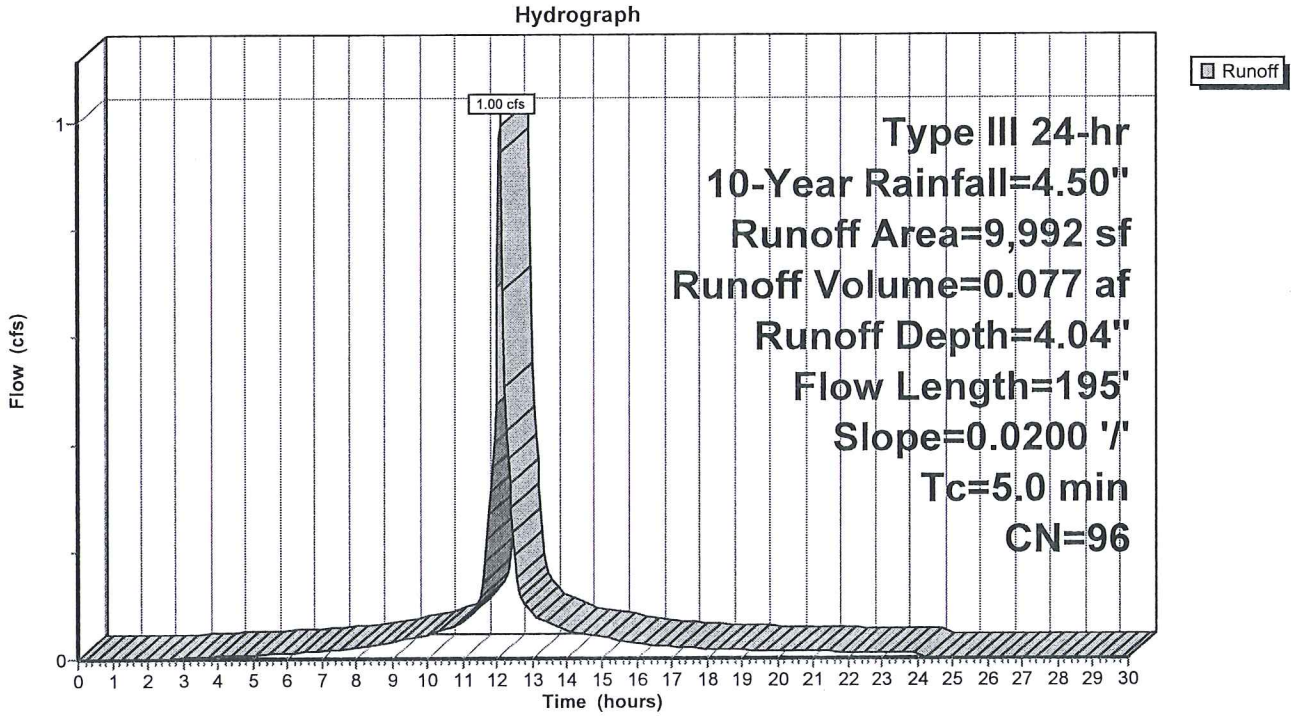
Runoff = 1.00 cfs @ 12.07 hrs, Volume= 0.077 af, Depth= 4.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
1,007	74	>75% Grass cover, Good, HSG C
8,985	98	Paved parking, HSG C
9,992	96	Weighted Average
1,007		10.08% Pervious Area
8,985		89.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0200	1.16		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	145	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	195	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P123: TO DCB#3



Summary for Subcatchment P124: TO DCB#13

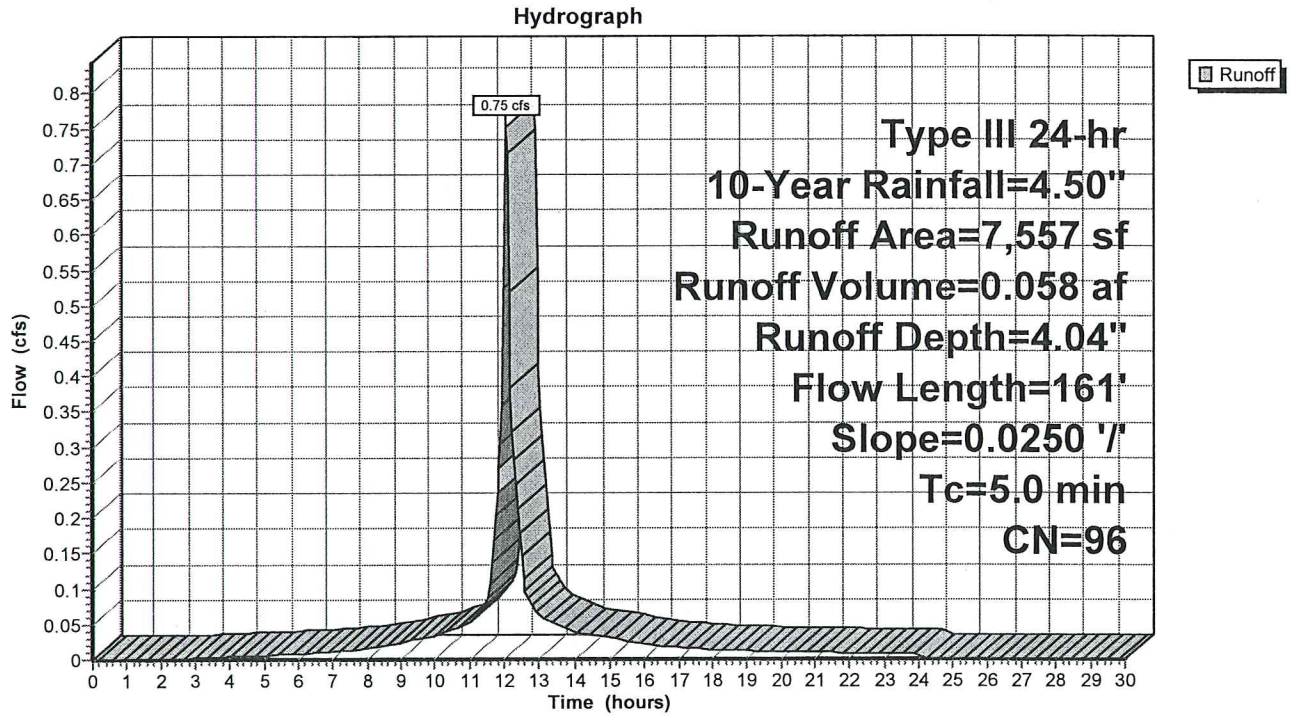
Runoff = 0.75 cfs @ 12.07 hrs, Volume= 0.058 af, Depth= 4.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
627	74	>75% Grass cover, Good, HSG C
6,930	98	Paved parking, HSG C
7,557	96	Weighted Average
627		8.30% Pervious Area
6,930		91.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0250	1.27		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	111	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	161	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P124: TO DCB#13



Summary for Subcatchment P125: TO DCB#12

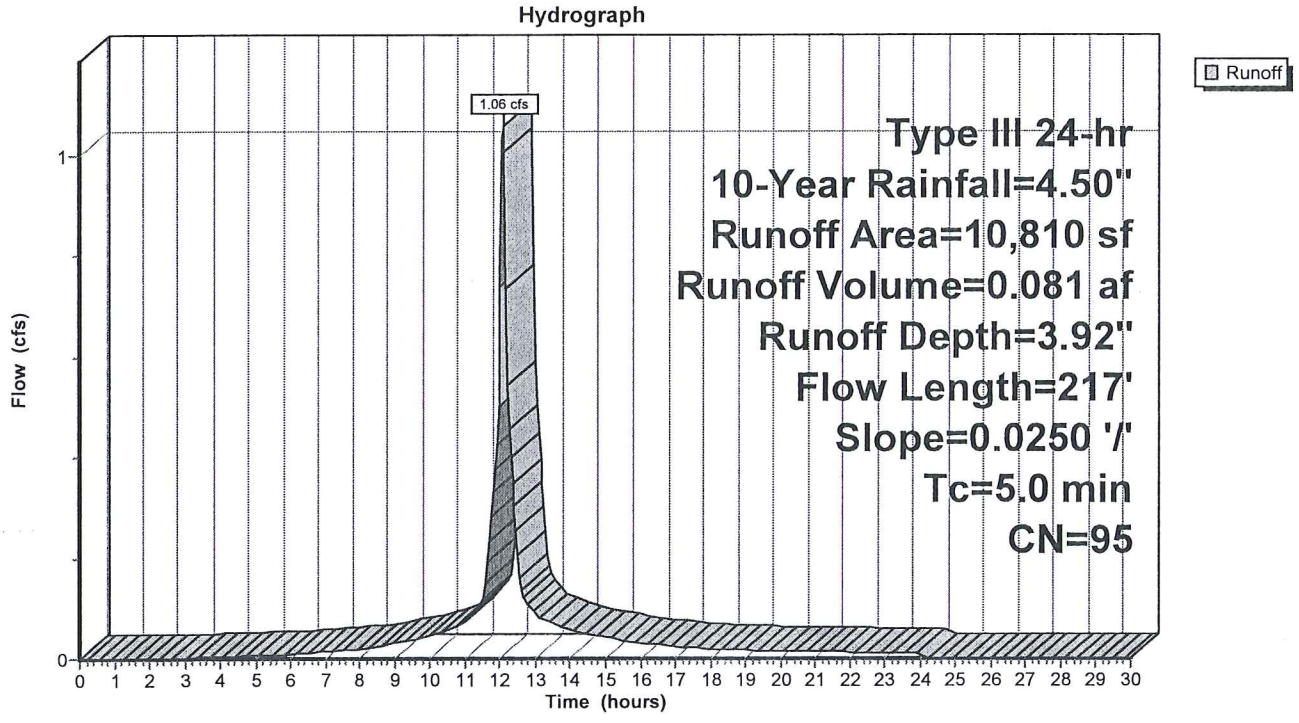
Runoff = 1.06 cfs @ 12.07 hrs, Volume= 0.081 af, Depth= 3.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
1,513	74	>75% Grass cover, Good, HSG C
9,297	98	Paved parking, HSG C
10,810	95	Weighted Average
1,513		14.00% Pervious Area
9,297		86.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0250	1.27		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.9	167	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	217	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P125: TO DCB#12



Summary for Subcatchment P126: TO DCB#18

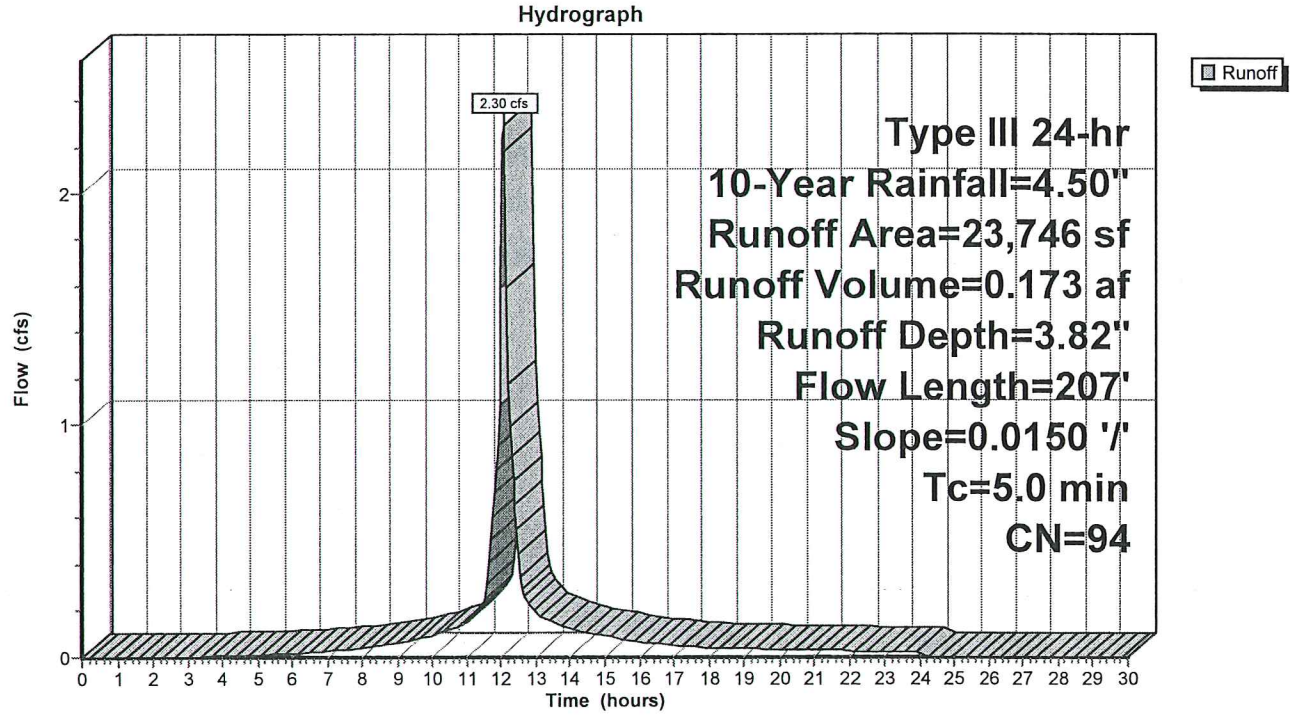
Runoff = 2.30 cfs @ 12.07 hrs, Volume= 0.173 af, Depth= 3.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
3,639	74	>75% Grass cover, Good, HSG C
20,107	98	Paved parking, HSG C
23,746	94	Weighted Average
3,639		15.32% Pervious Area
20,107		84.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	6	0.0150	0.08		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.7	44	0.0150	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.1	157	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0	207	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P126: TO DCB#18



Summary for Subcatchment P127: TO DCB#1

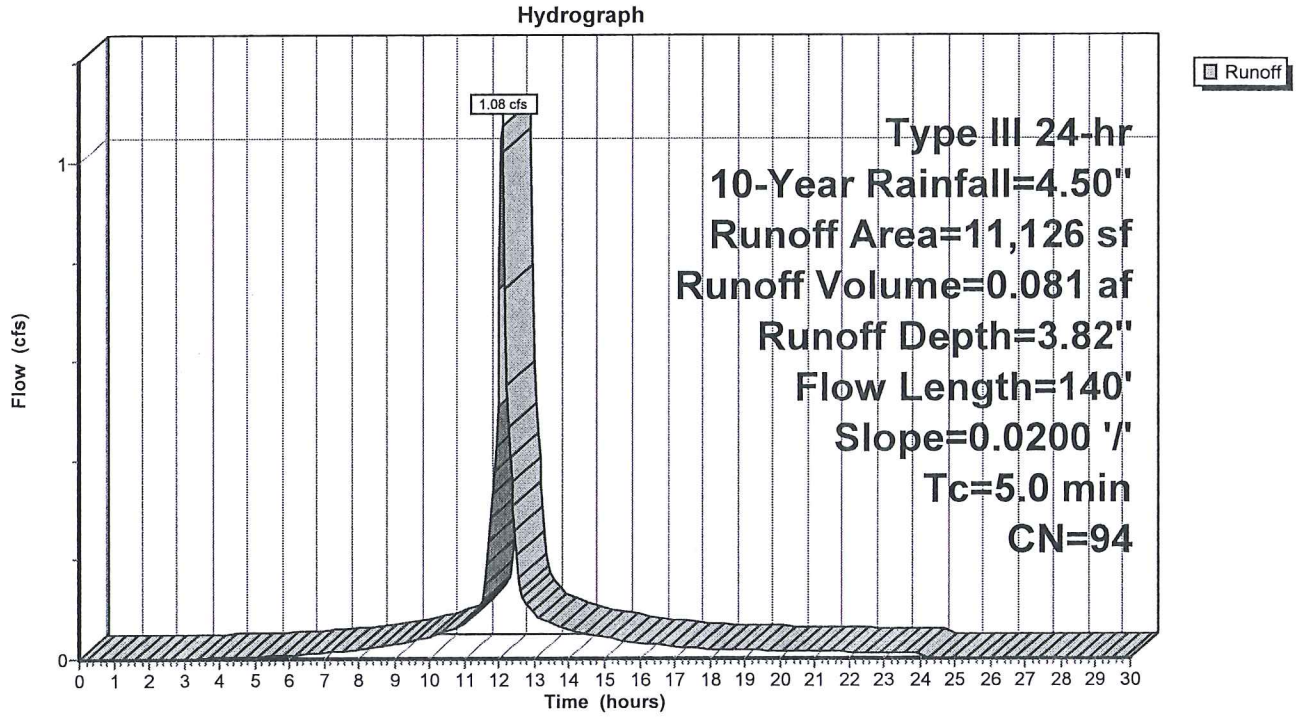
Runoff = 1.08 cfs @ 12.07 hrs, Volume= 0.081 af, Depth= 3.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
2,020	74	>75% Grass cover, Good, HSG C
9,106	98	Paved parking, HSG C
11,126	94	Weighted Average
2,020		18.16% Pervious Area
9,106		81.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0200	1.16		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	90	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.2	140	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P127: TO DCB#1



Summary for Subcatchment P128: (new Subcat)

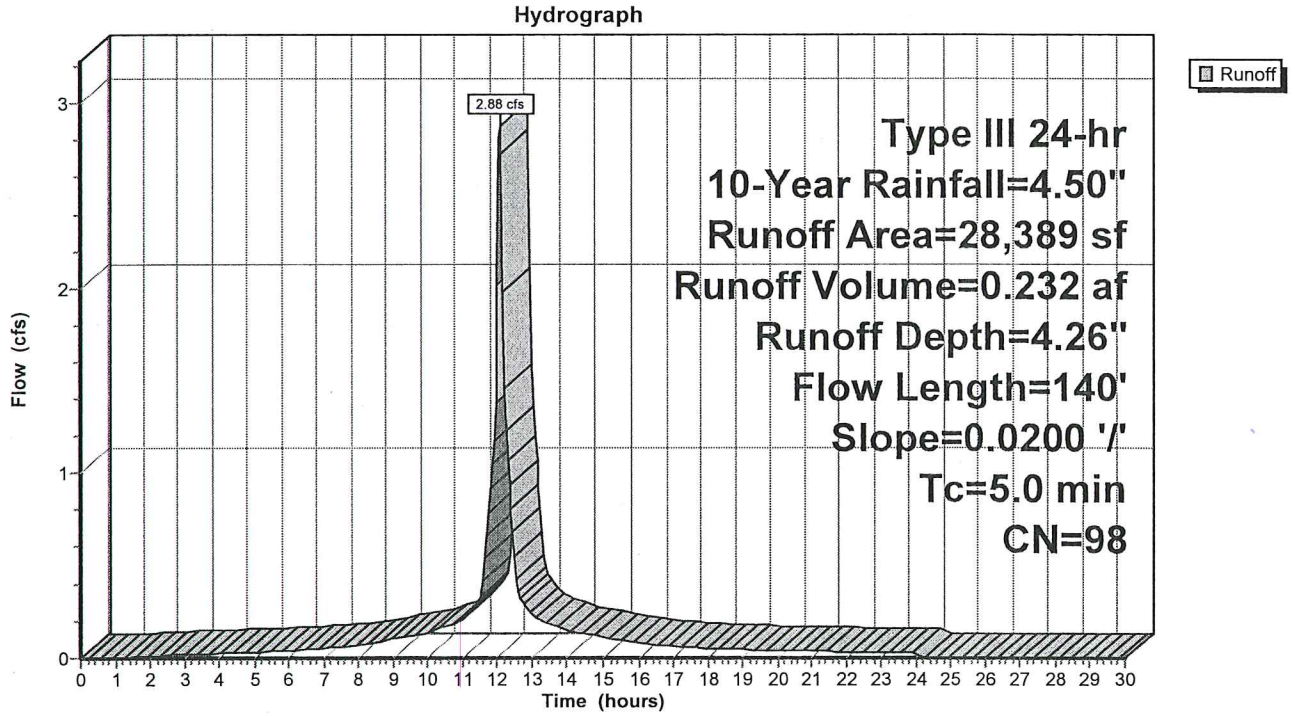
Runoff = 2.88 cfs @ 12.07 hrs, Volume= 0.232 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
28,389	98	Paved parking, HSG C
28,389		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0200	1.16		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	90	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.2	140	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P128: (new Subcat)



Summary for Subcatchment P14: TO CULVERT #2

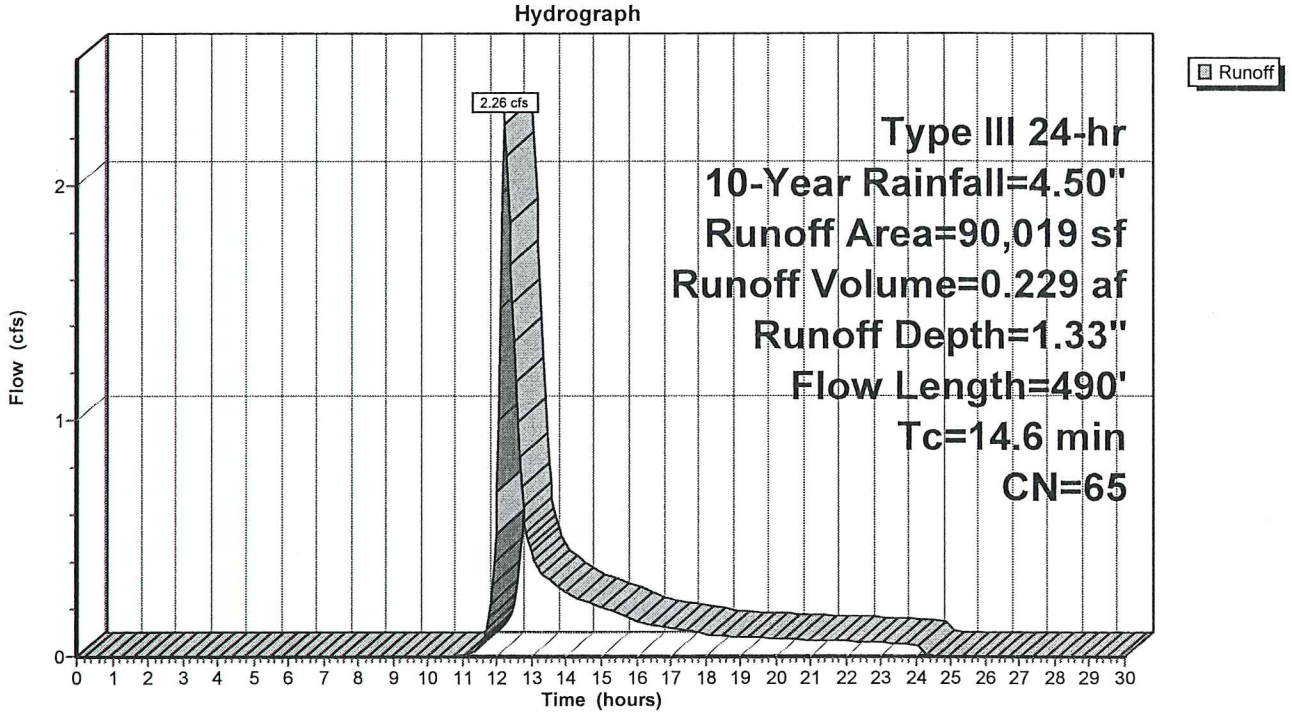
Runoff = 2.26 cfs @ 12.22 hrs, Volume= 0.229 af, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
4,416	61	>75% Grass cover, Good, HSG B
947	98	Paved parking, HSG B
35,087	55	Woods, Good, HSG B
6,523	74	>75% Grass cover, Good, HSG C
40,756	70	Woods, Good, HSG C
2,290	98	Paved parking, HSG C
90,019	65	Weighted Average
86,782		96.40% Pervious Area
3,237		3.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	75	0.0500	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	43	0.4200	3.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.0	137	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.8	235	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.6	490	Total			

Subcatchment P14: TO CULVERT #2



Summary for Subcatchment P18: TO DP#2

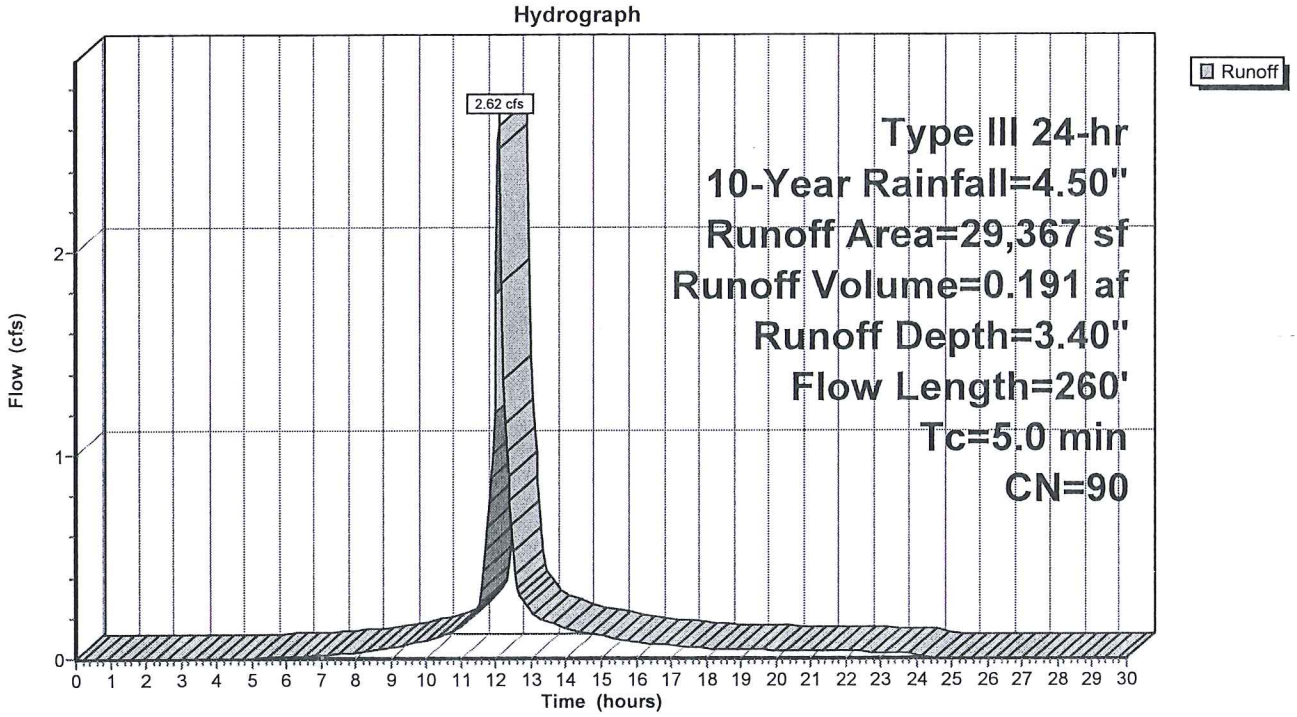
Runoff = 2.62 cfs @ 12.07 hrs, Volume= 0.191 af, Depth= 3.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
9,885	74	>75% Grass cover, Good, HSG C
19,482	98	Paved parking, HSG C
29,367	90	Weighted Average
9,885		33.66% Pervious Area
19,482		66.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0700	1.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	127	0.0700	5.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	83	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	260	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P18: TO DP#2



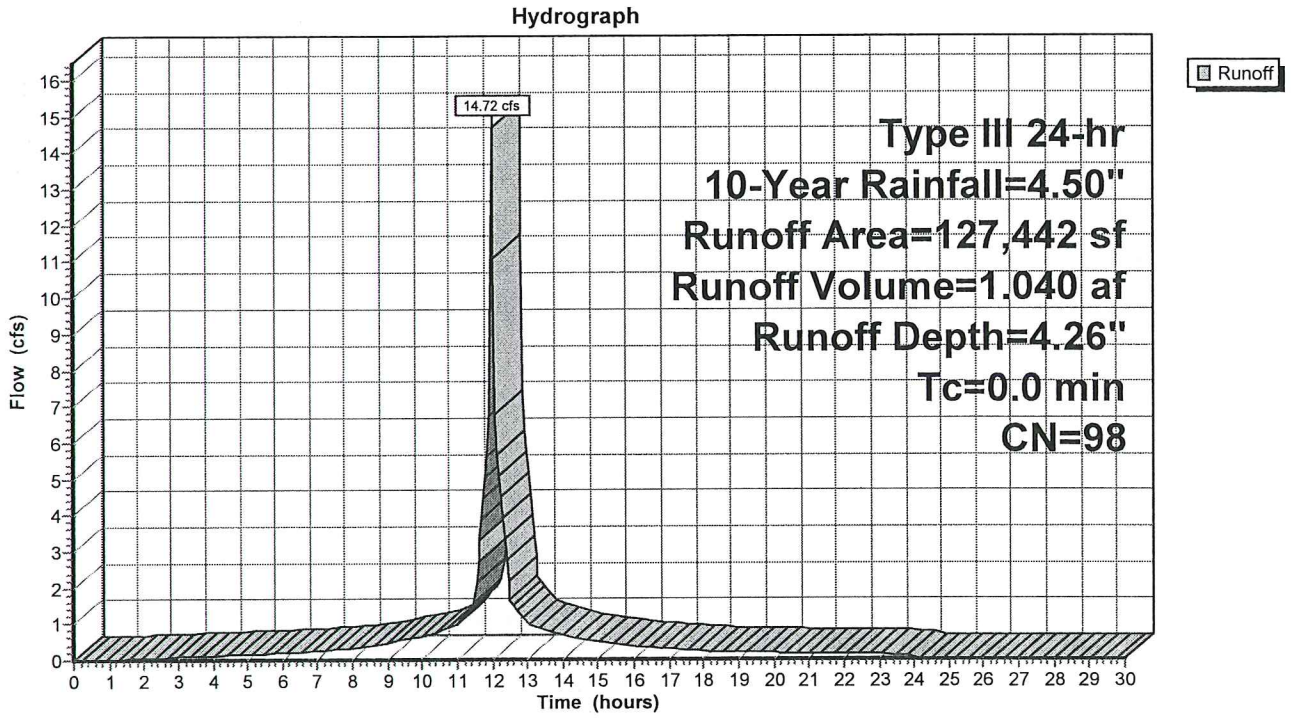
Summary for Subcatchment P19: BUILDING

Runoff = 14.72 cfs @ 12.00 hrs, Volume= 1.040 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
127,442	98	Paved parking, HSG C
127,442		100.00% Impervious Area

Subcatchment P19: BUILDING



Summary for Subcatchment P20: TO DCB-H

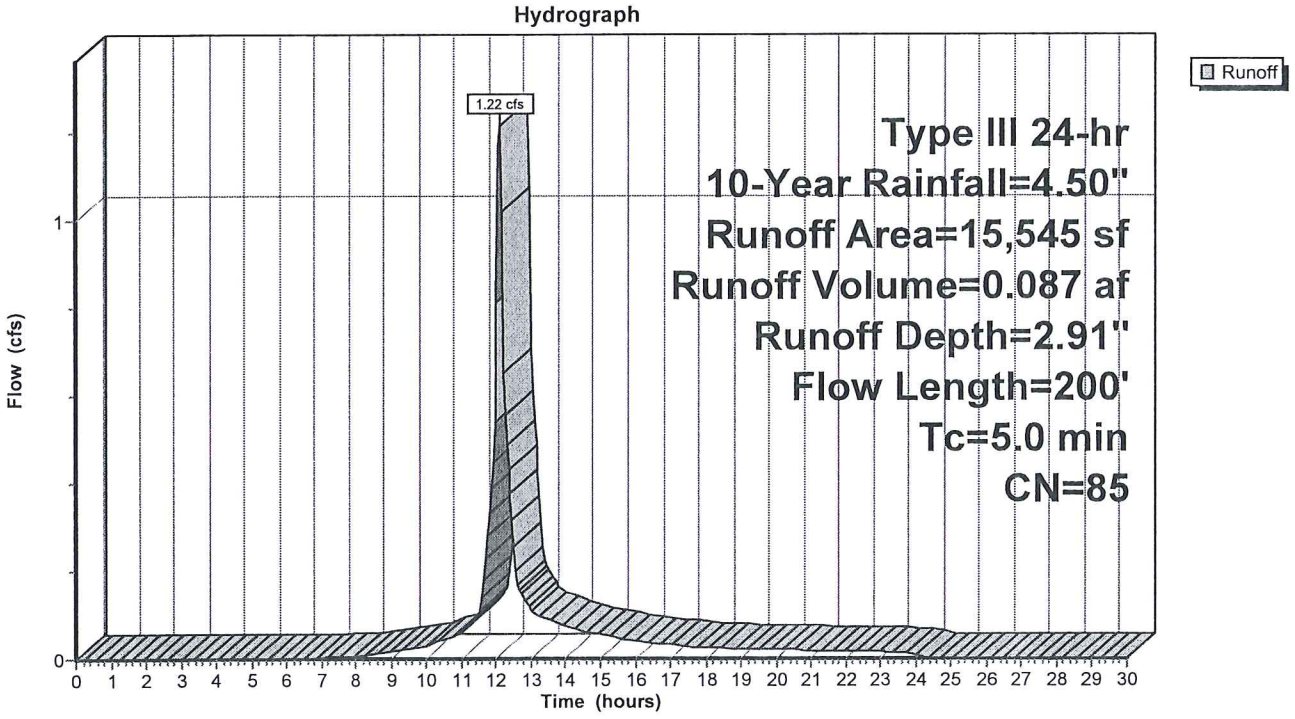
Runoff = 1.22 cfs @ 12.07 hrs, Volume= 0.087 af, Depth= 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
7,771	74	>75% Grass cover, Good, HSG C
7,018	98	Paved parking, HSG C
756	70	Woods, Good, HSG C
15,545	85	Weighted Average
8,527		54.85% Pervious Area
7,018		45.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	17	0.3300	0.35		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.5	33	0.0200	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.9	150	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	200	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P20: TO DCB-H



Summary for Subcatchment P21: TO DCB-I

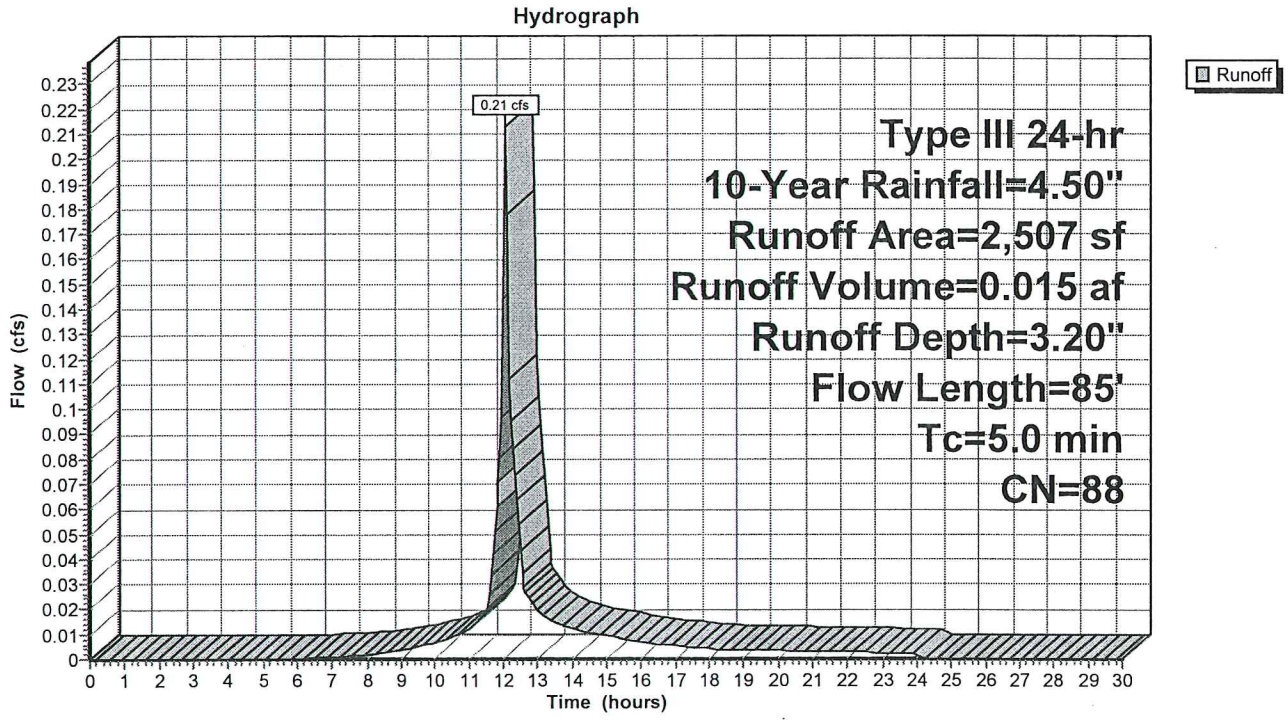
Runoff = 0.21 cfs @ 12.07 hrs, Volume= 0.015 af, Depth= 3.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
1,092	74	>75% Grass cover, Good, HSG C
1,415	98	Paved parking, HSG C
2,507	88	Weighted Average
1,092		43.56% Pervious Area
1,415		56.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	17	0.3300	0.35		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	33	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	35	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.2	85	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P21: TO DCB-I



Summary for Subcatchment P22: TO DCB-J

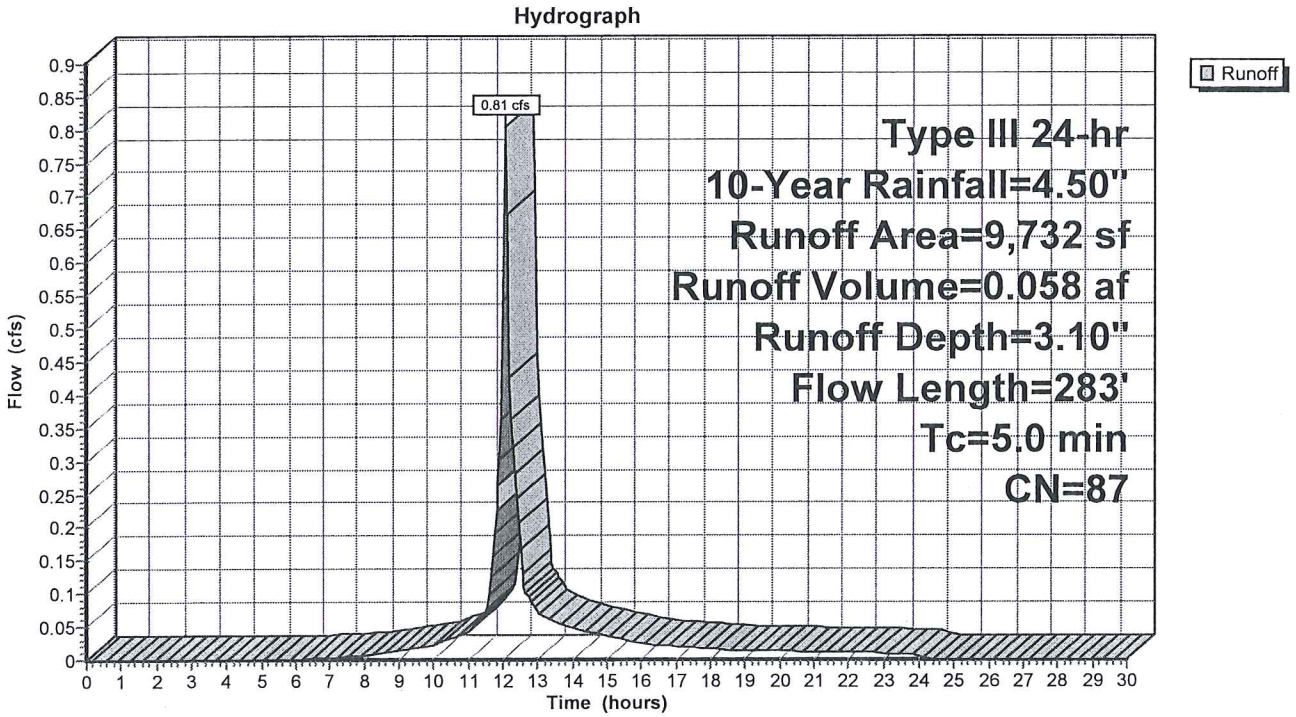
Runoff = 0.81 cfs @ 12.07 hrs, Volume= 0.058 af, Depth= 3.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
4,638	74	>75% Grass cover, Good, HSG C
5,094	98	Paved parking, HSG C
9,732	87	Weighted Average
4,638		47.66% Pervious Area
5,094		52.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	18	0.3300	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.5	32	0.0200	1.06		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.1	233	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.4	283	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P22: TO DCB-J



Summary for Subcatchment P26: TO DCB-F

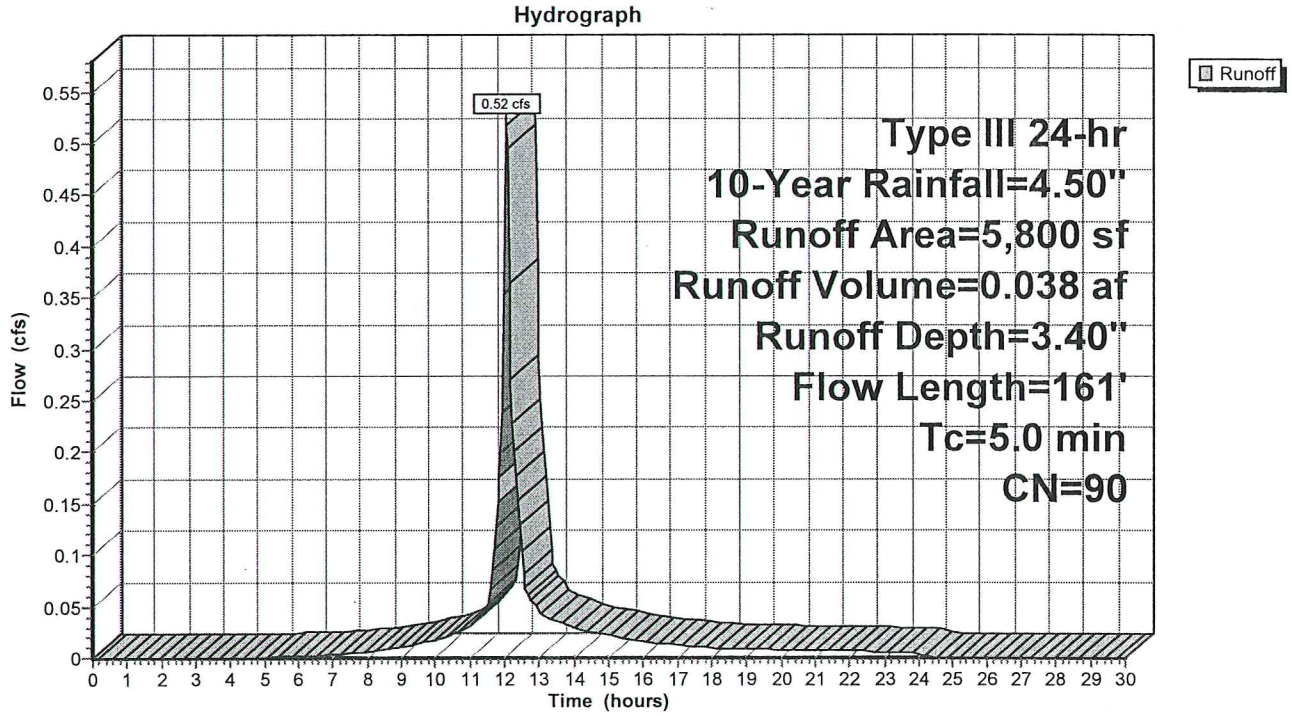
Runoff = 0.52 cfs @ 12.07 hrs, Volume= 0.038 af, Depth= 3.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
1,833	74	>75% Grass cover, Good, HSG C
3,967	98	Paved parking, HSG C
5,800	90	Weighted Average
1,833		31.60% Pervious Area
3,967		68.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	6	0.0200	0.09		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.6	44	0.0200	1.13		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	111	0.0650	5.18		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.1	161	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P26: TO DCB-F



Summary for Subcatchment P27: TO DCB-G

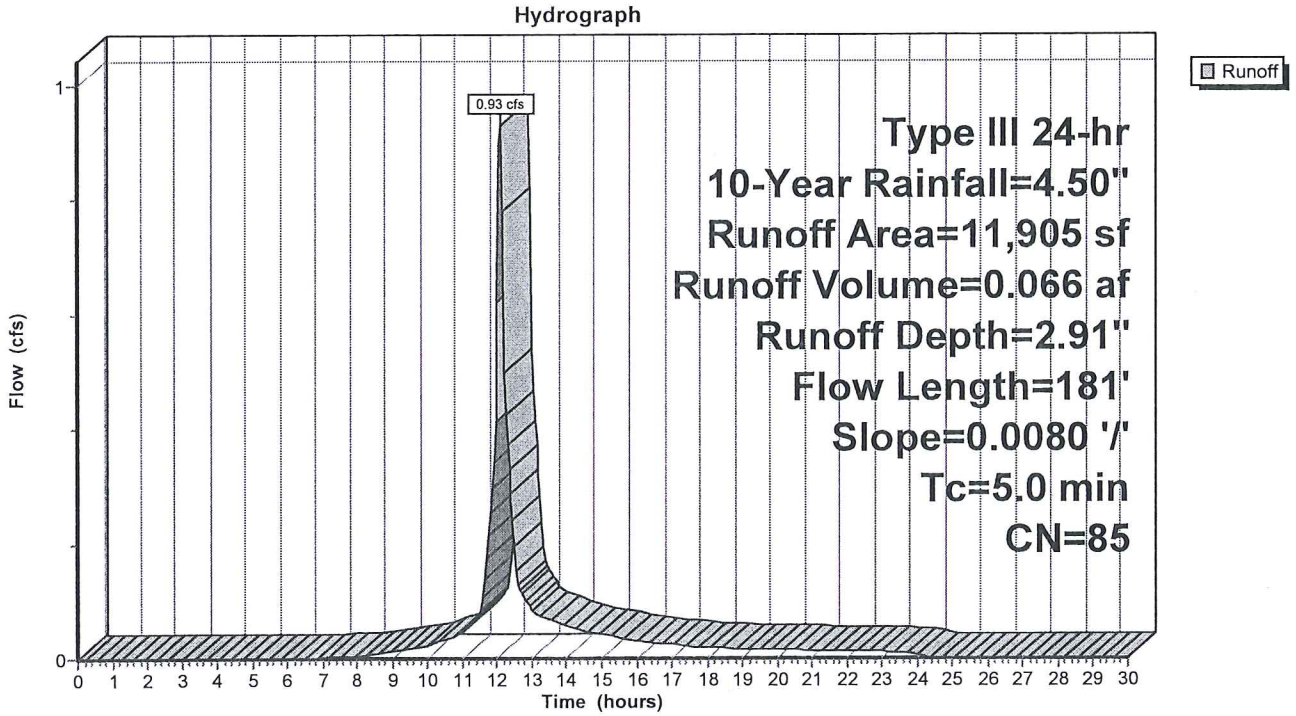
Runoff = 0.93 cfs @ 12.07 hrs, Volume= 0.066 af, Depth= 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
6,533	74	>75% Grass cover, Good, HSG C
5,372	98	Paved parking, HSG C
11,905	85	Weighted Average
6,533		54.88% Pervious Area
5,372		45.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	50	0.0080	0.80		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.2	131	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	181	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P27: TO DCB-G



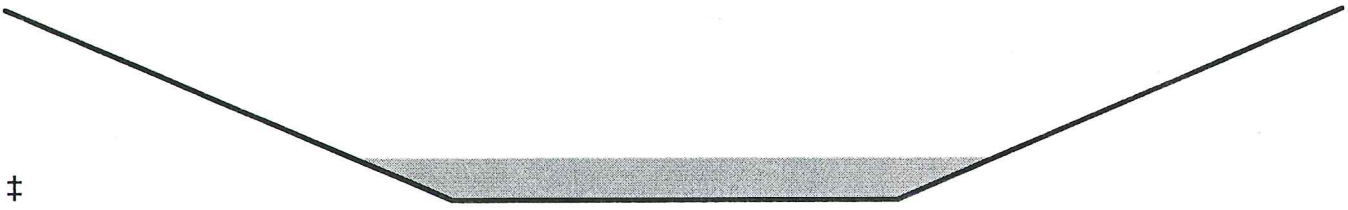
Summary for Reach 2R: OVERLAND FLOW

Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 3.61" for 10-Year event
Inflow = 1.93 cfs @ 12.63 hrs, Volume= 0.809 af
Outflow = 1.91 cfs @ 12.71 hrs, Volume= 0.809 af, Atten= 1%, Lag= 5.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.70 fps, Min. Travel Time= 2.8 min
Avg. Velocity = 0.38 fps, Avg. Travel Time= 5.1 min

Peak Storage= 318 cf @ 12.67 hrs
Average Depth at Peak Storage= 0.22'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 32.74 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 117.0' Slope= 0.0103 '/'
Inlet Invert= 1,117.80', Outlet Invert= 1,116.60'



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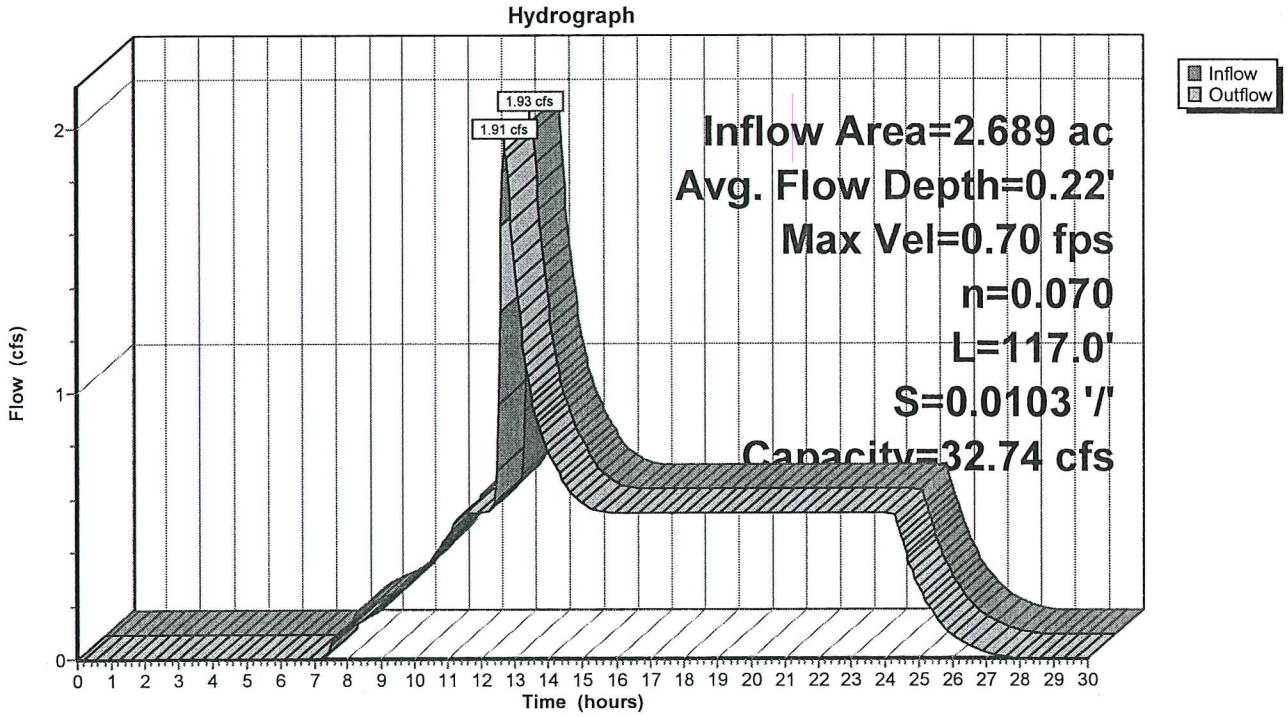
Reach 2R: OVERLAND FLOW



Stage-Discharge for Reach 2R: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,117.80	0.00	0.00
1,117.81	0.10	0.01
1,117.82	0.16	0.03
1,117.83	0.20	0.06
1,117.84	0.25	0.10
1,117.85	0.28	0.15
1,117.86	0.32	0.20
1,117.87	0.35	0.26
1,117.88	0.38	0.33
1,117.89	0.41	0.40
1,117.90	0.44	0.48
1,117.91	0.46	0.57
1,117.92	0.49	0.66
1,117.93	0.51	0.75
1,117.94	0.54	0.86
1,117.95	0.56	0.96
1,117.96	0.58	1.08
1,117.97	0.60	1.20
1,117.98	0.62	1.32
1,117.99	0.64	1.45
1,118.00	0.66	1.59
1,118.01	0.68	1.73
1,118.02	0.70	1.88
1,118.03	0.72	2.03
1,118.04	0.74	2.19
1,118.05	0.75	2.36
1,118.06	0.77	2.53
1,118.07	0.79	2.71
1,118.08	0.81	2.89
1,118.09	0.82	3.07
1,118.10	0.84	3.27
1,118.11	0.85	3.47
1,118.12	0.87	3.67
1,118.13	0.88	3.88
1,118.14	0.90	4.10
1,118.15	0.91	4.32
1,118.16	0.93	4.55
1,118.17	0.94	4.78
1,118.18	0.96	5.02
1,118.19	0.97	5.27
1,118.20	0.99	5.52
1,118.21	1.00	5.78
1,118.22	1.01	6.04
1,118.23	1.03	6.31
1,118.24	1.04	6.59
1,118.25	1.05	6.87
1,118.26	1.07	7.16
1,118.27	1.08	7.45
1,118.28	1.09	7.75
1,118.29	1.10	8.06
1,118.30	1.12	8.37
1,118.31	1.13	8.69
1,118.32	1.14	9.02
1,118.33	1.15	9.35
1,118.34	1.16	9.69
1,118.35	1.18	10.03
1,118.36	1.19	10.38
1,118.37	1.20	10.74
1,118.38	1.21	11.10
1,118.39	1.22	11.47
1,118.40	1.23	11.85
1,118.41	1.25	12.24
1,118.42	1.26	12.63
1,118.43	1.27	13.02
1,118.44	1.28	13.43
1,118.45	1.29	13.84
1,118.46	1.30	14.26
1,118.47	1.31	14.68
1,118.48	1.32	15.11
1,118.49	1.33	15.55
1,118.50	1.34	16.00
1,118.51	1.35	16.45
1,118.52	1.37	16.91
1,118.53	1.38	17.37
1,118.54	1.39	17.85
1,118.55	1.40	18.33
1,118.56	1.41	18.81
1,118.57	1.42	19.31
1,118.58	1.43	19.81
1,118.59	1.44	20.32
1,118.60	1.45	20.84
1,118.61	1.46	21.36
1,118.62	1.47	21.89
1,118.63	1.48	22.43
1,118.64	1.49	22.97
1,118.65	1.50	23.53
1,118.66	1.51	24.09
1,118.67	1.52	24.66
1,118.68	1.53	25.23
1,118.69	1.53	25.82
1,118.70	1.54	26.41
1,118.71	1.55	27.01
1,118.72	1.56	27.61
1,118.73	1.57	28.23
1,118.74	1.58	28.85
1,118.75	1.59	29.48
1,118.76	1.60	30.11
1,118.77	1.61	30.76
1,118.78	1.62	31.41
1,118.79	1.63	32.07
1,118.80	**1.64**	**32.74**

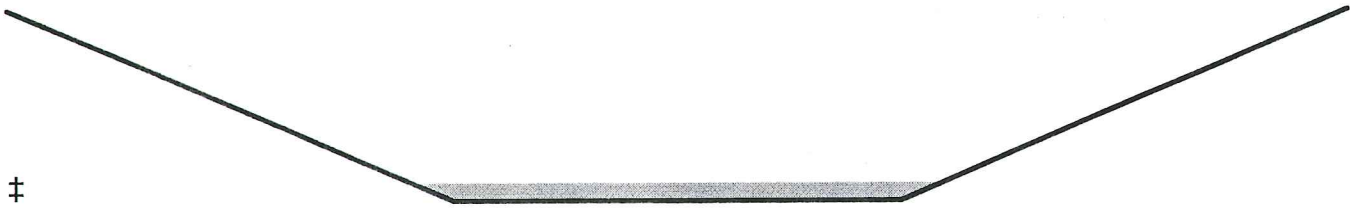
Summary for Reach 3R: OVERLAND FLOW

Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 3.61" for 10-Year event
Inflow = 1.95 cfs @ 12.57 hrs, Volume= 0.809 af
Outflow = 1.93 cfs @ 12.63 hrs, Volume= 0.809 af, Atten= 1%, Lag= 3.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.84 fps, Min. Travel Time= 1.9 min
Avg. Velocity = 1.03 fps, Avg. Travel Time= 3.4 min

Peak Storage= 219 cf @ 12.59 hrs
Average Depth at Peak Storage= 0.10'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 141.79 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 209.0' Slope= 0.1923 '/'
Inlet Invert= 1,158.00', Outlet Invert= 1,117.80'



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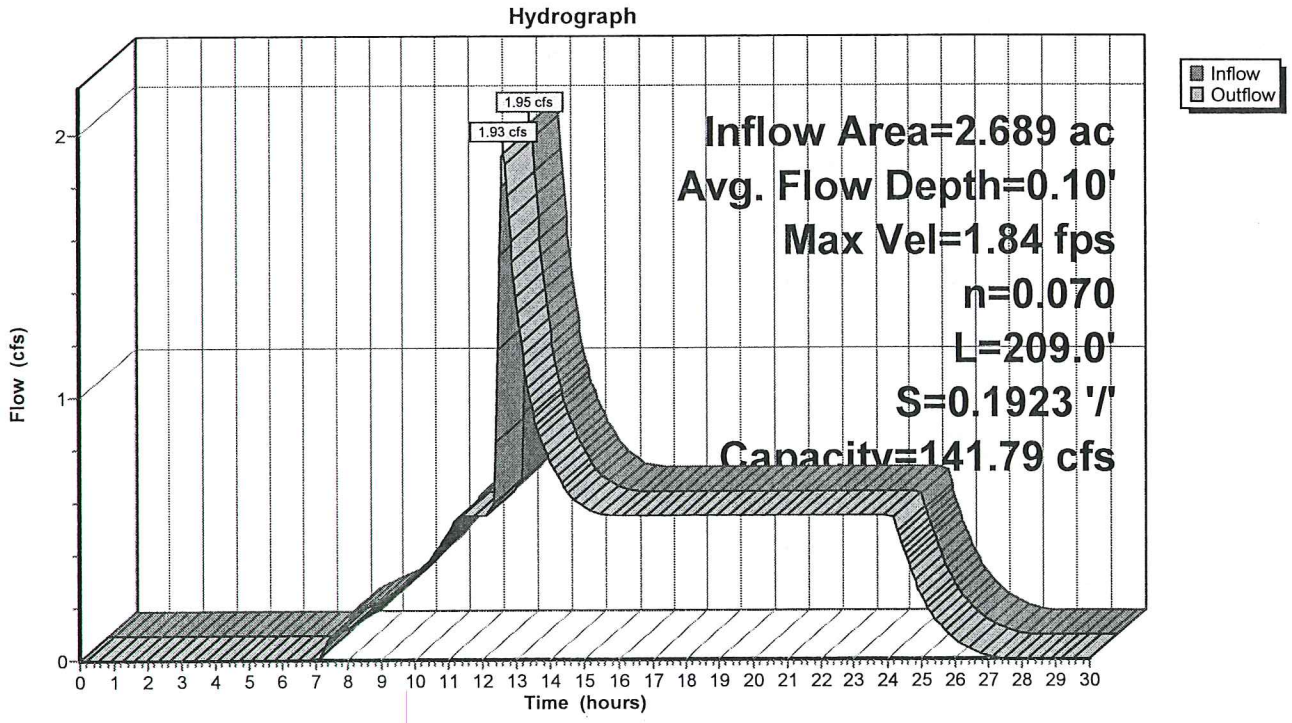
Reach 3R: OVERLAND FLOW



Stage-Discharge for Reach 3R: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,158.00	0.00	0.00
1,158.01	0.43	0.04
1,158.02	0.68	0.14
1,158.03	0.88	0.27
1,158.04	1.06	0.44
1,158.05	1.22	0.64
1,158.06	1.37	0.87
1,158.07	1.52	1.13
1,158.08	1.65	1.42
1,158.09	1.77	1.74
1,158.10	1.89	2.08
1,158.11	2.01	2.45
1,158.12	2.12	2.84
1,158.13	2.22	3.26
1,158.14	2.32	3.71
1,158.15	2.42	4.17
1,158.16	2.52	4.67
1,158.17	2.61	5.19
1,158.18	2.70	5.73
1,158.19	2.79	6.30
1,158.20	2.87	6.89
1,158.21	2.95	7.50
1,158.22	3.03	8.15
1,158.23	3.11	8.81
1,158.24	3.19	9.50
1,158.25	3.27	10.21
1,158.26	3.34	10.95
1,158.27	3.42	11.71
1,158.28	3.49	12.50
1,158.29	3.56	13.31
1,158.30	3.63	14.15
1,158.31	3.70	15.01
1,158.32	3.76	15.90
1,158.33	3.83	16.81
1,158.34	3.90	17.75
1,158.35	3.96	18.71
1,158.36	4.02	19.70
1,158.37	4.09	20.71
1,158.38	4.15	21.75
1,158.39	4.21	22.81
1,158.40	4.27	23.90
1,158.41	4.33	25.02
1,158.42	4.39	26.16
1,158.43	4.44	27.33
1,158.44	4.50	28.52
1,158.45	4.56	29.74
1,158.46	4.61	30.99
1,158.47	4.67	32.27
1,158.48	4.73	33.57
1,158.49	4.78	34.90
1,158.50	4.83	36.25
1,158.51	4.89	37.63
1,158.52	4.94	39.04
1,158.53	4.99	40.48
1,158.54	5.04	41.95
1,158.55	5.10	43.44
1,158.56	5.15	44.96
1,158.57	5.20	46.51
1,158.58	5.25	48.09
1,158.59	5.30	49.69
1,158.60	5.35	51.33
1,158.61	5.40	52.99
1,158.62	5.44	54.68
1,158.63	5.49	56.40
1,158.64	5.54	58.15
1,158.65	5.59	59.93
1,158.66	5.64	61.74
1,158.67	5.68	63.58
1,158.68	5.73	65.45
1,158.69	5.78	67.34
1,158.70	5.82	69.27
1,158.71	5.87	71.23
1,158.72	5.91	73.22
1,158.73	5.96	75.24
1,158.74	6.00	77.29
1,158.75	6.05	79.37
1,158.76	6.09	81.48
1,158.77	6.14	83.62
1,158.78	6.18	85.79
1,158.79	6.22	88.00
1,158.80	6.27	90.23
1,158.81	6.31	92.50
1,158.82	6.35	94.80
1,158.83	6.39	97.13
1,158.84	6.44	99.49
1,158.85	6.48	101.89
1,158.86	6.52	104.32
1,158.87	6.56	106.78
1,158.88	6.60	109.27
1,158.89	6.65	111.80
1,158.90	6.69	114.36
1,158.91	6.73	116.95
1,158.92	6.77	119.57
1,158.93	6.81	122.23
1,158.94	6.85	124.92
1,158.95	6.89	127.65
1,158.96	6.93	130.41
1,158.97	6.97	133.20
1,158.98	7.01	136.03
1,158.99	7.05	138.89
1,159.00	**7.09**	**141.79**

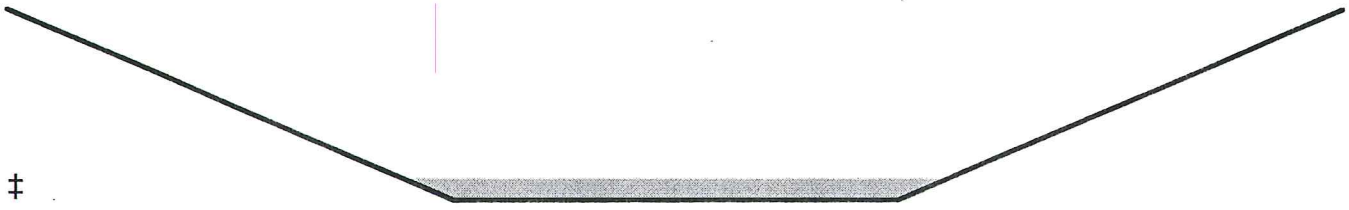
Summary for Reach 5R: OVERLAND FLOW

Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 3.61" for 10-Year event
Inflow = 1.95 cfs @ 12.56 hrs, Volume= 0.809 af
Outflow = 1.95 cfs @ 12.57 hrs, Volume= 0.809 af, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.52 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 0.87 fps, Avg. Travel Time= 0.7 min

Peak Storage= 49 cf @ 12.56 hrs
Average Depth at Peak Storage= 0.11'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 104.89 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 38.0' Slope= 0.1053 '/'
Inlet Invert= 1,162.00', Outlet Invert= 1,158.00'



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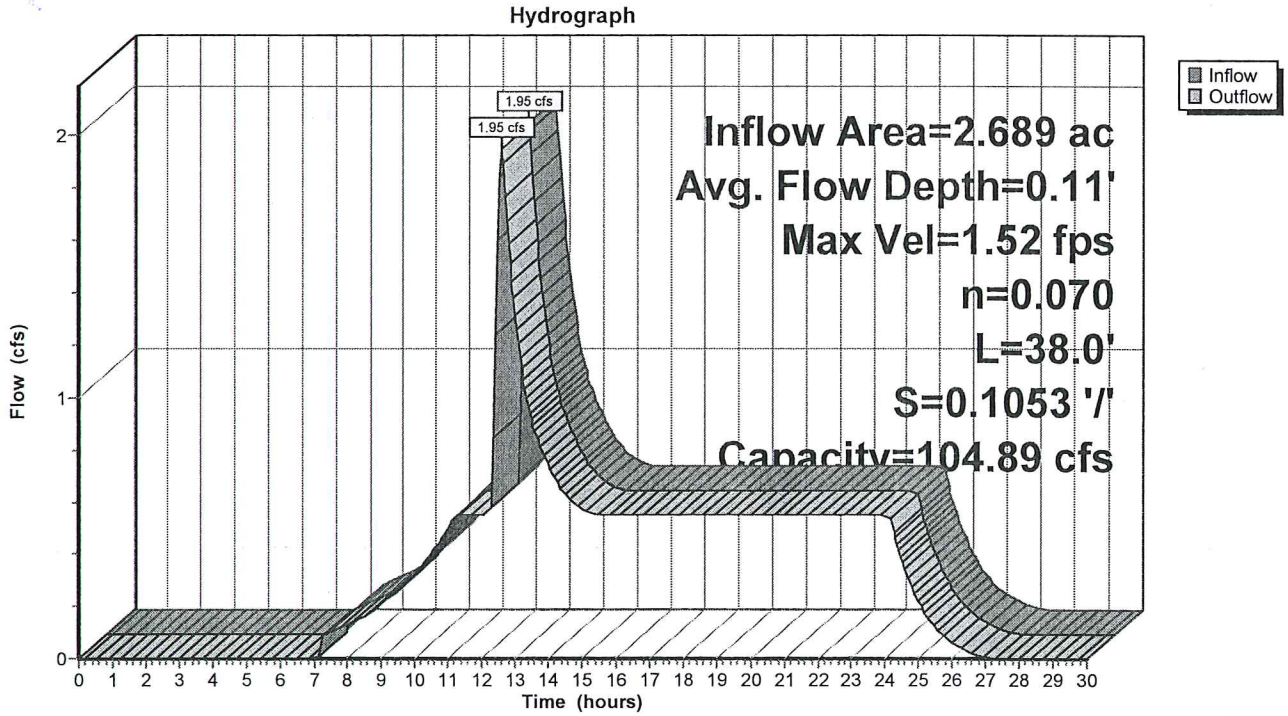
Reach 5R: OVERLAND FLOW



Stage-Discharge for Reach 5R: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,162.00	0.00	0.00
1,162.01	0.32	0.03
1,162.02	0.50	0.10
1,162.03	0.65	0.20
1,162.04	0.79	0.33
1,162.05	0.91	0.48
1,162.06	1.02	0.65
1,162.07	1.12	0.84
1,162.08	1.22	1.05
1,162.09	1.31	1.29
1,162.10	1.40	1.54
1,162.11	1.48	1.81
1,162.12	1.56	2.10
1,162.13	1.64	2.41
1,162.14	1.72	2.74
1,162.15	1.79	3.09
1,162.16	1.86	3.45
1,162.17	1.93	3.84
1,162.18	2.00	4.24
1,162.19	2.06	4.66
1,162.20	2.12	5.10
1,162.21	2.18	5.55
1,162.22	2.25	6.03
1,162.23	2.30	6.52
1,162.24	2.36	7.03
1,162.25	2.42	7.56
1,162.26	2.47	8.10
1,162.27	2.53	8.67
1,162.28	2.58	9.25
1,162.29	2.63	9.85
1,162.30	2.68	10.47
1,162.31	2.73	11.11
1,162.32	2.78	11.76
1,162.33	2.83	12.44
1,162.34	2.88	13.13
1,162.35	2.93	13.84
1,162.36	2.98	14.57
1,162.37	3.02	15.32
1,162.38	3.07	16.09
1,162.39	3.11	16.88
1,162.40	3.16	17.68
1,162.41	3.20	18.51
1,162.42	3.24	19.35
1,162.43	3.29	20.22
1,162.44	3.33	21.10
1,162.45	3.37	22.00
1,162.46	3.41	22.93
1,162.47	3.45	23.87
1,162.48	3.50	24.83
1,162.49	3.54	25.82
1,162.50	3.58	26.82
1,162.51	3.62	27.84
1,162.52	3.65	28.88
1,162.53	3.69	29.95
1,162.54	3.73	31.03
1,162.55	3.77	32.14
1,162.56	3.81	33.26
1,162.57	3.84	34.41
1,162.58	3.88	35.57
1,162.59	3.92	36.76
1,162.60	3.96	37.97
1,162.61	3.99	39.20
1,162.62	4.03	40.45
1,162.63	4.06	41.72
1,162.64	4.10	43.02
1,162.65	4.13	44.34
1,162.66	4.17	45.67
1,162.67	4.20	47.03
1,162.68	4.24	48.42
1,162.69	4.27	49.82
1,162.70	4.31	51.25
1,162.71	4.34	52.69
1,162.72	4.37	54.16
1,162.73	4.41	55.66
1,162.74	4.44	57.17
1,162.75	4.47	58.71
1,162.76	4.51	60.27
1,162.77	4.54	61.86
1,162.78	4.57	63.47
1,162.79	4.60	65.10
1,162.80	4.64	66.75
1,162.81	4.67	68.43
1,162.82	4.70	70.13
1,162.83	4.73	71.85
1,162.84	4.76	73.60
1,162.85	4.79	75.37
1,162.86	4.82	77.17
1,162.87	4.86	78.99
1,162.88	4.89	80.84
1,162.89	4.92	82.70
1,162.90	4.95	84.60
1,162.91	4.98	86.51
1,162.92	5.01	88.46
1,162.93	5.04	90.42
1,162.94	5.07	92.41
1,162.95	5.10	94.43
1,162.96	5.13	96.47
1,162.97	5.16	98.54
1,162.98	5.19	100.63
1,162.99	5.22	102.75
1,163.00	**5.24**	**104.89**

Summary for Reach CULVERT#2: TO DP#1

Inflow Area = 2.067 ac, 3.60% Impervious, Inflow Depth = 1.33" for 10-Year event
Inflow = 2.26 cfs @ 12.22 hrs, Volume= 0.229 af
Outflow = 2.26 cfs @ 12.22 hrs, Volume= 0.229 af, Atten= 0%, Lag= 0.1 min

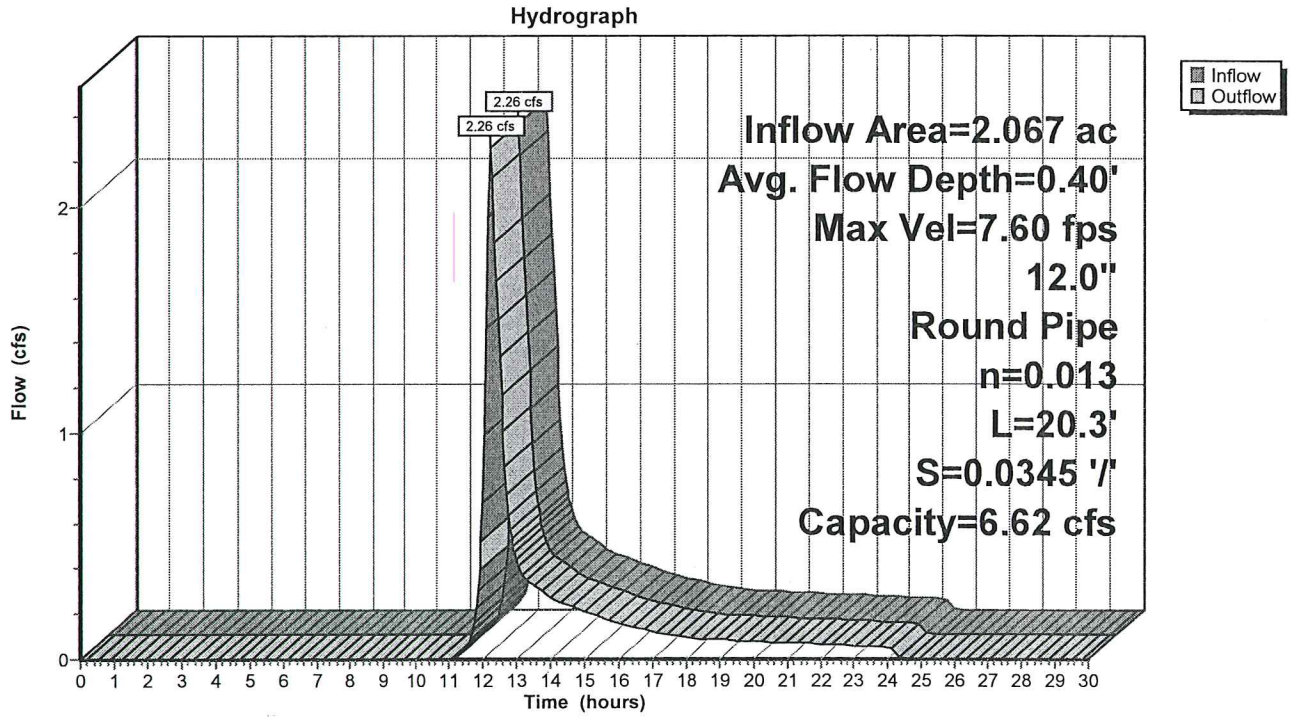
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.60 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.27 fps, Avg. Travel Time= 0.1 min

Peak Storage= 6 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.40'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.62 cfs

12.0" Round Pipe
n= 0.013 Cast iron, coated
Length= 20.3' Slope= 0.0345 '/'
Inlet Invert= 1,118.45', Outlet Invert= 1,117.75'



Reach CULVERT#2: TO DP#1



Stage-Discharge for Reach CULVERT#2: TO DP#1

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,118.45	0.00	0.00
1,118.46	0.75	0.00
1,118.47	1.19	0.00
1,118.48	1.55	0.01
1,118.49	1.87	0.02
1,118.50	2.16	0.03
1,118.51	2.44	0.05
1,118.52	2.69	0.07
1,118.53	2.93	0.09
1,118.54	3.16	0.11
1,118.55	3.38	0.14
1,118.56	3.59	0.17
1,118.57	3.79	0.20
1,118.58	3.98	0.24
1,118.59	4.17	0.28
1,118.60	4.35	0.32
1,118.61	4.53	0.37
1,118.62	4.70	0.42
1,118.63	4.86	0.47
1,118.64	5.02	0.52
1,118.65	5.18	0.58
1,118.66	5.33	0.64
1,118.67	5.48	0.70
1,118.68	5.62	0.77
1,118.69	5.77	0.84
1,118.70	5.90	0.91
1,118.71	6.04	0.98
1,118.72	6.17	1.05
1,118.73	6.29	1.13
1,118.74	6.42	1.21
1,118.75	6.54	1.30
1,118.76	6.66	1.38
1,118.77	6.77	1.47
1,118.78	6.88	1.56
1,118.79	6.99	1.65
1,118.80	7.10	1.74
1,118.81	7.21	1.83
1,118.82	7.31	1.93
1,118.83	7.41	2.03
1,118.84	7.50	2.13
1,118.85	7.60	2.23
1,118.86	7.69	2.33
1,118.87	7.78	2.44
1,118.88	7.87	2.54
1,118.89	7.96	2.65
1,118.90	8.04	2.76
1,118.91	8.12	2.86
1,118.92	8.20	2.97
1,118.93	8.28	3.08
1,118.94	8.35	3.20
1,118.95	8.42	3.31
1,118.96	8.49	3.42
1,118.97	8.56	3.53
1,118.98	8.63	3.65
1,118.99	8.69	3.76
1,119.00	8.75	3.88
1,119.01	8.81	3.99
1,119.02	8.87	4.10
1,119.03	8.93	4.22
1,119.04	8.98	4.33
1,119.05	9.03	4.44
1,119.06	9.08	4.56
1,119.07	9.13	4.67
1,119.08	9.18	4.78
1,119.09	9.22	4.89
1,119.10	9.26	5.00
1,119.11	9.30	5.11
1,119.12	9.34	5.22
1,119.13	9.37	5.33
1,119.14	9.40	5.43
1,119.15	9.43	5.54
1,119.16	9.46	5.64
1,119.17	9.49	5.74
1,119.18	9.51	5.84
1,119.19	9.53	5.94
1,119.20	9.55	6.03
1,119.21	9.56	6.13
1,119.22	9.58	6.21
1,119.23	9.59	6.30
1,119.24	9.60	6.39
1,119.25	9.60	6.47
1,119.26	**9.60**	6.54
1,119.27	9.60	6.62
1,119.28	9.60	6.69
1,119.29	9.59	6.76
1,119.30	9.58	6.82
1,119.31	9.57	6.87
1,119.32	9.55	6.93
1,119.33	9.53	6.97
1,119.34	9.50	7.02
1,119.35	9.47	7.05
1,119.36	9.43	7.08
1,119.37	9.39	7.10
1,119.38	9.34	7.11
1,119.39	9.29	**7.12**
1,119.40	9.22	7.11
1,119.41	9.15	7.09
1,119.42	9.06	7.05
1,119.43	8.94	6.99
1,119.44	8.79	6.89
1,119.45	8.42	6.62

Summary for Reach DCB-H: TO DMH#6

Inflow Area = 0.357 ac, 45.15% Impervious, Inflow Depth = 2.91" for 10-Year event
Inflow = 1.22 cfs @ 12.07 hrs, Volume= 0.087 af
Outflow = 1.21 cfs @ 12.08 hrs, Volume= 0.087 af, Atten= 1%, Lag= 0.0 min

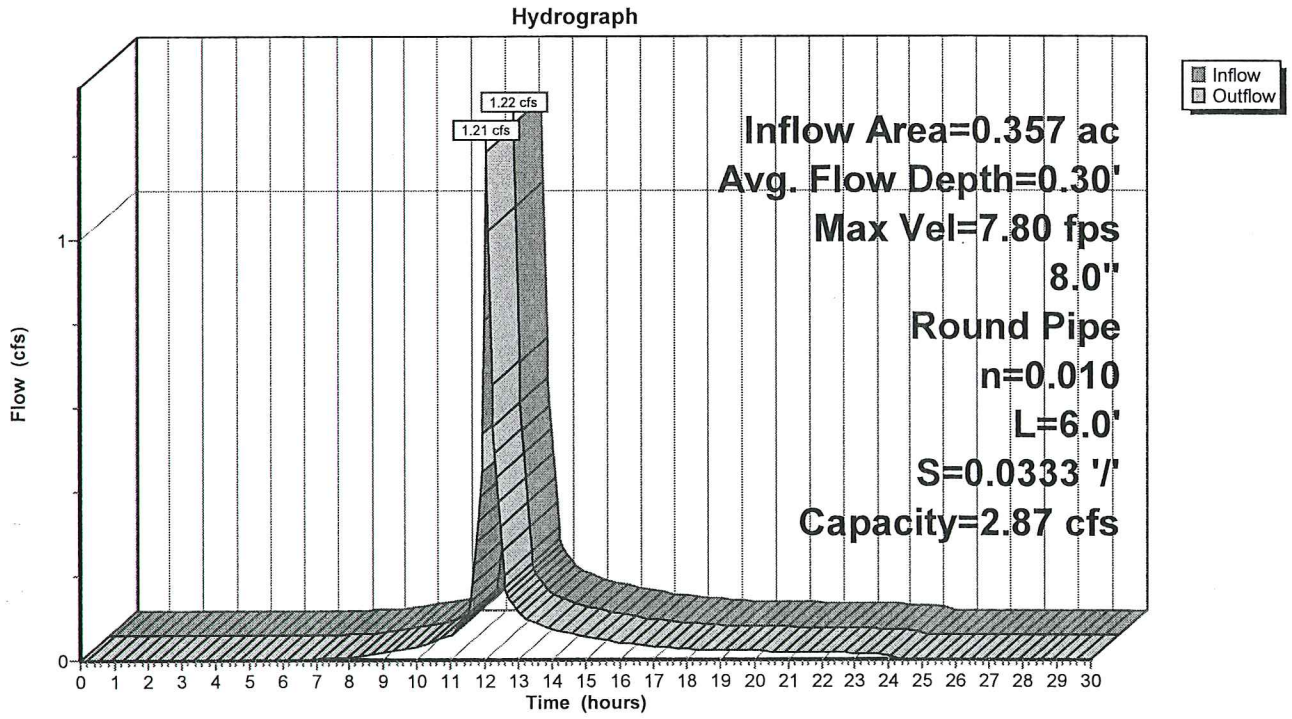
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.80 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.73 fps, Avg. Travel Time= 0.0 min

Peak Storage= 1 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.30'
Bank-Full Depth= 0.67' Flow Area= 0.3 sf, Capacity= 2.87 cfs

8.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 6.0' Slope= 0.0333 '/'
Inlet Invert= 1,171.70', Outlet Invert= 1,171.50'



Reach DCB-H: TO DMH#6



Stage-Discharge for Reach DCB-H: TO DMH#6

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,171.70	0.00	0.00
1,171.71	0.94	0.00
1,171.72	1.51	0.00
1,171.73	1.97	0.01
1,171.74	2.38	0.02
1,171.75	2.74	0.03
1,171.76	3.08	0.05
1,171.77	3.40	0.07
1,171.78	3.70	0.09
1,171.79	3.98	0.11
1,171.80	4.25	0.14
1,171.81	4.50	0.17
1,171.82	4.74	0.20
1,171.83	4.98	0.24
1,171.84	5.20	0.28
1,171.85	5.42	0.32
1,171.86	5.62	0.36
1,171.87	5.82	0.41
1,171.88	6.01	0.46
1,171.89	6.20	0.51
1,171.90	6.38	0.56
1,171.91	6.55	0.62
1,171.92	6.71	0.67
1,171.93	6.87	0.73
1,171.94	7.03	0.80
1,171.95	7.18	0.86
1,171.96	7.32	0.92
1,171.97	7.46	0.99
1,171.98	7.59	1.06
1,171.99	7.72	1.12
1,172.00	7.84	1.19
1,172.01	7.96	1.27
1,172.02	8.07	1.34
1,172.03	8.18	1.41
1,172.04	8.29	1.48
1,172.05	8.38	1.56
1,172.06	8.48	1.63
1,172.07	8.57	1.70
1,172.08	8.65	1.78
1,172.09	8.74	1.85
1,172.10	8.81	1.93
1,172.11	8.88	2.00
1,172.12	8.95	2.07
1,172.13	9.01	2.15
1,172.14	9.07	2.22
1,172.15	9.12	2.29
1,172.16	9.17	2.36
1,172.17	9.21	2.42
1,172.18	9.25	2.49
1,172.19	9.29	2.55
1,172.20	9.31	2.62
1,172.21	9.34	2.67
1,172.22	9.35	2.73
1,172.23	9.36	2.79
1,172.24	**9.37**	2.84
1,172.25	9.36	2.88
1,172.26	9.36	2.93
1,172.27	9.34	2.97
1,172.28	9.31	3.00
1,172.29	9.28	3.03
1,172.30	9.24	3.06
1,172.31	9.18	3.07
1,172.32	9.11	**3.08**
1,172.33	9.03	3.08
1,172.34	8.92	3.07
1,172.35	8.78	3.04
1,172.36	8.58	2.99
1,172.37	8.04	2.81

Summary for Reach DCB1: TO DMH#1

Inflow Area = 0.255 ac, 81.84% Impervious, Inflow Depth = 3.82" for 10-Year event
Inflow = 1.08 cfs @ 12.07 hrs, Volume= 0.081 af
Outflow = 1.07 cfs @ 12.07 hrs, Volume= 0.081 af, Atten= 1%, Lag= 0.2 min

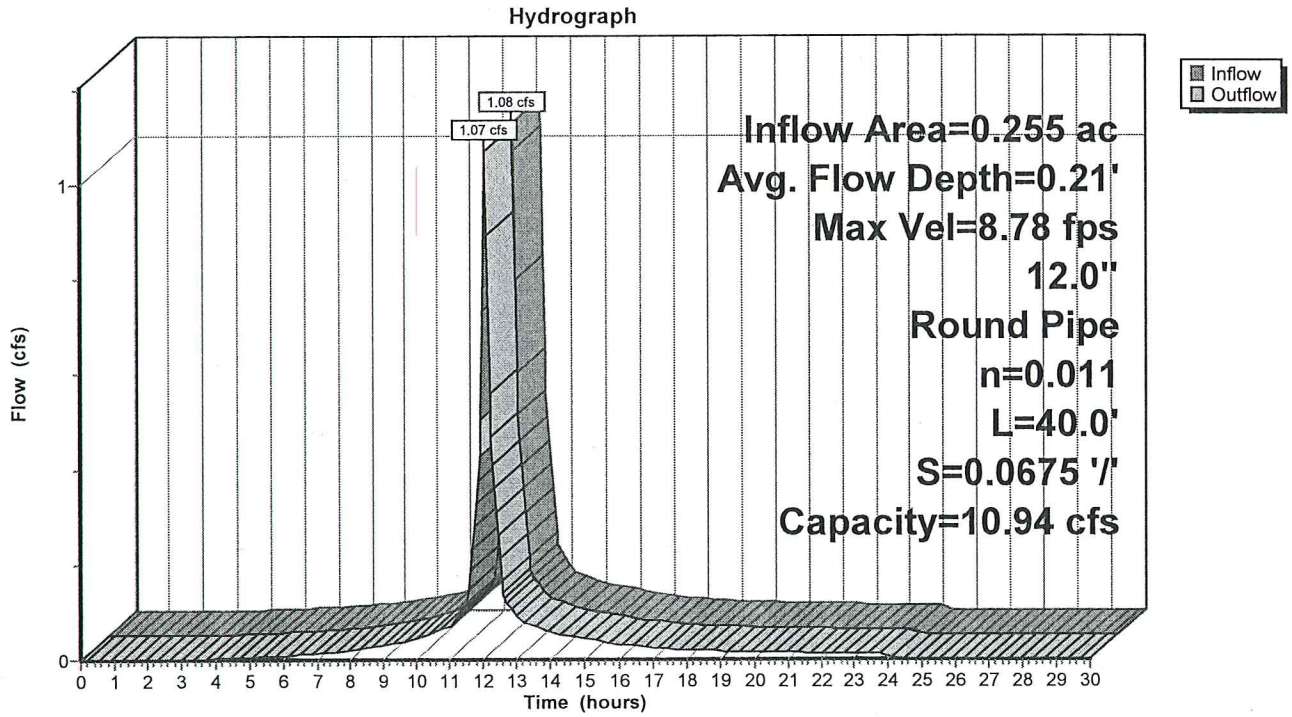
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.78 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.88 fps, Avg. Travel Time= 0.2 min

Peak Storage= 5 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.21'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 10.94 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 40.0' Slope= 0.0675 '/'
Inlet Invert= 1,178.00', Outlet Invert= 1,175.30'



Reach DCB1: TO DMH#1



Stage-Discharge for Reach DCB1: TO DMH#1

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.00	0.00	0.00
1,178.01	1.24	0.00
1,178.02	1.96	0.01
1,178.03	2.56	0.02
1,178.04	3.09	0.03
1,178.05	3.58	0.05
1,178.06	4.03	0.08
1,178.07	4.45	0.11
1,178.08	4.85	0.14
1,178.09	5.23	0.18
1,178.10	5.59	0.23
1,178.11	5.93	0.28
1,178.12	6.27	0.33
1,178.13	6.59	0.40
1,178.14	6.90	0.46
1,178.15	7.20	0.53
1,178.16	7.49	0.61
1,178.17	7.77	0.69
1,178.18	8.04	0.77
1,178.19	8.31	0.86
1,178.20	8.57	0.96
1,178.21	8.82	1.06
1,178.22	9.06	1.16
1,178.23	9.30	1.27
1,178.24	9.53	1.38
1,178.25	9.76	1.50
1,178.26	9.98	1.62
1,178.27	10.20	1.74
1,178.28	10.41	1.87
1,178.29	10.61	2.01
1,178.30	10.81	2.14
1,178.31	11.01	2.28
1,178.32	11.20	2.43
1,178.33	11.38	2.57
1,178.34	11.56	2.72
1,178.35	11.74	2.88
1,178.36	11.91	3.03
1,178.37	12.08	3.19
1,178.38	12.25	3.35
1,178.39	12.41	3.52
1,178.40	12.57	3.69
1,178.41	12.72	3.86
1,178.42	12.87	4.03
1,178.43	13.01	4.20
1,178.44	13.16	4.38
1,178.45	13.29	4.56
1,178.46	13.43	4.74
1,178.47	13.56	4.92
1,178.48	13.68	5.10
1,178.49	13.81	5.28
1,178.50	13.93	5.47
1,178.51	14.04	5.66
1,178.52	14.16	5.84
1,178.53	14.27	6.03
1,178.54	14.37	6.22
1,178.55	14.48	6.41
1,178.56	14.58	6.60
1,178.57	14.67	6.78
1,178.58	14.76	6.97
1,178.59	14.85	7.16
1,178.60	14.94	7.35
1,178.61	15.02	7.54
1,178.62	15.10	7.72
1,178.63	15.17	7.91
1,178.64	15.24	8.09
1,178.65	15.31	8.27
1,178.66	15.38	8.46
1,178.67	15.44	8.63
1,178.68	15.49	8.81
1,178.69	15.55	8.99
1,178.70	15.60	9.16
1,178.71	15.64	9.33
1,178.72	15.68	9.50
1,178.73	15.72	9.66
1,178.74	15.76	9.82
1,178.75	15.79	9.98
1,178.76	15.81	10.13
1,178.77	15.84	10.28
1,178.78	15.85	10.42
1,178.79	15.87	10.56
1,178.80	15.87	10.69
1,178.81	**15.88**	10.82
1,178.82	15.88	10.94
1,178.83	15.87	11.06
1,178.84	15.86	11.17
1,178.85	15.84	11.27
1,178.86	15.82	11.37
1,178.87	15.79	11.45
1,178.88	15.75	11.53
1,178.89	15.71	11.60
1,178.90	15.66	11.66
1,178.91	15.60	11.71
1,178.92	15.53	11.74
1,178.93	15.45	11.76
1,178.94	15.36	**11.77**
1,178.95	15.25	11.75
1,178.96	15.13	11.72
1,178.97	14.98	11.66
1,178.98	14.79	11.56
1,178.99	14.54	11.40
1,179.00	13.93	10.94

Summary for Reach DCB10: TO DMH#10

Inflow Area = 0.042 ac, 80.86% Impervious, Inflow Depth = 3.71" for 10-Year event
Inflow = 0.17 cfs @ 12.07 hrs, Volume= 0.013 af
Outflow = 0.17 cfs @ 12.08 hrs, Volume= 0.013 af, Atten= 2%, Lag= 0.5 min

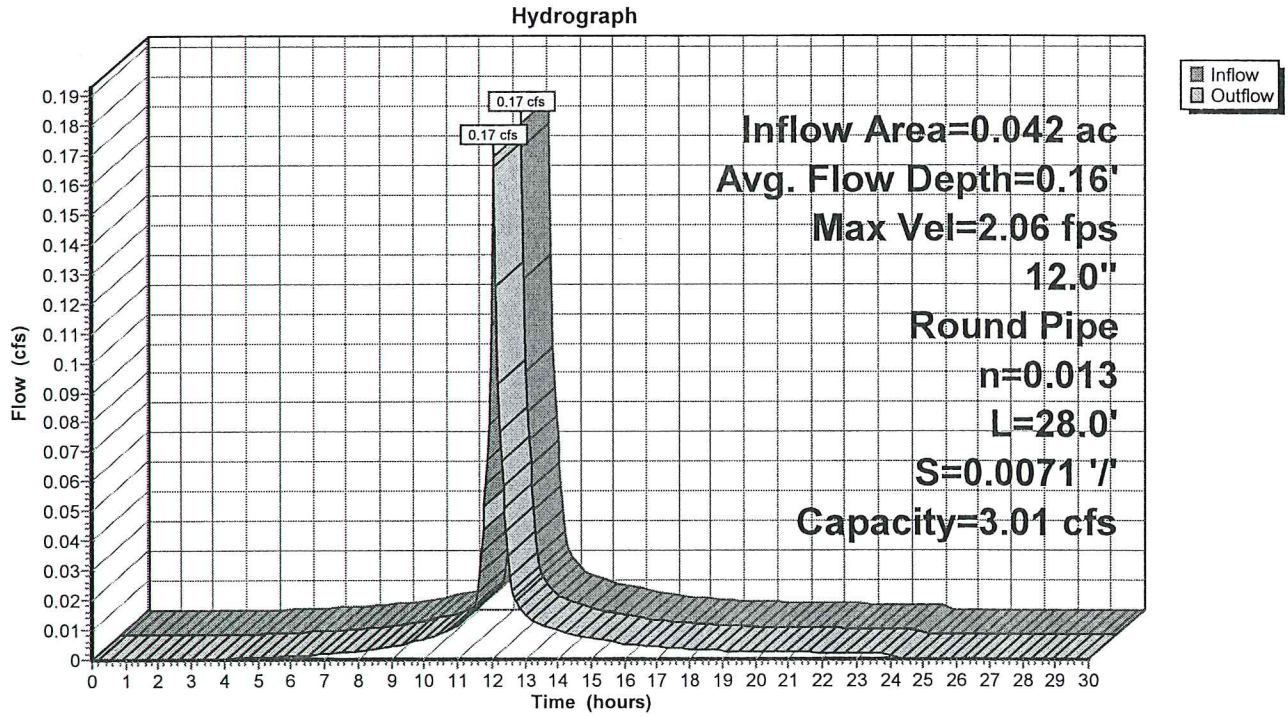
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.06 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 0.68 fps, Avg. Travel Time= 0.7 min

Peak Storage= 2 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.16'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.01 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 28.0' Slope= 0.0071 '/'
Inlet Invert= 1,179.20', Outlet Invert= 1,179.00'



Reach DCB10: TO DMH#10



Stage-Discharge for Reach DCB10: TO DMH#10

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.20	0.00	0.00
1,179.21	0.34	0.00
1,179.22	0.54	0.00
1,179.23	0.71	0.00
1,179.24	0.85	0.01
1,179.25	0.98	0.01
1,179.26	1.11	0.02
1,179.27	1.22	0.03
1,179.28	1.33	0.04
1,179.29	1.44	0.05
1,179.30	1.54	0.06
1,179.31	1.63	0.08
1,179.32	1.73	0.09
1,179.33	1.81	0.11
1,179.34	1.90	0.13
1,179.35	1.98	0.15
1,179.36	2.06	0.17
1,179.37	2.14	0.19
1,179.38	2.21	0.21
1,179.39	2.29	0.24
1,179.40	2.36	0.26
1,179.41	2.43	0.29
1,179.42	2.49	0.32
1,179.43	2.56	0.35
1,179.44	2.62	0.38
1,179.45	2.69	0.41
1,179.46	2.75	0.45
1,179.47	2.81	0.48
1,179.48	2.86	0.52
1,179.49	2.92	0.55
1,179.50	2.98	0.59
1,179.51	3.03	0.63
1,179.52	3.08	0.67
1,179.53	3.13	0.71
1,179.54	3.18	0.75
1,179.55	3.23	0.79
1,179.56	3.28	0.83
1,179.57	3.33	0.88
1,179.58	3.37	0.92
1,179.59	3.42	0.97
1,179.60	3.46	1.01
1,179.61	3.50	1.06
1,179.62	3.54	1.11
1,179.63	3.58	1.16
1,179.64	3.62	1.21
1,179.65	3.66	1.25
1,179.66	3.70	1.30
1,179.67	3.73	1.35
1,179.68	3.77	1.40
1,179.69	3.80	1.45
1,179.70	3.83	1.51
1,179.71	3.87	1.56
1,179.72	3.90	1.61
1,179.73	3.93	1.66
1,179.74	3.96	1.71
1,179.75	3.98	1.76
1,179.76	4.01	1.82
1,179.77	4.04	1.87
1,179.78	4.06	1.92
1,179.79	4.09	1.97
1,179.80	4.11	2.02
1,179.81	4.13	2.07
1,179.82	4.16	2.13
1,179.83	4.18	2.18
1,179.84	4.20	2.23
1,179.85	4.21	2.28
1,179.86	4.23	2.33
1,179.87	4.25	2.38
1,179.88	4.26	2.43
1,179.89	4.28	2.47
1,179.90	4.29	2.52
1,179.91	4.31	2.57
1,179.92	4.32	2.61
1,179.93	4.33	2.66
1,179.94	4.34	2.70
1,179.95	4.35	2.75
1,179.96	4.35	2.79
1,179.97	4.36	2.83
1,179.98	4.36	2.87
1,179.99	4.37	2.91
1,180.00	4.37	2.94
1,180.01	**4.37**	2.98
1,180.02	4.37	3.01
1,180.03	4.37	3.04
1,180.04	4.37	3.07
1,180.05	4.36	3.10
1,180.06	4.35	3.13
1,180.07	4.35	3.15
1,180.08	4.34	3.17
1,180.09	4.32	3.19
1,180.10	4.31	3.21
1,180.11	4.29	3.22
1,180.12	4.28	3.23
1,180.13	4.25	3.24
1,180.14	4.23	**3.24**
1,180.15	4.20	3.24
1,180.16	4.16	3.23
1,180.17	4.12	3.21
1,180.18	4.07	3.18
1,180.19	4.00	3.14
1,180.20	3.83	3.01

Summary for Reach DCB11: TO DMH#10

Inflow Area = 0.268 ac, 78.25% Impervious, Inflow Depth = 3.71" for 10-Year event
Inflow = 1.11 cfs @ 12.07 hrs, Volume= 0.083 af
Outflow = 1.11 cfs @ 12.07 hrs, Volume= 0.083 af, Atten= 0%, Lag= 0.0 min

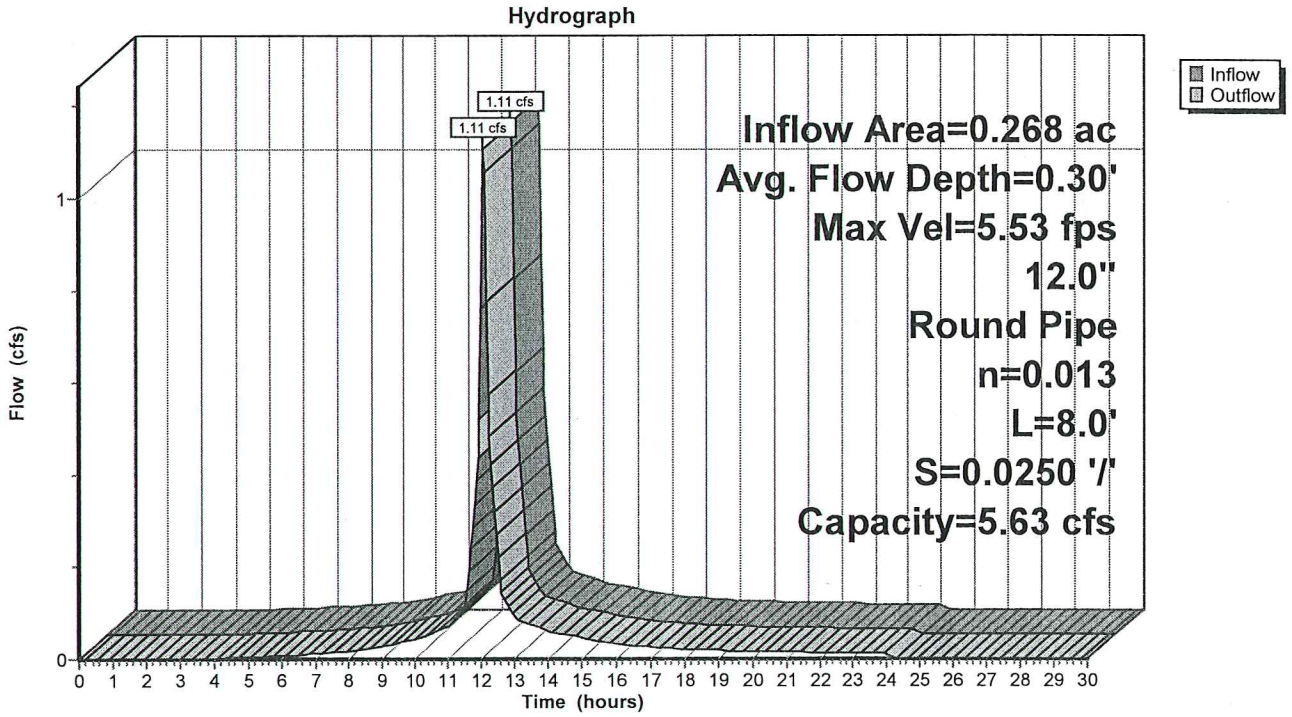
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.53 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.82 fps, Avg. Travel Time= 0.1 min

Peak Storage= 2 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.30'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.63 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 8.0' Slope= 0.0250 '/'
Inlet Invert= 1,179.20', Outlet Invert= 1,179.00'



Reach DCB11: TO DMH#10



Stage-Discharge for Reach DCB11: TO DMH#10

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.20	0.00	0.00
1,179.21	0.64	0.00
1,179.22	1.01	0.00
1,179.23	1.32	0.01
1,179.24	1.59	0.02
1,179.25	1.84	0.03
1,179.26	2.07	0.04
1,179.27	2.29	0.06
1,179.28	2.50	0.07
1,179.29	2.69	0.09
1,179.30	2.88	0.12
1,179.31	3.06	0.14
1,179.32	3.23	0.17
1,179.33	3.39	0.20
1,179.34	3.55	0.24
1,179.35	3.71	0.27
1,179.36	3.86	0.31
1,179.37	4.00	0.35
1,179.38	4.14	0.40
1,179.39	4.28	0.44
1,179.40	4.41	0.49
1,179.41	4.54	0.54
1,179.42	4.67	0.60
1,179.43	4.79	0.65
1,179.44	4.91	0.71
1,179.45	5.03	0.77
1,179.46	5.14	0.83
1,179.47	5.25	0.90
1,179.48	5.36	0.96
1,179.49	5.46	1.03
1,179.50	5.57	1.10
1,179.51	5.67	1.18
1,179.52	5.77	1.25
1,179.53	5.86	1.32
1,179.54	5.95	1.40
1,179.55	6.05	1.48
1,179.56	6.14	1.56
1,179.57	6.22	1.64
1,179.58	6.31	1.73
1,179.59	6.39	1.81
1,179.60	6.47	1.90
1,179.61	6.55	1.99
1,179.62	6.63	2.07
1,179.63	6.70	2.16
1,179.64	6.77	2.25
1,179.65	6.85	2.35
1,179.66	6.91	2.44
1,179.67	6.98	2.53
1,179.68	7.05	2.63
1,179.69	7.11	2.72
1,179.70	7.17	2.82
1,179.71	7.23	2.91
1,179.72	7.29	3.01
1,179.73	7.35	3.11
1,179.74	7.40	3.20
1,179.75	7.45	3.30
1,179.76	7.51	3.40
1,179.77	7.55	3.49
1,179.78	7.60	3.59
1,179.79	7.65	3.69
1,179.80	7.69	3.78
1,179.81	7.73	3.88
1,179.82	7.77	3.98
1,179.83	7.81	4.07
1,179.84	7.85	4.17
1,179.85	7.88	4.26
1,179.86	7.92	4.35
1,179.87	7.95	4.45
1,179.88	7.98	4.54
1,179.89	8.01	4.63
1,179.90	8.03	4.72
1,179.91	8.06	4.80
1,179.92	8.08	4.89
1,179.93	8.10	4.97
1,179.94	8.11	5.06
1,179.95	8.13	5.14
1,179.96	8.14	5.22
1,179.97	8.15	5.29
1,179.98	8.16	5.37
1,179.99	8.17	5.44
1,180.00	8.17	5.51
1,180.01	**8.18**	5.57
1,180.02	8.18	5.64
1,180.03	8.17	5.70
1,180.04	8.17	5.75
1,180.05	8.16	5.80
1,180.06	8.15	5.85
1,180.07	8.13	5.90
1,180.08	8.11	5.94
1,180.09	8.09	5.97
1,180.10	8.06	6.00
1,180.11	8.03	6.03
1,180.12	8.00	6.05
1,180.13	7.96	6.06
1,180.14	7.91	**6.06**
1,180.15	7.85	6.05
1,180.16	7.79	6.04
1,180.17	7.71	6.00
1,180.18	7.62	5.95
1,180.19	7.49	5.87
1,180.20	7.17	5.63

Summary for Reach DCB12: TO DMH#12

Inflow Area = 0.248 ac, 86.00% Impervious, Inflow Depth = 3.92" for 10-Year event
Inflow = 1.06 cfs @ 12.07 hrs, Volume= 0.081 af
Outflow = 1.05 cfs @ 12.08 hrs, Volume= 0.081 af, Atten= 2%, Lag= 0.4 min

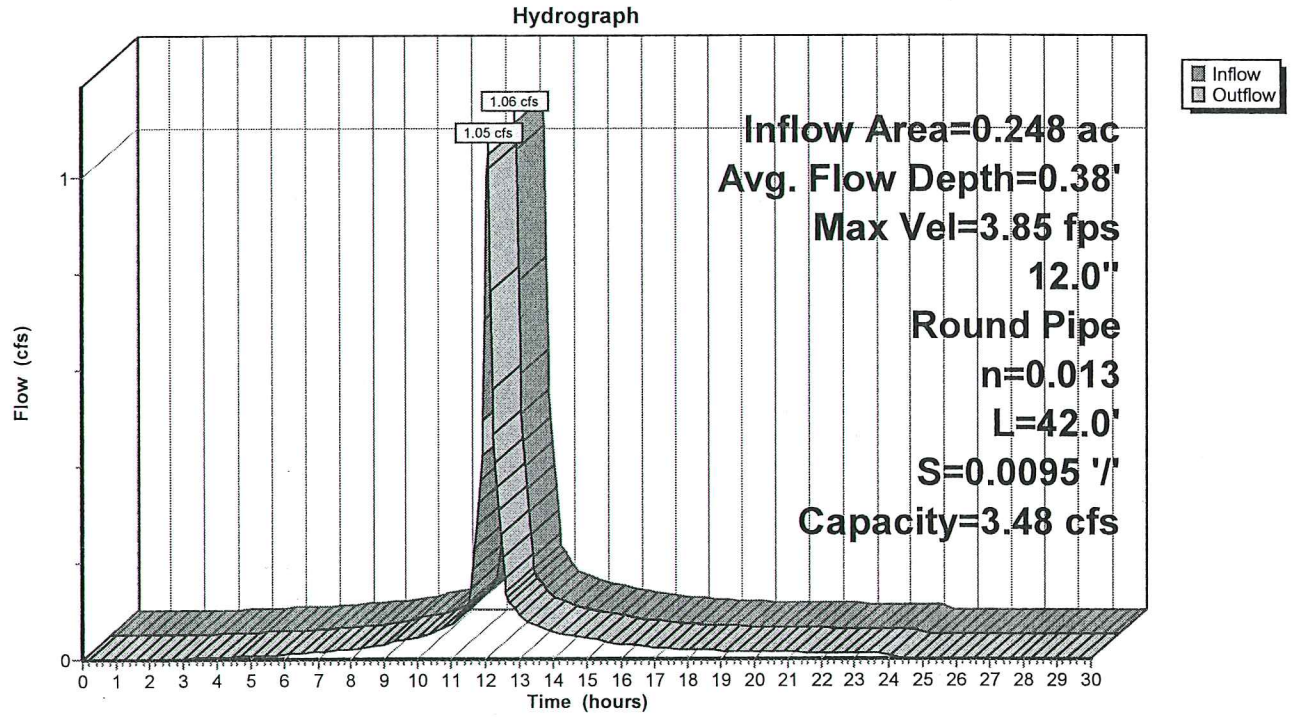
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.85 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.28 fps, Avg. Travel Time= 0.5 min

Peak Storage= 11 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.38'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.48 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 42.0' Slope= 0.0095 '/'
Inlet Invert= 1,180.80', Outlet Invert= 1,180.40'



Reach DCB12: TO DMH#12



Stage-Discharge for Reach DCB12: TO DMH#12

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.80	0.00	0.00
1,180.81	0.39	0.00
1,180.82	0.62	0.00
1,180.83	0.81	0.01
1,180.84	0.98	0.01
1,180.85	1.14	0.02
1,180.86	1.28	0.02
1,180.87	1.41	0.03
1,180.88	1.54	0.05
1,180.89	1.66	0.06
1,180.90	1.78	0.07
1,180.91	1.89	0.09
1,180.92	1.99	0.11
1,180.93	2.09	0.13
1,180.94	2.19	0.15
1,180.95	2.29	0.17
1,180.96	2.38	0.19
1,180.97	2.47	0.22
1,180.98	2.56	0.25
1,180.99	2.64	0.27
1,181.00	2.72	0.30
1,181.01	2.80	0.34
1,181.02	2.88	0.37
1,181.03	2.96	0.40
1,181.04	3.03	0.44
1,181.05	3.10	0.48
1,181.06	3.17	0.51
1,181.07	3.24	0.55
1,181.08	3.31	0.60
1,181.09	3.37	0.64
1,181.10	3.44	0.68
1,181.11	3.50	0.73
1,181.12	3.56	0.77
1,181.13	3.62	0.82
1,181.14	3.68	0.87
1,181.15	3.73	0.91
1,181.16	3.79	0.96
1,181.17	3.84	1.01
1,181.18	3.89	1.07
1,181.19	3.94	1.12
1,181.20	3.99	1.17
1,181.21	4.04	1.23
1,181.22	4.09	1.28
1,181.23	4.14	1.34
1,181.24	4.18	1.39
1,181.25	4.22	1.45
1,181.26	4.27	1.51
1,181.27	4.31	1.56
1,181.28	4.35	1.62
1,181.29	4.39	1.68
1,181.30	4.43	1.74
1,181.31	4.46	1.80
1,181.32	4.50	1.86
1,181.33	4.53	1.92
1,181.34	4.57	1.98
1,181.35	4.60	2.04
1,181.36	4.63	2.10
1,181.37	4.66	2.16
1,181.38	4.69	2.22
1,181.39	4.72	2.28
1,181.40	4.75	2.34
1,181.41	4.77	2.40
1,181.42	4.80	2.45
1,181.43	4.82	2.51
1,181.44	4.85	2.57
1,181.45	4.87	2.63
1,181.46	4.89	2.69
1,181.47	4.91	2.74
1,181.48	4.92	2.80
1,181.49	4.94	2.86
1,181.50	4.96	2.91
1,181.51	4.97	2.96
1,181.52	4.99	3.02
1,181.53	5.00	3.07
1,181.54	5.01	3.12
1,181.55	5.02	3.17
1,181.56	5.03	3.22
1,181.57	5.03	3.27
1,181.58	5.04	3.31
1,181.59	5.04	3.36
1,181.60	5.05	3.40
1,181.61	**5.05**	3.44
1,181.62	5.05	3.48
1,181.63	5.04	3.52
1,181.64	5.04	3.55
1,181.65	5.04	3.58
1,181.66	5.03	3.61
1,181.67	5.02	3.64
1,181.68	5.01	3.67
1,181.69	4.99	3.69
1,181.70	4.98	3.71
1,181.71	4.96	3.72
1,181.72	4.94	3.73
1,181.73	4.91	3.74
1,181.74	4.88	**3.74**
1,181.75	4.85	3.74
1,181.76	4.81	3.73
1,181.77	4.76	3.71
1,181.78	4.70	3.67
1,181.79	4.62	3.62
1,181.80	4.43	3.48

Summary for Reach DCB13: TO DMH#12

Inflow Area = 0.173 ac, 91.70% Impervious, Inflow Depth = 4.04" for 10-Year event
Inflow = 0.75 cfs @ 12.07 hrs, Volume= 0.058 af
Outflow = 0.75 cfs @ 12.07 hrs, Volume= 0.058 af, Atten= 0%, Lag= 0.1 min

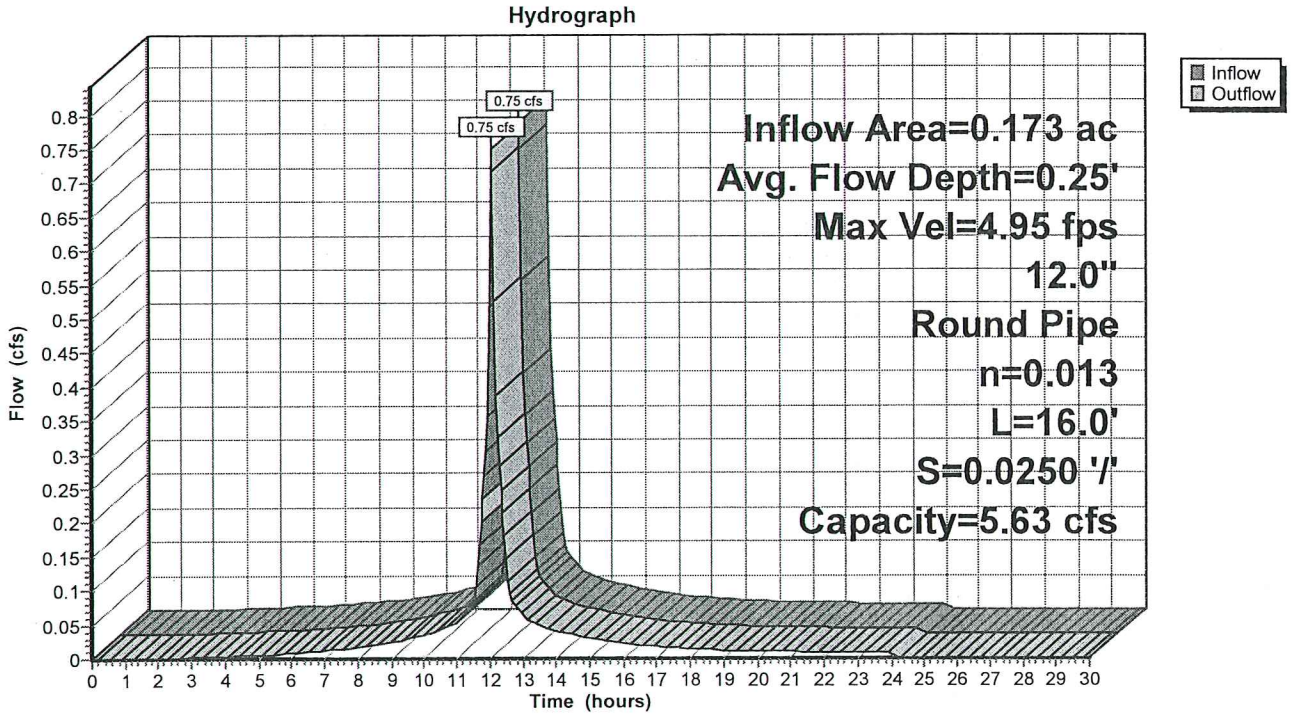
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.95 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.62 fps, Avg. Travel Time= 0.2 min

Peak Storage= 2 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.25'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.63 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 16.0' Slope= 0.0250 '/'
Inlet Invert= 1,180.80', Outlet Invert= 1,180.40'



Reach DCB13: TO DMH#12



Stage-Discharge for Reach DCB13: TO DMH#12

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.80	0.00	0.00
1,180.81	0.64	0.00
1,180.82	1.01	0.00
1,180.83	1.32	0.01
1,180.84	1.59	0.02
1,180.85	1.84	0.03
1,180.86	2.07	0.04
1,180.87	2.29	0.06
1,180.88	2.50	0.07
1,180.89	2.69	0.09
1,180.90	2.88	0.12
1,180.91	3.06	0.14
1,180.92	3.23	0.17
1,180.93	3.39	0.20
1,180.94	3.55	0.24
1,180.95	3.71	0.27
1,180.96	3.86	0.31
1,180.97	4.00	0.35
1,180.98	4.14	0.40
1,180.99	4.28	0.44
1,181.00	4.41	0.49
1,181.01	4.54	0.54
1,181.02	4.67	0.60
1,181.03	4.79	0.65
1,181.04	4.91	0.71
1,181.05	5.03	0.77
1,181.06	5.14	0.83
1,181.07	5.25	0.90
1,181.08	5.36	0.96
1,181.09	5.46	1.03
1,181.10	5.57	1.10
1,181.11	5.67	1.18
1,181.12	5.77	1.25
1,181.13	5.86	1.32
1,181.14	5.95	1.40
1,181.15	6.05	1.48
1,181.16	6.14	1.56
1,181.17	6.22	1.64
1,181.18	6.31	1.73
1,181.19	6.39	1.81
1,181.20	6.47	1.90
1,181.21	6.55	1.99
1,181.22	6.63	2.07
1,181.23	6.70	2.16
1,181.24	6.77	2.25
1,181.25	6.85	2.35
1,181.26	6.91	2.44
1,181.27	6.98	2.53
1,181.28	7.05	2.63
1,181.29	7.11	2.72
1,181.30	7.17	2.82
1,181.31	7.23	2.91
1,181.32	7.29	3.01
1,181.33	7.35	3.11
1,181.34	7.40	3.20
1,181.35	7.45	3.30
1,181.36	7.51	3.40
1,181.37	7.55	3.49
1,181.38	7.60	3.59
1,181.39	7.65	3.69
1,181.40	7.69	3.78
1,181.41	7.73	3.88
1,181.42	7.77	3.98
1,181.43	7.81	4.07
1,181.44	7.85	4.17
1,181.45	7.88	4.26
1,181.46	7.92	4.35
1,181.47	7.95	4.45
1,181.48	7.98	4.54
1,181.49	8.01	4.63
1,181.50	8.03	4.72
1,181.51	8.06	4.80
1,181.52	8.08	4.89
1,181.53	8.10	4.97
1,181.54	8.11	5.06
1,181.55	8.13	5.14
1,181.56	8.14	5.22
1,181.57	8.15	5.29
1,181.58	8.16	5.37
1,181.59	8.17	5.44
1,181.60	8.17	5.51
1,181.61	**8.18**	5.57
1,181.62	8.18	5.64
1,181.63	8.17	5.70
1,181.64	8.17	5.75
1,181.65	8.16	5.80
1,181.66	8.15	5.85
1,181.67	8.13	5.90
1,181.68	8.11	5.94
1,181.69	8.09	5.97
1,181.70	8.06	6.00
1,181.71	8.03	6.03
1,181.72	8.00	6.05
1,181.73	7.96	6.06
1,181.74	7.91	**6.06**
1,181.75	7.85	6.05
1,181.76	7.79	6.04
1,181.77	7.71	6.00
1,181.78	7.62	5.95
1,181.79	7.49	5.87
1,181.80	7.17	5.63

Summary for Reach DCB14: TO DMH#11

Inflow Area = 0.172 ac, 90.41% Impervious, Inflow Depth = 4.04" for 10-Year event
Inflow = 0.74 cfs @ 12.07 hrs, Volume= 0.058 af
Outflow = 0.74 cfs @ 12.07 hrs, Volume= 0.058 af, Atten= 0%, Lag= 0.0 min

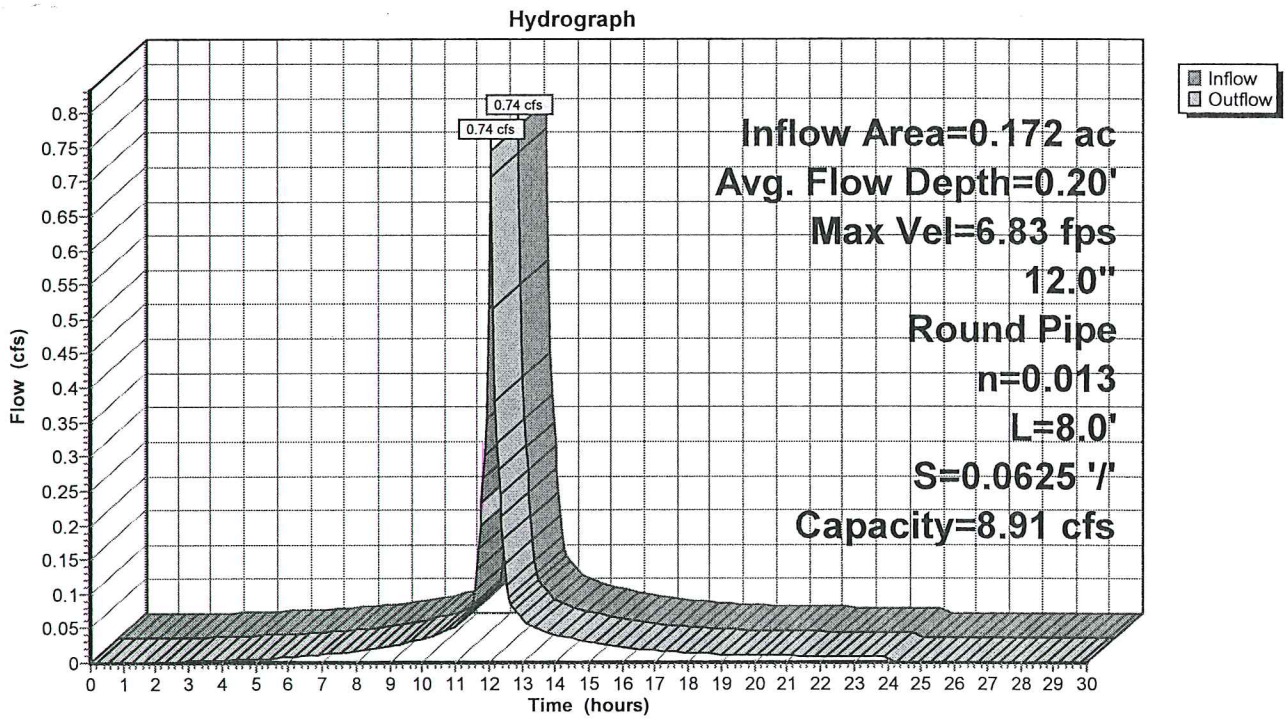
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.83 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.24 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.20'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.91 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 8.0' Slope= 0.0625 '/'
Inlet Invert= 1,180.50', Outlet Invert= 1,180.00'



Reach DCB14: TO DMH#11



Stage-Discharge for Reach DCB14: TO DMH#11

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.50	0.00	0.00
1,180.51	1.01	0.00
1,180.52	1.60	0.01
1,180.53	2.09	0.01
1,180.54	2.52	0.03
1,180.55	2.91	0.04
1,180.56	3.28	0.06
1,180.57	3.62	0.09
1,180.58	3.95	0.12
1,180.59	4.25	0.15
1,180.60	4.55	0.19
1,180.61	4.83	0.23
1,180.62	5.10	0.27
1,180.63	5.36	0.32
1,180.64	5.62	0.38
1,180.65	5.86	0.43
1,180.66	6.10	0.49
1,180.67	6.33	0.56
1,180.68	6.55	0.63
1,180.69	6.77	0.70
1,180.70	6.98	0.78
1,180.71	7.18	0.86
1,180.72	7.38	0.95
1,180.73	7.57	1.03
1,180.74	7.76	1.13
1,180.75	7.95	1.22
1,180.76	8.13	1.32
1,180.77	8.30	1.42
1,180.78	8.47	1.53
1,180.79	8.64	1.63
1,180.80	8.80	1.74
1,180.81	8.96	1.86
1,180.82	9.12	1.98
1,180.83	9.27	2.09
1,180.84	9.42	2.22
1,180.85	9.56	2.34
1,180.86	9.70	2.47
1,180.87	9.84	2.60
1,180.88	9.97	2.73
1,180.89	10.10	2.87
1,180.90	10.23	3.00
1,180.91	10.36	3.14
1,180.92	10.48	3.28
1,180.93	10.60	3.42
1,180.94	10.71	3.57
1,180.95	10.82	3.71
1,180.96	10.93	3.86
1,180.97	11.04	4.00
1,180.98	11.14	4.15
1,180.99	11.24	4.30
1,181.00	11.34	4.45
1,181.01	11.44	4.61
1,181.02	11.53	4.76
1,181.03	11.62	4.91
1,181.04	11.70	5.06
1,181.05	11.79	5.22
1,181.06	11.87	5.37
1,181.07	11.95	5.52
1,181.08	12.02	5.68
1,181.09	12.09	5.83
1,181.10	12.16	5.98
1,181.11	12.23	6.14
1,181.12	12.29	6.29
1,181.13	12.35	6.44
1,181.14	12.41	6.59
1,181.15	12.47	6.74
1,181.16	12.52	6.88
1,181.17	12.57	7.03
1,181.18	12.62	7.17
1,181.19	12.66	7.32
1,181.20	12.70	7.46
1,181.21	12.74	7.60
1,181.22	12.77	7.73
1,181.23	12.80	7.86
1,181.24	12.83	7.99
1,181.25	12.85	8.12
1,181.26	12.88	8.25
1,181.27	12.89	8.37
1,181.28	12.91	8.48
1,181.29	12.92	8.60
1,181.30	12.93	8.71
1,181.31	**12.93**	8.81
1,181.32	12.93	8.91
1,181.33	12.92	9.01
1,181.34	12.91	9.09
1,181.35	12.90	9.18
1,181.36	12.88	9.26
1,181.37	12.86	9.33
1,181.38	12.83	9.39
1,181.39	12.79	9.45
1,181.40	12.75	9.49
1,181.41	12.70	9.53
1,181.42	12.65	9.56
1,181.43	12.58	9.58
1,181.44	12.51	**9.58**
1,181.45	12.42	9.57
1,181.46	12.32	9.54
1,181.47	12.19	9.49
1,181.48	12.04	9.41
1,181.49	11.84	9.28
1,181.50	11.34	8.91

Summary for Reach DCB15: TO DMH#13

Inflow Area = 0.178 ac, 87.98% Impervious, Inflow Depth = 3.92" for 10-Year event
Inflow = 0.76 cfs @ 12.07 hrs, Volume= 0.058 af
Outflow = 0.76 cfs @ 12.07 hrs, Volume= 0.058 af, Atten= 0%, Lag= 0.0 min

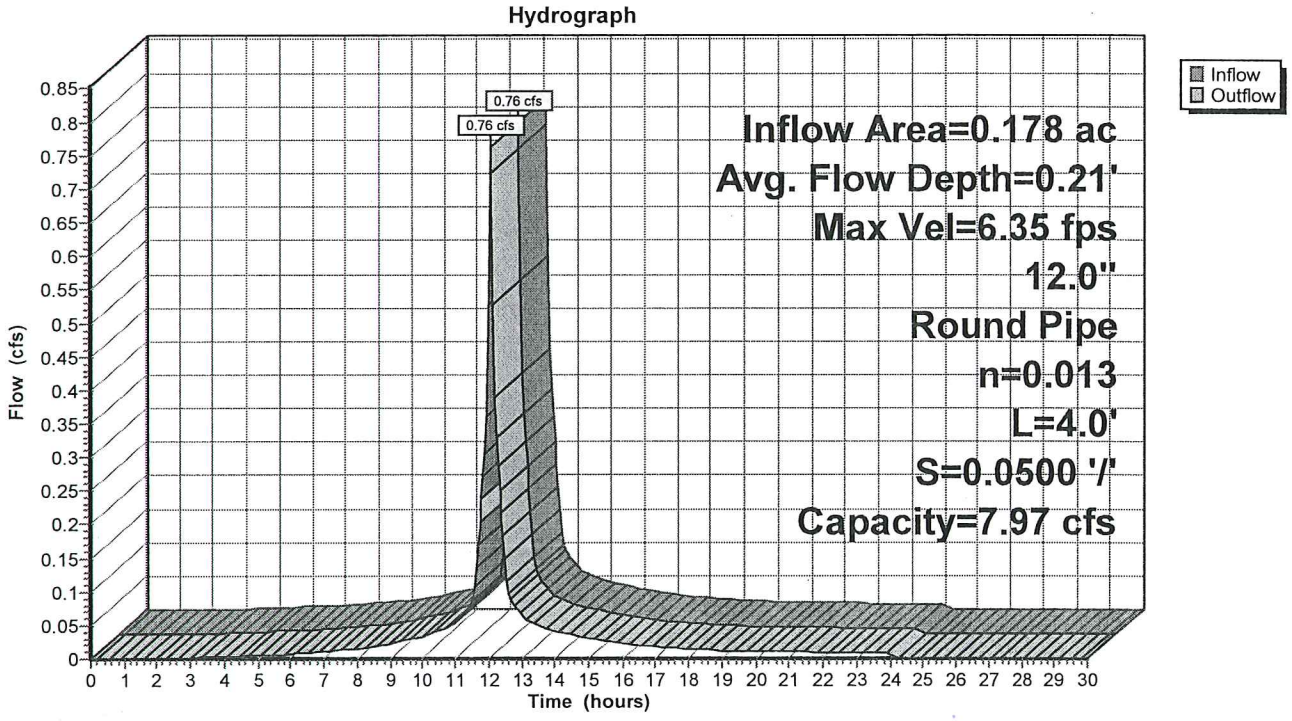
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.35 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.08 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.21'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 7.97 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 4.0' Slope= 0.0500 '/'
Inlet Invert= 1,181.80', Outlet Invert= 1,181.60'



Reach DCB15: TO DMH#13



Stage-Discharge for Reach DCB15: TO DMH#13

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,181.80	0.00	0.00
1,181.81	0.90	0.00
1,181.82	1.43	0.01
1,181.83	1.87	0.01
1,181.84	2.25	0.02
1,181.85	2.61	0.04
1,181.86	2.93	0.06
1,181.87	3.24	0.08
1,181.88	3.53	0.10
1,181.89	3.81	0.13
1,181.90	4.07	0.17
1,181.91	4.32	0.20
1,181.92	4.56	0.24
1,181.93	4.80	0.29
1,181.94	5.02	0.34
1,181.95	5.24	0.39
1,181.96	5.45	0.44
1,181.97	5.66	0.50
1,181.98	5.86	0.56
1,181.99	6.05	0.63
1,182.00	6.24	0.70
1,182.01	6.42	0.77
1,182.02	6.60	0.85
1,182.03	6.77	0.92
1,182.04	6.94	1.01
1,182.05	7.11	1.09
1,182.06	7.27	1.18
1,182.07	7.42	1.27
1,182.08	7.58	1.36
1,182.09	7.73	1.46
1,182.10	7.87	1.56
1,182.11	8.01	1.66
1,182.12	8.15	1.77
1,182.13	8.29	1.87
1,182.14	8.42	1.98
1,182.15	8.55	2.09
1,182.16	8.68	2.21
1,182.17	8.80	2.32
1,182.18	8.92	2.44
1,182.19	9.04	2.56
1,182.20	9.15	2.68
1,182.21	9.26	2.81
1,182.22	9.37	2.93
1,182.23	9.48	3.06
1,182.24	9.58	3.19
1,182.25	9.68	3.32
1,182.26	9.78	3.45
1,182.27	9.87	3.58
1,182.28	9.97	3.71
1,182.29	10.06	3.85
1,182.30	10.14	3.98
1,182.31	10.23	4.12
1,182.32	10.31	4.26
1,182.33	10.39	4.39
1,182.34	10.47	4.53
1,182.35	10.54	4.67
1,182.36	10.61	4.80
1,182.37	10.68	4.94
1,182.38	10.75	5.08
1,182.39	10.82	5.22
1,182.40	10.88	5.35
1,182.41	10.94	5.49
1,182.42	10.99	5.62
1,182.43	11.05	5.76
1,182.44	11.10	5.89
1,182.45	11.15	6.03
1,182.46	11.20	6.16
1,182.47	11.24	6.29
1,182.48	11.28	6.42
1,182.49	11.32	6.54
1,182.50	11.36	6.67
1,182.51	11.39	6.79
1,182.52	11.42	6.91
1,182.53	11.45	7.03
1,182.54	11.48	7.15
1,182.55	11.50	7.26
1,182.56	11.52	7.38
1,182.57	11.53	7.48
1,182.58	11.55	7.59
1,182.59	11.55	7.69
1,182.60	11.56	7.79
1,182.61	**11.56**	7.88
1,182.62	11.56	7.97
1,182.63	11.56	8.05
1,182.64	11.55	8.13
1,182.65	11.54	8.21
1,182.66	11.52	8.28
1,182.67	11.50	8.34
1,182.68	11.47	8.40
1,182.69	11.44	8.45
1,182.70	11.40	8.49
1,182.71	11.36	8.53
1,182.72	11.31	8.55
1,182.73	11.25	8.57
1,182.74	11.19	**8.57**
1,182.75	11.11	8.56
1,182.76	11.02	8.54
1,182.77	10.91	8.49
1,182.78	10.77	8.42
1,182.79	10.59	8.30
1,182.80	10.14	7.97

Summary for Reach DCB16: TO DMH#15

Inflow Area = 0.130 ac, 91.39% Impervious, Inflow Depth = 4.04" for 10-Year event
Inflow = 0.56 cfs @ 12.07 hrs, Volume= 0.044 af
Outflow = 0.55 cfs @ 12.08 hrs, Volume= 0.044 af, Atten= 1%, Lag= 0.3 min

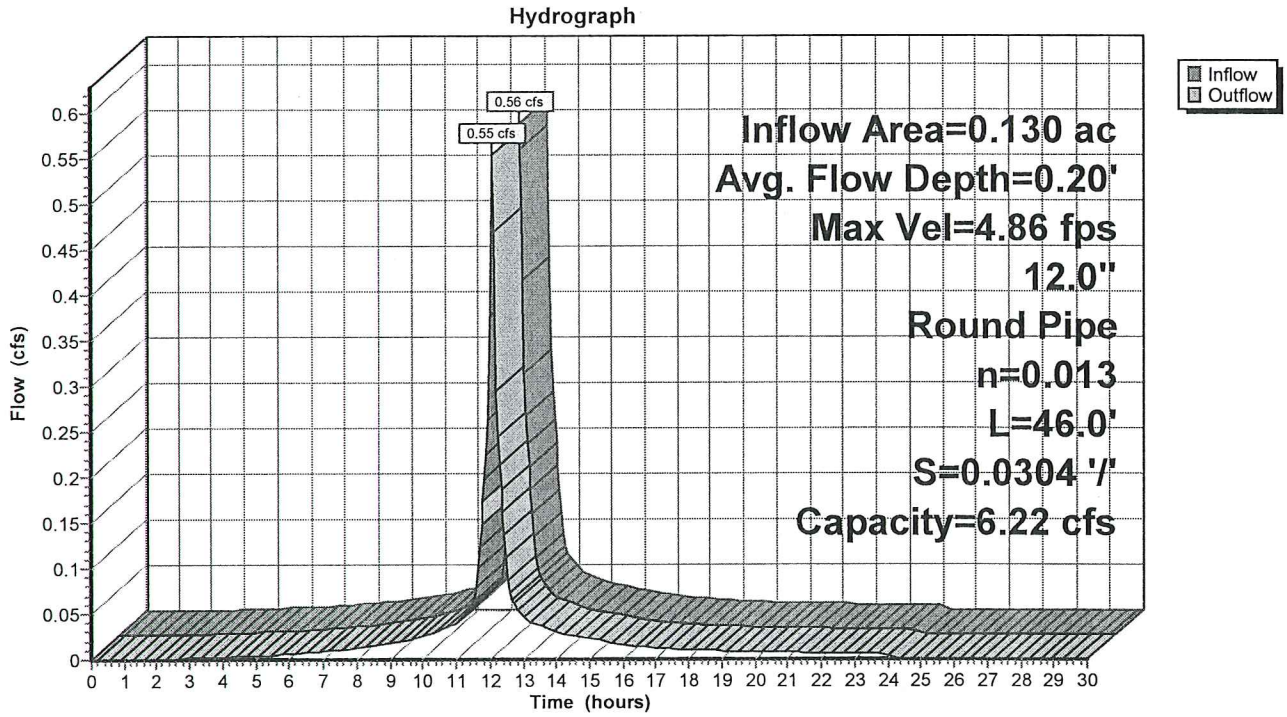
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.86 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.60 fps, Avg. Travel Time= 0.5 min

Peak Storage= 5 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.20'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.22 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 46.0' Slope= 0.0304 '/'
Inlet Invert= 1,181.70', Outlet Invert= 1,180.30'



Reach DCB16: TO DMH#15



Stage-Discharge for Reach DCB16: TO DMH#15

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,181.70	0.00	0.00
1,181.71	0.70	0.00
1,181.72	1.11	0.00
1,181.73	1.46	0.01
1,181.74	1.76	0.02
1,181.75	2.03	0.03
1,181.76	2.29	0.04
1,181.77	2.53	0.06
1,181.78	2.75	0.08
1,181.79	2.97	0.10
1,181.80	3.17	0.13
1,181.81	3.37	0.16
1,181.82	3.56	0.19
1,181.83	3.74	0.22
1,181.84	3.92	0.26
1,181.85	4.09	0.30
1,181.86	4.25	0.35
1,181.87	4.41	0.39
1,181.88	4.57	0.44
1,181.89	4.72	0.49
1,181.90	4.87	0.54
1,181.91	5.01	0.60
1,181.92	5.15	0.66
1,181.93	5.28	0.72
1,181.94	5.42	0.79
1,181.95	5.54	0.85
1,181.96	5.67	0.92
1,181.97	5.79	0.99
1,181.98	5.91	1.06
1,181.99	6.03	1.14
1,182.00	6.14	1.22
1,182.01	6.25	1.30
1,182.02	6.36	1.38
1,182.03	6.47	1.46
1,182.04	6.57	1.55
1,182.05	6.67	1.63
1,182.06	6.77	1.72
1,182.07	6.87	1.81
1,182.08	6.96	1.91
1,182.09	7.05	2.00
1,182.10	7.14	2.09
1,182.11	7.23	2.19
1,182.12	7.31	2.29
1,182.13	7.39	2.39
1,182.14	7.47	2.49
1,182.15	7.55	2.59
1,182.16	7.63	2.69
1,182.17	7.70	2.79
1,182.18	7.78	2.90
1,182.19	7.85	3.00
1,182.20	7.91	3.11
1,182.21	7.98	3.21
1,182.22	8.04	3.32
1,182.23	8.11	3.43
1,182.24	8.17	3.53
1,182.25	8.22	3.64
1,182.26	8.28	3.75
1,182.27	8.34	3.85
1,182.28	8.39	3.96
1,182.29	8.44	4.07
1,182.30	8.49	4.18
1,182.31	8.53	4.28
1,182.32	8.58	4.39
1,182.33	8.62	4.49
1,182.34	8.66	4.60
1,182.35	8.70	4.70
1,182.36	8.74	4.80
1,182.37	8.77	4.91
1,182.38	8.80	5.01
1,182.39	8.83	5.11
1,182.40	8.86	5.20
1,182.41	8.89	5.30
1,182.42	8.91	5.39
1,182.43	8.93	5.49
1,182.44	8.95	5.58
1,182.45	8.97	5.67
1,182.46	8.98	5.75
1,182.47	9.00	5.84
1,182.48	9.01	5.92
1,182.49	9.01	6.00
1,182.50	9.02	6.08
1,182.51	**9.02**	6.15
1,182.52	9.02	6.22
1,182.53	9.02	6.28
1,182.54	9.01	6.35
1,182.55	9.00	6.40
1,182.56	8.99	6.46
1,182.57	8.97	6.51
1,182.58	8.95	6.55
1,182.59	8.93	6.59
1,182.60	8.90	6.62
1,182.61	8.86	6.65
1,182.62	8.82	6.67
1,182.63	8.78	6.68
1,182.64	8.73	**6.69**
1,182.65	8.67	6.68
1,182.66	8.59	6.66
1,182.67	8.51	6.62
1,182.68	8.40	6.57
1,182.69	8.26	6.48
1,182.70	7.91	6.22

Summary for Reach DCB17: TO DMH#15

Inflow Area = 0.137 ac, 89.42% Impervious, Inflow Depth = 3.92" for 10-Year event
Inflow = 0.59 cfs @ 12.07 hrs, Volume= 0.045 af
Outflow = 0.59 cfs @ 12.07 hrs, Volume= 0.045 af, Atten= 0%, Lag= 0.0 min

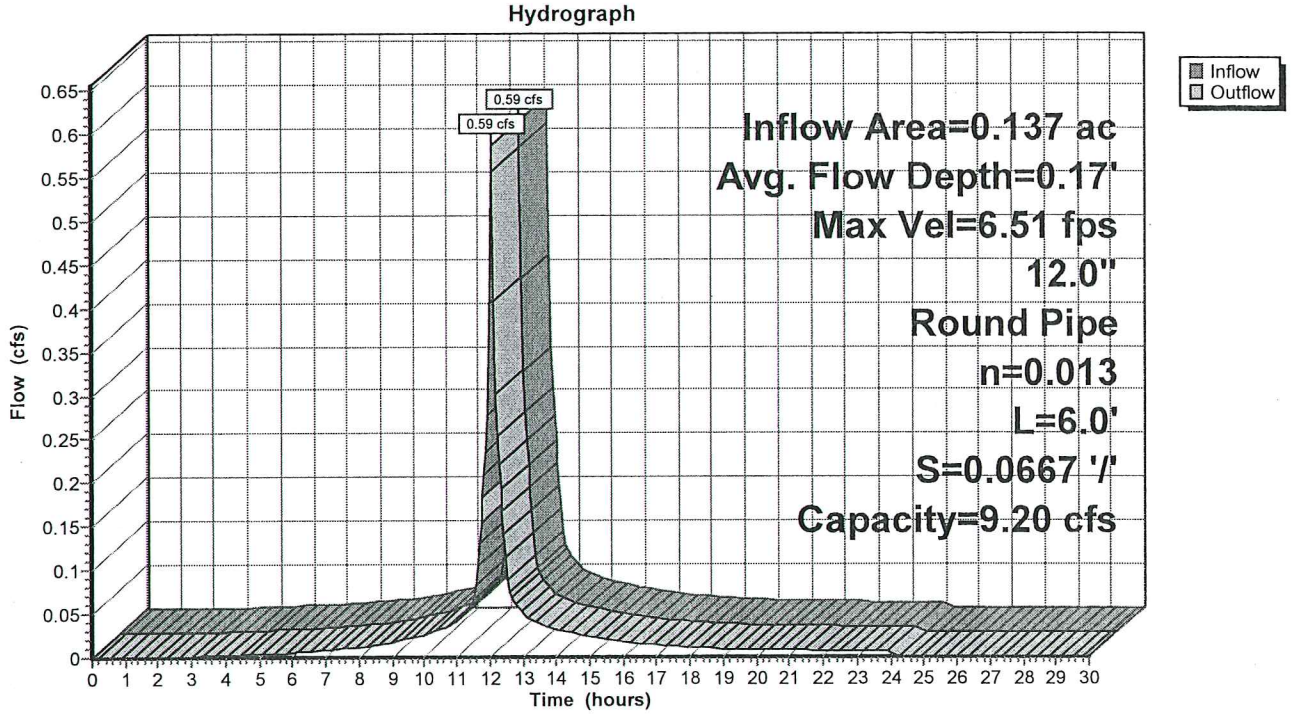
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.51 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.13 fps, Avg. Travel Time= 0.0 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.17'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 9.20 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 6.0' Slope= 0.0667 '/'
Inlet Invert= 1,180.80', Outlet Invert= 1,180.40'



Reach DCB17: TO DMH#15



Stage-Discharge for Reach DCB17: TO DMH#15

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.80	0.00	0.00
1,180.81	1.04	0.00
1,180.82	1.65	0.01
1,180.83	2.15	0.01
1,180.84	2.60	0.03
1,180.85	3.01	0.04
1,180.86	3.39	0.07
1,180.87	3.74	0.09
1,180.88	4.08	0.12
1,180.89	4.39	0.15
1,180.90	4.70	0.19
1,180.91	4.99	0.23
1,180.92	5.27	0.28
1,180.93	5.54	0.33
1,180.94	5.80	0.39
1,180.95	6.05	0.45
1,180.96	6.30	0.51
1,180.97	6.53	0.58
1,180.98	6.76	0.65
1,180.99	6.99	0.73
1,181.00	7.20	0.81
1,181.01	7.42	0.89
1,181.02	7.62	0.98
1,181.03	7.82	1.07
1,181.04	8.02	1.16
1,181.05	8.21	1.26
1,181.06	8.39	1.36
1,181.07	8.57	1.47
1,181.08	8.75	1.58
1,181.09	8.92	1.69
1,181.10	9.09	1.80
1,181.11	9.25	1.92
1,181.12	9.42	2.04
1,181.13	9.57	2.16
1,181.14	9.72	2.29
1,181.15	9.87	2.42
1,181.16	10.02	2.55
1,181.17	10.16	2.68
1,181.18	10.30	2.82
1,181.19	10.43	2.96
1,181.20	10.57	3.10
1,181.21	10.70	3.24
1,181.22	10.82	3.39
1,181.23	10.94	3.53
1,181.24	11.06	3.68
1,181.25	11.18	3.83
1,181.26	11.29	3.98
1,181.27	11.40	4.14
1,181.28	11.51	4.29
1,181.29	11.61	4.44
1,181.30	11.71	4.60
1,181.31	11.81	4.76
1,181.32	11.91	4.91
1,181.33	12.00	5.07
1,181.34	12.09	5.23
1,181.35	12.17	5.39
1,181.36	12.26	5.55
1,181.37	12.34	5.71
1,181.38	12.41	5.86
1,181.39	12.49	6.02
1,181.40	12.56	6.18
1,181.41	12.63	6.34
1,181.42	12.70	6.49
1,181.43	12.76	6.65
1,181.44	12.82	6.80
1,181.45	12.88	6.96
1,181.46	12.93	7.11
1,181.47	12.98	7.26
1,181.48	13.03	7.41
1,181.49	13.07	7.56
1,181.50	13.12	7.70
1,181.51	13.15	7.84
1,181.52	13.19	7.98
1,181.53	13.22	8.12
1,181.54	13.25	8.26
1,181.55	13.28	8.39
1,181.56	13.30	8.52
1,181.57	13.32	8.64
1,181.58	13.33	8.76
1,181.59	13.34	8.88
1,181.60	13.35	8.99
1,181.61	**13.35**	9.10
1,181.62	13.35	9.20
1,181.63	13.35	9.30
1,181.64	13.34	9.39
1,181.65	13.32	9.48
1,181.66	13.30	9.56
1,181.67	13.28	9.63
1,181.68	13.25	9.70
1,181.69	13.21	9.76
1,181.70	13.17	9.80
1,181.71	13.12	9.84
1,181.72	13.06	9.87
1,181.73	12.99	9.89
1,181.74	12.92	**9.90**
1,181.75	12.83	9.88
1,181.76	12.72	9.86
1,181.77	12.59	9.80
1,181.78	12.44	9.72
1,181.79	12.22	9.59
1,181.80	11.71	9.20

Summary for Reach DCB18: TO DMH#15

Inflow Area = 0.545 ac, 84.68% Impervious, Inflow Depth = 3.82" for 10-Year event
Inflow = 2.30 cfs @ 12.07 hrs, Volume= 0.173 af
Outflow = 2.29 cfs @ 12.07 hrs, Volume= 0.173 af, Atten= 0%, Lag= 0.1 min

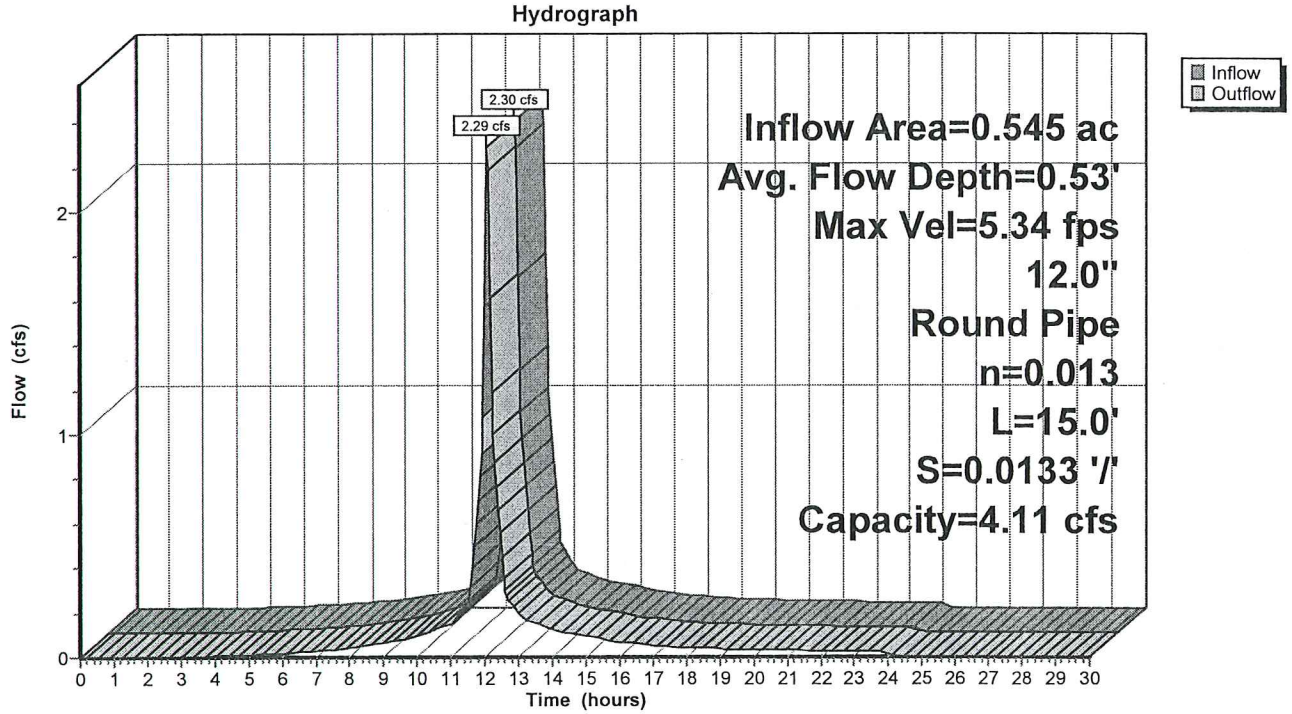
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.34 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.81 fps, Avg. Travel Time= 0.1 min

Peak Storage= 6 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.53'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.11 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 15.0' Slope= 0.0133 '/'
Inlet Invert= 1,180.50', Outlet Invert= 1,180.30'



Reach DCB18: TO DMH#15



Stage-Discharge for Reach DCB18: TO DMH#15

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.50	0.00	0.00
1,180.51	0.47	0.00
1,180.52	0.74	0.00
1,180.53	0.96	0.01
1,180.54	1.16	0.01
1,180.55	1.35	0.02
1,180.56	1.51	0.03
1,180.57	1.67	0.04
1,180.58	1.82	0.05
1,180.59	1.97	0.07
1,180.60	2.10	0.09
1,180.61	2.23	0.10
1,180.62	2.36	0.13
1,180.63	2.48	0.15
1,180.64	2.59	0.17
1,180.65	2.71	0.20
1,180.66	2.82	0.23
1,180.67	2.92	0.26
1,180.68	3.02	0.29
1,180.69	3.12	0.32
1,180.70	3.22	0.36
1,180.71	3.32	0.40
1,180.72	3.41	0.44
1,180.73	3.50	0.48
1,180.74	3.59	0.52
1,180.75	3.67	0.56
1,180.76	3.75	0.61
1,180.77	3.83	0.66
1,180.78	3.91	0.70
1,180.79	3.99	0.75
1,180.80	4.07	0.81
1,180.81	4.14	0.86
1,180.82	4.21	0.91
1,180.83	4.28	0.97
1,180.84	4.35	1.02
1,180.85	4.42	1.08
1,180.86	4.48	1.14
1,180.87	4.54	1.20
1,180.88	4.61	1.26
1,180.89	4.67	1.32
1,180.90	4.73	1.39
1,180.91	4.78	1.45
1,180.92	4.84	1.51
1,180.93	4.89	1.58
1,180.94	4.95	1.65
1,180.95	5.00	1.71
1,180.96	5.05	1.78
1,180.97	5.10	1.85
1,180.98	5.15	1.92
1,180.99	5.19	1.99
1,181.00	5.24	2.06
1,181.01	5.28	2.13
1,181.02	5.32	2.20
1,181.03	5.37	2.27
1,181.04	5.41	2.34
1,181.05	5.44	2.41
1,181.06	5.48	2.48
1,181.07	5.52	2.55
1,181.08	5.55	2.62
1,181.09	5.59	2.69
1,181.10	5.62	2.76
1,181.11	5.65	2.83
1,181.12	5.68	2.90
1,181.13	5.71	2.97
1,181.14	5.73	3.04
1,181.15	5.76	3.11
1,181.16	5.78	3.18
1,181.17	5.81	3.25
1,181.18	5.83	3.31
1,181.19	5.85	3.38
1,181.20	5.87	3.44
1,181.21	5.88	3.51
1,181.22	5.90	3.57
1,181.23	5.91	3.63
1,181.24	5.93	3.69
1,181.25	5.94	3.75
1,181.26	5.95	3.81
1,181.27	5.96	3.86
1,181.28	5.96	3.92
1,181.29	5.97	3.97
1,181.30	5.97	4.02
1,181.31	**5.97**	4.07
1,181.32	5.97	4.12
1,181.33	5.97	4.16
1,181.34	5.96	4.20
1,181.35	5.96	4.24
1,181.36	5.95	4.27
1,181.37	5.94	4.31
1,181.38	5.92	4.34
1,181.39	5.91	4.36
1,181.40	5.89	4.38
1,181.41	5.87	4.40
1,181.42	5.84	4.42
1,181.43	5.81	4.42
1,181.44	5.78	**4.43**
1,181.45	5.74	4.42
1,181.46	5.69	4.41
1,181.47	5.63	4.38
1,181.48	5.56	4.35
1,181.49	5.47	4.29
1,181.50	5.24	4.11

Summary for Reach DCB19: TO DMH#16

Inflow Area = 0.144 ac, 89.61% Impervious, Inflow Depth = 4.04" for 10-Year event
Inflow = 0.63 cfs @ 12.07 hrs, Volume= 0.049 af
Outflow = 0.62 cfs @ 12.07 hrs, Volume= 0.049 af, Atten= 0%, Lag= 0.0 min

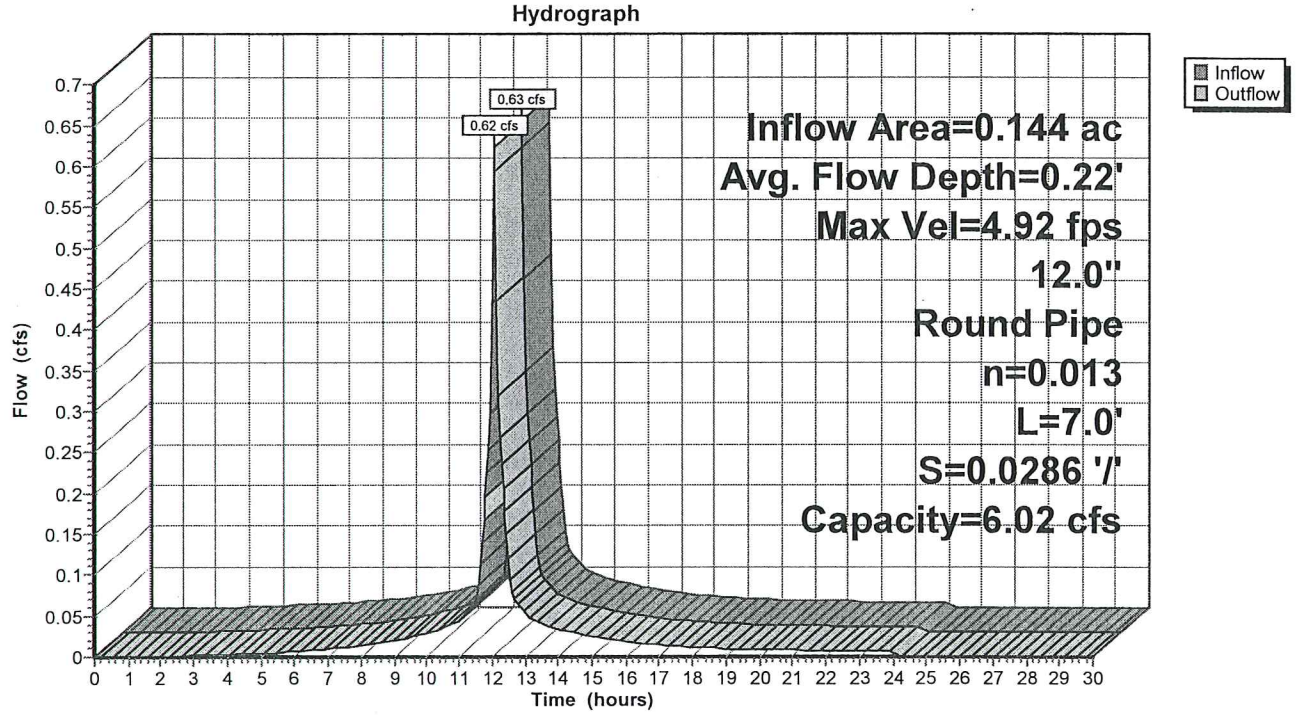
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.92 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.61 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.22'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.02 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 7.0' Slope= 0.0286 '/'
Inlet Invert= 1,181.50', Outlet Invert= 1,181.30'



Reach DCB19: TO DMH#16



Stage-Discharge for Reach DCB19: TO DMH#16

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,181.50	0.00	0.00
1,181.51	0.68	0.00
1,181.52	1.08	0.00
1,181.53	1.41	0.01
1,181.54	1.70	0.02
1,181.55	1.97	0.03
1,181.56	2.22	0.04
1,181.57	2.45	0.06
1,181.58	2.67	0.08
1,181.59	2.88	0.10
1,181.60	3.08	0.13
1,181.61	3.27	0.15
1,181.62	3.45	0.18
1,181.63	3.63	0.22
1,181.64	3.80	0.25
1,181.65	3.96	0.29
1,181.66	4.12	0.33
1,181.67	4.28	0.38
1,181.68	4.43	0.43
1,181.69	4.57	0.48
1,181.70	4.72	0.53
1,181.71	4.85	0.58
1,181.72	4.99	0.64
1,181.73	5.12	0.70
1,181.74	5.25	0.76
1,181.75	5.37	0.82
1,181.76	5.49	0.89
1,181.77	5.61	0.96
1,181.78	5.73	1.03
1,181.79	5.84	1.10
1,181.80	5.95	1.18
1,181.81	6.06	1.26
1,181.82	6.16	1.34
1,181.83	6.27	1.42
1,181.84	6.37	1.50
1,181.85	6.46	1.58
1,181.86	6.56	1.67
1,181.87	6.65	1.76
1,181.88	6.74	1.85
1,181.89	6.83	1.94
1,181.90	6.92	2.03
1,181.91	7.00	2.12
1,181.92	7.08	2.22
1,181.93	7.16	2.31
1,181.94	7.24	2.41
1,181.95	7.32	2.51
1,181.96	7.39	2.61
1,181.97	7.46	2.71
1,181.98	7.53	2.81
1,181.99	7.60	2.91
1,182.00	7.67	3.01
1,182.01	7.73	3.11
1,182.02	7.79	3.22
1,182.03	7.85	3.32
1,182.04	7.91	3.42
1,182.05	7.97	3.53
1,182.06	8.02	3.63
1,182.07	8.08	3.74
1,182.08	8.13	3.84
1,182.09	8.18	3.94
1,182.10	8.22	4.05
1,182.11	8.27	4.15
1,182.12	8.31	4.25
1,182.13	8.35	4.35
1,182.14	8.39	4.45
1,182.15	8.43	4.56
1,182.16	8.46	4.65
1,182.17	8.50	4.75
1,182.18	8.53	4.85
1,182.19	8.56	4.95
1,182.20	8.59	5.04
1,182.21	8.61	5.14
1,182.22	8.63	5.23
1,182.23	8.66	5.32
1,182.24	8.67	5.41
1,182.25	8.69	5.49
1,182.26	8.71	5.58
1,182.27	8.72	5.66
1,182.28	8.73	5.74
1,182.29	8.73	5.81
1,182.30	8.74	5.89
1,182.31	**8.74**	5.96
1,182.32	8.74	6.02
1,182.33	8.74	6.09
1,182.34	8.73	6.15
1,182.35	8.72	6.21
1,182.36	8.71	6.26
1,182.37	8.69	6.31
1,182.38	8.67	6.35
1,182.39	8.65	6.39
1,182.40	8.62	6.42
1,182.41	8.59	6.44
1,182.42	8.55	6.46
1,182.43	8.51	6.48
1,182.44	8.46	**6.48**
1,182.45	8.40	6.47
1,182.46	8.33	6.45
1,182.47	8.24	6.42
1,182.48	8.14	6.36
1,182.49	8.00	6.27
1,182.50	7.67	6.02

Summary for Reach DCB2: TO DMH#1

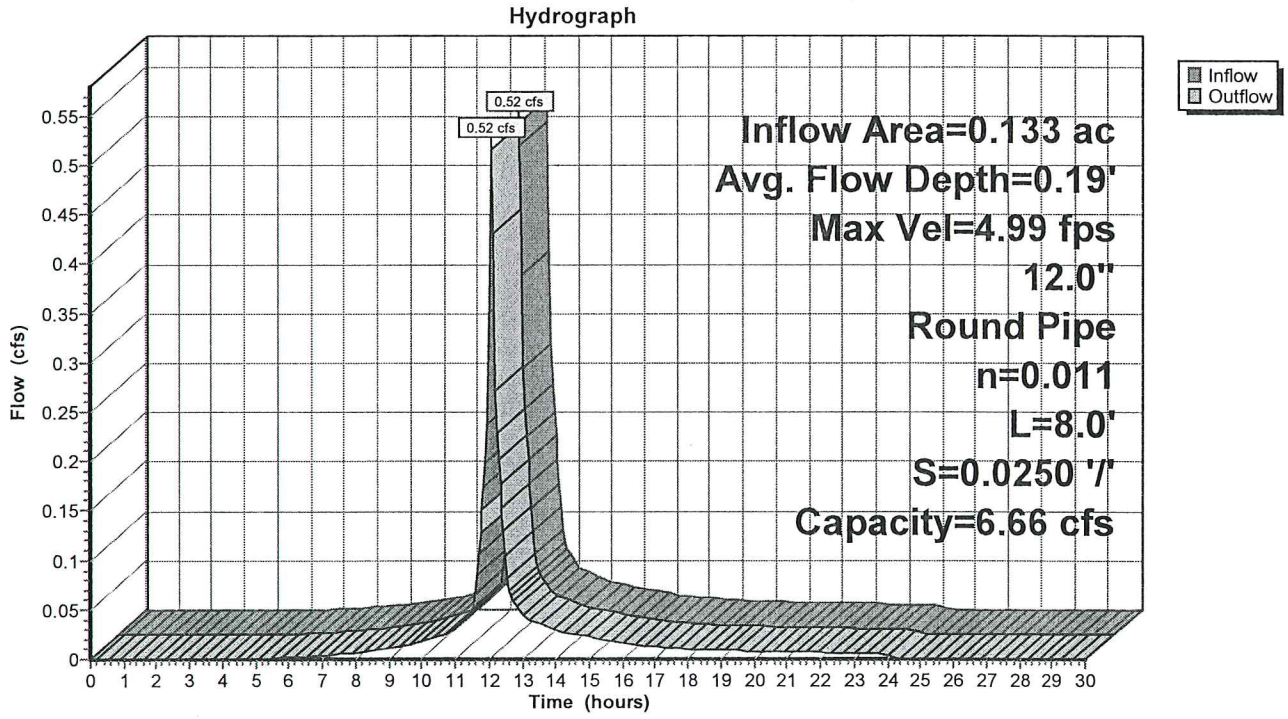
Inflow Area = 0.133 ac, 68.40% Impervious, Inflow Depth = 3.40" for 10-Year event
Inflow = 0.52 cfs @ 12.07 hrs, Volume= 0.038 af
Outflow = 0.52 cfs @ 12.07 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.99 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.66 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.19'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.66 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 8.0' Slope= 0.0250 '/'
Inlet Invert= 1,175.50', Outlet Invert= 1,175.30'





Stage-Discharge for Reach DCB2: TO DMH#1

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.50	0.00	0.00
1,175.51	0.75	0.00
1,175.52	1.19	0.00
1,175.53	1.56	0.01
1,175.54	1.88	0.02
1,175.55	2.18	0.03
1,175.56	2.45	0.05
1,175.57	2.71	0.07
1,175.58	2.95	0.09
1,175.59	3.18	0.11
1,175.60	3.40	0.14
1,175.61	3.61	0.17
1,175.62	3.81	0.20
1,175.63	4.01	0.24
1,175.64	4.20	0.28
1,175.65	4.38	0.32
1,175.66	4.56	0.37
1,175.67	4.73	0.42
1,175.68	4.89	0.47
1,175.69	5.06	0.53
1,175.70	5.21	0.58
1,175.71	5.37	0.64
1,175.72	5.52	0.71
1,175.73	5.66	0.77
1,175.74	5.80	0.84
1,175.75	5.94	0.91
1,175.76	6.07	0.99
1,175.77	6.20	1.06
1,175.78	6.33	1.14
1,175.79	6.46	1.22
1,175.80	6.58	1.30
1,175.81	6.70	1.39
1,175.82	6.81	1.48
1,175.83	6.93	1.57
1,175.84	7.04	1.66
1,175.85	7.15	1.75
1,175.86	7.25	1.85
1,175.87	7.35	1.94
1,175.88	7.45	2.04
1,175.89	7.55	2.14
1,175.90	7.65	2.24
1,175.91	7.74	2.35
1,175.92	7.83	2.45
1,175.93	7.92	2.56
1,175.94	8.01	2.66
1,175.95	8.09	2.77
1,175.96	8.17	2.88
1,175.97	8.25	2.99
1,175.98	8.33	3.10
1,175.99	8.40	3.22
1,176.00	8.48	3.33
1,176.01	8.55	3.44
1,176.02	8.62	3.56
1,176.03	8.68	3.67
1,176.04	8.75	3.78
1,176.05	8.81	3.90
1,176.06	8.87	4.01
1,176.07	8.93	4.13
1,176.08	8.98	4.24
1,176.09	9.04	4.36
1,176.10	9.09	4.47
1,176.11	9.14	4.59
1,176.12	9.19	4.70
1,176.13	9.23	4.81
1,176.14	9.28	4.92
1,176.15	9.32	5.04
1,176.16	9.36	5.15
1,176.17	9.39	5.25
1,176.18	9.43	5.36
1,176.19	9.46	5.47
1,176.20	9.49	5.57
1,176.21	9.52	5.68
1,176.22	9.55	5.78
1,176.23	9.57	5.88
1,176.24	9.59	5.98
1,176.25	9.61	6.07
1,176.26	9.62	6.16
1,176.27	9.64	6.25
1,176.28	9.65	6.34
1,176.29	9.66	6.43
1,176.30	9.66	6.51
1,176.31	**9.66**	6.59
1,176.32	9.66	6.66
1,176.33	9.66	6.73
1,176.34	9.65	6.80
1,176.35	9.64	6.86
1,176.36	9.63	6.92
1,176.37	9.61	6.97
1,176.38	9.59	7.02
1,176.39	9.56	7.06
1,176.40	9.53	7.10
1,176.41	9.49	7.12
1,176.42	9.45	7.15
1,176.43	9.40	7.16
1,176.44	9.35	**7.16**
1,176.45	9.28	7.15
1,176.46	9.21	7.13
1,176.47	9.11	7.10
1,176.48	9.00	7.03
1,176.49	8.85	6.94
1,176.50	8.48	6.66

Summary for Reach DCB20: TO DMH#18

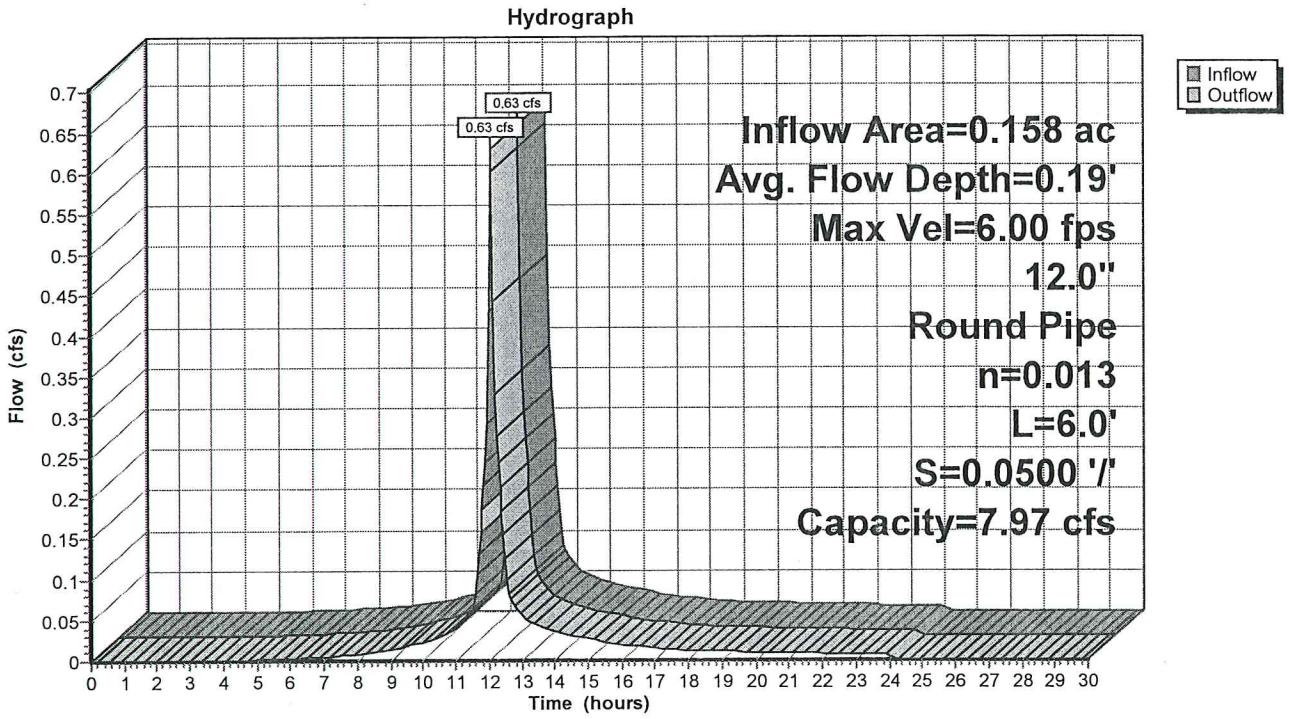
Inflow Area = 0.158 ac, 72.11% Impervious, Inflow Depth = 3.50" for 10-Year event
Inflow = 0.63 cfs @ 12.07 hrs, Volume= 0.046 af
Outflow = 0.63 cfs @ 12.07 hrs, Volume= 0.046 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.99 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.19'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 7.97 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 6.0' Slope= 0.0500 '/'
Inlet Invert= 1,179.60', Outlet Invert= 1,179.30'





Stage-Discharge for Reach DCB20: TO DMH#18

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.60	0.00	0.00
1,179.61	0.90	0.00
1,179.62	1.43	0.01
1,179.63	1.87	0.01
1,179.64	2.25	0.02
1,179.65	2.61	0.04
1,179.66	2.93	0.06
1,179.67	3.24	0.08
1,179.68	3.53	0.10
1,179.69	3.81	0.13
1,179.70	4.07	0.17
1,179.71	4.32	0.20
1,179.72	4.56	0.24
1,179.73	4.80	0.29
1,179.74	5.02	0.34
1,179.75	5.24	0.39
1,179.76	5.45	0.44
1,179.77	5.66	0.50
1,179.78	5.86	0.56
1,179.79	6.05	0.63
1,179.80	6.24	0.70
1,179.81	6.42	0.77
1,179.82	6.60	0.85
1,179.83	6.77	0.92
1,179.84	6.94	1.01
1,179.85	7.11	1.09
1,179.86	7.27	1.18
1,179.87	7.42	1.27
1,179.88	7.58	1.36
1,179.89	7.73	1.46
1,179.90	7.87	1.56
1,179.91	8.01	1.66
1,179.92	8.15	1.77
1,179.93	8.29	1.87
1,179.94	8.42	1.98
1,179.95	8.55	2.09
1,179.96	8.68	2.21
1,179.97	8.80	2.32
1,179.98	8.92	2.44
1,179.99	9.04	2.56
1,180.00	9.15	2.68
1,180.01	9.26	2.81
1,180.02	9.37	2.93
1,180.03	9.48	3.06
1,180.04	9.58	3.19
1,180.05	9.68	3.32
1,180.06	9.78	3.45
1,180.07	9.87	3.58
1,180.08	9.97	3.71
1,180.09	10.06	3.85
1,180.10	10.14	3.98
1,180.11	10.23	4.12
1,180.12	10.31	4.26
1,180.13	10.39	4.39
1,180.14	10.47	4.53
1,180.15	10.54	4.67
1,180.16	10.61	4.80
1,180.17	10.68	4.94
1,180.18	10.75	5.08
1,180.19	10.82	5.22
1,180.20	10.88	5.35
1,180.21	10.94	5.49
1,180.22	10.99	5.62
1,180.23	11.05	5.76
1,180.24	11.10	5.89
1,180.25	11.15	6.03
1,180.26	11.20	6.16
1,180.27	11.24	6.29
1,180.28	11.28	6.42
1,180.29	11.32	6.54
1,180.30	11.36	6.67
1,180.31	11.39	6.79
1,180.32	11.42	6.91
1,180.33	11.45	7.03
1,180.34	11.48	7.15
1,180.35	11.50	7.26
1,180.36	11.52	7.38
1,180.37	11.53	7.48
1,180.38	11.55	7.59
1,180.39	11.55	7.69
1,180.40	11.56	7.79
1,180.41	**11.56**	7.88
1,180.42	11.56	7.97
1,180.43	11.56	8.05
1,180.44	11.55	8.13
1,180.45	11.54	8.21
1,180.46	11.52	8.28
1,180.47	11.50	8.34
1,180.48	11.47	8.40
1,180.49	11.44	8.45
1,180.50	11.40	8.49
1,180.51	11.36	8.53
1,180.52	11.31	8.55
1,180.53	11.25	8.57
1,180.54	11.19	**8.57**
1,180.55	11.11	8.56
1,180.56	11.02	8.54
1,180.57	10.91	8.49
1,180.58	10.77	8.42
1,180.59	10.59	8.30
1,180.60	10.14	7.97

Summary for Reach DCB21: TO DMH#18

Inflow Area = 0.159 ac, 80.93% Impervious, Inflow Depth = 3.71" for 10-Year event
Inflow = 0.66 cfs @ 12.07 hrs, Volume= 0.049 af
Outflow = 0.65 cfs @ 12.07 hrs, Volume= 0.049 af, Atten= 1%, Lag= 0.2 min

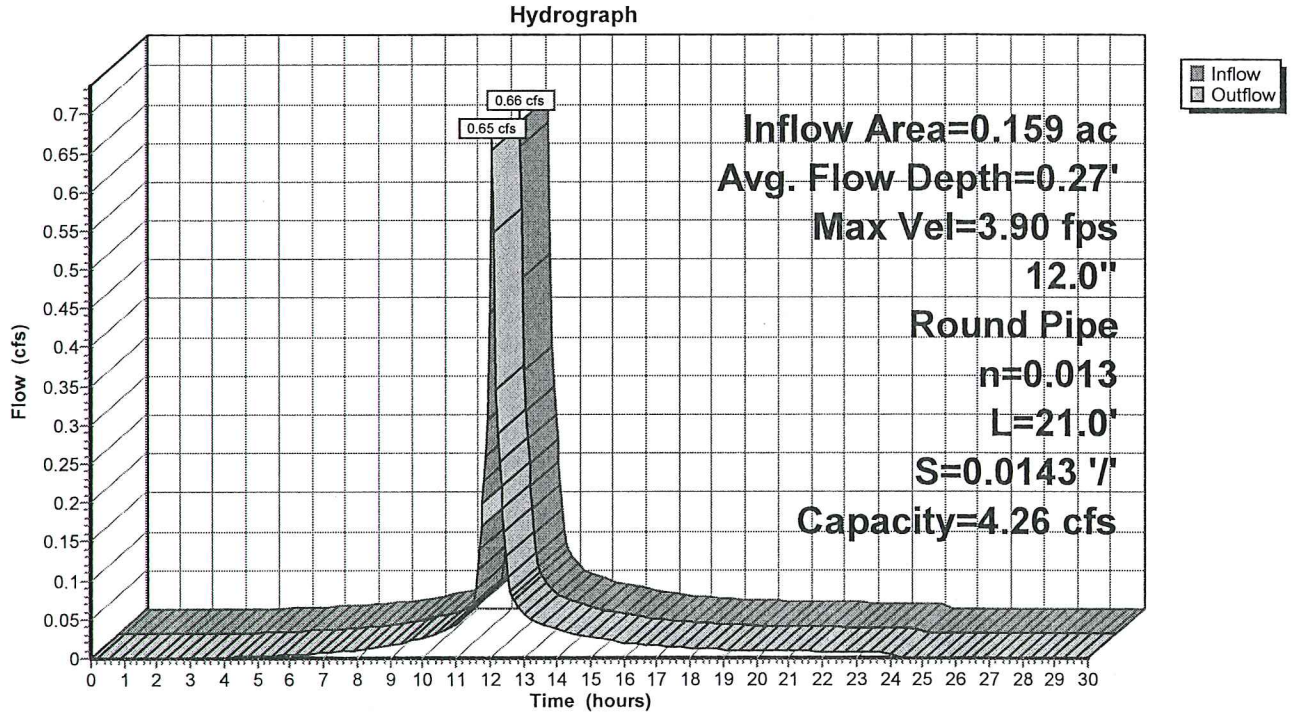
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.90 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.28 fps, Avg. Travel Time= 0.3 min

Peak Storage= 4 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.27'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.26 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 21.0' Slope= 0.0143 '/'
Inlet Invert= 1,179.60', Outlet Invert= 1,179.30'



Reach DCB21: TO DMH#18



Stage-Discharge for Reach DCB21: TO DMH#18

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.60	0.00	0.00
1,179.61	0.48	0.00
1,179.62	0.76	0.00
1,179.63	1.00	0.01
1,179.64	1.20	0.01
1,179.65	1.39	0.02
1,179.66	1.57	0.03
1,179.67	1.73	0.04
1,179.68	1.89	0.06
1,179.69	2.03	0.07
1,179.70	2.18	0.09
1,179.71	2.31	0.11
1,179.72	2.44	0.13
1,179.73	2.56	0.15
1,179.74	2.69	0.18
1,179.75	2.80	0.21
1,179.76	2.92	0.24
1,179.77	3.02	0.27
1,179.78	3.13	0.30
1,179.79	3.23	0.34
1,179.80	3.33	0.37
1,179.81	3.43	0.41
1,179.82	3.53	0.45
1,179.83	3.62	0.49
1,179.84	3.71	0.54
1,179.85	3.80	0.58
1,179.86	3.88	0.63
1,179.87	3.97	0.68
1,179.88	4.05	0.73
1,179.89	4.13	0.78
1,179.90	4.21	0.83
1,179.91	4.28	0.89
1,179.92	4.36	0.94
1,179.93	4.43	1.00
1,179.94	4.50	1.06
1,179.95	4.57	1.12
1,179.96	4.64	1.18
1,179.97	4.70	1.24
1,179.98	4.77	1.31
1,179.99	4.83	1.37
1,180.00	4.89	1.44
1,180.01	4.95	1.50
1,180.02	5.01	1.57
1,180.03	5.07	1.64
1,180.04	5.12	1.70
1,180.05	5.17	1.77
1,180.06	5.23	1.84
1,180.07	5.28	1.91
1,180.08	5.33	1.99
1,180.09	5.38	2.06
1,180.10	5.42	2.13
1,180.11	5.47	2.20
1,180.12	5.51	2.27
1,180.13	5.55	2.35
1,180.14	5.60	2.42
1,180.15	5.64	2.49
1,180.16	5.67	2.57
1,180.17	5.71	2.64
1,180.18	5.75	2.71
1,180.19	5.78	2.79
1,180.20	5.81	2.86
1,180.21	5.85	2.93
1,180.22	5.88	3.01
1,180.23	5.91	3.08
1,180.24	5.93	3.15
1,180.25	5.96	3.22
1,180.26	5.99	3.29
1,180.27	6.01	3.36
1,180.28	6.03	3.43
1,180.29	6.05	3.50
1,180.30	6.07	3.57
1,180.31	6.09	3.63
1,180.32	6.11	3.70
1,180.33	6.12	3.76
1,180.34	6.13	3.82
1,180.35	6.15	3.88
1,180.36	6.16	3.94
1,180.37	6.16	4.00
1,180.38	6.17	4.06
1,180.39	6.18	4.11
1,180.40	6.18	4.16
1,180.41	**6.18**	4.21
1,180.42	6.18	4.26
1,180.43	6.18	4.31
1,180.44	6.17	4.35
1,180.45	6.17	4.39
1,180.46	6.16	4.42
1,180.47	6.15	4.46
1,180.48	6.13	4.49
1,180.49	6.12	4.52
1,180.50	6.10	4.54
1,180.51	6.07	4.56
1,180.52	6.05	4.57
1,180.53	6.01	4.58
1,180.54	5.98	**4.58**
1,180.55	5.94	4.58
1,180.56	5.89	4.56
1,180.57	5.83	4.54
1,180.58	5.76	4.50
1,180.59	5.66	4.44
1,180.60	5.42	4.26

Summary for Reach DCB22: TO DMH#19

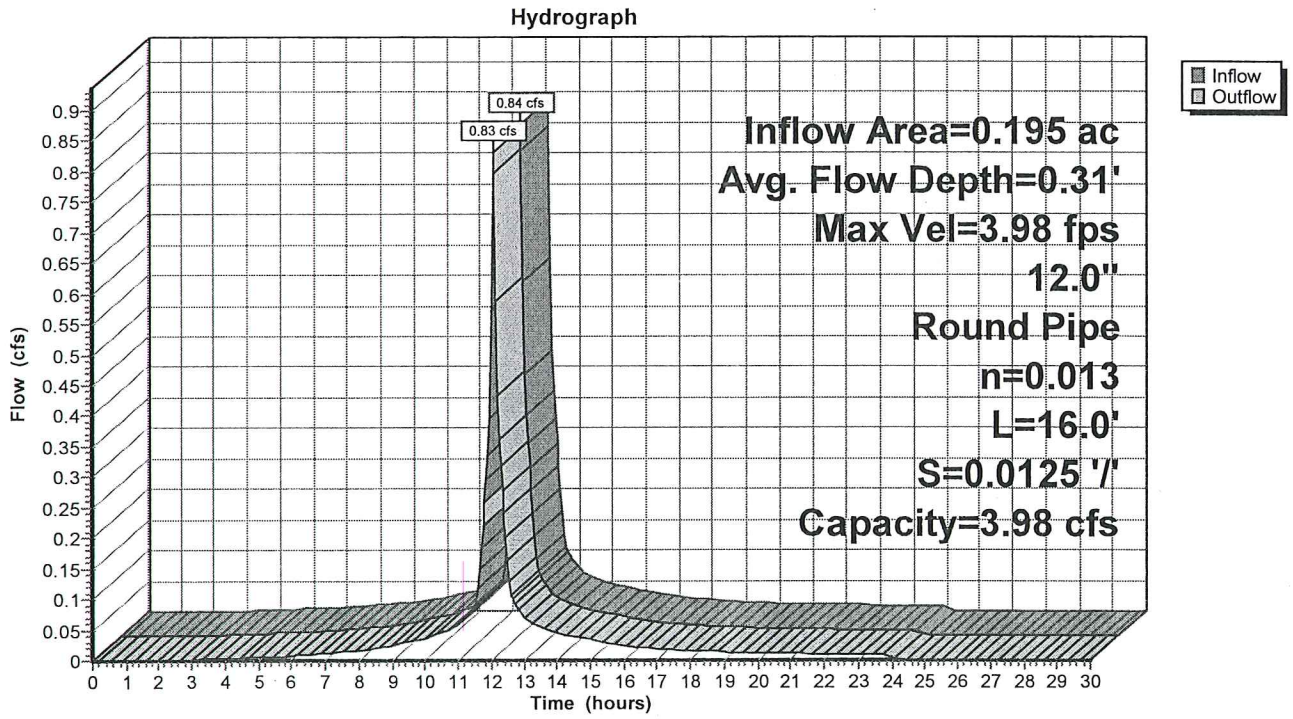
Inflow Area = 0.195 ac, 87.17% Impervious, Inflow Depth = 3.92" for 10-Year event
Inflow = 0.84 cfs @ 12.07 hrs, Volume= 0.064 af
Outflow = 0.83 cfs @ 12.07 hrs, Volume= 0.064 af, Atten= 1%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.98 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.31 fps, Avg. Travel Time= 0.2 min

Peak Storage= 3 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.31'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.98 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 16.0' Slope= 0.0125 '/'
Inlet Invert= 1,178.50', Outlet Invert= 1,178.30'





Stage-Discharge for Reach DCB22: TO DMH#19

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.50	0.00	0.00
1,178.51	0.45	0.00
1,178.52	0.71	0.00
1,178.53	0.93	0.01
1,178.54	1.13	0.01
1,178.55	1.30	0.02
1,178.56	1.47	0.03
1,178.57	1.62	0.04
1,178.58	1.77	0.05
1,178.59	1.90	0.07
1,178.60	2.03	0.08
1,178.61	2.16	0.10
1,178.62	2.28	0.12
1,178.63	2.40	0.14
1,178.64	2.51	0.17
1,178.65	2.62	0.19
1,178.66	2.73	0.22
1,178.67	2.83	0.25
1,178.68	2.93	0.28
1,178.69	3.03	0.31
1,178.70	3.12	0.35
1,178.71	3.21	0.38
1,178.72	3.30	0.42
1,178.73	3.39	0.46
1,178.74	3.47	0.50
1,178.75	3.55	0.55
1,178.76	3.63	0.59
1,178.77	3.71	0.64
1,178.78	3.79	0.68
1,178.79	3.86	0.73
1,178.80	3.94	0.78
1,178.81	4.01	0.83
1,178.82	4.08	0.88
1,178.83	4.14	0.94
1,178.84	4.21	0.99
1,178.85	4.28	1.05
1,178.86	4.34	1.10
1,178.87	4.40	1.16
1,178.88	4.46	1.22
1,178.89	4.52	1.28
1,178.90	4.58	1.34
1,178.91	4.63	1.40
1,178.92	4.69	1.47
1,178.93	4.74	1.53
1,178.94	4.79	1.59
1,178.95	4.84	1.66
1,178.96	4.89	1.72
1,178.97	4.94	1.79
1,178.98	4.98	1.86
1,178.99	5.03	1.92
1,179.00	5.07	1.99
1,179.01	5.11	2.06
1,179.02	5.16	2.13
1,179.03	5.20	2.20
1,179.04	5.23	2.26
1,179.05	5.27	2.33
1,179.06	5.31	2.40
1,179.07	5.34	2.47
1,179.08	5.38	2.54
1,179.09	5.41	2.61
1,179.10	5.44	2.68
1,179.11	5.47	2.74
1,179.12	5.50	2.81
1,179.13	5.52	2.88
1,179.14	5.55	2.95
1,179.15	5.58	3.01
1,179.16	5.60	3.08
1,179.17	5.62	3.14
1,179.18	5.64	3.21
1,179.19	5.66	3.27
1,179.20	5.68	3.33
1,179.21	5.70	3.40
1,179.22	5.71	3.46
1,179.23	5.73	3.52
1,179.24	5.74	3.58
1,179.25	5.75	3.63
1,179.26	5.76	3.69
1,179.27	5.77	3.74
1,179.28	5.77	3.79
1,179.29	5.78	3.84
1,179.30	5.78	3.89
1,179.31	**5.78**	3.94
1,179.32	5.78	3.98
1,179.33	5.78	4.03
1,179.34	5.77	4.07
1,179.35	5.77	4.10
1,179.36	5.76	4.14
1,179.37	5.75	4.17
1,179.38	5.74	4.20
1,179.39	5.72	4.22
1,179.40	5.70	4.25
1,179.41	5.68	4.26
1,179.42	5.66	4.28
1,179.43	5.63	4.28
1,179.44	5.59	**4.28**
1,179.45	5.55	4.28
1,179.46	5.51	4.27
1,179.47	5.45	4.25
1,179.48	5.38	4.21
1,179.49	5.29	4.15
1,179.50	5.07	3.98

Summary for Reach DCB23: TO DMH#19

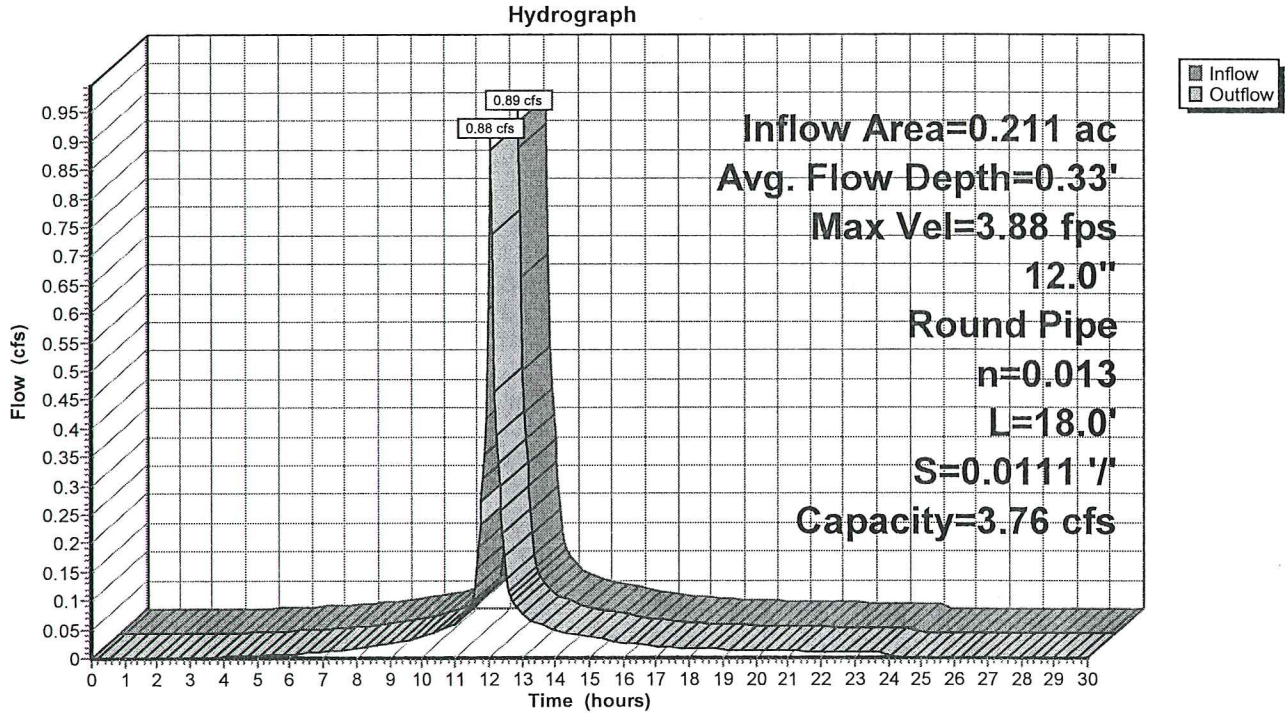
Inflow Area = 0.211 ac, 82.40% Impervious, Inflow Depth = 3.82" for 10-Year event
Inflow = 0.89 cfs @ 12.07 hrs, Volume= 0.067 af
Outflow = 0.88 cfs @ 12.07 hrs, Volume= 0.067 af, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.88 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.28 fps, Avg. Travel Time= 0.2 min

Peak Storage= 4 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.33'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.76 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 18.0' Slope= 0.0111 '/'
Inlet Invert= 1,178.50', Outlet Invert= 1,178.30'





Stage-Discharge for Reach DCB23: TO DMH#19

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.50	0.00	0.00
1,178.51	0.43	0.00
1,178.52	0.67	0.00
1,178.53	0.88	0.01
1,178.54	1.06	0.01
1,178.55	1.23	0.02
1,178.56	1.38	0.03
1,178.57	1.53	0.04
1,178.58	1.66	0.05
1,178.59	1.79	0.06
1,178.60	1.92	0.08
1,178.61	2.04	0.10
1,178.62	2.15	0.11
1,178.63	2.26	0.14
1,178.64	2.37	0.16
1,178.65	2.47	0.18
1,178.66	2.57	0.21
1,178.67	2.67	0.24
1,178.68	2.76	0.27
1,178.69	2.85	0.30
1,178.70	2.94	0.33
1,178.71	3.03	0.36
1,178.72	3.11	0.40
1,178.73	3.19	0.44
1,178.74	3.27	0.47
1,178.75	3.35	0.51
1,178.76	3.43	0.56
1,178.77	3.50	0.60
1,178.78	3.57	0.64
1,178.79	3.64	0.69
1,178.80	3.71	0.74
1,178.81	3.78	0.78
1,178.82	3.84	0.83
1,178.83	3.91	0.88
1,178.84	3.97	0.93
1,178.85	4.03	0.99
1,178.86	4.09	1.04
1,178.87	4.15	1.10
1,178.88	4.20	1.15
1,178.89	4.26	1.21
1,178.90	4.31	1.27
1,178.91	4.37	1.32
1,178.92	4.42	1.38
1,178.93	4.47	1.44
1,178.94	4.52	1.50
1,178.95	4.56	1.56
1,178.96	4.61	1.63
1,178.97	4.65	1.69
1,178.98	4.70	1.75
1,178.99	4.74	1.81
1,179.00	4.78	1.88
1,179.01	4.82	1.94
1,179.02	4.86	2.01
1,179.03	4.90	2.07
1,179.04	4.93	2.13
1,179.05	4.97	2.20
1,179.06	5.00	2.26
1,179.07	5.04	2.33
1,179.08	5.07	2.39
1,179.09	5.10	2.46
1,179.10	5.13	2.52
1,179.11	5.16	2.59
1,179.12	5.18	2.65
1,179.13	5.21	2.71
1,179.14	5.23	2.78
1,179.15	5.26	2.84
1,179.16	5.28	2.90
1,179.17	5.30	2.96
1,179.18	5.32	3.03
1,179.19	5.34	3.09
1,179.20	5.35	3.14
1,179.21	5.37	3.20
1,179.22	5.38	3.26
1,179.23	5.40	3.32
1,179.24	5.41	3.37
1,179.25	5.42	3.42
1,179.26	5.43	3.48
1,179.27	5.44	3.53
1,179.28	5.44	3.58
1,179.29	5.45	3.62
1,179.30	5.45	3.67
1,179.31	**5.45**	3.71
1,179.32	5.45	3.76
1,179.33	5.45	3.80
1,179.34	5.44	3.83
1,179.35	5.44	3.87
1,179.36	5.43	3.90
1,179.37	5.42	3.93
1,179.38	5.41	3.96
1,179.39	5.39	3.98
1,179.40	5.38	4.00
1,179.41	5.36	4.02
1,179.42	5.33	4.03
1,179.43	5.30	4.04
1,179.44	5.27	**4.04**
1,179.45	5.24	4.04
1,179.46	5.19	4.02
1,179.47	5.14	4.00
1,179.48	5.08	3.97
1,179.49	4.99	3.91
1,179.50	4.78	3.76

Summary for Reach DCB3: TO DMH#1

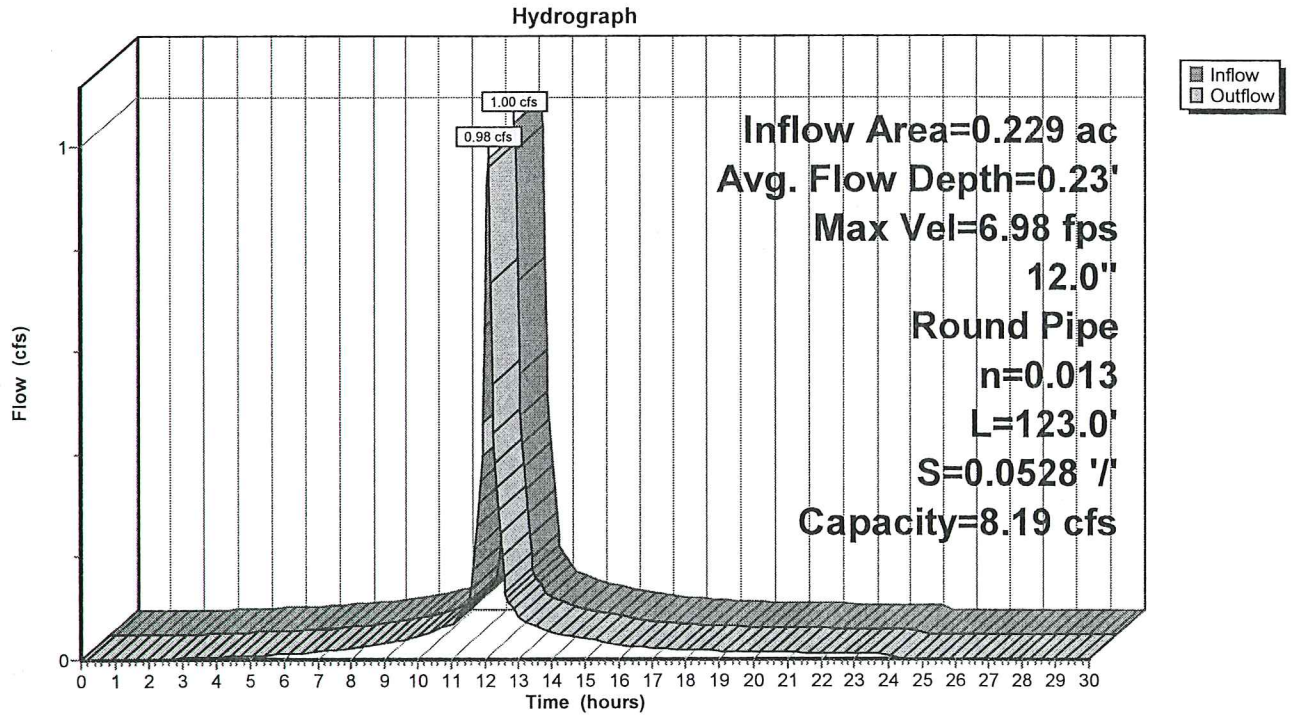
Inflow Area = 0.229 ac, 89.92% Impervious, Inflow Depth = 4.04" for 10-Year event
Inflow = 1.00 cfs @ 12.07 hrs, Volume= 0.077 af
Outflow = 0.98 cfs @ 12.08 hrs, Volume= 0.077 af, Atten= 2%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.98 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.29 fps, Avg. Travel Time= 0.9 min

Peak Storage= 17 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.19 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 123.0' Slope= 0.0528 '/'
Inlet Invert= 1,181.80', Outlet Invert= 1,175.30'





Stage-Discharge for Reach DCB3: TO DMH#1

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,181.80	0.00	0.00
1,181.81	0.93	0.00
1,181.82	1.47	0.01
1,181.83	1.92	0.01
1,181.84	2.32	0.02
1,181.85	2.68	0.04
1,181.86	3.02	0.06
1,181.87	3.33	0.08
1,181.88	3.63	0.11
1,181.89	3.91	0.14
1,181.90	4.18	0.17
1,181.91	4.44	0.21
1,181.92	4.69	0.25
1,181.93	4.93	0.30
1,181.94	5.16	0.35
1,181.95	5.39	0.40
1,181.96	5.61	0.45
1,181.97	5.82	0.52
1,181.98	6.02	0.58
1,181.99	6.22	0.65
1,182.00	6.41	0.72
1,182.01	6.60	0.79
1,182.02	6.79	0.87
1,182.03	6.96	0.95
1,182.04	7.14	1.03
1,182.05	7.31	1.12
1,182.06	7.47	1.21
1,182.07	7.63	1.31
1,182.08	7.79	1.40
1,182.09	7.94	1.50
1,182.10	8.09	1.60
1,182.11	8.24	1.71
1,182.12	8.38	1.82
1,182.13	8.52	1.93
1,182.14	8.66	2.04
1,182.15	8.79	2.15
1,182.16	8.92	2.27
1,182.17	9.05	2.39
1,182.18	9.17	2.51
1,182.19	9.29	2.63
1,182.20	9.41	2.76
1,182.21	9.52	2.89
1,182.22	9.63	3.02
1,182.23	9.74	3.15
1,182.24	9.85	3.28
1,182.25	9.95	3.41
1,182.26	10.05	3.55
1,182.27	10.15	3.68
1,182.28	10.25	3.82
1,182.29	10.34	3.96
1,182.30	10.43	4.10
1,182.31	10.52	4.23
1,182.32	10.60	4.37
1,182.33	10.68	4.52
1,182.34	10.76	4.66
1,182.35	10.84	4.80
1,182.36	10.91	4.94
1,182.37	10.98	5.08
1,182.38	11.05	5.22
1,182.39	11.12	5.36
1,182.40	11.18	5.50
1,182.41	11.24	5.64
1,182.42	11.30	5.78
1,182.43	11.36	5.92
1,182.44	11.41	6.06
1,182.45	11.46	6.20
1,182.46	11.51	6.33
1,182.47	11.56	6.46
1,182.48	11.60	6.60
1,182.49	11.64	6.73
1,182.50	11.68	6.86
1,182.51	11.71	6.98
1,182.52	11.74	7.11
1,182.53	11.77	7.23
1,182.54	11.80	7.35
1,182.55	11.82	7.47
1,182.56	11.84	7.58
1,182.57	11.86	7.69
1,182.58	11.87	7.80
1,182.59	11.88	7.91
1,182.60	11.89	8.01
1,182.61	**11.89**	8.10
1,182.62	11.89	8.19
1,182.63	11.88	8.28
1,182.64	11.87	8.36
1,182.65	11.86	8.44
1,182.66	11.84	8.51
1,182.67	11.82	8.58
1,182.68	11.80	8.63
1,182.69	11.76	8.69
1,182.70	11.72	8.73
1,182.71	11.68	8.76
1,182.72	11.63	8.79
1,182.73	11.57	8.81
1,182.74	11.50	**8.81**
1,182.75	11.42	8.80
1,182.76	11.32	8.77
1,182.77	11.21	8.73
1,182.78	11.07	8.65
1,182.79	10.88	8.53
1,182.80	10.43	8.19

Summary for Reach DCB4: TO DMH#5

Inflow Area = 0.138 ac, 68.08% Impervious, Inflow Depth = 3.40" for 10-Year event
Inflow = 0.54 cfs @ 12.07 hrs, Volume= 0.039 af
Outflow = 0.53 cfs @ 12.08 hrs, Volume= 0.039 af, Atten= 1%, Lag= 0.2 min

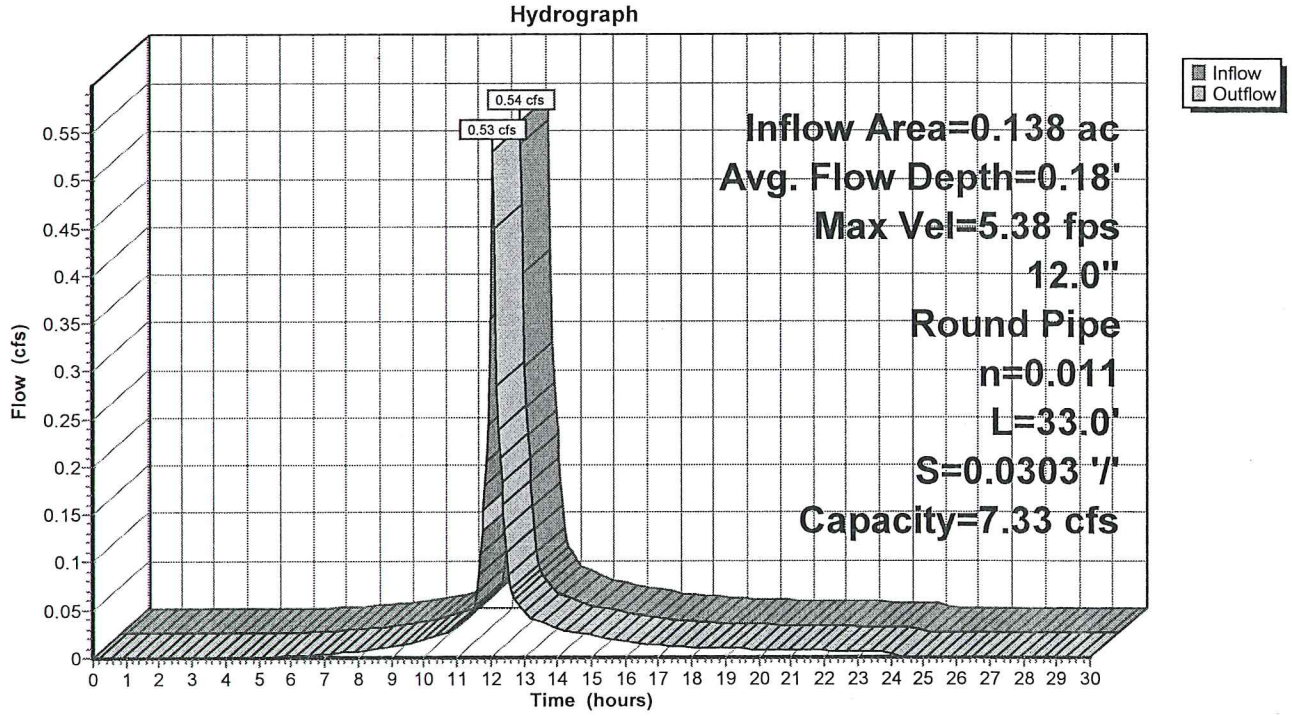
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.38 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.79 fps, Avg. Travel Time= 0.3 min

Peak Storage= 3 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.18'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 7.33 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 33.0' Slope= 0.0303 '/'
Inlet Invert= 1,173.00', Outlet Invert= 1,172.00'



Reach DCB4: TO DMH#5



Stage-Discharge for Reach DCB4: TO DMH#5

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,173.00	0.00	0.00
1,173.01	0.83	0.00
1,173.02	1.31	0.00
1,173.03	1.72	0.01
1,173.04	2.07	0.02
1,173.05	2.40	0.04
1,173.06	2.70	0.05
1,173.07	2.98	0.07
1,173.08	3.25	0.10
1,173.09	3.50	0.12
1,173.10	3.74	0.15
1,173.11	3.98	0.19
1,173.12	4.20	0.22
1,173.13	4.41	0.26
1,173.14	4.62	0.31
1,173.15	4.82	0.36
1,173.16	5.02	0.41
1,173.17	5.21	0.46
1,173.18	5.39	0.52
1,173.19	5.57	0.58
1,173.20	5.74	0.64
1,173.21	5.91	0.71
1,173.22	6.07	0.78
1,173.23	6.23	0.85
1,173.24	6.39	0.93
1,173.25	6.54	1.00
1,173.26	6.69	1.09
1,173.27	6.83	1.17
1,173.28	6.97	1.26
1,173.29	7.11	1.34
1,173.30	7.24	1.44
1,173.31	7.37	1.53
1,173.32	7.50	1.63
1,173.33	7.63	1.72
1,173.34	7.75	1.82
1,173.35	7.87	1.93
1,173.36	7.98	2.03
1,173.37	8.10	2.14
1,173.38	8.21	2.25
1,173.39	8.31	2.36
1,173.40	8.42	2.47
1,173.41	8.52	2.58
1,173.42	8.62	2.70
1,173.43	8.72	2.82
1,173.44	8.81	2.93
1,173.45	8.91	3.05
1,173.46	9.00	3.17
1,173.47	9.08	3.29
1,173.48	9.17	3.42
1,173.49	9.25	3.54
1,173.50	9.33	3.66
1,173.51	9.41	3.79
1,173.52	9.49	3.91
1,173.53	9.56	4.04
1,173.54	9.63	4.17
1,173.55	9.70	4.29
1,173.56	9.77	4.42
1,173.57	9.83	4.55
1,173.58	9.89	4.67
1,173.59	9.95	4.80
1,173.60	10.01	4.92
1,173.61	10.06	5.05
1,173.62	10.12	5.17
1,173.63	10.17	5.30
1,173.64	10.21	5.42
1,173.65	10.26	5.54
1,173.66	10.30	5.67
1,173.67	10.34	5.79
1,173.68	10.38	5.90
1,173.69	10.42	6.02
1,173.70	10.45	6.14
1,173.71	10.48	6.25
1,173.72	10.51	6.36
1,173.73	10.53	6.47
1,173.74	10.56	6.58
1,173.75	10.58	6.68
1,173.76	10.60	6.79
1,173.77	10.61	6.89
1,173.78	10.62	6.98
1,173.79	10.63	7.07
1,173.80	10.64	7.16
1,173.81	**10.64**	7.25
1,173.82	10.64	7.33
1,173.83	10.63	7.41
1,173.84	10.63	7.48
1,173.85	10.61	7.55
1,173.86	10.60	7.62
1,173.87	10.58	7.67
1,173.88	10.56	7.73
1,173.89	10.53	7.77
1,173.90	10.49	7.81
1,173.91	10.45	7.84
1,173.92	10.41	7.87
1,173.93	10.35	7.88
1,173.94	10.29	**7.88**
1,173.95	10.22	7.88
1,173.96	10.13	7.85
1,173.97	10.03	7.81
1,173.98	9.91	7.75
1,173.99	9.74	7.64
1,174.00	9.33	7.33

Summary for Reach DCBG: TO DMH#3

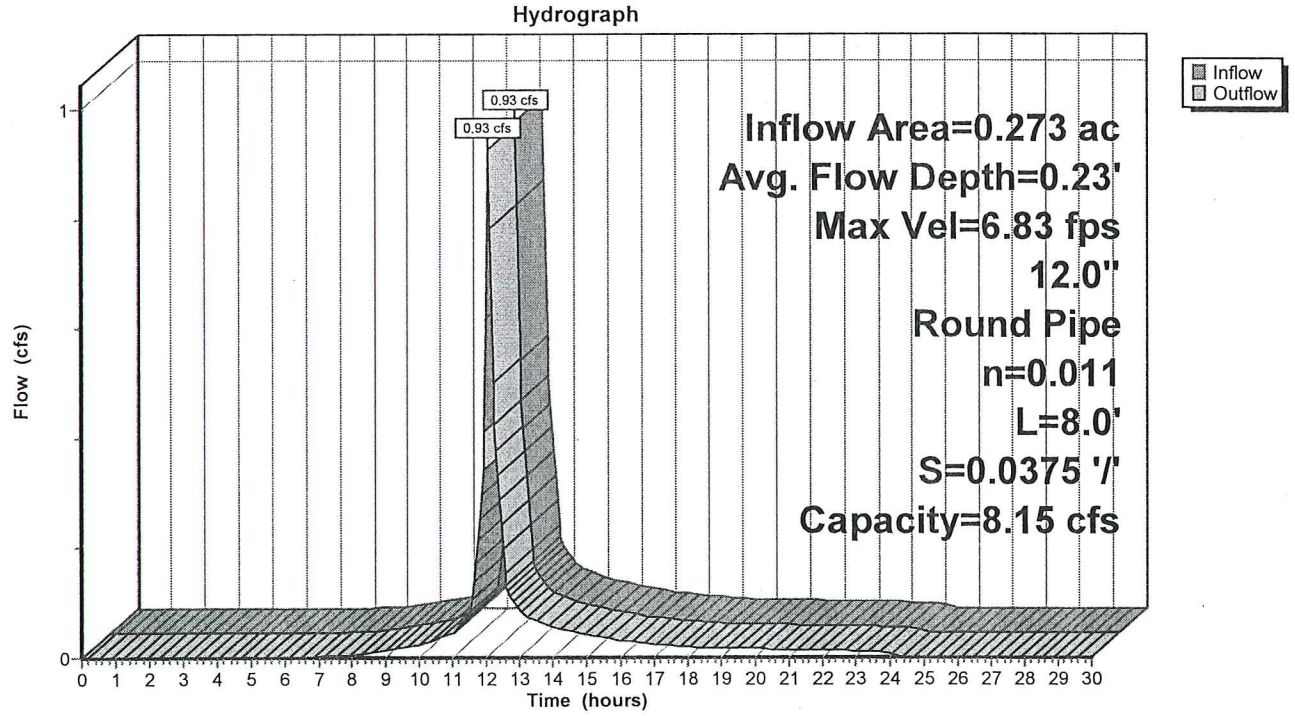
Inflow Area = 0.273 ac, 45.12% Impervious, Inflow Depth = 2.91" for 10-Year event
Inflow = 0.93 cfs @ 12.07 hrs, Volume= 0.066 af
Outflow = 0.93 cfs @ 12.08 hrs, Volume= 0.066 af, Atten= 1%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.83 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.34 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.15 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 8.0' Slope= 0.0375 '/'
Inlet Invert= 1,174.80', Outlet Invert= 1,174.50'





Stage-Discharge for Reach DCBG: TO DMH#3

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,174.80	0.00	0.00
1,174.81	0.92	0.00
1,174.82	1.46	0.01
1,174.83	1.91	0.01
1,174.84	2.31	0.02
1,174.85	2.67	0.04
1,174.86	3.00	0.06
1,174.87	3.32	0.08
1,174.88	3.61	0.11
1,174.89	3.90	0.14
1,174.90	4.16	0.17
1,174.91	4.42	0.21
1,174.92	4.67	0.25
1,174.93	4.91	0.29
1,174.94	5.14	0.34
1,174.95	5.37	0.40
1,174.96	5.58	0.45
1,174.97	5.79	0.51
1,174.98	6.00	0.58
1,174.99	6.19	0.64
1,175.00	6.39	0.71
1,175.01	6.57	0.79
1,175.02	6.75	0.87
1,175.03	6.93	0.95
1,175.04	7.11	1.03
1,175.05	7.27	1.12
1,175.06	7.44	1.21
1,175.07	7.60	1.30
1,175.08	7.76	1.40
1,175.09	7.91	1.50
1,175.10	8.06	1.60
1,175.11	8.20	1.70
1,175.12	8.35	1.81
1,175.13	8.48	1.92
1,175.14	8.62	2.03
1,175.15	8.75	2.14
1,175.16	8.88	2.26
1,175.17	9.01	2.38
1,175.18	9.13	2.50
1,175.19	9.25	2.62
1,175.20	9.37	2.75
1,175.21	9.48	2.87
1,175.22	9.59	3.00
1,175.23	9.70	3.13
1,175.24	9.81	3.26
1,175.25	9.91	3.40
1,175.26	10.01	3.53
1,175.27	10.11	3.67
1,175.28	10.20	3.80
1,175.29	10.29	3.94
1,175.30	10.38	4.08
1,175.31	10.47	4.22
1,175.32	10.55	4.36
1,175.33	10.63	4.49
1,175.34	10.71	4.64
1,175.35	10.79	4.78
1,175.36	10.86	4.92
1,175.37	10.94	5.06
1,175.38	11.00	5.20
1,175.39	11.07	5.34
1,175.40	11.13	5.48
1,175.41	11.19	5.62
1,175.42	11.25	5.76
1,175.43	11.31	5.89
1,175.44	11.36	6.03
1,175.45	11.41	6.17
1,175.46	11.46	6.30
1,175.47	11.51	6.44
1,175.48	11.55	6.57
1,175.49	11.59	6.70
1,175.50	11.63	6.83
1,175.51	11.66	6.95
1,175.52	11.69	7.08
1,175.53	11.72	7.20
1,175.54	11.74	7.32
1,175.55	11.77	7.44
1,175.56	11.79	7.55
1,175.57	11.80	7.66
1,175.58	11.82	7.77
1,175.59	11.83	7.87
1,175.60	11.83	7.97
1,175.61	**11.84**	8.07
1,175.62	11.83	8.16
1,175.63	11.83	8.24
1,175.64	11.82	8.33
1,175.65	11.81	8.40
1,175.66	11.79	8.47
1,175.67	11.77	8.54
1,175.68	11.74	8.60
1,175.69	11.71	8.65
1,175.70	11.67	8.69
1,175.71	11.63	8.73
1,175.72	11.58	8.75
1,175.73	11.52	8.77
1,175.74	11.45	**8.77**
1,175.75	11.37	8.76
1,175.76	11.27	8.74
1,175.77	11.16	8.69
1,175.78	11.02	8.62
1,175.79	10.84	8.50
1,175.80	10.38	8.15

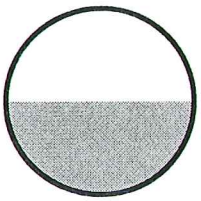
Summary for Reach DCBI: TO DCB-F

Inflow Area = 0.058 ac, 56.44% Impervious, Inflow Depth = 3.20" for 10-Year event
Inflow = 0.21 cfs @ 12.07 hrs, Volume= 0.015 af
Outflow = 0.21 cfs @ 12.09 hrs, Volume= 0.015 af, Atten= 2%, Lag= 1.1 min

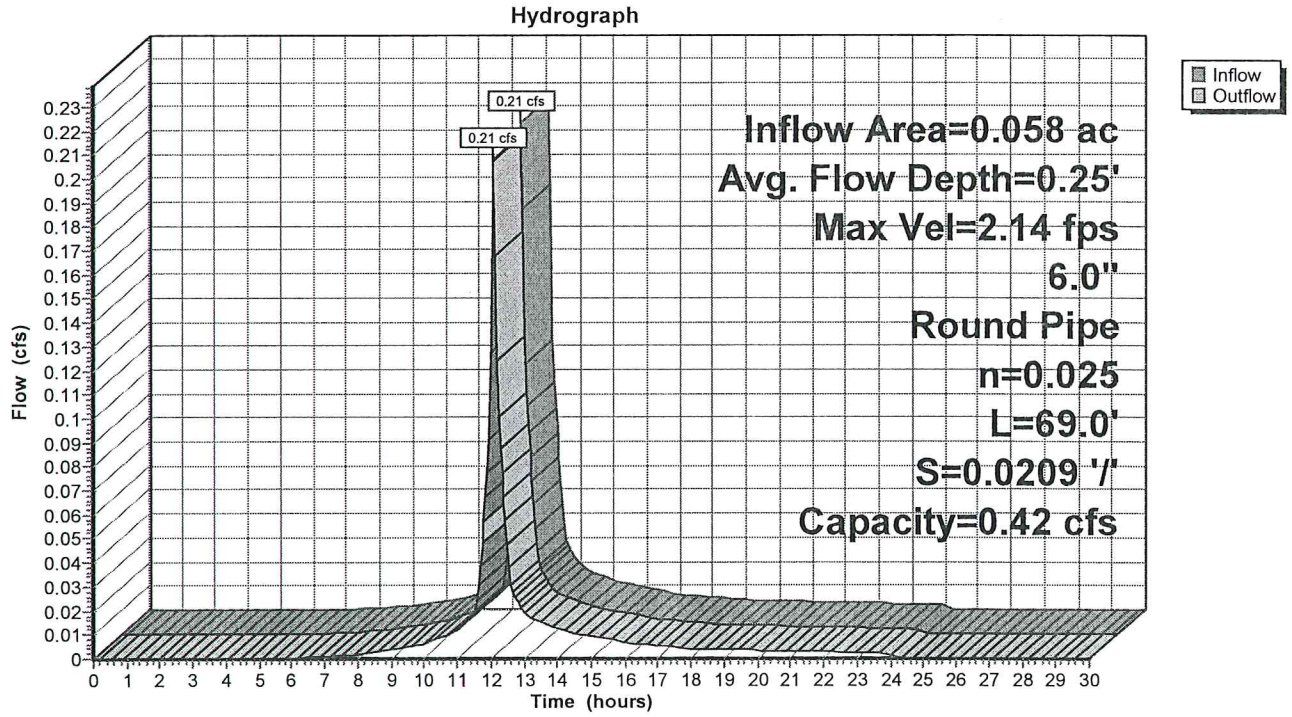
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.14 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.74 fps, Avg. Travel Time= 1.6 min

Peak Storage= 7 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.25'
Bank-Full Depth= 0.50' Flow Area= 0.2 sf, Capacity= 0.42 cfs

6.0" Round Pipe
n= 0.025 Corrugated metal
Length= 69.0' Slope= 0.0209 '/'
Inlet Invert= 1,175.50', Outlet Invert= 1,174.06'



Reach DCBI: TO DCB-F



Stage-Discharge for Reach DCBI: TO DCB-F

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.50	0.00	0.00
1,175.51	0.30	0.00
1,175.52	0.48	0.00
1,175.53	0.62	0.00
1,175.54	0.75	0.01
1,175.55	0.86	0.01
1,175.56	0.97	0.01
1,175.57	1.06	0.02
1,175.58	1.15	0.02
1,175.59	1.24	0.03
1,175.60	1.32	0.04
1,175.61	1.40	0.04
1,175.62	1.47	0.05
1,175.63	1.54	0.06
1,175.64	1.60	0.07
1,175.65	1.67	0.08
1,175.66	1.73	0.09
1,175.67	1.78	0.10
1,175.68	1.84	0.12
1,175.69	1.89	0.13
1,175.70	1.94	0.14
1,175.71	1.98	0.16
1,175.72	2.03	0.17
1,175.73	2.07	0.18
1,175.74	2.11	0.20
1,175.75	2.15	0.21
1,175.76	2.18	0.23
1,175.77	2.22	0.24
1,175.78	2.25	0.25
1,175.79	2.28	0.27
1,175.80	2.30	0.28
1,175.81	2.33	0.30
1,175.82	2.35	0.31
1,175.83	2.37	0.33
1,175.84	2.39	0.34
1,175.85	2.40	0.35
1,175.86	2.42	0.37
1,175.87	2.43	0.38
1,175.88	2.44	0.39
1,175.89	2.44	0.40
1,175.90	2.45	0.41
1,175.91	**2.45**	0.42
1,175.92	2.44	0.43
1,175.93	2.44	0.44
1,175.94	2.43	0.44
1,175.95	2.41	0.45
1,175.96	2.39	0.45
1,175.97	2.37	**0.45**
1,175.98	2.33	0.45
1,175.99	2.28	0.45
1,176.00	2.15	0.42

Summary for Reach DMH1: TO DMH#2

Inflow Area = 0.618 ac, 81.95% Impervious, Inflow Depth = 3.81" for 10-Year event
Inflow = 2.55 cfs @ 12.08 hrs, Volume= 0.196 af
Outflow = 2.55 cfs @ 12.08 hrs, Volume= 0.196 af, Atten= 0%, Lag= 0.1 min

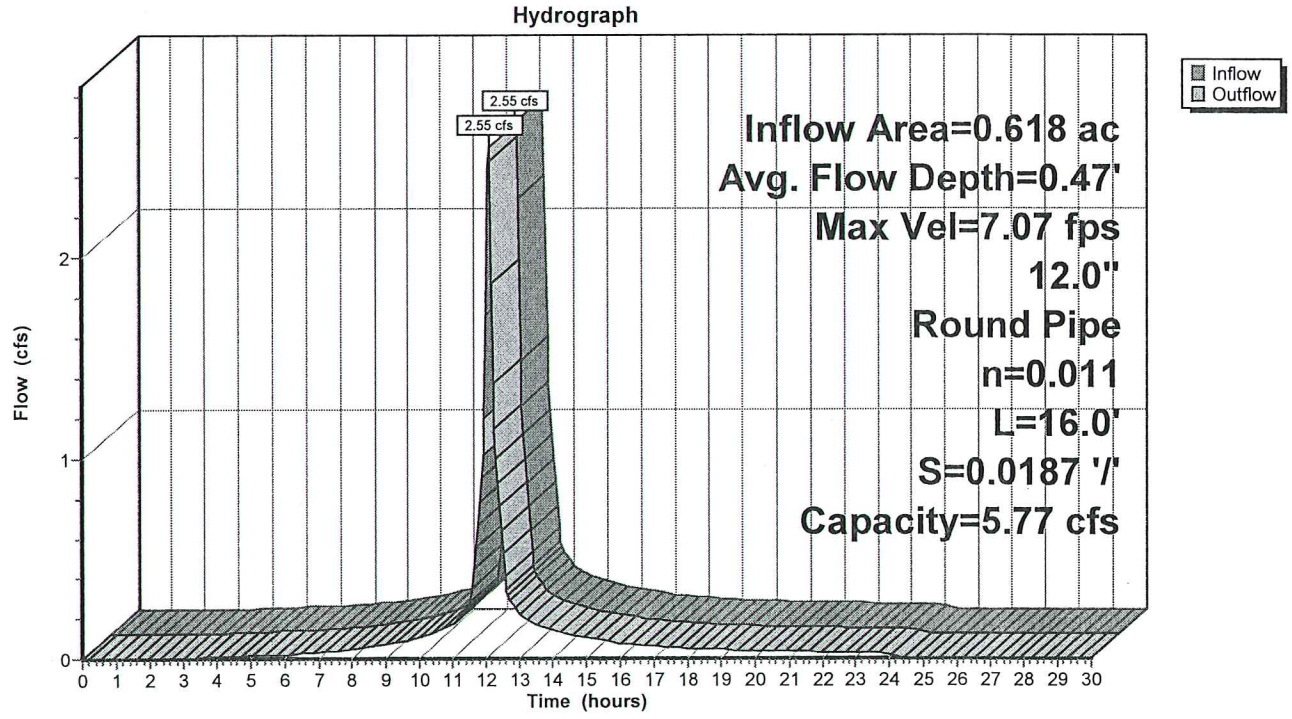
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.07 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.32 fps, Avg. Travel Time= 0.1 min

Peak Storage= 6 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.47'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.77 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 16.0' Slope= 0.0187 '/'
Inlet Invert= 1,175.00', Outlet Invert= 1,174.70'



Reach DMH1: TO DMH#2



Stage-Discharge for Reach DMH1: TO DMH#2

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.00	0.00	0.00
1,175.01	0.65	0.00
1,175.02	1.03	0.00
1,175.03	1.35	0.01
1,175.04	1.63	0.02
1,175.05	1.89	0.03
1,175.06	2.12	0.04
1,175.07	2.34	0.06
1,175.08	2.55	0.08
1,175.09	2.75	0.10
1,175.10	2.94	0.12
1,175.11	3.13	0.15
1,175.12	3.30	0.18
1,175.13	3.47	0.21
1,175.14	3.64	0.24
1,175.15	3.79	0.28
1,175.16	3.95	0.32
1,175.17	4.10	0.36
1,175.18	4.24	0.41
1,175.19	4.38	0.45
1,175.20	4.52	0.50
1,175.21	4.65	0.56
1,175.22	4.78	0.61
1,175.23	4.90	0.67
1,175.24	5.02	0.73
1,175.25	5.14	0.79
1,175.26	5.26	0.85
1,175.27	5.37	0.92
1,175.28	5.48	0.99
1,175.29	5.59	1.06
1,175.30	5.70	1.13
1,175.31	5.80	1.20
1,175.32	5.90	1.28
1,175.33	6.00	1.36
1,175.34	6.09	1.44
1,175.35	6.19	1.52
1,175.36	6.28	1.60
1,175.37	6.37	1.68
1,175.38	6.46	1.77
1,175.39	6.54	1.85
1,175.40	6.62	1.94
1,175.41	6.70	2.03
1,175.42	6.78	2.12
1,175.43	6.86	2.21
1,175.44	6.93	2.31
1,175.45	7.01	2.40
1,175.46	7.08	2.50
1,175.47	7.15	2.59
1,175.48	7.21	2.69
1,175.49	7.28	2.79
1,175.50	7.34	2.88
1,175.51	7.40	2.98
1,175.52	7.46	3.08
1,175.53	7.52	3.18
1,175.54	7.58	3.28
1,175.55	7.63	3.38
1,175.56	7.68	3.48
1,175.57	7.73	3.58
1,175.58	7.78	3.68
1,175.59	7.83	3.77
1,175.60	7.87	3.87
1,175.61	7.92	3.97
1,175.62	7.96	4.07
1,175.63	8.00	4.17
1,175.64	8.03	4.26
1,175.65	8.07	4.36
1,175.66	8.10	4.46
1,175.67	8.14	4.55
1,175.68	8.17	4.64
1,175.69	8.19	4.74
1,175.70	8.22	4.83
1,175.71	8.24	4.92
1,175.72	8.27	5.00
1,175.73	8.29	5.09
1,175.74	8.30	5.18
1,175.75	8.32	5.26
1,175.76	8.33	5.34
1,175.77	8.35	5.42
1,175.78	8.36	5.49
1,175.79	8.36	5.57
1,175.80	8.37	5.64
1,175.81	**8.37**	5.70
1,175.82	8.37	5.77
1,175.83	8.36	5.83
1,175.84	8.36	5.89
1,175.85	8.35	5.94
1,175.86	8.34	5.99
1,175.87	8.32	6.04
1,175.88	8.30	6.08
1,175.89	8.28	6.11
1,175.90	8.25	6.14
1,175.91	8.22	6.17
1,175.92	8.19	6.19
1,175.93	8.14	6.20
1,175.94	8.09	**6.20**
1,175.95	8.04	6.20
1,175.96	7.97	6.18
1,175.97	7.89	6.14
1,175.98	7.79	6.09
1,175.99	7.66	6.01
1,176.00	7.34	5.77

Summary for Reach DMH10: TO DMH#12

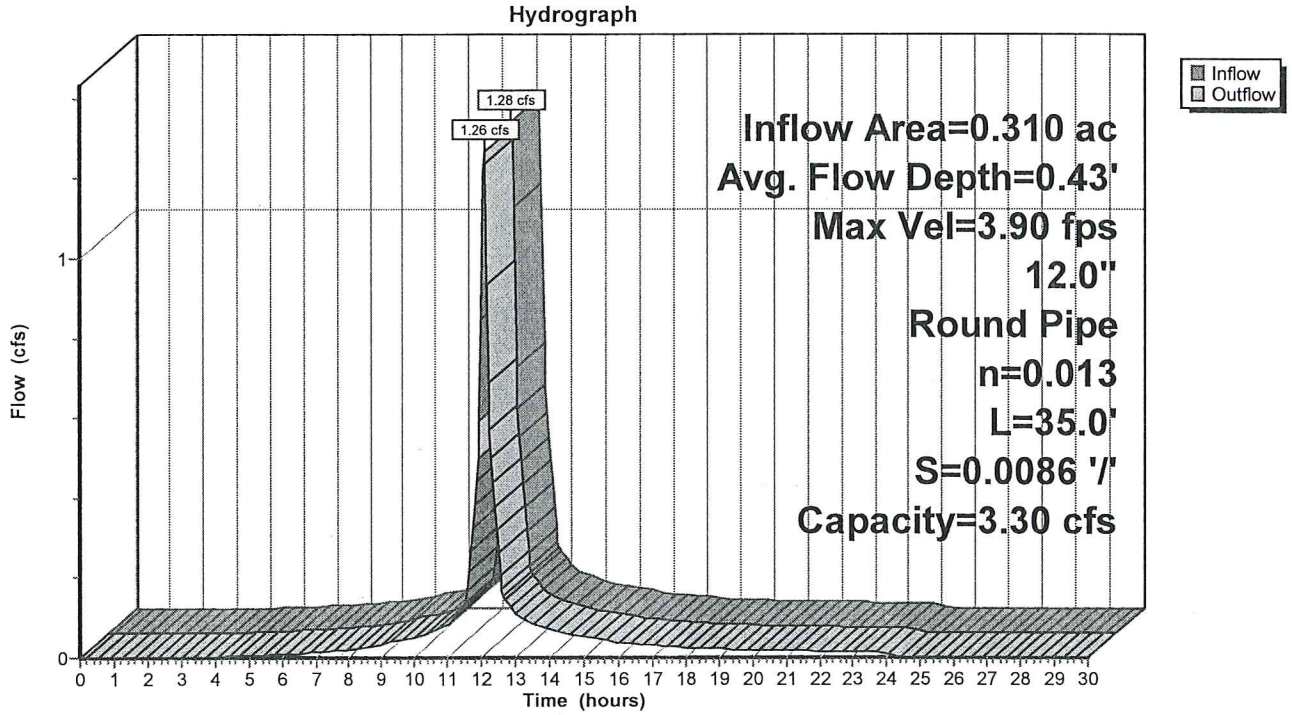
Inflow Area = 0.310 ac, 78.60% Impervious, Inflow Depth = 3.71" for 10-Year event
Inflow = 1.28 cfs @ 12.07 hrs, Volume= 0.096 af
Outflow = 1.26 cfs @ 12.08 hrs, Volume= 0.096 af, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.90 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.30 fps, Avg. Travel Time= 0.4 min

Peak Storage= 11 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.43'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.30 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 35.0' Slope= 0.0086 '/'
Inlet Invert= 1,178.90', Outlet Invert= 1,178.60'





Stage-Discharge for Reach DMH10: TO DMH#12

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.90	0.00	0.00
1,178.91	0.37	0.00
1,178.92	0.59	0.00
1,178.93	0.77	0.01
1,178.94	0.93	0.01
1,178.95	1.08	0.02
1,178.96	1.21	0.02
1,178.97	1.34	0.03
1,178.98	1.46	0.04
1,178.99	1.58	0.06
1,179.00	1.68	0.07
1,179.01	1.79	0.08
1,179.02	1.89	0.10
1,179.03	1.99	0.12
1,179.04	2.08	0.14
1,179.05	2.17	0.16
1,179.06	2.26	0.18
1,179.07	2.34	0.21
1,179.08	2.43	0.23
1,179.09	2.51	0.26
1,179.10	2.58	0.29
1,179.11	2.66	0.32
1,179.12	2.73	0.35
1,179.13	2.80	0.38
1,179.14	2.87	0.42
1,179.15	2.94	0.45
1,179.16	3.01	0.49
1,179.17	3.07	0.53
1,179.18	3.14	0.56
1,179.19	3.20	0.60
1,179.20	3.26	0.65
1,179.21	3.32	0.69
1,179.22	3.38	0.73
1,179.23	3.43	0.78
1,179.24	3.49	0.82
1,179.25	3.54	0.87
1,179.26	3.59	0.91
1,179.27	3.64	0.96
1,179.28	3.69	1.01
1,179.29	3.74	1.06
1,179.30	3.79	1.11
1,179.31	3.84	1.16
1,179.32	3.88	1.21
1,179.33	3.92	1.27
1,179.34	3.97	1.32
1,179.35	4.01	1.37
1,179.36	4.05	1.43
1,179.37	4.09	1.48
1,179.38	4.13	1.54
1,179.39	4.16	1.59
1,179.40	4.20	1.65
1,179.41	4.23	1.71
1,179.42	4.27	1.76
1,179.43	4.30	1.82
1,179.44	4.33	1.88
1,179.45	4.36	1.93
1,179.46	4.39	1.99
1,179.47	4.42	2.05
1,179.48	4.45	2.10
1,179.49	4.48	2.16
1,179.50	4.50	2.22
1,179.51	4.53	2.27
1,179.52	4.55	2.33
1,179.53	4.57	2.38
1,179.54	4.60	2.44
1,179.55	4.62	2.50
1,179.56	4.64	2.55
1,179.57	4.65	2.60
1,179.58	4.67	2.66
1,179.59	4.69	2.71
1,179.60	4.70	2.76
1,179.61	4.72	2.81
1,179.62	4.73	2.86
1,179.63	4.74	2.91
1,179.64	4.75	2.96
1,179.65	4.76	3.01
1,179.66	4.77	3.05
1,179.67	4.77	3.10
1,179.68	4.78	3.14
1,179.69	4.78	3.18
1,179.70	4.79	3.22
1,179.71	**4.79**	3.26
1,179.72	4.79	3.30
1,179.73	4.79	3.33
1,179.74	4.78	3.37
1,179.75	4.78	3.40
1,179.76	4.77	3.43
1,179.77	4.76	3.45
1,179.78	4.75	3.48
1,179.79	4.74	3.50
1,179.80	4.72	3.52
1,179.81	4.70	3.53
1,179.82	4.68	3.54
1,179.83	4.66	3.55
1,179.84	4.63	**3.55**
1,179.85	4.60	3.54
1,179.86	4.56	3.53
1,179.87	4.52	3.52
1,179.88	4.46	3.49
1,179.89	4.38	3.44
1,179.90	4.20	3.30

Summary for Reach DMH11: TO DMH#12

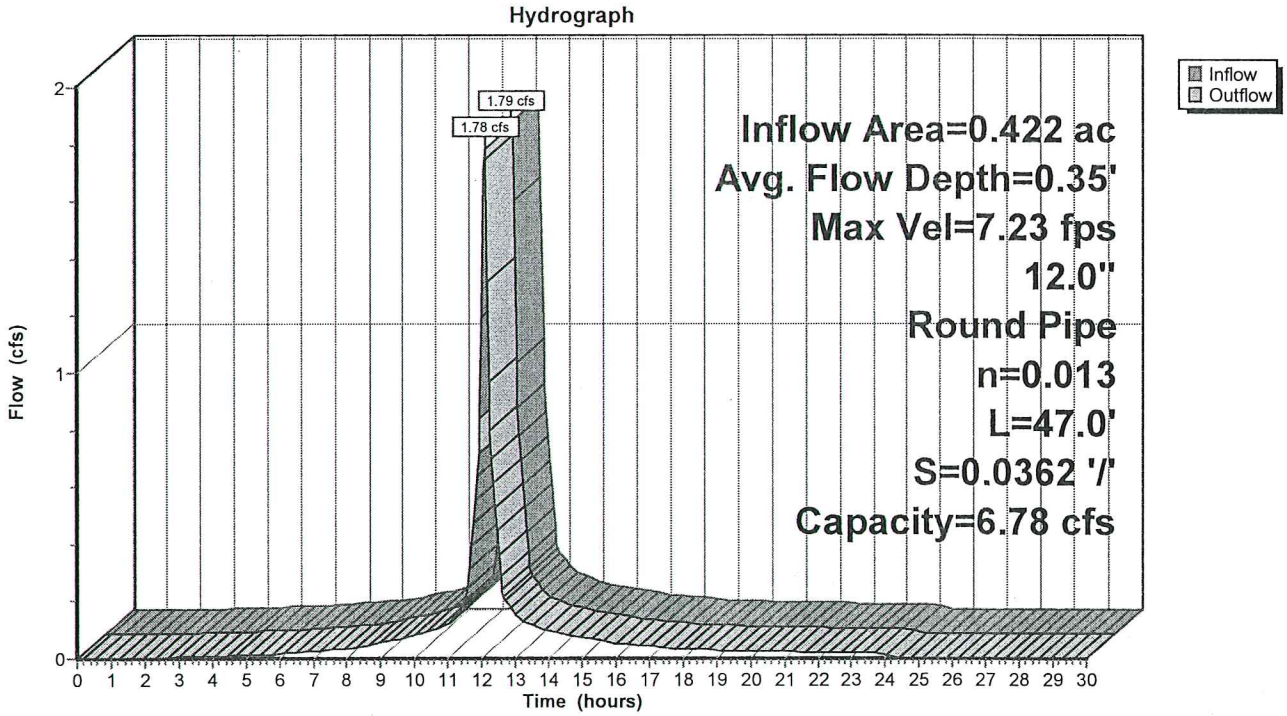
Inflow Area = 0.422 ac, 88.35% Impervious, Inflow Depth = 3.97" for 10-Year event
Inflow = 1.79 cfs @ 12.08 hrs, Volume= 0.140 af
Outflow = 1.78 cfs @ 12.08 hrs, Volume= 0.140 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.23 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.37 fps, Avg. Travel Time= 0.3 min

Peak Storage= 12 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.35'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.78 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 47.0' Slope= 0.0362 '/'
Inlet Invert= 1,180.30', Outlet Invert= 1,178.60'





Stage-Discharge for Reach DMH11: TO DMH#12

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.30	0.00	0.00
1,180.31	0.77	0.00
1,180.32	1.21	0.00
1,180.33	1.59	0.01
1,180.34	1.92	0.02
1,180.35	2.22	0.03
1,180.36	2.49	0.05
1,180.37	2.76	0.07
1,180.38	3.00	0.09
1,180.39	3.24	0.11
1,180.40	3.46	0.14
1,180.41	3.68	0.17
1,180.42	3.88	0.21
1,180.43	4.08	0.24
1,180.44	4.27	0.29
1,180.45	4.46	0.33
1,180.46	4.64	0.38
1,180.47	4.81	0.43
1,180.48	4.98	0.48
1,180.49	5.15	0.53
1,180.50	5.31	0.59
1,180.51	5.46	0.65
1,180.52	5.61	0.72
1,180.53	5.76	0.79
1,180.54	5.90	0.86
1,180.55	6.04	0.93
1,180.56	6.18	1.00
1,180.57	6.31	1.08
1,180.58	6.45	1.16
1,180.59	6.57	1.24
1,180.60	6.70	1.33
1,180.61	6.82	1.41
1,180.62	6.94	1.50
1,180.63	7.05	1.59
1,180.64	7.16	1.69
1,180.65	7.27	1.78
1,180.66	7.38	1.88
1,180.67	7.48	1.98
1,180.68	7.59	2.08
1,180.69	7.69	2.18
1,180.70	7.78	2.28
1,180.71	7.88	2.39
1,180.72	7.97	2.50
1,180.73	8.06	2.60
1,180.74	8.15	2.71
1,180.75	8.23	2.82
1,180.76	8.32	2.93
1,180.77	8.40	3.05
1,180.78	8.48	3.16
1,180.79	8.55	3.27
1,180.80	8.63	3.39
1,180.81	8.70	3.50
1,180.82	8.77	3.62
1,180.83	8.84	3.74
1,180.84	8.90	3.85
1,180.85	8.97	3.97
1,180.86	9.03	4.09
1,180.87	9.09	4.20
1,180.88	9.14	4.32
1,180.89	9.20	4.44
1,180.90	9.25	4.55
1,180.91	9.30	4.67
1,180.92	9.35	4.78
1,180.93	9.40	4.90
1,180.94	9.44	5.01
1,180.95	9.48	5.13
1,180.96	9.52	5.24
1,180.97	9.56	5.35
1,180.98	9.60	5.46
1,180.99	9.63	5.57
1,181.00	9.66	5.67
1,181.01	9.69	5.78
1,181.02	9.72	5.88
1,181.03	9.74	5.98
1,181.04	9.76	6.08
1,181.05	9.78	6.18
1,181.06	9.80	6.27
1,181.07	9.81	6.37
1,181.08	9.82	6.45
1,181.09	9.83	6.54
1,181.10	9.83	6.62
1,181.11	**9.84**	6.70
1,181.12	9.83	6.78
1,181.13	9.83	6.85
1,181.14	9.82	6.92
1,181.15	9.81	6.98
1,181.16	9.80	7.04
1,181.17	9.78	7.09
1,181.18	9.76	7.14
1,181.19	9.73	7.19
1,181.20	9.70	7.22
1,181.21	9.66	7.25
1,181.22	9.62	7.27
1,181.23	9.57	7.29
1,181.24	9.51	**7.29**
1,181.25	9.45	7.28
1,181.26	9.37	7.26
1,181.27	9.28	7.22
1,181.28	9.16	7.16
1,181.29	9.00	7.06
1,181.30	8.63	6.78

Summary for Reach DMH12: TO DMH#13

Inflow Area = 0.903 ac, 85.40% Impervious, Inflow Depth = 3.89" for 10-Year event
Inflow = 3.78 cfs @ 12.08 hrs, Volume= 0.293 af
Outflow = 3.76 cfs @ 12.09 hrs, Volume= 0.293 af, Atten= 1%, Lag= 0.5 min

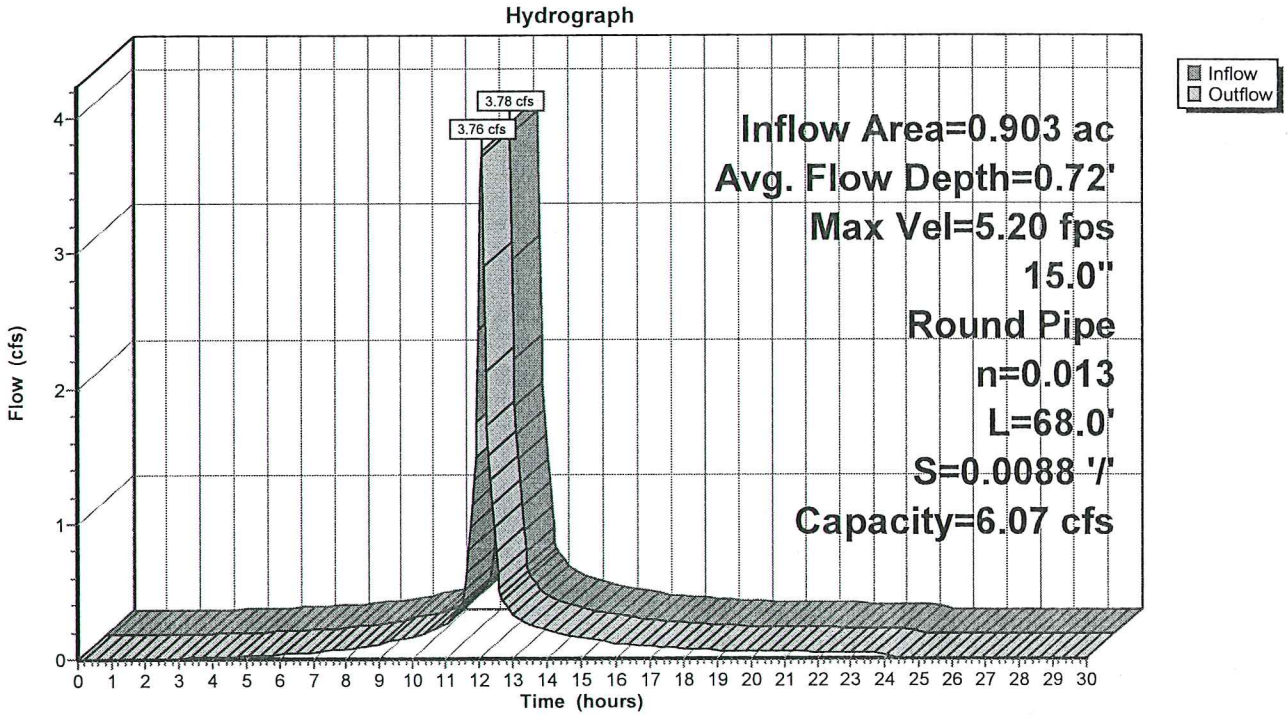
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.20 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.74 fps, Avg. Travel Time= 0.7 min

Peak Storage= 49 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.72'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 6.07 cfs

15.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 68.0' Slope= 0.0088 '/'
Inlet Invert= 1,178.50', Outlet Invert= 1,177.90'



Reach DMH12: TO DMH#13



Stage-Discharge for Reach DMH12: TO DMH#13

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.50	0.00	0.00
1,178.51	0.35	0.00
1,178.52	0.59	0.00
1,178.53	0.78	0.01
1,178.54	0.95	0.01
1,178.55	1.10	0.02
1,178.56	1.24	0.03
1,178.57	1.37	0.04
1,178.58	1.49	0.05
1,178.59	1.61	0.06
1,178.60	1.72	0.08
1,178.61	1.83	0.10
1,178.62	1.93	0.12
1,178.63	2.03	0.14
1,178.64	2.13	0.16
1,178.65	2.22	0.19
1,178.66	2.32	0.21
1,178.67	2.40	0.24
1,178.68	2.49	0.27
1,178.69	2.58	0.30
1,178.70	2.66	0.34
1,178.71	2.74	0.37
1,178.72	2.82	0.41
1,178.73	2.89	0.45
1,178.74	2.97	0.49
1,178.75	3.04	0.53
1,178.76	3.11	0.58
1,178.77	3.18	0.62
1,178.78	3.25	0.67
1,178.79	3.32	0.72
1,178.80	3.38	0.77
1,178.81	3.45	0.82
1,178.82	3.51	0.87
1,178.83	3.57	0.93
1,178.84	3.63	0.98
1,178.85	3.69	1.04
1,178.86	3.75	1.10
1,178.87	3.81	1.16
1,178.88	3.87	1.22
1,178.89	3.92	1.28
1,178.90	3.97	1.35
1,178.91	4.03	1.41
1,178.92	4.08	1.48
1,178.93	4.13	1.54
1,178.94	4.18	1.61
1,178.95	4.23	1.68
1,178.96	4.28	1.75
1,178.97	4.32	1.82
1,178.98	4.37	1.90
1,178.99	4.42	1.97
1,179.00	4.46	2.04
1,179.01	4.50	2.12
1,179.02	4.55	2.20
1,179.03	4.59	2.27
1,179.04	4.63	2.35
1,179.05	4.67	2.43
1,179.06	4.71	2.51
1,179.07	4.75	2.59
1,179.08	4.79	2.67
1,179.09	4.82	2.75
1,179.10	4.86	2.83
1,179.11	4.89	2.91
1,179.12	4.93	2.99
1,179.13	4.96	3.08
1,179.14	4.99	3.16
1,179.15	5.03	3.24
1,179.16	5.06	3.32
1,179.17	5.09	3.41
1,179.18	5.12	3.49
1,179.19	5.15	3.57
1,179.20	5.17	3.66
1,179.21	5.20	3.74
1,179.22	5.23	3.83
1,179.23	5.25	3.91
1,179.24	5.28	3.99
1,179.25	5.30	4.08
1,179.26	5.33	4.16
1,179.27	5.35	4.24
1,179.28	5.37	4.32
1,179.29	5.39	4.41
1,179.30	5.41	4.49
1,179.31	5.43	4.57
1,179.32	5.45	4.65
1,179.33	5.47	4.73
1,179.34	5.48	4.81
1,179.35	5.50	4.89
1,179.36	5.52	4.97
1,179.37	5.53	5.04
1,179.38	5.54	5.12
1,179.39	5.56	5.19
1,179.40	5.57	5.27
1,179.41	5.58	5.34
1,179.42	5.59	5.41
1,179.43	5.60	5.48
1,179.44	5.61	5.55
1,179.45	5.61	5.62
1,179.46	5.62	5.68
1,179.47	5.63	5.75
1,179.48	5.63	5.81
1,179.49	5.63	5.87
1,179.50	5.64	5.93
1,179.51	5.64	5.99
1,179.52	**5.64**	6.04
1,179.53	5.64	6.10
1,179.54	5.63	6.15
1,179.55	5.63	6.20
1,179.56	5.63	6.24
1,179.57	5.62	6.28
1,179.58	5.61	6.32
1,179.59	5.60	6.36
1,179.60	5.59	6.40
1,179.61	5.58	6.43
1,179.62	5.57	6.45
1,179.63	5.55	6.48
1,179.64	5.53	6.50
1,179.65	5.51	6.51
1,179.66	5.49	6.52
1,179.67	5.47	**6.53**
1,179.68	5.44	6.52
1,179.69	5.41	6.52
1,179.70	5.37	6.50
1,179.71	5.33	6.47
1,179.72	5.28	6.43
1,179.73	5.21	6.38
1,179.74	5.12	6.27
1,179.75	4.94	6.07

Summary for Reach DMH13: TO DMH#14

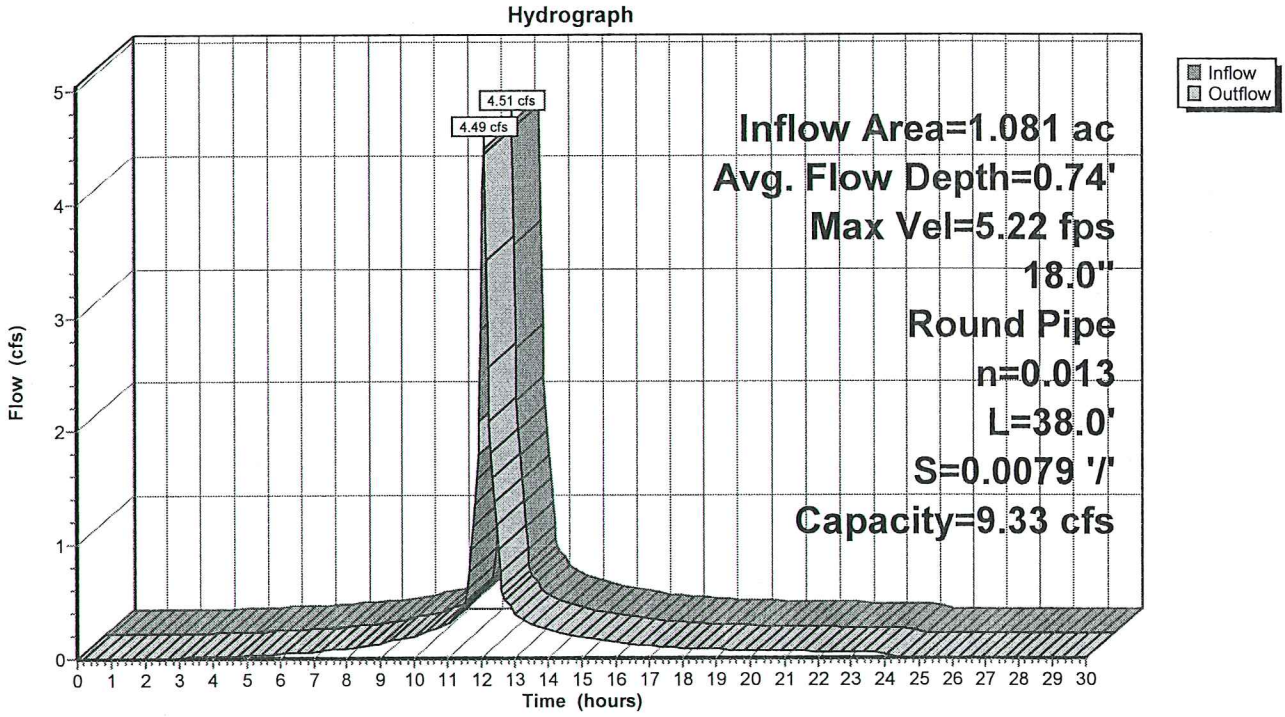
Inflow Area = 1.081 ac, 85.82% Impervious, Inflow Depth = 3.90" for 10-Year event
Inflow = 4.51 cfs @ 12.08 hrs, Volume= 0.351 af
Outflow = 4.49 cfs @ 12.09 hrs, Volume= 0.351 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.22 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.72 fps, Avg. Travel Time= 0.4 min

Peak Storage= 33 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.74'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 9.33 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 38.0' Slope= 0.0079 '/'
Inlet Invert= 1,177.80', Outlet Invert= 1,177.50'





Stage-Discharge for Reach DMH13: TO DMH#14

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,177.80	0.00	0.00
1,177.81	0.31	0.00
1,177.82	0.56	0.00
1,177.83	0.74	0.01
1,177.84	0.90	0.01
1,177.85	1.04	0.02
1,177.86	1.17	0.03
1,177.87	1.30	0.04
1,177.88	1.41	0.05
1,177.89	1.53	0.07
1,177.90	1.63	0.08
1,177.91	1.74	0.10
1,177.92	1.84	0.12
1,177.93	1.93	0.14
1,177.94	2.03	0.17
1,177.95	2.12	0.19
1,177.96	2.21	0.22
1,177.97	2.29	0.25
1,177.98	2.38	0.29
1,177.99	2.46	0.32
1,178.00	2.54	0.36
1,178.01	2.62	0.39
1,178.02	2.69	0.43
1,178.03	2.77	0.48
1,178.04	2.84	0.52
1,178.05	2.91	0.56
1,178.06	2.98	0.61
1,178.07	3.05	0.66
1,178.08	3.12	0.71
1,178.09	3.18	0.76
1,178.10	3.25	0.82
1,178.11	3.31	0.87
1,178.12	3.37	0.93
1,178.13	3.44	0.99
1,178.14	3.50	1.05
1,178.15	3.56	1.11
1,178.16	3.61	1.18
1,178.17	3.67	1.25
1,178.18	3.73	1.31
1,178.19	3.78	1.38
1,178.20	3.84	1.45
1,178.21	3.89	1.52
1,178.22	3.95	1.60
1,178.23	4.00	1.67
1,178.24	4.05	1.75
1,178.25	4.10	1.83
1,178.26	4.15	1.91
1,178.27	4.20	1.99
1,178.28	4.25	2.07
1,178.29	4.29	2.15
1,178.30	4.34	2.24
1,178.31	4.39	2.32
1,178.32	4.43	2.41
1,178.33	4.47	2.50
1,178.34	4.52	2.59
1,178.35	4.56	2.68
1,178.36	4.60	2.77
1,178.37	4.64	2.86
1,178.38	4.69	2.96
1,178.39	4.73	3.05
1,178.40	4.76	3.15
1,178.41	4.80	3.24
1,178.42	4.84	3.34
1,178.43	4.88	3.44
1,178.44	4.92	3.54
1,178.45	4.95	3.64
1,178.46	4.99	3.74
1,178.47	5.02	3.84
1,178.48	5.06	3.94
1,178.49	5.09	4.04
1,178.50	5.12	4.14
1,178.51	5.16	4.25
1,178.52	5.19	4.35
1,178.53	5.22	4.46
1,178.54	5.25	4.56
1,178.55	5.28	4.67
1,178.56	5.31	4.77
1,178.57	5.34	4.88
1,178.58	5.37	4.99
1,178.59	5.40	5.09
1,178.60	5.42	5.20
1,178.61	5.45	5.31
1,178.62	5.48	5.41
1,178.63	5.50	5.52
1,178.64	5.53	5.63
1,178.65	5.55	5.74
1,178.66	5.57	5.84
1,178.67	5.60	5.95
1,178.68	5.62	6.06
1,178.69	5.64	6.16
1,178.70	5.66	6.27
1,178.71	5.68	6.38
1,178.72	5.71	6.48
1,178.73	5.72	6.59
1,178.74	5.74	6.69
1,178.75	5.76	6.80
1,178.76	5.78	6.90
1,178.77	5.80	7.01
1,178.78	5.81	7.11
1,178.79	5.83	7.21
1,178.80	5.85	7.32
1,178.81	5.86	7.42
1,178.82	5.88	7.52
1,178.83	5.89	7.62
1,178.84	5.90	7.72
1,178.85	5.91	7.81
1,178.86	5.93	7.91
1,178.87	5.94	8.01
1,178.88	5.95	8.10
1,178.89	5.96	8.19
1,178.90	5.97	8.29
1,178.91	5.98	8.38
1,178.92	5.98	8.47
1,178.93	5.99	8.55
1,178.94	6.00	8.64
1,178.95	6.00	8.73
1,178.96	6.01	8.81
1,178.97	6.01	8.89
1,178.98	6.01	8.97
1,178.99	6.02	9.05
1,179.00	6.02	9.12
1,179.01	6.02	9.20
1,179.02	**6.02**	9.27
1,179.03	6.02	9.34
1,179.04	6.02	9.40
1,179.05	6.02	9.47
1,179.06	6.01	9.53
1,179.07	6.01	9.59
1,179.08	6.00	9.64
1,179.09	6.00	9.70
1,179.10	5.99	9.75
1,179.11	5.98	9.79
1,179.12	5.97	9.84
1,179.13	5.96	9.88
1,179.14	5.95	9.91
1,179.15	5.94	9.95
1,179.16	5.92	9.97
1,179.17	5.91	10.00
1,179.18	5.89	10.02
1,179.19	5.87	10.03
1,179.20	5.85	10.04
1,179.21	5.82	**10.04**
1,179.22	5.80	10.03
1,179.23	5.77	10.02
1,179.24	5.74	10.00
1,179.25	5.70	9.96
1,179.26	5.65	9.92
1,179.27	5.61	9.86
1,179.28	5.54	9.77
1,179.29	5.44	9.59
1,179.30	5.28	9.33

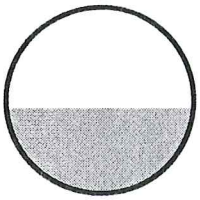
Summary for Reach DMH14: TO UGS#1A

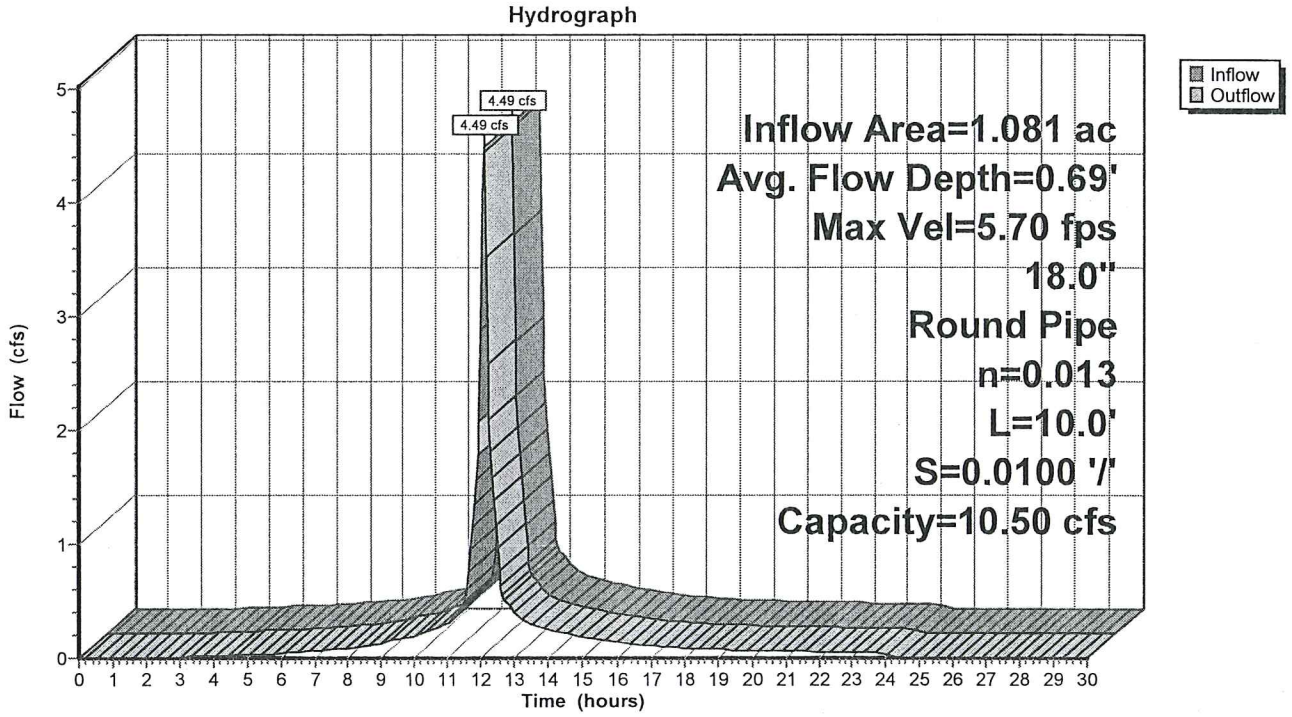
Inflow Area = 1.081 ac, 85.82% Impervious, Inflow Depth = 3.90" for 10-Year event
Inflow = 4.49 cfs @ 12.09 hrs, Volume= 0.351 af
Outflow = 4.49 cfs @ 12.09 hrs, Volume= 0.351 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.70 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.87 fps, Avg. Travel Time= 0.1 min

Peak Storage= 8 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.69'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 10.50 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 10.0' Slope= 0.0100 '/'
Inlet Invert= 1,177.30', Outlet Invert= 1,177.20'





Stage-Discharge for Reach DMH14: TO UGS#1A

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,177.30	0.00	0.00
1,177.31	0.35	0.00
1,177.32	0.63	0.00
1,177.33	0.84	0.01
1,177.34	1.01	0.01
1,177.35	1.17	0.02
1,177.36	1.32	0.03
1,177.37	1.46	0.04
1,177.38	1.59	0.06
1,177.39	1.72	0.07
1,177.40	1.84	0.09
1,177.41	1.96	0.11
1,177.42	2.07	0.14
1,177.43	2.18	0.16
1,177.44	2.28	0.19
1,177.45	2.38	0.22
1,177.46	2.48	0.25
1,177.47	2.58	0.29
1,177.48	2.67	0.32
1,177.49	2.77	0.36
1,177.50	2.86	0.40
1,177.51	2.94	0.44
1,177.52	3.03	0.49
1,177.53	3.11	0.53
1,177.54	3.20	0.58
1,177.55	3.28	0.63
1,177.56	3.35	0.69
1,177.57	3.43	0.74
1,177.58	3.51	0.80
1,177.59	3.58	0.86
1,177.60	3.66	0.92
1,177.61	3.73	0.98
1,177.62	3.80	1.05
1,177.63	3.87	1.11
1,177.64	3.94	1.18
1,177.65	4.00	1.25
1,177.66	4.07	1.33
1,177.67	4.13	1.40
1,177.68	4.20	1.48
1,177.69	4.26	1.55
1,177.70	4.32	1.63
1,177.71	4.38	1.72
1,177.72	4.44	1.80
1,177.73	4.50	1.88
1,177.74	4.56	1.97
1,177.75	4.61	2.06
1,177.76	4.67	2.15
1,177.77	4.72	2.24
1,177.78	4.78	2.33
1,177.79	4.83	2.42
1,177.80	4.88	2.52
1,177.81	4.94	2.61
1,177.82	4.99	2.71
1,177.83	5.04	2.81
1,177.84	5.08	2.91
1,177.85	5.13	3.01
1,177.86	5.18	3.12
1,177.87	5.23	3.22
1,177.88	5.27	3.33
1,177.89	5.32	3.43
1,177.90	5.36	3.54
1,177.91	5.41	3.65
1,177.92	5.45	3.76
1,177.93	5.49	3.87
1,177.94	5.53	3.98
1,177.95	5.57	4.09
1,177.96	5.61	4.20
1,177.97	5.65	4.32
1,177.98	5.69	4.43
1,177.99	5.73	4.55
1,178.00	5.77	4.66
1,178.01	5.80	4.78
1,178.02	5.84	4.90
1,178.03	5.88	5.02
1,178.04	5.91	5.13
1,178.05	5.94	5.25
1,178.06	5.98	5.37
1,178.07	6.01	5.49
1,178.08	6.04	5.61
1,178.09	6.07	5.73
1,178.10	6.10	5.85
1,178.11	6.13	5.97
1,178.12	6.16	6.09
1,178.13	6.19	6.21
1,178.14	6.22	6.33
1,178.15	6.25	6.45
1,178.16	6.27	6.58
1,178.17	6.30	6.70
1,178.18	6.33	6.82
1,178.19	6.35	6.94
1,178.20	6.37	7.06
1,178.21	6.40	7.18
1,178.22	6.42	7.30
1,178.23	6.44	7.42
1,178.24	6.46	7.53
1,178.25	6.49	7.65
1,178.26	6.51	7.77
1,178.27	6.52	7.89
1,178.28	6.54	8.00
1,178.29	6.56	8.12
1,178.30	6.58	8.23
1,178.31	6.60	8.35
1,178.32	6.61	8.46
1,178.33	6.63	8.57
1,178.34	6.64	8.68
1,178.35	6.66	8.79
1,178.36	6.67	8.90
1,178.37	6.68	9.01
1,178.38	6.69	9.12
1,178.39	6.70	9.22
1,178.40	6.71	9.33
1,178.41	6.72	9.43
1,178.42	6.73	9.53
1,178.43	6.74	9.63
1,178.44	6.75	9.73
1,178.45	6.76	9.82
1,178.46	6.76	9.91
1,178.47	6.77	10.01
1,178.48	6.77	10.09
1,178.49	6.77	10.18
1,178.50	6.77	10.27
1,178.51	6.78	10.35
1,178.52	**6.78**	10.43
1,178.53	6.78	10.51
1,178.54	6.77	10.58
1,178.55	6.77	10.66
1,178.56	6.77	10.73
1,178.57	6.76	10.79
1,178.58	6.76	10.85
1,178.59	6.75	10.92
1,178.60	6.74	10.97
1,178.61	6.73	11.02
1,178.62	6.72	11.07
1,178.63	6.71	11.12
1,178.64	6.70	11.16
1,178.65	6.68	11.20
1,178.66	6.67	11.23
1,178.67	6.65	11.25
1,178.68	6.63	11.27
1,178.69	6.61	11.29
1,178.70	6.58	11.30
1,178.71	6.55	**11.30**
1,178.72	6.52	11.29
1,178.73	6.49	11.28
1,178.74	6.46	11.25
1,178.75	6.41	11.21
1,178.76	6.36	11.16
1,178.77	6.31	11.10
1,178.78	6.24	11.00
1,178.79	6.12	10.80
1,178.80	5.94	10.50

Summary for Reach DMH15: TO DMH#16

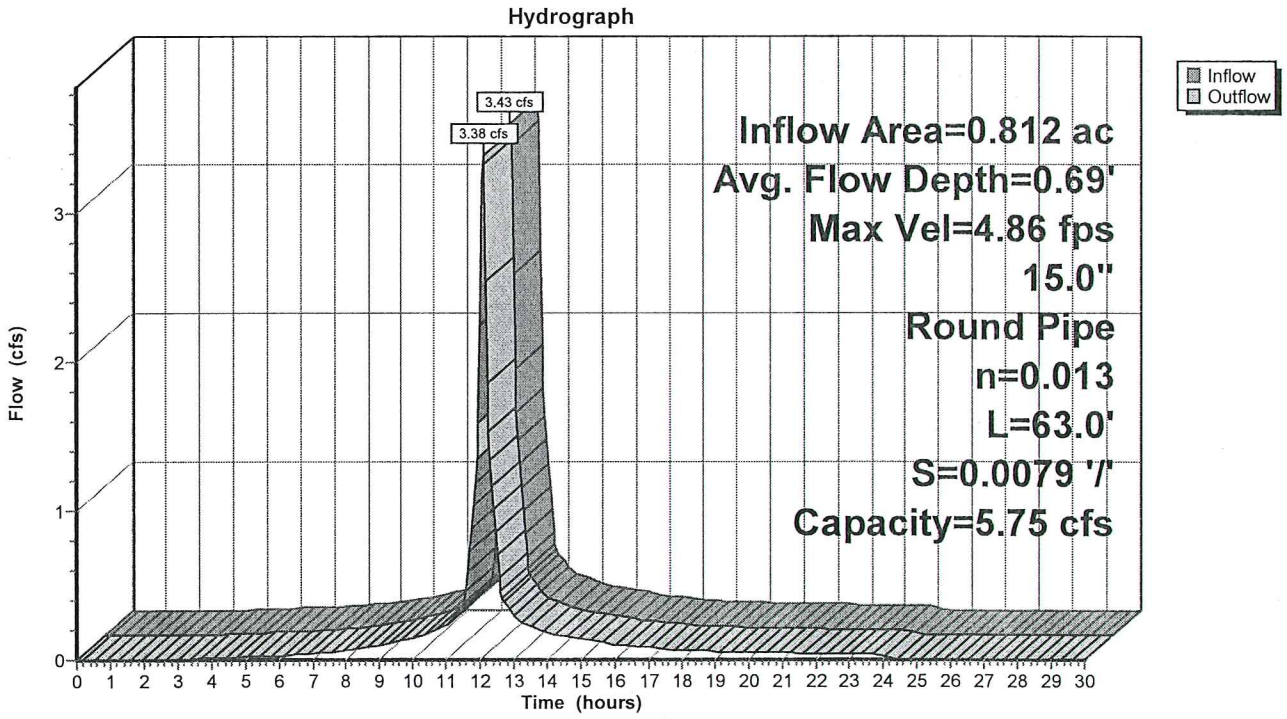
Inflow Area = 0.812 ac, 86.55% Impervious, Inflow Depth = 3.87" for 10-Year event
Inflow = 3.43 cfs @ 12.07 hrs, Volume= 0.262 af
Outflow = 3.38 cfs @ 12.08 hrs, Volume= 0.262 af, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.86 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.61 fps, Avg. Travel Time= 0.7 min

Peak Storage= 44 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.69'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.75 cfs

15.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 63.0' Slope= 0.0079 '/'
Inlet Invert= 1,180.20', Outlet Invert= 1,179.70'





Stage-Discharge for Reach DMH15: TO DMH#16

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.20	0.00	0.00
1,180.21	0.33	0.00
1,180.22	0.56	0.00
1,180.23	0.74	0.01
1,180.24	0.90	0.01
1,180.25	1.04	0.02
1,180.26	1.17	0.03
1,180.27	1.30	0.04
1,180.28	1.41	0.05
1,180.29	1.52	0.06
1,180.30	1.63	0.08
1,180.31	1.73	0.09
1,180.32	1.83	0.11
1,180.33	1.93	0.13
1,180.34	2.02	0.15
1,180.35	2.11	0.18
1,180.36	2.20	0.20
1,180.37	2.28	0.23
1,180.38	2.36	0.26
1,180.39	2.44	0.29
1,180.40	2.52	0.32
1,180.41	2.60	0.35
1,180.42	2.67	0.39
1,180.43	2.74	0.43
1,180.44	2.81	0.46
1,180.45	2.88	0.50
1,180.46	2.95	0.55
1,180.47	3.02	0.59
1,180.48	3.08	0.63
1,180.49	3.15	0.68
1,180.50	3.21	0.73
1,180.51	3.27	0.78
1,180.52	3.33	0.83
1,180.53	3.39	0.88
1,180.54	3.45	0.93
1,180.55	3.50	0.99
1,180.56	3.56	1.04
1,180.57	3.61	1.10
1,180.58	3.67	1.16
1,180.59	3.72	1.22
1,180.60	3.77	1.28
1,180.61	3.82	1.34
1,180.62	3.87	1.40
1,180.63	3.92	1.46
1,180.64	3.96	1.53
1,180.65	4.01	1.60
1,180.66	4.06	1.66
1,180.67	4.10	1.73
1,180.68	4.15	1.80
1,180.69	4.19	1.87
1,180.70	4.23	1.94
1,180.71	4.27	2.01
1,180.72	4.31	2.08
1,180.73	4.35	2.16
1,180.74	4.39	2.23
1,180.75	4.43	2.30
1,180.76	4.47	2.38
1,180.77	4.50	2.45
1,180.78	4.54	2.53
1,180.79	4.57	2.61
1,180.80	4.61	2.68
1,180.81	4.64	2.76
1,180.82	4.67	2.84
1,180.83	4.71	2.92
1,180.84	4.74	3.00
1,180.85	4.77	3.07
1,180.86	4.80	3.15
1,180.87	4.83	3.23
1,180.88	4.85	3.31
1,180.89	4.88	3.39
1,180.90	4.91	3.47
1,180.91	4.93	3.55
1,180.92	4.96	3.63
1,180.93	4.98	3.71
1,180.94	5.01	3.79
1,180.95	5.03	3.87
1,180.96	5.05	3.95
1,180.97	5.07	4.02
1,180.98	5.09	4.10
1,180.99	5.11	4.18
1,181.00	5.13	4.26
1,181.01	5.15	4.33
1,181.02	5.17	4.41
1,181.03	5.18	4.49
1,181.04	5.20	4.56
1,181.05	5.22	4.64
1,181.06	5.23	4.71
1,181.07	5.24	4.78
1,181.08	5.26	4.85
1,181.09	5.27	4.92
1,181.10	5.28	5.00
1,181.11	5.29	5.06
1,181.12	5.30	5.13
1,181.13	5.31	5.20
1,181.14	5.32	5.26
1,181.15	5.32	5.33
1,181.16	5.33	5.39
1,181.17	5.34	5.45
1,181.18	5.34	5.51
1,181.19	5.34	5.57
1,181.20	5.34	5.63
1,181.21	5.35	5.68
1,181.22	**5.35**	5.73
1,181.23	5.34	5.78
1,181.24	5.34	5.83
1,181.25	5.34	5.88
1,181.26	5.34	5.92
1,181.27	5.33	5.96
1,181.28	5.32	6.00
1,181.29	5.31	6.03
1,181.30	5.30	6.07
1,181.31	5.29	6.10
1,181.32	5.28	6.12
1,181.33	5.26	6.14
1,181.34	5.25	6.16
1,181.35	5.23	6.18
1,181.36	5.21	6.19
1,181.37	5.18	**6.19**
1,181.38	5.16	6.19
1,181.39	5.13	6.18
1,181.40	5.09	6.17
1,181.41	5.05	6.14
1,181.42	5.00	6.10
1,181.43	4.95	6.05
1,181.44	4.85	5.95
1,181.45	4.69	5.75

Summary for Reach DMH16: TO DMH#17

Inflow Area = 1.608 ac, 92.28% Impervious, Inflow Depth = 4.04" for 10-Year event
Inflow = 6.85 cfs @ 12.08 hrs, Volume= 0.542 af
Outflow = 6.81 cfs @ 12.08 hrs, Volume= 0.542 af, Atten= 1%, Lag= 0.4 min

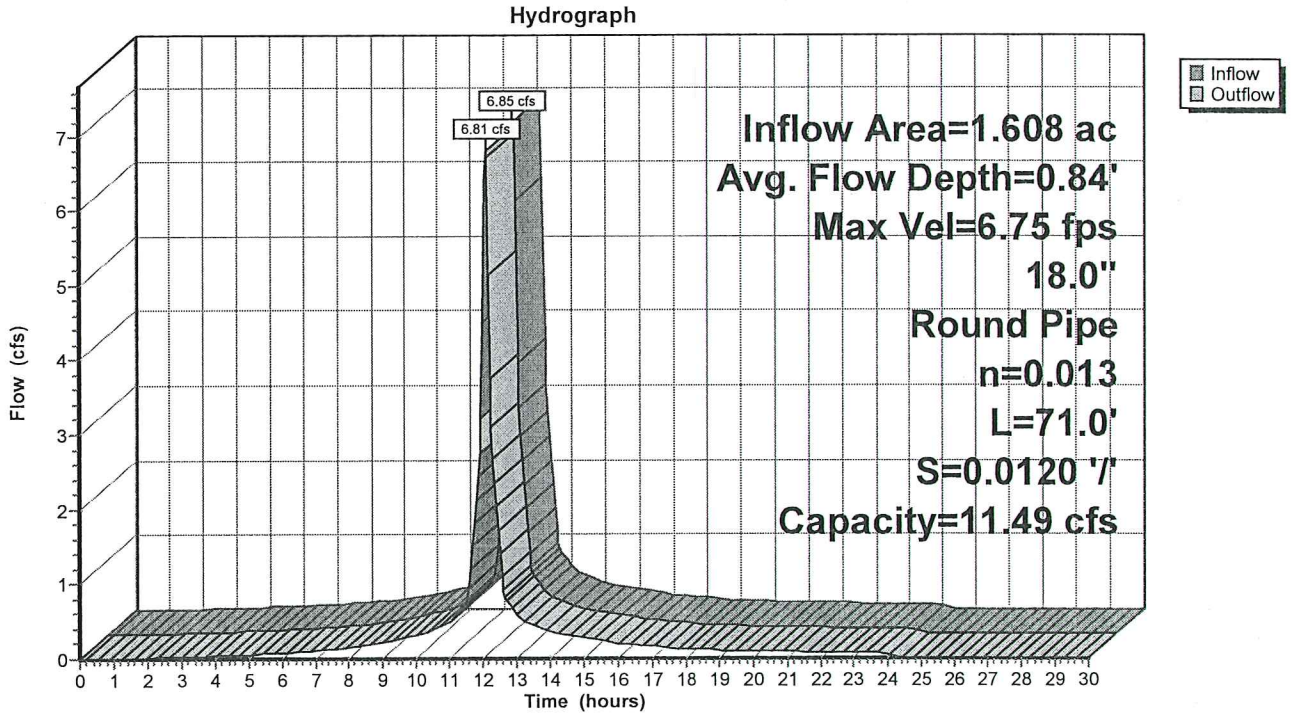
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.75 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.25 fps, Avg. Travel Time= 0.5 min

Peak Storage= 72 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.84'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 11.49 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 71.0' Slope= 0.0120 '/'
Inlet Invert= 1,179.60', Outlet Invert= 1,178.75'



Reach DMH16: TO DMH#17



Stage-Discharge for Reach DMH16: TO DMH#17

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.60	0.00	0.00
1,179.61	0.39	0.00
1,179.62	0.69	0.00
1,179.63	0.92	0.01
1,179.64	1.10	0.01
1,179.65	1.28	0.02
1,179.66	1.44	0.03
1,179.67	1.60	0.05
1,179.68	1.74	0.06
1,179.69	1.88	0.08
1,179.70	2.01	0.10
1,179.71	2.14	0.13
1,179.72	2.26	0.15
1,179.73	2.38	0.18
1,179.74	2.50	0.21
1,179.75	2.61	0.24
1,179.76	2.72	0.28
1,179.77	2.82	0.31
1,179.78	2.93	0.35
1,179.79	3.03	0.39
1,179.80	3.12	0.44
1,179.81	3.22	0.48
1,179.82	3.31	0.53
1,179.83	3.41	0.59
1,179.84	3.50	0.64
1,179.85	3.58	0.69
1,179.86	3.67	0.75
1,179.87	3.76	0.81
1,179.88	3.84	0.88
1,179.89	3.92	0.94
1,179.90	4.00	1.01
1,179.91	4.08	1.08
1,179.92	4.16	1.15
1,179.93	4.23	1.22
1,179.94	4.31	1.30
1,179.95	4.38	1.37
1,179.96	4.45	1.45
1,179.97	4.52	1.53
1,179.98	4.59	1.62
1,179.99	4.66	1.70
1,180.00	4.73	1.79
1,180.01	4.79	1.88
1,180.02	4.86	1.97
1,180.03	4.92	2.06
1,180.04	4.99	2.16
1,180.05	5.05	2.25
1,180.06	5.11	2.35
1,180.07	5.17	2.45
1,180.08	5.23	2.55
1,180.09	5.29	2.65
1,180.10	5.34	2.76
1,180.11	5.40	2.86
1,180.12	5.46	2.97
1,180.13	5.51	3.08
1,180.14	5.56	3.19
1,180.15	5.62	3.30
1,180.16	5.67	3.41
1,180.17	5.72	3.52
1,180.18	5.77	3.64
1,180.19	5.82	3.76
1,180.20	5.87	3.87
1,180.21	5.92	3.99
1,180.22	5.96	4.11
1,180.23	6.01	4.23
1,180.24	6.05	4.35
1,180.25	6.10	4.48
1,180.26	6.14	4.60
1,180.27	6.19	4.72
1,180.28	6.23	4.85
1,180.29	6.27	4.98
1,180.30	6.31	5.10
1,180.31	6.35	5.23
1,180.32	6.39	5.36
1,180.33	6.43	5.49
1,180.34	6.47	5.62
1,180.35	6.50	5.75
1,180.36	6.54	5.88
1,180.37	6.58	6.01
1,180.38	6.61	6.14
1,180.39	6.65	6.27
1,180.40	6.68	6.40
1,180.41	6.71	6.53
1,180.42	6.74	6.67
1,180.43	6.78	6.80
1,180.44	6.81	6.93
1,180.45	6.84	7.06
1,180.46	6.86	7.19
1,180.47	6.89	7.33
1,180.48	6.92	7.46
1,180.49	6.95	7.59
1,180.50	6.97	7.72
1,180.51	7.00	7.85
1,180.52	7.03	7.98
1,180.53	7.05	8.11
1,180.54	7.07	8.24
1,180.55	7.10	8.37
1,180.56	7.12	8.50
1,180.57	7.14	8.63
1,180.58	7.16	8.76
1,180.59	7.18	8.88
1,180.60	7.20	9.01
1,180.61	7.22	9.13
1,180.62	7.23	9.26
1,180.63	7.25	9.38
1,180.64	7.27	9.50
1,180.65	7.28	9.62
1,180.66	7.30	9.74
1,180.67	7.31	9.86
1,180.68	7.32	9.98
1,180.69	7.34	10.09
1,180.70	7.35	10.20
1,180.71	7.36	10.32
1,180.72	7.37	10.43
1,180.73	7.38	10.53
1,180.74	7.38	10.64
1,180.75	7.39	10.74
1,180.76	7.40	10.85
1,180.77	7.40	10.95
1,180.78	7.41	11.05
1,180.79	7.41	11.14
1,180.80	7.41	11.23
1,180.81	7.41	11.32
1,180.82	**7.41**	11.41
1,180.83	7.41	11.50
1,180.84	7.41	11.58
1,180.85	7.41	11.66
1,180.86	7.41	11.74
1,180.87	7.40	11.81
1,180.88	7.39	11.88
1,180.89	7.39	11.94
1,180.90	7.38	12.00
1,180.91	7.37	12.06
1,180.92	7.36	12.12
1,180.93	7.34	12.16
1,180.94	7.33	12.21
1,180.95	7.31	12.25
1,180.96	7.29	12.28
1,180.97	7.27	12.31
1,180.98	7.25	12.34
1,180.99	7.23	12.35
1,181.00	7.20	12.36
1,181.01	7.17	**12.36**
1,181.02	7.14	12.35
1,181.03	7.10	12.34
1,181.04	7.06	12.31
1,181.05	7.02	12.27
1,181.06	6.96	12.21
1,181.07	6.91	12.15
1,181.08	6.83	12.03
1,181.09	6.69	11.81
1,181.10	6.50	11.49

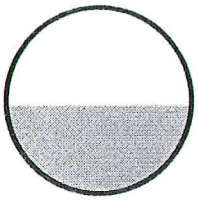
Summary for Reach DMH17: TO UGS#1B

Inflow Area = 1.608 ac, 92.28% Impervious, Inflow Depth = 4.04" for 10-Year event
Inflow = 6.81 cfs @ 12.08 hrs, Volume= 0.542 af
Outflow = 6.81 cfs @ 12.08 hrs, Volume= 0.542 af, Atten= 0%, Lag= 0.0 min

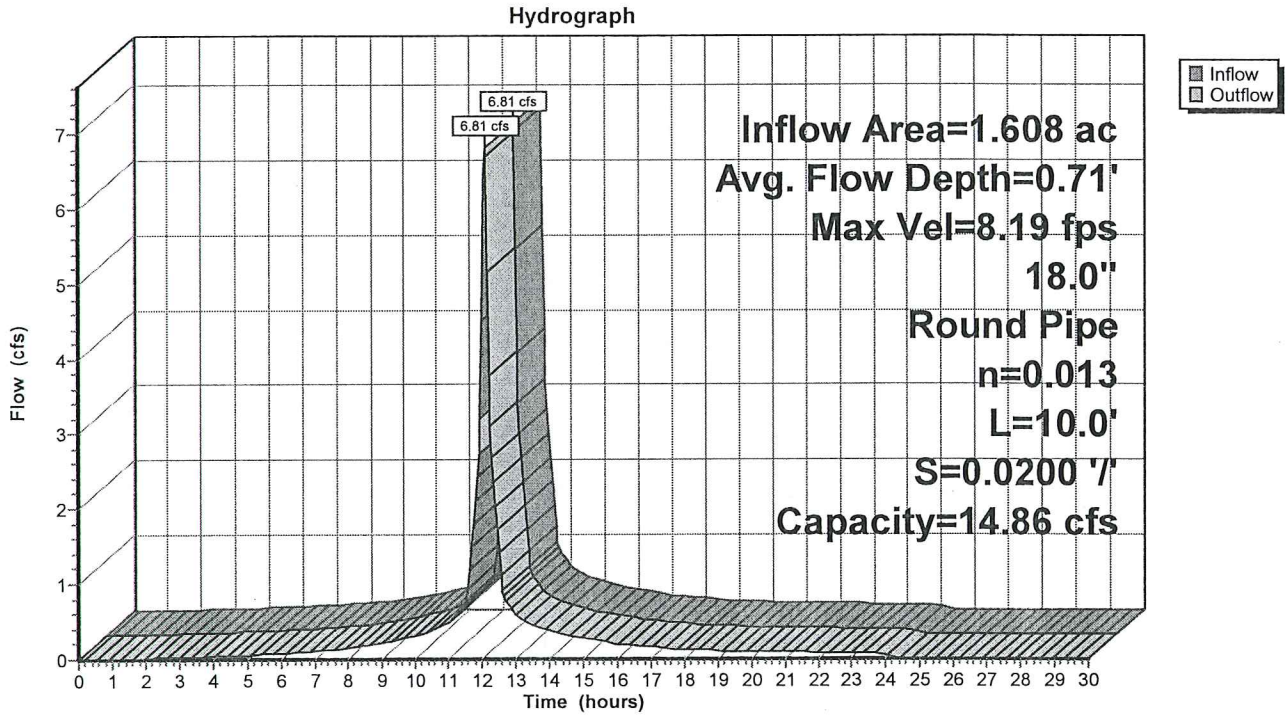
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.19 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.69 fps, Avg. Travel Time= 0.1 min

Peak Storage= 8 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.71'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 14.86 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 10.0' Slope= 0.0200 '/'
Inlet Invert= 1,178.50', Outlet Invert= 1,178.30'



Reach DMH17: TO UGS#1B



Stage-Discharge for Reach DMH17: TO UGS#1B

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.50	0.00	0.00
1,178.51	0.50	0.00
1,178.52	0.89	0.00
1,178.53	1.18	0.01
1,178.54	1.43	0.02
1,178.55	1.65	0.03
1,178.56	1.87	0.04
1,178.57	2.06	0.06
1,178.58	2.25	0.08
1,178.59	2.43	0.11
1,178.60	2.60	0.13
1,178.61	2.77	0.16
1,178.62	2.93	0.19
1,178.63	3.08	0.23
1,178.64	3.23	0.27
1,178.65	3.37	0.31
1,178.66	3.51	0.36
1,178.67	3.65	0.40
1,178.68	3.78	0.45
1,178.69	3.91	0.51
1,178.70	4.04	0.57
1,178.71	4.16	0.63
1,178.72	4.28	0.69
1,178.73	4.40	0.76
1,178.74	4.52	0.82
1,178.75	4.63	0.90
1,178.76	4.74	0.97
1,178.77	4.85	1.05
1,178.78	4.96	1.13
1,178.79	5.07	1.22
1,178.80	5.17	1.30
1,178.81	5.27	1.39
1,178.82	5.37	1.48
1,178.83	5.47	1.58
1,178.84	5.57	1.67
1,178.85	5.66	1.77
1,178.86	5.75	1.88
1,178.87	5.84	1.98
1,178.88	5.93	2.09
1,178.89	6.02	2.20
1,178.90	6.11	2.31
1,178.91	6.20	2.43
1,178.92	6.28	2.54
1,178.93	6.36	2.66
1,178.94	6.44	2.79
1,178.95	6.52	2.91
1,178.96	6.60	3.04
1,178.97	6.68	3.16
1,178.98	6.76	3.29
1,178.99	6.83	3.43
1,179.00	6.91	3.56
1,179.01	6.98	3.70
1,179.02	7.05	3.84
1,179.03	7.12	3.98
1,179.04	7.19	4.12
1,179.05	7.26	4.26
1,179.06	7.33	4.41
1,179.07	7.39	4.56
1,179.08	7.46	4.70
1,179.09	7.52	4.85
1,179.10	7.58	5.01
1,179.11	7.65	5.16
1,179.12	7.71	5.31
1,179.13	7.77	5.47
1,179.14	7.82	5.63
1,179.15	7.88	5.79
1,179.16	7.94	5.95
1,179.17	8.00	6.11
1,179.18	8.05	6.27
1,179.19	8.10	6.43
1,179.20	8.16	6.60
1,179.21	8.21	6.76
1,179.22	8.26	6.93
1,179.23	8.31	7.09
1,179.24	8.36	7.26
1,179.25	8.41	7.43
1,179.26	8.45	7.60
1,179.27	8.50	7.77
1,179.28	8.54	7.93
1,179.29	8.59	8.10
1,179.30	8.63	8.27
1,179.31	8.67	8.44
1,179.32	8.72	8.62
1,179.33	8.76	8.79
1,179.34	8.80	8.96
1,179.35	8.84	9.13
1,179.36	8.87	9.30
1,179.37	8.91	9.47
1,179.38	8.95	9.64
1,179.39	8.98	9.81
1,179.40	9.02	9.98
1,179.41	9.05	10.15
1,179.42	9.08	10.32
1,179.43	9.11	10.49
1,179.44	9.14	10.66
1,179.45	9.17	10.82
1,179.46	9.20	10.99
1,179.47	9.23	11.15
1,179.48	9.25	11.32
1,179.49	9.28	11.48
1,179.50	9.30	11.64
1,179.51	9.33	11.81
1,179.52	9.35	11.97
1,179.53	9.37	12.12
1,179.54	9.39	12.28
1,179.55	9.41	12.44
1,179.56	9.43	12.59
1,179.57	9.45	12.74
1,179.58	9.47	12.89
1,179.59	9.48	13.04
1,179.60	9.50	13.19
1,179.61	9.51	13.33
1,179.62	9.52	13.48
1,179.63	9.53	13.62
1,179.64	9.54	13.75
1,179.65	9.55	13.89
1,179.66	9.56	14.02
1,179.67	9.57	14.15
1,179.68	9.57	14.28
1,179.69	9.58	14.40
1,179.70	9.58	14.52
1,179.71	9.58	14.64
1,179.72	**9.58**	14.75
1,179.73	9.58	14.86
1,179.74	9.58	14.97
1,179.75	9.58	15.07
1,179.76	9.57	15.17
1,179.77	9.57	15.26
1,179.78	9.56	15.35
1,179.79	9.55	15.44
1,179.80	9.54	15.52
1,179.81	9.52	15.59
1,179.82	9.51	15.66
1,179.83	9.49	15.72
1,179.84	9.47	15.78
1,179.85	9.45	15.83
1,179.86	9.43	15.88
1,179.87	9.40	15.91
1,179.88	9.37	15.94
1,179.89	9.34	15.96
1,179.90	9.31	15.97
1,179.91	9.27	**15.98**
1,179.92	9.23	15.97
1,179.93	9.18	15.95
1,179.94	9.13	15.92
1,179.95	9.07	15.86
1,179.96	9.00	15.79
1,179.97	8.93	15.70
1,179.98	8.82	15.55
1,179.99	8.65	15.27
1,180.00	8.41	14.86

Summary for Reach DMH18: TO DMH#20

Inflow Area = 0.317 ac, 76.53% Impervious, Inflow Depth = 3.60" for 10-Year event
Inflow = 1.28 cfs @ 12.07 hrs, Volume= 0.095 af
Outflow = 1.25 cfs @ 12.09 hrs, Volume= 0.095 af, Atten= 3%, Lag= 1.3 min

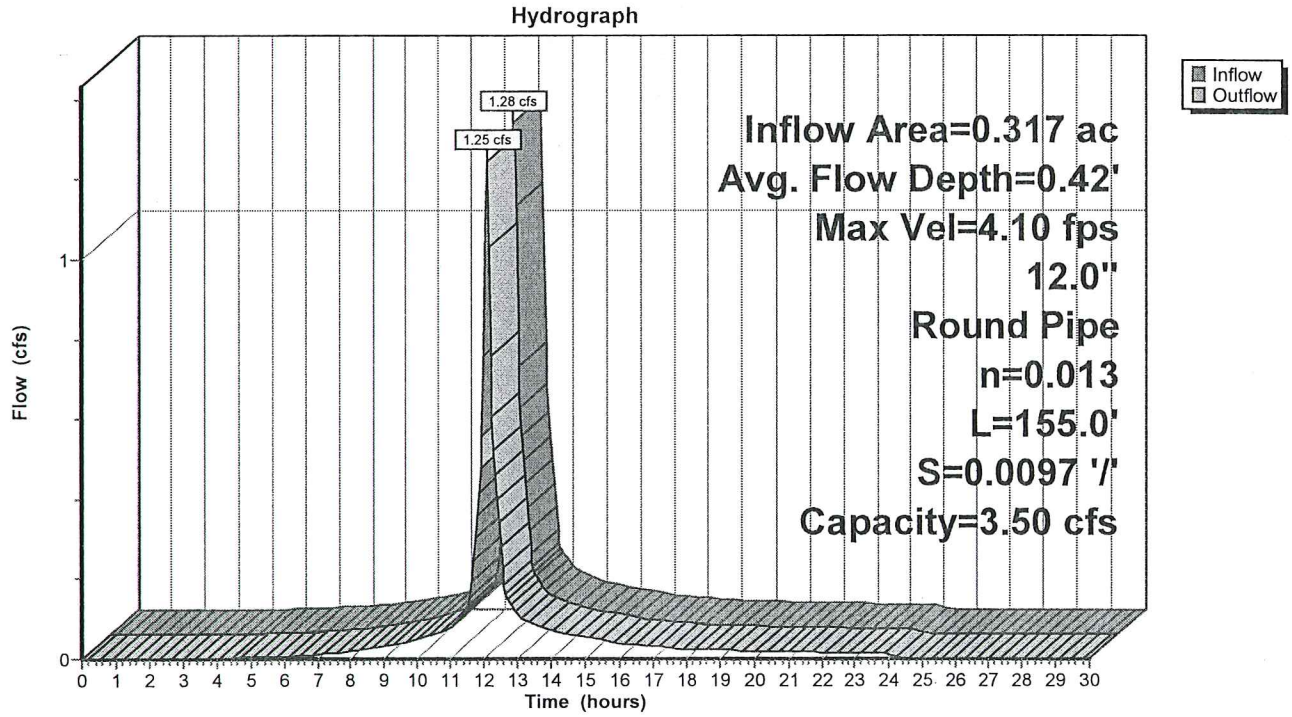
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.10 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.34 fps, Avg. Travel Time= 1.9 min

Peak Storage= 48 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.42'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.50 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 155.0' Slope= 0.0097 '/'
Inlet Invert= 1,179.20', Outlet Invert= 1,177.70'



Reach DMH18: TO DMH#20



Stage-Discharge for Reach DMH18: TO DMH#20

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.20	0.00	0.00
1,179.21	0.40	0.00
1,179.22	0.63	0.00
1,179.23	0.82	0.01
1,179.24	0.99	0.01
1,179.25	1.15	0.02
1,179.26	1.29	0.02
1,179.27	1.43	0.03
1,179.28	1.55	0.05
1,179.29	1.67	0.06
1,179.30	1.79	0.07
1,179.31	1.90	0.09
1,179.32	2.01	0.11
1,179.33	2.11	0.13
1,179.34	2.21	0.15
1,179.35	2.31	0.17
1,179.36	2.40	0.19
1,179.37	2.49	0.22
1,179.38	2.58	0.25
1,179.39	2.66	0.28
1,179.40	2.74	0.31
1,179.41	2.83	0.34
1,179.42	2.90	0.37
1,179.43	2.98	0.41
1,179.44	3.05	0.44
1,179.45	3.13	0.48
1,179.46	3.20	0.52
1,179.47	3.27	0.56
1,179.48	3.33	0.60
1,179.49	3.40	0.64
1,179.50	3.46	0.69
1,179.51	3.53	0.73
1,179.52	3.59	0.78
1,179.53	3.65	0.82
1,179.54	3.70	0.87
1,179.55	3.76	0.92
1,179.56	3.82	0.97
1,179.57	3.87	1.02
1,179.58	3.92	1.07
1,179.59	3.98	1.13
1,179.60	4.03	1.18
1,179.61	4.07	1.24
1,179.62	4.12	1.29
1,179.63	4.17	1.35
1,179.64	4.21	1.40
1,179.65	4.26	1.46
1,179.66	4.30	1.52
1,179.67	4.34	1.58
1,179.68	4.38	1.63
1,179.69	4.42	1.69
1,179.70	4.46	1.75
1,179.71	4.50	1.81
1,179.72	4.54	1.87
1,179.73	4.57	1.93
1,179.74	4.61	1.99
1,179.75	4.64	2.05
1,179.76	4.67	2.11
1,179.77	4.70	2.17
1,179.78	4.73	2.23
1,179.79	4.76	2.29
1,179.80	4.79	2.35
1,179.81	4.81	2.41
1,179.82	4.84	2.47
1,179.83	4.86	2.53
1,179.84	4.88	2.59
1,179.85	4.91	2.65
1,179.86	4.93	2.71
1,179.87	4.95	2.77
1,179.88	4.96	2.82
1,179.89	4.98	2.88
1,179.90	5.00	2.93
1,179.91	5.01	2.99
1,179.92	5.03	3.04
1,179.93	5.04	3.09
1,179.94	5.05	3.15
1,179.95	5.06	3.20
1,179.96	5.07	3.24
1,179.97	5.07	3.29
1,179.98	5.08	3.34
1,179.99	5.08	3.38
1,180.00	5.09	3.43
1,180.01	**5.09**	3.47
1,180.02	5.09	3.51
1,180.03	5.09	3.54
1,180.04	5.08	3.58
1,180.05	5.08	3.61
1,180.06	5.07	3.64
1,180.07	5.06	3.67
1,180.08	5.05	3.69
1,180.09	5.03	3.72
1,180.10	5.02	3.74
1,180.11	5.00	3.75
1,180.12	4.98	3.76
1,180.13	4.95	3.77
1,180.14	4.92	**3.77**
1,180.15	4.89	3.77
1,180.16	4.85	3.76
1,180.17	4.80	3.74
1,180.18	4.74	3.70
1,180.19	4.66	3.65
1,180.20	4.46	3.50

Summary for Reach DMH19: TO DMH-A1

Inflow Area = 0.724 ac, 81.12% Impervious, Inflow Depth = 3.75" for 10-Year event
Inflow = 2.94 cfs @ 12.08 hrs, Volume= 0.226 af
Outflow = 2.93 cfs @ 12.08 hrs, Volume= 0.226 af, Atten= 0%, Lag= 0.1 min

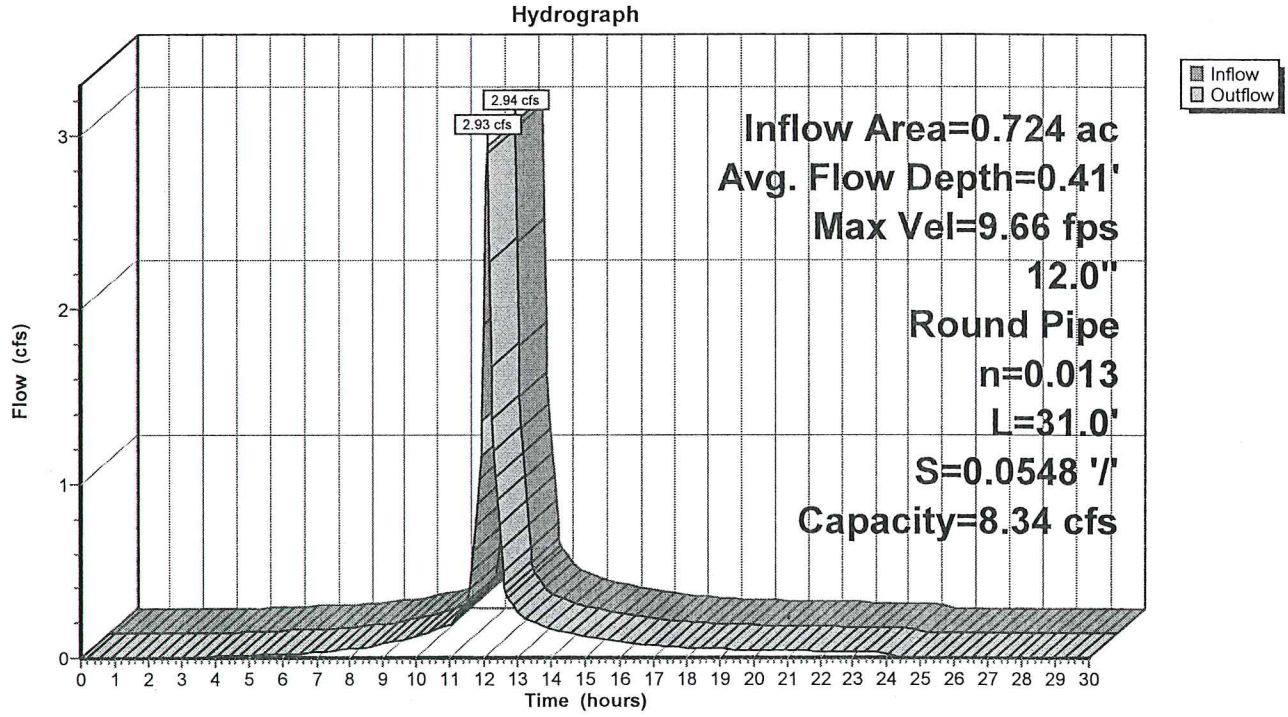
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.66 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.14 fps, Avg. Travel Time= 0.2 min

Peak Storage= 9 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.41'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.34 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 31.0' Slope= 0.0548 '/'
Inlet Invert= 1,177.10', Outlet Invert= 1,175.40'



Reach DMH19: TO DMH-A1



Stage-Discharge for Reach DMH19: TO DMH-A1

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,177.10	0.00	0.00
1,177.11	0.95	0.00
1,177.12	1.50	0.01
1,177.13	1.95	0.01
1,177.14	2.36	0.02
1,177.15	2.73	0.04
1,177.16	3.07	0.06
1,177.17	3.39	0.08
1,177.18	3.70	0.11
1,177.19	3.99	0.14
1,177.20	4.26	0.17
1,177.21	4.53	0.21
1,177.22	4.78	0.26
1,177.23	5.02	0.30
1,177.24	5.26	0.35
1,177.25	5.49	0.41
1,177.26	5.71	0.46
1,177.27	5.93	0.52
1,177.28	6.13	0.59
1,177.29	6.34	0.66
1,177.30	6.53	0.73
1,177.31	6.73	0.81
1,177.32	6.91	0.89
1,177.33	7.09	0.97
1,177.34	7.27	1.05
1,177.35	7.44	1.14
1,177.36	7.61	1.24
1,177.37	7.78	1.33
1,177.38	7.94	1.43
1,177.39	8.09	1.53
1,177.40	8.24	1.63
1,177.41	8.39	1.74
1,177.42	8.54	1.85
1,177.43	8.68	1.96
1,177.44	8.82	2.08
1,177.45	8.95	2.19
1,177.46	9.09	2.31
1,177.47	9.22	2.43
1,177.48	9.34	2.56
1,177.49	9.46	2.68
1,177.50	9.58	2.81
1,177.51	9.70	2.94
1,177.52	9.81	3.07
1,177.53	9.93	3.21
1,177.54	10.03	3.34
1,177.55	10.14	3.48
1,177.56	10.24	3.61
1,177.57	10.34	3.75
1,177.58	10.44	3.89
1,177.59	10.53	4.03
1,177.60	10.62	4.17
1,177.61	10.71	4.31
1,177.62	10.80	4.46
1,177.63	10.88	4.60
1,177.64	10.96	4.74
1,177.65	11.04	4.89
1,177.66	11.12	5.03
1,177.67	11.19	5.17
1,177.68	11.26	5.32
1,177.69	11.33	5.46
1,177.70	11.39	5.61
1,177.71	11.45	5.75
1,177.72	11.51	5.89
1,177.73	11.57	6.03
1,177.74	11.63	6.17
1,177.75	11.68	6.31
1,177.76	11.73	6.45
1,177.77	11.77	6.59
1,177.78	11.82	6.72
1,177.79	11.86	6.85
1,177.80	11.90	6.99
1,177.81	11.93	7.11
1,177.82	11.96	7.24
1,177.83	11.99	7.37
1,177.84	12.02	7.49
1,177.85	12.04	7.61
1,177.86	12.06	7.72
1,177.87	12.08	7.84
1,177.88	12.09	7.95
1,177.89	12.10	8.05
1,177.90	12.11	8.16
1,177.91	**12.11**	8.25
1,177.92	12.11	8.35
1,177.93	12.10	8.44
1,177.94	12.10	8.52
1,177.95	12.08	8.60
1,177.96	12.07	8.67
1,177.97	12.04	8.74
1,177.98	12.02	8.80
1,177.99	11.98	8.85
1,178.00	11.94	8.89
1,178.01	11.90	8.93
1,178.02	11.85	8.95
1,178.03	11.78	8.97
1,178.04	11.71	**8.97**
1,178.05	11.63	8.96
1,178.06	11.54	8.94
1,178.07	11.42	8.89
1,178.08	11.28	8.82
1,178.09	11.09	8.69
1,178.10	10.62	8.34

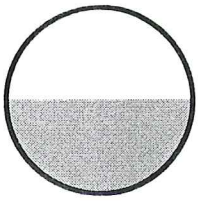
Summary for Reach DMH2: TO DMH#3

Inflow Area = 0.618 ac, 81.95% Impervious, Inflow Depth = 3.81" for 10-Year event
Inflow = 2.55 cfs @ 12.08 hrs, Volume= 0.196 af
Outflow = 2.53 cfs @ 12.09 hrs, Volume= 0.196 af, Atten= 1%, Lag= 0.5 min

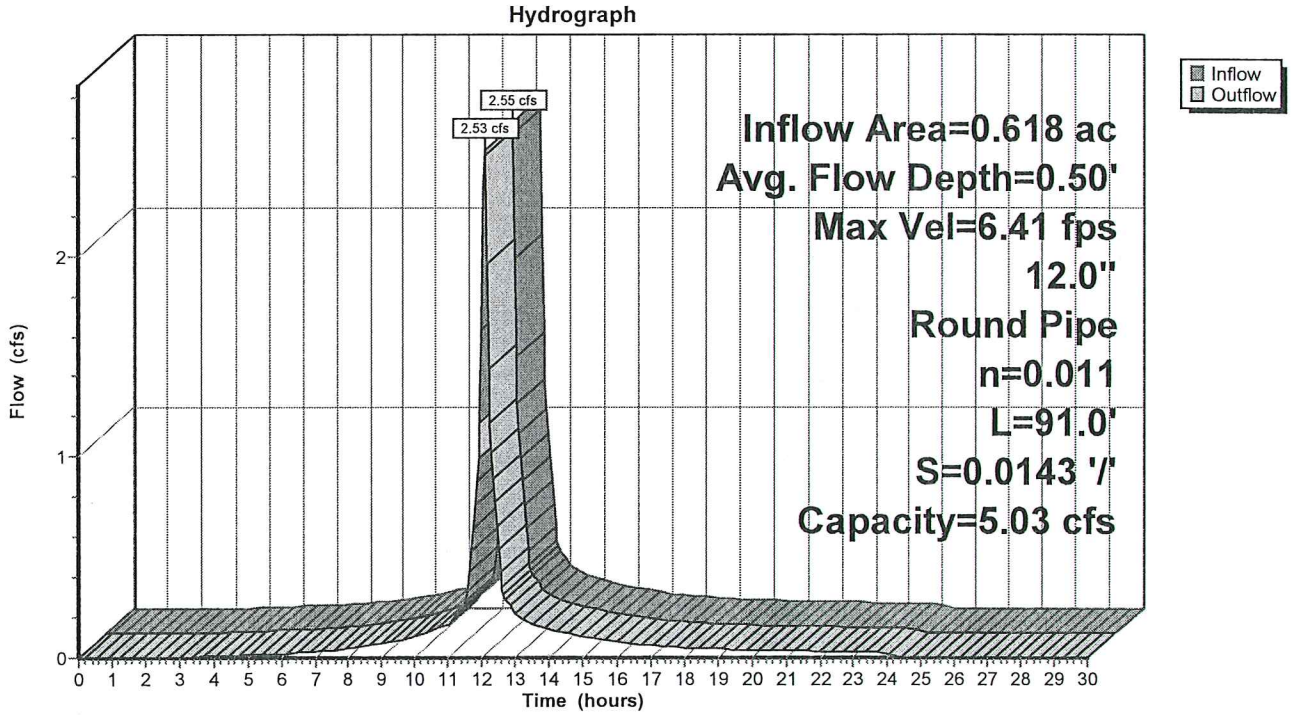
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.41 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.11 fps, Avg. Travel Time= 0.7 min

Peak Storage= 36 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.50'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.03 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 91.0' Slope= 0.0143 '/'
Inlet Invert= 1,174.60', Outlet Invert= 1,173.30'



Reach DMH2: TO DMH#3



Stage-Discharge for Reach DMH2: TO DMH#3

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,174.60	0.00	0.00
1,174.61	0.57	0.00
1,174.62	0.90	0.00
1,174.63	1.18	0.01
1,174.64	1.42	0.01
1,174.65	1.65	0.02
1,174.66	1.85	0.04
1,174.67	2.05	0.05
1,174.68	2.23	0.07
1,174.69	2.40	0.08
1,174.70	2.57	0.11
1,174.71	2.73	0.13
1,174.72	2.88	0.15
1,174.73	3.03	0.18
1,174.74	3.17	0.21
1,174.75	3.31	0.24
1,174.76	3.45	0.28
1,174.77	3.57	0.32
1,174.78	3.70	0.36
1,174.79	3.82	0.40
1,174.80	3.94	0.44
1,174.81	4.06	0.49
1,174.82	4.17	0.53
1,174.83	4.28	0.58
1,174.84	4.39	0.64
1,174.85	4.49	0.69
1,174.86	4.59	0.74
1,174.87	4.69	0.80
1,174.88	4.79	0.86
1,174.89	4.88	0.92
1,174.90	4.97	0.99
1,174.91	5.06	1.05
1,174.92	5.15	1.12
1,174.93	5.24	1.18
1,174.94	5.32	1.25
1,174.95	5.40	1.32
1,174.96	5.48	1.40
1,174.97	5.56	1.47
1,174.98	5.63	1.54
1,174.99	5.71	1.62
1,175.00	5.78	1.70
1,175.01	5.85	1.77
1,175.02	5.92	1.85
1,175.03	5.99	1.93
1,175.04	6.05	2.01
1,175.05	6.12	2.10
1,175.06	6.18	2.18
1,175.07	6.24	2.26
1,175.08	6.30	2.35
1,175.09	6.35	2.43
1,175.10	6.41	2.52
1,175.11	6.46	2.60
1,175.12	6.51	2.69
1,175.13	6.56	2.77
1,175.14	6.61	2.86
1,175.15	6.66	2.95
1,175.16	6.71	3.03
1,175.17	6.75	3.12
1,175.18	6.79	3.21
1,175.19	6.83	3.29
1,175.20	6.87	3.38
1,175.21	6.91	3.47
1,175.22	6.95	3.55
1,175.23	6.98	3.64
1,175.24	7.01	3.72
1,175.25	7.04	3.81
1,175.26	7.07	3.89
1,175.27	7.10	3.97
1,175.28	7.13	4.05
1,175.29	7.15	4.13
1,175.30	7.18	4.21
1,175.31	7.20	4.29
1,175.32	7.22	4.37
1,175.33	7.23	4.44
1,175.34	7.25	4.52
1,175.35	7.26	4.59
1,175.36	7.28	4.66
1,175.37	7.29	4.73
1,175.38	7.29	4.79
1,175.39	7.30	4.86
1,175.40	7.30	4.92
1,175.41	**7.30**	4.98
1,175.42	7.30	5.03
1,175.43	7.30	5.09
1,175.44	7.30	5.14
1,175.45	7.29	5.19
1,175.46	7.28	5.23
1,175.47	7.26	5.27
1,175.48	7.25	5.31
1,175.49	7.23	5.34
1,175.50	7.20	5.36
1,175.51	7.18	5.39
1,175.52	7.15	5.40
1,175.53	7.11	5.41
1,175.54	7.07	**5.41**
1,175.55	7.02	5.41
1,175.56	6.96	5.39
1,175.57	6.89	5.36
1,175.58	6.80	5.32
1,175.59	6.69	5.24
1,175.60	6.41	5.03

Summary for Reach DMH3: TO DMH#4

Inflow Area = 0.891 ac, 70.65% Impervious, Inflow Depth = 3.53" for 10-Year event
Inflow = 3.45 cfs @ 12.08 hrs, Volume= 0.262 af
Outflow = 3.45 cfs @ 12.09 hrs, Volume= 0.262 af, Atten= 0%, Lag= 0.1 min

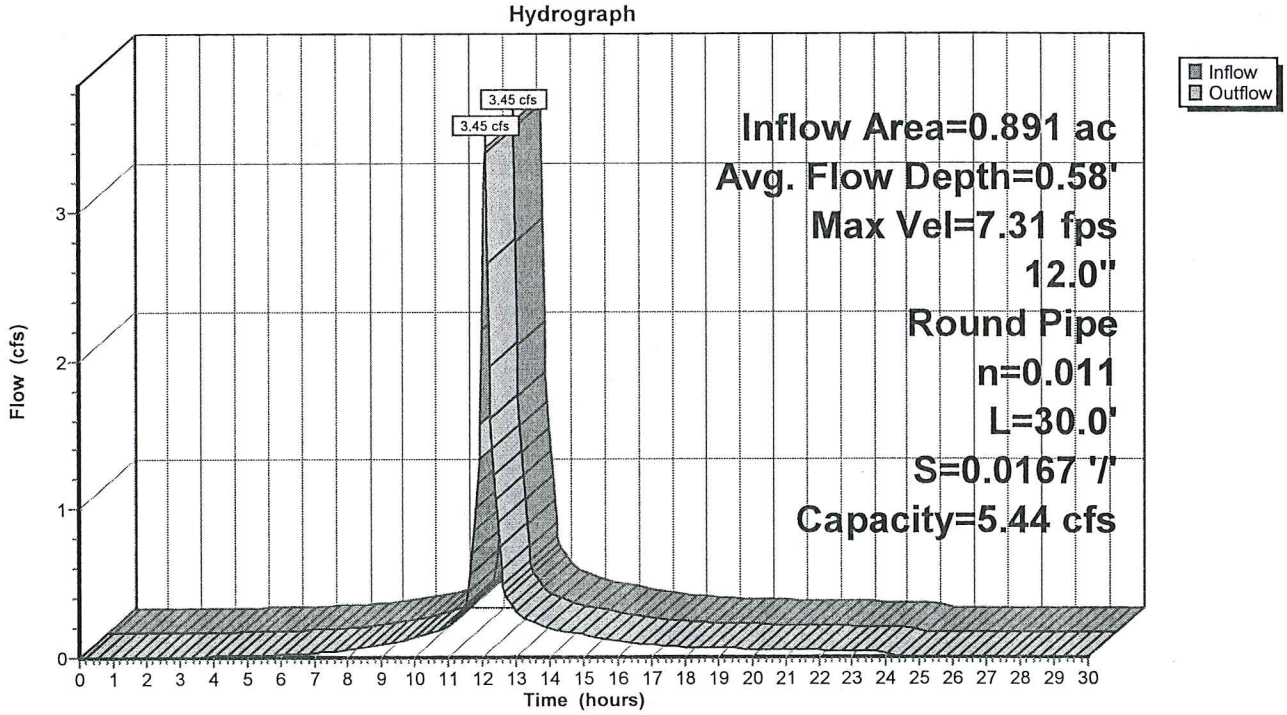
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.31 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.40 fps, Avg. Travel Time= 0.2 min

Peak Storage= 14 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.58'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.44 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 30.0' Slope= 0.0167 '/'
Inlet Invert= 1,173.30', Outlet Invert= 1,172.80'



Reach DMH3: TO DMH#4



Stage-Discharge for Reach DMH3: TO DMH#4

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,173.30	0.00	0.00
1,173.31	0.62	0.00
1,173.32	0.97	0.00
1,173.33	1.27	0.01
1,173.34	1.54	0.02
1,173.35	1.78	0.03
1,173.36	2.00	0.04
1,173.37	2.21	0.05
1,173.38	2.41	0.07
1,173.39	2.60	0.09
1,173.40	2.78	0.11
1,173.41	2.95	0.14
1,173.42	3.11	0.17
1,173.43	3.27	0.20
1,173.44	3.43	0.23
1,173.45	3.58	0.26
1,173.46	3.72	0.30
1,173.47	3.86	0.34
1,173.48	4.00	0.38
1,173.49	4.13	0.43
1,173.50	4.26	0.48
1,173.51	4.38	0.53
1,173.52	4.50	0.58
1,173.53	4.62	0.63
1,173.54	4.74	0.69
1,173.55	4.85	0.74
1,173.56	4.96	0.80
1,173.57	5.07	0.87
1,173.58	5.17	0.93
1,173.59	5.27	1.00
1,173.60	5.37	1.06
1,173.61	5.47	1.13
1,173.62	5.56	1.21
1,173.63	5.66	1.28
1,173.64	5.75	1.35
1,173.65	5.83	1.43
1,173.66	5.92	1.51
1,173.67	6.00	1.59
1,173.68	6.09	1.67
1,173.69	6.17	1.75
1,173.70	6.24	1.83
1,173.71	6.32	1.92
1,173.72	6.39	2.00
1,173.73	6.47	2.09
1,173.74	6.54	2.18
1,173.75	6.61	2.26
1,173.76	6.67	2.35
1,173.77	6.74	2.44
1,173.78	6.80	2.53
1,173.79	6.86	2.63
1,173.80	6.92	2.72
1,173.81	6.98	2.81
1,173.82	7.04	2.90
1,173.83	7.09	3.00
1,173.84	7.14	3.09
1,173.85	7.19	3.18
1,173.86	7.24	3.28
1,173.87	7.29	3.37
1,173.88	7.34	3.47
1,173.89	7.38	3.56
1,173.90	7.42	3.65
1,173.91	7.46	3.74
1,173.92	7.50	3.84
1,173.93	7.54	3.93
1,173.94	7.57	4.02
1,173.95	7.61	4.11
1,173.96	7.64	4.20
1,173.97	7.67	4.29
1,173.98	7.70	4.38
1,173.99	7.73	4.47
1,174.00	7.75	4.55
1,174.01	7.77	4.64
1,174.02	7.79	4.72
1,174.03	7.81	4.80
1,174.04	7.83	4.88
1,174.05	7.84	4.96
1,174.06	7.86	5.03
1,174.07	7.87	5.11
1,174.08	7.88	5.18
1,174.09	7.88	5.25
1,174.10	7.89	5.31
1,174.11	**7.89**	5.38
1,174.12	7.89	5.44
1,174.13	7.89	5.50
1,174.14	7.88	5.55
1,174.15	7.87	5.60
1,174.16	7.86	5.65
1,174.17	7.85	5.69
1,174.18	7.83	5.73
1,174.19	7.81	5.76
1,174.20	7.78	5.79
1,174.21	7.75	5.82
1,174.22	7.72	5.83
1,174.23	7.68	5.84
1,174.24	7.63	**5.85**
1,174.25	7.58	5.84
1,174.26	7.52	5.82
1,174.27	7.44	5.79
1,174.28	7.35	5.74
1,174.29	7.22	5.66
1,174.30	6.92	5.44

Summary for Reach DMH4: TO DMH-E

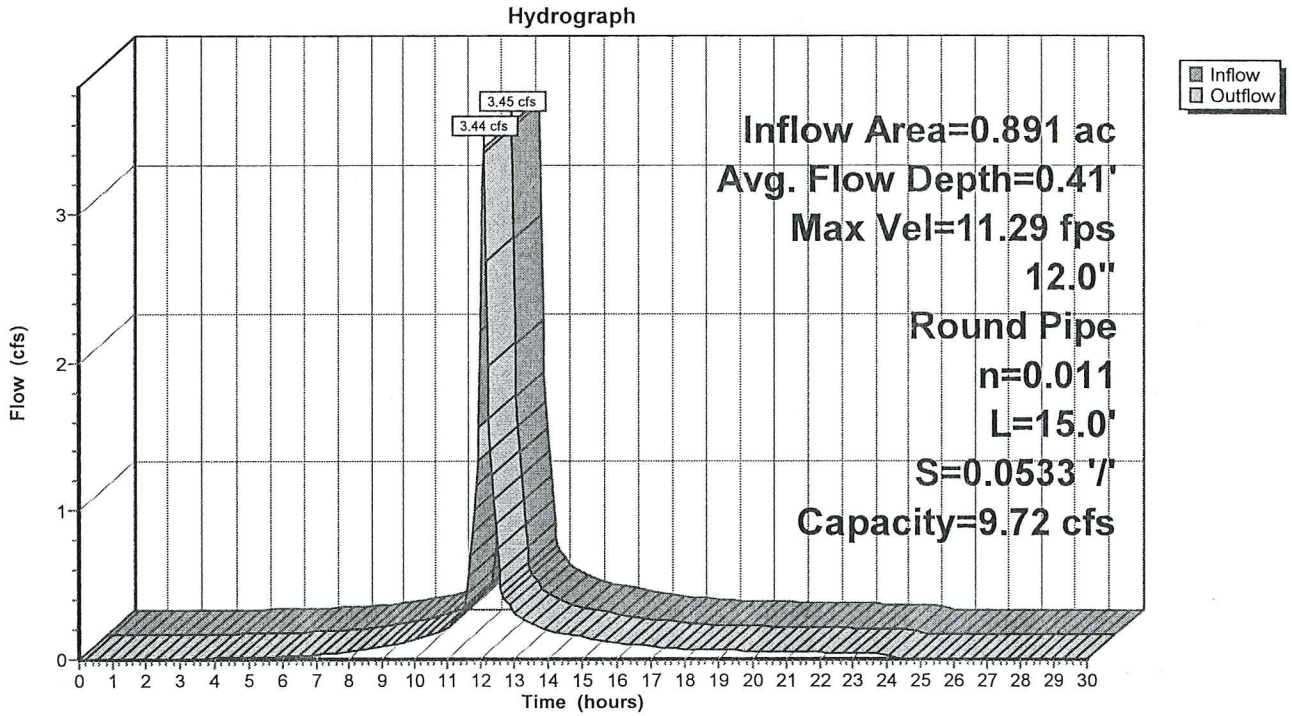
Inflow Area = 0.891 ac, 70.65% Impervious, Inflow Depth = 3.53" for 10-Year event
Inflow = 3.45 cfs @ 12.09 hrs, Volume= 0.262 af
Outflow = 3.44 cfs @ 12.09 hrs, Volume= 0.262 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.29 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.62 fps, Avg. Travel Time= 0.1 min

Peak Storage= 5 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.41'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 9.72 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 15.0' Slope= 0.0533 '/'
Inlet Invert= 1,172.80', Outlet Invert= 1,172.00'





Stage-Discharge for Reach DMH4: TO DMH-E

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,172.80	0.00	0.00
1,172.81	1.10	0.00
1,172.82	1.74	0.01
1,172.83	2.28	0.02
1,172.84	2.75	0.03
1,172.85	3.18	0.05
1,172.86	3.58	0.07
1,172.87	3.95	0.10
1,172.88	4.31	0.13
1,172.89	4.65	0.16
1,172.90	4.97	0.20
1,172.91	5.27	0.25
1,172.92	5.57	0.30
1,172.93	5.86	0.35
1,172.94	6.13	0.41
1,172.95	6.40	0.47
1,172.96	6.66	0.54
1,172.97	6.91	0.61
1,172.98	7.15	0.69
1,172.99	7.39	0.77
1,173.00	7.61	0.85
1,173.01	7.84	0.94
1,173.02	8.06	1.03
1,173.03	8.27	1.13
1,173.04	8.47	1.23
1,173.05	8.67	1.33
1,173.06	8.87	1.44
1,173.07	9.06	1.55
1,173.08	9.25	1.67
1,173.09	9.43	1.78
1,173.10	9.61	1.90
1,173.11	9.78	2.03
1,173.12	9.95	2.16
1,173.13	10.12	2.29
1,173.14	10.28	2.42
1,173.15	10.44	2.56
1,173.16	10.59	2.70
1,173.17	10.74	2.84
1,173.18	10.89	2.98
1,173.19	11.03	3.13
1,173.20	11.17	3.28
1,173.21	11.31	3.43
1,173.22	11.44	3.58
1,173.23	11.57	3.74
1,173.24	11.69	3.89
1,173.25	11.82	4.05
1,173.26	11.94	4.21
1,173.27	12.05	4.37
1,173.28	12.16	4.53
1,173.29	12.27	4.70
1,173.30	12.38	4.86
1,173.31	12.48	5.03
1,173.32	12.58	5.19
1,173.33	12.68	5.36
1,173.34	12.78	5.53
1,173.35	12.87	5.70
1,173.36	12.96	5.86
1,173.37	13.04	6.03
1,173.38	13.12	6.20
1,173.39	13.20	6.37
1,173.40	13.28	6.53
1,173.41	13.35	6.70
1,173.42	13.42	6.86
1,173.43	13.49	7.03
1,173.44	13.55	7.19
1,173.45	13.61	7.36
1,173.46	13.67	7.52
1,173.47	13.72	7.68
1,173.48	13.77	7.83
1,173.49	13.82	7.99
1,173.50	13.86	8.14
1,173.51	13.90	8.29
1,173.52	13.94	8.44
1,173.53	13.98	8.59
1,173.54	14.01	8.73
1,173.55	14.03	8.87
1,173.56	14.06	9.00
1,173.57	14.08	9.13
1,173.58	14.09	9.26
1,173.59	14.10	9.39
1,173.60	14.11	9.50
1,173.61	**14.11**	9.62
1,173.62	14.11	9.73
1,173.63	14.11	9.83
1,173.64	14.10	9.93
1,173.65	14.08	10.02
1,173.66	14.06	10.10
1,173.67	14.04	10.18
1,173.68	14.00	10.25
1,173.69	13.97	10.31
1,173.70	13.92	10.36
1,173.71	13.87	10.41
1,173.72	13.81	10.44
1,173.73	13.73	10.46
1,173.74	13.65	**10.46**
1,173.75	13.56	10.45
1,173.76	13.44	10.42
1,173.77	13.31	10.36
1,173.78	13.15	10.28
1,173.79	12.92	10.13
1,173.80	12.38	9.72

Summary for Reach DMH5: TO DMH#6

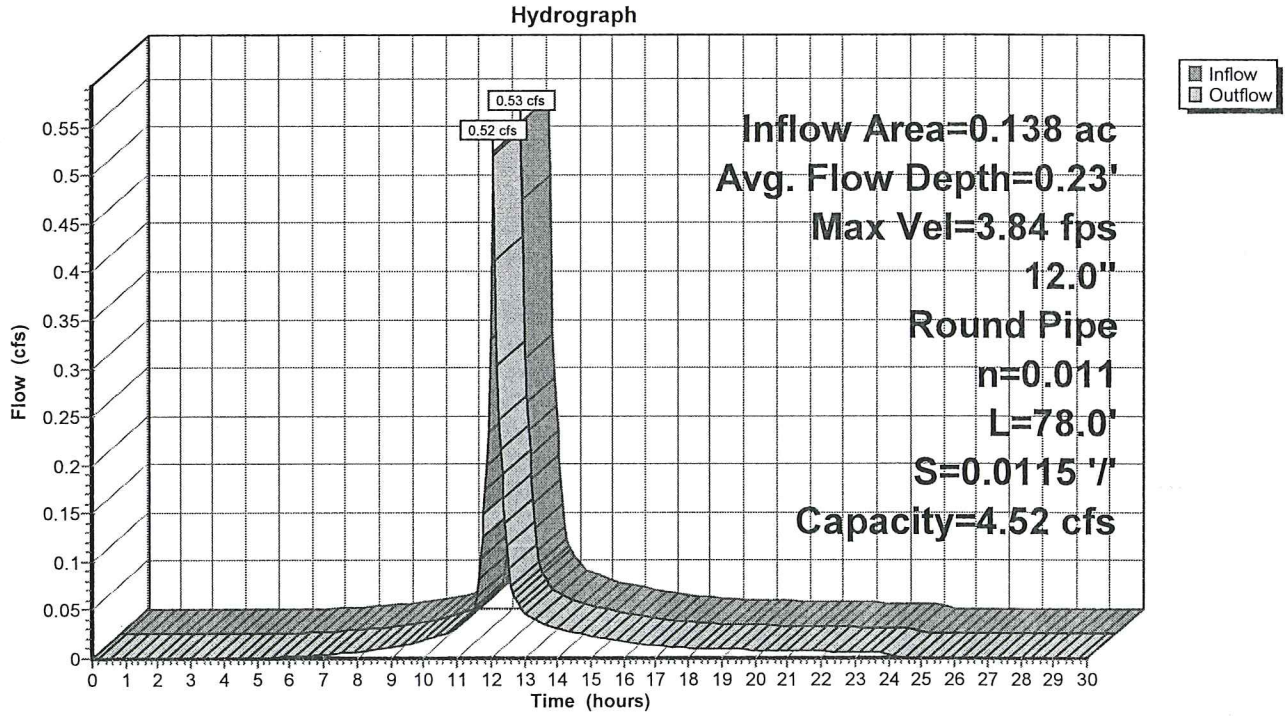
Inflow Area = 0.138 ac, 68.08% Impervious, Inflow Depth = 3.40" for 10-Year event
Inflow = 0.53 cfs @ 12.08 hrs, Volume= 0.039 af
Outflow = 0.52 cfs @ 12.09 hrs, Volume= 0.039 af, Atten= 1%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.84 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.27 fps, Avg. Travel Time= 1.0 min

Peak Storage= 11 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.52 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 78.0' Slope= 0.0115 '/'
Inlet Invert= 1,171.90', Outlet Invert= 1,171.00'





Stage-Discharge for Reach DMH5: TO DMH#6

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,171.90	0.00	0.00
1,171.91	0.51	0.00
1,171.92	0.81	0.00
1,171.93	1.06	0.01
1,171.94	1.28	0.01
1,171.95	1.48	0.02
1,171.96	1.67	0.03
1,171.97	1.84	0.04
1,171.98	2.00	0.06
1,171.99	2.16	0.08
1,172.00	2.31	0.09
1,172.01	2.45	0.12
1,172.02	2.59	0.14
1,172.03	2.72	0.16
1,172.04	2.85	0.19
1,172.05	2.98	0.22
1,172.06	3.10	0.25
1,172.07	3.21	0.28
1,172.08	3.33	0.32
1,172.09	3.44	0.36
1,172.10	3.54	0.40
1,172.11	3.65	0.44
1,172.12	3.75	0.48
1,172.13	3.85	0.52
1,172.14	3.94	0.57
1,172.15	4.03	0.62
1,172.16	4.13	0.67
1,172.17	4.22	0.72
1,172.18	4.30	0.77
1,172.19	4.39	0.83
1,172.20	4.47	0.89
1,172.21	4.55	0.94
1,172.22	4.63	1.00
1,172.23	4.71	1.06
1,172.24	4.78	1.13
1,172.25	4.85	1.19
1,172.26	4.93	1.25
1,172.27	5.00	1.32
1,172.28	5.06	1.39
1,172.29	5.13	1.45
1,172.30	5.20	1.52
1,172.31	5.26	1.59
1,172.32	5.32	1.67
1,172.33	5.38	1.74
1,172.34	5.44	1.81
1,172.35	5.50	1.88
1,172.36	5.55	1.96
1,172.37	5.61	2.03
1,172.38	5.66	2.11
1,172.39	5.71	2.18
1,172.40	5.76	2.26
1,172.41	5.81	2.34
1,172.42	5.85	2.42
1,172.43	5.90	2.49
1,172.44	5.94	2.57
1,172.45	5.99	2.65
1,172.46	6.03	2.73
1,172.47	6.07	2.81
1,172.48	6.10	2.88
1,172.49	6.14	2.96
1,172.50	6.18	3.04
1,172.51	6.21	3.12
1,172.52	6.24	3.19
1,172.53	6.27	3.27
1,172.54	6.30	3.35
1,172.55	6.33	3.42
1,172.56	6.36	3.50
1,172.57	6.38	3.57
1,172.58	6.41	3.64
1,172.59	6.43	3.72
1,172.60	6.45	3.79
1,172.61	6.47	3.86
1,172.62	6.48	3.93
1,172.63	6.50	3.99
1,172.64	6.51	4.06
1,172.65	6.53	4.12
1,172.66	6.54	4.19
1,172.67	6.55	4.25
1,172.68	6.55	4.31
1,172.69	6.56	4.37
1,172.70	6.56	4.42
1,172.71	**6.57**	4.47
1,172.72	6.56	4.52
1,172.73	6.56	4.57
1,172.74	6.56	4.62
1,172.75	6.55	4.66
1,172.76	6.54	4.70
1,172.77	6.53	4.74
1,172.78	6.51	4.77
1,172.79	6.50	4.80
1,172.80	6.47	4.82
1,172.81	6.45	4.84
1,172.82	6.42	4.85
1,172.83	6.39	4.86
1,172.84	6.35	**4.87**
1,172.85	6.31	4.86
1,172.86	6.25	4.85
1,172.87	6.19	4.82
1,172.88	6.11	4.78
1,172.89	6.01	4.71
1,172.90	5.76	4.52

Summary for Reach DMH6: TO DCB-

Inflow Area = 0.495 ac, 51.53% Impervious, Inflow Depth = 3.04" for 10-Year event
Inflow = 1.73 cfs @ 12.08 hrs, Volume= 0.125 af
Outflow = 1.73 cfs @ 12.08 hrs, Volume= 0.125 af, Atten= 0%, Lag= 0.1 min

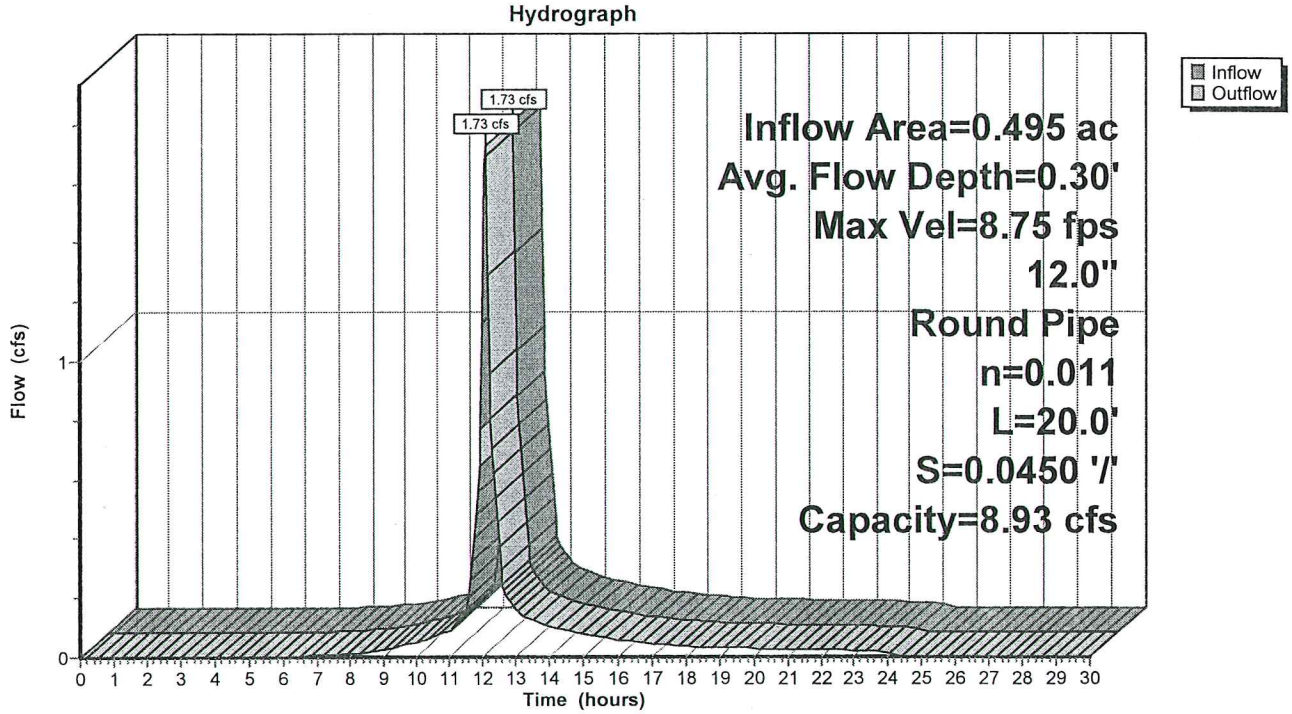
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.75 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.86 fps, Avg. Travel Time= 0.1 min

Peak Storage= 4 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.30'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.93 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 20.0' Slope= 0.0450 '/'
Inlet Invert= 1,170.90', Outlet Invert= 1,170.00'



Reach DMH6: TO DCB-



Stage-Discharge for Reach DMH6: TO DCB-

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,170.90	0.00	0.00
1,170.91	1.01	0.00
1,170.92	1.60	0.01
1,170.93	2.09	0.01
1,170.94	2.53	0.03
1,170.95	2.92	0.04
1,170.96	3.29	0.06
1,170.97	3.63	0.09
1,170.98	3.96	0.12
1,170.99	4.27	0.15
1,171.00	4.56	0.19
1,171.01	4.85	0.23
1,171.02	5.12	0.27
1,171.03	5.38	0.32
1,171.04	5.63	0.38
1,171.05	5.88	0.43
1,171.06	6.11	0.50
1,171.07	6.34	0.56
1,171.08	6.57	0.63
1,171.09	6.78	0.70
1,171.10	6.99	0.78
1,171.11	7.20	0.86
1,171.12	7.40	0.95
1,171.13	7.59	1.04
1,171.14	7.78	1.13
1,171.15	7.97	1.22
1,171.16	8.15	1.32
1,171.17	8.32	1.42
1,171.18	8.50	1.53
1,171.19	8.66	1.64
1,171.20	8.83	1.75
1,171.21	8.99	1.86
1,171.22	9.14	1.98
1,171.23	9.29	2.10
1,171.24	9.44	2.22
1,171.25	9.59	2.35
1,171.26	9.73	2.48
1,171.27	9.87	2.61
1,171.28	10.00	2.74
1,171.29	10.13	2.87
1,171.30	10.26	3.01
1,171.31	10.38	3.15
1,171.32	10.51	3.29
1,171.33	10.63	3.43
1,171.34	10.74	3.58
1,171.35	10.85	3.72
1,171.36	10.96	3.87
1,171.37	11.07	4.02
1,171.38	11.17	4.16
1,171.39	11.27	4.31
1,171.40	11.37	4.47
1,171.41	11.47	4.62
1,171.42	11.56	4.77
1,171.43	11.65	4.92
1,171.44	11.74	5.08
1,171.45	11.82	5.23
1,171.46	11.90	5.39
1,171.47	11.98	5.54
1,171.48	12.05	5.69
1,171.49	12.13	5.85
1,171.50	12.20	6.00
1,171.51	12.26	6.15
1,171.52	12.33	6.31
1,171.53	12.39	6.46
1,171.54	12.45	6.61
1,171.55	12.50	6.76
1,171.56	12.55	6.90
1,171.57	12.60	7.05
1,171.58	12.65	7.19
1,171.59	12.69	7.34
1,171.60	12.73	7.48
1,171.61	12.77	7.62
1,171.62	12.81	7.75
1,171.63	12.84	7.89
1,171.64	12.87	8.02
1,171.65	12.89	8.14
1,171.66	12.91	8.27
1,171.67	12.93	8.39
1,171.68	12.94	8.51
1,171.69	12.95	8.62
1,171.70	12.96	8.73
1,171.71	**12.96**	8.84
1,171.72	12.96	8.94
1,171.73	12.96	9.03
1,171.74	12.95	9.12
1,171.75	12.94	9.20
1,171.76	12.92	9.28
1,171.77	12.89	9.35
1,171.78	12.86	9.42
1,171.79	12.83	9.47
1,171.80	12.79	9.52
1,171.81	12.74	9.56
1,171.82	12.68	9.59
1,171.83	12.62	9.60
1,171.84	12.54	**9.61**
1,171.85	12.45	9.60
1,171.86	12.35	9.57
1,171.87	12.23	9.52
1,171.88	12.07	9.44
1,171.89	11.87	9.31
1,171.90	11.37	8.93

Summary for Reach DMHA: TO DP#1

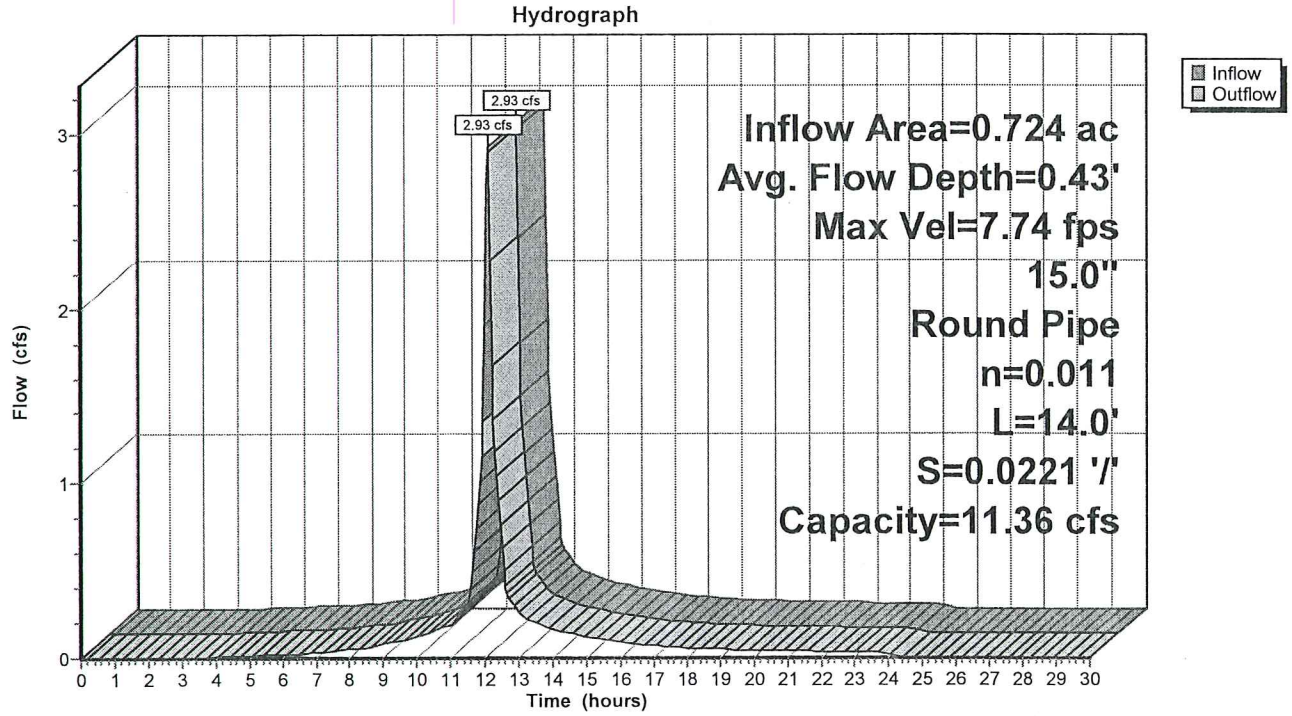
Inflow Area = 0.724 ac, 81.12% Impervious, Inflow Depth = 3.75" for 10-Year event
Inflow = 2.93 cfs @ 12.08 hrs, Volume= 0.226 af
Outflow = 2.93 cfs @ 12.09 hrs, Volume= 0.226 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.74 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.50 fps, Avg. Travel Time= 0.1 min

Peak Storage= 5 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.43'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 11.36 cfs

15.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 14.0' Slope= 0.0221 '/'
Inlet Invert= 1,175.35', Outlet Invert= 1,175.04'





Stage-Discharge for Reach DMHA: TO DP#1

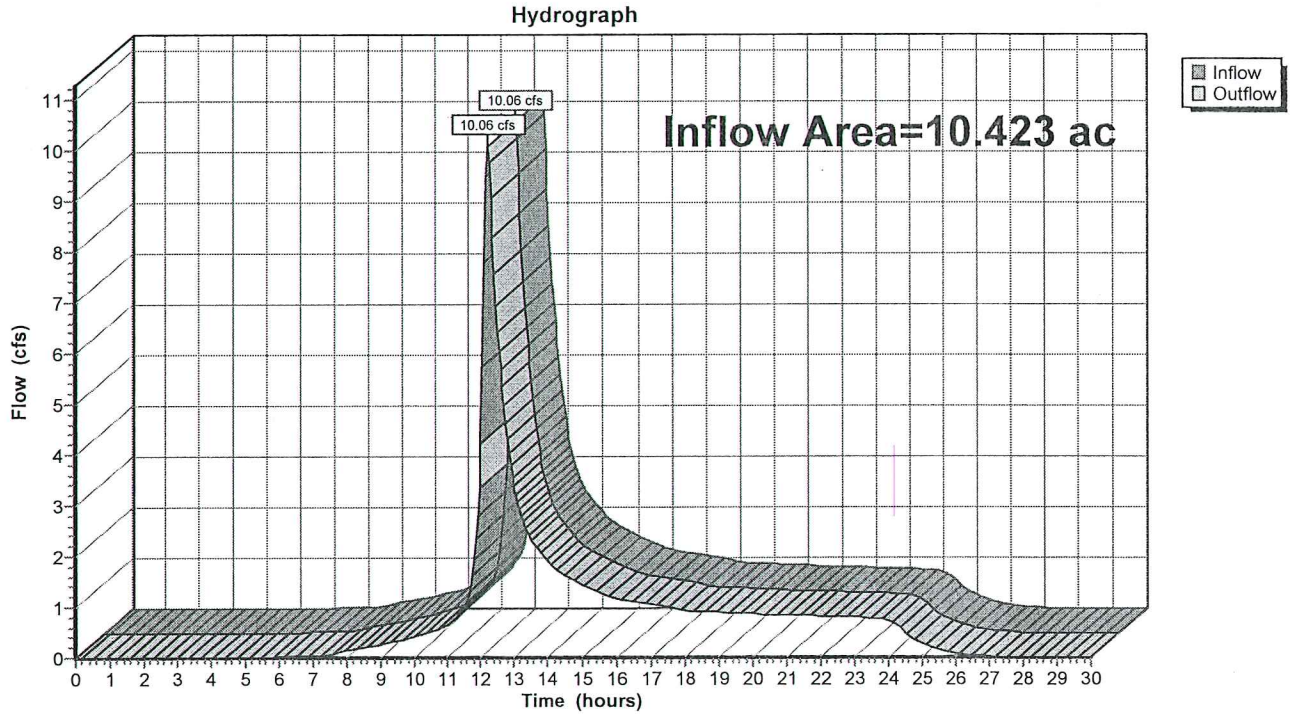
Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.35	0.00	0.00
1,175.36	0.66	0.00
1,175.37	1.11	0.01
1,175.38	1.46	0.01
1,175.39	1.77	0.02
1,175.40	2.06	0.03
1,175.41	2.31	0.05
1,175.42	2.56	0.07
1,175.43	2.79	0.09
1,175.44	3.01	0.12
1,175.45	3.22	0.15
1,175.46	3.42	0.18
1,175.47	3.62	0.22
1,175.48	3.81	0.26
1,175.49	3.99	0.30
1,175.50	4.17	0.35
1,175.51	4.34	0.40
1,175.52	4.50	0.45
1,175.53	4.66	0.51
1,175.54	4.82	0.57
1,175.55	4.98	0.63
1,175.56	5.13	0.70
1,175.57	5.27	0.77
1,175.58	5.42	0.84
1,175.59	5.56	0.92
1,175.60	5.69	0.99
1,175.61	5.83	1.08
1,175.62	5.96	1.16
1,175.63	6.09	1.25
1,175.64	6.21	1.34
1,175.65	6.34	1.43
1,175.66	6.46	1.53
1,175.67	6.57	1.63
1,175.68	6.69	1.73
1,175.69	6.80	1.84
1,175.70	6.92	1.95
1,175.71	7.02	2.06
1,175.72	7.13	2.17
1,175.73	7.24	2.28
1,175.74	7.34	2.40
1,175.75	7.44	2.52
1,175.76	7.54	2.64
1,175.77	7.64	2.77
1,175.78	7.73	2.89
1,175.79	7.83	3.02
1,175.80	7.92	3.15
1,175.81	8.01	3.28
1,175.82	8.10	3.42
1,175.83	8.18	3.55
1,175.84	8.27	3.69
1,175.85	8.35	3.83
1,175.86	8.43	3.97
1,175.87	8.51	4.11
1,175.88	8.59	4.26
1,175.89	8.67	4.40
1,175.90	8.74	4.55
1,175.91	8.82	4.69
1,175.92	8.89	4.84
1,175.93	8.96	4.99
1,175.94	9.03	5.14
1,175.95	9.10	5.30
1,175.96	9.16	5.45
1,175.97	9.23	5.60
1,175.98	9.29	5.76
1,175.99	9.35	5.91
1,176.00	9.41	6.07
1,176.01	9.47	6.22
1,176.02	9.52	6.38
1,176.03	9.58	6.54
1,176.04	9.63	6.69
1,176.05	9.69	6.85
1,176.06	9.74	7.01
1,176.07	9.79	7.16
1,176.08	9.84	7.32
1,176.09	9.88	7.48
1,176.10	9.93	7.63
1,176.11	9.97	7.79
1,176.12	10.01	7.94
1,176.13	10.05	8.10
1,176.14	10.09	8.25
1,176.15	10.13	8.40
1,176.16	10.17	8.56
1,176.17	10.20	8.71
1,176.18	10.24	8.86
1,176.19	10.27	9.00
1,176.20	10.30	9.15
1,176.21	10.33	9.30
1,176.22	10.35	9.44
1,176.23	10.38	9.58
1,176.24	10.40	9.72
1,176.25	10.42	9.86
1,176.26	10.44	10.00
1,176.27	10.46	10.13
1,176.28	10.48	10.26
1,176.29	10.50	10.39
1,176.30	10.51	10.52
1,176.31	10.52	10.64
1,176.32	10.53	10.76
1,176.33	10.54	10.88
1,176.34	10.55	10.99
1,176.35	10.55	11.10
1,176.36	10.55	11.21
1,176.37	**10.55**	11.31
1,176.38	10.55	11.41
1,176.39	10.55	11.51
1,176.40	10.54	11.60
1,176.41	10.53	11.68
1,176.42	10.52	11.77
1,176.43	10.51	11.84
1,176.44	10.49	11.91
1,176.45	10.47	11.98
1,176.46	10.45	12.03
1,176.47	10.42	12.08
1,176.48	10.39	12.13
1,176.49	10.36	12.16
1,176.50	10.32	12.19
1,176.51	10.28	12.21
1,176.52	10.23	**12.22**
1,176.53	10.18	12.21
1,176.54	10.12	12.20
1,176.55	10.05	12.17
1,176.56	9.97	12.12
1,176.57	9.88	12.05
1,176.58	9.76	11.94
1,176.59	9.58	11.74
1,176.60	9.26	11.36

Summary for Reach DP#1: CRYSTAL LAKE

Inflow Area = 10.423 ac, 31.06% Impervious, Inflow Depth = 2.10" for 10-Year event
Inflow = 10.06 cfs @ 12.21 hrs, Volume= 1.822 af
Outflow = 10.06 cfs @ 12.21 hrs, Volume= 1.822 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DP#1: CRYSTAL LAKE

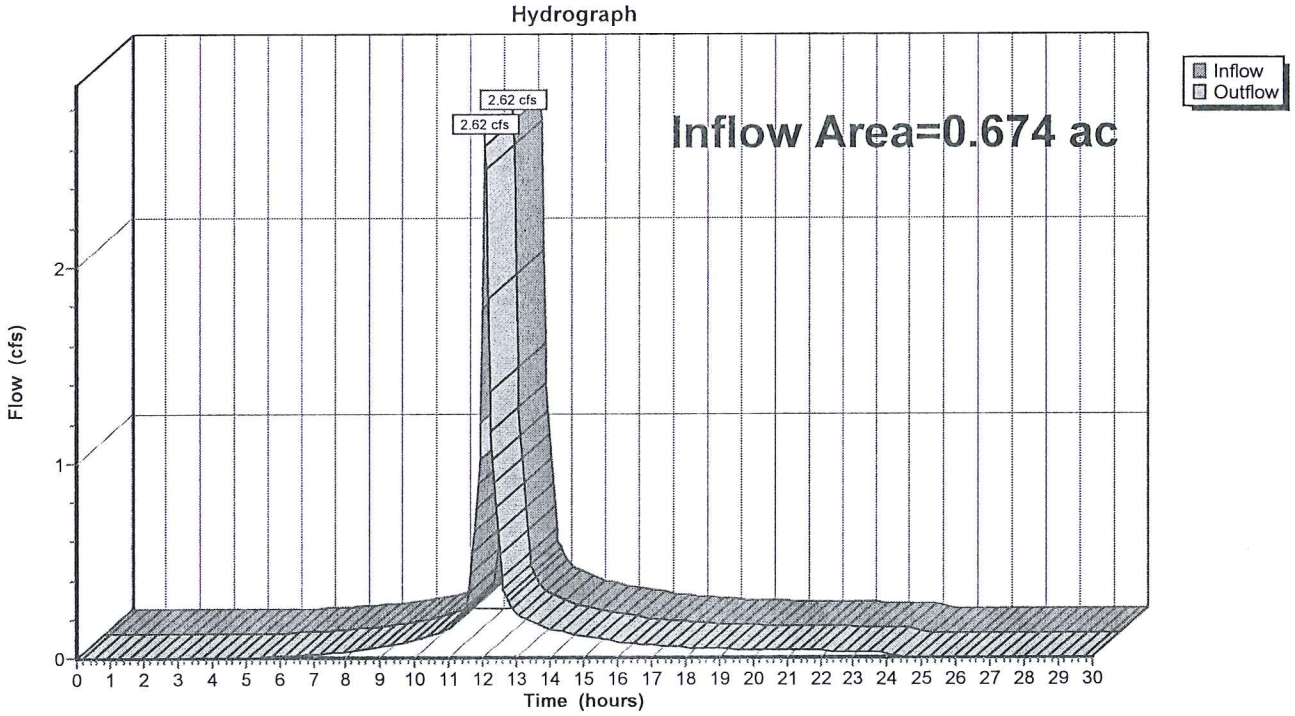


Summary for Reach DP#2: EX RAIN GARDEN

Inflow Area = 0.674 ac, 66.34% Impervious, Inflow Depth = 3.40" for 10-Year event
Inflow = 2.62 cfs @ 12.07 hrs, Volume= 0.191 af
Outflow = 2.62 cfs @ 12.07 hrs, Volume= 0.191 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DP#2: EX RAIN GARDEN

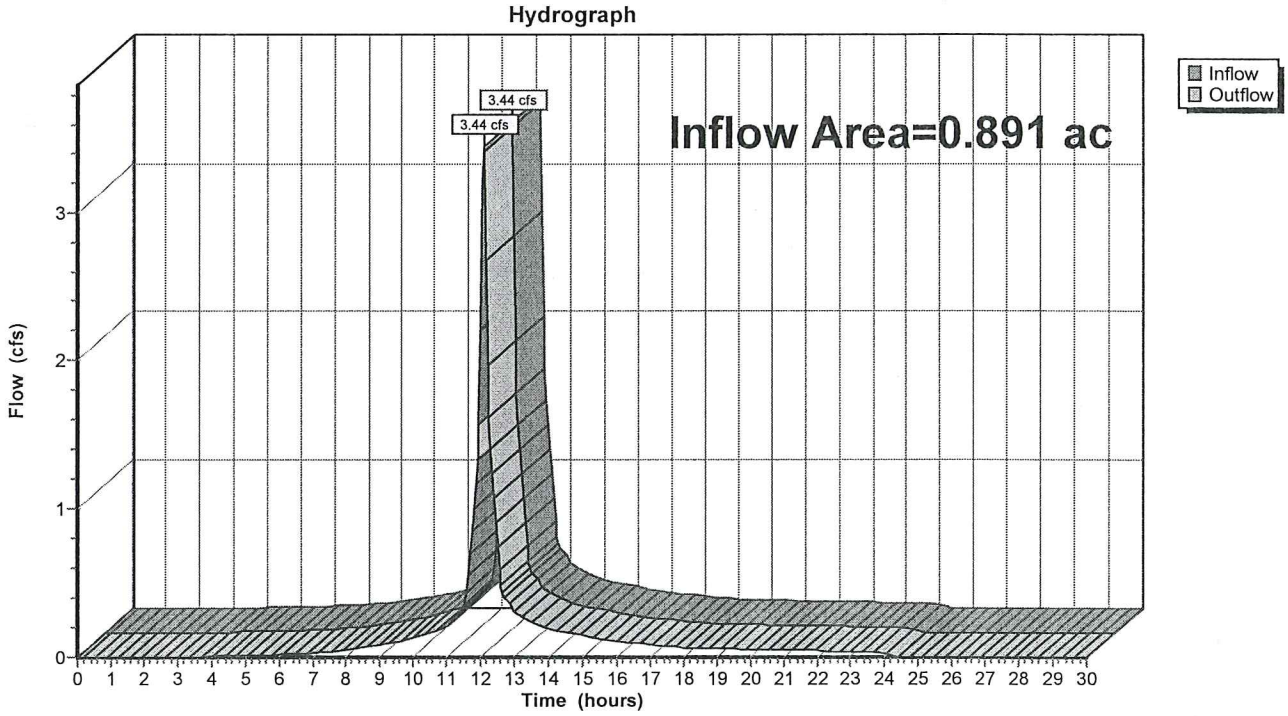


Summary for Reach DP#3: DMH-E

Inflow Area = 0.891 ac, 70.65% Impervious, Inflow Depth = 3.53" for 10-Year event
Inflow = 3.44 cfs @ 12.09 hrs, Volume= 0.262 af
Outflow = 3.44 cfs @ 12.09 hrs, Volume= 0.262 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DP#3: DMH-E

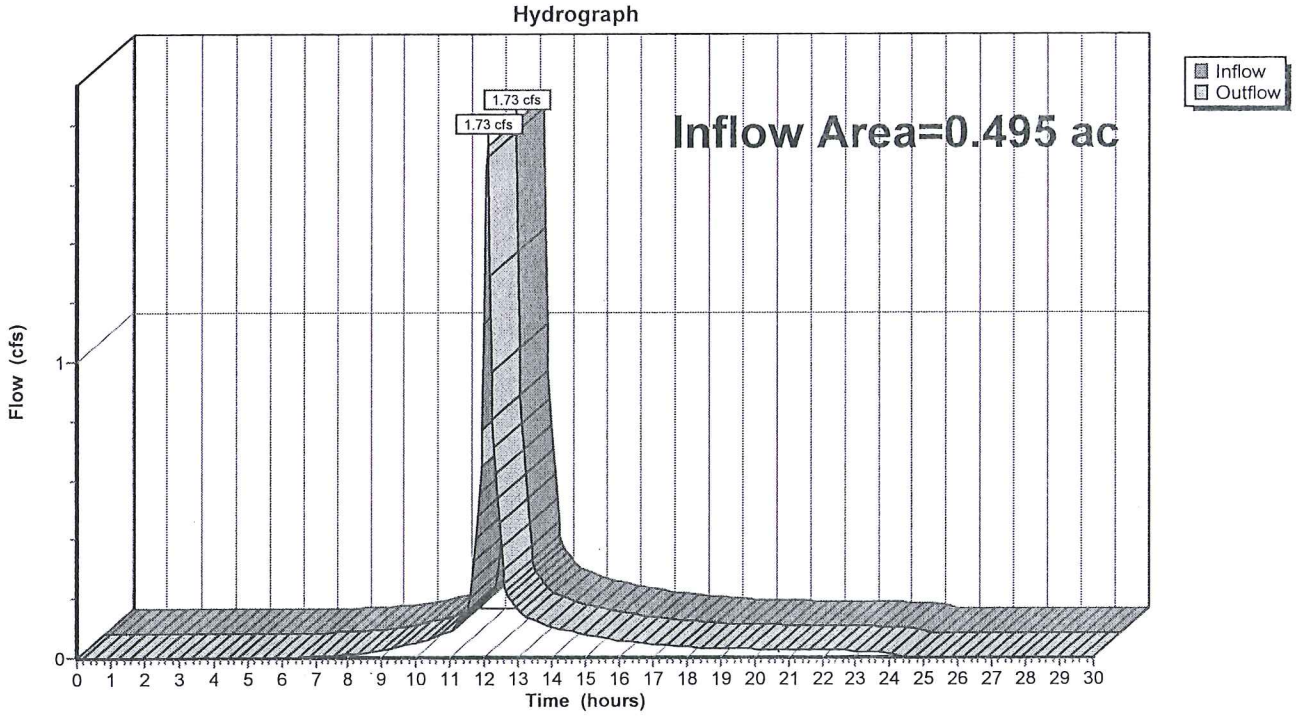


Summary for Reach DP#4: DCB-J

Inflow Area = 0.495 ac, 51.53% Impervious, Inflow Depth = 3.04" for 10-Year event
Inflow = 1.73 cfs @ 12.08 hrs, Volume= 0.125 af
Outflow = 1.73 cfs @ 12.08 hrs, Volume= 0.125 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DP#4: DCB-J

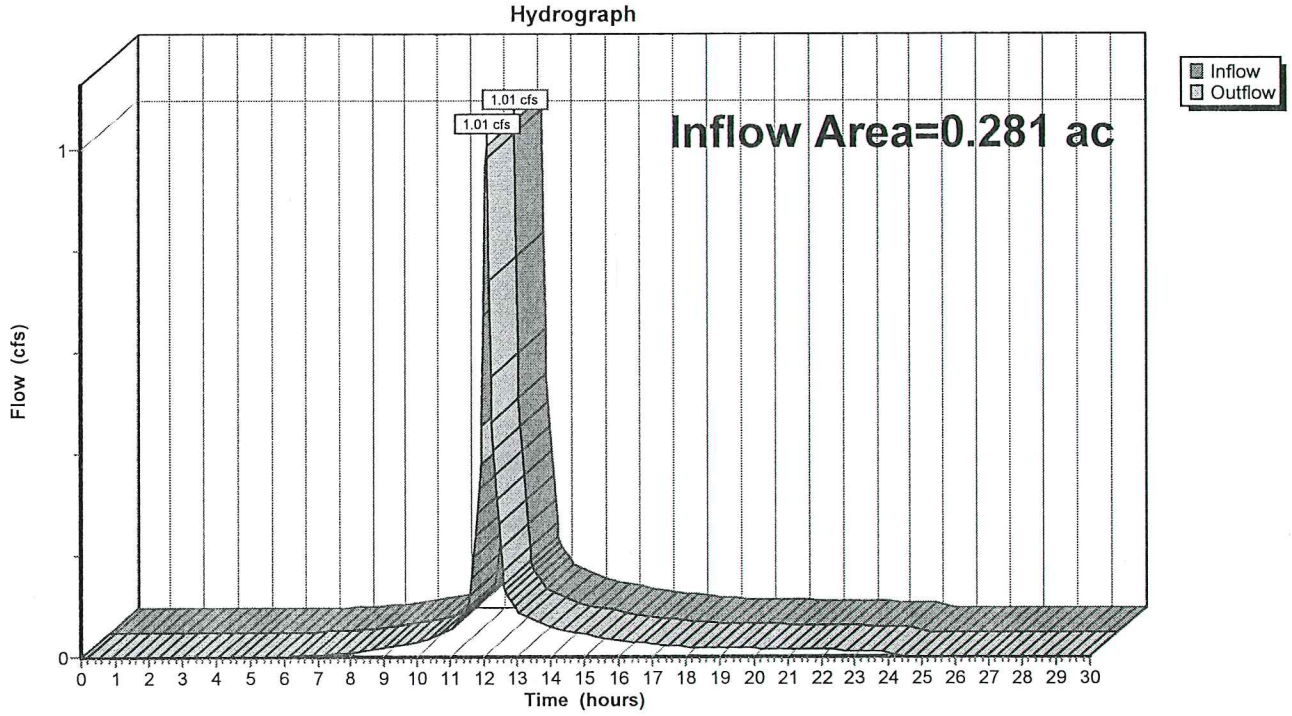


Summary for Reach DP#5: DCB-K

Inflow Area = 0.281 ac, 53.18% Impervious, Inflow Depth = 3.12" for 10-Year event
Inflow = 1.01 cfs @ 12.08 hrs, Volume= 0.073 af
Outflow = 1.01 cfs @ 12.08 hrs, Volume= 0.073 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DP#5: DCB-K



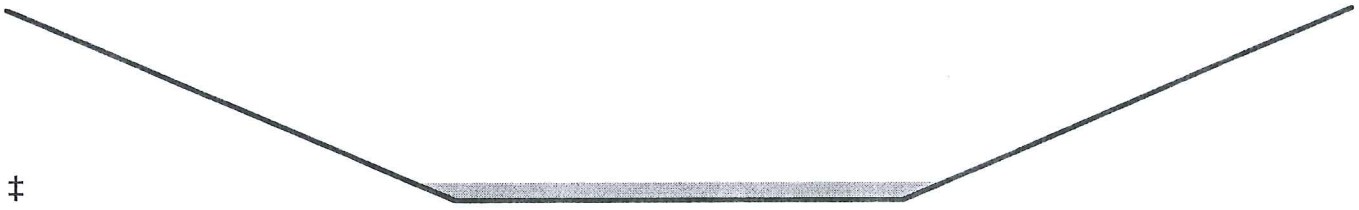
Summary for Reach OL1: OVERLAND FLOW

Inflow Area = 0.724 ac, 81.12% Impervious, Inflow Depth = 3.75" for 10-Year event
Inflow = 2.93 cfs @ 12.09 hrs, Volume= 0.226 af
Outflow = 2.92 cfs @ 12.09 hrs, Volume= 0.226 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.80 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 0.80 fps, Avg. Travel Time= 0.4 min

Peak Storage= 21 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.10'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 216.87 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 20.0' Slope= 0.4500 '/'
Inlet Invert= 1,175.00', Outlet Invert= 1,166.00'



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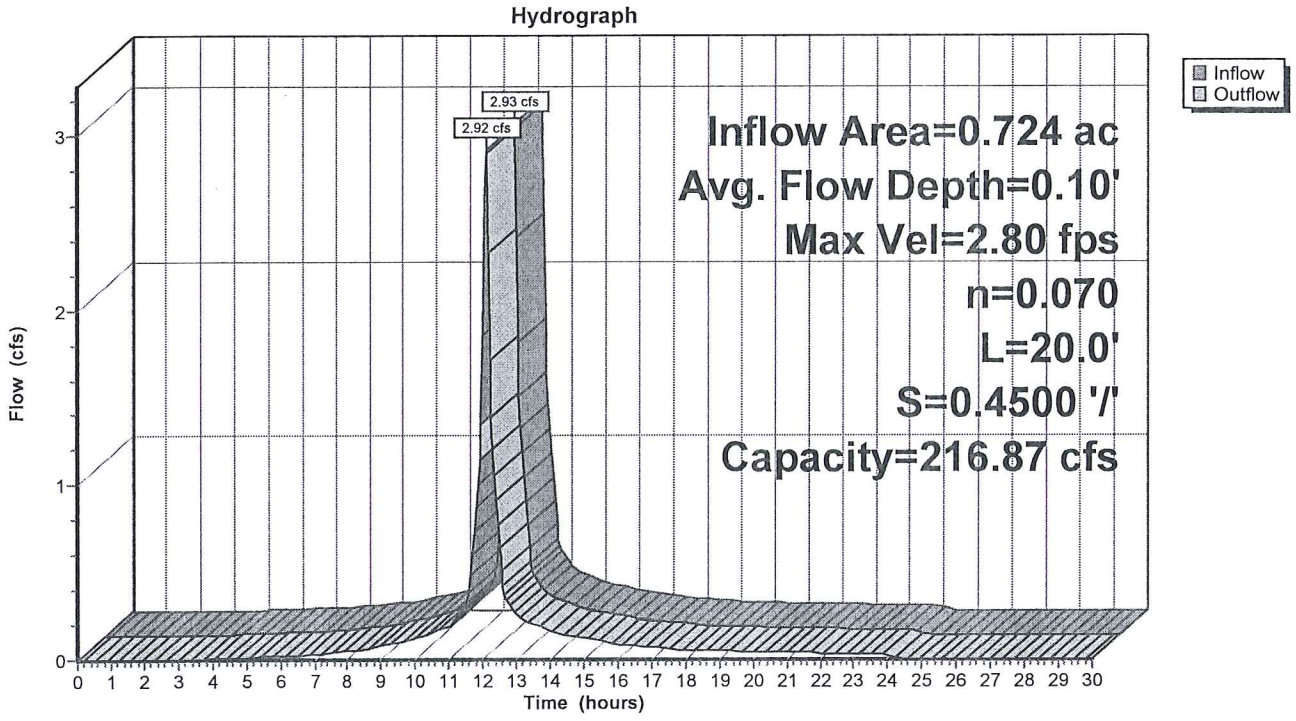
Reach OL1: OVERLAND FLOW



Stage-Discharge for Reach OL1: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.00	0.00	0.00
1,175.01	0.66	0.07
1,175.02	1.04	0.21
1,175.03	1.35	0.42
1,175.04	1.62	0.68
1,175.05	1.87	0.98
1,175.06	2.10	1.34
1,175.07	2.32	1.74
1,175.08	2.52	2.18
1,175.09	2.71	2.66
1,175.10	2.89	3.18
1,175.11	3.07	3.75
1,175.12	3.24	4.35
1,175.13	3.40	4.99
1,175.14	3.55	5.67
1,175.15	3.70	6.39
1,175.16	3.85	7.14
1,175.17	3.99	7.93
1,175.18	4.13	8.76
1,175.19	4.26	9.63
1,175.20	4.39	10.54
1,175.21	4.52	11.48
1,175.22	4.64	12.46
1,175.23	4.76	13.48
1,175.24	4.88	14.53
1,175.25	5.00	15.62
1,175.26	5.11	16.75
1,175.27	5.23	17.92
1,175.28	5.34	19.12
1,175.29	5.44	20.36
1,175.30	5.55	21.64
1,175.31	5.65	22.96
1,175.32	5.76	24.32
1,175.33	5.86	25.71
1,175.34	5.96	27.15
1,175.35	6.06	28.62
1,175.36	6.15	30.13
1,175.37	6.25	31.68
1,175.38	6.34	33.27
1,175.39	6.44	34.89
1,175.40	6.53	36.56
1,175.41	6.62	38.27
1,175.42	6.71	40.01
1,175.43	6.80	41.80
1,175.44	6.89	43.63
1,175.45	6.97	45.50
1,175.46	7.06	47.40
1,175.47	7.14	49.35
1,175.48	7.23	51.34
1,175.49	7.31	53.38
1,175.50	7.39	55.45
1,175.51	7.47	57.56
1,175.52	7.56	59.72
1,175.53	7.64	61.92
1,175.54	7.72	64.16
1,175.55	7.79	66.44
1,175.56	7.87	68.77
1,175.57	7.95	71.14
1,175.58	8.03	73.55
1,175.59	8.10	76.01
1,175.60	8.18	78.51
1,175.61	8.25	81.05
1,175.62	8.33	83.64
1,175.63	8.40	86.27
1,175.64	8.47	88.95
1,175.65	8.55	91.67
1,175.66	8.62	94.44
1,175.67	8.69	97.25
1,175.68	8.76	100.10
1,175.69	8.83	103.01
1,175.70	8.90	105.96
1,175.71	8.97	108.95
1,175.72	9.04	111.99
1,175.73	9.11	115.08
1,175.74	9.18	118.21
1,175.75	9.25	121.39
1,175.76	9.32	124.62
1,175.77	9.38	127.90
1,175.78	9.45	131.22
1,175.79	9.52	134.60
1,175.80	9.58	138.02
1,175.81	9.65	141.48
1,175.82	9.72	145.00
1,175.83	9.78	148.57
1,175.84	9.85	152.18
1,175.85	9.91	155.85
1,175.86	9.97	159.56
1,175.87	10.04	163.32
1,175.88	10.10	167.14
1,175.89	10.17	171.00
1,175.90	10.23	174.91
1,175.91	10.29	178.88
1,175.92	10.35	182.89
1,175.93	10.42	186.96
1,175.94	10.48	191.08
1,175.95	10.54	195.25
1,175.96	10.60	199.47
1,175.97	10.66	203.74
1,175.98	10.72	208.06
1,175.99	10.78	212.44
1,176.00	**10.84**	**216.87**

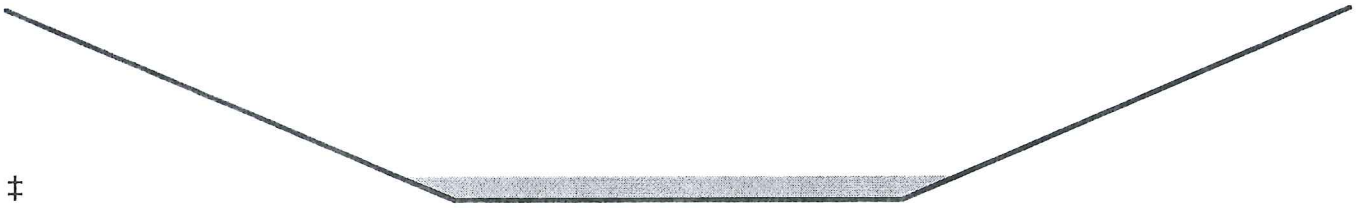
Summary for Reach OL2: OVERLAND FLOW

Inflow Area = 0.724 ac, 81.12% Impervious, Inflow Depth = 3.75" for 10-Year event
Inflow = 2.92 cfs @ 12.09 hrs, Volume= 0.226 af
Outflow = 2.75 cfs @ 12.15 hrs, Volume= 0.226 af, Atten= 6%, Lag= 3.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.05 fps, Min. Travel Time= 2.0 min
Avg. Velocity = 0.55 fps, Avg. Travel Time= 7.4 min

Peak Storage= 335 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.12'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 136.00 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 243.0' Slope= 0.1770 '/'
Inlet Invert= 1,166.00', Outlet Invert= 1,123.00'



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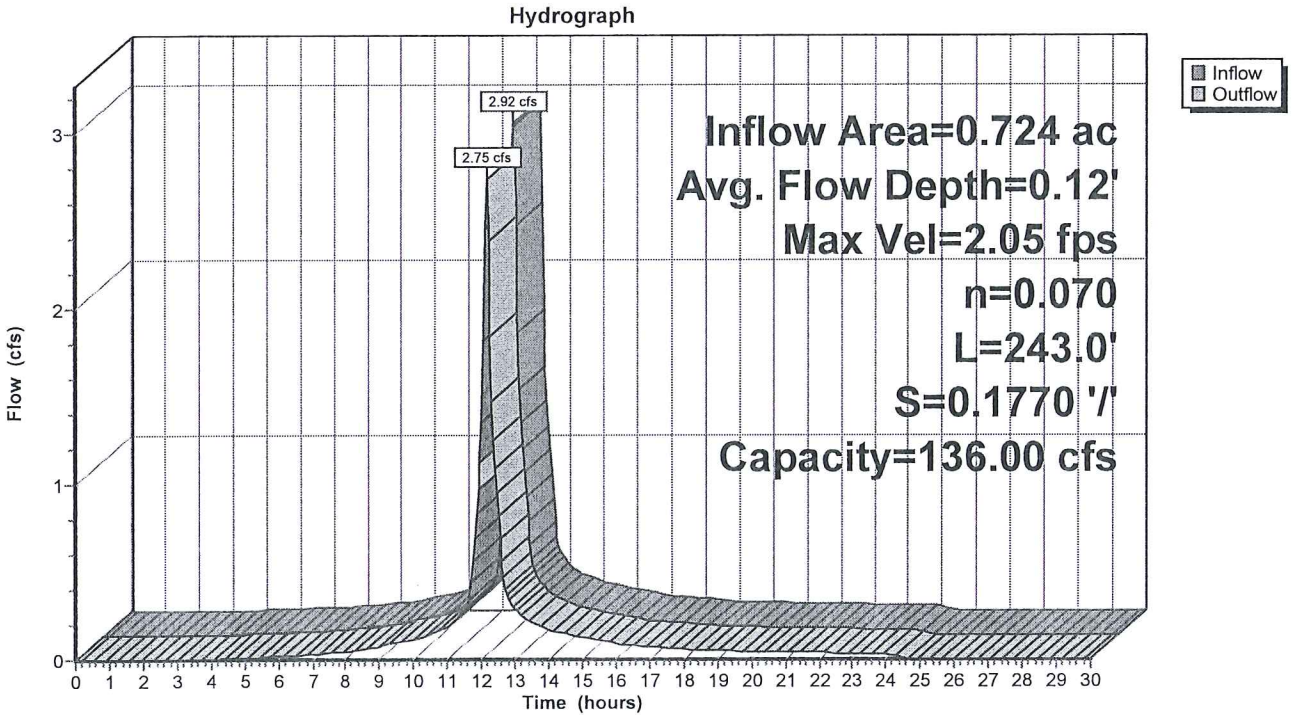
Reach OL2: OVERLAND FLOW



Stage-Discharge for Reach OL2: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,166.00	0.00	0.00
1,166.01	0.41	0.04
1,166.02	0.65	0.13
1,166.03	0.85	0.26
1,166.04	1.02	0.42
1,166.05	1.17	0.62
1,166.06	1.32	0.84
1,166.07	1.45	1.09
1,166.08	1.58	1.37
1,166.09	1.70	1.67
1,166.10	1.81	2.00
1,166.11	1.92	2.35
1,166.12	2.03	2.73
1,166.13	2.13	3.13
1,166.14	2.23	3.55
1,166.15	2.32	4.00
1,166.16	2.41	4.48
1,166.17	2.50	4.98
1,166.18	2.59	5.50
1,166.19	2.67	6.04
1,166.20	2.75	6.61
1,166.21	2.83	7.20
1,166.22	2.91	7.81
1,166.23	2.99	8.45
1,166.24	3.06	9.11
1,166.25	3.13	9.80
1,166.26	3.21	10.50
1,166.27	3.28	11.24
1,166.28	3.35	11.99
1,166.29	3.41	12.77
1,166.30	3.48	13.57
1,166.31	3.55	14.40
1,166.32	3.61	15.25
1,166.33	3.67	16.12
1,166.34	3.74	17.02
1,166.35	3.80	17.95
1,166.36	3.86	18.89
1,166.37	3.92	19.86
1,166.38	3.98	20.86
1,166.39	4.04	21.88
1,166.40	4.09	22.93
1,166.41	4.15	24.00
1,166.42	4.21	25.09
1,166.43	4.26	26.21
1,166.44	4.32	27.36
1,166.45	4.37	28.53
1,166.46	4.43	29.73
1,166.47	4.48	30.95
1,166.48	4.53	32.20
1,166.49	4.58	33.47
1,166.50	4.64	34.77
1,166.51	4.69	36.10
1,166.52	4.74	37.45
1,166.53	4.79	38.83
1,166.54	4.84	40.23
1,166.55	4.89	41.67
1,166.56	4.94	43.12
1,166.57	4.98	44.61
1,166.58	5.03	46.12
1,166.59	5.08	47.66
1,166.60	5.13	49.23
1,166.61	5.18	50.83
1,166.62	5.22	52.45
1,166.63	5.27	54.10
1,166.64	5.31	55.78
1,166.65	5.36	57.48
1,166.66	5.41	59.22
1,166.67	5.45	60.98
1,166.68	5.49	62.77
1,166.69	5.54	64.59
1,166.70	5.58	66.44
1,166.71	5.63	68.32
1,166.72	5.67	70.23
1,166.73	5.71	72.16
1,166.74	5.76	74.13
1,166.75	5.80	76.12
1,166.76	5.84	78.15
1,166.77	5.88	80.20
1,166.78	5.93	82.29
1,166.79	5.97	84.40
1,166.80	6.01	86.55
1,166.81	6.05	88.72
1,166.82	6.09	90.93
1,166.83	6.13	93.16
1,166.84	6.17	95.43
1,166.85	6.21	97.73
1,166.86	6.26	100.06
1,166.87	6.30	102.42
1,166.88	6.34	104.81
1,166.89	6.37	107.23
1,166.90	6.41	109.68
1,166.91	6.45	112.17
1,166.92	6.49	114.69
1,166.93	6.53	117.24
1,166.94	6.57	119.82
1,166.95	6.61	122.44
1,166.96	6.65	125.08
1,166.97	6.69	127.76
1,166.98	6.72	130.47
1,166.99	6.76	133.22
1,167.00	**6.80**	**136.00**

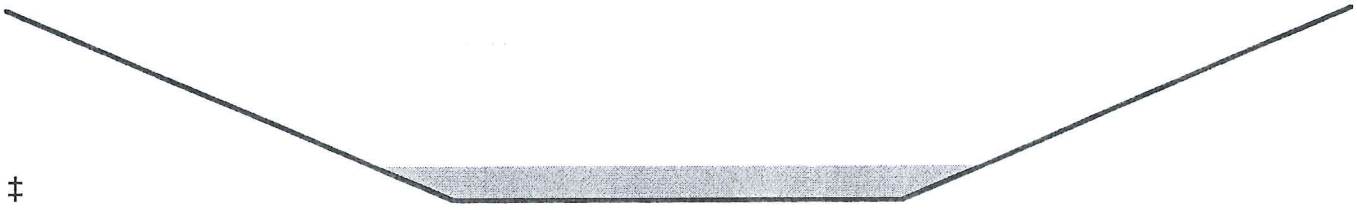
Summary for Reach OL3: OVERLAND FLOW

Inflow Area = 0.724 ac, 81.12% Impervious, Inflow Depth = 3.75" for 10-Year event
Inflow = 2.75 cfs @ 12.15 hrs, Volume= 0.226 af
Outflow = 2.68 cfs @ 12.16 hrs, Volume= 0.226 af, Atten= 2%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.29 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 0.34 fps, Avg. Travel Time= 2.2 min

Peak Storage= 95 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.18'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 68.16 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 45.0' Slope= 0.0444 '/'
Inlet Invert= 1,122.00', Outlet Invert= 1,120.00'



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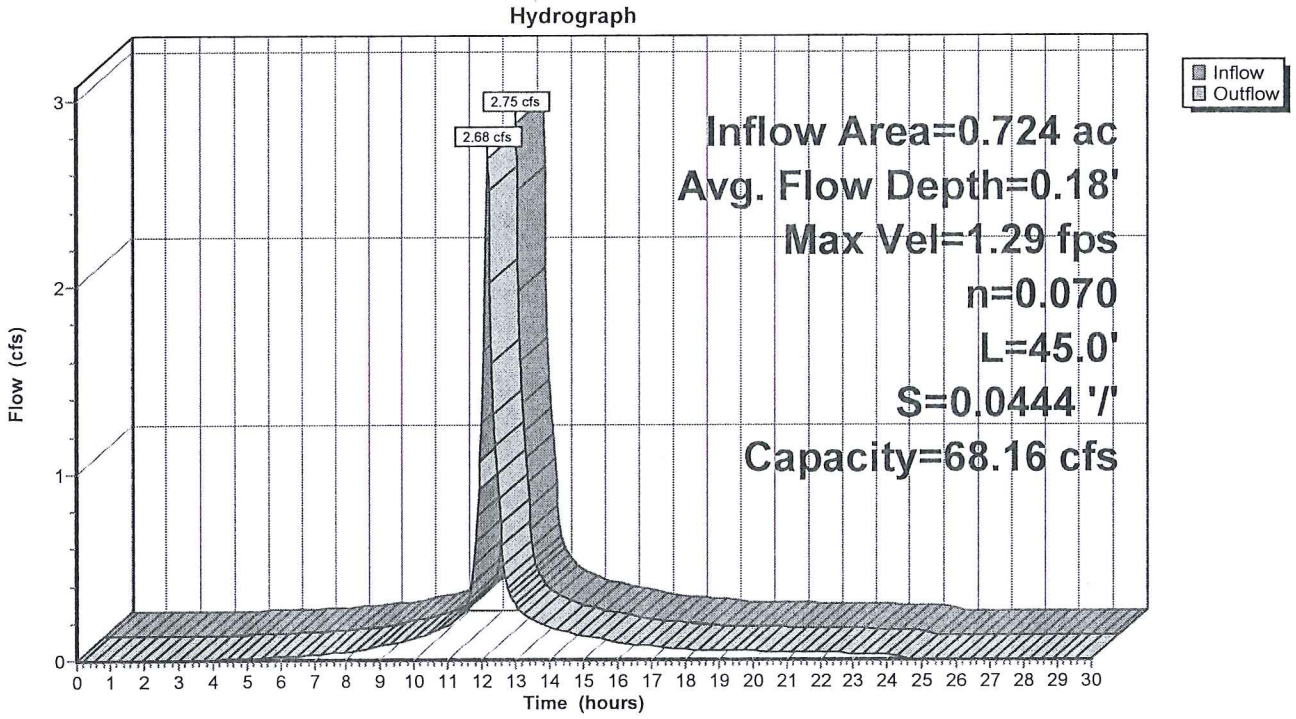
Reach OL3: OVERLAND FLOW



Stage-Discharge for Reach OL3: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,122.00	0.00	0.00
1,122.01	0.21	0.02
1,122.02	0.33	0.07
1,122.03	0.42	0.13
1,122.04	0.51	0.21
1,122.05	0.59	0.31
1,122.06	0.66	0.42
1,122.07	0.73	0.55
1,122.08	0.79	0.68
1,122.09	0.85	0.84
1,122.10	0.91	1.00
1,122.11	0.96	1.18
1,122.12	1.02	1.37
1,122.13	1.07	1.57
1,122.14	1.12	1.78
1,122.15	1.16	2.01
1,122.16	1.21	2.24
1,122.17	1.25	2.49
1,122.18	1.30	2.75
1,122.19	1.34	3.03
1,122.20	1.38	3.31
1,122.21	1.42	3.61
1,122.22	1.46	3.92
1,122.23	1.50	4.24
1,122.24	1.53	4.57
1,122.25	1.57	4.91
1,122.26	1.61	5.26
1,122.27	1.64	5.63
1,122.28	1.68	6.01
1,122.29	1.71	6.40
1,122.30	1.74	6.80
1,122.31	1.78	7.22
1,122.32	1.81	7.64
1,122.33	1.84	8.08
1,122.34	1.87	8.53
1,122.35	1.90	8.99
1,122.36	1.93	9.47
1,122.37	1.96	9.96
1,122.38	1.99	10.45
1,122.39	2.02	10.97
1,122.40	2.05	11.49
1,122.41	2.08	12.03
1,122.42	2.11	12.58
1,122.43	2.14	13.14
1,122.44	2.16	13.71
1,122.45	2.19	14.30
1,122.46	2.22	14.90
1,122.47	2.24	15.51
1,122.48	2.27	16.14
1,122.49	2.30	16.77
1,122.50	2.32	17.43
1,122.51	2.35	18.09
1,122.52	2.37	18.77
1,122.53	2.40	19.46
1,122.54	2.42	20.16
1,122.55	2.45	20.88
1,122.56	2.47	21.61
1,122.57	2.50	22.36
1,122.58	2.52	23.12
1,122.59	2.55	23.89
1,122.60	2.57	24.67
1,122.61	2.59	25.47
1,122.62	2.62	26.29
1,122.63	2.64	27.11
1,122.64	2.66	27.95
1,122.65	2.69	28.81
1,122.66	2.71	29.68
1,122.67	2.73	30.56
1,122.68	2.75	31.46
1,122.69	2.78	32.37
1,122.70	2.80	33.30
1,122.71	2.82	34.24
1,122.72	2.84	35.20
1,122.73	2.86	36.17
1,122.74	2.89	37.15
1,122.75	2.91	38.15
1,122.76	2.93	39.17
1,122.77	2.95	40.20
1,122.78	2.97	41.24
1,122.79	2.99	42.30
1,122.80	3.01	43.37
1,122.81	3.03	44.46
1,122.82	3.05	45.57
1,122.83	3.07	46.69
1,122.84	3.09	47.83
1,122.85	3.11	48.98
1,122.86	3.13	50.14
1,122.87	3.15	51.33
1,122.88	3.17	52.53
1,122.89	3.19	53.74
1,122.90	3.21	54.97
1,122.91	3.23	56.22
1,122.92	3.25	57.48
1,122.93	3.27	58.76
1,122.94	3.29	60.05
1,122.95	3.31	61.36
1,122.96	3.33	62.69
1,122.97	3.35	64.03
1,122.98	3.37	65.39
1,122.99	3.39	66.76
1,123.00	**3.41**	**68.16**

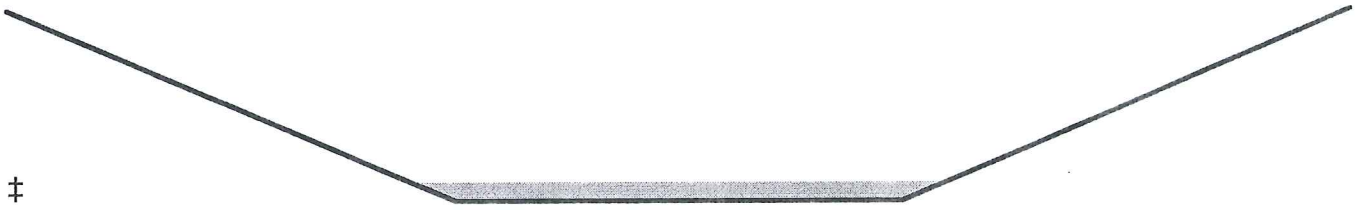
Summary for Reach OL4: OVERLAND FLOW

Inflow Area = 2.067 ac, 3.60% Impervious, Inflow Depth = 1.33" for 10-Year event
Inflow = 2.26 cfs @ 12.22 hrs, Volume= 0.229 af
Outflow = 2.23 cfs @ 12.24 hrs, Volume= 0.229 af, Atten= 1%, Lag= 1.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.01 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 0.72 fps, Avg. Travel Time= 1.7 min

Peak Storage= 82 cf @ 12.23 hrs
Average Depth at Peak Storage= 0.10'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 150.33 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 74.0' Slope= 0.2162 '/'
Inlet Invert= 1,117.75', Outlet Invert= 1,101.75'



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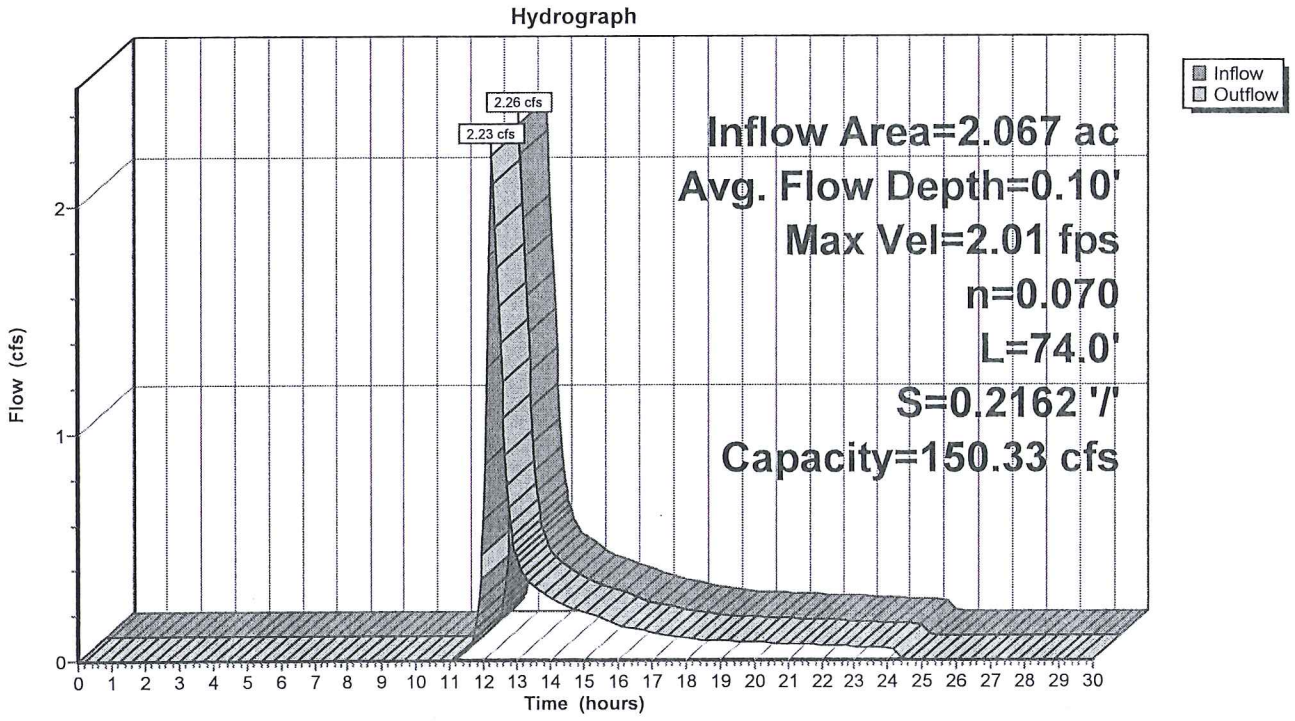
Reach OL4: OVERLAND FLOW



Stage-Discharge for Reach OL4: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,117.75	0.00	0.00
1,117.76	0.46	0.05
1,117.77	0.72	0.15
1,117.78	0.93	0.29
1,117.79	1.13	0.47
1,117.80	1.30	0.68
1,117.81	1.46	0.93
1,117.82	1.61	1.20
1,117.83	1.75	1.51
1,117.84	1.88	1.84
1,117.85	2.01	2.21
1,117.86	2.13	2.60
1,117.87	2.24	3.01
1,117.88	2.35	3.46
1,117.89	2.46	3.93
1,117.90	2.57	4.43
1,117.91	2.67	4.95
1,117.92	2.76	5.50
1,117.93	2.86	6.08
1,117.94	2.95	6.68
1,117.95	3.04	7.30
1,117.96	3.13	7.96
1,117.97	3.22	8.64
1,117.98	3.30	9.34
1,117.99	3.38	10.07
1,118.00	3.47	10.83
1,118.01	3.54	11.61
1,118.02	3.62	12.42
1,118.03	3.70	13.25
1,118.04	3.77	14.12
1,118.05	3.85	15.00
1,118.06	3.92	15.92
1,118.07	3.99	16.86
1,118.08	4.06	17.82
1,118.09	4.13	18.82
1,118.10	4.20	19.84
1,118.11	4.27	20.88
1,118.12	4.33	21.96
1,118.13	4.40	23.06
1,118.14	4.46	24.19
1,118.15	4.53	25.34
1,118.16	4.59	26.53
1,118.17	4.65	27.74
1,118.18	4.71	28.98
1,118.19	4.77	30.24
1,118.20	4.83	31.54
1,118.21	4.89	32.86
1,118.22	4.95	34.21
1,118.23	5.01	35.59
1,118.24	5.07	37.00
1,118.25	5.12	38.43
1,118.26	5.18	39.90
1,118.27	5.24	41.40
1,118.28	5.29	42.92
1,118.29	5.35	44.47
1,118.30	5.40	46.06
1,118.31	5.46	47.67
1,118.32	5.51	49.31
1,118.33	5.56	50.98
1,118.34	5.62	52.69
1,118.35	5.67	54.42
1,118.36	5.72	56.18
1,118.37	5.77	57.98
1,118.38	5.82	59.80
1,118.39	5.87	61.66
1,118.40	5.92	63.54
1,118.41	5.97	65.46
1,118.42	6.02	67.41
1,118.43	6.07	69.39
1,118.44	6.12	71.40
1,118.45	6.17	73.44
1,118.46	6.22	75.52
1,118.47	6.27	77.63
1,118.48	6.32	79.77
1,118.49	6.36	81.94
1,118.50	6.41	84.15
1,118.51	6.46	86.39
1,118.52	6.50	88.66
1,118.53	6.55	90.96
1,118.54	6.60	93.30
1,118.55	6.64	95.67
1,118.56	6.69	98.07
1,118.57	6.73	100.51
1,118.58	6.78	102.98
1,118.59	6.82	105.49
1,118.60	6.87	108.03
1,118.61	6.91	110.60
1,118.62	6.96	113.21
1,118.63	7.00	115.85
1,118.64	7.05	118.53
1,118.65	7.09	121.24
1,118.66	7.13	123.99
1,118.67	7.18	126.78
1,118.68	7.22	129.59
1,118.69	7.26	132.45
1,118.70	7.31	135.34
1,118.71	7.35	138.26
1,118.72	7.39	141.23
1,118.73	7.43	144.22
1,118.74	7.47	147.26
1,118.75	**7.52**	**150.33**

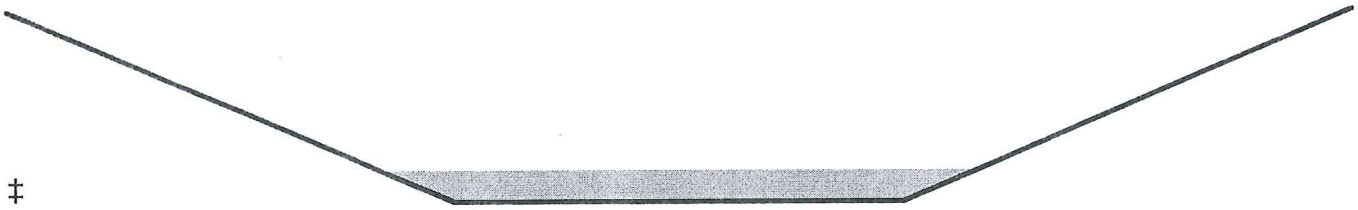
Summary for Reach OL5: OVERLAND FLOW

Inflow Area = 6.005 ac, 41.90% Impervious, Inflow Depth = 2.39" for 10-Year event
Inflow = 4.17 cfs @ 12.26 hrs, Volume= 1.195 af
Outflow = 4.13 cfs @ 12.28 hrs, Volume= 1.195 af, Atten= 1%, Lag= 1.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.17 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 0.99 fps, Avg. Travel Time= 1.7 min

Peak Storage= 196 cf @ 12.27 hrs
Average Depth at Peak Storage= 0.16'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 120.20 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 102.0' Slope= 0.1382 '/'
Inlet Invert= 1,114.10', Outlet Invert= 1,100.00'



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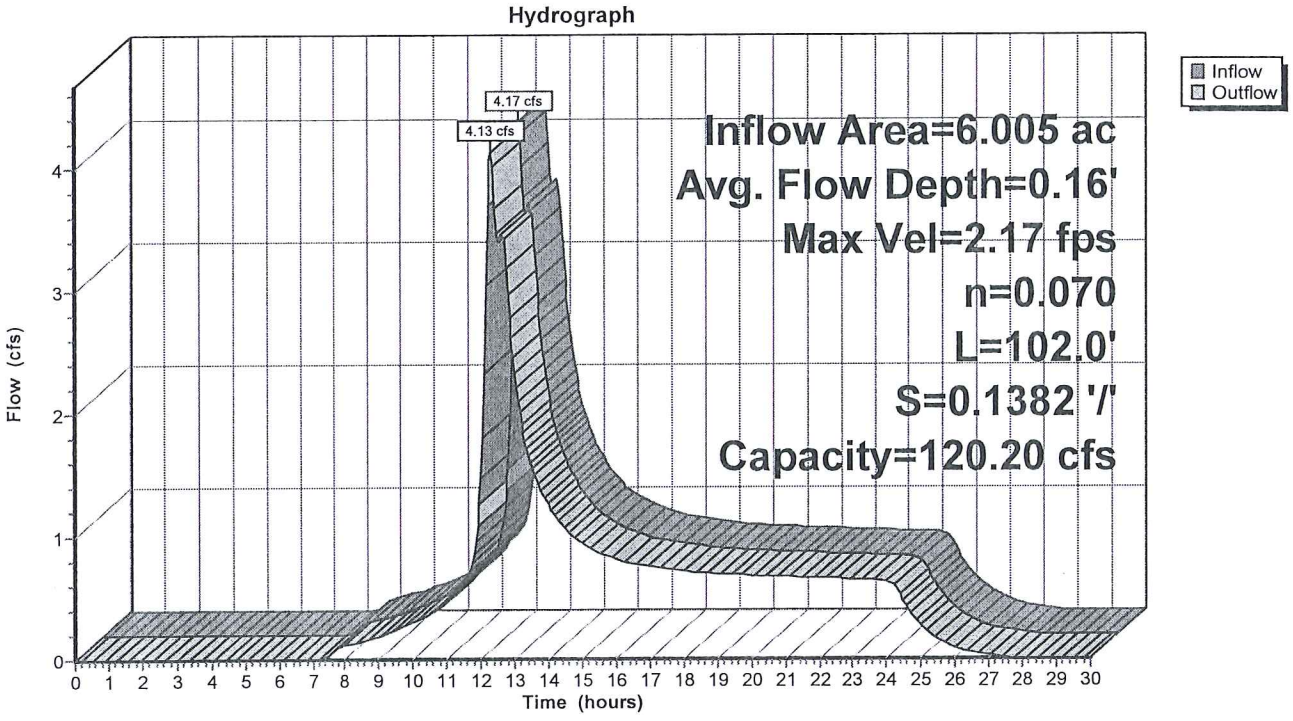
Reach OL5: OVERLAND FLOW



Stage-Discharge for Reach OL5: OVERLAND FLOW

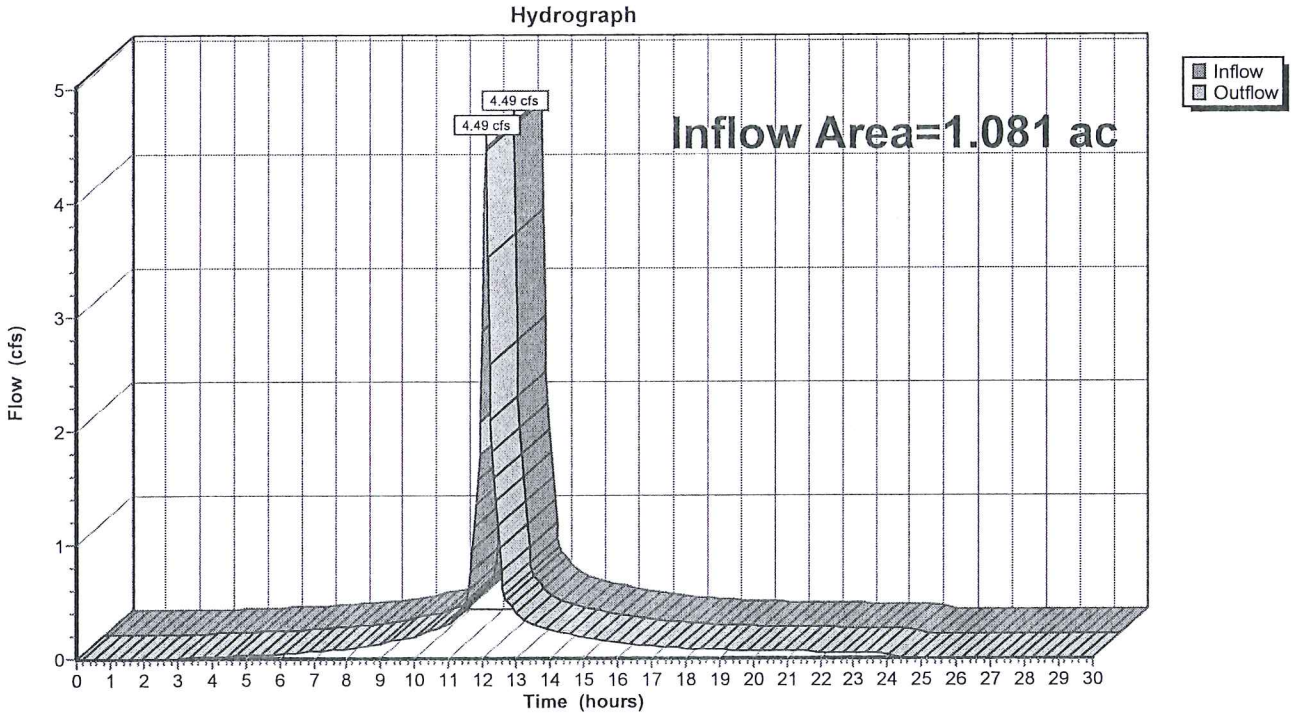
Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,114.10	0.00	0.00
1,114.11	0.36	0.04
1,114.12	0.57	0.12
1,114.13	0.75	0.23
1,114.14	0.90	0.37
1,114.15	1.04	0.55
1,114.16	1.17	0.74
1,114.17	1.28	0.96
1,114.18	1.40	1.21
1,114.19	1.50	1.47
1,114.20	1.60	1.76
1,114.21	1.70	2.08
1,114.22	1.79	2.41
1,114.23	1.88	2.77
1,114.24	1.97	3.14
1,114.25	2.05	3.54
1,114.26	2.13	3.96
1,114.27	2.21	4.40
1,114.28	2.29	4.86
1,114.29	2.36	5.34
1,114.30	2.43	5.84
1,114.31	2.50	6.36
1,114.32	2.57	6.91
1,114.33	2.64	7.47
1,114.34	2.71	8.05
1,114.35	2.77	8.66
1,114.36	2.83	9.28
1,114.37	2.90	9.93
1,114.38	2.96	10.60
1,114.39	3.02	11.29
1,114.40	3.08	12.00
1,114.41	3.13	12.73
1,114.42	3.19	13.48
1,114.43	3.25	14.25
1,114.44	3.30	15.05
1,114.45	3.36	15.86
1,114.46	3.41	16.70
1,114.47	3.46	17.56
1,114.48	3.52	18.44
1,114.49	3.57	19.34
1,114.50	3.62	20.26
1,114.51	3.67	21.21
1,114.52	3.72	22.18
1,114.53	3.77	23.17
1,114.54	3.82	24.18
1,114.55	3.86	25.22
1,114.56	3.91	26.27
1,114.57	3.96	27.35
1,114.58	4.01	28.46
1,114.59	4.05	29.58
1,114.60	4.10	30.73
1,114.61	4.14	31.90
1,114.62	4.19	33.10
1,114.63	4.23	34.32
1,114.64	4.28	35.56
1,114.65	4.32	36.83
1,114.66	4.36	38.12
1,114.67	4.41	39.43
1,114.68	4.45	40.77
1,114.69	4.49	42.13
1,114.70	4.53	43.51
1,114.71	4.57	44.92
1,114.72	4.62	46.36
1,114.73	4.66	47.82
1,114.74	4.70	49.30
1,114.75	4.74	50.81
1,114.76	4.78	52.34
1,114.77	4.82	53.90
1,114.78	4.86	55.48
1,114.79	4.90	57.09
1,114.80	4.93	58.73
1,114.81	4.97	60.39
1,114.82	5.01	62.07
1,114.83	5.05	63.78
1,114.84	5.09	65.52
1,114.85	5.13	67.28
1,114.86	5.16	69.07
1,114.87	5.20	70.89
1,114.88	5.24	72.73
1,114.89	5.28	74.60
1,114.90	5.31	76.49
1,114.91	5.35	78.42
1,114.92	5.39	80.37
1,114.93	5.42	82.34
1,114.94	5.46	84.35
1,114.95	5.49	86.38
1,114.96	5.53	88.44
1,114.97	5.56	90.52
1,114.98	5.60	92.63
1,114.99	5.63	94.78
1,115.00	5.67	96.94
1,115.01	5.70	99.14
1,115.02	5.74	101.37
1,115.03	5.77	103.62
1,115.04	5.81	105.90
1,115.05	5.84	108.21
1,115.06	5.88	110.55
1,115.07	5.91	112.92
1,115.08	5.94	115.32
1,115.09	5.98	117.74
1,115.10	**6.01**	**120.20**

Summary for Reach UGS1A: TO UGS1

Inflow Area = 1.081 ac, 85.82% Impervious, Inflow Depth = 3.90" for 10-Year event
Inflow = 4.49 cfs @ 12.09 hrs, Volume= 0.351 af
Outflow = 4.49 cfs @ 12.09 hrs, Volume= 0.351 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach UGS1A: TO UGS1

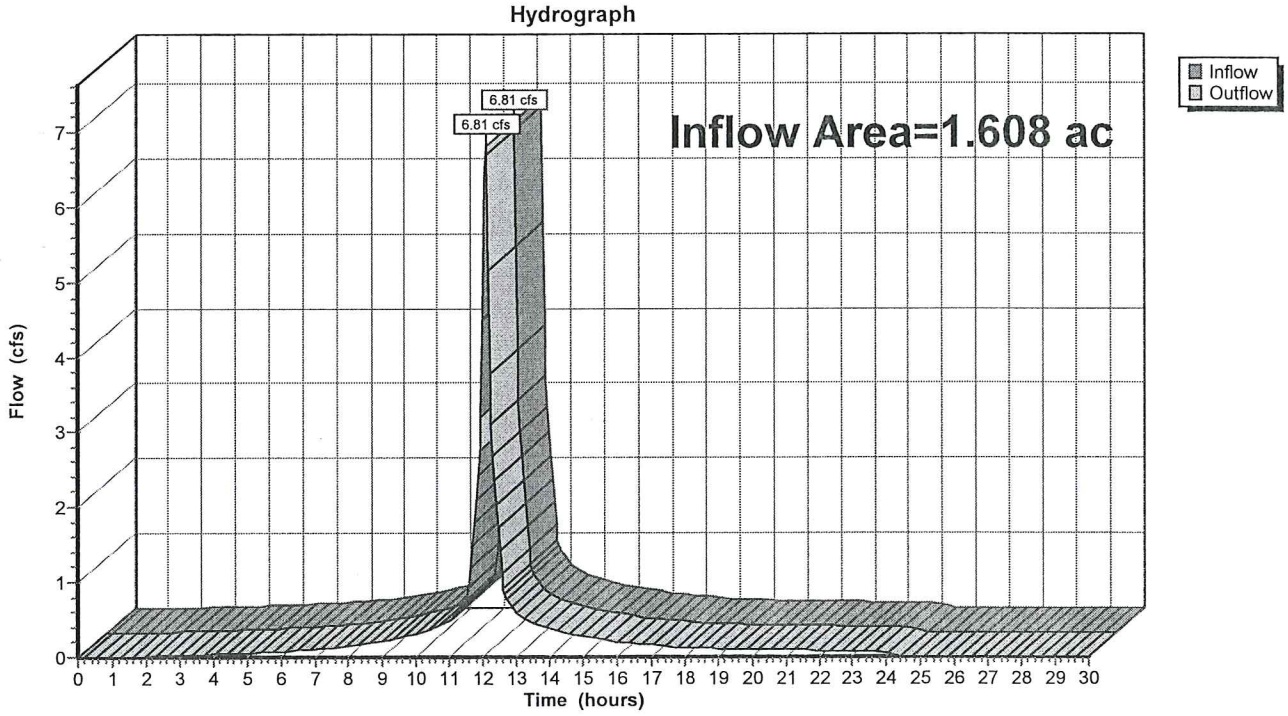


Summary for Reach UGS1B: TO UGS1

Inflow Area = 1.608 ac, 92.28% Impervious, Inflow Depth = 4.04" for 10-Year event
Inflow = 6.81 cfs @ 12.08 hrs, Volume= 0.542 af
Outflow = 6.81 cfs @ 12.08 hrs, Volume= 0.542 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach UGS1B: TO UGS1



Summary for Reach UGS1C: TO OUTLET

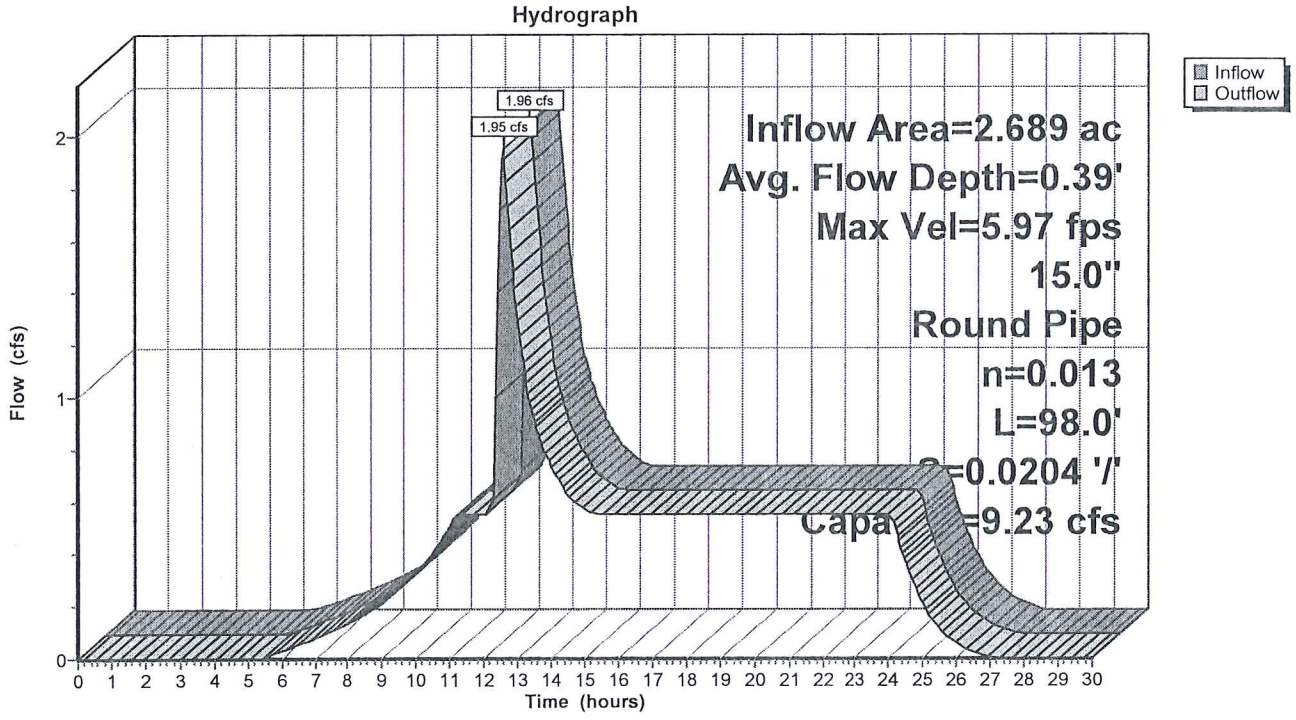
Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 3.64" for 10-Year event
Inflow = 1.96 cfs @ 12.54 hrs, Volume= 0.815 af
Outflow = 1.95 cfs @ 12.55 hrs, Volume= 0.815 af, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.97 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 3.63 fps, Avg. Travel Time= 0.5 min

Peak Storage= 32 cf @ 12.55 hrs
Average Depth at Peak Storage= 0.39'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 9.23 cfs

15.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 98.0' Slope= 0.0204 '/'
Inlet Invert= 1,172.00', Outlet Invert= 1,170.00'





Stage-Discharge for Reach UGS1C: TO OUTLET

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,172.00	0.00	0.00
1,172.01	0.54	0.00
1,172.02	0.90	0.00
1,172.03	1.19	0.01
1,172.04	1.44	0.02
1,172.05	1.67	0.03
1,172.06	1.88	0.04
1,172.07	2.08	0.06
1,172.08	2.27	0.08
1,172.09	2.44	0.10
1,172.10	2.62	0.12
1,172.11	2.78	0.15
1,172.12	2.94	0.18
1,172.13	3.09	0.21
1,172.14	3.24	0.24
1,172.15	3.38	0.28
1,172.16	3.52	0.32
1,172.17	3.66	0.37
1,172.18	3.79	0.41
1,172.19	3.92	0.46
1,172.20	4.04	0.51
1,172.21	4.16	0.57
1,172.22	4.28	0.62
1,172.23	4.40	0.68
1,172.24	4.51	0.74
1,172.25	4.63	0.81
1,172.26	4.73	0.88
1,172.27	4.84	0.94
1,172.28	4.94	1.02
1,172.29	5.05	1.09
1,172.30	5.15	1.17
1,172.31	5.24	1.24
1,172.32	5.34	1.33
1,172.33	5.43	1.41
1,172.34	5.53	1.49
1,172.35	5.62	1.58
1,172.36	5.71	1.67
1,172.37	5.79	1.76
1,172.38	5.88	1.85
1,172.39	5.96	1.95
1,172.40	6.04	2.05
1,172.41	6.13	2.15
1,172.42	6.20	2.25
1,172.43	6.28	2.35
1,172.44	6.36	2.45
1,172.45	6.43	2.56
1,172.46	6.51	2.67
1,172.47	6.58	2.77
1,172.48	6.65	2.89
1,172.49	6.72	3.00
1,172.50	6.78	3.11
1,172.51	6.85	3.22
1,172.52	6.92	3.34
1,172.53	6.98	3.46
1,172.54	7.04	3.57
1,172.55	7.10	3.69
1,172.56	7.16	3.81
1,172.57	7.22	3.93
1,172.58	7.28	4.06
1,172.59	7.33	4.18
1,172.60	7.39	4.30
1,172.61	7.44	4.43
1,172.62	7.49	4.55
1,172.63	7.55	4.68
1,172.64	7.59	4.80
1,172.65	7.64	4.93
1,172.66	7.69	5.06
1,172.67	7.74	5.18
1,172.68	7.78	5.31
1,172.69	7.83	5.44
1,172.70	7.87	5.56
1,172.71	7.91	5.69
1,172.72	7.95	5.82
1,172.73	7.99	5.95
1,172.74	8.03	6.07
1,172.75	8.06	6.20
1,172.76	8.10	6.33
1,172.77	8.13	6.45
1,172.78	8.17	6.58
1,172.79	8.20	6.70
1,172.80	8.23	6.83
1,172.81	8.26	6.95
1,172.82	8.29	7.07
1,172.83	8.31	7.19
1,172.84	8.34	7.31
1,172.85	8.36	7.43
1,172.86	8.39	7.55
1,172.87	8.41	7.67
1,172.88	8.43	7.78
1,172.89	8.45	7.90
1,172.90	8.47	8.01
1,172.91	8.48	8.12
1,172.92	8.50	8.23
1,172.93	8.51	8.34
1,172.94	8.53	8.44
1,172.95	8.54	8.54
1,172.96	8.55	8.64
1,172.97	8.56	8.74
1,172.98	8.56	8.84
1,172.99	8.57	8.93
1,173.00	8.57	9.02
1,173.01	8.57	9.11
1,173.02	**8.57**	9.19
1,173.03	8.57	9.27
1,173.04	8.57	9.35
1,173.05	8.56	9.42
1,173.06	8.56	9.49
1,173.07	8.55	9.56
1,173.08	8.53	9.62
1,173.09	8.52	9.68
1,173.10	8.51	9.73
1,173.11	8.49	9.77
1,173.12	8.47	9.82
1,173.13	8.44	9.85
1,173.14	8.42	9.88
1,173.15	8.39	9.90
1,173.16	8.35	9.92
1,173.17	8.31	**9.92**
1,173.18	8.27	9.92
1,173.19	8.22	9.91
1,173.20	8.17	9.89
1,173.21	8.10	9.85
1,173.22	8.02	9.78
1,173.23	7.93	9.70
1,173.24	7.78	9.54
1,173.25	7.52	9.23

Summary for Pond CULVERT#1: TO DP#1

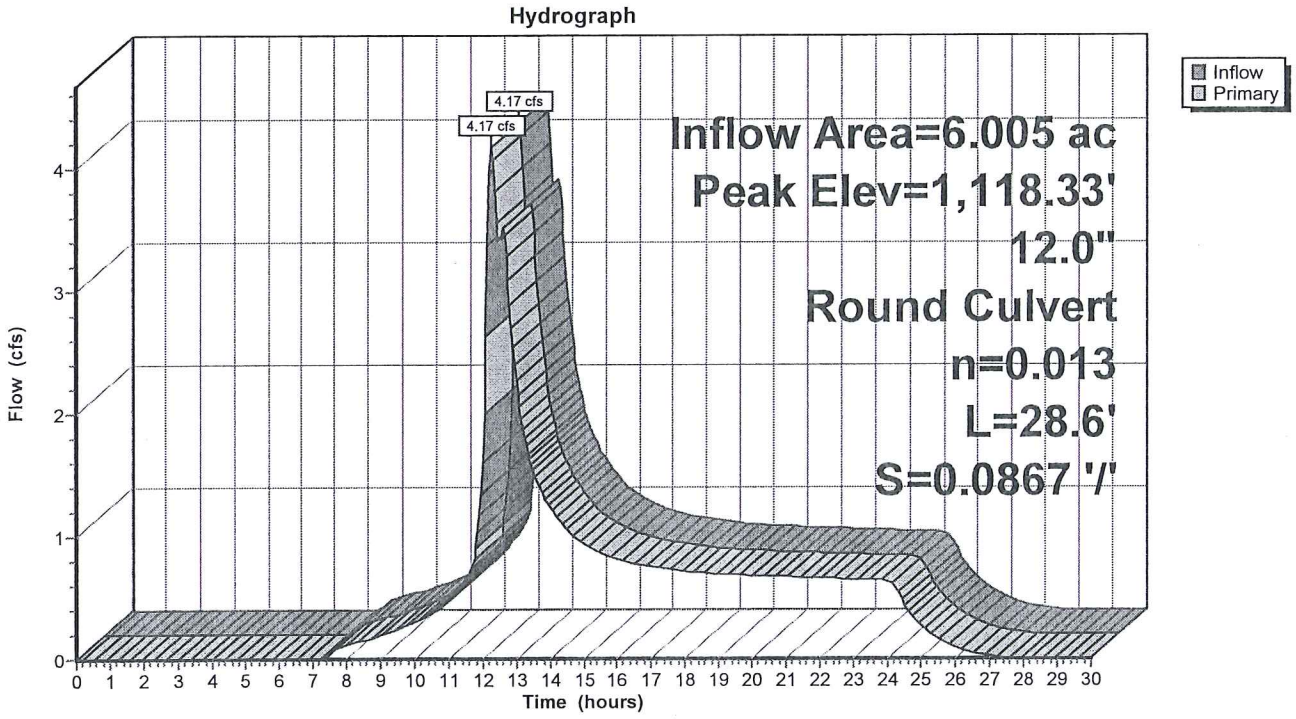
Inflow Area = 6.005 ac, 41.90% Impervious, Inflow Depth = 2.39" for 10-Year event
Inflow = 4.17 cfs @ 12.26 hrs, Volume= 1.195 af
Outflow = 4.17 cfs @ 12.26 hrs, Volume= 1.195 af, Atten= 0%, Lag= 0.0 min
Primary = 4.17 cfs @ 12.26 hrs, Volume= 1.195 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,118.33' @ 12.26 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,116.61'	**12.0" Round Culvert** L= 28.6' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,116.61' / 1,114.13' S= 0.0867 '/' Cc= 0.900 n= 0.013 Cast iron, coated, Flow Area= 0.79 sf

Primary OutFlow Max=4.15 cfs @ 12.26 hrs HW=1,118.31' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 4.15 cfs @ 5.28 fps)

Pond CULVERT#1: TO DP#1



Stage-Discharge for Pond CULVERT#1: TO DP#1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,116.61	0.00	1,117.13	1.01	1,117.65	2.78	1,118.17	3.89
1,116.62	0.00	1,117.14	1.05	1,117.66	2.80	1,118.18	3.91
1,116.63	0.00	1,117.15	1.08	1,117.67	2.83	1,118.19	3.93
1,116.64	0.00	1,117.16	1.12	1,117.68	2.86	1,118.20	3.95
1,116.65	0.01	1,117.17	1.15	1,117.69	2.88	1,118.21	3.97
1,116.66	0.01	1,117.18	1.19	1,117.70	2.90	1,118.22	3.98
1,116.67	0.02	1,117.19	1.22	1,117.71	2.93	1,118.23	4.00
1,116.68	0.02	1,117.20	1.26	1,117.72	2.95	1,118.24	4.02
1,116.69	0.03	1,117.21	1.30	1,117.73	2.98	1,118.25	4.04
1,116.70	0.04	1,117.22	1.33	1,117.74	3.00	1,118.26	4.06
1,116.71	0.04	1,117.23	1.37	1,117.75	3.03	1,118.27	4.07
1,116.72	0.05	1,117.24	1.41	1,117.76	3.05	1,118.28	4.09
1,116.73	0.06	1,117.25	1.45	1,117.77	3.07	1,118.29	4.11
1,116.74	0.07	1,117.26	1.48	1,117.78	3.10	1,118.30	4.13
1,116.75	0.09	1,117.27	1.52	1,117.79	3.12	1,118.31	4.14
1,116.76	0.10	1,117.28	1.56	1,117.80	3.14	1,118.32	4.16
1,116.77	0.11	1,117.29	1.60	1,117.81	3.16	1,118.33	**4.18**
1,116.78	0.12	1,117.30	1.63	1,117.82	3.19		
1,116.79	0.14	1,117.31	1.67	1,117.83	3.21		
1,116.80	0.15	1,117.32	1.71	1,117.84	3.23		
1,116.81	0.17	1,117.33	1.75	1,117.85	3.25		
1,116.82	0.19	1,117.34	1.79	1,117.86	3.28		
1,116.83	0.20	1,117.35	1.83	1,117.87	3.30		
1,116.84	0.22	1,117.36	1.86	1,117.88	3.32		
1,116.85	0.24	1,117.37	1.90	1,117.89	3.34		
1,116.86	0.26	1,117.38	1.94	1,117.90	3.36		
1,116.87	0.28	1,117.39	1.98	1,117.91	3.38		
1,116.88	0.30	1,117.40	2.01	1,117.92	3.40		
1,116.89	0.32	1,117.41	2.05	1,117.93	3.42		
1,116.90	0.35	1,117.42	2.09	1,117.94	3.45		
1,116.91	0.37	1,117.43	2.13	1,117.95	3.47		
1,116.92	0.39	1,117.44	2.16	1,117.96	3.49		
1,116.93	0.42	1,117.45	2.20	1,117.97	3.51		
1,116.94	0.44	1,117.46	2.23	1,117.98	3.53		
1,116.95	0.47	1,117.47	2.27	1,117.99	3.55		
1,116.96	0.49	1,117.48	2.30	1,118.00	3.57		
1,116.97	0.52	1,117.49	2.34	1,118.01	3.59		
1,116.98	0.55	1,117.50	2.37	1,118.02	3.61		
1,116.99	0.57	1,117.51	2.40	1,118.03	3.63		
1,117.00	0.60	1,117.52	2.44	1,118.04	3.65		
1,117.01	0.63	1,117.53	2.47	1,118.05	3.67		
1,117.02	0.66	1,117.54	2.50	1,118.06	3.69		
1,117.03	0.69	1,117.55	2.53	1,118.07	3.71		
1,117.04	0.72	1,117.56	2.56	1,118.08	3.72		
1,117.05	0.75	1,117.57	2.58	1,118.09	3.74		
1,117.06	0.78	1,117.58	2.61	1,118.10	3.76		
1,117.07	0.81	1,117.59	2.63	1,118.11	3.78		
1,117.08	0.85	1,117.60	2.66	1,118.12	3.80		
1,117.09	0.88	1,117.61	2.67	1,118.13	3.82		
1,117.10	0.91	1,117.62	2.70	1,118.14	3.84		
1,117.11	0.95	1,117.63	2.73	1,118.15	3.86		
1,117.12	0.98	1,117.64	2.75	1,118.16	3.88		

Summary for Pond DCBJ: TO DCB-K

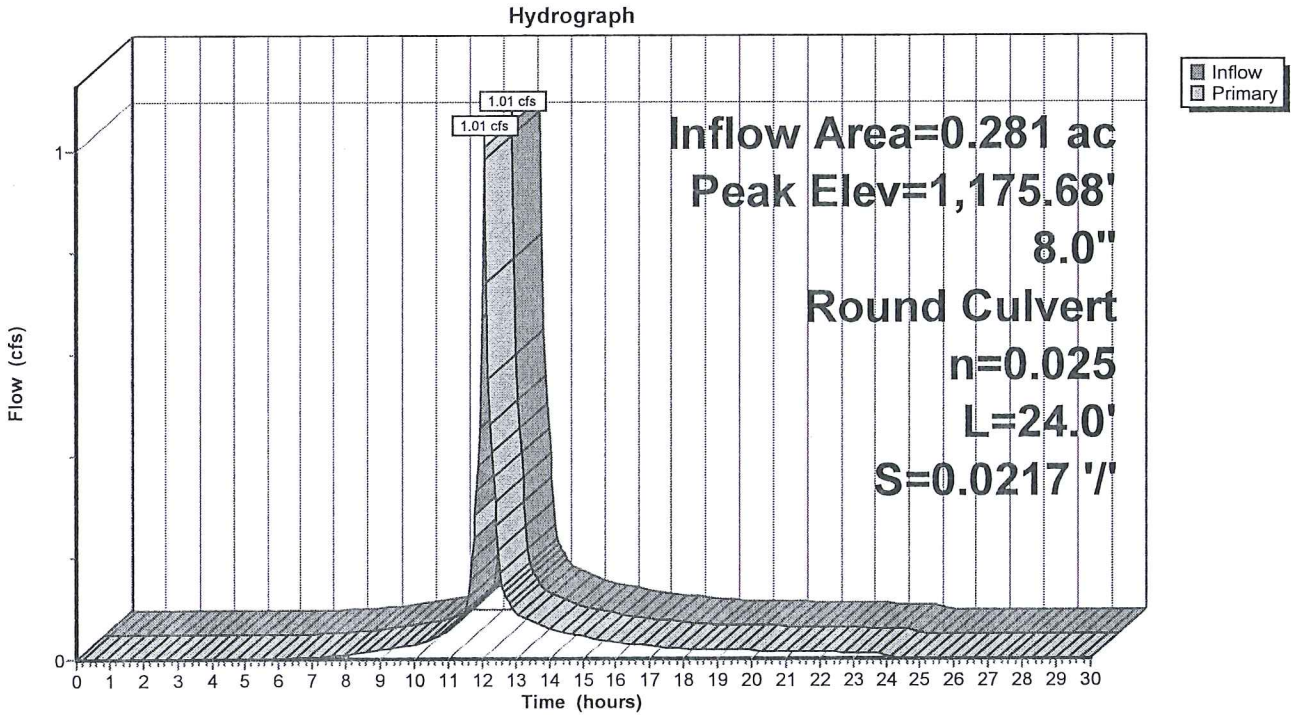
Inflow Area = 0.281 ac, 53.18% Impervious, Inflow Depth = 3.12" for 10-Year event
Inflow = 1.01 cfs @ 12.08 hrs, Volume= 0.073 af
Outflow = 1.01 cfs @ 12.08 hrs, Volume= 0.073 af, Atten= 0%, Lag= 0.0 min
Primary = 1.01 cfs @ 12.08 hrs, Volume= 0.073 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,175.68' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,174.86'	**8.0" Round Culvert** L= 24.0' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,174.86' / 1,174.34' S= 0.0217 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.35 sf

Primary OutFlow Max=0.97 cfs @ 12.08 hrs HW=1,175.65' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.97 cfs @ 2.96 fps)

Pond DCBJ: TO DCB-K



Stage-Discharge for Pond DCBJ: TO DCB-K

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,174.86	0.00	1,175.38	0.57
1,174.87	0.00	1,175.39	0.59
1,174.88	0.00	1,175.40	0.61
1,174.89	0.00	1,175.41	0.62
1,174.90	0.00	1,175.42	0.64
1,174.91	0.01	1,175.43	0.66
1,174.92	0.01	1,175.44	0.68
1,174.93	0.01	1,175.45	0.69
1,174.94	0.02	1,175.46	0.71
1,174.95	0.02	1,175.47	0.73
1,174.96	0.02	1,175.48	0.74
1,174.97	0.03	1,175.49	0.76
1,174.98	0.04	1,175.50	0.78
1,174.99	0.04	1,175.51	0.79
1,175.00	0.05	1,175.52	0.81
1,175.01	0.06	1,175.53	0.82
1,175.02	0.06	1,175.54	0.84
1,175.03	0.07	1,175.55	0.85
1,175.04	0.08	1,175.56	0.87
1,175.05	0.09	1,175.57	0.88
1,175.06	0.10	1,175.58	0.89
1,175.07	0.11	1,175.59	0.91
1,175.08	0.12	1,175.60	0.92
1,175.09	0.13	1,175.61	0.93
1,175.10	0.14	1,175.62	0.94
1,175.11	0.16	1,175.63	0.95
1,175.12	0.17	1,175.64	0.96
1,175.13	0.18	1,175.65	0.97
1,175.14	0.19	1,175.66	0.98
1,175.15	0.21	1,175.67	**0.99**
1,175.16	0.22		
1,175.17	0.23		
1,175.18	0.25		
1,175.19	0.26		
1,175.20	0.28		
1,175.21	0.29		
1,175.22	0.31		
1,175.23	0.32		
1,175.24	0.34		
1,175.25	0.35		
1,175.26	0.37		
1,175.27	0.39		
1,175.28	0.40		
1,175.29	0.42		
1,175.30	0.44		
1,175.31	0.45		
1,175.32	0.47		
1,175.33	0.49		
1,175.34	0.50		
1,175.35	0.52		
1,175.36	0.54		
1,175.37	0.56		

Summary for Pond sb1: TO DP#1

Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 3.64" for 10-Year event
Inflow = 1.95 cfs @ 12.55 hrs, Volume= 0.815 af
Outflow = 1.95 cfs @ 12.56 hrs, Volume= 0.809 af, Atten= 0%, Lag= 0.4 min
Primary = 1.95 cfs @ 12.56 hrs, Volume= 0.809 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,163.18' @ 12.56 hrs Surf.Area= 396 sf Storage= 331 cf

Plug-Flow detention time= 9.3 min calculated for 0.808 af (99% of inflow)
Center-of-Mass det. time= 5.3 min (996.2 - 990.9)

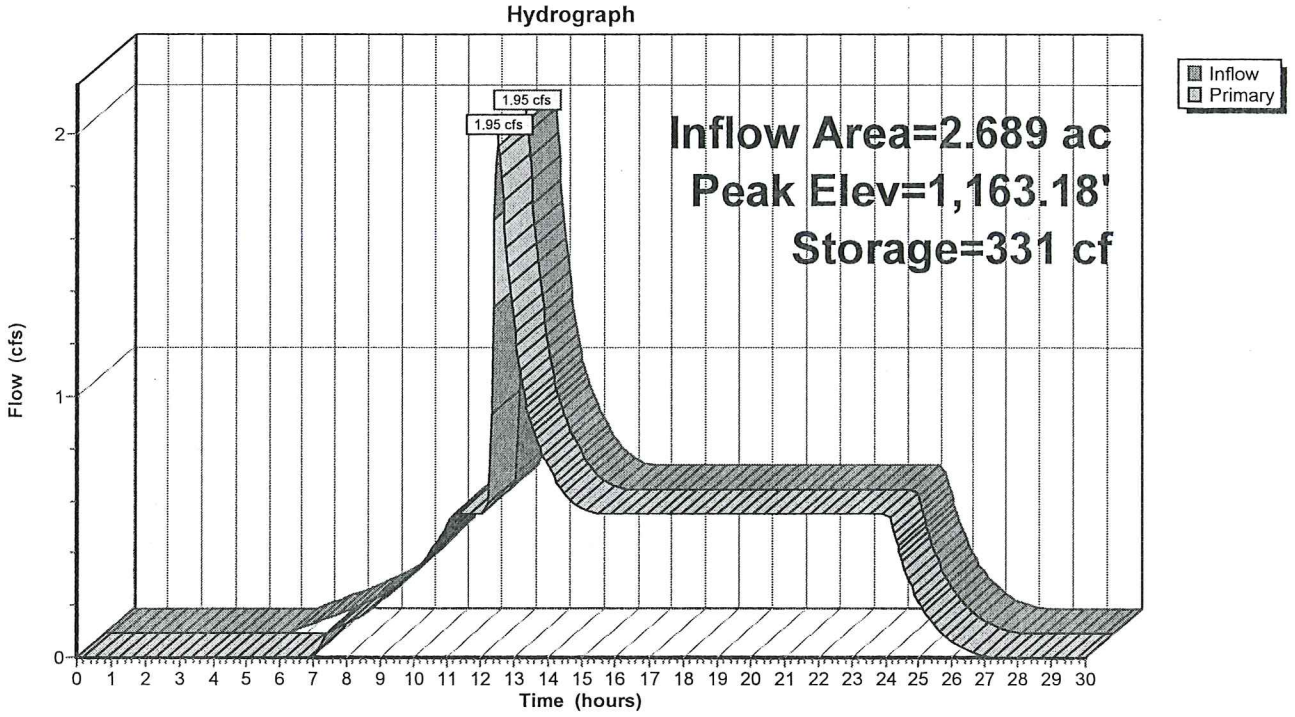
Volume	Invert	Avail.Storage	Storage Description
#1	1,162.00'	720 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,162.00	163	0	0
1,164.00	557	720	720

Device	Routing	Invert	Outlet Devices
#1	Primary	1,163.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.94 cfs @ 12.56 hrs HW=1,163.18' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 1.94 cfs @ 1.06 fps)

Pond sb1: TO DP#1



Stage-Discharge for Pond sb1: TO DP#1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,162.00	0.00	1,162.52	0.00	1,163.04	0.20	1,163.56	11.20
1,162.01	0.00	1,162.53	0.00	1,163.05	0.28	1,163.57	11.53
1,162.02	0.00	1,162.54	0.00	1,163.06	0.37	1,163.58	11.86
1,162.03	0.00	1,162.55	0.00	1,163.07	0.46	1,163.59	12.20
1,162.04	0.00	1,162.56	0.00	1,163.08	0.56	1,163.60	12.55
1,162.05	0.00	1,162.57	0.00	1,163.09	0.67	1,163.61	12.86
1,162.06	0.00	1,162.58	0.00	1,163.10	0.79	1,163.62	13.18
1,162.07	0.00	1,162.59	0.00	1,163.11	0.91	1,163.63	13.49
1,162.08	0.00	1,162.60	0.00	1,163.12	1.04	1,163.64	13.81
1,162.09	0.00	1,162.61	0.00	1,163.13	1.17	1,163.65	14.14
1,162.10	0.00	1,162.62	0.00	1,163.14	1.30	1,163.66	14.46
1,162.11	0.00	1,162.63	0.00	1,163.15	1.45	1,163.67	14.79
1,162.12	0.00	1,162.64	0.00	1,163.16	1.59	1,163.68	15.12
1,162.13	0.00	1,162.65	0.00	1,163.17	1.75	1,163.69	15.45
1,162.14	0.00	1,162.66	0.00	1,163.18	1.90	1,163.70	15.78
1,162.15	0.00	1,162.67	0.00	1,163.19	2.06	1,163.71	16.12
1,162.16	0.00	1,162.68	0.00	1,163.20	2.23	1,163.72	16.46
1,162.17	0.00	1,162.69	0.00	1,163.21	2.40	1,163.73	16.80
1,162.18	0.00	1,162.70	0.00	1,163.22	2.58	1,163.74	17.14
1,162.19	0.00	1,162.71	0.00	1,163.23	2.76	1,163.75	17.49
1,162.20	0.00	1,162.72	0.00	1,163.24	2.94	1,163.76	17.84
1,162.21	0.00	1,162.73	0.00	1,163.25	3.13	1,163.77	18.19
1,162.22	0.00	1,162.74	0.00	1,163.26	3.33	1,163.78	18.54
1,162.23	0.00	1,162.75	0.00	1,163.27	3.53	1,163.79	18.89
1,162.24	0.00	1,162.76	0.00	1,163.28	3.73	1,163.80	19.25
1,162.25	0.00	1,162.77	0.00	1,163.29	3.94	1,163.81	19.61
1,162.26	0.00	1,162.78	0.00	1,163.30	4.15	1,163.82	19.97
1,162.27	0.00	1,162.79	0.00	1,163.31	4.36	1,163.83	20.33
1,162.28	0.00	1,162.80	0.00	1,163.32	4.58	1,163.84	20.69
1,162.29	0.00	1,162.81	0.00	1,163.33	4.81	1,163.85	21.06
1,162.30	0.00	1,162.82	0.00	1,163.34	5.03	1,163.86	21.43
1,162.31	0.00	1,162.83	0.00	1,163.35	5.26	1,163.87	21.80
1,162.32	0.00	1,162.84	0.00	1,163.36	5.50	1,163.88	22.17
1,162.33	0.00	1,162.85	0.00	1,163.37	5.74	1,163.89	22.55
1,162.34	0.00	1,162.86	0.00	1,163.38	5.98	1,163.90	22.92
1,162.35	0.00	1,162.87	0.00	1,163.39	6.23	1,163.91	23.30
1,162.36	0.00	1,162.88	0.00	1,163.40	6.48	1,163.92	23.68
1,162.37	0.00	1,162.89	0.00	1,163.41	6.74	1,163.93	24.07
1,162.38	0.00	1,162.90	0.00	1,163.42	7.01	1,163.94	24.45
1,162.39	0.00	1,162.91	0.00	1,163.43	7.28	1,163.95	24.84
1,162.40	0.00	1,162.92	0.00	1,163.44	7.55	1,163.96	25.23
1,162.41	0.00	1,162.93	0.00	1,163.45	7.83	1,163.97	25.62
1,162.42	0.00	1,162.94	0.00	1,163.46	8.12	1,163.98	26.01
1,162.43	0.00	1,162.95	0.00	1,163.47	8.41	1,163.99	26.40
1,162.44	0.00	1,162.96	0.00	1,163.48	8.70	1,164.00	**26.80**
1,162.45	0.00	1,162.97	0.00	1,163.49	9.00		
1,162.46	0.00	1,162.98	0.00	1,163.50	9.30		
1,162.47	0.00	1,162.99	0.00	1,163.51	9.60		
1,162.48	0.00	1,163.00	0.00	1,163.52	9.91		
1,162.49	0.00	1,163.01	0.02	1,163.53	10.23		
1,162.50	0.00	1,163.02	0.07	1,163.54	10.55		
1,162.51	0.00	1,163.03	0.13	1,163.55	10.87		

Summary for Pond UGS1: EXFIL

Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 3.99" for 10-Year event
Inflow = 11.30 cfs @ 12.09 hrs, Volume= 0.893 af
Outflow = 2.00 cfs @ 12.54 hrs, Volume= 0.890 af, Atten= 82%, Lag= 27.5 min
Discarded = 0.04 cfs @ 12.54 hrs, Volume= 0.075 af
Primary = 1.96 cfs @ 12.54 hrs, Volume= 0.815 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,180.17' @ 12.54 hrs Surf.Area= 0.115 ac Storage= 0.392 af

Plug-Flow detention time= 226.0 min calculated for 0.888 af (99% of inflow)
Center-of-Mass det. time= 223.9 min (990.4 - 766.6)

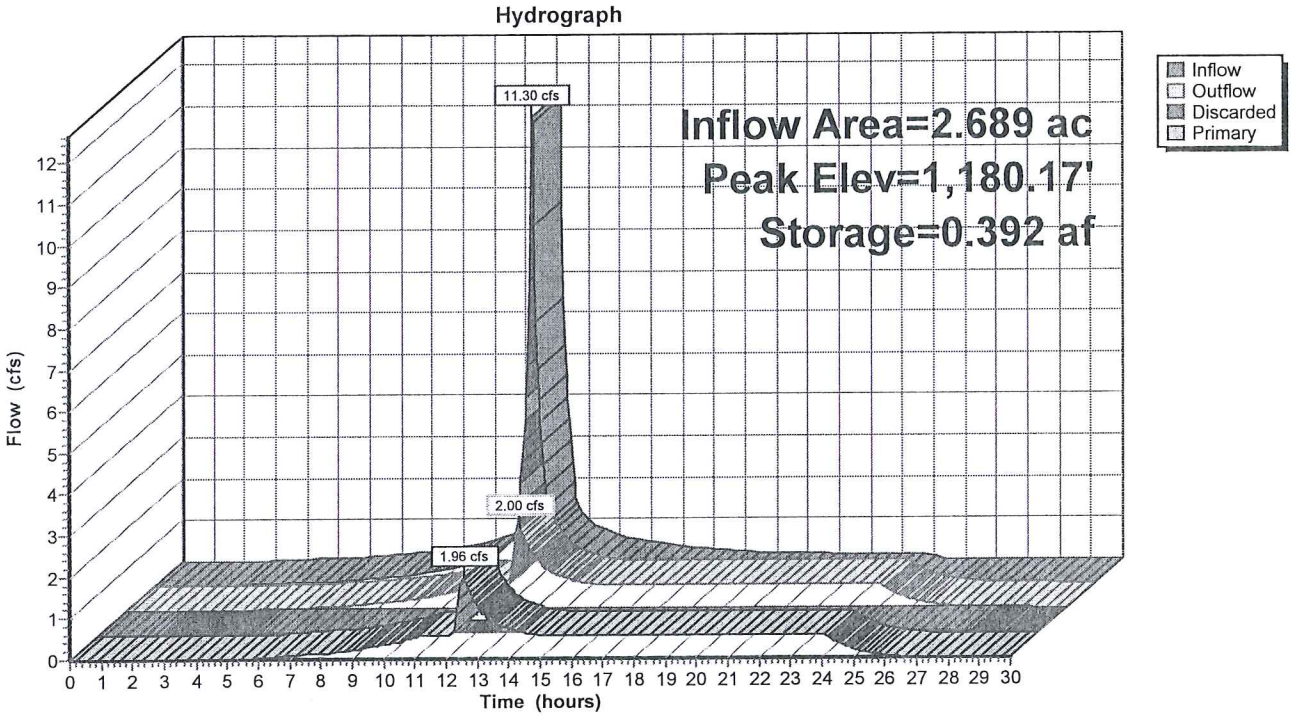
Volume	Invert	Avail.Storage	Storage Description
#1	1,175.00'	0.239 af	**44.00'W x 114.00'L x 7.90'H Prismatoid** 0.910 af Overall - 0.313 af Embedded = 0.596 af x 40.0% Voids
#2	1,176.90'	0.313 af	**ADS_StormTech MC-4500 +Cap @ 4.03' L** x 120 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.6 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 120 Chambers in 12 Rows Cap Storage= +35.7 cf x 2 x 12 rows = 856.8 cf
		0.552 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,175.00'	**0.270 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 320.00'
#2	Device 4	1,179.60'	**15.0" Vert. Orifice/Grate** C= 0.600
#3	Device 4	1,175.20'	**Special & User-Defined** Head (feet) 0.00 1.00 15.00 Disch. (cfs) 0.000 0.550 0.550
#4	Primary	1,174.80'	**15.0" Round Culvert** L= 98.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,174.80' / 1,163.00' S= 0.1204 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Discarded OutFlow Max=0.04 cfs @ 12.54 hrs HW=1,180.17' (Free Discharge)
└─**1=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=1.95 cfs @ 12.54 hrs HW=1,180.17' (Free Discharge)
└─**4=Culvert** (Passes 1.95 cfs of 10.16 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.40 cfs @ 2.57 fps)
  └─**3=Special & User-Defined** (Custom Controls 0.55 cfs)

Pond UGS1: EXFIL



Stage-Discharge for Pond UGS1: EXFIL

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
1,175.00	0.00	0.00	0.00
1,175.20	0.03	0.03	0.00
1,175.40	0.14	0.03	0.11
1,175.60	0.25	0.03	0.22
1,175.80	0.36	0.03	0.33
1,176.00	0.47	0.03	0.44
1,176.20	0.58	0.03	0.55
1,176.40	0.58	0.03	0.55
1,176.60	0.58	0.03	0.55
1,176.80	0.58	0.03	0.55
1,177.00	0.59	0.04	0.55
1,177.20	0.59	0.04	0.55
1,177.40	0.59	0.04	0.55
1,177.60	0.59	0.04	0.55
1,177.80	0.59	0.04	0.55
1,178.00	0.59	0.04	0.55
1,178.20	0.59	0.04	0.55
1,178.40	0.59	0.04	0.55
1,178.60	0.59	0.04	0.55
1,178.80	0.59	0.04	0.55
1,179.00	0.59	0.04	0.55
1,179.20	0.59	0.04	0.55
1,179.40	0.59	0.04	0.55
1,179.60	0.59	0.04	0.55
1,179.80	0.78	0.04	0.74
1,180.00	1.32	0.04	1.28
1,180.20	2.13	0.04	2.09
1,180.40	3.12	0.04	3.08
1,180.60	4.18	0.04	4.13
1,180.80	5.11	0.04	5.07
1,181.00	5.80	0.04	5.75
1,181.20	6.43	0.04	6.38
1,181.40	7.00	0.04	6.96
1,181.60	7.52	0.04	7.48
1,181.80	8.01	0.05	7.97
1,182.00	8.47	0.05	8.42
1,182.20	8.90	0.05	8.85
1,182.40	9.31	0.05	9.26
1,182.60	9.70	0.05	9.66
1,182.80	10.08	0.05	10.03
1,183.00	10.44	0.05	10.39
1,183.20	10.79	0.05	10.74
1,183.40	11.13	0.05	11.08
1,183.60	11.45	0.05	11.41
1,183.80	11.77	0.05	11.72
1,184.00	12.08	0.05	12.03
1,184.20	12.38	0.05	12.33
1,184.40	12.67	0.05	12.62
1,184.60	12.96	0.05	12.91
1,184.80	13.24	0.05	13.19
1,185.00	13.51	0.05	13.46
1,185.20	13.78	0.05	13.73
1,185.40	14.04	0.05	13.99
1,185.60	14.30	0.05	14.25
1,185.80	14.55	0.05	14.50
1,186.00	14.80	0.05	14.75
1,186.20	15.04	0.05	14.99
1,186.40	15.28	0.05	15.23
1,186.60	15.52	0.05	15.47
1,186.80	15.75	0.05	15.70
1,187.00	15.92	0.05	15.87
1,187.20	16.06	0.05	16.01
1,187.40	16.19	0.05	16.14
1,187.60	16.32	0.05	16.28
1,187.80	16.46	0.05	16.41
1,188.00	16.59	0.05	16.54
1,188.20	16.72	0.05	16.67
1,188.40	16.85	0.05	16.80
1,188.60	16.98	0.05	16.93
1,188.80	17.11	0.05	17.06
1,189.00	17.24	0.05	17.19
1,189.20	17.36	0.05	17.31
1,189.40	17.49	0.05	17.44
1,189.60	17.61	0.05	17.56
1,189.80	17.73	0.05	17.69
1,190.00	17.86	0.05	17.81
1,190.20	**17.98**	**0.05**	**17.93**

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P11: TO WET Runoff Area=70,866 sf 3.65% Impervious Runoff Depth=1.78"
Flow Length=109' Slope=0.1500 '/' Tc=8.2 min CN=64 Runoff=2.92 cfs 0.241 af

Subcatchment P111: TO DCB#22 Runoff Area=8,514 sf 87.17% Impervious Runoff Depth=4.72"
Flow Length=164' Tc=5.0 min CN=95 Runoff=1.00 cfs 0.077 af

Subcatchment P112: TO DCB#21 Runoff Area=9,201 sf 82.40% Impervious Runoff Depth=4.60"
Flow Length=155' Tc=5.0 min CN=94 Runoff=1.06 cfs 0.081 af

Subcatchment P113: TO DCB#21 Runoff Area=6,921 sf 80.93% Impervious Runoff Depth=4.49"
Flow Length=240' Slope=0.0150 '/' Tc=5.0 min CN=93 Runoff=0.79 cfs 0.059 af

Subcatchment P114: TO DCB#20 Runoff Area=6,898 sf 72.11% Impervious Runoff Depth=4.27"
Flow Length=214' Slope=0.0150 '/' Tc=5.0 min CN=91 Runoff=0.76 cfs 0.056 af

Subcatchment P115: TO DCB#10 Runoff Area=1,813 sf 80.86% Impervious Runoff Depth=4.49"
Flow Length=121' Slope=0.0150 '/' Tc=5.0 min CN=93 Runoff=0.21 cfs 0.016 af

Subcatchment P116: TO DCB#11 Runoff Area=11,690 sf 78.25% Impervious Runoff Depth=4.49"
Flow Length=175' Slope=0.0150 '/' Tc=5.0 min CN=93 Runoff=1.33 cfs 0.100 af

Subcatchment P117: TO DCB#4 Runoff Area=5,999 sf 68.08% Impervious Runoff Depth=4.17"
Flow Length=153' Tc=5.0 min CN=90 Runoff=0.65 cfs 0.048 af

Subcatchment P118: TO DCB#20 Runoff Area=6,282 sf 89.61% Impervious Runoff Depth=4.83"
Flow Length=134' Slope=0.0150 '/' Tc=5.0 min CN=96 Runoff=0.74 cfs 0.058 af

Subcatchment P119: TO DCB#19 Runoff Area=5,964 sf 89.42% Impervious Runoff Depth=4.72"
Flow Length=134' Slope=0.0150 '/' Tc=5.0 min CN=95 Runoff=0.70 cfs 0.054 af

Subcatchment P12: TO CULVERT#1 Runoff Area=144,472 sf 3.17% Impervious Runoff Depth=1.94"
Flow Length=587' Tc=17.1 min CN=66 Runoff=5.18 cfs 0.535 af

Subcatchment P120: TO DCB#15 Runoff Area=7,759 sf 87.98% Impervious Runoff Depth=4.72"
Flow Length=158' Slope=0.0150 '/' Tc=5.0 min CN=95 Runoff=0.91 cfs 0.070 af

Subcatchment P121: TO DCB#14 Runoff Area=7,473 sf 90.41% Impervious Runoff Depth=4.83"
Flow Length=158' Slope=0.0150 '/' Tc=5.0 min CN=96 Runoff=0.88 cfs 0.069 af

Subcatchment P122: TO DCB#17 Runoff Area=5,642 sf 91.39% Impervious Runoff Depth=4.83"
Flow Length=175' Slope=0.0250 '/' Tc=5.0 min CN=96 Runoff=0.67 cfs 0.052 af

Subcatchment P123: TO DCB#3 Runoff Area=9,992 sf 89.92% Impervious Runoff Depth=4.83"
Flow Length=195' Slope=0.0200 '/' Tc=5.0 min CN=96 Runoff=1.18 cfs 0.092 af

Subcatchment P124: TO DCB#13 Runoff Area=7,557 sf 91.70% Impervious Runoff Depth=4.83"
Flow Length=161' Slope=0.0250 '/' Tc=5.0 min CN=96 Runoff=0.89 cfs 0.070 af

Subcatchment P125: TO DCB#12 Runoff Area=10,810 sf 86.00% Impervious Runoff Depth=4.72"
Flow Length=217' Slope=0.0250 '/' Tc=5.0 min CN=95 Runoff=1.26 cfs 0.098 af

Subcatchment P126: TO DCB#18 Runoff Area=23,746 sf 84.68% Impervious Runoff Depth=4.60"
Flow Length=207' Slope=0.0150 '/' Tc=5.0 min CN=94 Runoff=2.74 cfs 0.209 af

Subcatchment P127: TO DCB#1 Runoff Area=11,126 sf 81.84% Impervious Runoff Depth=4.60"
Flow Length=140' Slope=0.0200 '/' Tc=5.0 min CN=94 Runoff=1.28 cfs 0.098 af

Subcatchment P128: (new Subcat) Runoff Area=28,389 sf 100.00% Impervious Runoff Depth=5.06"
Flow Length=140' Slope=0.0200 '/' Tc=5.0 min CN=98 Runoff=3.40 cfs 0.275 af

Subcatchment P14: TO CULVERT #2 Runoff Area=90,019 sf 3.60% Impervious Runoff Depth=1.86"
Flow Length=490' Tc=14.6 min CN=65 Runoff=3.27 cfs 0.320 af

Subcatchment P18: TO DP#2 Runoff Area=29,367 sf 66.34% Impervious Runoff Depth=4.17"
Flow Length=260' Tc=5.0 min CN=90 Runoff=3.18 cfs 0.234 af

Subcatchment P19: BUILDING Runoff Area=127,442 sf 100.00% Impervious Runoff Depth=5.06"
Tc=0.0 min CN=98 Runoff=17.37 cfs 1.234 af

Subcatchment P20: TO DCB-H Runoff Area=15,545 sf 45.15% Impervious Runoff Depth=3.65"
Flow Length=200' Tc=5.0 min CN=85 Runoff=1.51 cfs 0.108 af

Subcatchment P21: TO DCB-I Runoff Area=2,507 sf 56.44% Impervious Runoff Depth=3.95"
Flow Length=85' Tc=5.0 min CN=88 Runoff=0.26 cfs 0.019 af

Subcatchment P22: TO DCB-J Runoff Area=9,732 sf 52.34% Impervious Runoff Depth=3.85"
Flow Length=283' Tc=5.0 min CN=87 Runoff=0.99 cfs 0.072 af

Subcatchment P26: TO DCB-F Runoff Area=5,800 sf 68.40% Impervious Runoff Depth=4.17"
Flow Length=161' Tc=5.0 min CN=90 Runoff=0.63 cfs 0.046 af

Subcatchment P27: TO DCB-G Runoff Area=11,905 sf 45.12% Impervious Runoff Depth=3.65"
Flow Length=181' Slope=0.0080 '/' Tc=5.0 min CN=85 Runoff=1.16 cfs 0.083 af

Reach 2R: OVERLAND FLOW Avg. Flow Depth=0.33' Max Vel=0.89 fps Inflow=3.99 cfs 0.983 af
n=0.070 L=117.0' S=0.0103 '/' Capacity=32.74 cfs Outflow=3.94 cfs 0.983 af

Reach 3R: OVERLAND FLOW Avg. Flow Depth=0.15' Max Vel=2.39 fps Inflow=4.03 cfs 0.983 af
n=0.070 L=209.0' S=0.1923 '/' Capacity=141.79 cfs Outflow=3.99 cfs 0.983 af

Reach 5R: OVERLAND FLOW Avg. Flow Depth=0.18' Max Vel=1.96 fps Inflow=4.03 cfs 0.983 af
n=0.070 L=38.0' S=0.1053 '/' Capacity=104.89 cfs Outflow=4.03 cfs 0.983 af

Reach CULVERT#2: TO DP#1 Avg. Flow Depth=0.50' Max Vel=8.39 fps Inflow=3.27 cfs 0.320 af
12.0" Round Pipe n=0.013 L=20.3' S=0.0345 '/' Capacity=6.62 cfs Outflow=3.27 cfs 0.320 af

Reach DCB-H: TO DMH#6 Avg. Flow Depth=0.34' Max Vel=8.26 fps Inflow=1.51 cfs 0.108 af
8.0" Round Pipe n=0.010 L=6.0' S=0.0333 '/' Capacity=2.87 cfs Outflow=1.51 cfs 0.108 af

Reach DCB1: TO DMH#1 Avg. Flow Depth=0.23' Max Vel=9.25 fps Inflow=1.28 cfs 0.098 af
12.0" Round Pipe n=0.011 L=40.0' S=0.0675 '/' Capacity=10.94 cfs Outflow=1.28 cfs 0.098 af

Reach DCB10: TO DMH#10 Avg. Flow Depth=0.18' Max Vel=2.17 fps Inflow=0.21 cfs 0.016 af
12.0" Round Pipe n=0.013 L=28.0' S=0.0071 '/' Capacity=3.01 cfs Outflow=0.20 cfs 0.016 af

Reach DCB11: TO DMH#10 Avg. Flow Depth=0.33' Max Vel=5.82 fps Inflow=1.33 cfs 0.100 af
12.0" Round Pipe n=0.013 L=8.0' S=0.0250 '/' Capacity=5.63 cfs Outflow=1.33 cfs 0.100 af

Reach DCB12: TO DMH#12 Avg. Flow Depth=0.42' Max Vel=4.04 fps Inflow=1.26 cfs 0.098 af
12.0" Round Pipe n=0.013 L=42.0' S=0.0095 '/' Capacity=3.48 cfs Outflow=1.24 cfs 0.098 af

Reach DCB13: TO DMH#12 Avg. Flow Depth=0.27' Max Vel=5.20 fps Inflow=0.89 cfs 0.070 af
12.0" Round Pipe n=0.013 L=16.0' S=0.0250 '/' Capacity=5.63 cfs Outflow=0.89 cfs 0.070 af

Reach DCB14: TO DMH#11 Avg. Flow Depth=0.21' Max Vel=7.18 fps Inflow=0.88 cfs 0.069 af
12.0" Round Pipe n=0.013 L=8.0' S=0.0625 '/' Capacity=8.91 cfs Outflow=0.88 cfs 0.069 af

Reach DCB15: TO DMH#13 Avg. Flow Depth=0.23' Max Vel=6.68 fps Inflow=0.91 cfs 0.070 af
12.0" Round Pipe n=0.013 L=4.0' S=0.0500 '/' Capacity=7.97 cfs Outflow=0.91 cfs 0.070 af

Reach DCB16: TO DMH#15 Avg. Flow Depth=0.22' Max Vel=5.11 fps Inflow=0.67 cfs 0.052 af
12.0" Round Pipe n=0.013 L=46.0' S=0.0304 '/' Capacity=6.22 cfs Outflow=0.66 cfs 0.052 af

Reach DCB17: TO DMH#15 Avg. Flow Depth=0.19' Max Vel=6.85 fps Inflow=0.70 cfs 0.054 af
12.0" Round Pipe n=0.013 L=6.0' S=0.0667 '/' Capacity=9.20 cfs Outflow=0.70 cfs 0.054 af

Reach DCB18: TO DMH#15 Avg. Flow Depth=0.60' Max Vel=5.57 fps Inflow=2.74 cfs 0.209 af
12.0" Round Pipe n=0.013 L=15.0' S=0.0133 '/' Capacity=4.11 cfs Outflow=2.73 cfs 0.209 af

Reach DCB19: TO DMH#16 Avg. Flow Depth=0.24' Max Vel=5.17 fps Inflow=0.74 cfs 0.058 af
12.0" Round Pipe n=0.013 L=7.0' S=0.0286 '/' Capacity=6.02 cfs Outflow=0.74 cfs 0.058 af

Reach DCB2: TO DMH#1 Avg. Flow Depth=0.21' Max Vel=5.28 fps Inflow=0.63 cfs 0.046 af
12.0" Round Pipe n=0.011 L=8.0' S=0.0250 '/' Capacity=6.66 cfs Outflow=0.63 cfs 0.046 af

Reach DCB20: TO DMH#18 Avg. Flow Depth=0.21' Max Vel=6.35 fps Inflow=0.76 cfs 0.056 af
12.0" Round Pipe n=0.013 L=6.0' S=0.0500 '/' Capacity=7.97 cfs Outflow=0.76 cfs 0.056 af

Reach DCB21: TO DMH#18 Avg. Flow Depth=0.29' Max Vel=4.10 fps Inflow=0.79 cfs 0.059 af
12.0" Round Pipe n=0.013 L=21.0' S=0.0143 '/' Capacity=4.26 cfs Outflow=0.78 cfs 0.059 af

Reach DCB22: TO DMH#19 Avg. Flow Depth=0.34' Max Vel=4.18 fps Inflow=1.00 cfs 0.077 af
12.0" Round Pipe n=0.013 L=16.0' S=0.0125 '/' Capacity=3.98 cfs Outflow=0.99 cfs 0.077 af

Reach DCB23: TO DMH#19 Avg. Flow Depth=0.36' Max Vel=4.08 fps Inflow=1.06 cfs 0.081 af
12.0" Round Pipe n=0.013 L=18.0' S=0.0111 '/' Capacity=3.76 cfs Outflow=1.06 cfs 0.081 af

Reach DCB3: TO DMH#1 Avg. Flow Depth=0.26' Max Vel=7.33 fps Inflow=1.18 cfs 0.092 af
12.0" Round Pipe n=0.013 L=123.0' S=0.0528 '/' Capacity=8.19 cfs Outflow=1.16 cfs 0.092 af

Reach DCB4: TO DMH#5 Avg. Flow Depth=0.20' Max Vel=5.70 fps Inflow=0.65 cfs 0.048 af
12.0" Round Pipe n=0.011 L=33.0' S=0.0303 '/' Capacity=7.33 cfs Outflow=0.64 cfs 0.048 af

Reach DCBG: TO DMH#3 Avg. Flow Depth=0.26' Max Vel=7.28 fps Inflow=1.16 cfs 0.083 af
12.0" Round Pipe n=0.011 L=8.0' S=0.0375 '/' Capacity=8.15 cfs Outflow=1.16 cfs 0.083 af

Reach DCBI: TO DCB-F Avg. Flow Depth=0.28' Max Vel=2.25 fps Inflow=0.26 cfs 0.019 af
6.0" Round Pipe n=0.025 L=69.0' S=0.0209 '/' Capacity=0.42 cfs Outflow=0.26 cfs 0.019 af

Reach DMH1: TO DMH#2 Avg. Flow Depth=0.52' Max Vel=7.39 fps Inflow=3.05 cfs 0.237 af
12.0" Round Pipe n=0.011 L=16.0' S=0.0187 '/' Capacity=5.77 cfs Outflow=3.05 cfs 0.237 af

Reach DMH10: TO DMH#12 Avg. Flow Depth=0.48' Max Vel=4.09 fps Inflow=1.53 cfs 0.116 af
12.0" Round Pipe n=0.013 L=35.0' S=0.0086 '/' Capacity=3.30 cfs Outflow=1.51 cfs 0.116 af

Reach DMH11: TO DMH#12 Avg. Flow Depth=0.39' Max Vel=7.58 fps Inflow=2.14 cfs 0.167 af
12.0" Round Pipe n=0.013 L=47.0' S=0.0362 '/' Capacity=6.78 cfs Outflow=2.12 cfs 0.167 af

Reach DMH12: TO DMH#13 Avg. Flow Depth=0.80' Max Vel=5.40 fps Inflow=4.51 cfs 0.353 af
15.0" Round Pipe n=0.013 L=68.0' S=0.0088 '/' Capacity=6.07 cfs Outflow=4.48 cfs 0.353 af

Reach DMH13: TO DMH#14 Avg. Flow Depth=0.82' Max Vel=5.45 fps Inflow=5.37 cfs 0.423 af
18.0" Round Pipe n=0.013 L=38.0' S=0.0079 '/' Capacity=9.33 cfs Outflow=5.35 cfs 0.423 af

Reach DMH14: TO UGS#1A Avg. Flow Depth=0.76' Max Vel=5.96 fps Inflow=5.35 cfs 0.423 af
18.0" Round Pipe n=0.013 L=10.0' S=0.0100 '/' Capacity=10.50 cfs Outflow=5.35 cfs 0.423 af

Reach DMH15: TO DMH#16 Avg. Flow Depth=0.78' Max Vel=5.06 fps Inflow=4.09 cfs 0.315 af
15.0" Round Pipe n=0.013 L=63.0' S=0.0079 '/' Capacity=5.75 cfs Outflow=4.03 cfs 0.315 af

Reach DMH16: TO DMH#17 Avg. Flow Depth=0.93' Max Vel=7.02 fps Inflow=8.13 cfs 0.648 af
18.0" Round Pipe n=0.013 L=71.0' S=0.0120 '/' Capacity=11.49 cfs Outflow=8.09 cfs 0.648 af

Reach DMH17: TO UGS#1B Avg. Flow Depth=0.79' Max Vel=8.55 fps Inflow=8.09 cfs 0.648 af
18.0" Round Pipe n=0.013 L=10.0' S=0.0200 '/' Capacity=14.86 cfs Outflow=8.08 cfs 0.648 af

Reach DMH18: TO DMH#20 Avg. Flow Depth=0.46' Max Vel=4.30 fps Inflow=1.54 cfs 0.116 af
12.0" Round Pipe n=0.013 L=155.0' S=0.0097 '/' Capacity=3.50 cfs Outflow=1.50 cfs 0.116 af

Reach DMH19: TO DMH-A1 Avg. Flow Depth=0.45' Max Vel=10.13 fps Inflow=3.52 cfs 0.274 af
12.0" Round Pipe n=0.013 L=31.0' S=0.0548 '/' Capacity=8.34 cfs Outflow=3.51 cfs 0.274 af

Reach DMH2: TO DMH#3 Avg. Flow Depth=0.56' Max Vel=6.69 fps Inflow=3.05 cfs 0.237 af
12.0" Round Pipe n=0.011 L=91.0' S=0.0143 '/' Capacity=5.03 cfs Outflow=3.03 cfs 0.237 af

Reach DMH3: TO DMH#4 Avg. Flow Depth=0.66' Max Vel=7.61 fps Inflow=4.17 cfs 0.320 af
12.0" Round Pipe n=0.011 L=30.0' S=0.0167 '/' Capacity=5.44 cfs Outflow=4.17 cfs 0.320 af

Reach DMH4: TO DMH-E Avg. Flow Depth=0.46' Max Vel=11.87 fps Inflow=4.17 cfs 0.320 af
12.0" Round Pipe n=0.011 L=15.0' S=0.0533 '/' Capacity=9.72 cfs Outflow=4.16 cfs 0.320 af

Reach DMH5: TO DMH#6 Avg. Flow Depth=0.26' Max Vel=4.06 fps Inflow=0.64 cfs 0.048 af
12.0" Round Pipe n=0.011 L=78.0' S=0.0115 '/' Capacity=4.52 cfs Outflow=0.64 cfs 0.048 af

Reach DMH6: TO DCB- Avg. Flow Depth=0.33' Max Vel=9.28 fps Inflow=2.14 cfs 0.156 af
12.0" Round Pipe n=0.011 L=20.0' S=0.0450 '/' Capacity=8.93 cfs Outflow=2.13 cfs 0.156 af

Reach DMHA: TO DP#1 Avg. Flow Depth=0.48' Max Vel=8.13 fps Inflow=3.51 cfs 0.274 af
15.0" Round Pipe n=0.011 L=14.0' S=0.0221 '/' Capacity=11.36 cfs Outflow=3.51 cfs 0.274 af

Reach DP#1: CRYSTAL LAKE Inflow=13.75 cfs 2.352 af
Outflow=13.75 cfs 2.352 af

Reach DP#2: EX RAIN GARDEN Inflow=3.18 cfs 0.234 af
Outflow=3.18 cfs 0.234 af

Reach DP#3: DMH-E Inflow=4.16 cfs 0.320 af
Outflow=4.16 cfs 0.320 af

Reach DP#4: DCB-J Inflow=2.13 cfs 0.156 af
Outflow=2.13 cfs 0.156 af

Reach DP#5: DCB-K Inflow=1.24 cfs 0.091 af
Outflow=1.24 cfs 0.091 af

Reach OL1: OVERLAND FLOW Avg. Flow Depth=0.11' Max Vel=2.99 fps Inflow=3.51 cfs 0.274 af
n=0.070 L=20.0' S=0.4500 '/' Capacity=216.87 cfs Outflow=3.50 cfs 0.274 af

Reach OL2: OVERLAND FLOW Avg. Flow Depth=0.14' Max Vel=2.19 fps Inflow=3.50 cfs 0.274 af
n=0.070 L=243.0' S=0.1770 '/' Capacity=136.00 cfs Outflow=3.29 cfs 0.274 af

Reach OL3: OVERLAND FLOW Avg. Flow Depth=0.20' Max Vel=1.38 fps Inflow=3.29 cfs 0.274 af
n=0.070 L=45.0' S=0.0444 '/' Capacity=68.16 cfs Outflow=3.23 cfs 0.274 af

Reach OL4: OVERLAND FLOW Avg. Flow Depth=0.13' Max Vel=2.30 fps Inflow=3.27 cfs 0.320 af
n=0.070 L=74.0' S=0.2162 '/' Capacity=150.33 cfs Outflow=3.22 cfs 0.320 af

Reach OL5: OVERLAND FLOW Avg. Flow Depth=0.23' Max Vel=2.63 fps Inflow=7.39 cfs 1.518 af
n=0.070 L=102.0' S=0.1382 '/' Capacity=120.20 cfs Outflow=7.36 cfs 1.518 af

Reach UGS1A: TO UGS1 Inflow=5.35 cfs 0.423 af
Outflow=5.35 cfs 0.423 af

Reach UGS1B: TO UGS1 Inflow=8.08 cfs 0.648 af
Outflow=8.08 cfs 0.648 af

Reach UGS1C: TO OUTLET Avg. Flow Depth=0.58' Max Vel=7.26 fps Inflow=4.03 cfs 0.989 af
15.0" Round Pipe n=0.013 L=98.0' S=0.0204 '/' Capacity=9.23 cfs Outflow=4.01 cfs 0.989 af

Pond CULVERT#1: TO DP#1 Peak Elev=1,120.93' Inflow=7.39 cfs 1.518 af
12.0" Round Culvert n=0.013 L=28.6' S=0.0867 '/' Outflow=7.39 cfs 1.518 af

Pond DCBJ: TO DCB-K Peak Elev=1,176.23' Inflow=1.24 cfs 0.091 af
8.0" Round Culvert n=0.025 L=24.0' S=0.0217 '/' Outflow=1.24 cfs 0.091 af

Pond sb1: TO DP#1 Peak Elev=1,163.29' Storage=376 cf Inflow=4.01 cfs 0.989 af
Outflow=4.03 cfs 0.983 af

Pond UGS1: EXFIL Peak Elev=1,180.58' Storage=0.424 af Inflow=13.43 cfs 1.071 af
Discarded=0.04 cfs 0.078 af Primary=4.03 cfs 0.989 af Outflow=4.08 cfs 1.067 af

Total Runoff Area = 15.689 ac Runoff Volume = 4.475 af Average Runoff Depth = 3.42"
51.28% Pervious = 8.045 ac 48.72% Impervious = 7.644 ac

Summary for Subcatchment P11: TO WET

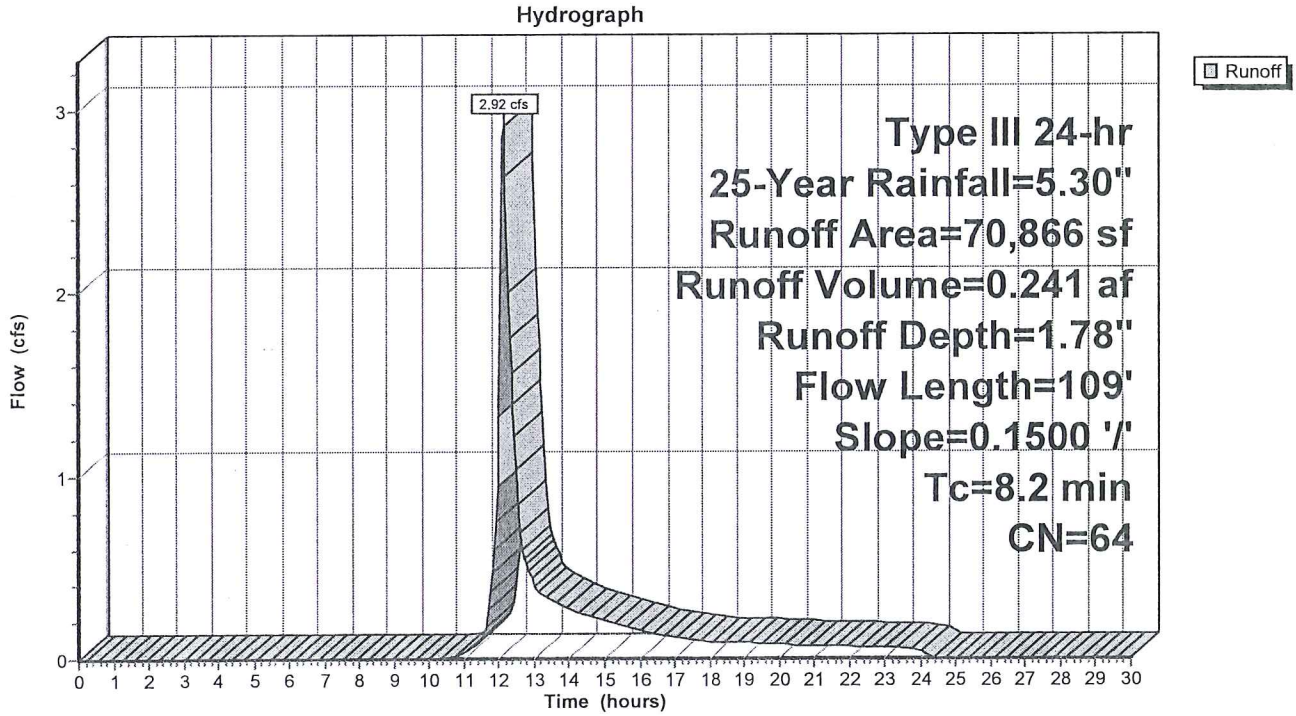
Runoff = 2.92 cfs @ 12.13 hrs, Volume= 0.241 af, Depth= 1.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
8,033	61	>75% Grass cover, Good, HSG B
30,342	55	Woods, Good, HSG B
2,584	98	Paved parking, HSG B
1,398	74	>75% Grass cover, Good, HSG C
28,509	70	Woods, Good, HSG C
70,866	64	Weighted Average
68,282		96.35% Pervious Area
2,584		3.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	75	0.1500	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.3	34	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	109	Total			

Subcatchment P11: TO WET



Summary for Subcatchment P111: TO DCB#22

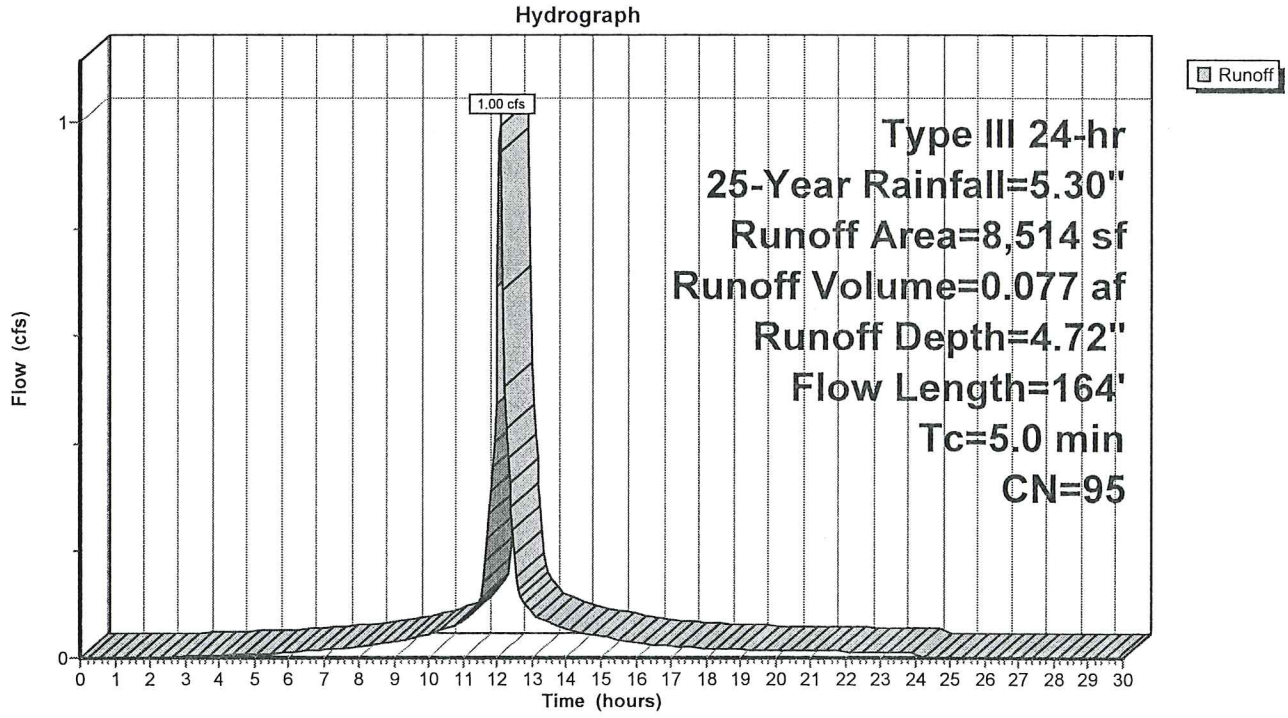
Runoff = 1.00 cfs @ 12.07 hrs, Volume= 0.077 af, Depth= 4.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
1,092	74	>75% Grass cover, Good, HSG C
7,422	98	Paved parking, HSG C
8,514	95	Weighted Average
1,092		12.83% Pervious Area
7,422		87.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	114	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	164	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P111: TO DCB#22



Summary for Subcatchment P112: TO DCB#21

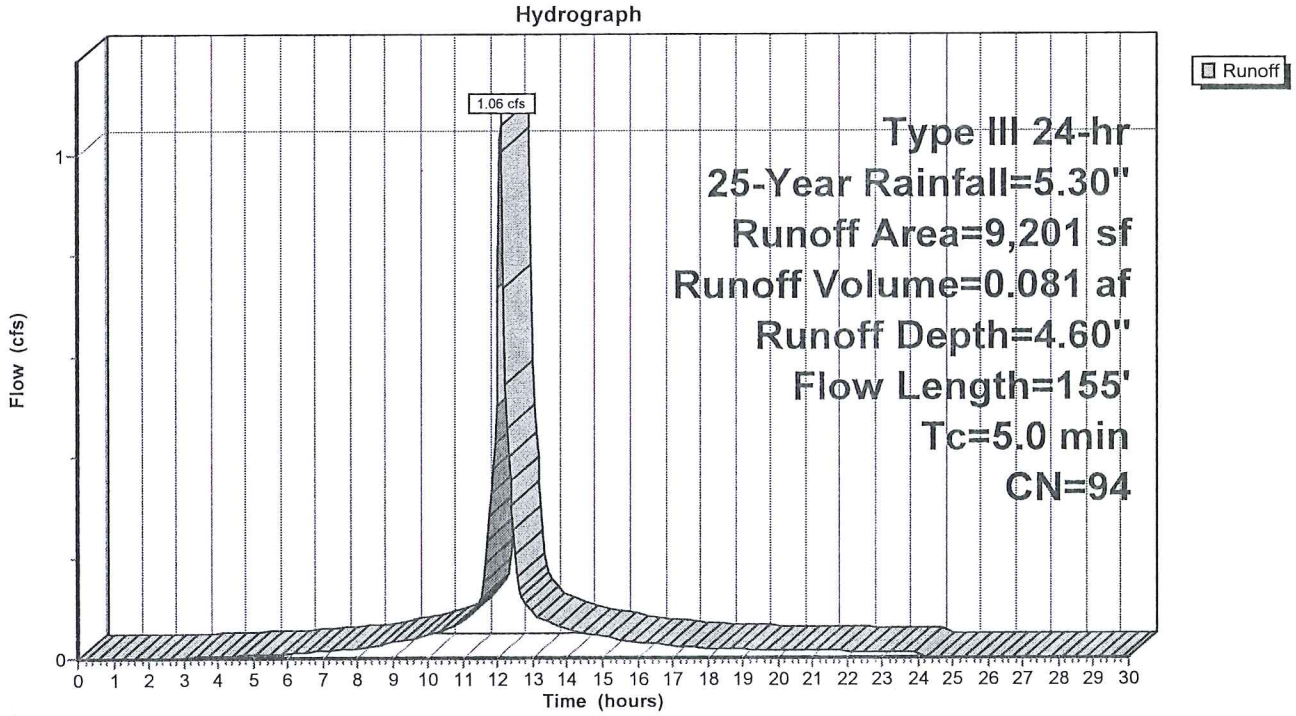
Runoff = 1.06 cfs @ 12.07 hrs, Volume= 0.081 af, Depth= 4.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
1,619	74	>75% Grass cover, Good, HSG C
7,582	98	Paved parking, HSG C
9,201	94	Weighted Average
1,619		17.60% Pervious Area
7,582		82.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.7	105	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	155	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P112: TO DCB#21



Summary for Subcatchment P113: TO DCB#21

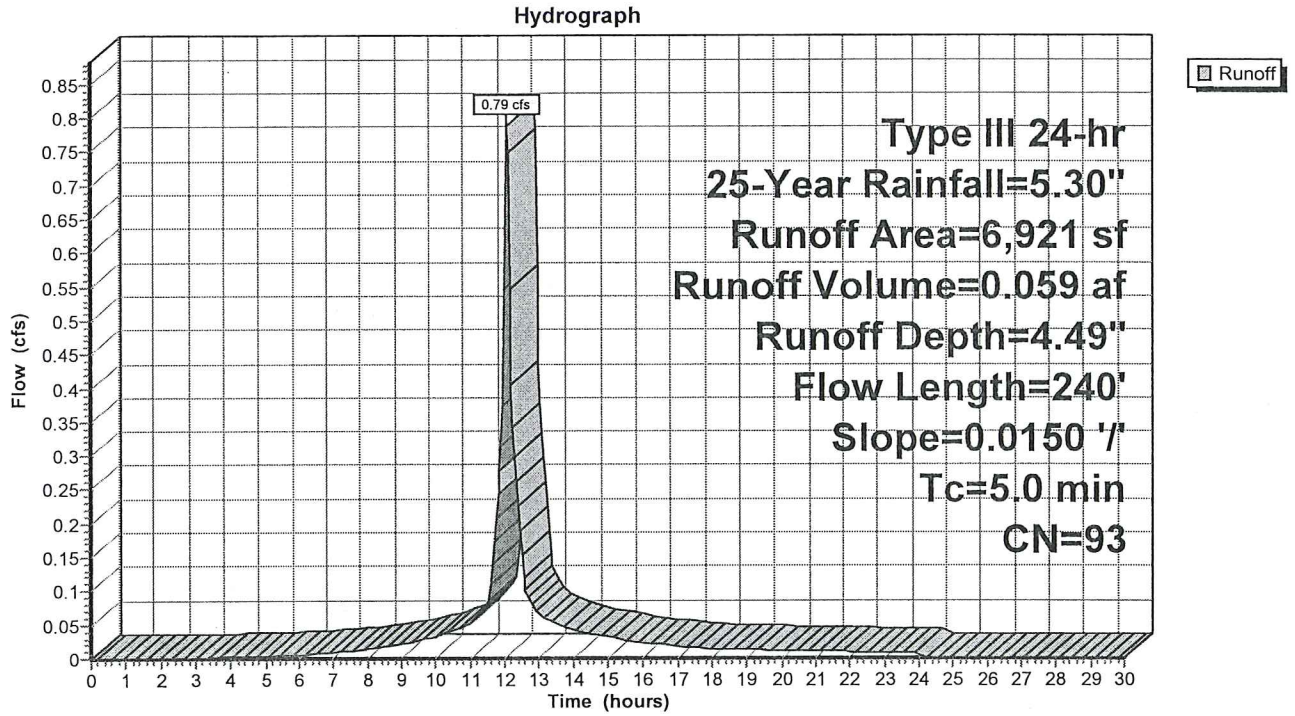
Runoff = 0.79 cfs @ 12.07 hrs, Volume= 0.059 af, Depth= 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
1,320	74	>75% Grass cover, Good, HSG C
5,601	98	Paved parking, HSG C
6,921	93	Weighted Average
1,320		19.07% Pervious Area
5,601		80.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.3	190	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.1	240	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P113: TO DCB#21



Summary for Subcatchment P114: TO DCB#20

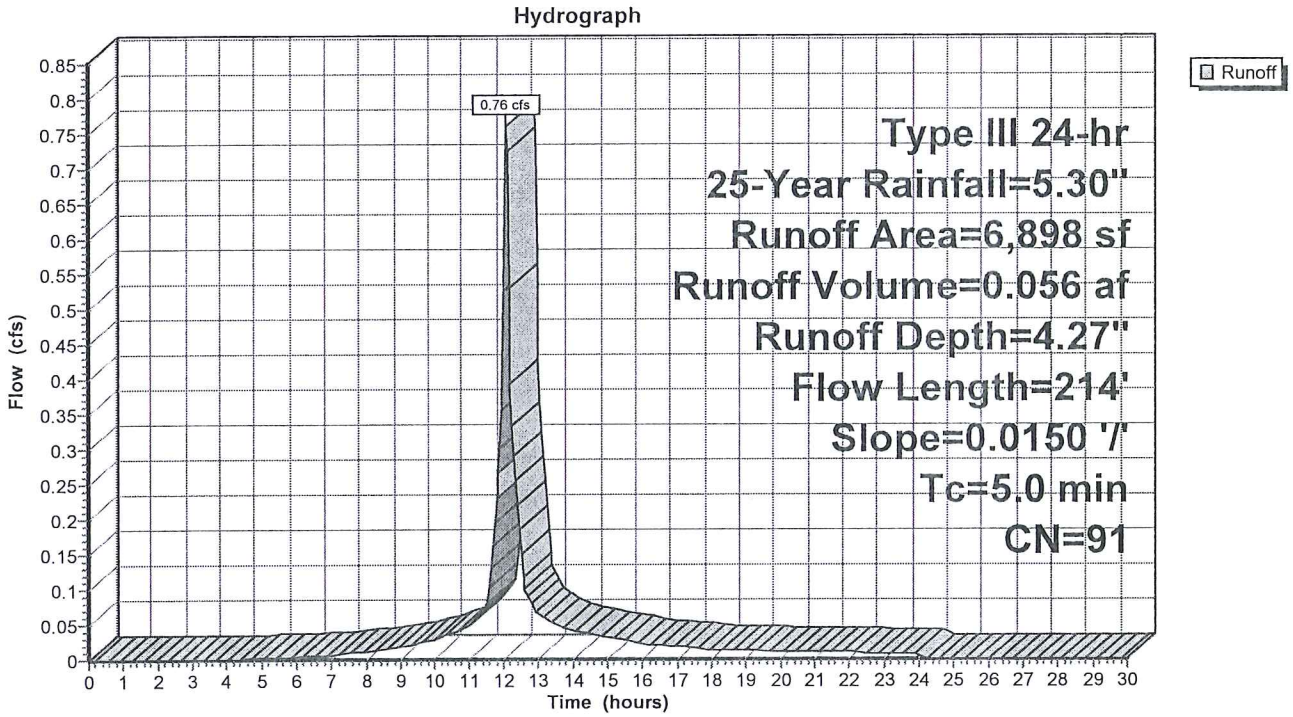
Runoff = 0.76 cfs @ 12.07 hrs, Volume= 0.056 af, Depth= 4.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
1,924	74	>75% Grass cover, Good, HSG C
4,974	98	Paved parking, HSG C
6,898	91	Weighted Average
1,924		27.89% Pervious Area
4,974		72.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	12	0.0150	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.6	38	0.0150	0.98		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.1	164	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.8	214	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P114: TO DCB#20



Summary for Subcatchment P115: TO DCB#10

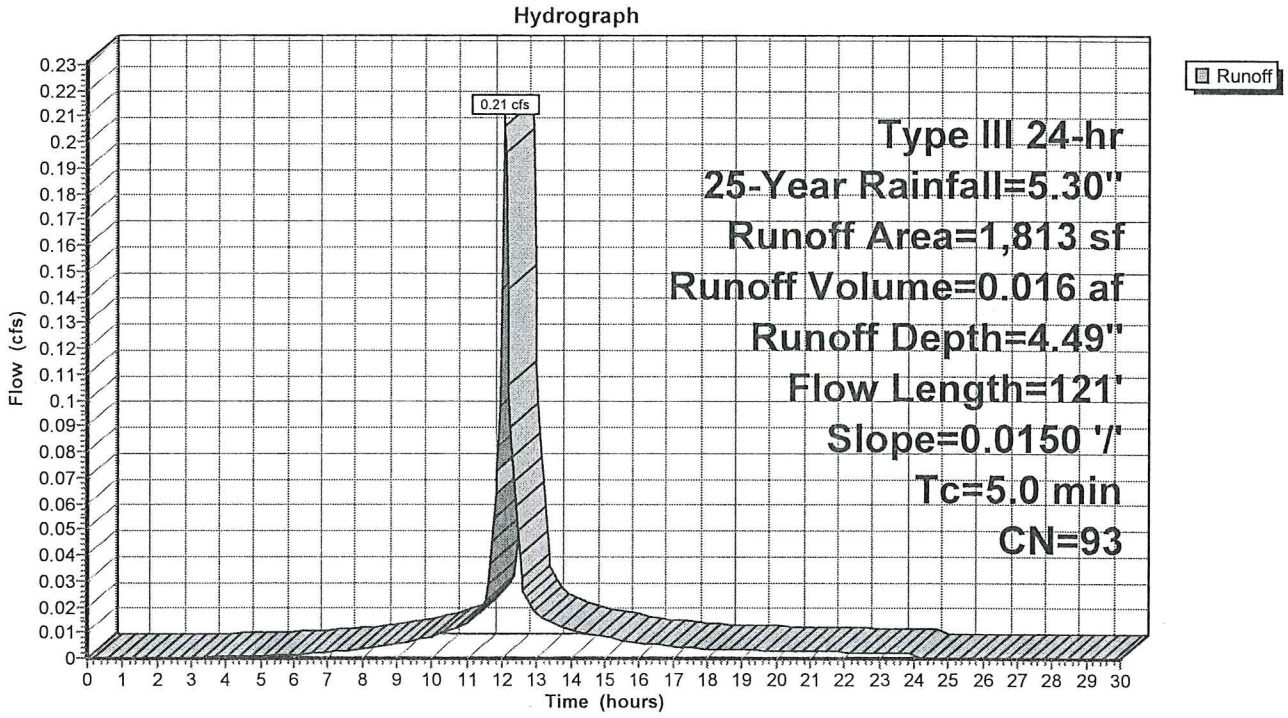
Runoff = 0.21 cfs @ 12.07 hrs, Volume= 0.016 af, Depth= 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
347	74	>75% Grass cover, Good, HSG C
1,466	98	Paved parking, HSG C
1,813	93	Weighted Average
347		19.14% Pervious Area
1,466		80.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	71	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	121	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P115: TO DCB#10



Summary for Subcatchment P116: TO DCB#11

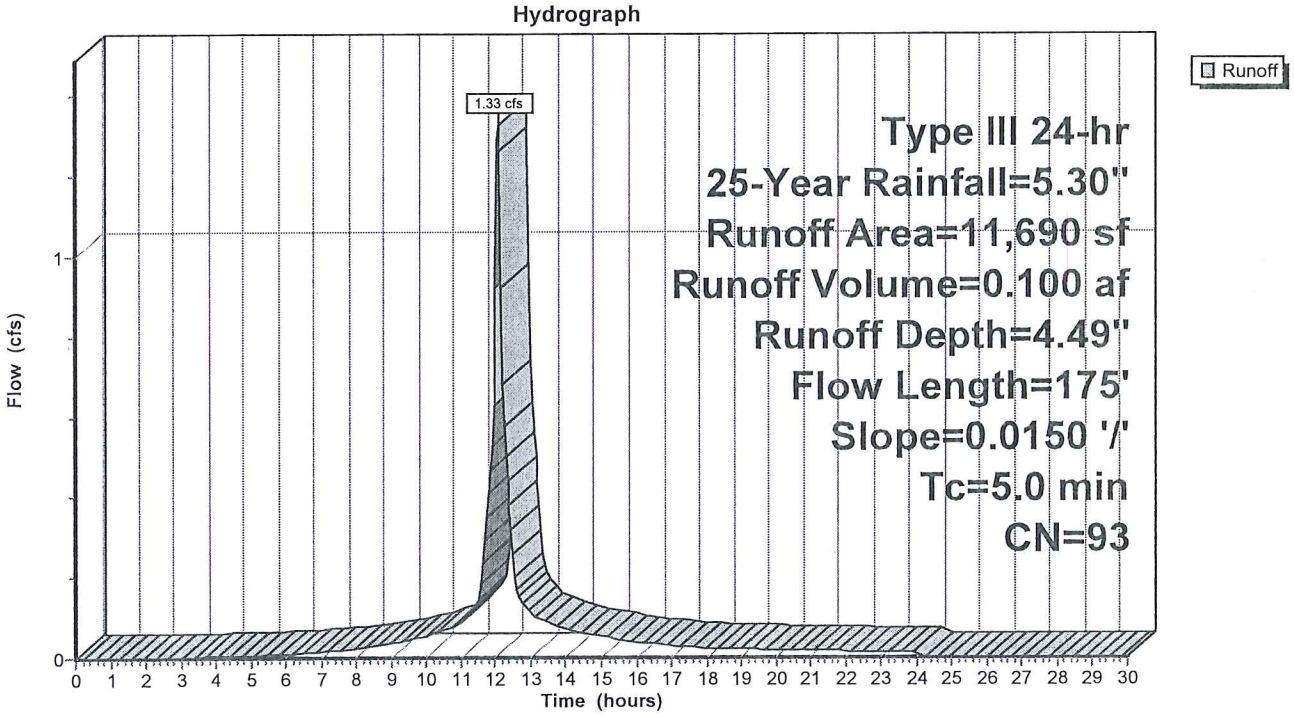
Runoff = 1.33 cfs @ 12.07 hrs, Volume= 0.100 af, Depth= 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
2,542	74	>75% Grass cover, Good, HSG C
9,148	98	Paved parking, HSG C
11,690	93	Weighted Average
2,542		21.75% Pervious Area
9,148		78.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	125	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	175	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P116: TO DCB#11



Summary for Subcatchment P117: TO DCB#4

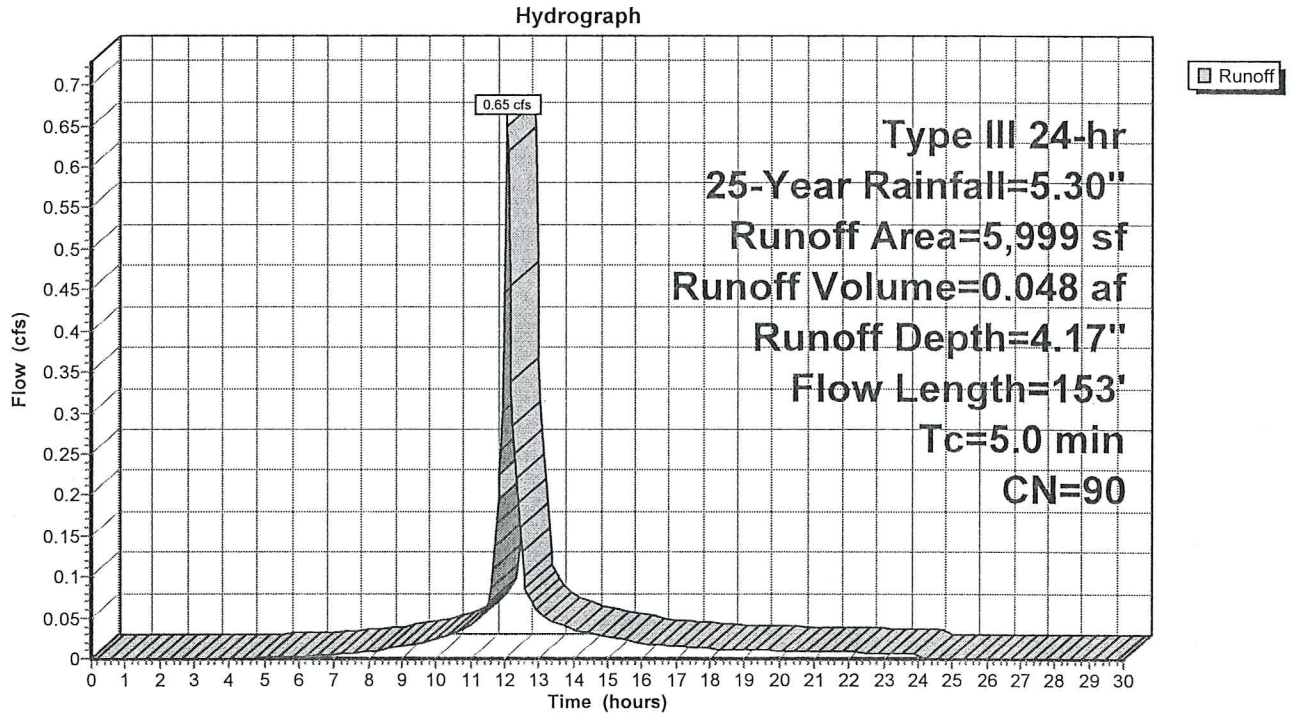
Runoff = 0.65 cfs @ 12.07 hrs, Volume= 0.048 af, Depth= 4.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
1,915	74	>75% Grass cover, Good, HSG C
4,084	98	Paved parking, HSG C
5,999	90	Weighted Average
1,915		31.92% Pervious Area
4,084		68.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	13	0.0150	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.4	37	0.0500	1.57		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	103	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0	153	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P117: TO DCB#4



Summary for Subcatchment P118: TO DCB#20

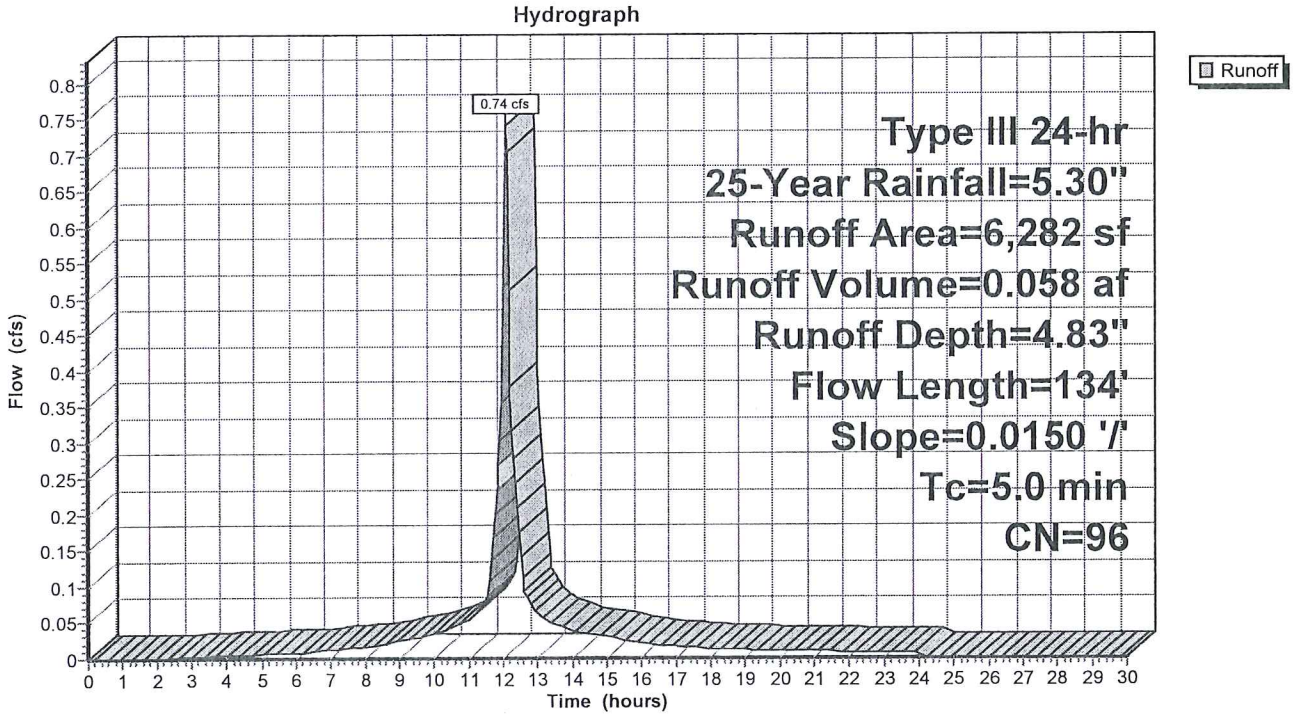
Runoff = 0.74 cfs @ 12.07 hrs, Volume= 0.058 af, Depth= 4.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
653	74	>75% Grass cover, Good, HSG C
5,629	98	Paved parking, HSG C
6,282	96	Weighted Average
653		10.39% Pervious Area
5,629		89.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	84	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	134	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P118: TO DCB#20



Summary for Subcatchment P119: TO DCB#19

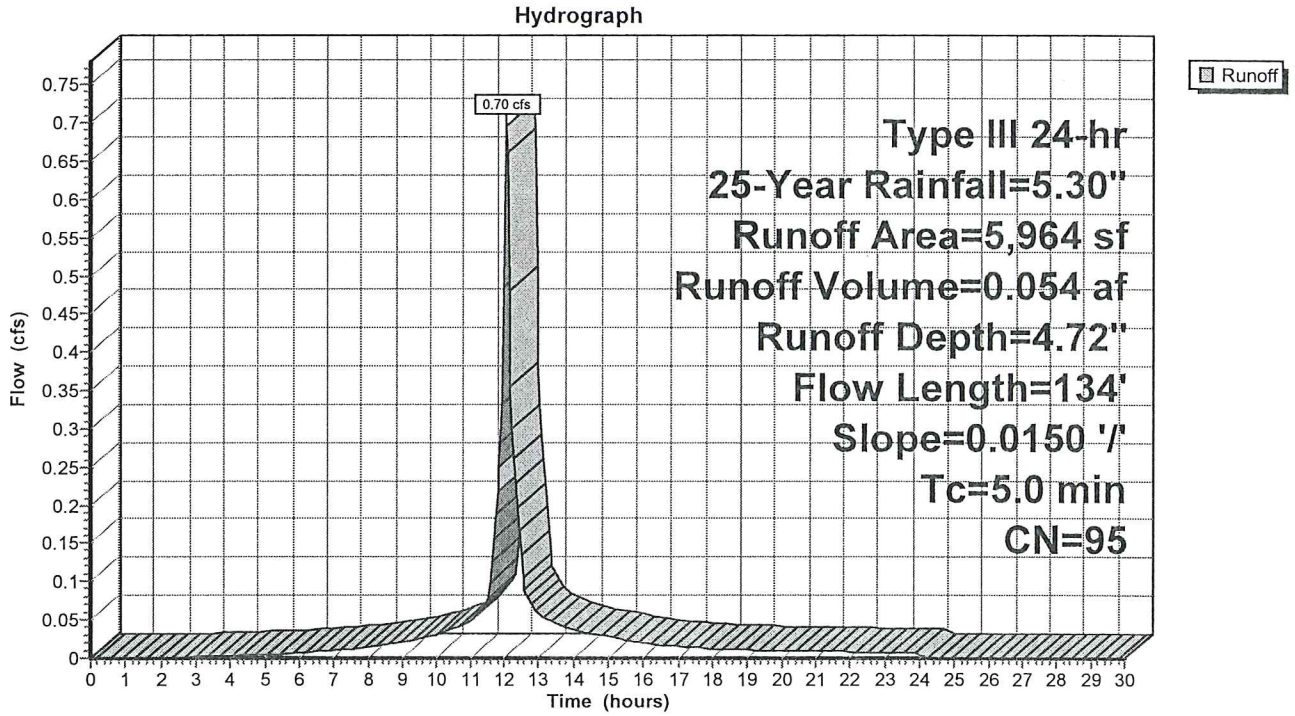
Runoff = 0.70 cfs @ 12.07 hrs, Volume= 0.054 af, Depth= 4.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
631	74	>75% Grass cover, Good, HSG C
5,333	98	Paved parking, HSG C
5,964	95	Weighted Average
631		10.58% Pervious Area
5,333		89.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	84	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	134	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P119: TO DCB#19



Summary for Subcatchment P12: TO CULVERT#1

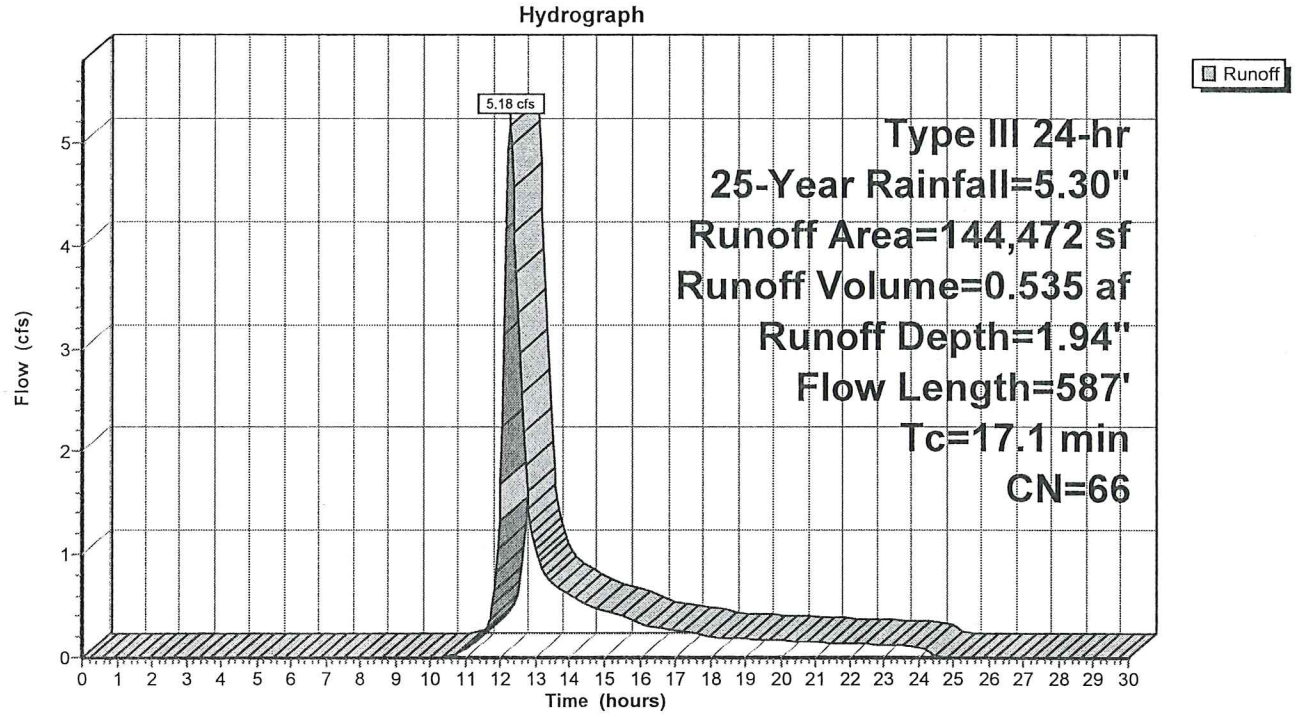
Runoff = 5.18 cfs @ 12.25 hrs, Volume= 0.535 af, Depth= 1.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
4,698	61	>75% Grass cover, Good, HSG B
44,370	55	Woods, Good, HSG B
3,012	98	Paved parking, HSG B
10,573	74	>75% Grass cover, Good, HSG C
80,246	70	Woods, Good, HSG C
1,573	98	Paved parking, HSG C
144,472	66	Weighted Average
139,887		96.83% Pervious Area
4,585		3.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	30	0.5000	0.47		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
4.1	45	0.2800	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.6	202	0.1700	2.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.3	310	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
17.1	587	Total			

Subcatchment P12: TO CULVERT#1



Summary for Subcatchment P120: TO DCB#15

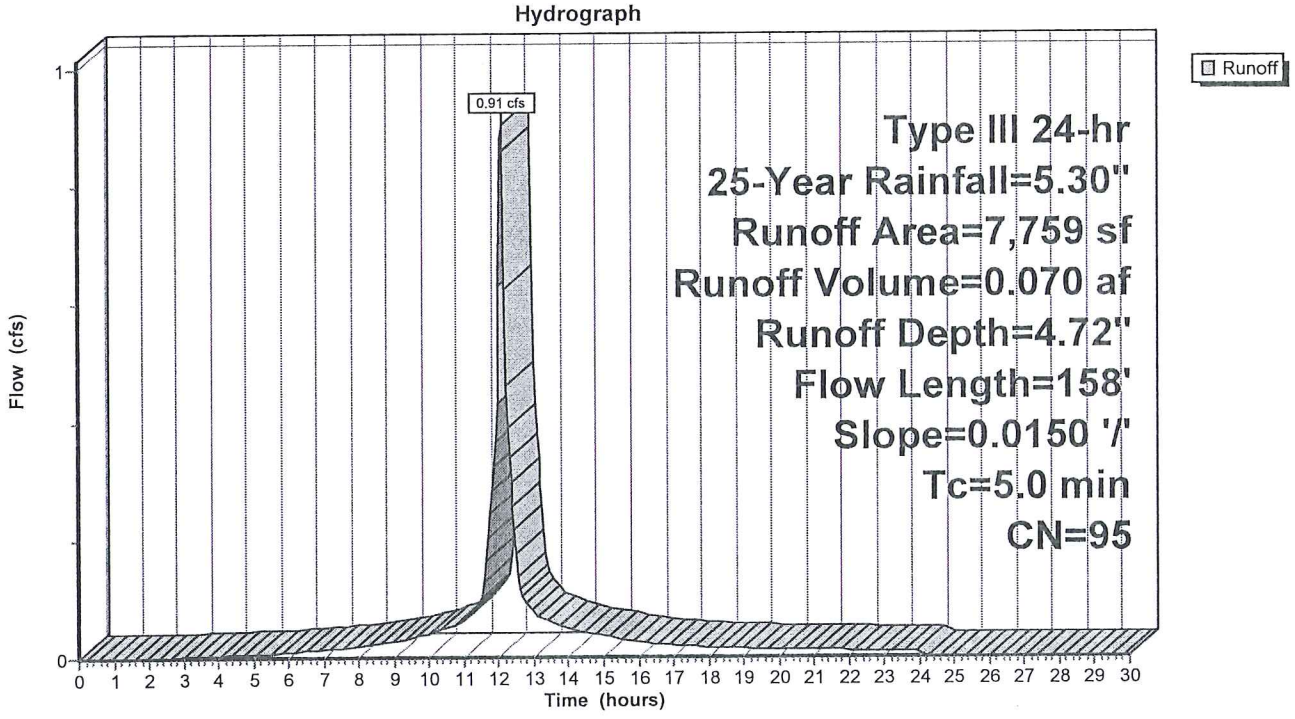
Runoff = 0.91 cfs @ 12.07 hrs, Volume= 0.070 af, Depth= 4.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
933	74	>75% Grass cover, Good, HSG C
6,826	98	Paved parking, HSG C
7,759	95	Weighted Average
933		12.02% Pervious Area
6,826		87.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.7	108	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	158	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P120: TO DCB#15



Summary for Subcatchment P121: TO DCB#14

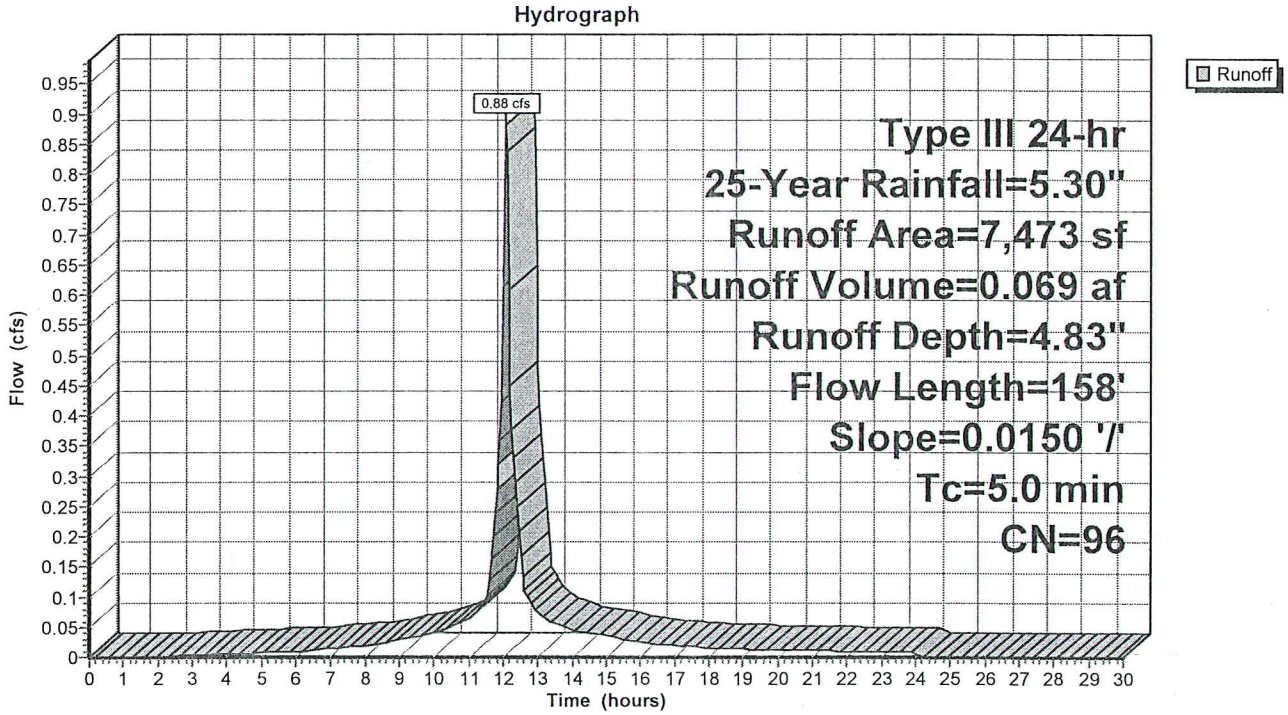
Runoff = 0.88 cfs @ 12.07 hrs, Volume= 0.069 af, Depth= 4.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
717	74	>75% Grass cover, Good, HSG C
6,756	98	Paved parking, HSG C
7,473	96	Weighted Average
717		9.59% Pervious Area
6,756		90.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.7	108	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	158	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P121: TO DCB#14



Summary for Subcatchment P122: TO DCB#17

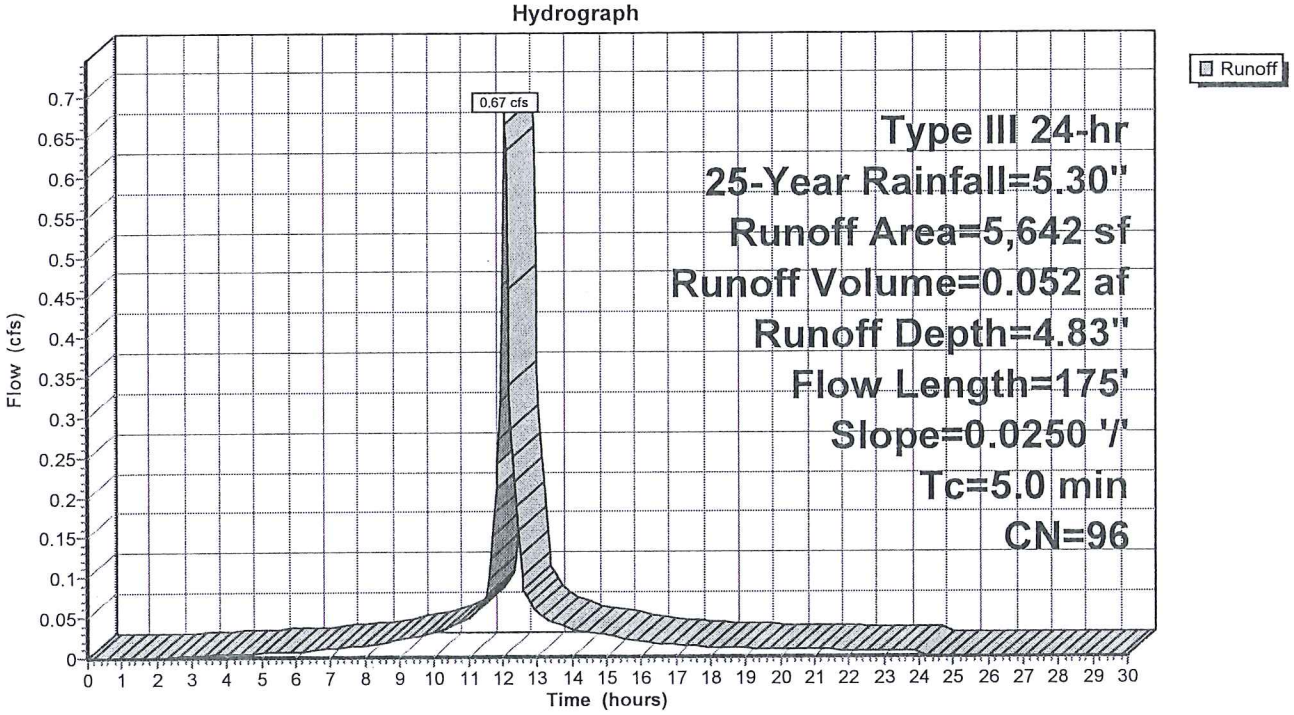
Runoff = 0.67 cfs @ 12.07 hrs, Volume= 0.052 af, Depth= 4.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
486	74	>75% Grass cover, Good, HSG C
5,156	98	Paved parking, HSG C
5,642	96	Weighted Average
486		8.61% Pervious Area
5,156		91.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0250	1.27		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	125	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	175	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P122: TO DCB#17



Summary for Subcatchment P123: TO DCB#3

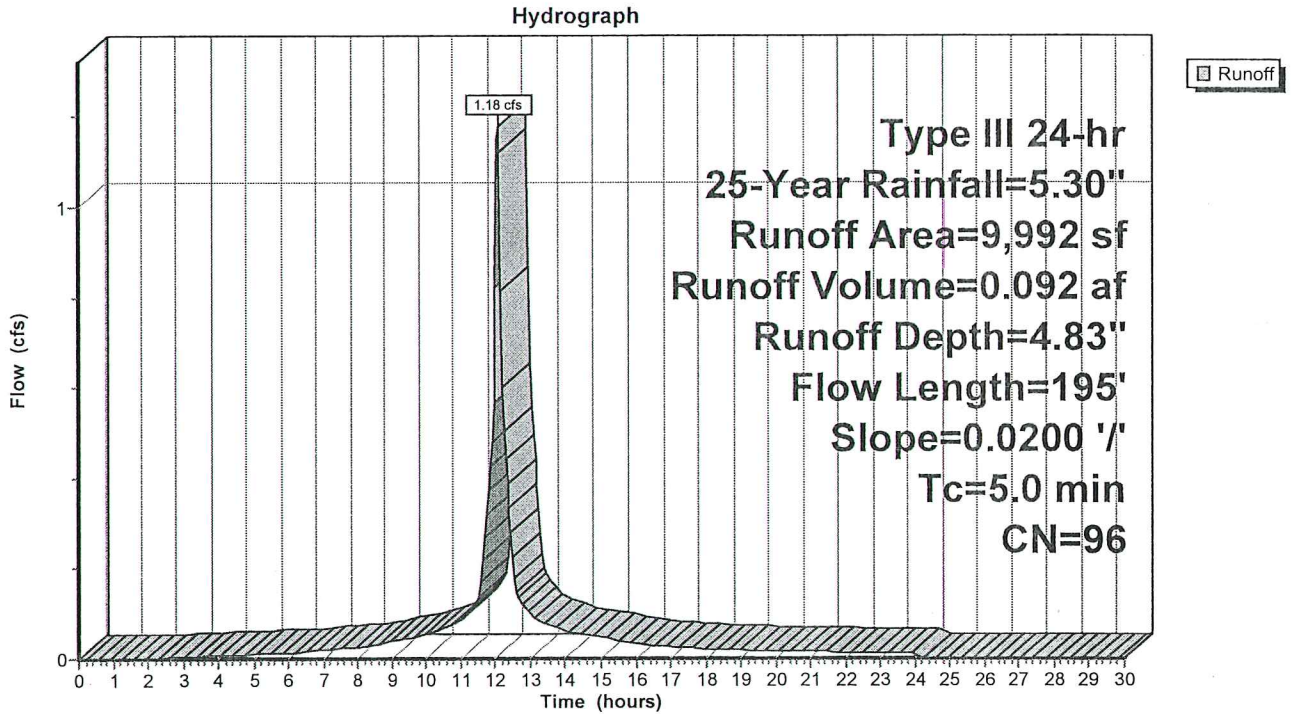
Runoff = 1.18 cfs @ 12.07 hrs, Volume= 0.092 af, Depth= 4.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
1,007	74	>75% Grass cover, Good, HSG C
8,985	98	Paved parking, HSG C
9,992	96	Weighted Average
1,007		10.08% Pervious Area
8,985		89.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0200	1.16		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	145	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	195	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P123: TO DCB#3



Summary for Subcatchment P124: TO DCB#13

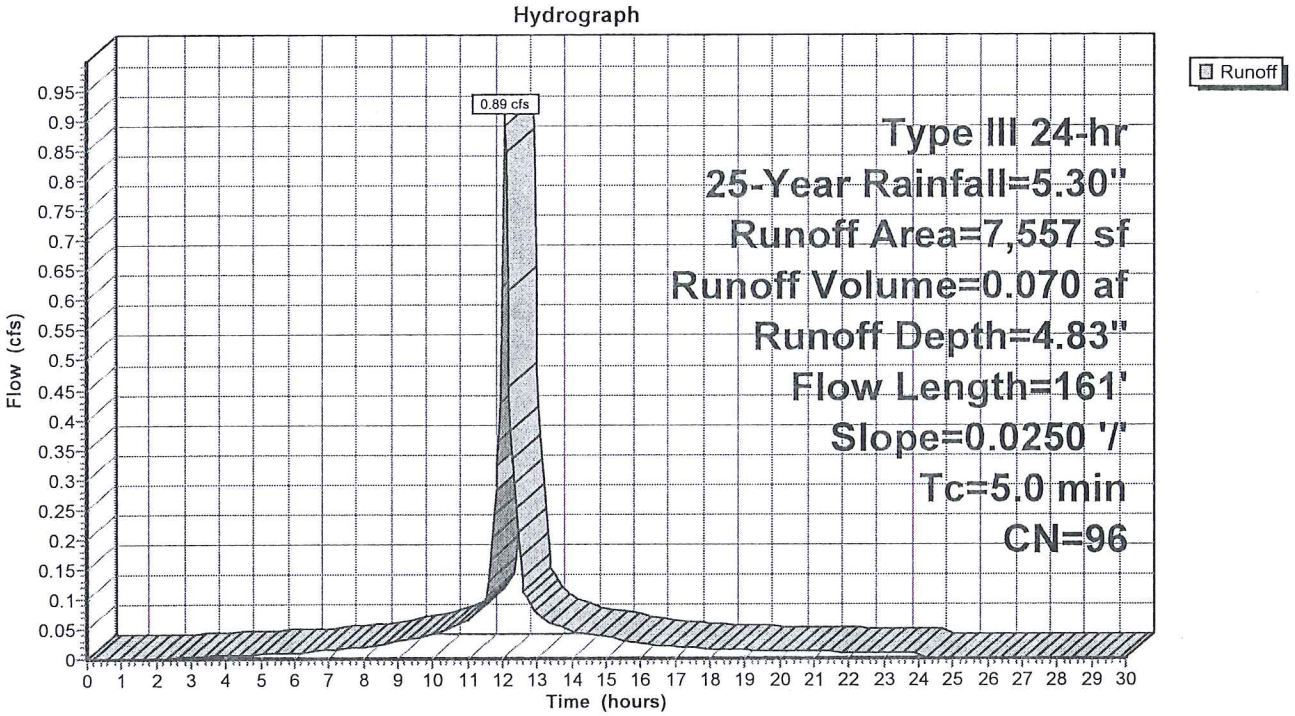
Runoff = 0.89 cfs @ 12.07 hrs, Volume= 0.070 af, Depth= 4.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
627	74	>75% Grass cover, Good, HSG C
6,930	98	Paved parking, HSG C
7,557	96	Weighted Average
627		8.30% Pervious Area
6,930		91.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0250	1.27		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	111	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	161	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P124: TO DCB#13



Summary for Subcatchment P125: TO DCB#12

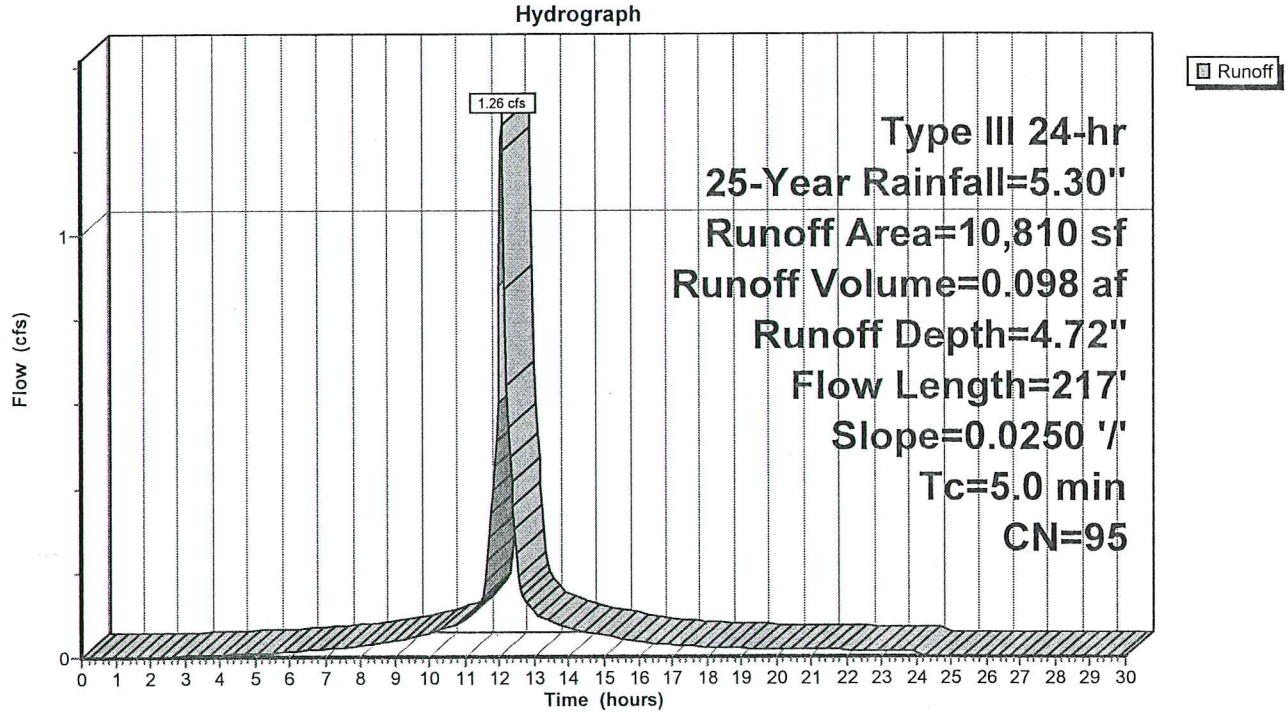
Runoff = 1.26 cfs @ 12.07 hrs, Volume= 0.098 af, Depth= 4.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
1,513	74	>75% Grass cover, Good, HSG C
9,297	98	Paved parking, HSG C
10,810	95	Weighted Average
1,513		14.00% Pervious Area
9,297		86.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0250	1.27		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.9	167	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	217	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P125: TO DCB#12



Summary for Subcatchment P126: TO DCB#18

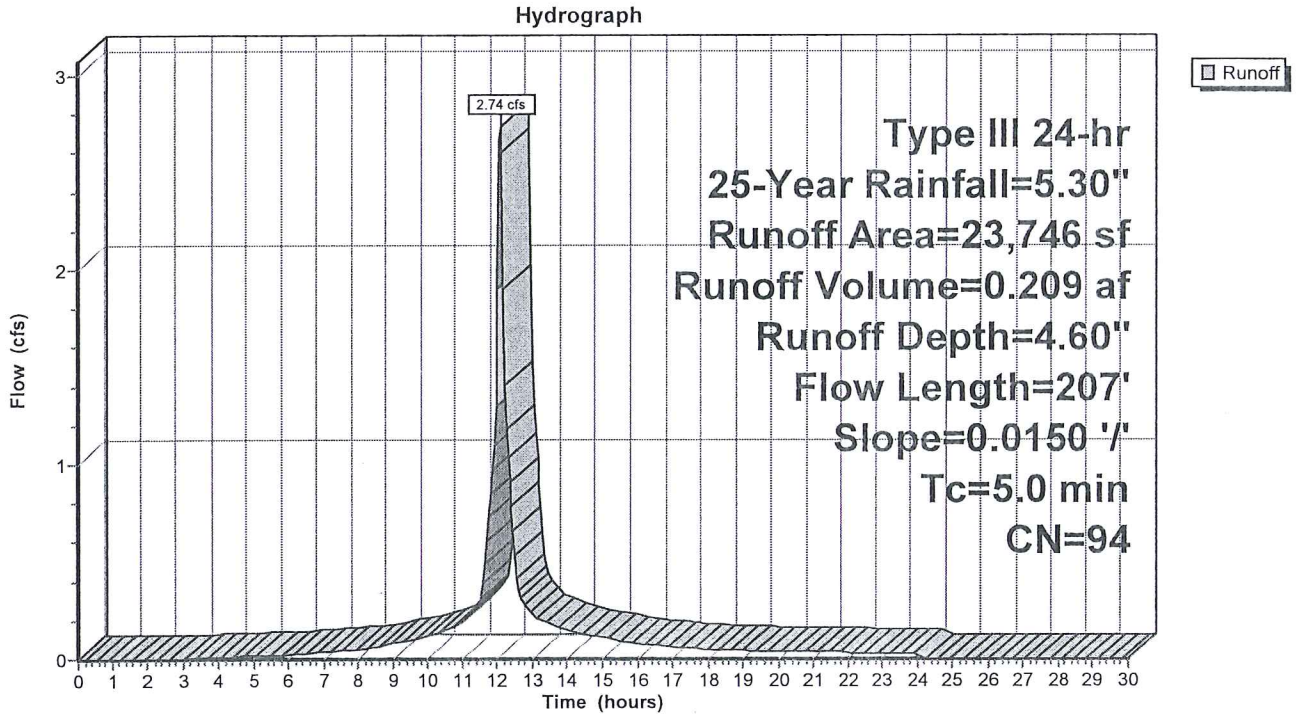
Runoff = 2.74 cfs @ 12.07 hrs, Volume= 0.209 af, Depth= 4.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
3,639	74	>75% Grass cover, Good, HSG C
20,107	98	Paved parking, HSG C
23,746	94	Weighted Average
3,639		15.32% Pervious Area
20,107		84.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	6	0.0150	0.08		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.7	44	0.0150	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.1	157	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0	207	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P126: TO DCB#18



Summary for Subcatchment P127: TO DCB#1

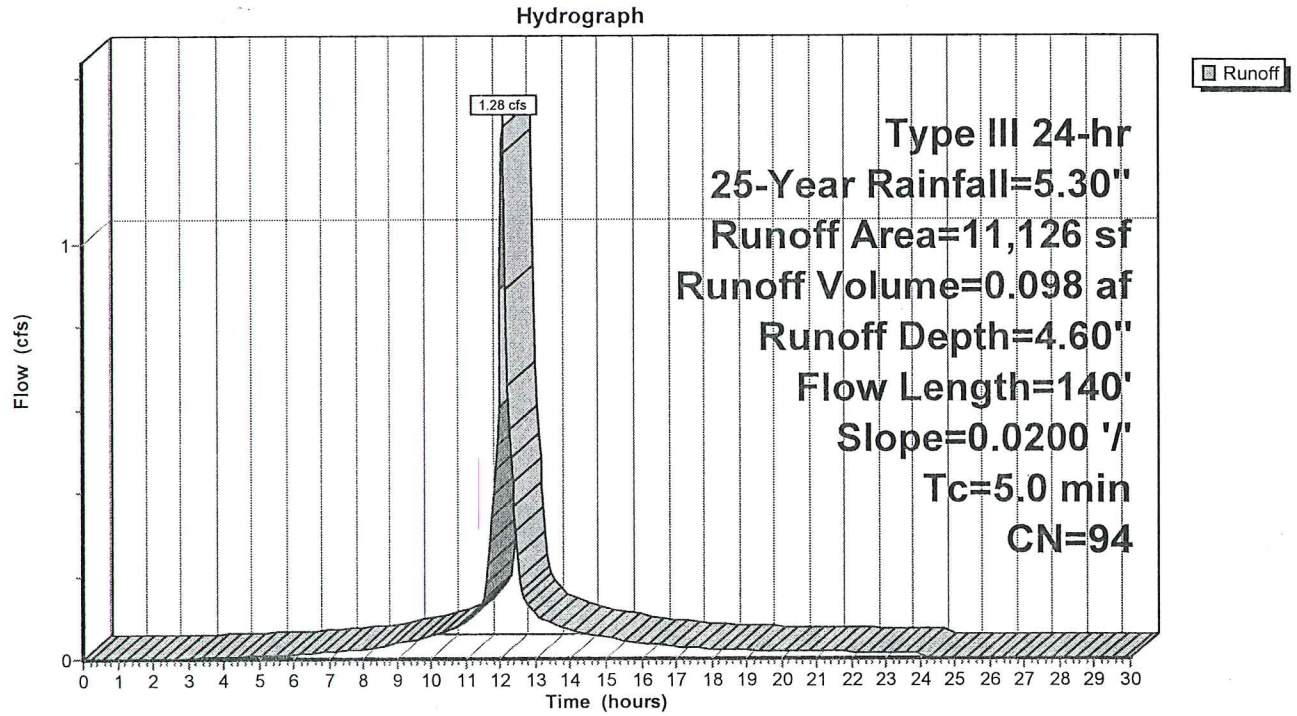
Runoff = 1.28 cfs @ 12.07 hrs, Volume= 0.098 af, Depth= 4.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
2,020	74	>75% Grass cover, Good, HSG C
9,106	98	Paved parking, HSG C
11,126	94	Weighted Average
2,020		18.16% Pervious Area
9,106		81.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0200	1.16		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	90	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.2	140	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P127: TO DCB#1



Summary for Subcatchment P128: (new Subcat)

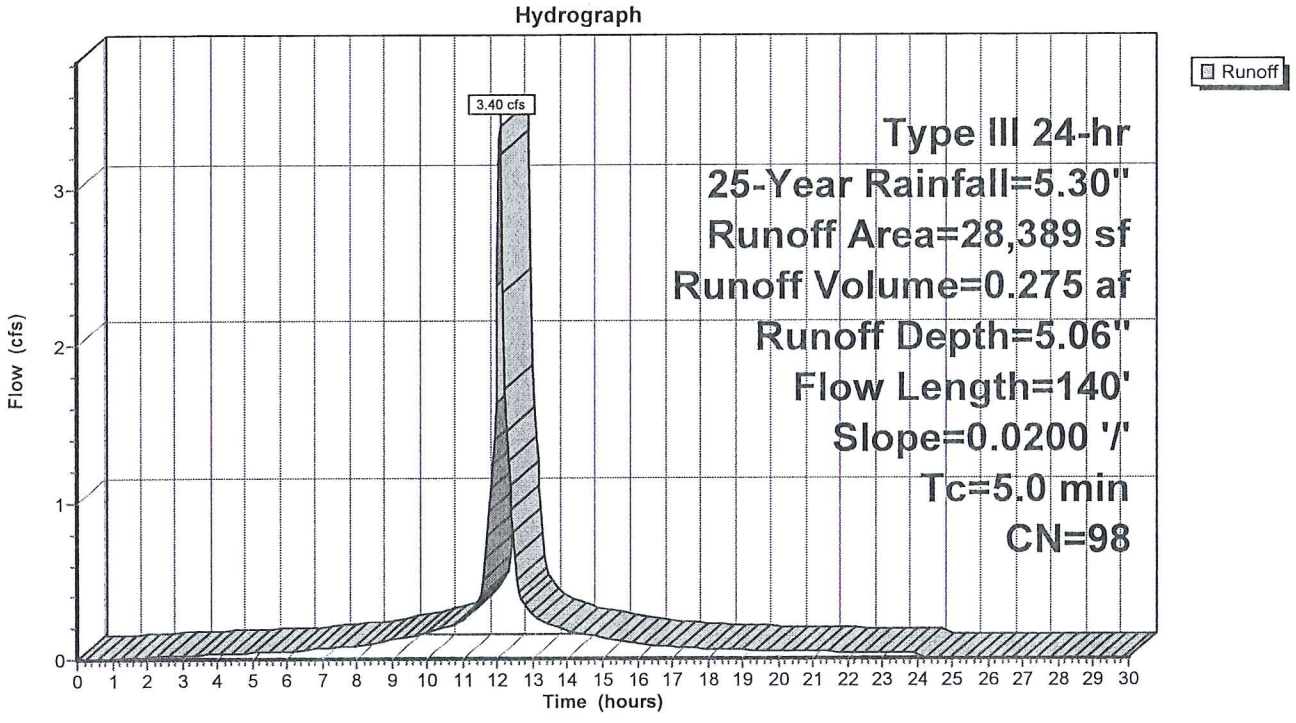
Runoff = 3.40 cfs @ 12.07 hrs, Volume= 0.275 af, Depth= 5.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
28,389	98	Paved parking, HSG C
28,389		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0200	1.16		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	90	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.2	140	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P128: (new Subcat)



Summary for Subcatchment P14: TO CULVERT #2

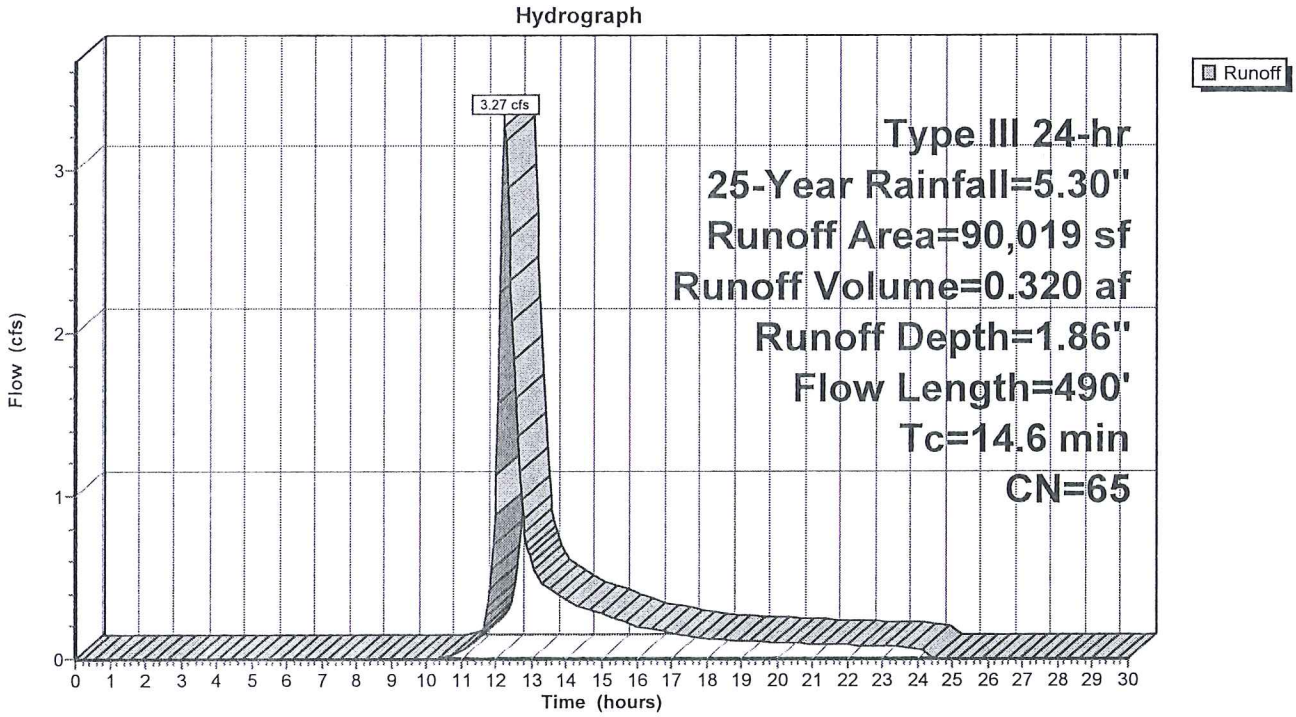
Runoff = 3.27 cfs @ 12.22 hrs, Volume= 0.320 af, Depth= 1.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
4,416	61	>75% Grass cover, Good, HSG B
947	98	Paved parking, HSG B
35,087	55	Woods, Good, HSG B
6,523	74	>75% Grass cover, Good, HSG C
40,756	70	Woods, Good, HSG C
2,290	98	Paved parking, HSG C
90,019	65	Weighted Average
86,782		96.40% Pervious Area
3,237		3.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	75	0.0500	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	43	0.4200	3.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.0	137	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.8	235	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.6	490	Total			

Subcatchment P14: TO CULVERT #2



Summary for Subcatchment P18: TO DP#2

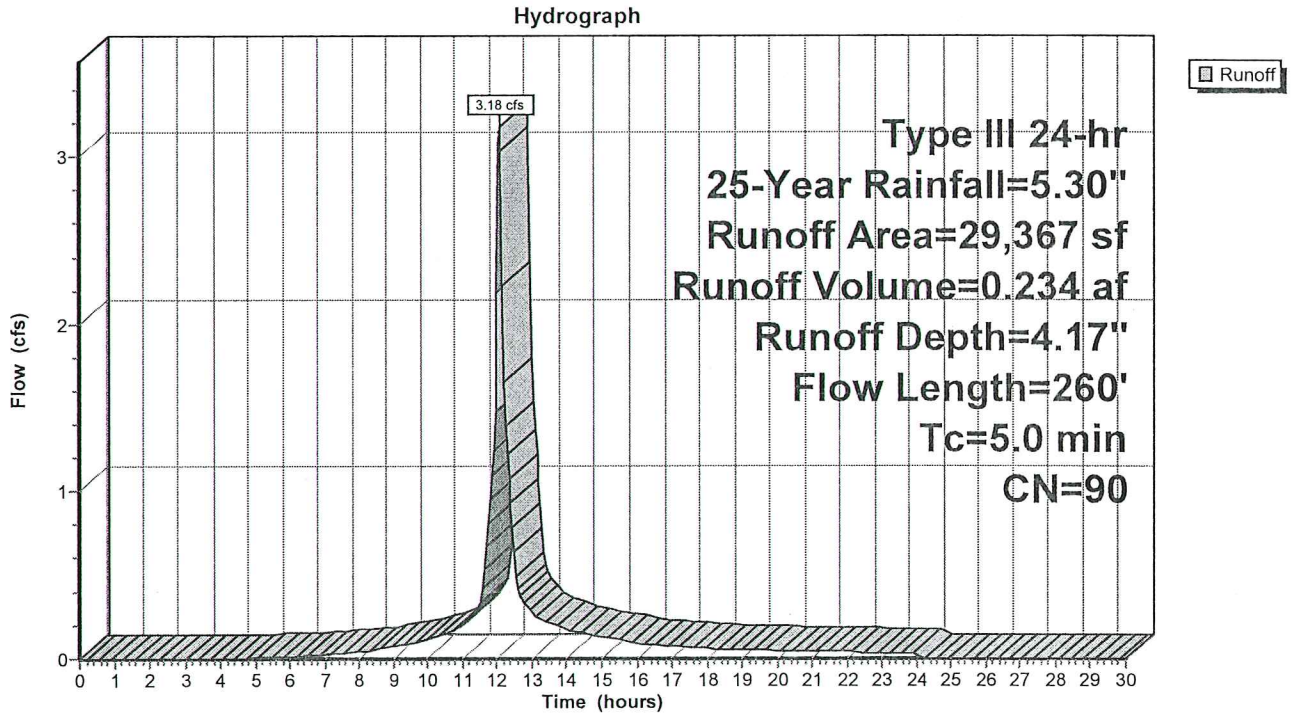
Runoff = 3.18 cfs @ 12.07 hrs, Volume= 0.234 af, Depth= 4.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
9,885	74	>75% Grass cover, Good, HSG C
19,482	98	Paved parking, HSG C
29,367	90	Weighted Average
9,885		33.66% Pervious Area
19,482		66.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0700	1.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	127	0.0700	5.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	83	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	260	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P18: TO DP#2



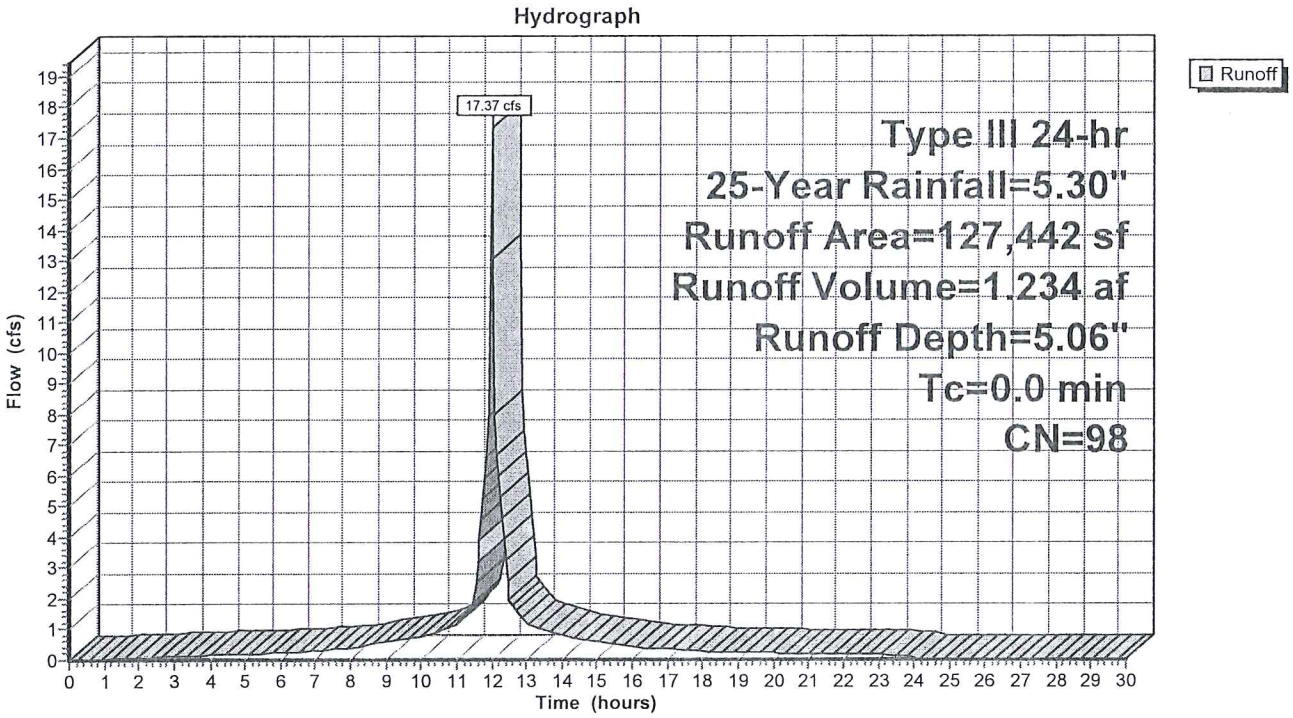
Summary for Subcatchment P19: BUILDING

Runoff = 17.37 cfs @ 12.00 hrs, Volume= 1.234 af, Depth= 5.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
127,442	98	Paved parking, HSG C
127,442		100.00% Impervious Area

Subcatchment P19: BUILDING



Summary for Subcatchment P20: TO DCB-H

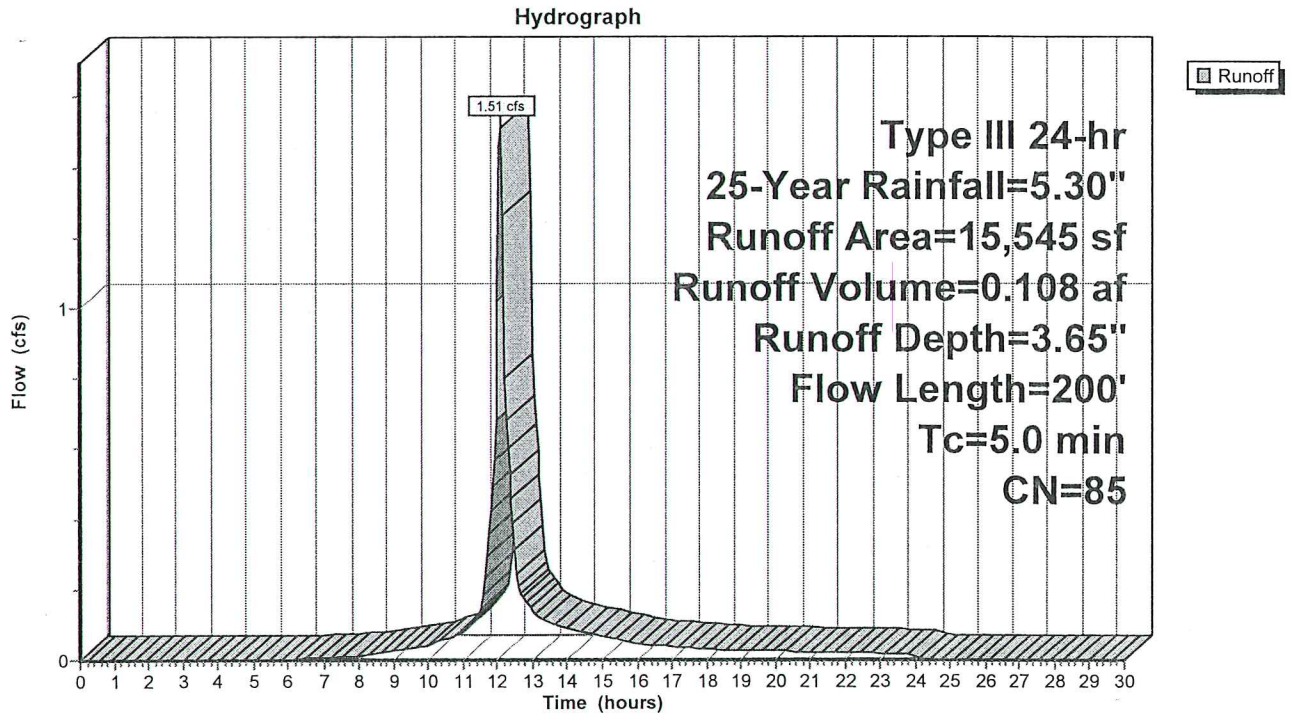
Runoff = 1.51 cfs @ 12.07 hrs, Volume= 0.108 af, Depth= 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
7,771	74	>75% Grass cover, Good, HSG C
7,018	98	Paved parking, HSG C
756	70	Woods, Good, HSG C
15,545	85	Weighted Average
8,527		54.85% Pervious Area
7,018		45.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	17	0.3300	0.35		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.5	33	0.0200	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.9	150	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	200	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P20: TO DCB-H



Summary for Subcatchment P21: TO DCB-I

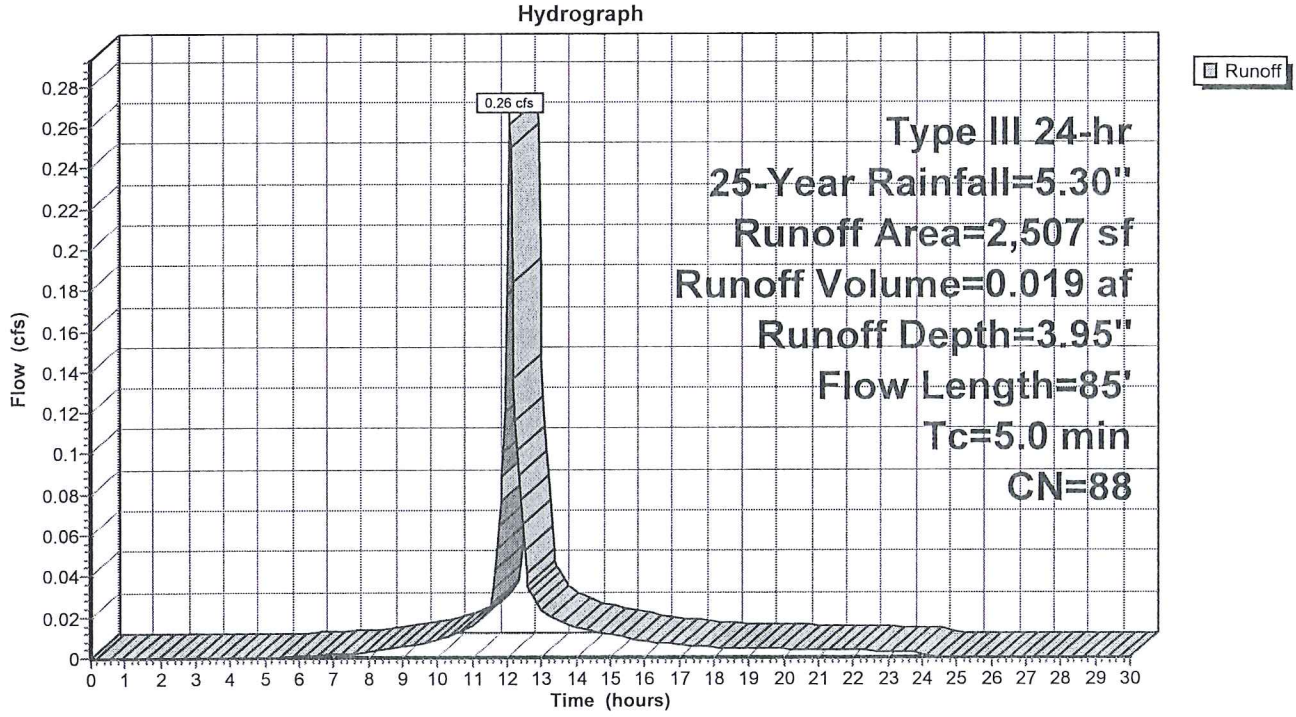
Runoff = 0.26 cfs @ 12.07 hrs, Volume= 0.019 af, Depth= 3.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
1,092	74	>75% Grass cover, Good, HSG C
1,415	98	Paved parking, HSG C
2,507	88	Weighted Average
1,092		43.56% Pervious Area
1,415		56.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	17	0.3300	0.35		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	33	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	35	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.2	85	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P21: TO DCB-I



Summary for Subcatchment P22: TO DCB-J

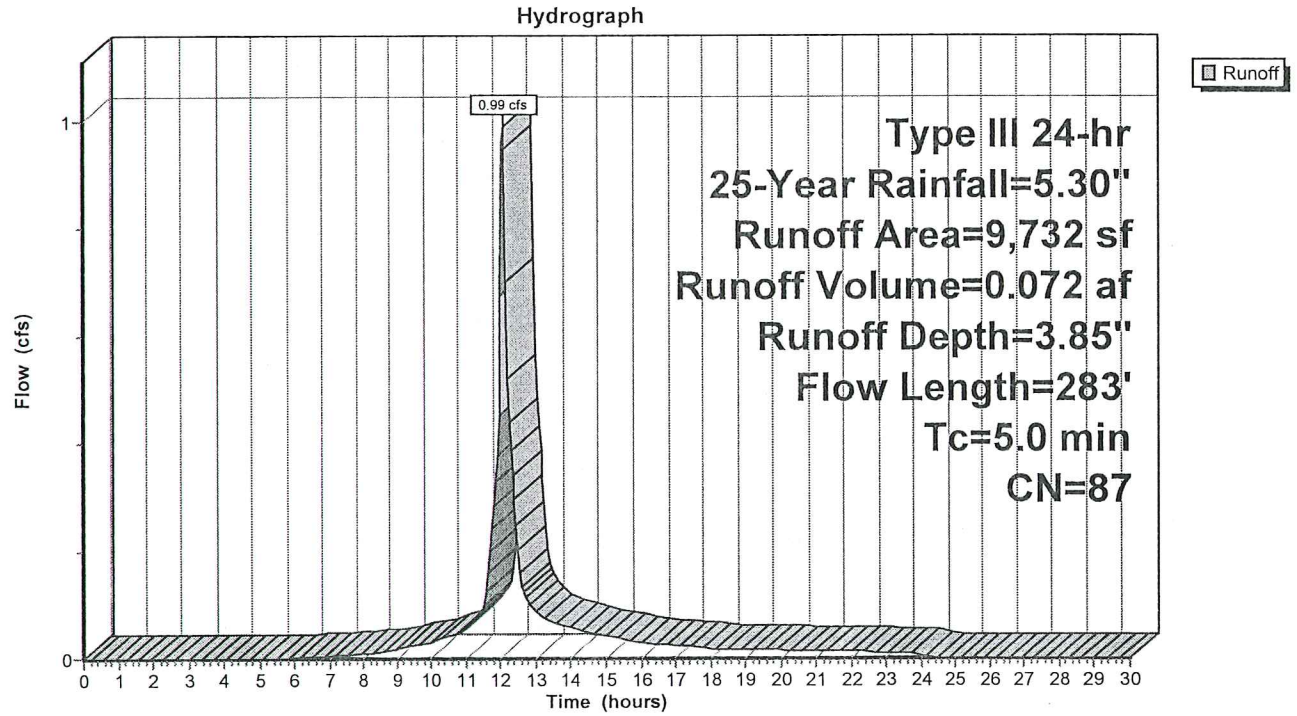
Runoff = 0.99 cfs @ 12.07 hrs, Volume= 0.072 af, Depth= 3.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
4,638	74	>75% Grass cover, Good, HSG C
5,094	98	Paved parking, HSG C
9,732	87	Weighted Average
4,638		47.66% Pervious Area
5,094		52.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	18	0.3300	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.5	32	0.0200	1.06		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.1	233	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.4	283	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P22: TO DCB-J



Summary for Subcatchment P26: TO DCB-F

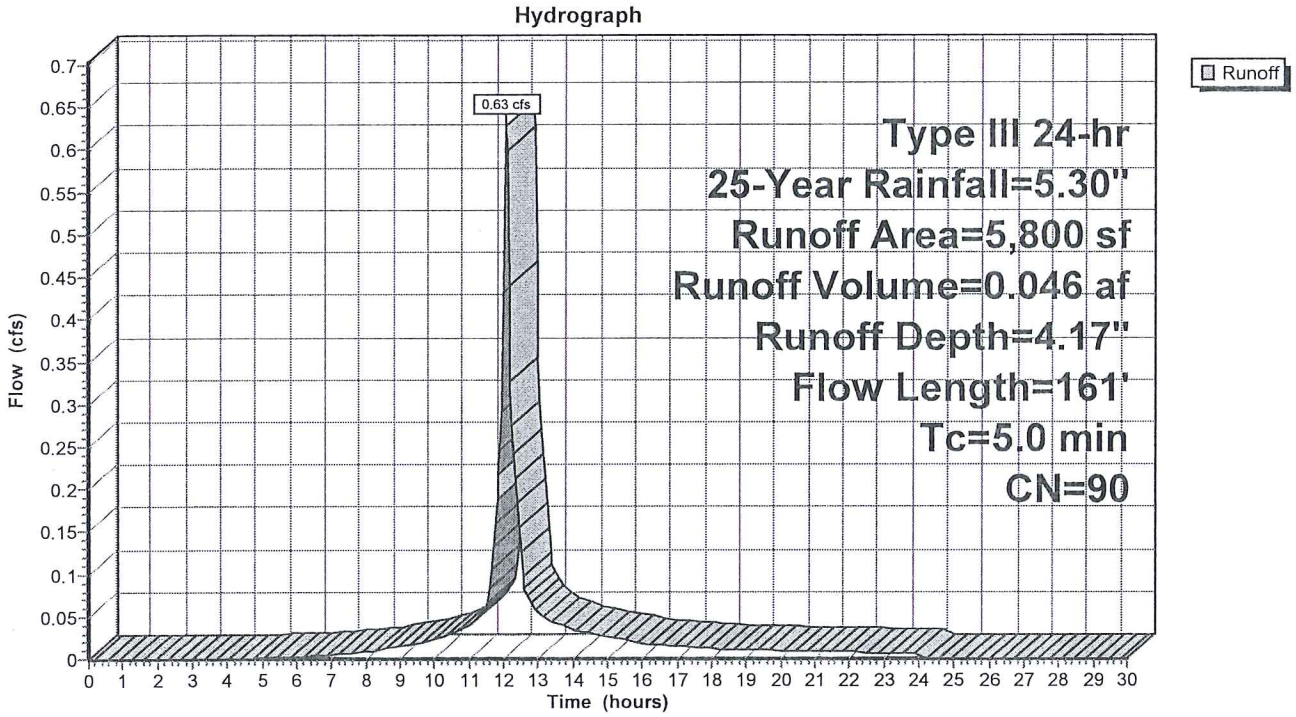
Runoff = 0.63 cfs @ 12.07 hrs, Volume= 0.046 af, Depth= 4.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
1,833	74	>75% Grass cover, Good, HSG C
3,967	98	Paved parking, HSG C
5,800	90	Weighted Average
1,833		31.60% Pervious Area
3,967		68.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	6	0.0200	0.09		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.6	44	0.0200	1.13		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	111	0.0650	5.18		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.1	161	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P26: TO DCB-F



Summary for Subcatchment P27: TO DCB-G

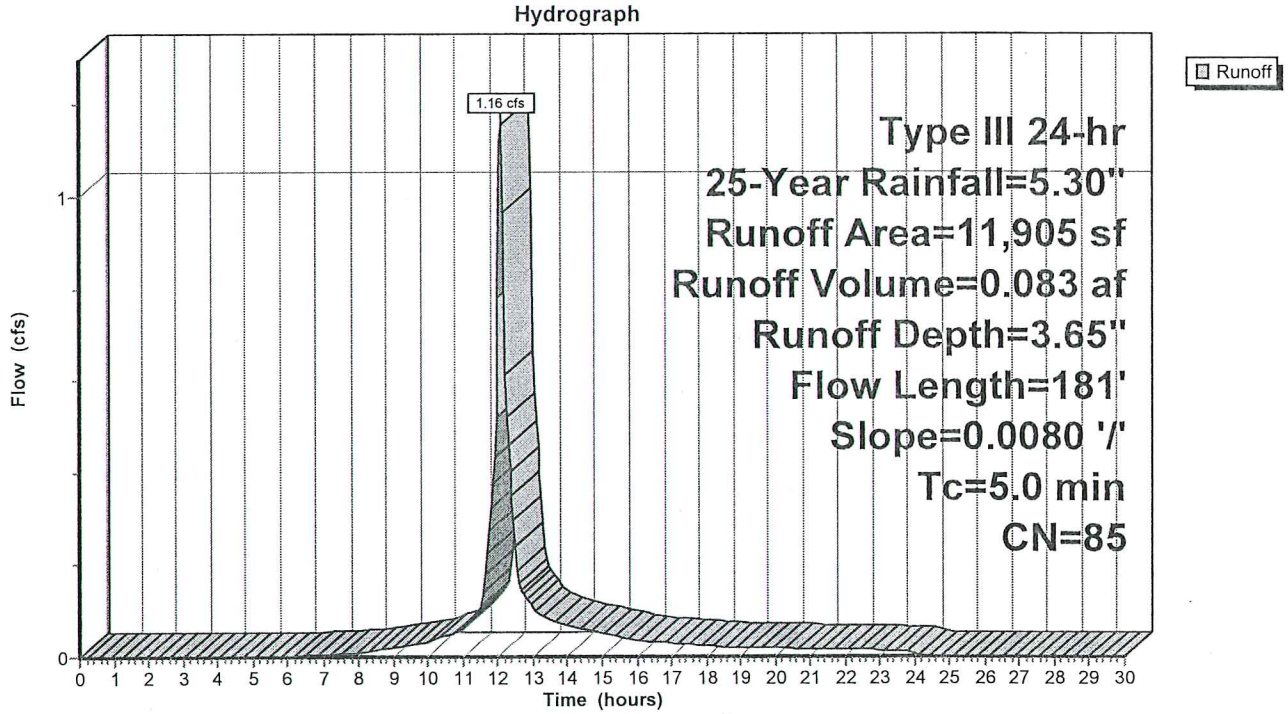
Runoff = 1.16 cfs @ 12.07 hrs, Volume= 0.083 af, Depth= 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.30"

Area (sf)	CN	Description
6,533	74	>75% Grass cover, Good, HSG C
5,372	98	Paved parking, HSG C
11,905	85	Weighted Average
6,533		54.88% Pervious Area
5,372		45.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	50	0.0080	0.80		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.2	131	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	181	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P27: TO DCB-G



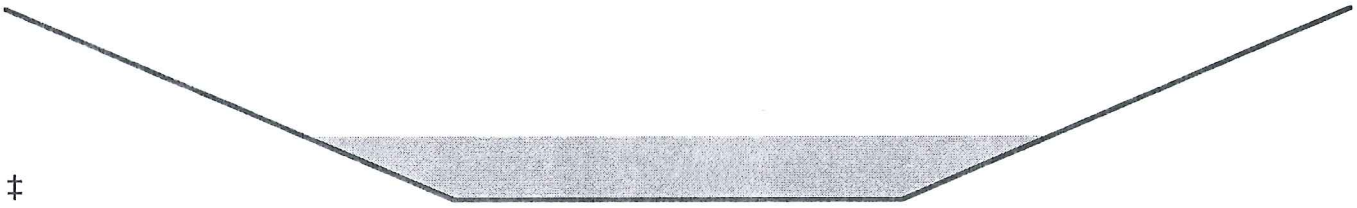
Summary for Reach 2R: OVERLAND FLOW

Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 4.39" for 25-Year event
Inflow = 3.99 cfs @ 12.47 hrs, Volume= 0.983 af
Outflow = 3.94 cfs @ 12.53 hrs, Volume= 0.983 af, Atten= 1%, Lag= 3.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.89 fps, Min. Travel Time= 2.2 min
Avg. Velocity = 0.39 fps, Avg. Travel Time= 4.9 min

Peak Storage= 521 cf @ 12.49 hrs
Average Depth at Peak Storage= 0.33'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 32.74 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 117.0' Slope= 0.0103 '/'
Inlet Invert= 1,117.80', Outlet Invert= 1,116.60'



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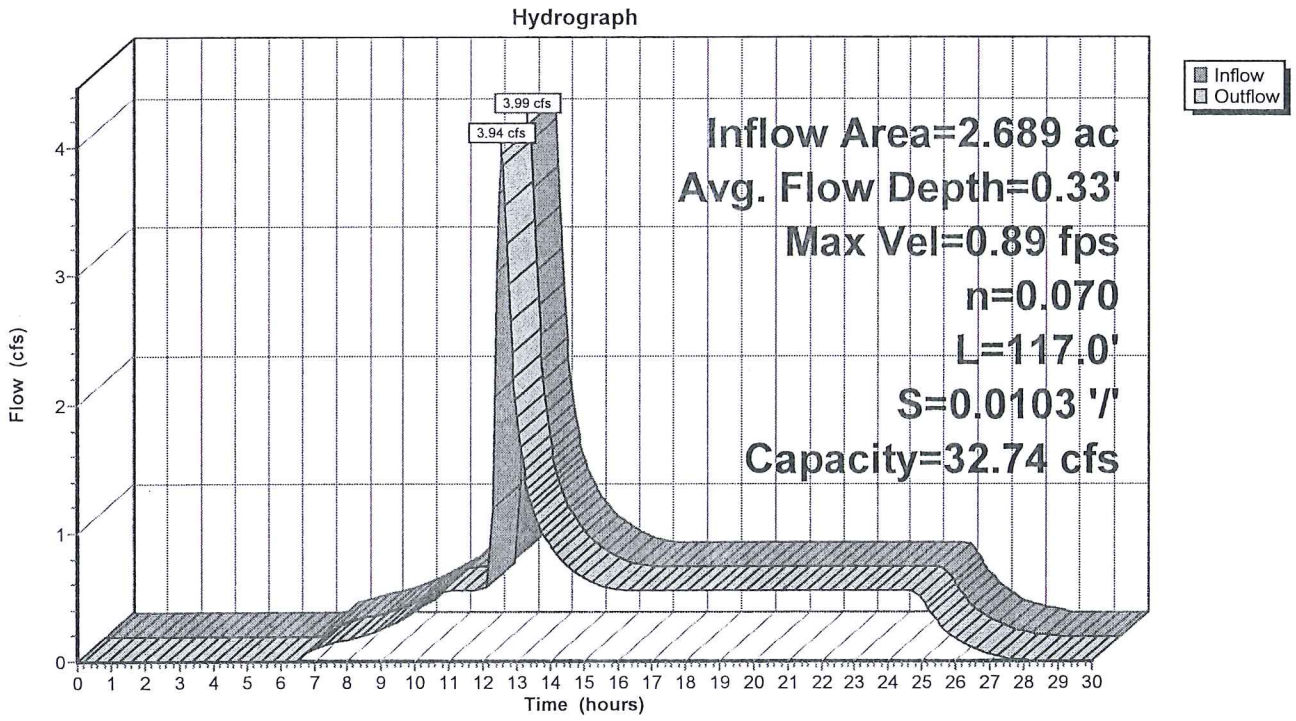
Reach 2R: OVERLAND FLOW



Stage-Discharge for Reach 2R: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,117.80	0.00	0.00
1,117.81	0.10	0.01
1,117.82	0.16	0.03
1,117.83	0.20	0.06
1,117.84	0.25	0.10
1,117.85	0.28	0.15
1,117.86	0.32	0.20
1,117.87	0.35	0.26
1,117.88	0.38	0.33
1,117.89	0.41	0.40
1,117.90	0.44	0.48
1,117.91	0.46	0.57
1,117.92	0.49	0.66
1,117.93	0.51	0.75
1,117.94	0.54	0.86
1,117.95	0.56	0.96
1,117.96	0.58	1.08
1,117.97	0.60	1.20
1,117.98	0.62	1.32
1,117.99	0.64	1.45
1,118.00	0.66	1.59
1,118.01	0.68	1.73
1,118.02	0.70	1.88
1,118.03	0.72	2.03
1,118.04	0.74	2.19
1,118.05	0.75	2.36
1,118.06	0.77	2.53
1,118.07	0.79	2.71
1,118.08	0.81	2.89
1,118.09	0.82	3.07
1,118.10	0.84	3.27
1,118.11	0.85	3.47
1,118.12	0.87	3.67
1,118.13	0.88	3.88
1,118.14	0.90	4.10
1,118.15	0.91	4.32
1,118.16	0.93	4.55
1,118.17	0.94	4.78
1,118.18	0.96	5.02
1,118.19	0.97	5.27
1,118.20	0.99	5.52
1,118.21	1.00	5.78
1,118.22	1.01	6.04
1,118.23	1.03	6.31
1,118.24	1.04	6.59
1,118.25	1.05	6.87
1,118.26	1.07	7.16
1,118.27	1.08	7.45
1,118.28	1.09	7.75
1,118.29	1.10	8.06
1,118.30	1.12	8.37
1,118.31	1.13	8.69
1,118.32	1.14	9.02
1,118.33	1.15	9.35
1,118.34	1.16	9.69
1,118.35	1.18	10.03
1,118.36	1.19	10.38
1,118.37	1.20	10.74
1,118.38	1.21	11.10
1,118.39	1.22	11.47
1,118.40	1.23	11.85
1,118.41	1.25	12.24
1,118.42	1.26	12.63
1,118.43	1.27	13.02
1,118.44	1.28	13.43
1,118.45	1.29	13.84
1,118.46	1.30	14.26
1,118.47	1.31	14.68
1,118.48	1.32	15.11
1,118.49	1.33	15.55
1,118.50	1.34	16.00
1,118.51	1.35	16.45
1,118.52	1.37	16.91
1,118.53	1.38	17.37
1,118.54	1.39	17.85
1,118.55	1.40	18.33
1,118.56	1.41	18.81
1,118.57	1.42	19.31
1,118.58	1.43	19.81
1,118.59	1.44	20.32
1,118.60	1.45	20.84
1,118.61	1.46	21.36
1,118.62	1.47	21.89
1,118.63	1.48	22.43
1,118.64	1.49	22.97
1,118.65	1.50	23.53
1,118.66	1.51	24.09
1,118.67	1.52	24.66
1,118.68	1.53	25.23
1,118.69	1.53	25.82
1,118.70	1.54	26.41
1,118.71	1.55	27.01
1,118.72	1.56	27.61
1,118.73	1.57	28.23
1,118.74	1.58	28.85
1,118.75	1.59	29.48
1,118.76	1.60	30.11
1,118.77	1.61	30.76
1,118.78	1.62	31.41
1,118.79	1.63	32.07
1,118.80	**1.64**	**32.74**

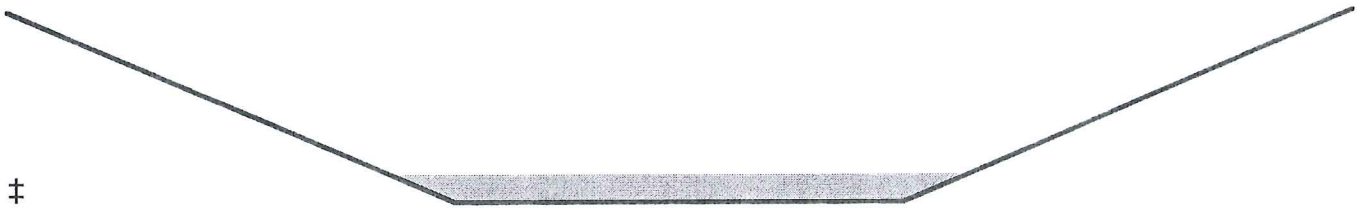
Summary for Reach 3R: OVERLAND FLOW

Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 4.39" for 25-Year event
Inflow = 4.03 cfs @ 12.42 hrs, Volume= 0.983 af
Outflow = 3.99 cfs @ 12.47 hrs, Volume= 0.983 af, Atten= 1%, Lag= 2.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.39 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 1.06 fps, Avg. Travel Time= 3.3 min

Peak Storage= 351 cf @ 12.44 hrs
Average Depth at Peak Storage= 0.15'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 141.79 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 209.0' Slope= 0.1923 '/'
Inlet Invert= 1,158.00', Outlet Invert= 1,117.80'



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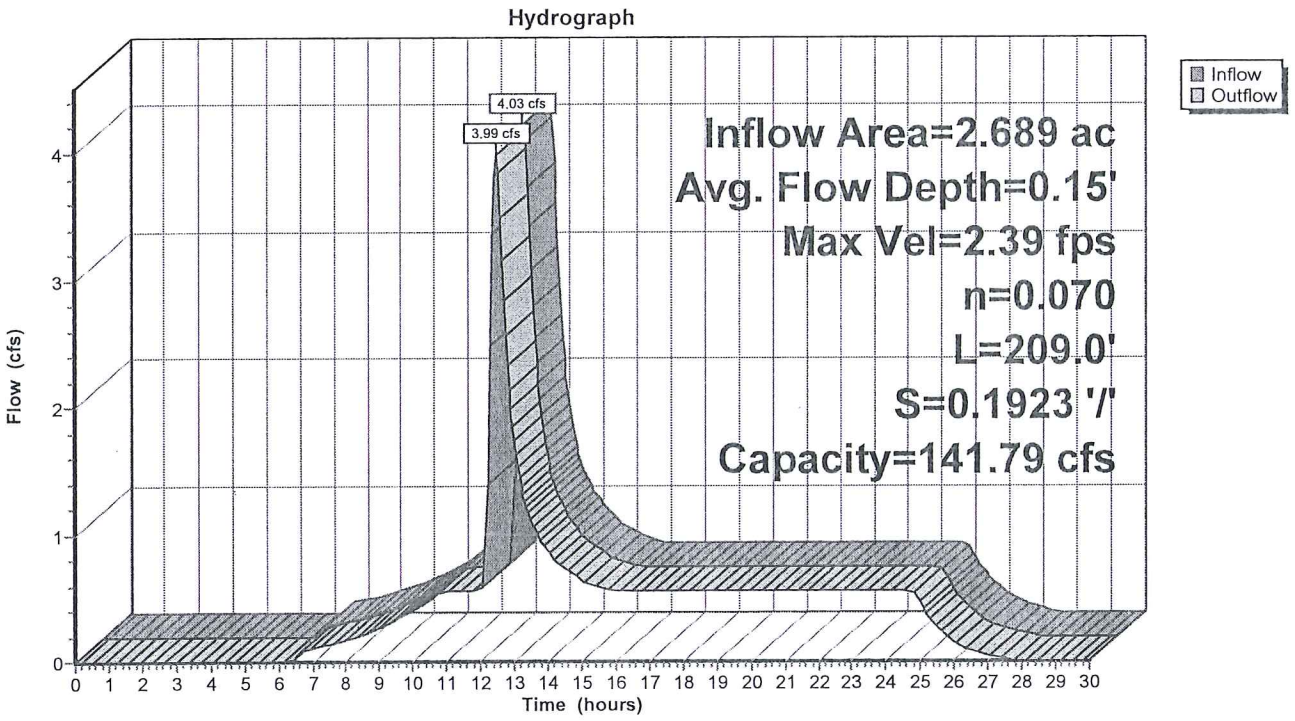
Reach 3R: OVERLAND FLOW



Stage-Discharge for Reach 3R: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,158.00	0.00	0.00
1,158.01	0.43	0.04
1,158.02	0.68	0.14
1,158.03	0.88	0.27
1,158.04	1.06	0.44
1,158.05	1.22	0.64
1,158.06	1.37	0.87
1,158.07	1.52	1.13
1,158.08	1.65	1.42
1,158.09	1.77	1.74
1,158.10	1.89	2.08
1,158.11	2.01	2.45
1,158.12	2.12	2.84
1,158.13	2.22	3.26
1,158.14	2.32	3.71
1,158.15	2.42	4.17
1,158.16	2.52	4.67
1,158.17	2.61	5.19
1,158.18	2.70	5.73
1,158.19	2.79	6.30
1,158.20	2.87	6.89
1,158.21	2.95	7.50
1,158.22	3.03	8.15
1,158.23	3.11	8.81
1,158.24	3.19	9.50
1,158.25	3.27	10.21
1,158.26	3.34	10.95
1,158.27	3.42	11.71
1,158.28	3.49	12.50
1,158.29	3.56	13.31
1,158.30	3.63	14.15
1,158.31	3.70	15.01
1,158.32	3.76	15.90
1,158.33	3.83	16.81
1,158.34	3.90	17.75
1,158.35	3.96	18.71
1,158.36	4.02	19.70
1,158.37	4.09	20.71
1,158.38	4.15	21.75
1,158.39	4.21	22.81
1,158.40	4.27	23.90
1,158.41	4.33	25.02
1,158.42	4.39	26.16
1,158.43	4.44	27.33
1,158.44	4.50	28.52
1,158.45	4.56	29.74
1,158.46	4.61	30.99
1,158.47	4.67	32.27
1,158.48	4.73	33.57
1,158.49	4.78	34.90
1,158.50	4.83	36.25
1,158.51	4.89	37.63
1,158.52	4.94	39.04
1,158.53	4.99	40.48
1,158.54	5.04	41.95
1,158.55	5.10	43.44
1,158.56	5.15	44.96
1,158.57	5.20	46.51
1,158.58	5.25	48.09
1,158.59	5.30	49.69
1,158.60	5.35	51.33
1,158.61	5.40	52.99
1,158.62	5.44	54.68
1,158.63	5.49	56.40
1,158.64	5.54	58.15
1,158.65	5.59	59.93
1,158.66	5.64	61.74
1,158.67	5.68	63.58
1,158.68	5.73	65.45
1,158.69	5.78	67.34
1,158.70	5.82	69.27
1,158.71	5.87	71.23
1,158.72	5.91	73.22
1,158.73	5.96	75.24
1,158.74	6.00	77.29
1,158.75	6.05	79.37
1,158.76	6.09	81.48
1,158.77	6.14	83.62
1,158.78	6.18	85.79
1,158.79	6.22	88.00
1,158.80	6.27	90.23
1,158.81	6.31	92.50
1,158.82	6.35	94.80
1,158.83	6.39	97.13
1,158.84	6.44	99.49
1,158.85	6.48	101.89
1,158.86	6.52	104.32
1,158.87	6.56	106.78
1,158.88	6.60	109.27
1,158.89	6.65	111.80
1,158.90	6.69	114.36
1,158.91	6.73	116.95
1,158.92	6.77	119.57
1,158.93	6.81	122.23
1,158.94	6.85	124.92
1,158.95	6.89	127.65
1,158.96	6.93	130.41
1,158.97	6.97	133.20
1,158.98	7.01	136.03
1,158.99	7.05	138.89
1,159.00	**7.09**	**141.79**

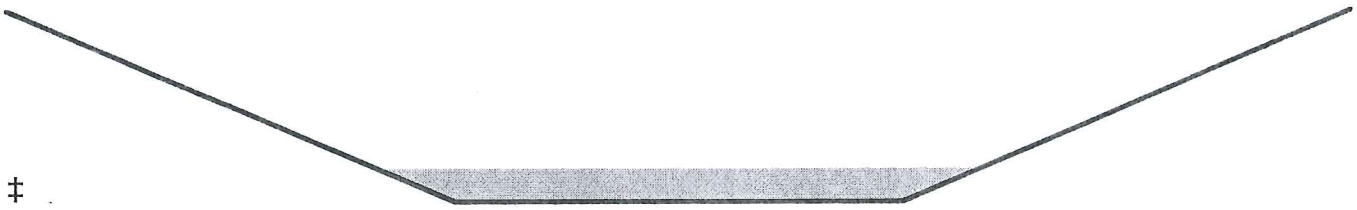
Summary for Reach 5R: OVERLAND FLOW

Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 4.39" for 25-Year event
Inflow = 4.03 cfs @ 12.41 hrs, Volume= 0.983 af
Outflow = 4.03 cfs @ 12.42 hrs, Volume= 0.983 af, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.96 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 0.89 fps, Avg. Travel Time= 0.7 min

Peak Storage= 78 cf @ 12.41 hrs
Average Depth at Peak Storage= 0.18'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 104.89 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 38.0' Slope= 0.1053 '/'
Inlet Invert= 1,162.00', Outlet Invert= 1,158.00'



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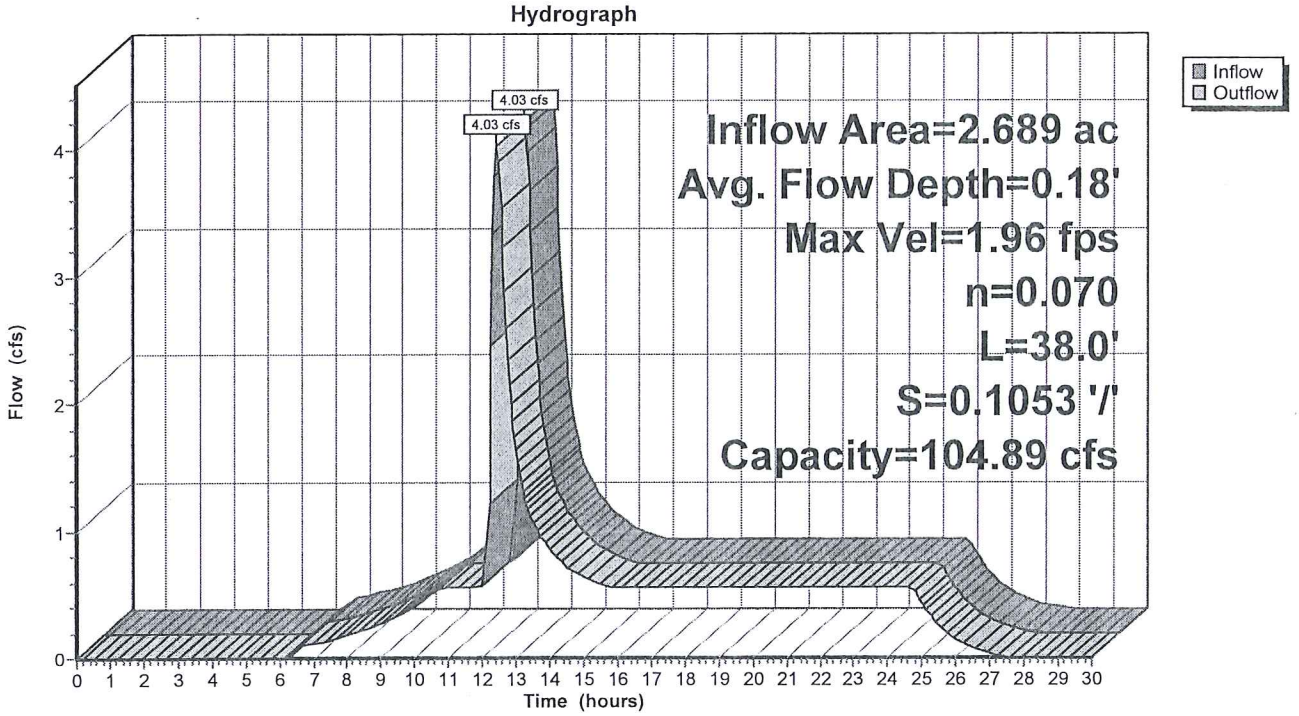
Reach 5R: OVERLAND FLOW



Stage-Discharge for Reach 5R: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,162.00	0.00	0.00
1,162.01	0.32	0.03
1,162.02	0.50	0.10
1,162.03	0.65	0.20
1,162.04	0.79	0.33
1,162.05	0.91	0.48
1,162.06	1.02	0.65
1,162.07	1.12	0.84
1,162.08	1.22	1.05
1,162.09	1.31	1.29
1,162.10	1.40	1.54
1,162.11	1.48	1.81
1,162.12	1.56	2.10
1,162.13	1.64	2.41
1,162.14	1.72	2.74
1,162.15	1.79	3.09
1,162.16	1.86	3.45
1,162.17	1.93	3.84
1,162.18	2.00	4.24
1,162.19	2.06	4.66
1,162.20	2.12	5.10
1,162.21	2.18	5.55
1,162.22	2.25	6.03
1,162.23	2.30	6.52
1,162.24	2.36	7.03
1,162.25	2.42	7.56
1,162.26	2.47	8.10
1,162.27	2.53	8.67
1,162.28	2.58	9.25
1,162.29	2.63	9.85
1,162.30	2.68	10.47
1,162.31	2.73	11.11
1,162.32	2.78	11.76
1,162.33	2.83	12.44
1,162.34	2.88	13.13
1,162.35	2.93	13.84
1,162.36	2.98	14.57
1,162.37	3.02	15.32
1,162.38	3.07	16.09
1,162.39	3.11	16.88
1,162.40	3.16	17.68
1,162.41	3.20	18.51
1,162.42	3.24	19.35
1,162.43	3.29	20.22
1,162.44	3.33	21.10
1,162.45	3.37	22.00
1,162.46	3.41	22.93
1,162.47	3.45	23.87
1,162.48	3.50	24.83
1,162.49	3.54	25.82
1,162.50	3.58	26.82
1,162.51	3.62	27.84
1,162.52	3.65	28.88
1,162.53	3.69	29.95
1,162.54	3.73	31.03
1,162.55	3.77	32.14
1,162.56	3.81	33.26
1,162.57	3.84	34.41
1,162.58	3.88	35.57
1,162.59	3.92	36.76
1,162.60	3.96	37.97
1,162.61	3.99	39.20
1,162.62	4.03	40.45
1,162.63	4.06	41.72
1,162.64	4.10	43.02
1,162.65	4.13	44.34
1,162.66	4.17	45.67
1,162.67	4.20	47.03
1,162.68	4.24	48.42
1,162.69	4.27	49.82
1,162.70	4.31	51.25
1,162.71	4.34	52.69
1,162.72	4.37	54.16
1,162.73	4.41	55.66
1,162.74	4.44	57.17
1,162.75	4.47	58.71
1,162.76	4.51	60.27
1,162.77	4.54	61.86
1,162.78	4.57	63.47
1,162.79	4.60	65.10
1,162.80	4.64	66.75
1,162.81	4.67	68.43
1,162.82	4.70	70.13
1,162.83	4.73	71.85
1,162.84	4.76	73.60
1,162.85	4.79	75.37
1,162.86	4.82	77.17
1,162.87	4.86	78.99
1,162.88	4.89	80.84
1,162.89	4.92	82.70
1,162.90	4.95	84.60
1,162.91	4.98	86.51
1,162.92	5.01	88.46
1,162.93	5.04	90.42
1,162.94	5.07	92.41
1,162.95	5.10	94.43
1,162.96	5.13	96.47
1,162.97	5.16	98.54
1,162.98	5.19	100.63
1,162.99	5.22	102.75
1,163.00	**5.24**	**104.89**

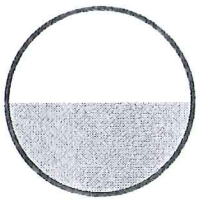
Summary for Reach CULVERT#2: TO DP#1

Inflow Area = 2.067 ac, 3.60% Impervious, Inflow Depth = 1.86" for 25-Year event
Inflow = 3.27 cfs @ 12.22 hrs, Volume= 0.320 af
Outflow = 3.27 cfs @ 12.22 hrs, Volume= 0.320 af, Atten= 0%, Lag= 0.1 min

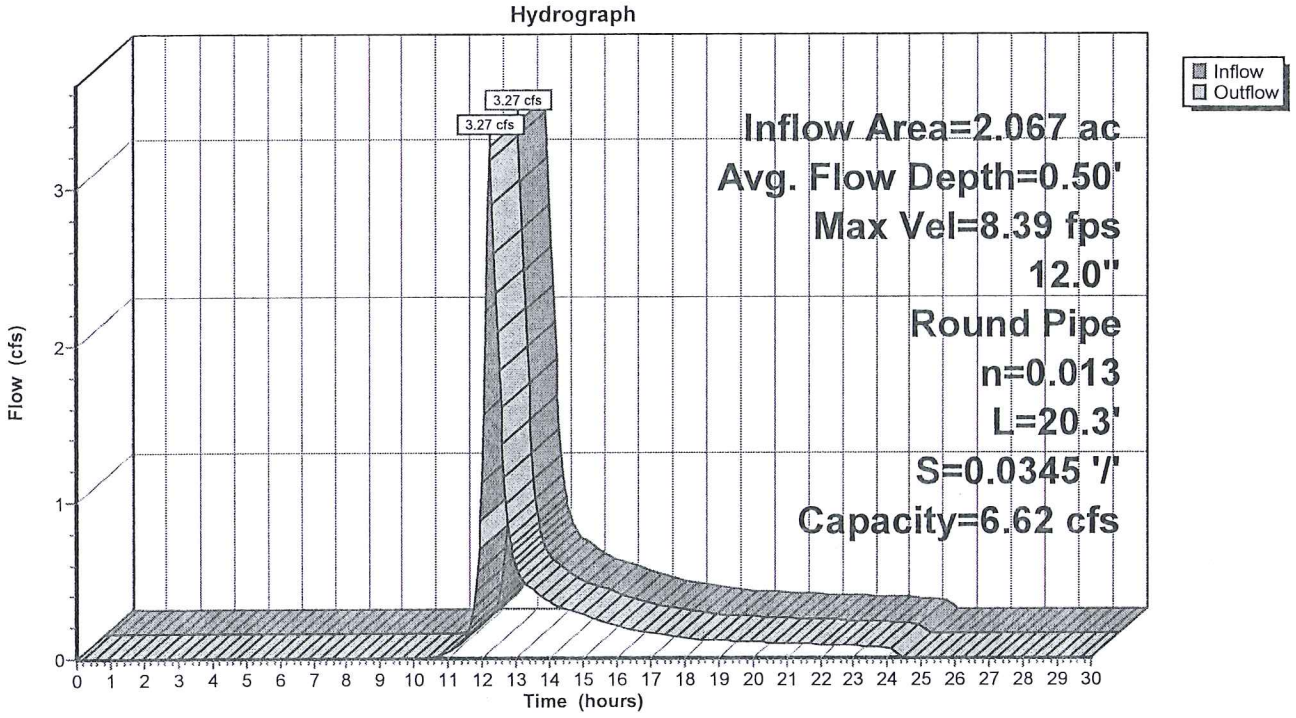
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.39 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.53 fps, Avg. Travel Time= 0.1 min

Peak Storage= 8 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.50'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.62 cfs

12.0" Round Pipe
n= 0.013 Cast iron, coated
Length= 20.3' Slope= 0.0345 '/'
Inlet Invert= 1,118.45', Outlet Invert= 1,117.75'



Reach CULVERT#2: TO DP#1



Stage-Discharge for Reach CULVERT#2: TO DP#1

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,118.45	0.00	0.00
1,118.46	0.75	0.00
1,118.47	1.19	0.00
1,118.48	1.55	0.01
1,118.49	1.87	0.02
1,118.50	2.16	0.03
1,118.51	2.44	0.05
1,118.52	2.69	0.07
1,118.53	2.93	0.09
1,118.54	3.16	0.11
1,118.55	3.38	0.14
1,118.56	3.59	0.17
1,118.57	3.79	0.20
1,118.58	3.98	0.24
1,118.59	4.17	0.28
1,118.60	4.35	0.32
1,118.61	4.53	0.37
1,118.62	4.70	0.42
1,118.63	4.86	0.47
1,118.64	5.02	0.52
1,118.65	5.18	0.58
1,118.66	5.33	0.64
1,118.67	5.48	0.70
1,118.68	5.62	0.77
1,118.69	5.77	0.84
1,118.70	5.90	0.91
1,118.71	6.04	0.98
1,118.72	6.17	1.05
1,118.73	6.29	1.13
1,118.74	6.42	1.21
1,118.75	6.54	1.30
1,118.76	6.66	1.38
1,118.77	6.77	1.47
1,118.78	6.88	1.56
1,118.79	6.99	1.65
1,118.80	7.10	1.74
1,118.81	7.21	1.83
1,118.82	7.31	1.93
1,118.83	7.41	2.03
1,118.84	7.50	2.13
1,118.85	7.60	2.23
1,118.86	7.69	2.33
1,118.87	7.78	2.44
1,118.88	7.87	2.54
1,118.89	7.96	2.65
1,118.90	8.04	2.76
1,118.91	8.12	2.86
1,118.92	8.20	2.97
1,118.93	8.28	3.08
1,118.94	8.35	3.20
1,118.95	8.42	3.31
1,118.96	8.49	3.42
1,118.97	8.56	3.53
1,118.98	8.63	3.65
1,118.99	8.69	3.76
1,119.00	8.75	3.88
1,119.01	8.81	3.99
1,119.02	8.87	4.10
1,119.03	8.93	4.22
1,119.04	8.98	4.33
1,119.05	9.03	4.44
1,119.06	9.08	4.56
1,119.07	9.13	4.67
1,119.08	9.18	4.78
1,119.09	9.22	4.89
1,119.10	9.26	5.00
1,119.11	9.30	5.11
1,119.12	9.34	5.22
1,119.13	9.37	5.33
1,119.14	9.40	5.43
1,119.15	9.43	5.54
1,119.16	9.46	5.64
1,119.17	9.49	5.74
1,119.18	9.51	5.84
1,119.19	9.53	5.94
1,119.20	9.55	6.03
1,119.21	9.56	6.13
1,119.22	9.58	6.21
1,119.23	9.59	6.30
1,119.24	9.60	6.39
1,119.25	9.60	6.47
1,119.26	**9.60**	6.54
1,119.27	9.60	6.62
1,119.28	9.60	6.69
1,119.29	9.59	6.76
1,119.30	9.58	6.82
1,119.31	9.57	6.87
1,119.32	9.55	6.93
1,119.33	9.53	6.97
1,119.34	9.50	7.02
1,119.35	9.47	7.05
1,119.36	9.43	7.08
1,119.37	9.39	7.10
1,119.38	9.34	7.11
1,119.39	9.29	**7.12**
1,119.40	9.22	7.11
1,119.41	9.15	7.09
1,119.42	9.06	7.05
1,119.43	8.94	6.99
1,119.44	8.79	6.89
1,119.45	8.42	6.62

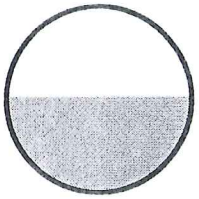
Summary for Reach DCB-H: TO DMH#6

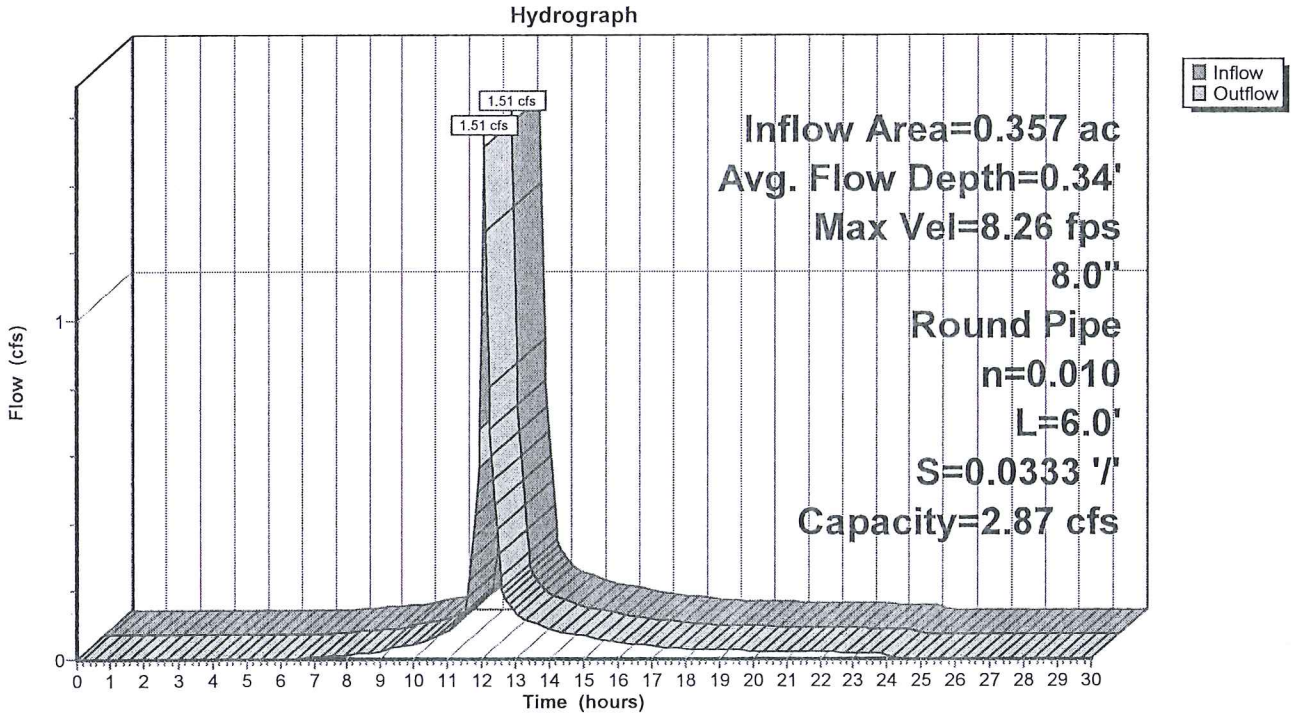
Inflow Area = 0.357 ac, 45.15% Impervious, Inflow Depth = 3.65" for 25-Year event
Inflow = 1.51 cfs @ 12.07 hrs, Volume= 0.108 af
Outflow = 1.51 cfs @ 12.07 hrs, Volume= 0.108 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.26 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.88 fps, Avg. Travel Time= 0.0 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.34'
Bank-Full Depth= 0.67' Flow Area= 0.3 sf, Capacity= 2.87 cfs

8.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 6.0' Slope= 0.0333 '/'
Inlet Invert= 1,171.70', Outlet Invert= 1,171.50'





Stage-Discharge for Reach DCB-H: TO DMH#6

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,171.70	0.00	0.00
1,171.71	0.94	0.00
1,171.72	1.51	0.00
1,171.73	1.97	0.01
1,171.74	2.38	0.02
1,171.75	2.74	0.03
1,171.76	3.08	0.05
1,171.77	3.40	0.07
1,171.78	3.70	0.09
1,171.79	3.98	0.11
1,171.80	4.25	0.14
1,171.81	4.50	0.17
1,171.82	4.74	0.20
1,171.83	4.98	0.24
1,171.84	5.20	0.28
1,171.85	5.42	0.32
1,171.86	5.62	0.36
1,171.87	5.82	0.41
1,171.88	6.01	0.46
1,171.89	6.20	0.51
1,171.90	6.38	0.56
1,171.91	6.55	0.62
1,171.92	6.71	0.67
1,171.93	6.87	0.73
1,171.94	7.03	0.80
1,171.95	7.18	0.86
1,171.96	7.32	0.92
1,171.97	7.46	0.99
1,171.98	7.59	1.06
1,171.99	7.72	1.12
1,172.00	7.84	1.19
1,172.01	7.96	1.27
1,172.02	8.07	1.34
1,172.03	8.18	1.41
1,172.04	8.29	1.48
1,172.05	8.38	1.56
1,172.06	8.48	1.63
1,172.07	8.57	1.70
1,172.08	8.65	1.78
1,172.09	8.74	1.85
1,172.10	8.81	1.93
1,172.11	8.88	2.00
1,172.12	8.95	2.07
1,172.13	9.01	2.15
1,172.14	9.07	2.22
1,172.15	9.12	2.29
1,172.16	9.17	2.36
1,172.17	9.21	2.42
1,172.18	9.25	2.49
1,172.19	9.29	2.55
1,172.20	9.31	2.62
1,172.21	9.34	2.67
1,172.22	9.35	2.73
1,172.23	9.36	2.79
1,172.24	**9.37**	2.84
1,172.25	9.36	2.88
1,172.26	9.36	2.93
1,172.27	9.34	2.97
1,172.28	9.31	3.00
1,172.29	9.28	3.03
1,172.30	9.24	3.06
1,172.31	9.18	3.07
1,172.32	9.11	**3.08**
1,172.33	9.03	3.08
1,172.34	8.92	3.07
1,172.35	8.78	3.04
1,172.36	8.58	2.99
1,172.37	8.04	2.81

Summary for Reach DCB1: TO DMH#1

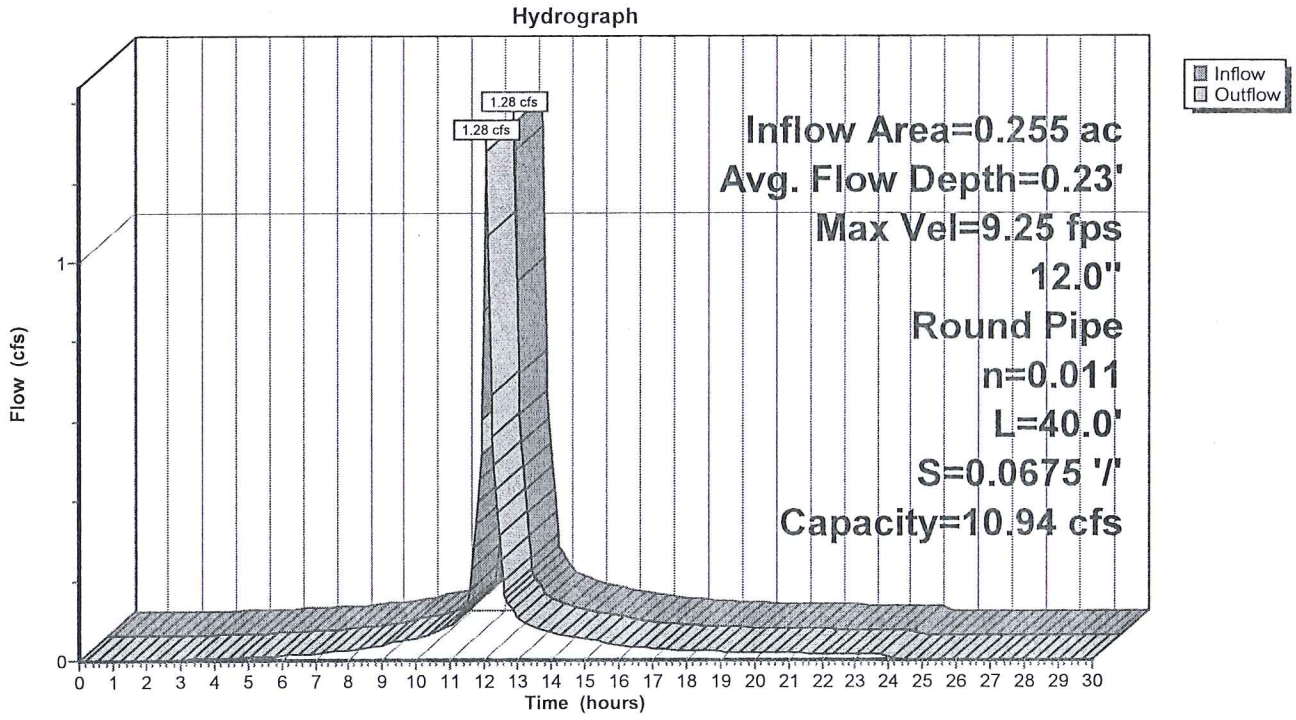
Inflow Area = 0.255 ac, 81.84% Impervious, Inflow Depth = 4.60" for 25-Year event
Inflow = 1.28 cfs @ 12.07 hrs, Volume= 0.098 af
Outflow = 1.28 cfs @ 12.07 hrs, Volume= 0.098 af, Atten= 1%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.25 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.03 fps, Avg. Travel Time= 0.2 min

Peak Storage= 6 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 10.94 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 40.0' Slope= 0.0675 '/'
Inlet Invert= 1,178.00', Outlet Invert= 1,175.30'





Stage-Discharge for Reach DCB1: TO DMH#1

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.00	0.00	0.00
1,178.01	1.24	0.00
1,178.02	1.96	0.01
1,178.03	2.56	0.02
1,178.04	3.09	0.03
1,178.05	3.58	0.05
1,178.06	4.03	0.08
1,178.07	4.45	0.11
1,178.08	4.85	0.14
1,178.09	5.23	0.18
1,178.10	5.59	0.23
1,178.11	5.93	0.28
1,178.12	6.27	0.33
1,178.13	6.59	0.40
1,178.14	6.90	0.46
1,178.15	7.20	0.53
1,178.16	7.49	0.61
1,178.17	7.77	0.69
1,178.18	8.04	0.77
1,178.19	8.31	0.86
1,178.20	8.57	0.96
1,178.21	8.82	1.06
1,178.22	9.06	1.16
1,178.23	9.30	1.27
1,178.24	9.53	1.38
1,178.25	9.76	1.50
1,178.26	9.98	1.62
1,178.27	10.20	1.74
1,178.28	10.41	1.87
1,178.29	10.61	2.01
1,178.30	10.81	2.14
1,178.31	11.01	2.28
1,178.32	11.20	2.43
1,178.33	11.38	2.57
1,178.34	11.56	2.72
1,178.35	11.74	2.88
1,178.36	11.91	3.03
1,178.37	12.08	3.19
1,178.38	12.25	3.35
1,178.39	12.41	3.52
1,178.40	12.57	3.69
1,178.41	12.72	3.86
1,178.42	12.87	4.03
1,178.43	13.01	4.20
1,178.44	13.16	4.38
1,178.45	13.29	4.56
1,178.46	13.43	4.74
1,178.47	13.56	4.92
1,178.48	13.68	5.10
1,178.49	13.81	5.28
1,178.50	13.93	5.47
1,178.51	14.04	5.66
1,178.52	14.16	5.84
1,178.53	14.27	6.03
1,178.54	14.37	6.22
1,178.55	14.48	6.41
1,178.56	14.58	6.60
1,178.57	14.67	6.78
1,178.58	14.76	6.97
1,178.59	14.85	7.16
1,178.60	14.94	7.35
1,178.61	15.02	7.54
1,178.62	15.10	7.72
1,178.63	15.17	7.91
1,178.64	15.24	8.09
1,178.65	15.31	8.27
1,178.66	15.38	8.46
1,178.67	15.44	8.63
1,178.68	15.49	8.81
1,178.69	15.55	8.99
1,178.70	15.60	9.16
1,178.71	15.64	9.33
1,178.72	15.68	9.50
1,178.73	15.72	9.66
1,178.74	15.76	9.82
1,178.75	15.79	9.98
1,178.76	15.81	10.13
1,178.77	15.84	10.28
1,178.78	15.85	10.42
1,178.79	15.87	10.56
1,178.80	15.87	10.69
1,178.81	**15.88**	10.82
1,178.82	15.88	10.94
1,178.83	15.87	11.06
1,178.84	15.86	11.17
1,178.85	15.84	11.27
1,178.86	15.82	11.37
1,178.87	15.79	11.45
1,178.88	15.75	11.53
1,178.89	15.71	11.60
1,178.90	15.66	11.66
1,178.91	15.60	11.71
1,178.92	15.53	11.74
1,178.93	15.45	11.76
1,178.94	15.36	**11.77**
1,178.95	15.25	11.75
1,178.96	15.13	11.72
1,178.97	14.98	11.66
1,178.98	14.79	11.56
1,178.99	14.54	11.40
1,179.00	13.93	10.94

Summary for Reach DCB10: TO DMH#10

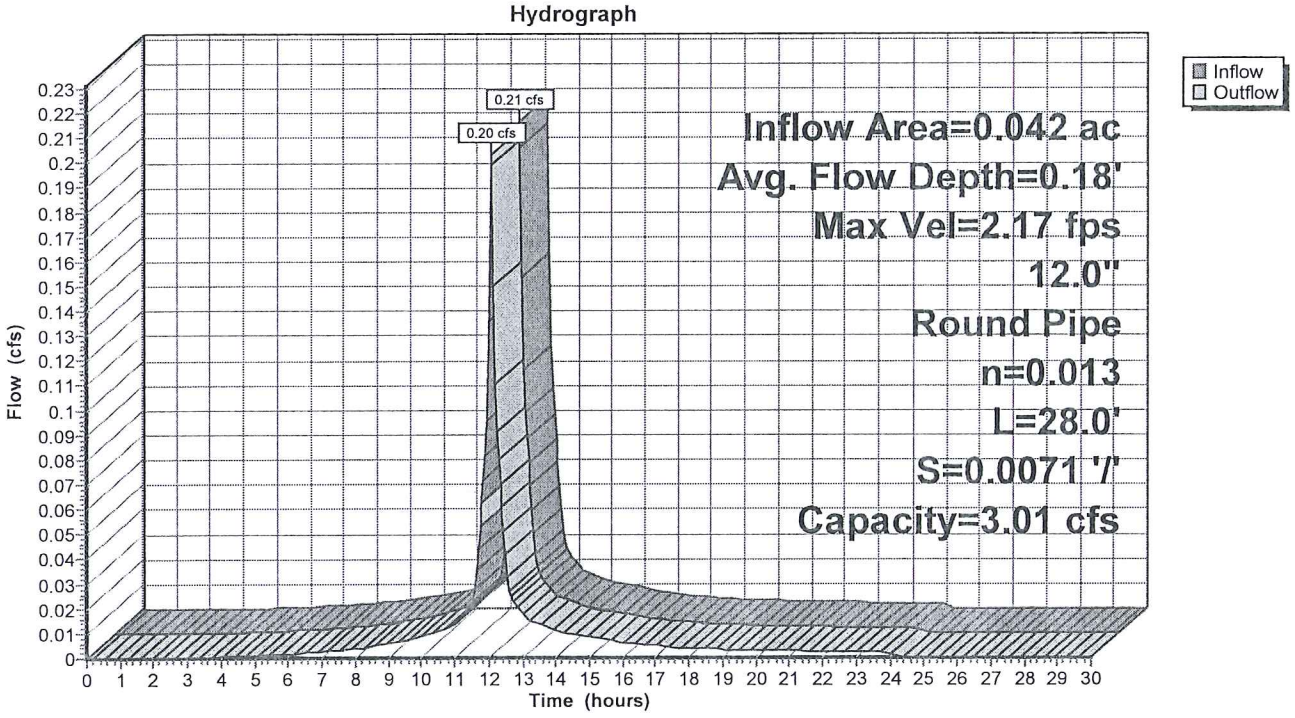
Inflow Area = 0.042 ac, 80.86% Impervious, Inflow Depth = 4.49" for 25-Year event
Inflow = 0.21 cfs @ 12.07 hrs, Volume= 0.016 af
Outflow = 0.20 cfs @ 12.08 hrs, Volume= 0.016 af, Atten= 2%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.17 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 0.71 fps, Avg. Travel Time= 0.7 min

Peak Storage= 3 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.18'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.01 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 28.0' Slope= 0.0071 '/'
Inlet Invert= 1,179.20', Outlet Invert= 1,179.00'





Stage-Discharge for Reach DCB10: TO DMH#10

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.20	0.00	0.00
1,179.21	0.34	0.00
1,179.22	0.54	0.00
1,179.23	0.71	0.00
1,179.24	0.85	0.01
1,179.25	0.98	0.01
1,179.26	1.11	0.02
1,179.27	1.22	0.03
1,179.28	1.33	0.04
1,179.29	1.44	0.05
1,179.30	1.54	0.06
1,179.31	1.63	0.08
1,179.32	1.73	0.09
1,179.33	1.81	0.11
1,179.34	1.90	0.13
1,179.35	1.98	0.15
1,179.36	2.06	0.17
1,179.37	2.14	0.19
1,179.38	2.21	0.21
1,179.39	2.29	0.24
1,179.40	2.36	0.26
1,179.41	2.43	0.29
1,179.42	2.49	0.32
1,179.43	2.56	0.35
1,179.44	2.62	0.38
1,179.45	2.69	0.41
1,179.46	2.75	0.45
1,179.47	2.81	0.48
1,179.48	2.86	0.52
1,179.49	2.92	0.55
1,179.50	2.98	0.59
1,179.51	3.03	0.63
1,179.52	3.08	0.67
1,179.53	3.13	0.71
1,179.54	3.18	0.75
1,179.55	3.23	0.79
1,179.56	3.28	0.83
1,179.57	3.33	0.88
1,179.58	3.37	0.92
1,179.59	3.42	0.97
1,179.60	3.46	1.01
1,179.61	3.50	1.06
1,179.62	3.54	1.11
1,179.63	3.58	1.16
1,179.64	3.62	1.21
1,179.65	3.66	1.25
1,179.66	3.70	1.30
1,179.67	3.73	1.35
1,179.68	3.77	1.40
1,179.69	3.80	1.45
1,179.70	3.83	1.51
1,179.71	3.87	1.56
1,179.72	3.90	1.61
1,179.73	3.93	1.66
1,179.74	3.96	1.71
1,179.75	3.98	1.76
1,179.76	4.01	1.82
1,179.77	4.04	1.87
1,179.78	4.06	1.92
1,179.79	4.09	1.97
1,179.80	4.11	2.02
1,179.81	4.13	2.07
1,179.82	4.16	2.13
1,179.83	4.18	2.18
1,179.84	4.20	2.23
1,179.85	4.21	2.28
1,179.86	4.23	2.33
1,179.87	4.25	2.38
1,179.88	4.26	2.43
1,179.89	4.28	2.47
1,179.90	4.29	2.52
1,179.91	4.31	2.57
1,179.92	4.32	2.61
1,179.93	4.33	2.66
1,179.94	4.34	2.70
1,179.95	4.35	2.75
1,179.96	4.35	2.79
1,179.97	4.36	2.83
1,179.98	4.36	2.87
1,179.99	4.37	2.91
1,180.00	4.37	2.94
1,180.01	**4.37**	2.98
1,180.02	4.37	3.01
1,180.03	4.37	3.04
1,180.04	4.37	3.07
1,180.05	4.36	3.10
1,180.06	4.35	3.13
1,180.07	4.35	3.15
1,180.08	4.34	3.17
1,180.09	4.32	3.19
1,180.10	4.31	3.21
1,180.11	4.29	3.22
1,180.12	4.28	3.23
1,180.13	4.25	3.24
1,180.14	4.23	**3.24**
1,180.15	4.20	3.24
1,180.16	4.16	3.23
1,180.17	4.12	3.21
1,180.18	4.07	3.18
1,180.19	4.00	3.14
1,180.20	3.83	3.01

Summary for Reach DCB11: TO DMH#10

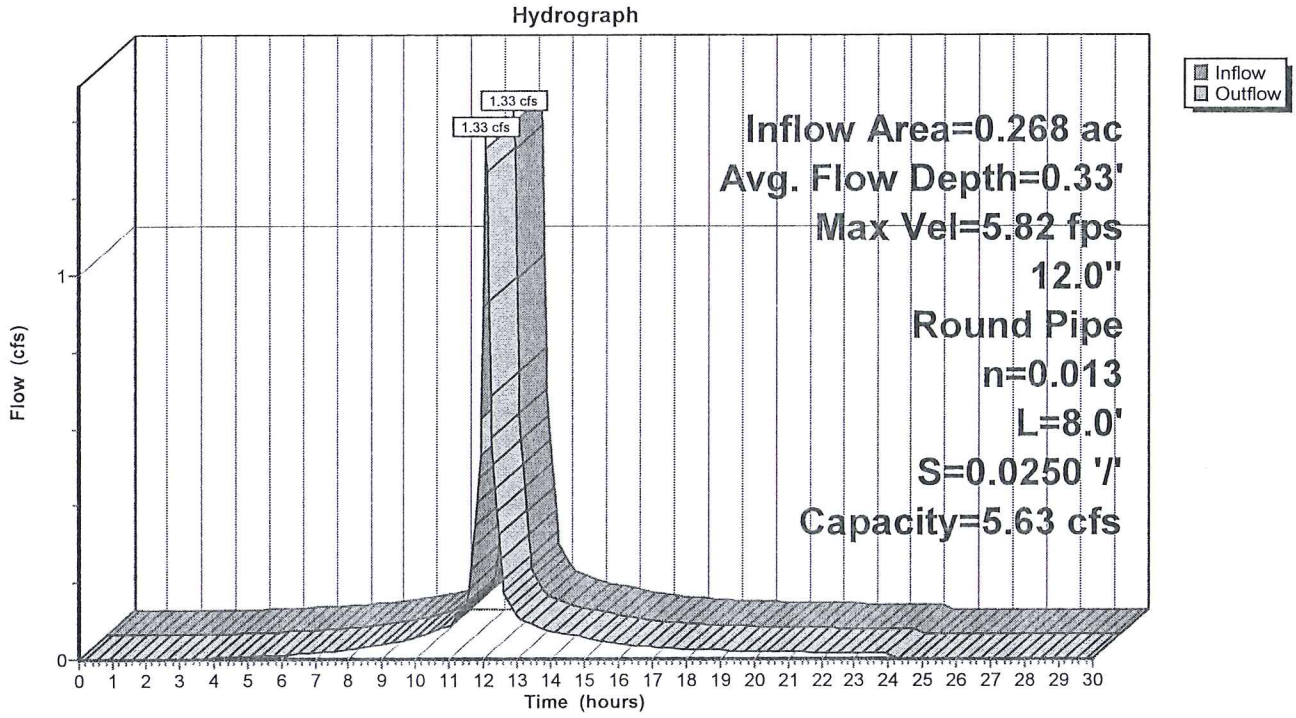
Inflow Area = 0.268 ac, 78.25% Impervious, Inflow Depth = 4.49" for 25-Year event
Inflow = 1.33 cfs @ 12.07 hrs, Volume= 0.100 af
Outflow = 1.33 cfs @ 12.07 hrs, Volume= 0.100 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.82 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.92 fps, Avg. Travel Time= 0.1 min

Peak Storage= 2 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.33'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.63 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 8.0' Slope= 0.0250 '/'
Inlet Invert= 1,179.20', Outlet Invert= 1,179.00'





Stage-Discharge for Reach DCB11: TO DMH#10

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.20	0.00	0.00
1,179.21	0.64	0.00
1,179.22	1.01	0.00
1,179.23	1.32	0.01
1,179.24	1.59	0.02
1,179.25	1.84	0.03
1,179.26	2.07	0.04
1,179.27	2.29	0.06
1,179.28	2.50	0.07
1,179.29	2.69	0.09
1,179.30	2.88	0.12
1,179.31	3.06	0.14
1,179.32	3.23	0.17
1,179.33	3.39	0.20
1,179.34	3.55	0.24
1,179.35	3.71	0.27
1,179.36	3.86	0.31
1,179.37	4.00	0.35
1,179.38	4.14	0.40
1,179.39	4.28	0.44
1,179.40	4.41	0.49
1,179.41	4.54	0.54
1,179.42	4.67	0.60
1,179.43	4.79	0.65
1,179.44	4.91	0.71
1,179.45	5.03	0.77
1,179.46	5.14	0.83
1,179.47	5.25	0.90
1,179.48	5.36	0.96
1,179.49	5.46	1.03
1,179.50	5.57	1.10
1,179.51	5.67	1.18
1,179.52	5.77	1.25
1,179.53	5.86	1.32
1,179.54	5.95	1.40
1,179.55	6.05	1.48
1,179.56	6.14	1.56
1,179.57	6.22	1.64
1,179.58	6.31	1.73
1,179.59	6.39	1.81
1,179.60	6.47	1.90
1,179.61	6.55	1.99
1,179.62	6.63	2.07
1,179.63	6.70	2.16
1,179.64	6.77	2.25
1,179.65	6.85	2.35
1,179.66	6.91	2.44
1,179.67	6.98	2.53
1,179.68	7.05	2.63
1,179.69	7.11	2.72
1,179.70	7.17	2.82
1,179.71	7.23	2.91
1,179.72	7.29	3.01
1,179.73	7.35	3.11
1,179.74	7.40	3.20
1,179.75	7.45	3.30
1,179.76	7.51	3.40
1,179.77	7.55	3.49
1,179.78	7.60	3.59
1,179.79	7.65	3.69
1,179.80	7.69	3.78
1,179.81	7.73	3.88
1,179.82	7.77	3.98
1,179.83	7.81	4.07
1,179.84	7.85	4.17
1,179.85	7.88	4.26
1,179.86	7.92	4.35
1,179.87	7.95	4.45
1,179.88	7.98	4.54
1,179.89	8.01	4.63
1,179.90	8.03	4.72
1,179.91	8.06	4.80
1,179.92	8.08	4.89
1,179.93	8.10	4.97
1,179.94	8.11	5.06
1,179.95	8.13	5.14
1,179.96	8.14	5.22
1,179.97	8.15	5.29
1,179.98	8.16	5.37
1,179.99	8.17	5.44
1,180.00	8.17	5.51
1,180.01	**8.18**	5.57
1,180.02	8.18	5.64
1,180.03	8.17	5.70
1,180.04	8.17	5.75
1,180.05	8.16	5.80
1,180.06	8.15	5.85
1,180.07	8.13	5.90
1,180.08	8.11	5.94
1,180.09	8.09	5.97
1,180.10	8.06	6.00
1,180.11	8.03	6.03
1,180.12	8.00	6.05
1,180.13	7.96	6.06
1,180.14	7.91	**6.06**
1,180.15	7.85	6.05
1,180.16	7.79	6.04
1,180.17	7.71	6.00
1,180.18	7.62	5.95
1,180.19	7.49	5.87
1,180.20	7.17	5.63

Summary for Reach DCB12: TO DMH#12

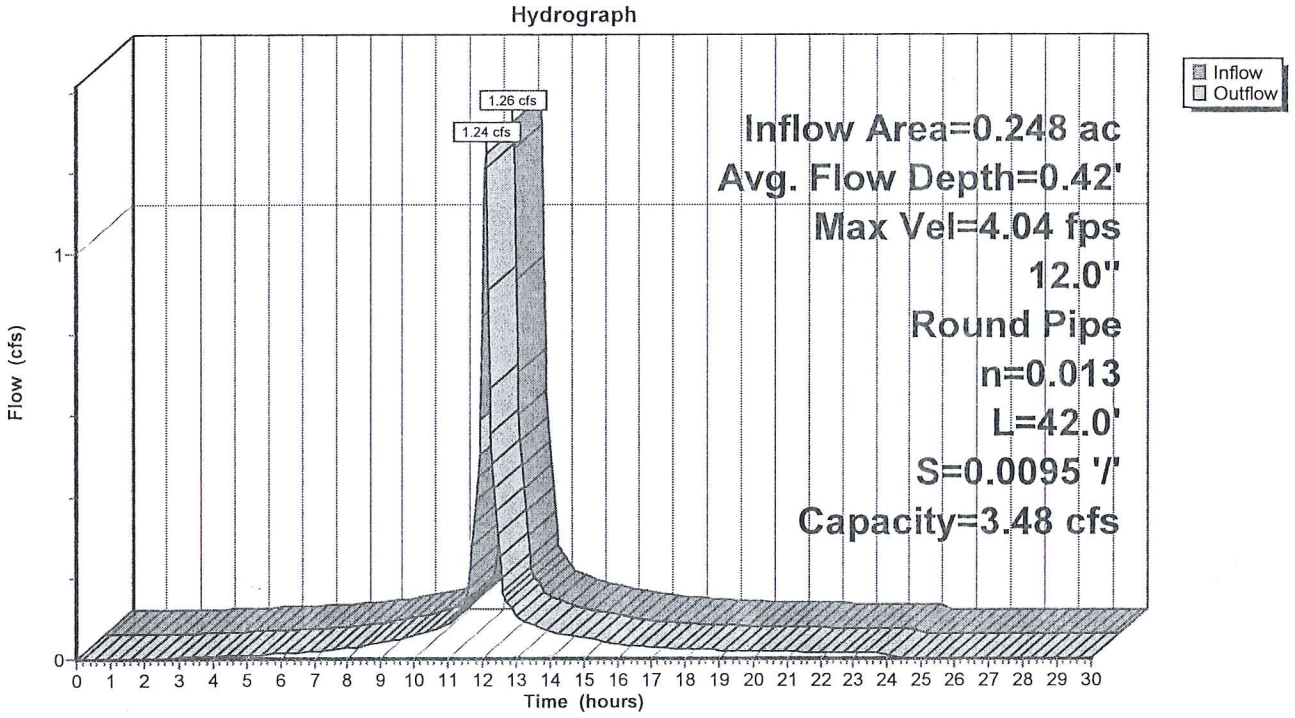
Inflow Area = 0.248 ac, 86.00% Impervious, Inflow Depth = 4.72" for 25-Year event
Inflow = 1.26 cfs @ 12.07 hrs, Volume= 0.098 af
Outflow = 1.24 cfs @ 12.08 hrs, Volume= 0.098 af, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.04 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.34 fps, Avg. Travel Time= 0.5 min

Peak Storage= 13 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.42'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.48 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 42.0' Slope= 0.0095 '/'
Inlet Invert= 1,180.80', Outlet Invert= 1,180.40'





Stage-Discharge for Reach DCB12: TO DMH#12

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.80	0.00	0.00
1,180.81	0.39	0.00
1,180.82	0.62	0.00
1,180.83	0.81	0.01
1,180.84	0.98	0.01
1,180.85	1.14	0.02
1,180.86	1.28	0.02
1,180.87	1.41	0.03
1,180.88	1.54	0.05
1,180.89	1.66	0.06
1,180.90	1.78	0.07
1,180.91	1.89	0.09
1,180.92	1.99	0.11
1,180.93	2.09	0.13
1,180.94	2.19	0.15
1,180.95	2.29	0.17
1,180.96	2.38	0.19
1,180.97	2.47	0.22
1,180.98	2.56	0.25
1,180.99	2.64	0.27
1,181.00	2.72	0.30
1,181.01	2.80	0.34
1,181.02	2.88	0.37
1,181.03	2.96	0.40
1,181.04	3.03	0.44
1,181.05	3.10	0.48
1,181.06	3.17	0.51
1,181.07	3.24	0.55
1,181.08	3.31	0.60
1,181.09	3.37	0.64
1,181.10	3.44	0.68
1,181.11	3.50	0.73
1,181.12	3.56	0.77
1,181.13	3.62	0.82
1,181.14	3.68	0.87
1,181.15	3.73	0.91
1,181.16	3.79	0.96
1,181.17	3.84	1.01
1,181.18	3.89	1.07
1,181.19	3.94	1.12
1,181.20	3.99	1.17
1,181.21	4.04	1.23
1,181.22	4.09	1.28
1,181.23	4.14	1.34
1,181.24	4.18	1.39
1,181.25	4.22	1.45
1,181.26	4.27	1.51
1,181.27	4.31	1.56
1,181.28	4.35	1.62
1,181.29	4.39	1.68
1,181.30	4.43	1.74
1,181.31	4.46	1.80
1,181.32	4.50	1.86
1,181.33	4.53	1.92
1,181.34	4.57	1.98
1,181.35	4.60	2.04
1,181.36	4.63	2.10
1,181.37	4.66	2.16
1,181.38	4.69	2.22
1,181.39	4.72	2.28
1,181.40	4.75	2.34
1,181.41	4.77	2.40
1,181.42	4.80	2.45
1,181.43	4.82	2.51
1,181.44	4.85	2.57
1,181.45	4.87	2.63
1,181.46	4.89	2.69
1,181.47	4.91	2.74
1,181.48	4.92	2.80
1,181.49	4.94	2.86
1,181.50	4.96	2.91
1,181.51	4.97	2.96
1,181.52	4.99	3.02
1,181.53	5.00	3.07
1,181.54	5.01	3.12
1,181.55	5.02	3.17
1,181.56	5.03	3.22
1,181.57	5.03	3.27
1,181.58	5.04	3.31
1,181.59	5.04	3.36
1,181.60	5.05	3.40
1,181.61	**5.05**	3.44
1,181.62	5.05	3.48
1,181.63	5.04	3.52
1,181.64	5.04	3.55
1,181.65	5.04	3.58
1,181.66	5.03	3.61
1,181.67	5.02	3.64
1,181.68	5.01	3.67
1,181.69	4.99	3.69
1,181.70	4.98	3.71
1,181.71	4.96	3.72
1,181.72	4.94	3.73
1,181.73	4.91	3.74
1,181.74	4.88	**3.74**
1,181.75	4.85	3.74
1,181.76	4.81	3.73
1,181.77	4.76	3.71
1,181.78	4.70	3.67
1,181.79	4.62	3.62
1,181.80	4.43	3.48

Summary for Reach DCB13: TO DMH#12

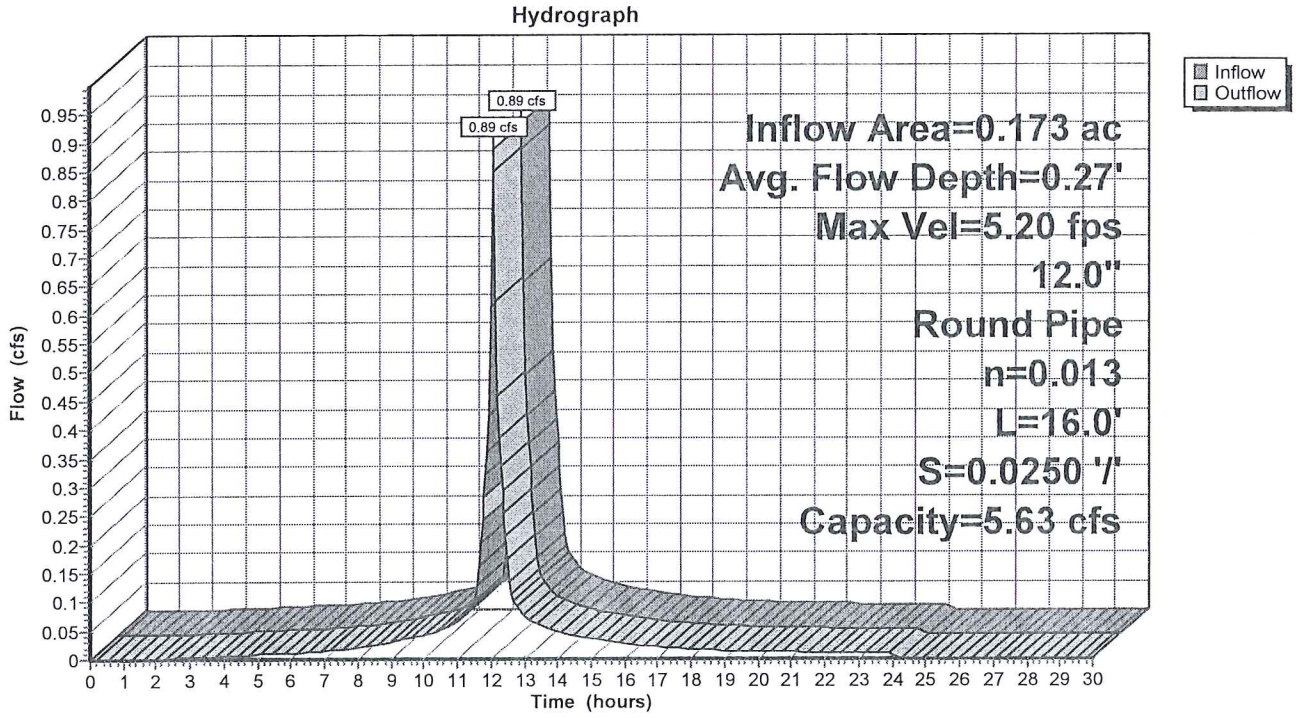
Inflow Area = 0.173 ac, 91.70% Impervious, Inflow Depth = 4.83" for 25-Year event
Inflow = 0.89 cfs @ 12.07 hrs, Volume= 0.070 af
Outflow = 0.89 cfs @ 12.07 hrs, Volume= 0.070 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.20 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.71 fps, Avg. Travel Time= 0.2 min

Peak Storage= 3 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.27'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.63 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 16.0' Slope= 0.0250 '/'
Inlet Invert= 1,180.80', Outlet Invert= 1,180.40'





Stage-Discharge for Reach DCB13: TO DMH#12

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.80	0.00	0.00
1,180.81	0.64	0.00
1,180.82	1.01	0.00
1,180.83	1.32	0.01
1,180.84	1.59	0.02
1,180.85	1.84	0.03
1,180.86	2.07	0.04
1,180.87	2.29	0.06
1,180.88	2.50	0.07
1,180.89	2.69	0.09
1,180.90	2.88	0.12
1,180.91	3.06	0.14
1,180.92	3.23	0.17
1,180.93	3.39	0.20
1,180.94	3.55	0.24
1,180.95	3.71	0.27
1,180.96	3.86	0.31
1,180.97	4.00	0.35
1,180.98	4.14	0.40
1,180.99	4.28	0.44
1,181.00	4.41	0.49
1,181.01	4.54	0.54
1,181.02	4.67	0.60
1,181.03	4.79	0.65
1,181.04	4.91	0.71
1,181.05	5.03	0.77
1,181.06	5.14	0.83
1,181.07	5.25	0.90
1,181.08	5.36	0.96
1,181.09	5.46	1.03
1,181.10	5.57	1.10
1,181.11	5.67	1.18
1,181.12	5.77	1.25
1,181.13	5.86	1.32
1,181.14	5.95	1.40
1,181.15	6.05	1.48
1,181.16	6.14	1.56
1,181.17	6.22	1.64
1,181.18	6.31	1.73
1,181.19	6.39	1.81
1,181.20	6.47	1.90
1,181.21	6.55	1.99
1,181.22	6.63	2.07
1,181.23	6.70	2.16
1,181.24	6.77	2.25
1,181.25	6.85	2.35
1,181.26	6.91	2.44
1,181.27	6.98	2.53
1,181.28	7.05	2.63
1,181.29	7.11	2.72
1,181.30	7.17	2.82
1,181.31	7.23	2.91
1,181.32	7.29	3.01
1,181.33	7.35	3.11
1,181.34	7.40	3.20
1,181.35	7.45	3.30
1,181.36	7.51	3.40
1,181.37	7.55	3.49
1,181.38	7.60	3.59
1,181.39	7.65	3.69
1,181.40	7.69	3.78
1,181.41	7.73	3.88
1,181.42	7.77	3.98
1,181.43	7.81	4.07
1,181.44	7.85	4.17
1,181.45	7.88	4.26
1,181.46	7.92	4.35
1,181.47	7.95	4.45
1,181.48	7.98	4.54
1,181.49	8.01	4.63
1,181.50	8.03	4.72
1,181.51	8.06	4.80
1,181.52	8.08	4.89
1,181.53	8.10	4.97
1,181.54	8.11	5.06
1,181.55	8.13	5.14
1,181.56	8.14	5.22
1,181.57	8.15	5.29
1,181.58	8.16	5.37
1,181.59	8.17	5.44
1,181.60	8.17	5.51
1,181.61	**8.18**	5.57
1,181.62	8.18	5.64
1,181.63	8.17	5.70
1,181.64	8.17	5.75
1,181.65	8.16	5.80
1,181.66	8.15	5.85
1,181.67	8.13	5.90
1,181.68	8.11	5.94
1,181.69	8.09	5.97
1,181.70	8.06	6.00
1,181.71	8.03	6.03
1,181.72	8.00	6.05
1,181.73	7.96	6.06
1,181.74	7.91	**6.06**
1,181.75	7.85	6.05
1,181.76	7.79	6.04
1,181.77	7.71	6.00
1,181.78	7.62	5.95
1,181.79	7.49	5.87
1,181.80	7.17	5.63

Summary for Reach DCB14: TO DMH#11

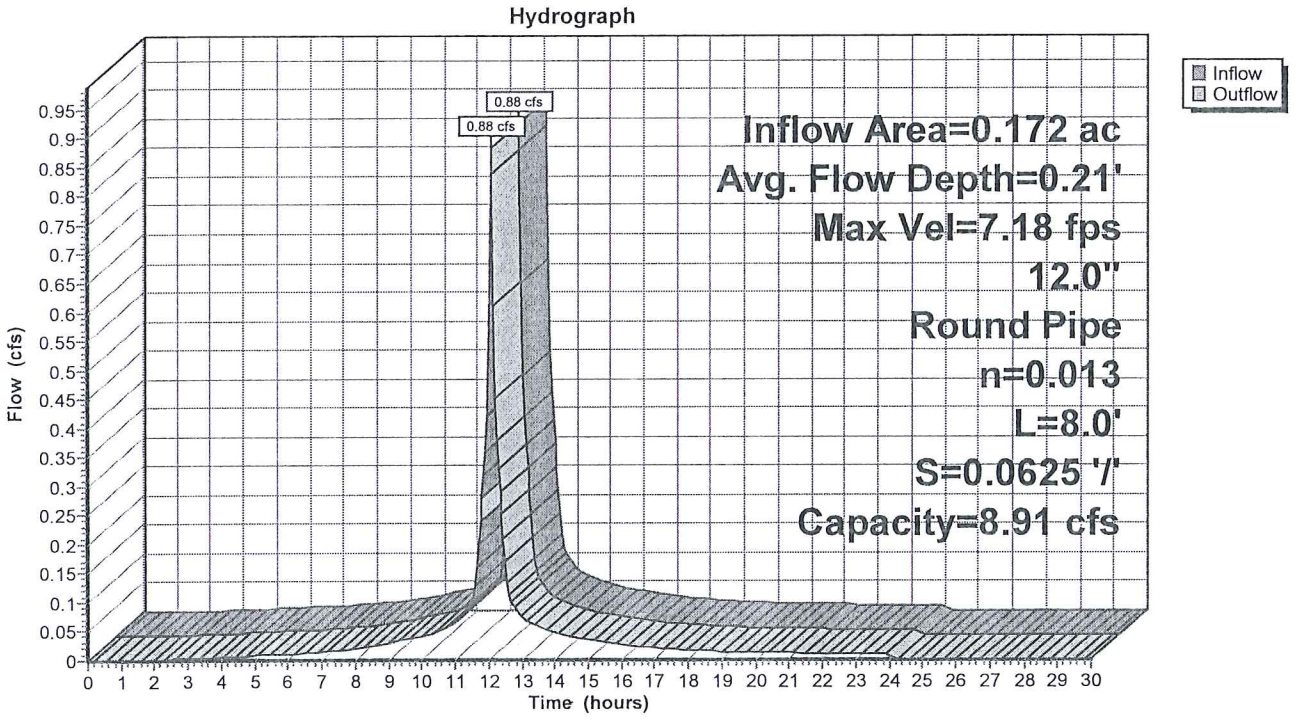
Inflow Area = 0.172 ac, 90.41% Impervious, Inflow Depth = 4.83" for 25-Year event
Inflow = 0.88 cfs @ 12.07 hrs, Volume= 0.069 af
Outflow = 0.88 cfs @ 12.07 hrs, Volume= 0.069 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.18 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.35 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.21'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.91 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 8.0' Slope= 0.0625 '/'
Inlet Invert= 1,180.50', Outlet Invert= 1,180.00'





Stage-Discharge for Reach DCB14: TO DMH#11

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.50	0.00	0.00
1,180.51	1.01	0.00
1,180.52	1.60	0.01
1,180.53	2.09	0.01
1,180.54	2.52	0.03
1,180.55	2.91	0.04
1,180.56	3.28	0.06
1,180.57	3.62	0.09
1,180.58	3.95	0.12
1,180.59	4.25	0.15
1,180.60	4.55	0.19
1,180.61	4.83	0.23
1,180.62	5.10	0.27
1,180.63	5.36	0.32
1,180.64	5.62	0.38
1,180.65	5.86	0.43
1,180.66	6.10	0.49
1,180.67	6.33	0.56
1,180.68	6.55	0.63
1,180.69	6.77	0.70
1,180.70	6.98	0.78
1,180.71	7.18	0.86
1,180.72	7.38	0.95
1,180.73	7.57	1.03
1,180.74	7.76	1.13
1,180.75	7.95	1.22
1,180.76	8.13	1.32
1,180.77	8.30	1.42
1,180.78	8.47	1.53
1,180.79	8.64	1.63
1,180.80	8.80	1.74
1,180.81	8.96	1.86
1,180.82	9.12	1.98
1,180.83	9.27	2.09
1,180.84	9.42	2.22
1,180.85	9.56	2.34
1,180.86	9.70	2.47
1,180.87	9.84	2.60
1,180.88	9.97	2.73
1,180.89	10.10	2.87
1,180.90	10.23	3.00
1,180.91	10.36	3.14
1,180.92	10.48	3.28
1,180.93	10.60	3.42
1,180.94	10.71	3.57
1,180.95	10.82	3.71
1,180.96	10.93	3.86
1,180.97	11.04	4.00
1,180.98	11.14	4.15
1,180.99	11.24	4.30
1,181.00	11.34	4.45
1,181.01	11.44	4.61
1,181.02	11.53	4.76
1,181.03	11.62	4.91
1,181.04	11.70	5.06
1,181.05	11.79	5.22
1,181.06	11.87	5.37
1,181.07	11.95	5.52
1,181.08	12.02	5.68
1,181.09	12.09	5.83
1,181.10	12.16	5.98
1,181.11	12.23	6.14
1,181.12	12.29	6.29
1,181.13	12.35	6.44
1,181.14	12.41	6.59
1,181.15	12.47	6.74
1,181.16	12.52	6.88
1,181.17	12.57	7.03
1,181.18	12.62	7.17
1,181.19	12.66	7.32
1,181.20	12.70	7.46
1,181.21	12.74	7.60
1,181.22	12.77	7.73
1,181.23	12.80	7.86
1,181.24	12.83	7.99
1,181.25	12.85	8.12
1,181.26	12.88	8.25
1,181.27	12.89	8.37
1,181.28	12.91	8.48
1,181.29	12.92	8.60
1,181.30	12.93	8.71
1,181.31	**12.93**	8.81
1,181.32	12.93	8.91
1,181.33	12.92	9.01
1,181.34	12.91	9.09
1,181.35	12.90	9.18
1,181.36	12.88	9.26
1,181.37	12.86	9.33
1,181.38	12.83	9.39
1,181.39	12.79	9.45
1,181.40	12.75	9.49
1,181.41	12.70	9.53
1,181.42	12.65	9.56
1,181.43	12.58	9.58
1,181.44	12.51	**9.58**
1,181.45	12.42	9.57
1,181.46	12.32	9.54
1,181.47	12.19	9.49
1,181.48	12.04	9.41
1,181.49	11.84	9.28
1,181.50	11.34	8.91

Summary for Reach DCB15: TO DMH#13

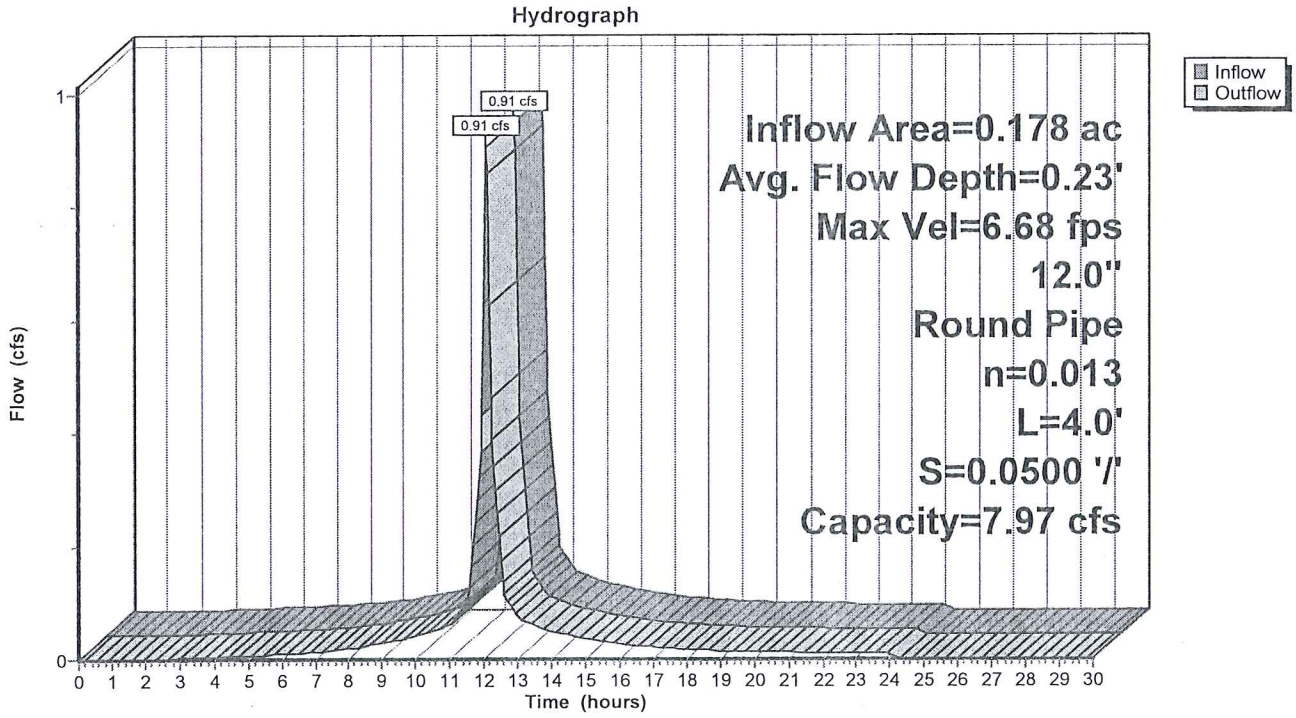
Inflow Area = 0.178 ac, 87.98% Impervious, Inflow Depth = 4.72" for 25-Year event
Inflow = 0.91 cfs @ 12.07 hrs, Volume= 0.070 af
Outflow = 0.91 cfs @ 12.07 hrs, Volume= 0.070 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.68 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.19 fps, Avg. Travel Time= 0.0 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 7.97 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 4.0' Slope= 0.0500 '/'
Inlet Invert= 1,181.80', Outlet Invert= 1,181.60'





Stage-Discharge for Reach DCB15: TO DMH#13

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,181.80	0.00	0.00
1,181.81	0.90	0.00
1,181.82	1.43	0.01
1,181.83	1.87	0.01
1,181.84	2.25	0.02
1,181.85	2.61	0.04
1,181.86	2.93	0.06
1,181.87	3.24	0.08
1,181.88	3.53	0.10
1,181.89	3.81	0.13
1,181.90	4.07	0.17
1,181.91	4.32	0.20
1,181.92	4.56	0.24
1,181.93	4.80	0.29
1,181.94	5.02	0.34
1,181.95	5.24	0.39
1,181.96	5.45	0.44
1,181.97	5.66	0.50
1,181.98	5.86	0.56
1,181.99	6.05	0.63
1,182.00	6.24	0.70
1,182.01	6.42	0.77
1,182.02	6.60	0.85
1,182.03	6.77	0.92
1,182.04	6.94	1.01
1,182.05	7.11	1.09
1,182.06	7.27	1.18
1,182.07	7.42	1.27
1,182.08	7.58	1.36
1,182.09	7.73	1.46
1,182.10	7.87	1.56
1,182.11	8.01	1.66
1,182.12	8.15	1.77
1,182.13	8.29	1.87
1,182.14	8.42	1.98
1,182.15	8.55	2.09
1,182.16	8.68	2.21
1,182.17	8.80	2.32
1,182.18	8.92	2.44
1,182.19	9.04	2.56
1,182.20	9.15	2.68
1,182.21	9.26	2.81
1,182.22	9.37	2.93
1,182.23	9.48	3.06
1,182.24	9.58	3.19
1,182.25	9.68	3.32
1,182.26	9.78	3.45
1,182.27	9.87	3.58
1,182.28	9.97	3.71
1,182.29	10.06	3.85
1,182.30	10.14	3.98
1,182.31	10.23	4.12
1,182.32	10.31	4.26
1,182.33	10.39	4.39
1,182.34	10.47	4.53
1,182.35	10.54	4.67
1,182.36	10.61	4.80
1,182.37	10.68	4.94
1,182.38	10.75	5.08
1,182.39	10.82	5.22
1,182.40	10.88	5.35
1,182.41	10.94	5.49
1,182.42	10.99	5.62
1,182.43	11.05	5.76
1,182.44	11.10	5.89
1,182.45	11.15	6.03
1,182.46	11.20	6.16
1,182.47	11.24	6.29
1,182.48	11.28	6.42
1,182.49	11.32	6.54
1,182.50	11.36	6.67
1,182.51	11.39	6.79
1,182.52	11.42	6.91
1,182.53	11.45	7.03
1,182.54	11.48	7.15
1,182.55	11.50	7.26
1,182.56	11.52	7.38
1,182.57	11.53	7.48
1,182.58	11.55	7.59
1,182.59	11.55	7.69
1,182.60	11.56	7.79
1,182.61	**11.56**	7.88
1,182.62	11.56	7.97
1,182.63	11.56	8.05
1,182.64	11.55	8.13
1,182.65	11.54	8.21
1,182.66	11.52	8.28
1,182.67	11.50	8.34
1,182.68	11.47	8.40
1,182.69	11.44	8.45
1,182.70	11.40	8.49
1,182.71	11.36	8.53
1,182.72	11.31	8.55
1,182.73	11.25	8.57
1,182.74	11.19	**8.57**
1,182.75	11.11	8.56
1,182.76	11.02	8.54
1,182.77	10.91	8.49
1,182.78	10.77	8.42
1,182.79	10.59	8.30
1,182.80	10.14	7.97

Summary for Reach DCB16: TO DMH#15

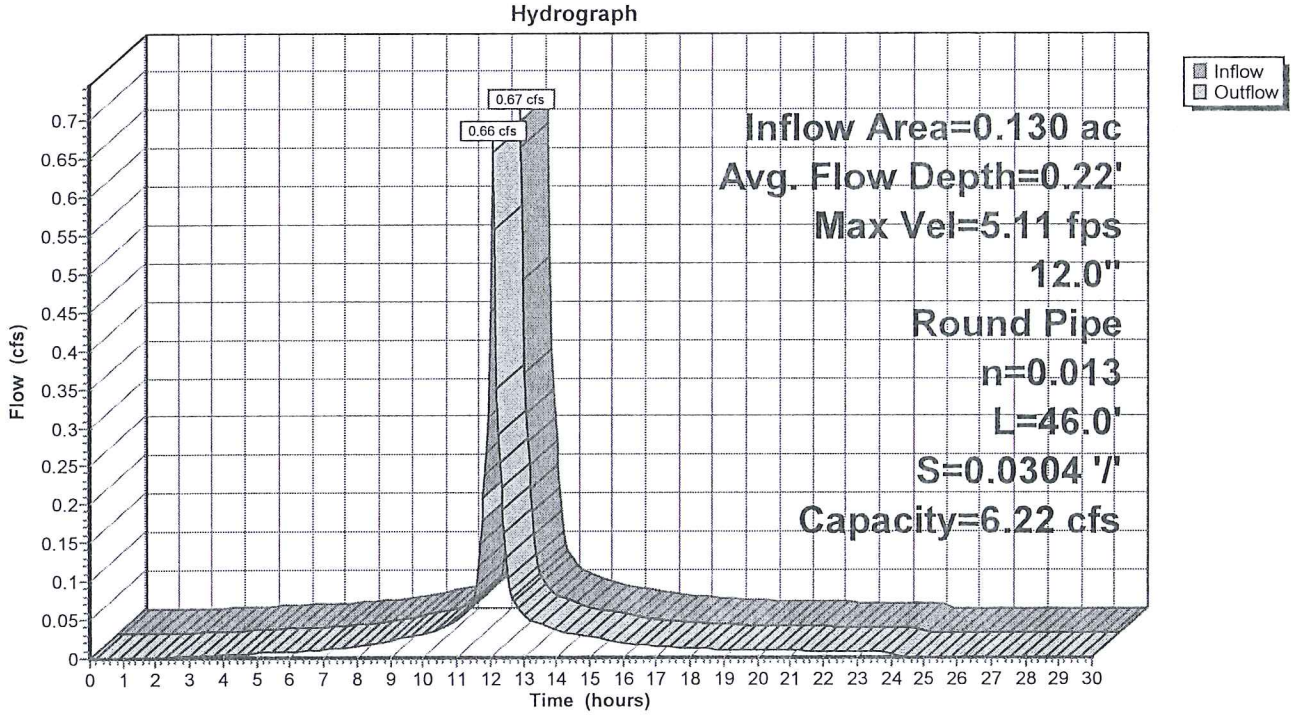
Inflow Area = 0.130 ac, 91.39% Impervious, Inflow Depth = 4.83" for 25-Year event
Inflow = 0.67 cfs @ 12.07 hrs, Volume= 0.052 af
Outflow = 0.66 cfs @ 12.08 hrs, Volume= 0.052 af, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.11 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.68 fps, Avg. Travel Time= 0.5 min

Peak Storage= 6 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.22'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.22 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 46.0' Slope= 0.0304 '/'
Inlet Invert= 1,181.70', Outlet Invert= 1,180.30'





Stage-Discharge for Reach DCB16: TO DMH#15

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,181.70	0.00	0.00
1,181.71	0.70	0.00
1,181.72	1.11	0.00
1,181.73	1.46	0.01
1,181.74	1.76	0.02
1,181.75	2.03	0.03
1,181.76	2.29	0.04
1,181.77	2.53	0.06
1,181.78	2.75	0.08
1,181.79	2.97	0.10
1,181.80	3.17	0.13
1,181.81	3.37	0.16
1,181.82	3.56	0.19
1,181.83	3.74	0.22
1,181.84	3.92	0.26
1,181.85	4.09	0.30
1,181.86	4.25	0.35
1,181.87	4.41	0.39
1,181.88	4.57	0.44
1,181.89	4.72	0.49
1,181.90	4.87	0.54
1,181.91	5.01	0.60
1,181.92	5.15	0.66
1,181.93	5.28	0.72
1,181.94	5.42	0.79
1,181.95	5.54	0.85
1,181.96	5.67	0.92
1,181.97	5.79	0.99
1,181.98	5.91	1.06
1,181.99	6.03	1.14
1,182.00	6.14	1.22
1,182.01	6.25	1.30
1,182.02	6.36	1.38
1,182.03	6.47	1.46
1,182.04	6.57	1.55
1,182.05	6.67	1.63
1,182.06	6.77	1.72
1,182.07	6.87	1.81
1,182.08	6.96	1.91
1,182.09	7.05	2.00
1,182.10	7.14	2.09
1,182.11	7.23	2.19
1,182.12	7.31	2.29
1,182.13	7.39	2.39
1,182.14	7.47	2.49
1,182.15	7.55	2.59
1,182.16	7.63	2.69
1,182.17	7.70	2.79
1,182.18	7.78	2.90
1,182.19	7.85	3.00
1,182.20	7.91	3.11
1,182.21	7.98	3.21
1,182.22	8.04	3.32
1,182.23	8.11	3.43
1,182.24	8.17	3.53
1,182.25	8.22	3.64
1,182.26	8.28	3.75
1,182.27	8.34	3.85
1,182.28	8.39	3.96
1,182.29	8.44	4.07
1,182.30	8.49	4.18
1,182.31	8.53	4.28
1,182.32	8.58	4.39
1,182.33	8.62	4.49
1,182.34	8.66	4.60
1,182.35	8.70	4.70
1,182.36	8.74	4.80
1,182.37	8.77	4.91
1,182.38	8.80	5.01
1,182.39	8.83	5.11
1,182.40	8.86	5.20
1,182.41	8.89	5.30
1,182.42	8.91	5.39
1,182.43	8.93	5.49
1,182.44	8.95	5.58
1,182.45	8.97	5.67
1,182.46	8.98	5.75
1,182.47	9.00	5.84
1,182.48	9.01	5.92
1,182.49	9.01	6.00
1,182.50	9.02	6.08
1,182.51	**9.02**	6.15
1,182.52	9.02	6.22
1,182.53	9.02	6.28
1,182.54	9.01	6.35
1,182.55	9.00	6.40
1,182.56	8.99	6.46
1,182.57	8.97	6.51
1,182.58	8.95	6.55
1,182.59	8.93	6.59
1,182.60	8.90	6.62
1,182.61	8.86	6.65
1,182.62	8.82	6.67
1,182.63	8.78	6.68
1,182.64	8.73	**6.69**
1,182.65	8.67	6.68
1,182.66	8.59	6.66
1,182.67	8.51	6.62
1,182.68	8.40	6.57
1,182.69	8.26	6.48
1,182.70	7.91	6.22

Summary for Reach DCB17: TO DMH#15

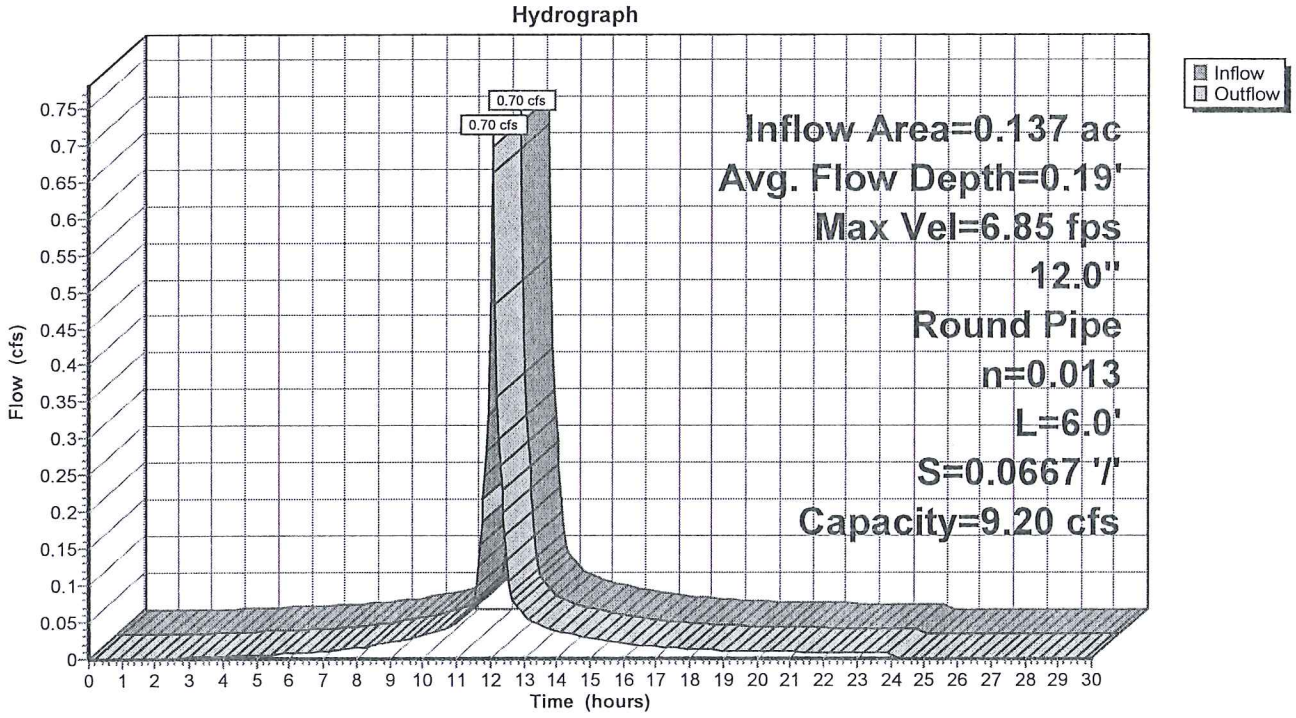
Inflow Area = 0.137 ac, 89.42% Impervious, Inflow Depth = 4.72" for 25-Year event
Inflow = 0.70 cfs @ 12.07 hrs, Volume= 0.054 af
Outflow = 0.70 cfs @ 12.07 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.85 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.24 fps, Avg. Travel Time= 0.0 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.19'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 9.20 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 6.0' Slope= 0.0667 '/'
Inlet Invert= 1,180.80', Outlet Invert= 1,180.40'





Stage-Discharge for Reach DCB17: TO DMH#15

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.80	0.00	0.00
1,180.81	1.04	0.00
1,180.82	1.65	0.01
1,180.83	2.15	0.01
1,180.84	2.60	0.03
1,180.85	3.01	0.04
1,180.86	3.39	0.07
1,180.87	3.74	0.09
1,180.88	4.08	0.12
1,180.89	4.39	0.15
1,180.90	4.70	0.19
1,180.91	4.99	0.23
1,180.92	5.27	0.28
1,180.93	5.54	0.33
1,180.94	5.80	0.39
1,180.95	6.05	0.45
1,180.96	6.30	0.51
1,180.97	6.53	0.58
1,180.98	6.76	0.65
1,180.99	6.99	0.73
1,181.00	7.20	0.81
1,181.01	7.42	0.89
1,181.02	7.62	0.98
1,181.03	7.82	1.07
1,181.04	8.02	1.16
1,181.05	8.21	1.26
1,181.06	8.39	1.36
1,181.07	8.57	1.47
1,181.08	8.75	1.58
1,181.09	8.92	1.69
1,181.10	9.09	1.80
1,181.11	9.25	1.92
1,181.12	9.42	2.04
1,181.13	9.57	2.16
1,181.14	9.72	2.29
1,181.15	9.87	2.42
1,181.16	10.02	2.55
1,181.17	10.16	2.68
1,181.18	10.30	2.82
1,181.19	10.43	2.96
1,181.20	10.57	3.10
1,181.21	10.70	3.24
1,181.22	10.82	3.39
1,181.23	10.94	3.53
1,181.24	11.06	3.68
1,181.25	11.18	3.83
1,181.26	11.29	3.98
1,181.27	11.40	4.14
1,181.28	11.51	4.29
1,181.29	11.61	4.44
1,181.30	11.71	4.60
1,181.31	11.81	4.76
1,181.32	11.91	4.91
1,181.33	12.00	5.07
1,181.34	12.09	5.23
1,181.35	12.17	5.39
1,181.36	12.26	5.55
1,181.37	12.34	5.71
1,181.38	12.41	5.86
1,181.39	12.49	6.02
1,181.40	12.56	6.18
1,181.41	12.63	6.34
1,181.42	12.70	6.49
1,181.43	12.76	6.65
1,181.44	12.82	6.80
1,181.45	12.88	6.96
1,181.46	12.93	7.11
1,181.47	12.98	7.26
1,181.48	13.03	7.41
1,181.49	13.07	7.56
1,181.50	13.12	7.70
1,181.51	13.15	7.84
1,181.52	13.19	7.98
1,181.53	13.22	8.12
1,181.54	13.25	8.26
1,181.55	13.28	8.39
1,181.56	13.30	8.52
1,181.57	13.32	8.64
1,181.58	13.33	8.76
1,181.59	13.34	8.88
1,181.60	13.35	8.99
1,181.61	**13.35**	9.10
1,181.62	13.35	9.20
1,181.63	13.35	9.30
1,181.64	13.34	9.39
1,181.65	13.32	9.48
1,181.66	13.30	9.56
1,181.67	13.28	9.63
1,181.68	13.25	9.70
1,181.69	13.21	9.76
1,181.70	13.17	9.80
1,181.71	13.12	9.84
1,181.72	13.06	9.87
1,181.73	12.99	9.89
1,181.74	12.92	**9.90**
1,181.75	12.83	9.88
1,181.76	12.72	9.86
1,181.77	12.59	9.80
1,181.78	12.44	9.72
1,181.79	12.22	9.59
1,181.80	11.71	9.20

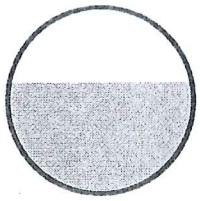
Summary for Reach DCB18: TO DMH#15

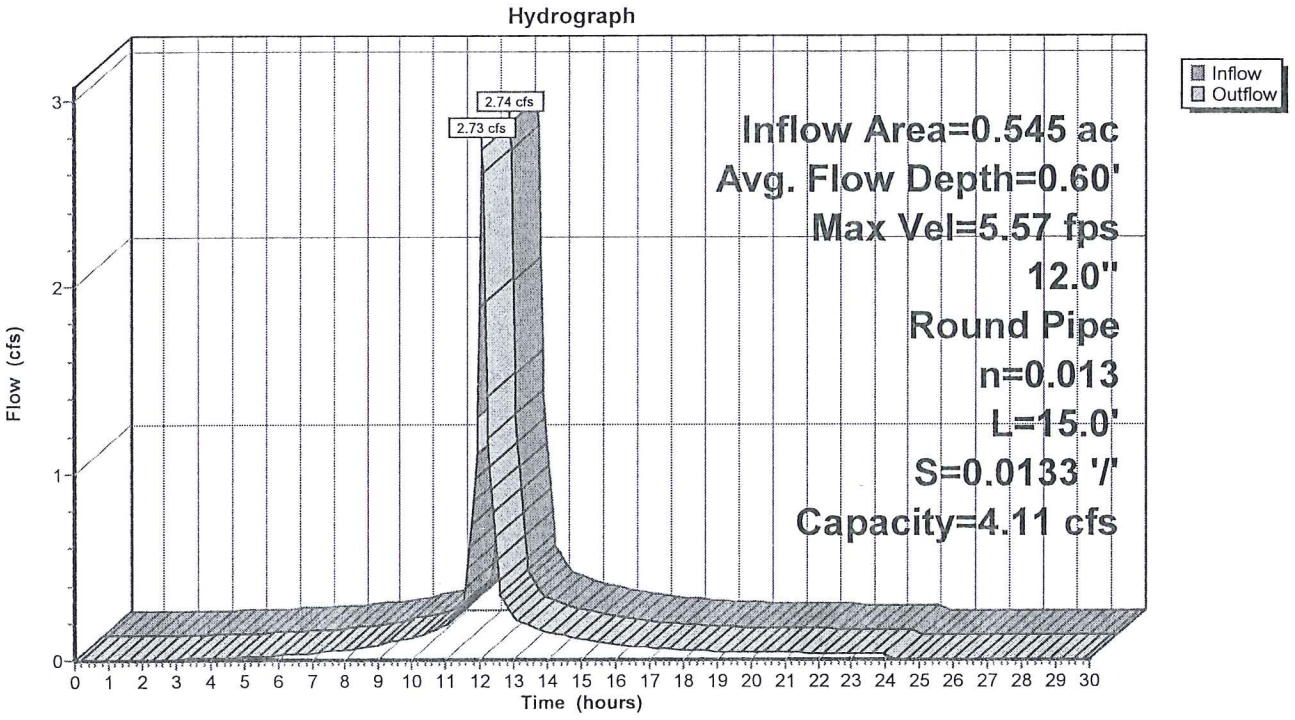
Inflow Area = 0.545 ac, 84.68% Impervious, Inflow Depth = 4.60" for 25-Year event
Inflow = 2.74 cfs @ 12.07 hrs, Volume= 0.209 af
Outflow = 2.73 cfs @ 12.07 hrs, Volume= 0.209 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.57 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.91 fps, Avg. Travel Time= 0.1 min

Peak Storage= 7 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.60'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.11 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 15.0' Slope= 0.0133 '/'
Inlet Invert= 1,180.50', Outlet Invert= 1,180.30'





Stage-Discharge for Reach DCB18: TO DMH#15

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.50	0.00	0.00
1,180.51	0.47	0.00
1,180.52	0.74	0.00
1,180.53	0.96	0.01
1,180.54	1.16	0.01
1,180.55	1.35	0.02
1,180.56	1.51	0.03
1,180.57	1.67	0.04
1,180.58	1.82	0.05
1,180.59	1.97	0.07
1,180.60	2.10	0.09
1,180.61	2.23	0.10
1,180.62	2.36	0.13
1,180.63	2.48	0.15
1,180.64	2.59	0.17
1,180.65	2.71	0.20
1,180.66	2.82	0.23
1,180.67	2.92	0.26
1,180.68	3.02	0.29
1,180.69	3.12	0.32
1,180.70	3.22	0.36
1,180.71	3.32	0.40
1,180.72	3.41	0.44
1,180.73	3.50	0.48
1,180.74	3.59	0.52
1,180.75	3.67	0.56
1,180.76	3.75	0.61
1,180.77	3.83	0.66
1,180.78	3.91	0.70
1,180.79	3.99	0.75
1,180.80	4.07	0.81
1,180.81	4.14	0.86
1,180.82	4.21	0.91
1,180.83	4.28	0.97
1,180.84	4.35	1.02
1,180.85	4.42	1.08
1,180.86	4.48	1.14
1,180.87	4.54	1.20
1,180.88	4.61	1.26
1,180.89	4.67	1.32
1,180.90	4.73	1.39
1,180.91	4.78	1.45
1,180.92	4.84	1.51
1,180.93	4.89	1.58
1,180.94	4.95	1.65
1,180.95	5.00	1.71
1,180.96	5.05	1.78
1,180.97	5.10	1.85
1,180.98	5.15	1.92
1,180.99	5.19	1.99
1,181.00	5.24	2.06
1,181.01	5.28	2.13
1,181.02	5.32	2.20
1,181.03	5.37	2.27
1,181.04	5.41	2.34
1,181.05	5.44	2.41
1,181.06	5.48	2.48
1,181.07	5.52	2.55
1,181.08	5.55	2.62
1,181.09	5.59	2.69
1,181.10	5.62	2.76
1,181.11	5.65	2.83
1,181.12	5.68	2.90
1,181.13	5.71	2.97
1,181.14	5.73	3.04
1,181.15	5.76	3.11
1,181.16	5.78	3.18
1,181.17	5.81	3.25
1,181.18	5.83	3.31
1,181.19	5.85	3.38
1,181.20	5.87	3.44
1,181.21	5.88	3.51
1,181.22	5.90	3.57
1,181.23	5.91	3.63
1,181.24	5.93	3.69
1,181.25	5.94	3.75
1,181.26	5.95	3.81
1,181.27	5.96	3.86
1,181.28	5.96	3.92
1,181.29	5.97	3.97
1,181.30	5.97	4.02
1,181.31	**5.97**	4.07
1,181.32	5.97	4.12
1,181.33	5.97	4.16
1,181.34	5.96	4.20
1,181.35	5.96	4.24
1,181.36	5.95	4.27
1,181.37	5.94	4.31
1,181.38	5.92	4.34
1,181.39	5.91	4.36
1,181.40	5.89	4.38
1,181.41	5.87	4.40
1,181.42	5.84	4.42
1,181.43	5.81	4.42
1,181.44	5.78	**4.43**
1,181.45	5.74	4.42
1,181.46	5.69	4.41
1,181.47	5.63	4.38
1,181.48	5.56	4.35
1,181.49	5.47	4.29
1,181.50	5.24	4.11

Summary for Reach DCB19: TO DMH#16

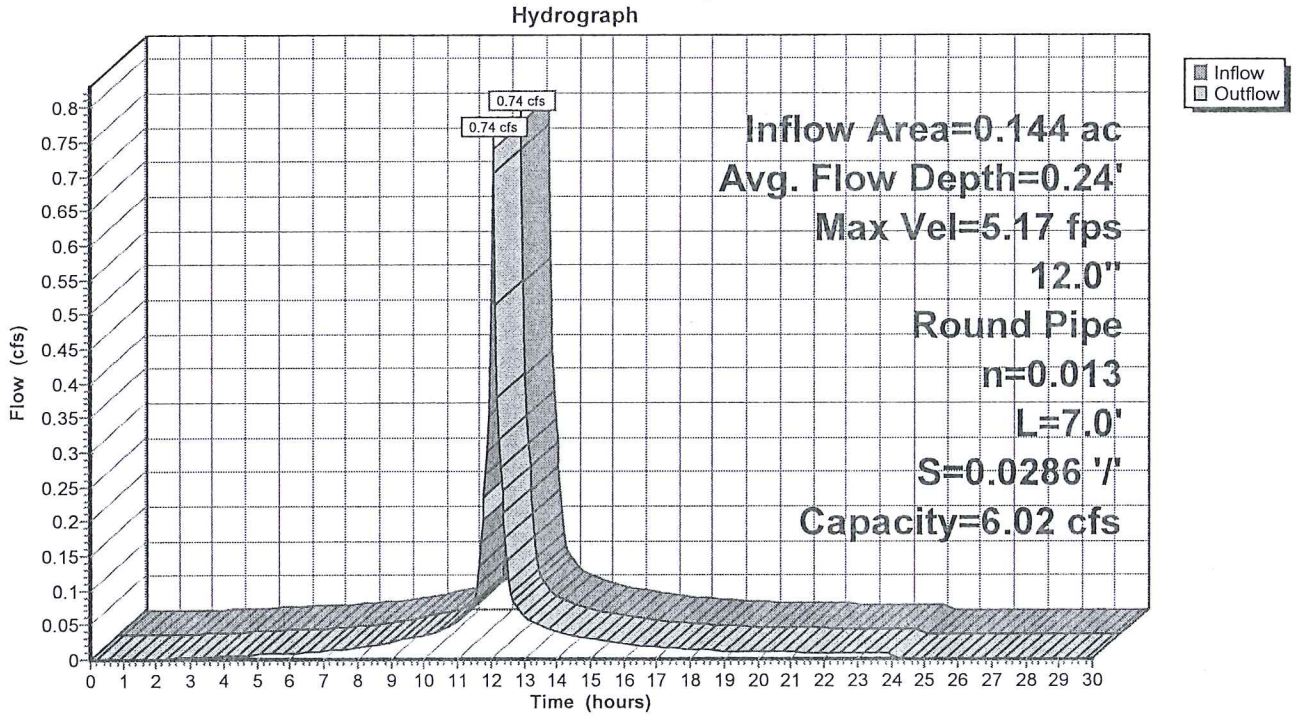
Inflow Area = 0.144 ac, 89.61% Impervious, Inflow Depth = 4.83" for 25-Year event
Inflow = 0.74 cfs @ 12.07 hrs, Volume= 0.058 af
Outflow = 0.74 cfs @ 12.07 hrs, Volume= 0.058 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.17 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.69 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.24'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.02 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 7.0' Slope= 0.0286 '/'
Inlet Invert= 1,181.50', Outlet Invert= 1,181.30'





Stage-Discharge for Reach DCB19: TO DMH#16

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,181.50	0.00	0.00
1,181.51	0.68	0.00
1,181.52	1.08	0.00
1,181.53	1.41	0.01
1,181.54	1.70	0.02
1,181.55	1.97	0.03
1,181.56	2.22	0.04
1,181.57	2.45	0.06
1,181.58	2.67	0.08
1,181.59	2.88	0.10
1,181.60	3.08	0.13
1,181.61	3.27	0.15
1,181.62	3.45	0.18
1,181.63	3.63	0.22
1,181.64	3.80	0.25
1,181.65	3.96	0.29
1,181.66	4.12	0.33
1,181.67	4.28	0.38
1,181.68	4.43	0.43
1,181.69	4.57	0.48
1,181.70	4.72	0.53
1,181.71	4.85	0.58
1,181.72	4.99	0.64
1,181.73	5.12	0.70
1,181.74	5.25	0.76
1,181.75	5.37	0.82
1,181.76	5.49	0.89
1,181.77	5.61	0.96
1,181.78	5.73	1.03
1,181.79	5.84	1.10
1,181.80	5.95	1.18
1,181.81	6.06	1.26
1,181.82	6.16	1.34
1,181.83	6.27	1.42
1,181.84	6.37	1.50
1,181.85	6.46	1.58
1,181.86	6.56	1.67
1,181.87	6.65	1.76
1,181.88	6.74	1.85
1,181.89	6.83	1.94
1,181.90	6.92	2.03
1,181.91	7.00	2.12
1,181.92	7.08	2.22
1,181.93	7.16	2.31
1,181.94	7.24	2.41
1,181.95	7.32	2.51
1,181.96	7.39	2.61
1,181.97	7.46	2.71
1,181.98	7.53	2.81
1,181.99	7.60	2.91
1,182.00	7.67	3.01
1,182.01	7.73	3.11
1,182.02	7.79	3.22
1,182.03	7.85	3.32
1,182.04	7.91	3.42
1,182.05	7.97	3.53
1,182.06	8.02	3.63
1,182.07	8.08	3.74
1,182.08	8.13	3.84
1,182.09	8.18	3.94
1,182.10	8.22	4.05
1,182.11	8.27	4.15
1,182.12	8.31	4.25
1,182.13	8.35	4.35
1,182.14	8.39	4.45
1,182.15	8.43	4.56
1,182.16	8.46	4.65
1,182.17	8.50	4.75
1,182.18	8.53	4.85
1,182.19	8.56	4.95
1,182.20	8.59	5.04
1,182.21	8.61	5.14
1,182.22	8.63	5.23
1,182.23	8.66	5.32
1,182.24	8.67	5.41
1,182.25	8.69	5.49
1,182.26	8.71	5.58
1,182.27	8.72	5.66
1,182.28	8.73	5.74
1,182.29	8.73	5.81
1,182.30	8.74	5.89
1,182.31	**8.74**	5.96
1,182.32	8.74	6.02
1,182.33	8.74	6.09
1,182.34	8.73	6.15
1,182.35	8.72	6.21
1,182.36	8.71	6.26
1,182.37	8.69	6.31
1,182.38	8.67	6.35
1,182.39	8.65	6.39
1,182.40	8.62	6.42
1,182.41	8.59	6.44
1,182.42	8.55	6.46
1,182.43	8.51	6.48
1,182.44	8.46	**6.48**
1,182.45	8.40	6.47
1,182.46	8.33	6.45
1,182.47	8.24	6.42
1,182.48	8.14	6.36
1,182.49	8.00	6.27
1,182.50	7.67	6.02

Summary for Reach DCB2: TO DMH#1

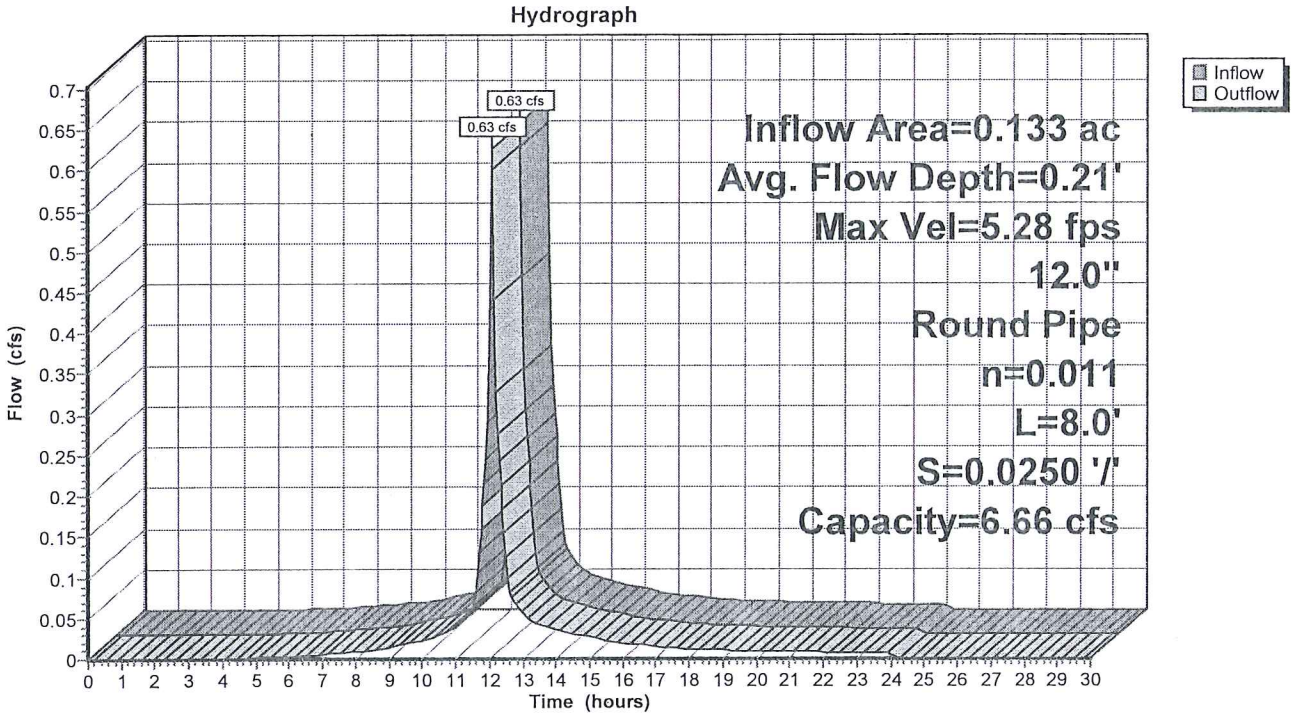
Inflow Area = 0.133 ac, 68.40% Impervious, Inflow Depth = 4.17" for 25-Year event
Inflow = 0.63 cfs @ 12.07 hrs, Volume= 0.046 af
Outflow = 0.63 cfs @ 12.07 hrs, Volume= 0.046 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.28 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.74 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.21'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.66 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 8.0' Slope= 0.0250 '/'
Inlet Invert= 1,175.50', Outlet Invert= 1,175.30'





Stage-Discharge for Reach DCB2: TO DMH#1

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.50	0.00	0.00
1,175.51	0.75	0.00
1,175.52	1.19	0.00
1,175.53	1.56	0.01
1,175.54	1.88	0.02
1,175.55	2.18	0.03
1,175.56	2.45	0.05
1,175.57	2.71	0.07
1,175.58	2.95	0.09
1,175.59	3.18	0.11
1,175.60	3.40	0.14
1,175.61	3.61	0.17
1,175.62	3.81	0.20
1,175.63	4.01	0.24
1,175.64	4.20	0.28
1,175.65	4.38	0.32
1,175.66	4.56	0.37
1,175.67	4.73	0.42
1,175.68	4.89	0.47
1,175.69	5.06	0.53
1,175.70	5.21	0.58
1,175.71	5.37	0.64
1,175.72	5.52	0.71
1,175.73	5.66	0.77
1,175.74	5.80	0.84
1,175.75	5.94	0.91
1,175.76	6.07	0.99
1,175.77	6.20	1.06
1,175.78	6.33	1.14
1,175.79	6.46	1.22
1,175.80	6.58	1.30
1,175.81	6.70	1.39
1,175.82	6.81	1.48
1,175.83	6.93	1.57
1,175.84	7.04	1.66
1,175.85	7.15	1.75
1,175.86	7.25	1.85
1,175.87	7.35	1.94
1,175.88	7.45	2.04
1,175.89	7.55	2.14
1,175.90	7.65	2.24
1,175.91	7.74	2.35
1,175.92	7.83	2.45
1,175.93	7.92	2.56
1,175.94	8.01	2.66
1,175.95	8.09	2.77
1,175.96	8.17	2.88
1,175.97	8.25	2.99
1,175.98	8.33	3.10
1,175.99	8.40	3.22
1,176.00	8.48	3.33
1,176.01	8.55	3.44
1,176.02	8.62	3.56
1,176.03	8.68	3.67
1,176.04	8.75	3.78
1,176.05	8.81	3.90
1,176.06	8.87	4.01
1,176.07	8.93	4.13
1,176.08	8.98	4.24
1,176.09	9.04	4.36
1,176.10	9.09	4.47
1,176.11	9.14	4.59
1,176.12	9.19	4.70
1,176.13	9.23	4.81
1,176.14	9.28	4.92
1,176.15	9.32	5.04
1,176.16	9.36	5.15
1,176.17	9.39	5.25
1,176.18	9.43	5.36
1,176.19	9.46	5.47
1,176.20	9.49	5.57
1,176.21	9.52	5.68
1,176.22	9.55	5.78
1,176.23	9.57	5.88
1,176.24	9.59	5.98
1,176.25	9.61	6.07
1,176.26	9.62	6.16
1,176.27	9.64	6.25
1,176.28	9.65	6.34
1,176.29	9.66	6.43
1,176.30	9.66	6.51
1,176.31	**9.66**	6.59
1,176.32	9.66	6.66
1,176.33	9.66	6.73
1,176.34	9.65	6.80
1,176.35	9.64	6.86
1,176.36	9.63	6.92
1,176.37	9.61	6.97
1,176.38	9.59	7.02
1,176.39	9.56	7.06
1,176.40	9.53	7.10
1,176.41	9.49	7.12
1,176.42	9.45	7.15
1,176.43	9.40	7.16
1,176.44	9.35	**7.16**
1,176.45	9.28	7.15
1,176.46	9.21	7.13
1,176.47	9.11	7.10
1,176.48	9.00	7.03
1,176.49	8.85	6.94
1,176.50	8.48	6.66

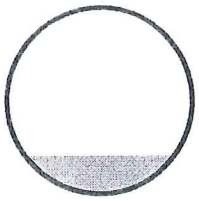
Summary for Reach DCB20: TO DMH#18

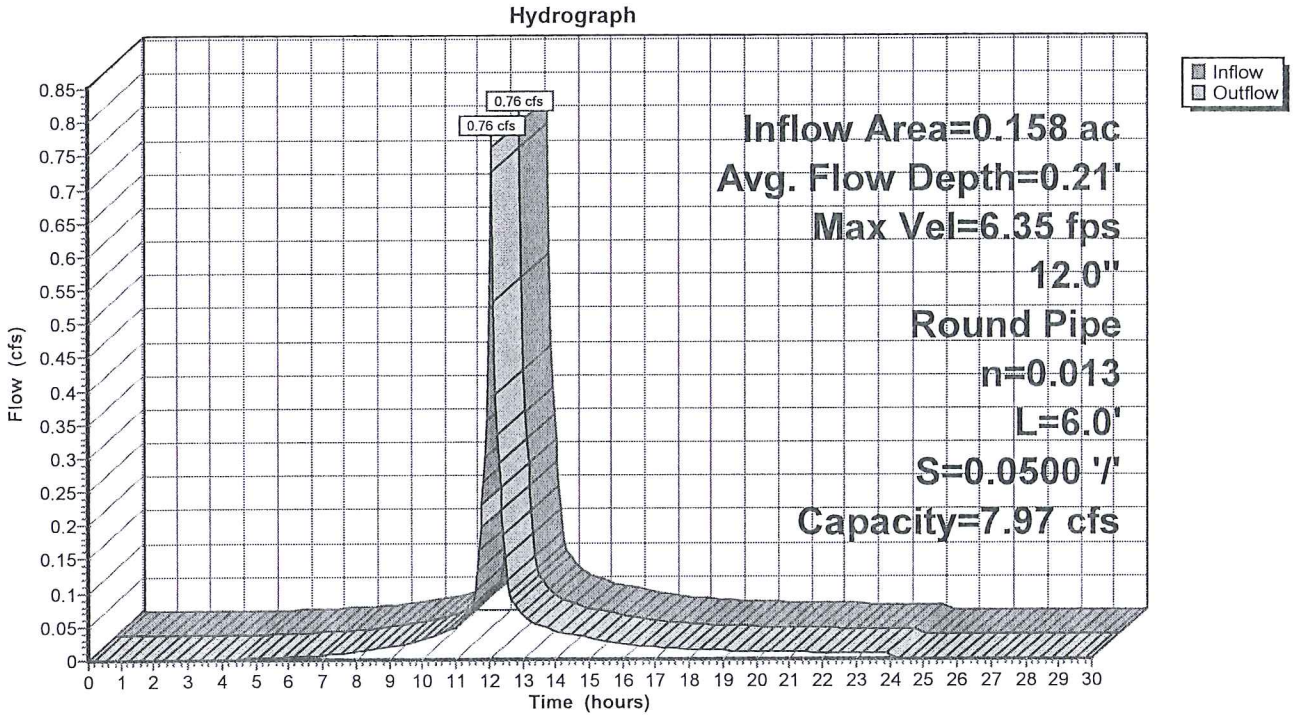
Inflow Area = 0.158 ac, 72.11% Impervious, Inflow Depth = 4.27" for 25-Year event
Inflow = 0.76 cfs @ 12.07 hrs, Volume= 0.056 af
Outflow = 0.76 cfs @ 12.07 hrs, Volume= 0.056 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.35 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.09 fps, Avg. Travel Time= 0.0 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.21'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 7.97 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 6.0' Slope= 0.0500 '/'
Inlet Invert= 1,179.60', Outlet Invert= 1,179.30'





Stage-Discharge for Reach DCB20: TO DMH#18

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.60	0.00	0.00
1,179.61	0.90	0.00
1,179.62	1.43	0.01
1,179.63	1.87	0.01
1,179.64	2.25	0.02
1,179.65	2.61	0.04
1,179.66	2.93	0.06
1,179.67	3.24	0.08
1,179.68	3.53	0.10
1,179.69	3.81	0.13
1,179.70	4.07	0.17
1,179.71	4.32	0.20
1,179.72	4.56	0.24
1,179.73	4.80	0.29
1,179.74	5.02	0.34
1,179.75	5.24	0.39
1,179.76	5.45	0.44
1,179.77	5.66	0.50
1,179.78	5.86	0.56
1,179.79	6.05	0.63
1,179.80	6.24	0.70
1,179.81	6.42	0.77
1,179.82	6.60	0.85
1,179.83	6.77	0.92
1,179.84	6.94	1.01
1,179.85	7.11	1.09
1,179.86	7.27	1.18
1,179.87	7.42	1.27
1,179.88	7.58	1.36
1,179.89	7.73	1.46
1,179.90	7.87	1.56
1,179.91	8.01	1.66
1,179.92	8.15	1.77
1,179.93	8.29	1.87
1,179.94	8.42	1.98
1,179.95	8.55	2.09
1,179.96	8.68	2.21
1,179.97	8.80	2.32
1,179.98	8.92	2.44
1,179.99	9.04	2.56
1,180.00	9.15	2.68
1,180.01	9.26	2.81
1,180.02	9.37	2.93
1,180.03	9.48	3.06
1,180.04	9.58	3.19
1,180.05	9.68	3.32
1,180.06	9.78	3.45
1,180.07	9.87	3.58
1,180.08	9.97	3.71
1,180.09	10.06	3.85
1,180.10	10.14	3.98
1,180.11	10.23	4.12
1,180.12	10.31	4.26
1,180.13	10.39	4.39
1,180.14	10.47	4.53
1,180.15	10.54	4.67
1,180.16	10.61	4.80
1,180.17	10.68	4.94
1,180.18	10.75	5.08
1,180.19	10.82	5.22
1,180.20	10.88	5.35
1,180.21	10.94	5.49
1,180.22	10.99	5.62
1,180.23	11.05	5.76
1,180.24	11.10	5.89
1,180.25	11.15	6.03
1,180.26	11.20	6.16
1,180.27	11.24	6.29
1,180.28	11.28	6.42
1,180.29	11.32	6.54
1,180.30	11.36	6.67
1,180.31	11.39	6.79
1,180.32	11.42	6.91
1,180.33	11.45	7.03
1,180.34	11.48	7.15
1,180.35	11.50	7.26
1,180.36	11.52	7.38
1,180.37	11.53	7.48
1,180.38	11.55	7.59
1,180.39	11.55	7.69
1,180.40	11.56	7.79
1,180.41	**11.56**	7.88
1,180.42	11.56	7.97
1,180.43	11.56	8.05
1,180.44	11.55	8.13
1,180.45	11.54	8.21
1,180.46	11.52	8.28
1,180.47	11.50	8.34
1,180.48	11.47	8.40
1,180.49	11.44	8.45
1,180.50	11.40	8.49
1,180.51	11.36	8.53
1,180.52	11.31	8.55
1,180.53	11.25	8.57
1,180.54	11.19	**8.57**
1,180.55	11.11	8.56
1,180.56	11.02	8.54
1,180.57	10.91	8.49
1,180.58	10.77	8.42
1,180.59	10.59	8.30
1,180.60	10.14	7.97

Summary for Reach DCB21: TO DMH#18

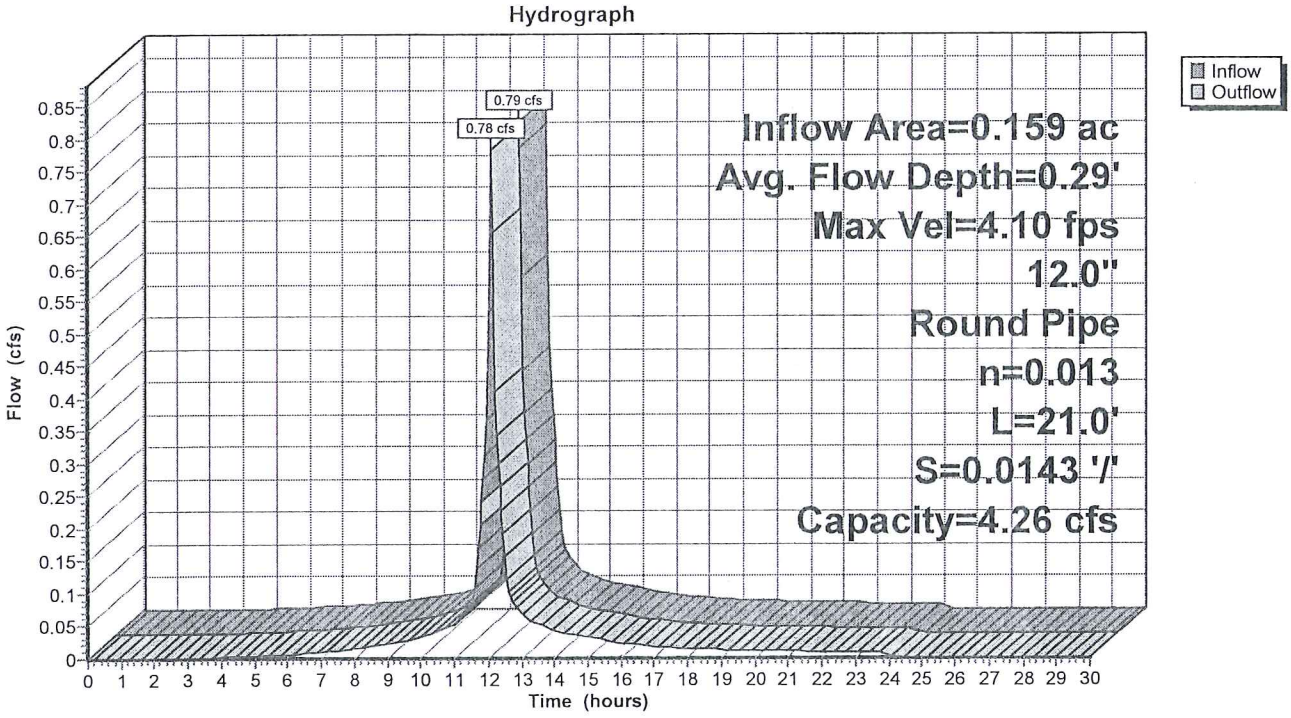
Inflow Area = 0.159 ac, 80.93% Impervious, Inflow Depth = 4.49" for 25-Year event
Inflow = 0.79 cfs @ 12.07 hrs, Volume= 0.059 af
Outflow = 0.78 cfs @ 12.07 hrs, Volume= 0.059 af, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.10 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.35 fps, Avg. Travel Time= 0.3 min

Peak Storage= 4 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.29'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.26 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 21.0' Slope= 0.0143 '/'
Inlet Invert= 1,179.60', Outlet Invert= 1,179.30'





Stage-Discharge for Reach DCB21: TO DMH#18

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.60	0.00	0.00
1,179.61	0.48	0.00
1,179.62	0.76	0.00
1,179.63	1.00	0.01
1,179.64	1.20	0.01
1,179.65	1.39	0.02
1,179.66	1.57	0.03
1,179.67	1.73	0.04
1,179.68	1.89	0.06
1,179.69	2.03	0.07
1,179.70	2.18	0.09
1,179.71	2.31	0.11
1,179.72	2.44	0.13
1,179.73	2.56	0.15
1,179.74	2.69	0.18
1,179.75	2.80	0.21
1,179.76	2.92	0.24
1,179.77	3.02	0.27
1,179.78	3.13	0.30
1,179.79	3.23	0.34
1,179.80	3.33	0.37
1,179.81	3.43	0.41
1,179.82	3.53	0.45
1,179.83	3.62	0.49
1,179.84	3.71	0.54
1,179.85	3.80	0.58
1,179.86	3.88	0.63
1,179.87	3.97	0.68
1,179.88	4.05	0.73
1,179.89	4.13	0.78
1,179.90	4.21	0.83
1,179.91	4.28	0.89
1,179.92	4.36	0.94
1,179.93	4.43	1.00
1,179.94	4.50	1.06
1,179.95	4.57	1.12
1,179.96	4.64	1.18
1,179.97	4.70	1.24
1,179.98	4.77	1.31
1,179.99	4.83	1.37
1,180.00	4.89	1.44
1,180.01	4.95	1.50
1,180.02	5.01	1.57
1,180.03	5.07	1.64
1,180.04	5.12	1.70
1,180.05	5.17	1.77
1,180.06	5.23	1.84
1,180.07	5.28	1.91
1,180.08	5.33	1.99
1,180.09	5.38	2.06
1,180.10	5.42	2.13
1,180.11	5.47	2.20
1,180.12	5.51	2.27
1,180.13	5.55	2.35
1,180.14	5.60	2.42
1,180.15	5.64	2.49
1,180.16	5.67	2.57
1,180.17	5.71	2.64
1,180.18	5.75	2.71
1,180.19	5.78	2.79
1,180.20	5.81	2.86
1,180.21	5.85	2.93
1,180.22	5.88	3.01
1,180.23	5.91	3.08
1,180.24	5.93	3.15
1,180.25	5.96	3.22
1,180.26	5.99	3.29
1,180.27	6.01	3.36
1,180.28	6.03	3.43
1,180.29	6.05	3.50
1,180.30	6.07	3.57
1,180.31	6.09	3.63
1,180.32	6.11	3.70
1,180.33	6.12	3.76
1,180.34	6.13	3.82
1,180.35	6.15	3.88
1,180.36	6.16	3.94
1,180.37	6.16	4.00
1,180.38	6.17	4.06
1,180.39	6.18	4.11
1,180.40	6.18	4.16
1,180.41	**6.18**	4.21
1,180.42	6.18	4.26
1,180.43	6.18	4.31
1,180.44	6.17	4.35
1,180.45	6.17	4.39
1,180.46	6.16	4.42
1,180.47	6.15	4.46
1,180.48	6.13	4.49
1,180.49	6.12	4.52
1,180.50	6.10	4.54
1,180.51	6.07	4.56
1,180.52	6.05	4.57
1,180.53	6.01	4.58
1,180.54	5.98	**4.58**
1,180.55	5.94	4.58
1,180.56	5.89	4.56
1,180.57	5.83	4.54
1,180.58	5.76	4.50
1,180.59	5.66	4.44
1,180.60	5.42	4.26

Summary for Reach DCB22: TO DMH#19

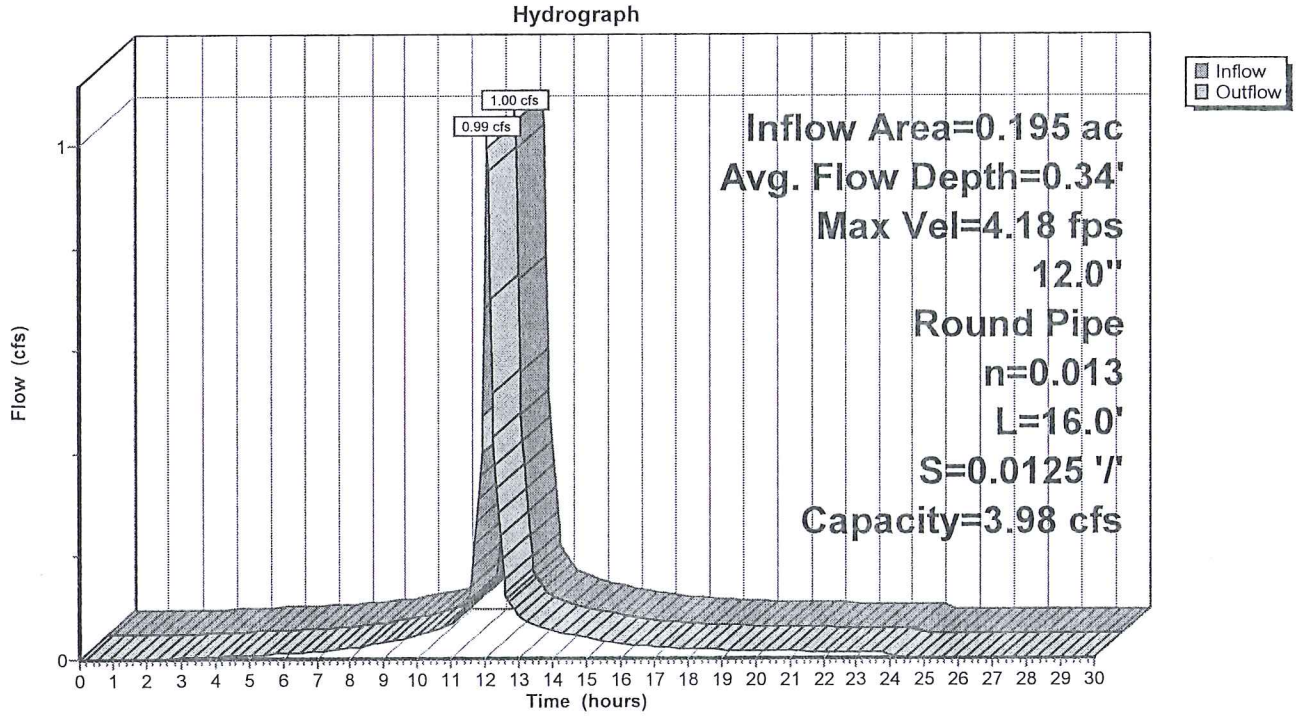
Inflow Area = 0.195 ac, 87.17% Impervious, Inflow Depth = 4.72" for 25-Year event
Inflow = 1.00 cfs @ 12.07 hrs, Volume= 0.077 af
Outflow = 0.99 cfs @ 12.07 hrs, Volume= 0.077 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.18 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.38 fps, Avg. Travel Time= 0.2 min

Peak Storage= 4 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.34'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.98 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 16.0' Slope= 0.0125 '/'
Inlet Invert= 1,178.50', Outlet Invert= 1,178.30'





Stage-Discharge for Reach DCB22: TO DMH#19

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.50	0.00	0.00
1,178.51	0.45	0.00
1,178.52	0.71	0.00
1,178.53	0.93	0.01
1,178.54	1.13	0.01
1,178.55	1.30	0.02
1,178.56	1.47	0.03
1,178.57	1.62	0.04
1,178.58	1.77	0.05
1,178.59	1.90	0.07
1,178.60	2.03	0.08
1,178.61	2.16	0.10
1,178.62	2.28	0.12
1,178.63	2.40	0.14
1,178.64	2.51	0.17
1,178.65	2.62	0.19
1,178.66	2.73	0.22
1,178.67	2.83	0.25
1,178.68	2.93	0.28
1,178.69	3.03	0.31
1,178.70	3.12	0.35
1,178.71	3.21	0.38
1,178.72	3.30	0.42
1,178.73	3.39	0.46
1,178.74	3.47	0.50
1,178.75	3.55	0.55
1,178.76	3.63	0.59
1,178.77	3.71	0.64
1,178.78	3.79	0.68
1,178.79	3.86	0.73
1,178.80	3.94	0.78
1,178.81	4.01	0.83
1,178.82	4.08	0.88
1,178.83	4.14	0.94
1,178.84	4.21	0.99
1,178.85	4.28	1.05
1,178.86	4.34	1.10
1,178.87	4.40	1.16
1,178.88	4.46	1.22
1,178.89	4.52	1.28
1,178.90	4.58	1.34
1,178.91	4.63	1.40
1,178.92	4.69	1.47
1,178.93	4.74	1.53
1,178.94	4.79	1.59
1,178.95	4.84	1.66
1,178.96	4.89	1.72
1,178.97	4.94	1.79
1,178.98	4.98	1.86
1,178.99	5.03	1.92
1,179.00	5.07	1.99
1,179.01	5.11	2.06
1,179.02	5.16	2.13
1,179.03	5.20	2.20
1,179.04	5.23	2.26
1,179.05	5.27	2.33
1,179.06	5.31	2.40
1,179.07	5.34	2.47
1,179.08	5.38	2.54
1,179.09	5.41	2.61
1,179.10	5.44	2.68
1,179.11	5.47	2.74
1,179.12	5.50	2.81
1,179.13	5.52	2.88
1,179.14	5.55	2.95
1,179.15	5.58	3.01
1,179.16	5.60	3.08
1,179.17	5.62	3.14
1,179.18	5.64	3.21
1,179.19	5.66	3.27
1,179.20	5.68	3.33
1,179.21	5.70	3.40
1,179.22	5.71	3.46
1,179.23	5.73	3.52
1,179.24	5.74	3.58
1,179.25	5.75	3.63
1,179.26	5.76	3.69
1,179.27	5.77	3.74
1,179.28	5.77	3.79
1,179.29	5.78	3.84
1,179.30	5.78	3.89
1,179.31	**5.78**	3.94
1,179.32	5.78	3.98
1,179.33	5.78	4.03
1,179.34	5.77	4.07
1,179.35	5.77	4.10
1,179.36	5.76	4.14
1,179.37	5.75	4.17
1,179.38	5.74	4.20
1,179.39	5.72	4.22
1,179.40	5.70	4.25
1,179.41	5.68	4.26
1,179.42	5.66	4.28
1,179.43	5.63	4.28
1,179.44	5.59	**4.28**
1,179.45	5.55	4.28
1,179.46	5.51	4.27
1,179.47	5.45	4.25
1,179.48	5.38	4.21
1,179.49	5.29	4.15
1,179.50	5.07	3.98

Summary for Reach DCB23: TO DMH#19

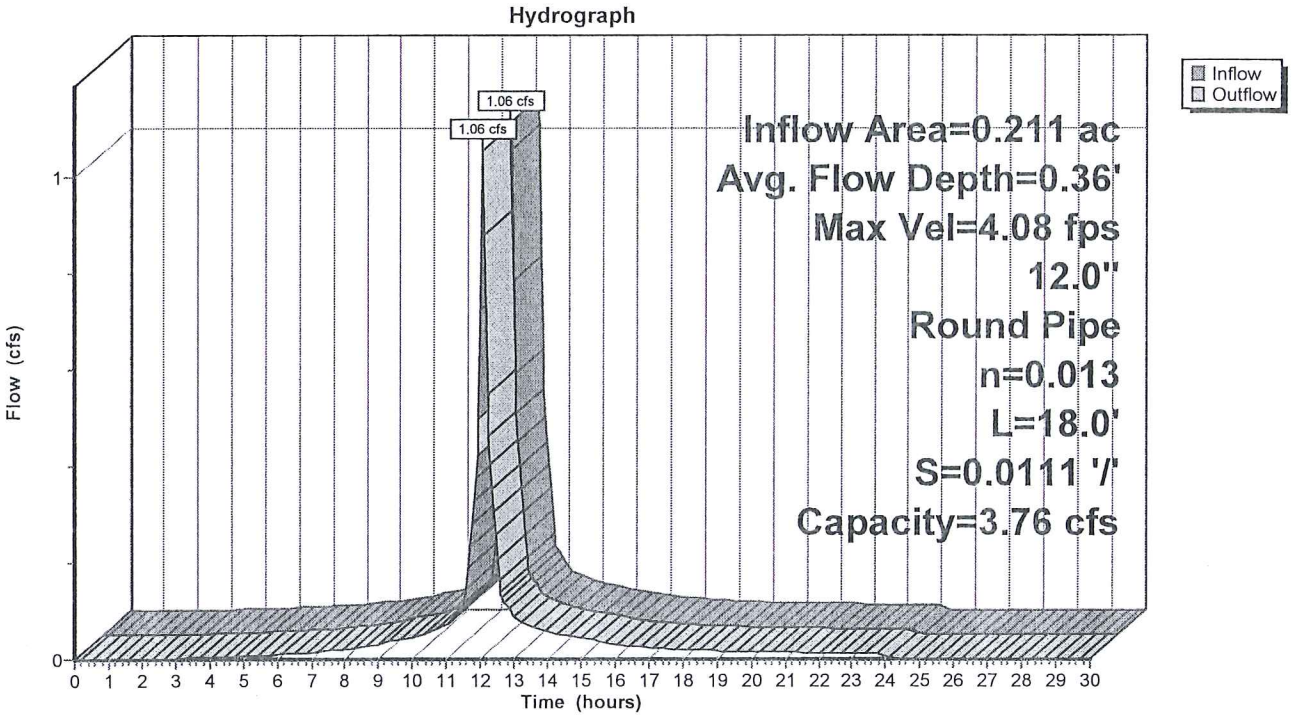
Inflow Area = 0.211 ac, 82.40% Impervious, Inflow Depth = 4.60" for 25-Year event
Inflow = 1.06 cfs @ 12.07 hrs, Volume= 0.081 af
Outflow = 1.06 cfs @ 12.07 hrs, Volume= 0.081 af, Atten= 1%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.08 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.35 fps, Avg. Travel Time= 0.2 min

Peak Storage= 5 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.36'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.76 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 18.0' Slope= 0.0111 '/'
Inlet Invert= 1,178.50', Outlet Invert= 1,178.30'





Stage-Discharge for Reach DCB23: TO DMH#19

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.50	0.00	0.00
1,178.51	0.43	0.00
1,178.52	0.67	0.00
1,178.53	0.88	0.01
1,178.54	1.06	0.01
1,178.55	1.23	0.02
1,178.56	1.38	0.03
1,178.57	1.53	0.04
1,178.58	1.66	0.05
1,178.59	1.79	0.06
1,178.60	1.92	0.08
1,178.61	2.04	0.10
1,178.62	2.15	0.11
1,178.63	2.26	0.14
1,178.64	2.37	0.16
1,178.65	2.47	0.18
1,178.66	2.57	0.21
1,178.67	2.67	0.24
1,178.68	2.76	0.27
1,178.69	2.85	0.30
1,178.70	2.94	0.33
1,178.71	3.03	0.36
1,178.72	3.11	0.40
1,178.73	3.19	0.44
1,178.74	3.27	0.47
1,178.75	3.35	0.51
1,178.76	3.43	0.56
1,178.77	3.50	0.60
1,178.78	3.57	0.64
1,178.79	3.64	0.69
1,178.80	3.71	0.74
1,178.81	3.78	0.78
1,178.82	3.84	0.83
1,178.83	3.91	0.88
1,178.84	3.97	0.93
1,178.85	4.03	0.99
1,178.86	4.09	1.04
1,178.87	4.15	1.10
1,178.88	4.20	1.15
1,178.89	4.26	1.21
1,178.90	4.31	1.27
1,178.91	4.37	1.32
1,178.92	4.42	1.38
1,178.93	4.47	1.44
1,178.94	4.52	1.50
1,178.95	4.56	1.56
1,178.96	4.61	1.63
1,178.97	4.65	1.69
1,178.98	4.70	1.75
1,178.99	4.74	1.81
1,179.00	4.78	1.88
1,179.01	4.82	1.94
1,179.02	4.86	2.01
1,179.03	4.90	2.07
1,179.04	4.93	2.13
1,179.05	4.97	2.20
1,179.06	5.00	2.26
1,179.07	5.04	2.33
1,179.08	5.07	2.39
1,179.09	5.10	2.46
1,179.10	5.13	2.52
1,179.11	5.16	2.59
1,179.12	5.18	2.65
1,179.13	5.21	2.71
1,179.14	5.23	2.78
1,179.15	5.26	2.84
1,179.16	5.28	2.90
1,179.17	5.30	2.96
1,179.18	5.32	3.03
1,179.19	5.34	3.09
1,179.20	5.35	3.14
1,179.21	5.37	3.20
1,179.22	5.38	3.26
1,179.23	5.40	3.32
1,179.24	5.41	3.37
1,179.25	5.42	3.42
1,179.26	5.43	3.48
1,179.27	5.44	3.53
1,179.28	5.44	3.58
1,179.29	5.45	3.62
1,179.30	5.45	3.67
1,179.31	**5.45**	3.71
1,179.32	5.45	3.76
1,179.33	5.45	3.80
1,179.34	5.44	3.83
1,179.35	5.44	3.87
1,179.36	5.43	3.90
1,179.37	5.42	3.93
1,179.38	5.41	3.96
1,179.39	5.39	3.98
1,179.40	5.38	4.00
1,179.41	5.36	4.02
1,179.42	5.33	4.03
1,179.43	5.30	4.04
1,179.44	5.27	**4.04**
1,179.45	5.24	4.04
1,179.46	5.19	4.02
1,179.47	5.14	4.00
1,179.48	5.08	3.97
1,179.49	4.99	3.91
1,179.50	4.78	3.76

Summary for Reach DCB3: TO DMH#1

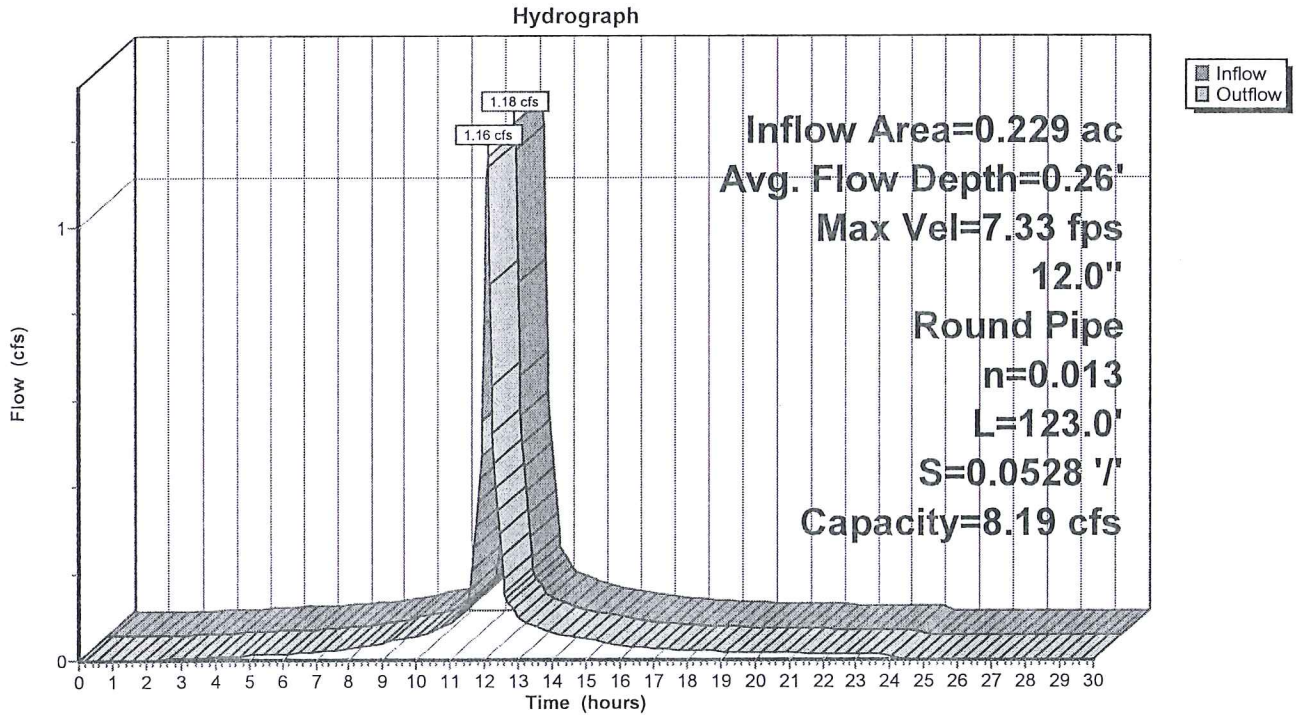
Inflow Area = 0.229 ac, 89.92% Impervious, Inflow Depth = 4.83" for 25-Year event
Inflow = 1.18 cfs @ 12.07 hrs, Volume= 0.092 af
Outflow = 1.16 cfs @ 12.08 hrs, Volume= 0.092 af, Atten= 2%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.33 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.41 fps, Avg. Travel Time= 0.9 min

Peak Storage= 19 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.26'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.19 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 123.0' Slope= 0.0528 '/'
Inlet Invert= 1,181.80', Outlet Invert= 1,175.30'





Stage-Discharge for Reach DCB3: TO DMH#1

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,181.80	0.00	0.00
1,181.81	0.93	0.00
1,181.82	1.47	0.01
1,181.83	1.92	0.01
1,181.84	2.32	0.02
1,181.85	2.68	0.04
1,181.86	3.02	0.06
1,181.87	3.33	0.08
1,181.88	3.63	0.11
1,181.89	3.91	0.14
1,181.90	4.18	0.17
1,181.91	4.44	0.21
1,181.92	4.69	0.25
1,181.93	4.93	0.30
1,181.94	5.16	0.35
1,181.95	5.39	0.40
1,181.96	5.61	0.45
1,181.97	5.82	0.52
1,181.98	6.02	0.58
1,181.99	6.22	0.65
1,182.00	6.41	0.72
1,182.01	6.60	0.79
1,182.02	6.79	0.87
1,182.03	6.96	0.95
1,182.04	7.14	1.03
1,182.05	7.31	1.12
1,182.06	7.47	1.21
1,182.07	7.63	1.31
1,182.08	7.79	1.40
1,182.09	7.94	1.50
1,182.10	8.09	1.60
1,182.11	8.24	1.71
1,182.12	8.38	1.82
1,182.13	8.52	1.93
1,182.14	8.66	2.04
1,182.15	8.79	2.15
1,182.16	8.92	2.27
1,182.17	9.05	2.39
1,182.18	9.17	2.51
1,182.19	9.29	2.63
1,182.20	9.41	2.76
1,182.21	9.52	2.89
1,182.22	9.63	3.02
1,182.23	9.74	3.15
1,182.24	9.85	3.28
1,182.25	9.95	3.41
1,182.26	10.05	3.55
1,182.27	10.15	3.68
1,182.28	10.25	3.82
1,182.29	10.34	3.96
1,182.30	10.43	4.10
1,182.31	10.52	4.23
1,182.32	10.60	4.37
1,182.33	10.68	4.52
1,182.34	10.76	4.66
1,182.35	10.84	4.80
1,182.36	10.91	4.94
1,182.37	10.98	5.08
1,182.38	11.05	5.22
1,182.39	11.12	5.36
1,182.40	11.18	5.50
1,182.41	11.24	5.64
1,182.42	11.30	5.78
1,182.43	11.36	5.92
1,182.44	11.41	6.06
1,182.45	11.46	6.20
1,182.46	11.51	6.33
1,182.47	11.56	6.46
1,182.48	11.60	6.60
1,182.49	11.64	6.73
1,182.50	11.68	6.86
1,182.51	11.71	6.98
1,182.52	11.74	7.11
1,182.53	11.77	7.23
1,182.54	11.80	7.35
1,182.55	11.82	7.47
1,182.56	11.84	7.58
1,182.57	11.86	7.69
1,182.58	11.87	7.80
1,182.59	11.88	7.91
1,182.60	11.89	8.01
1,182.61	**11.89**	8.10
1,182.62	11.89	8.19
1,182.63	11.88	8.28
1,182.64	11.87	8.36
1,182.65	11.86	8.44
1,182.66	11.84	8.51
1,182.67	11.82	8.58
1,182.68	11.80	8.63
1,182.69	11.76	8.69
1,182.70	11.72	8.73
1,182.71	11.68	8.76
1,182.72	11.63	8.79
1,182.73	11.57	8.81
1,182.74	11.50	**8.81**
1,182.75	11.42	8.80
1,182.76	11.32	8.77
1,182.77	11.21	8.73
1,182.78	11.07	8.65
1,182.79	10.88	8.53
1,182.80	10.43	8.19

Summary for Reach DCB4: TO DMH#5

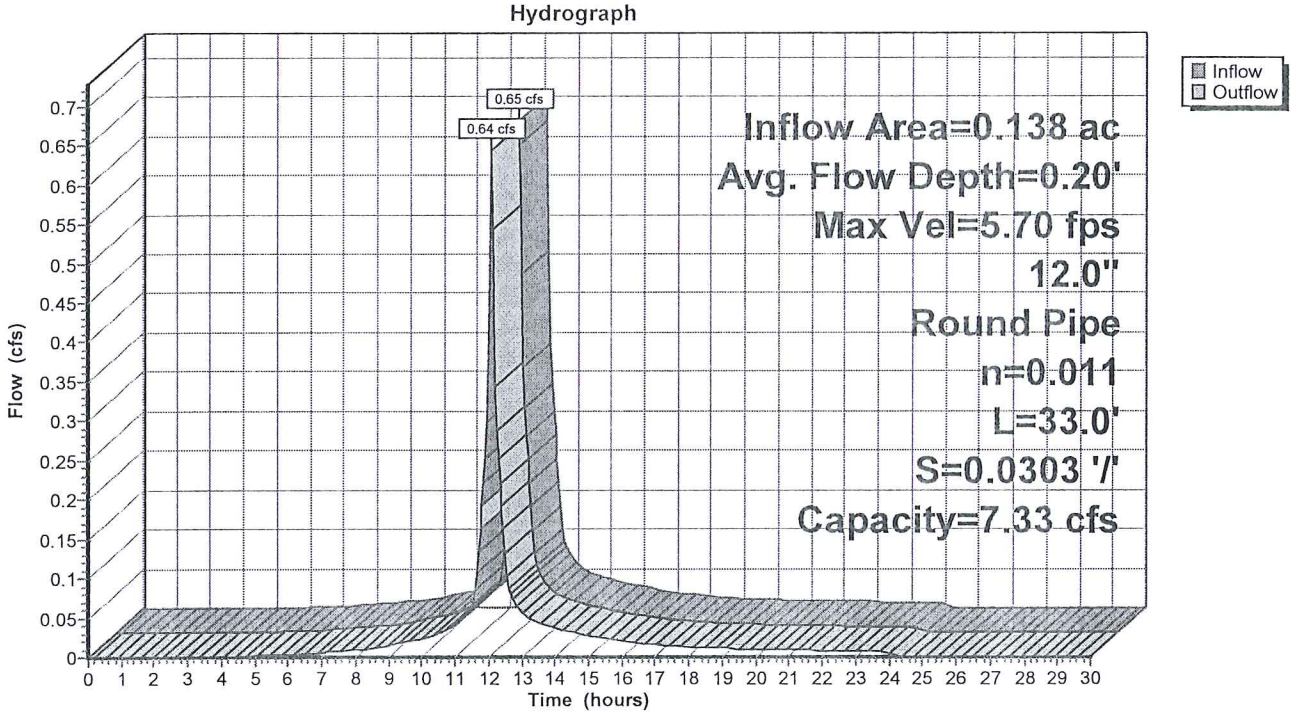
Inflow Area = 0.138 ac, 68.08% Impervious, Inflow Depth = 4.17" for 25-Year event
Inflow = 0.65 cfs @ 12.07 hrs, Volume= 0.048 af
Outflow = 0.64 cfs @ 12.08 hrs, Volume= 0.048 af, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.70 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.89 fps, Avg. Travel Time= 0.3 min

Peak Storage= 4 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.20'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 7.33 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 33.0' Slope= 0.0303 '/'
Inlet Invert= 1,173.00', Outlet Invert= 1,172.00'





Stage-Discharge for Reach DCB4: TO DMH#5

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,173.00	0.00	0.00
1,173.01	0.83	0.00
1,173.02	1.31	0.00
1,173.03	1.72	0.01
1,173.04	2.07	0.02
1,173.05	2.40	0.04
1,173.06	2.70	0.05
1,173.07	2.98	0.07
1,173.08	3.25	0.10
1,173.09	3.50	0.12
1,173.10	3.74	0.15
1,173.11	3.98	0.19
1,173.12	4.20	0.22
1,173.13	4.41	0.26
1,173.14	4.62	0.31
1,173.15	4.82	0.36
1,173.16	5.02	0.41
1,173.17	5.21	0.46
1,173.18	5.39	0.52
1,173.19	5.57	0.58
1,173.20	5.74	0.64
1,173.21	5.91	0.71
1,173.22	6.07	0.78
1,173.23	6.23	0.85
1,173.24	6.39	0.93
1,173.25	6.54	1.00
1,173.26	6.69	1.09
1,173.27	6.83	1.17
1,173.28	6.97	1.26
1,173.29	7.11	1.34
1,173.30	7.24	1.44
1,173.31	7.37	1.53
1,173.32	7.50	1.63
1,173.33	7.63	1.72
1,173.34	7.75	1.82
1,173.35	7.87	1.93
1,173.36	7.98	2.03
1,173.37	8.10	2.14
1,173.38	8.21	2.25
1,173.39	8.31	2.36
1,173.40	8.42	2.47
1,173.41	8.52	2.58
1,173.42	8.62	2.70
1,173.43	8.72	2.82
1,173.44	8.81	2.93
1,173.45	8.91	3.05
1,173.46	9.00	3.17
1,173.47	9.08	3.29
1,173.48	9.17	3.42
1,173.49	9.25	3.54
1,173.50	9.33	3.66
1,173.51	9.41	3.79
1,173.52	9.49	3.91
1,173.53	9.56	4.04
1,173.54	9.63	4.17
1,173.55	9.70	4.29
1,173.56	9.77	4.42
1,173.57	9.83	4.55
1,173.58	9.89	4.67
1,173.59	9.95	4.80
1,173.60	10.01	4.92
1,173.61	10.06	5.05
1,173.62	10.12	5.17
1,173.63	10.17	5.30
1,173.64	10.21	5.42
1,173.65	10.26	5.54
1,173.66	10.30	5.67
1,173.67	10.34	5.79
1,173.68	10.38	5.90
1,173.69	10.42	6.02
1,173.70	10.45	6.14
1,173.71	10.48	6.25
1,173.72	10.51	6.36
1,173.73	10.53	6.47
1,173.74	10.56	6.58
1,173.75	10.58	6.68
1,173.76	10.60	6.79
1,173.77	10.61	6.89
1,173.78	10.62	6.98
1,173.79	10.63	7.07
1,173.80	10.64	7.16
1,173.81	**10.64**	7.25
1,173.82	10.64	7.33
1,173.83	10.63	7.41
1,173.84	10.63	7.48
1,173.85	10.61	7.55
1,173.86	10.60	7.62
1,173.87	10.58	7.67
1,173.88	10.56	7.73
1,173.89	10.53	7.77
1,173.90	10.49	7.81
1,173.91	10.45	7.84
1,173.92	10.41	7.87
1,173.93	10.35	7.88
1,173.94	10.29	**7.88**
1,173.95	10.22	7.88
1,173.96	10.13	7.85
1,173.97	10.03	7.81
1,173.98	9.91	7.75
1,173.99	9.74	7.64
1,174.00	9.33	7.33

Summary for Reach DCBG: TO DMH#3

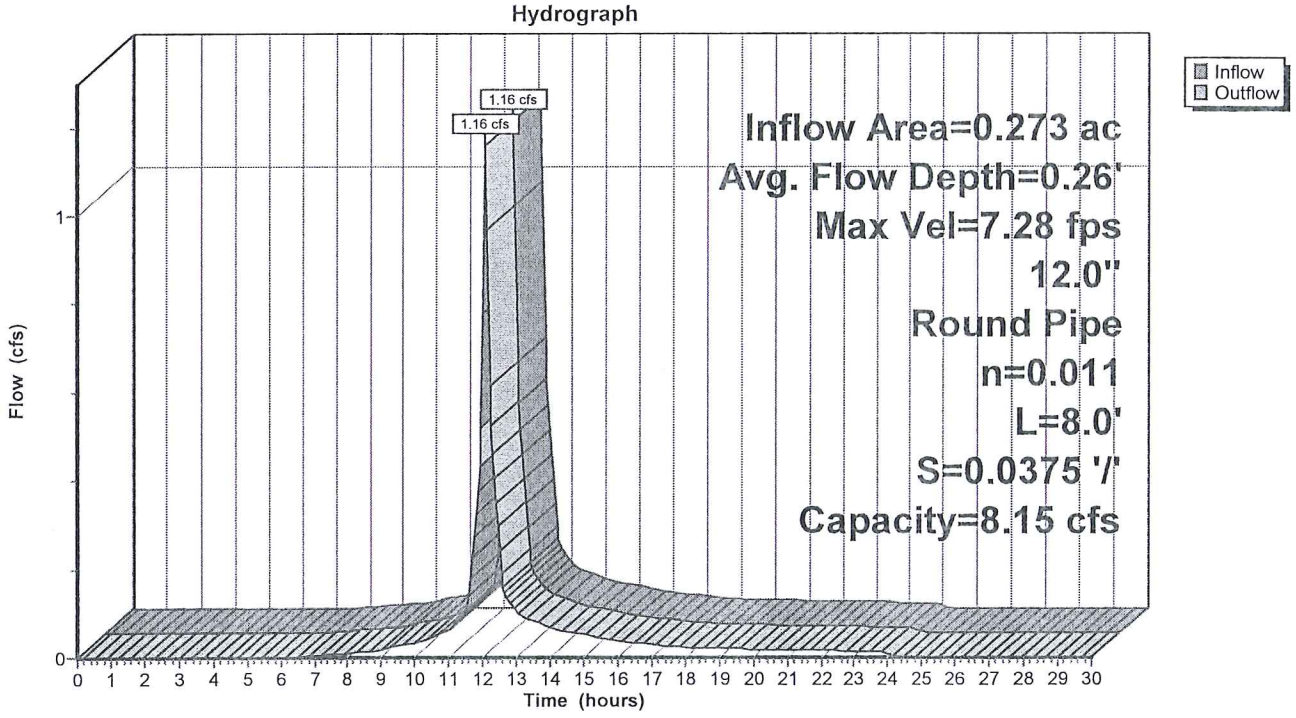
Inflow Area = 0.273 ac, 45.12% Impervious, Inflow Depth = 3.65" for 25-Year event
Inflow = 1.16 cfs @ 12.07 hrs, Volume= 0.083 af
Outflow = 1.16 cfs @ 12.07 hrs, Volume= 0.083 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.28 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.46 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.26'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.15 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 8.0' Slope= 0.0375 '/'
Inlet Invert= 1,174.80', Outlet Invert= 1,174.50'





Stage-Discharge for Reach DCBG: TO DMH#3

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,174.80	0.00	0.00
1,174.81	0.92	0.00
1,174.82	1.46	0.01
1,174.83	1.91	0.01
1,174.84	2.31	0.02
1,174.85	2.67	0.04
1,174.86	3.00	0.06
1,174.87	3.32	0.08
1,174.88	3.61	0.11
1,174.89	3.90	0.14
1,174.90	4.16	0.17
1,174.91	4.42	0.21
1,174.92	4.67	0.25
1,174.93	4.91	0.29
1,174.94	5.14	0.34
1,174.95	5.37	0.40
1,174.96	5.58	0.45
1,174.97	5.79	0.51
1,174.98	6.00	0.58
1,174.99	6.19	0.64
1,175.00	6.39	0.71
1,175.01	6.57	0.79
1,175.02	6.75	0.87
1,175.03	6.93	0.95
1,175.04	7.11	1.03
1,175.05	7.27	1.12
1,175.06	7.44	1.21
1,175.07	7.60	1.30
1,175.08	7.76	1.40
1,175.09	7.91	1.50
1,175.10	8.06	1.60
1,175.11	8.20	1.70
1,175.12	8.35	1.81
1,175.13	8.48	1.92
1,175.14	8.62	2.03
1,175.15	8.75	2.14
1,175.16	8.88	2.26
1,175.17	9.01	2.38
1,175.18	9.13	2.50
1,175.19	9.25	2.62
1,175.20	9.37	2.75
1,175.21	9.48	2.87
1,175.22	9.59	3.00
1,175.23	9.70	3.13
1,175.24	9.81	3.26
1,175.25	9.91	3.40
1,175.26	10.01	3.53
1,175.27	10.11	3.67
1,175.28	10.20	3.80
1,175.29	10.29	3.94
1,175.30	10.38	4.08
1,175.31	10.47	4.22
1,175.32	10.55	4.36
1,175.33	10.63	4.49
1,175.34	10.71	4.64
1,175.35	10.79	4.78
1,175.36	10.86	4.92
1,175.37	10.94	5.06
1,175.38	11.00	5.20
1,175.39	11.07	5.34
1,175.40	11.13	5.48
1,175.41	11.19	5.62
1,175.42	11.25	5.76
1,175.43	11.31	5.89
1,175.44	11.36	6.03
1,175.45	11.41	6.17
1,175.46	11.46	6.30
1,175.47	11.51	6.44
1,175.48	11.55	6.57
1,175.49	11.59	6.70
1,175.50	11.63	6.83
1,175.51	11.66	6.95
1,175.52	11.69	7.08
1,175.53	11.72	7.20
1,175.54	11.74	7.32
1,175.55	11.77	7.44
1,175.56	11.79	7.55
1,175.57	11.80	7.66
1,175.58	11.82	7.77
1,175.59	11.83	7.87
1,175.60	11.83	7.97
1,175.61	**11.84**	8.07
1,175.62	11.83	8.16
1,175.63	11.83	8.24
1,175.64	11.82	8.33
1,175.65	11.81	8.40
1,175.66	11.79	8.47
1,175.67	11.77	8.54
1,175.68	11.74	8.60
1,175.69	11.71	8.65
1,175.70	11.67	8.69
1,175.71	11.63	8.73
1,175.72	11.58	8.75
1,175.73	11.52	8.77
1,175.74	11.45	**8.77**
1,175.75	11.37	8.76
1,175.76	11.27	8.74
1,175.77	11.16	8.69
1,175.78	11.02	8.62
1,175.79	10.84	8.50
1,175.80	10.38	8.15

Summary for Reach DCBI: TO DCB-F

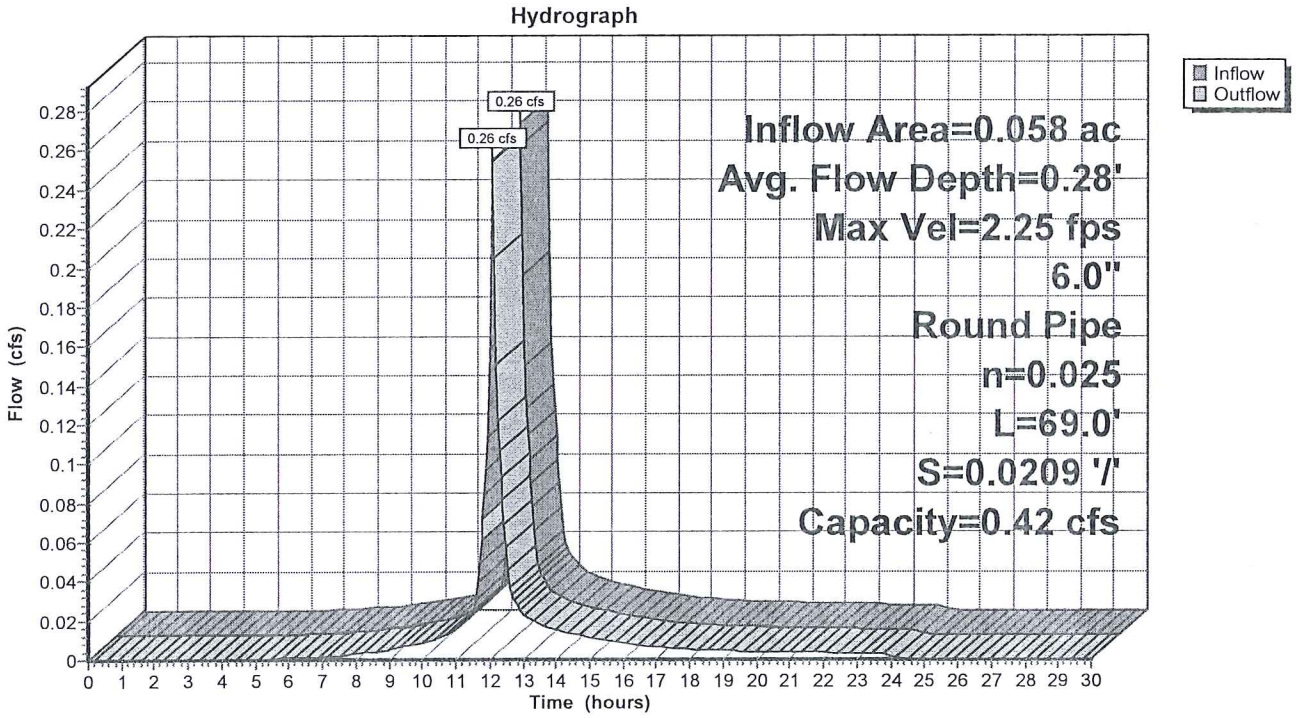
Inflow Area = 0.058 ac, 56.44% Impervious, Inflow Depth = 3.95" for 25-Year event
Inflow = 0.26 cfs @ 12.07 hrs, Volume= 0.019 af
Outflow = 0.26 cfs @ 12.09 hrs, Volume= 0.019 af, Atten= 2%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.25 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.77 fps, Avg. Travel Time= 1.5 min

Peak Storage= 8 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.28'
Bank-Full Depth= 0.50' Flow Area= 0.2 sf, Capacity= 0.42 cfs

6.0" Round Pipe
n= 0.025 Corrugated metal
Length= 69.0' Slope= 0.0209 '/'
Inlet Invert= 1,175.50', Outlet Invert= 1,174.06'





Stage-Discharge for Reach DCBI: TO DCB-F

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.50	0.00	0.00
1,175.51	0.30	0.00
1,175.52	0.48	0.00
1,175.53	0.62	0.00
1,175.54	0.75	0.01
1,175.55	0.86	0.01
1,175.56	0.97	0.01
1,175.57	1.06	0.02
1,175.58	1.15	0.02
1,175.59	1.24	0.03
1,175.60	1.32	0.04
1,175.61	1.40	0.04
1,175.62	1.47	0.05
1,175.63	1.54	0.06
1,175.64	1.60	0.07
1,175.65	1.67	0.08
1,175.66	1.73	0.09
1,175.67	1.78	0.10
1,175.68	1.84	0.12
1,175.69	1.89	0.13
1,175.70	1.94	0.14
1,175.71	1.98	0.16
1,175.72	2.03	0.17
1,175.73	2.07	0.18
1,175.74	2.11	0.20
1,175.75	2.15	0.21
1,175.76	2.18	0.23
1,175.77	2.22	0.24
1,175.78	2.25	0.25
1,175.79	2.28	0.27
1,175.80	2.30	0.28
1,175.81	2.33	0.30
1,175.82	2.35	0.31
1,175.83	2.37	0.33
1,175.84	2.39	0.34
1,175.85	2.40	0.35
1,175.86	2.42	0.37
1,175.87	2.43	0.38
1,175.88	2.44	0.39
1,175.89	2.44	0.40
1,175.90	2.45	0.41
1,175.91	**2.45**	0.42
1,175.92	2.44	0.43
1,175.93	2.44	0.44
1,175.94	2.43	0.44
1,175.95	2.41	0.45
1,175.96	2.39	0.45
1,175.97	2.37	**0.45**
1,175.98	2.33	0.45
1,175.99	2.28	0.45
1,176.00	2.15	0.42

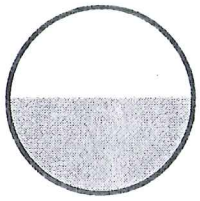
Summary for Reach DMH1: TO DMH#2

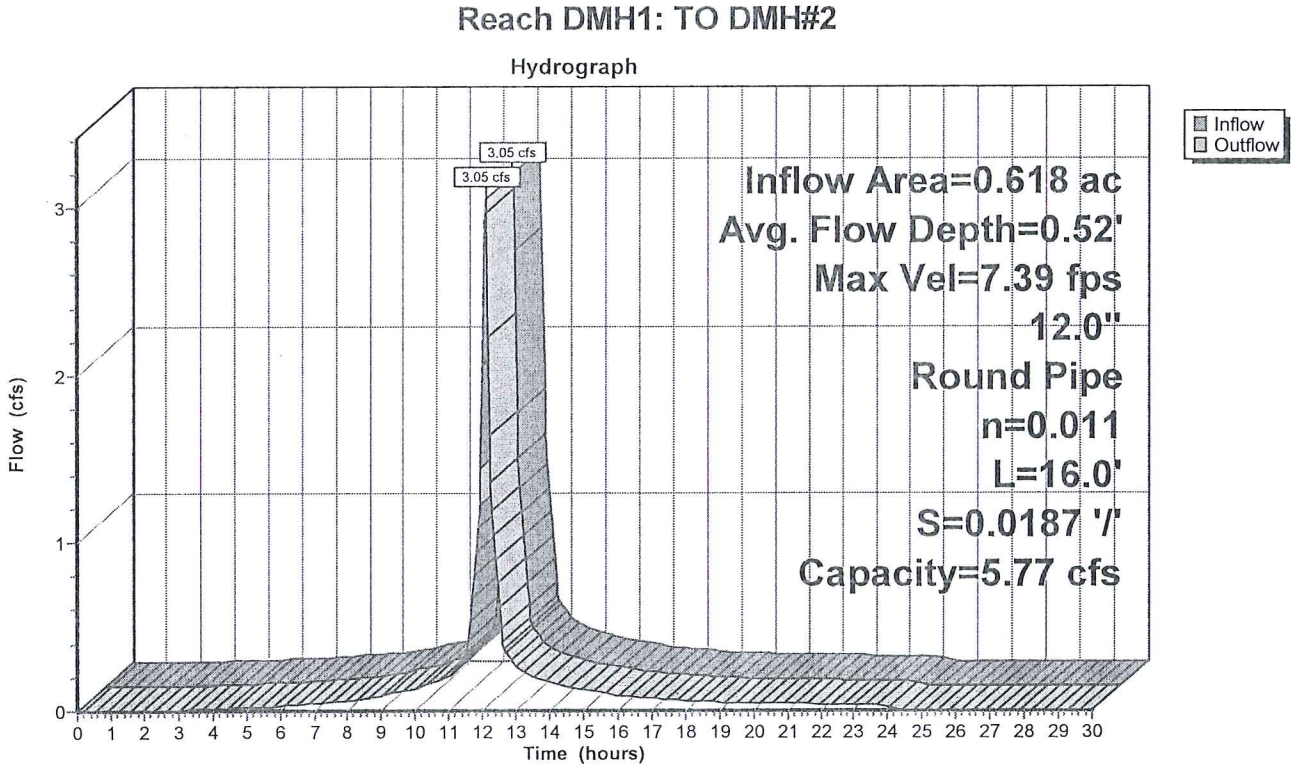
Inflow Area = 0.618 ac, 81.95% Impervious, Inflow Depth = 4.59" for 25-Year event
Inflow = 3.05 cfs @ 12.08 hrs, Volume= 0.237 af
Outflow = 3.05 cfs @ 12.08 hrs, Volume= 0.237 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.39 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.45 fps, Avg. Travel Time= 0.1 min

Peak Storage= 7 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.52'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.77 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 16.0' Slope= 0.0187 '/'
Inlet Invert= 1,175.00', Outlet Invert= 1,174.70'





Stage-Discharge for Reach DMH1: TO DMH#2

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.00	0.00	0.00
1,175.01	0.65	0.00
1,175.02	1.03	0.00
1,175.03	1.35	0.01
1,175.04	1.63	0.02
1,175.05	1.89	0.03
1,175.06	2.12	0.04
1,175.07	2.34	0.06
1,175.08	2.55	0.08
1,175.09	2.75	0.10
1,175.10	2.94	0.12
1,175.11	3.13	0.15
1,175.12	3.30	0.18
1,175.13	3.47	0.21
1,175.14	3.64	0.24
1,175.15	3.79	0.28
1,175.16	3.95	0.32
1,175.17	4.10	0.36
1,175.18	4.24	0.41
1,175.19	4.38	0.45
1,175.20	4.52	0.50
1,175.21	4.65	0.56
1,175.22	4.78	0.61
1,175.23	4.90	0.67
1,175.24	5.02	0.73
1,175.25	5.14	0.79
1,175.26	5.26	0.85
1,175.27	5.37	0.92
1,175.28	5.48	0.99
1,175.29	5.59	1.06
1,175.30	5.70	1.13
1,175.31	5.80	1.20
1,175.32	5.90	1.28
1,175.33	6.00	1.36
1,175.34	6.09	1.44
1,175.35	6.19	1.52
1,175.36	6.28	1.60
1,175.37	6.37	1.68
1,175.38	6.46	1.77
1,175.39	6.54	1.85
1,175.40	6.62	1.94
1,175.41	6.70	2.03
1,175.42	6.78	2.12
1,175.43	6.86	2.21
1,175.44	6.93	2.31
1,175.45	7.01	2.40
1,175.46	7.08	2.50
1,175.47	7.15	2.59
1,175.48	7.21	2.69
1,175.49	7.28	2.79
1,175.50	7.34	2.88
1,175.51	7.40	2.98
1,175.52	7.46	3.08
1,175.53	7.52	3.18
1,175.54	7.58	3.28
1,175.55	7.63	3.38
1,175.56	7.68	3.48
1,175.57	7.73	3.58
1,175.58	7.78	3.68
1,175.59	7.83	3.77
1,175.60	7.87	3.87
1,175.61	7.92	3.97
1,175.62	7.96	4.07
1,175.63	8.00	4.17
1,175.64	8.03	4.26
1,175.65	8.07	4.36
1,175.66	8.10	4.46
1,175.67	8.14	4.55
1,175.68	8.17	4.64
1,175.69	8.19	4.74
1,175.70	8.22	4.83
1,175.71	8.24	4.92
1,175.72	8.27	5.00
1,175.73	8.29	5.09
1,175.74	8.30	5.18
1,175.75	8.32	5.26
1,175.76	8.33	5.34
1,175.77	8.35	5.42
1,175.78	8.36	5.49
1,175.79	8.36	5.57
1,175.80	8.37	5.64
1,175.81	**8.37**	5.70
1,175.82	8.37	5.77
1,175.83	8.36	5.83
1,175.84	8.36	5.89
1,175.85	8.35	5.94
1,175.86	8.34	5.99
1,175.87	8.32	6.04
1,175.88	8.30	6.08
1,175.89	8.28	6.11
1,175.90	8.25	6.14
1,175.91	8.22	6.17
1,175.92	8.19	6.19
1,175.93	8.14	6.20
1,175.94	8.09	**6.20**
1,175.95	8.04	6.20
1,175.96	7.97	6.18
1,175.97	7.89	6.14
1,175.98	7.79	6.09
1,175.99	7.66	6.01
1,176.00	7.34	5.77

Summary for Reach DMH10: TO DMH#12

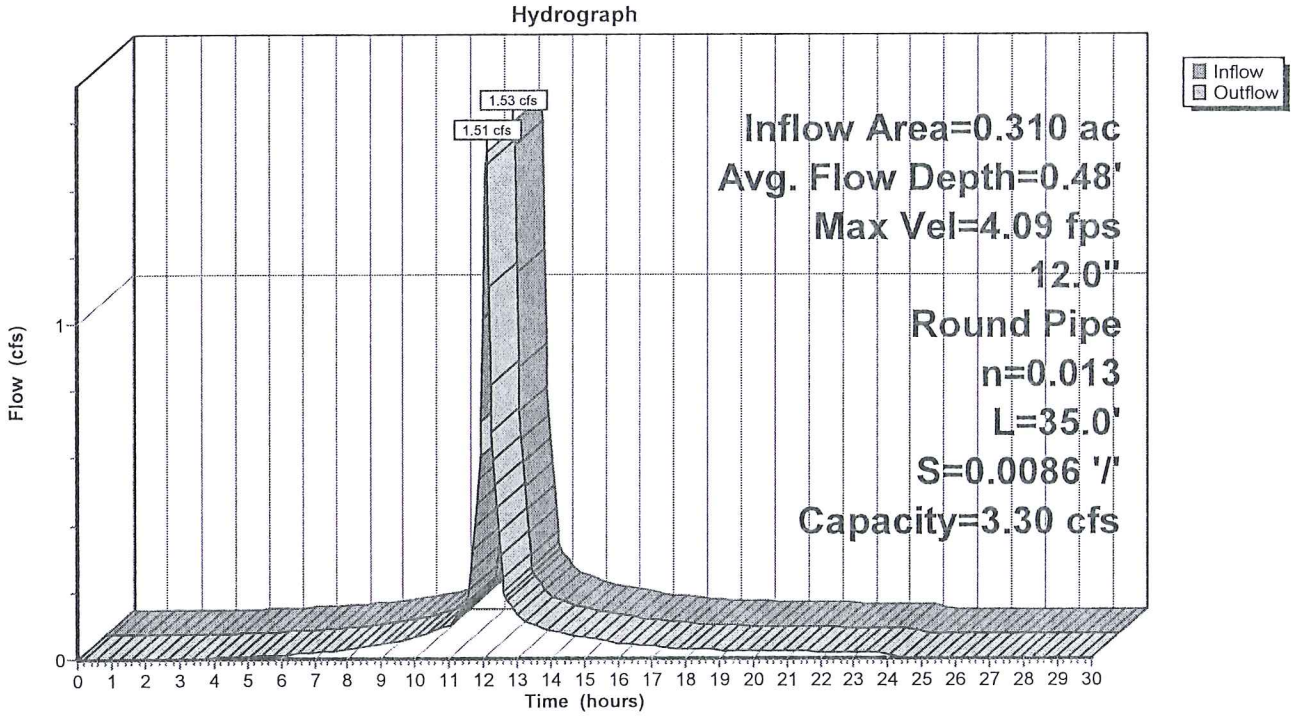
Inflow Area = 0.310 ac, 78.60% Impervious, Inflow Depth = 4.49" for 25-Year event
Inflow = 1.53 cfs @ 12.07 hrs, Volume= 0.116 af
Outflow = 1.51 cfs @ 12.08 hrs, Volume= 0.116 af, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.09 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.37 fps, Avg. Travel Time= 0.4 min

Peak Storage= 13 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.48'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.30 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 35.0' Slope= 0.0086 '/'
Inlet Invert= 1,178.90', Outlet Invert= 1,178.60'





Stage-Discharge for Reach DMH10: TO DMH#12

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.90	0.00	0.00
1,178.91	0.37	0.00
1,178.92	0.59	0.00
1,178.93	0.77	0.01
1,178.94	0.93	0.01
1,178.95	1.08	0.02
1,178.96	1.21	0.02
1,178.97	1.34	0.03
1,178.98	1.46	0.04
1,178.99	1.58	0.06
1,179.00	1.68	0.07
1,179.01	1.79	0.08
1,179.02	1.89	0.10
1,179.03	1.99	0.12
1,179.04	2.08	0.14
1,179.05	2.17	0.16
1,179.06	2.26	0.18
1,179.07	2.34	0.21
1,179.08	2.43	0.23
1,179.09	2.51	0.26
1,179.10	2.58	0.29
1,179.11	2.66	0.32
1,179.12	2.73	0.35
1,179.13	2.80	0.38
1,179.14	2.87	0.42
1,179.15	2.94	0.45
1,179.16	3.01	0.49
1,179.17	3.07	0.53
1,179.18	3.14	0.56
1,179.19	3.20	0.60
1,179.20	3.26	0.65
1,179.21	3.32	0.69
1,179.22	3.38	0.73
1,179.23	3.43	0.78
1,179.24	3.49	0.82
1,179.25	3.54	0.87
1,179.26	3.59	0.91
1,179.27	3.64	0.96
1,179.28	3.69	1.01
1,179.29	3.74	1.06
1,179.30	3.79	1.11
1,179.31	3.84	1.16
1,179.32	3.88	1.21
1,179.33	3.92	1.27
1,179.34	3.97	1.32
1,179.35	4.01	1.37
1,179.36	4.05	1.43
1,179.37	4.09	1.48
1,179.38	4.13	1.54
1,179.39	4.16	1.59
1,179.40	4.20	1.65
1,179.41	4.23	1.71
1,179.42	4.27	1.76
1,179.43	4.30	1.82
1,179.44	4.33	1.88
1,179.45	4.36	1.93
1,179.46	4.39	1.99
1,179.47	4.42	2.05
1,179.48	4.45	2.10
1,179.49	4.48	2.16
1,179.50	4.50	2.22
1,179.51	4.53	2.27
1,179.52	4.55	2.33
1,179.53	4.57	2.38
1,179.54	4.60	2.44
1,179.55	4.62	2.50
1,179.56	4.64	2.55
1,179.57	4.65	2.60
1,179.58	4.67	2.66
1,179.59	4.69	2.71
1,179.60	4.70	2.76
1,179.61	4.72	2.81
1,179.62	4.73	2.86
1,179.63	4.74	2.91
1,179.64	4.75	2.96
1,179.65	4.76	3.01
1,179.66	4.77	3.05
1,179.67	4.77	3.10
1,179.68	4.78	3.14
1,179.69	4.78	3.18
1,179.70	4.79	3.22
1,179.71	**4.79**	3.26
1,179.72	4.79	3.30
1,179.73	4.79	3.33
1,179.74	4.78	3.37
1,179.75	4.78	3.40
1,179.76	4.77	3.43
1,179.77	4.76	3.45
1,179.78	4.75	3.48
1,179.79	4.74	3.50
1,179.80	4.72	3.52
1,179.81	4.70	3.53
1,179.82	4.68	3.54
1,179.83	4.66	3.55
1,179.84	4.63	**3.55**
1,179.85	4.60	3.54
1,179.86	4.56	3.53
1,179.87	4.52	3.52
1,179.88	4.46	3.49
1,179.89	4.38	3.44
1,179.90	4.20	3.30

Summary for Reach DMH11: TO DMH#12

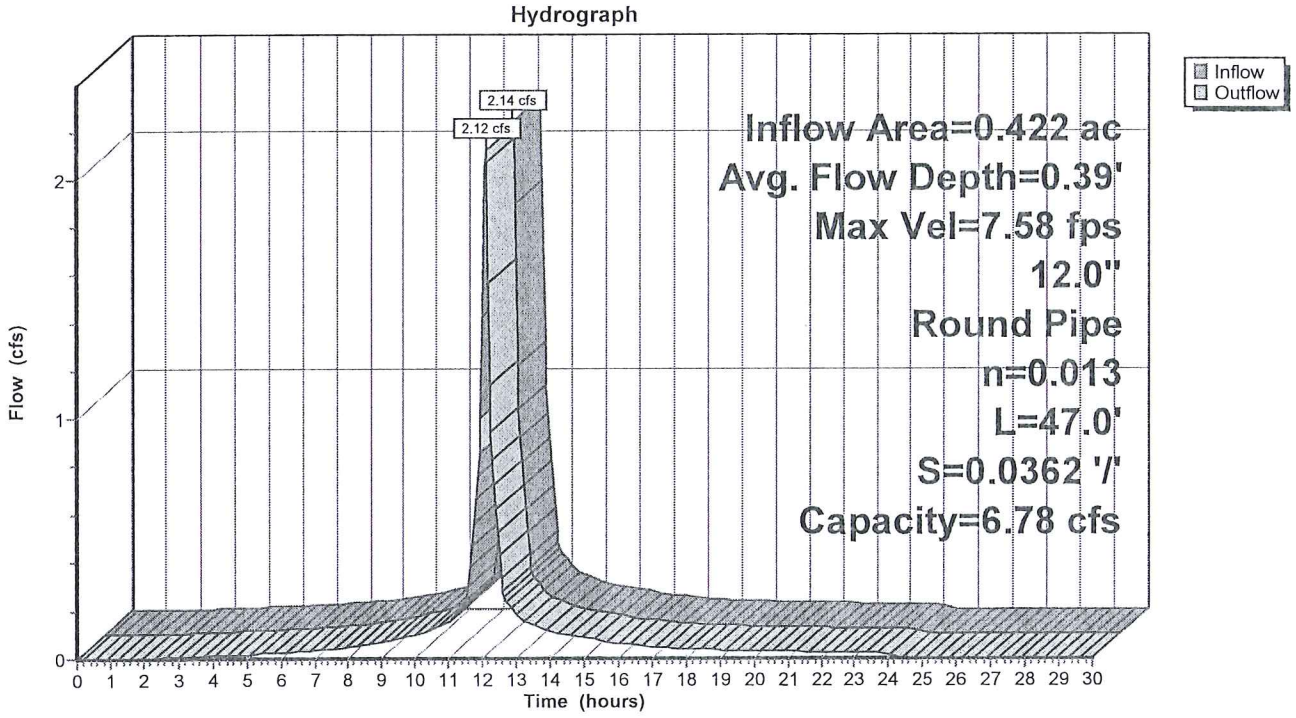
Inflow Area = 0.422 ac, 88.35% Impervious, Inflow Depth = 4.76" for 25-Year event
Inflow = 2.14 cfs @ 12.07 hrs, Volume= 0.167 af
Outflow = 2.12 cfs @ 12.08 hrs, Volume= 0.167 af, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.58 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.50 fps, Avg. Travel Time= 0.3 min

Peak Storage= 13 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.39'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.78 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 47.0' Slope= 0.0362 '/'
Inlet Invert= 1,180.30', Outlet Invert= 1,178.60'





Stage-Discharge for Reach DMH11: TO DMH#12

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.30	0.00	0.00
1,180.31	0.77	0.00
1,180.32	1.21	0.00
1,180.33	1.59	0.01
1,180.34	1.92	0.02
1,180.35	2.22	0.03
1,180.36	2.49	0.05
1,180.37	2.76	0.07
1,180.38	3.00	0.09
1,180.39	3.24	0.11
1,180.40	3.46	0.14
1,180.41	3.68	0.17
1,180.42	3.88	0.21
1,180.43	4.08	0.24
1,180.44	4.27	0.29
1,180.45	4.46	0.33
1,180.46	4.64	0.38
1,180.47	4.81	0.43
1,180.48	4.98	0.48
1,180.49	5.15	0.53
1,180.50	5.31	0.59
1,180.51	5.46	0.65
1,180.52	5.61	0.72
1,180.53	5.76	0.79
1,180.54	5.90	0.86
1,180.55	6.04	0.93
1,180.56	6.18	1.00
1,180.57	6.31	1.08
1,180.58	6.45	1.16
1,180.59	6.57	1.24
1,180.60	6.70	1.33
1,180.61	6.82	1.41
1,180.62	6.94	1.50
1,180.63	7.05	1.59
1,180.64	7.16	1.69
1,180.65	7.27	1.78
1,180.66	7.38	1.88
1,180.67	7.48	1.98
1,180.68	7.59	2.08
1,180.69	7.69	2.18
1,180.70	7.78	2.28
1,180.71	7.88	2.39
1,180.72	7.97	2.50
1,180.73	8.06	2.60
1,180.74	8.15	2.71
1,180.75	8.23	2.82
1,180.76	8.32	2.93
1,180.77	8.40	3.05
1,180.78	8.48	3.16
1,180.79	8.55	3.27
1,180.80	8.63	3.39
1,180.81	8.70	3.50
1,180.82	8.77	3.62
1,180.83	8.84	3.74
1,180.84	8.90	3.85
1,180.85	8.97	3.97
1,180.86	9.03	4.09
1,180.87	9.09	4.20
1,180.88	9.14	4.32
1,180.89	9.20	4.44
1,180.90	9.25	4.55
1,180.91	9.30	4.67
1,180.92	9.35	4.78
1,180.93	9.40	4.90
1,180.94	9.44	5.01
1,180.95	9.48	5.13
1,180.96	9.52	5.24
1,180.97	9.56	5.35
1,180.98	9.60	5.46
1,180.99	9.63	5.57
1,181.00	9.66	5.67
1,181.01	9.69	5.78
1,181.02	9.72	5.88
1,181.03	9.74	5.98
1,181.04	9.76	6.08
1,181.05	9.78	6.18
1,181.06	9.80	6.27
1,181.07	9.81	6.37
1,181.08	9.82	6.45
1,181.09	9.83	6.54
1,181.10	9.83	6.62
1,181.11	**9.84**	6.70
1,181.12	9.83	6.78
1,181.13	9.83	6.85
1,181.14	9.82	6.92
1,181.15	9.81	6.98
1,181.16	9.80	7.04
1,181.17	9.78	7.09
1,181.18	9.76	7.14
1,181.19	9.73	7.19
1,181.20	9.70	7.22
1,181.21	9.66	7.25
1,181.22	9.62	7.27
1,181.23	9.57	7.29
1,181.24	9.51	**7.29**
1,181.25	9.45	7.28
1,181.26	9.37	7.26
1,181.27	9.28	7.22
1,181.28	9.16	7.16
1,181.29	9.00	7.06
1,181.30	8.63	6.78

Summary for Reach DMH12: TO DMH#13

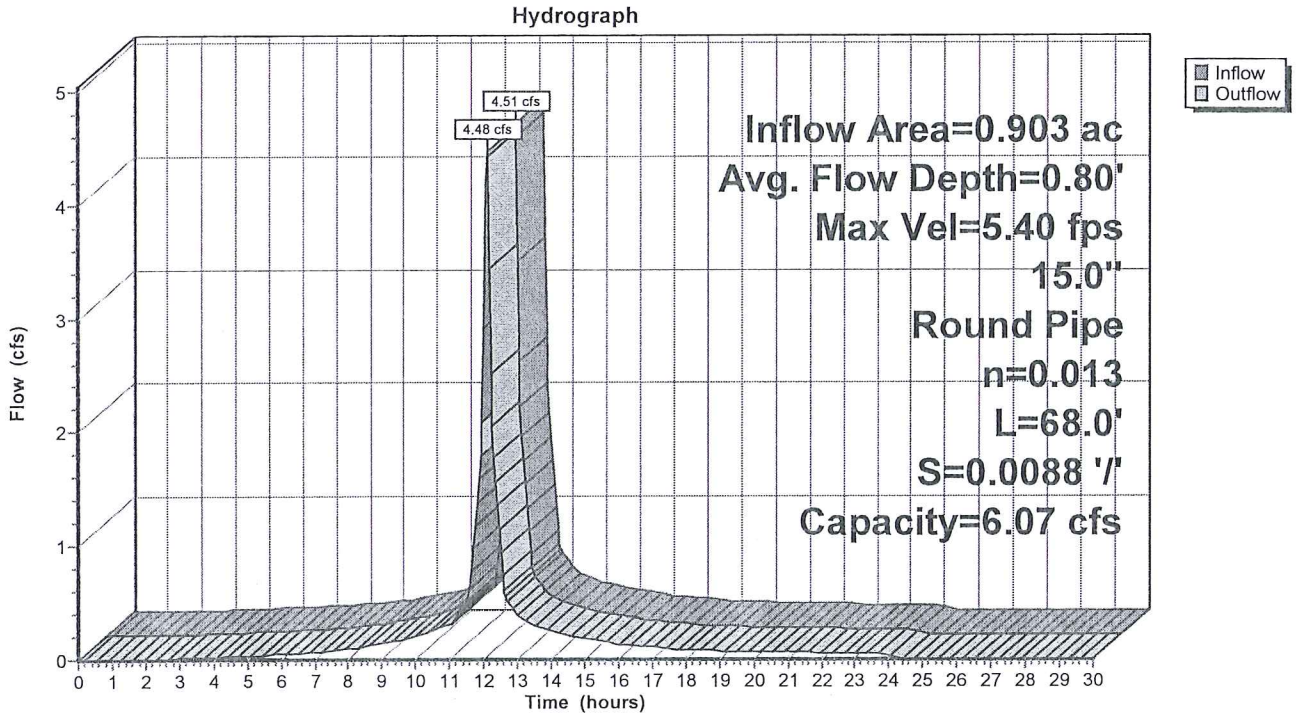
Inflow Area = 0.903 ac, 85.40% Impervious, Inflow Depth = 4.68" for 25-Year event
Inflow = 4.51 cfs @ 12.08 hrs, Volume= 0.353 af
Outflow = 4.48 cfs @ 12.08 hrs, Volume= 0.353 af, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.40 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.83 fps, Avg. Travel Time= 0.6 min

Peak Storage= 57 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.80'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 6.07 cfs

15.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 68.0' Slope= 0.0088 '/'
Inlet Invert= 1,178.50', Outlet Invert= 1,177.90'





Stage-Discharge for Reach DMH12: TO DMH#13

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.50	0.00	0.00
1,178.51	0.35	0.00
1,178.52	0.59	0.00
1,178.53	0.78	0.01
1,178.54	0.95	0.01
1,178.55	1.10	0.02
1,178.56	1.24	0.03
1,178.57	1.37	0.04
1,178.58	1.49	0.05
1,178.59	1.61	0.06
1,178.60	1.72	0.08
1,178.61	1.83	0.10
1,178.62	1.93	0.12
1,178.63	2.03	0.14
1,178.64	2.13	0.16
1,178.65	2.22	0.19
1,178.66	2.32	0.21
1,178.67	2.40	0.24
1,178.68	2.49	0.27
1,178.69	2.58	0.30
1,178.70	2.66	0.34
1,178.71	2.74	0.37
1,178.72	2.82	0.41
1,178.73	2.89	0.45
1,178.74	2.97	0.49
1,178.75	3.04	0.53
1,178.76	3.11	0.58
1,178.77	3.18	0.62
1,178.78	3.25	0.67
1,178.79	3.32	0.72
1,178.80	3.38	0.77
1,178.81	3.45	0.82
1,178.82	3.51	0.87
1,178.83	3.57	0.93
1,178.84	3.63	0.98
1,178.85	3.69	1.04
1,178.86	3.75	1.10
1,178.87	3.81	1.16
1,178.88	3.87	1.22
1,178.89	3.92	1.28
1,178.90	3.97	1.35
1,178.91	4.03	1.41
1,178.92	4.08	1.48
1,178.93	4.13	1.54
1,178.94	4.18	1.61
1,178.95	4.23	1.68
1,178.96	4.28	1.75
1,178.97	4.32	1.82
1,178.98	4.37	1.90
1,178.99	4.42	1.97
1,179.00	4.46	2.04
1,179.01	4.50	2.12
1,179.02	4.55	2.20
1,179.03	4.59	2.27
1,179.04	4.63	2.35
1,179.05	4.67	2.43
1,179.06	4.71	2.51
1,179.07	4.75	2.59
1,179.08	4.79	2.67
1,179.09	4.82	2.75
1,179.10	4.86	2.83
1,179.11	4.89	2.91
1,179.12	4.93	2.99
1,179.13	4.96	3.08
1,179.14	4.99	3.16
1,179.15	5.03	3.24
1,179.16	5.06	3.32
1,179.17	5.09	3.41
1,179.18	5.12	3.49
1,179.19	5.15	3.57
1,179.20	5.17	3.66
1,179.21	5.20	3.74
1,179.22	5.23	3.83
1,179.23	5.25	3.91
1,179.24	5.28	3.99
1,179.25	5.30	4.08
1,179.26	5.33	4.16
1,179.27	5.35	4.24
1,179.28	5.37	4.32
1,179.29	5.39	4.41
1,179.30	5.41	4.49
1,179.31	5.43	4.57
1,179.32	5.45	4.65
1,179.33	5.47	4.73
1,179.34	5.48	4.81
1,179.35	5.50	4.89
1,179.36	5.52	4.97
1,179.37	5.53	5.04
1,179.38	5.54	5.12
1,179.39	5.56	5.19
1,179.40	5.57	5.27
1,179.41	5.58	5.34
1,179.42	5.59	5.41
1,179.43	5.60	5.48
1,179.44	5.61	5.55
1,179.45	5.61	5.62
1,179.46	5.62	5.68
1,179.47	5.63	5.75
1,179.48	5.63	5.81
1,179.49	5.63	5.87
1,179.50	5.64	5.93
1,179.51	5.64	5.99
1,179.52	**5.64**	6.04
1,179.53	5.64	6.10
1,179.54	5.63	6.15
1,179.55	5.63	6.20
1,179.56	5.63	6.24
1,179.57	5.62	6.28
1,179.58	5.61	6.32
1,179.59	5.60	6.36
1,179.60	5.59	6.40
1,179.61	5.58	6.43
1,179.62	5.57	6.45
1,179.63	5.55	6.48
1,179.64	5.53	6.50
1,179.65	5.51	6.51
1,179.66	5.49	6.52
1,179.67	5.47	**6.53**
1,179.68	5.44	6.52
1,179.69	5.41	6.52
1,179.70	5.37	6.50
1,179.71	5.33	6.47
1,179.72	5.28	6.43
1,179.73	5.21	6.38
1,179.74	5.12	6.27
1,179.75	4.94	6.07

Summary for Reach DMH13: TO DMH#14

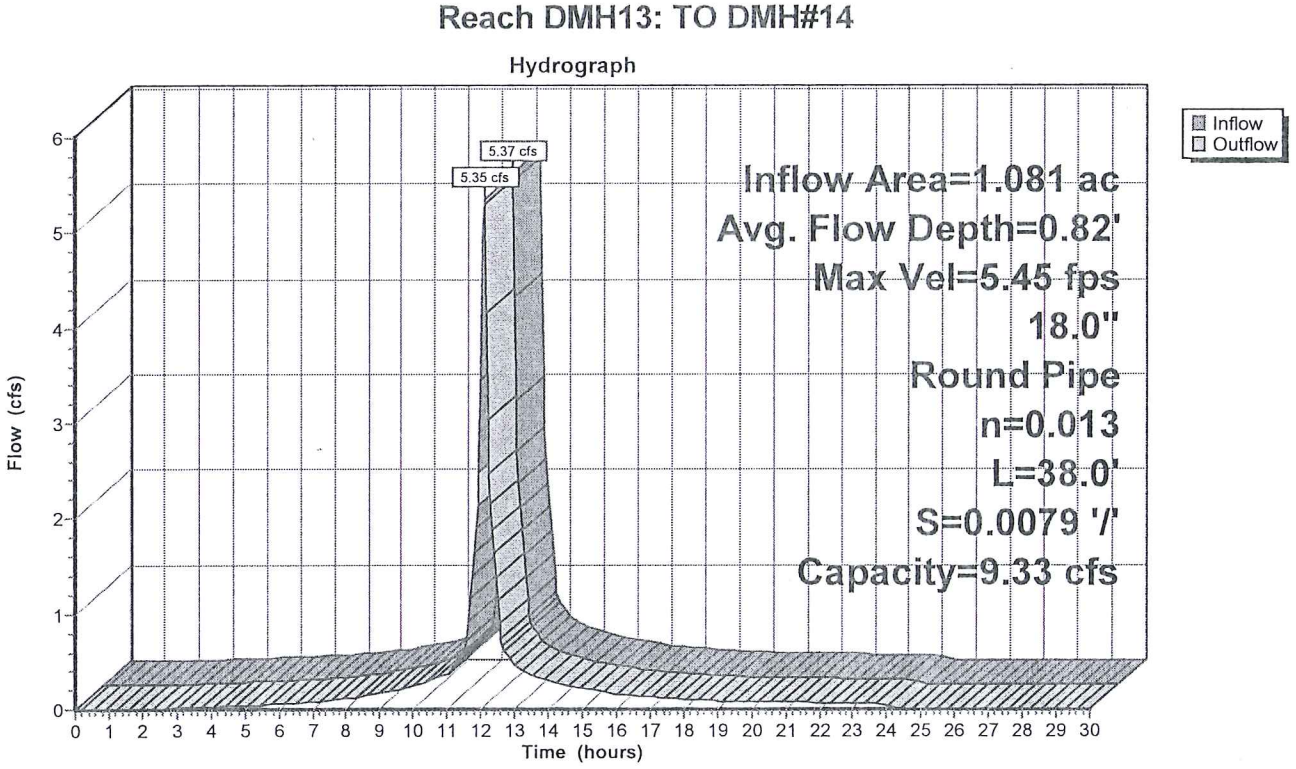
Inflow Area = 1.081 ac, 85.82% Impervious, Inflow Depth = 4.69" for 25-Year event
Inflow = 5.37 cfs @ 12.08 hrs, Volume= 0.423 af
Outflow = 5.35 cfs @ 12.09 hrs, Volume= 0.423 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.45 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.81 fps, Avg. Travel Time= 0.3 min

Peak Storage= 37 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.82'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 9.33 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 38.0' Slope= 0.0079 '/'
Inlet Invert= 1,177.80', Outlet Invert= 1,177.50'





Stage-Discharge for Reach DMH13: TO DMH#14

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,177.80	0.00	0.00
1,177.81	0.31	0.00
1,177.82	0.56	0.00
1,177.83	0.74	0.01
1,177.84	0.90	0.01
1,177.85	1.04	0.02
1,177.86	1.17	0.03
1,177.87	1.30	0.04
1,177.88	1.41	0.05
1,177.89	1.53	0.07
1,177.90	1.63	0.08
1,177.91	1.74	0.10
1,177.92	1.84	0.12
1,177.93	1.93	0.14
1,177.94	2.03	0.17
1,177.95	2.12	0.19
1,177.96	2.21	0.22
1,177.97	2.29	0.25
1,177.98	2.38	0.29
1,177.99	2.46	0.32
1,178.00	2.54	0.36
1,178.01	2.62	0.39
1,178.02	2.69	0.43
1,178.03	2.77	0.48
1,178.04	2.84	0.52
1,178.05	2.91	0.56
1,178.06	2.98	0.61
1,178.07	3.05	0.66
1,178.08	3.12	0.71
1,178.09	3.18	0.76
1,178.10	3.25	0.82
1,178.11	3.31	0.87
1,178.12	3.37	0.93
1,178.13	3.44	0.99
1,178.14	3.50	1.05
1,178.15	3.56	1.11
1,178.16	3.61	1.18
1,178.17	3.67	1.25
1,178.18	3.73	1.31
1,178.19	3.78	1.38
1,178.20	3.84	1.45
1,178.21	3.89	1.52
1,178.22	3.95	1.60
1,178.23	4.00	1.67
1,178.24	4.05	1.75
1,178.25	4.10	1.83
1,178.26	4.15	1.91
1,178.27	4.20	1.99
1,178.28	4.25	2.07
1,178.29	4.29	2.15
1,178.30	4.34	2.24
1,178.31	4.39	2.32
1,178.32	4.43	2.41
1,178.33	4.47	2.50
1,178.34	4.52	2.59
1,178.35	4.56	2.68
1,178.36	4.60	2.77
1,178.37	4.64	2.86
1,178.38	4.69	2.96
1,178.39	4.73	3.05
1,178.40	4.76	3.15
1,178.41	4.80	3.24
1,178.42	4.84	3.34
1,178.43	4.88	3.44
1,178.44	4.92	3.54
1,178.45	4.95	3.64
1,178.46	4.99	3.74
1,178.47	5.02	3.84
1,178.48	5.06	3.94
1,178.49	5.09	4.04
1,178.50	5.12	4.14
1,178.51	5.16	4.25
1,178.52	5.19	4.35
1,178.53	5.22	4.46
1,178.54	5.25	4.56
1,178.55	5.28	4.67
1,178.56	5.31	4.77
1,178.57	5.34	4.88
1,178.58	5.37	4.99
1,178.59	5.40	5.09
1,178.60	5.42	5.20
1,178.61	5.45	5.31
1,178.62	5.48	5.41
1,178.63	5.50	5.52
1,178.64	5.53	5.63
1,178.65	5.55	5.74
1,178.66	5.57	5.84
1,178.67	5.60	5.95
1,178.68	5.62	6.06
1,178.69	5.64	6.16
1,178.70	5.66	6.27
1,178.71	5.68	6.38
1,178.72	5.71	6.48
1,178.73	5.72	6.59
1,178.74	5.74	6.69
1,178.75	5.76	6.80
1,178.76	5.78	6.90
1,178.77	5.80	7.01
1,178.78	5.81	7.11
1,178.79	5.83	7.21
1,178.80	5.85	7.32
1,178.81	5.86	7.42
1,178.82	5.88	7.52
1,178.83	5.89	7.62
1,178.84	5.90	7.72
1,178.85	5.91	7.81
1,178.86	5.93	7.91
1,178.87	5.94	8.01
1,178.88	5.95	8.10
1,178.89	5.96	8.19
1,178.90	5.97	8.29
1,178.91	5.98	8.38
1,178.92	5.98	8.47
1,178.93	5.99	8.55
1,178.94	6.00	8.64
1,178.95	6.00	8.73
1,178.96	6.01	8.81
1,178.97	6.01	8.89
1,178.98	6.01	8.97
1,178.99	6.02	9.05
1,179.00	6.02	9.12
1,179.01	6.02	9.20
1,179.02	**6.02**	9.27
1,179.03	6.02	9.34
1,179.04	6.02	9.40
1,179.05	6.02	9.47
1,179.06	6.01	9.53
1,179.07	6.01	9.59
1,179.08	6.00	9.64
1,179.09	6.00	9.70
1,179.10	5.99	9.75
1,179.11	5.98	9.79
1,179.12	5.97	9.84
1,179.13	5.96	9.88
1,179.14	5.95	9.91
1,179.15	5.94	9.95
1,179.16	5.92	9.97
1,179.17	5.91	10.00
1,179.18	5.89	10.02
1,179.19	5.87	10.03
1,179.20	5.85	10.04
1,179.21	5.82	**10.04**
1,179.22	5.80	10.03
1,179.23	5.77	10.02
1,179.24	5.74	10.00
1,179.25	5.70	9.96
1,179.26	5.65	9.92
1,179.27	5.61	9.86
1,179.28	5.54	9.77
1,179.29	5.44	9.59
1,179.30	5.28	9.33

Summary for Reach DMH14: TO UGS#1A

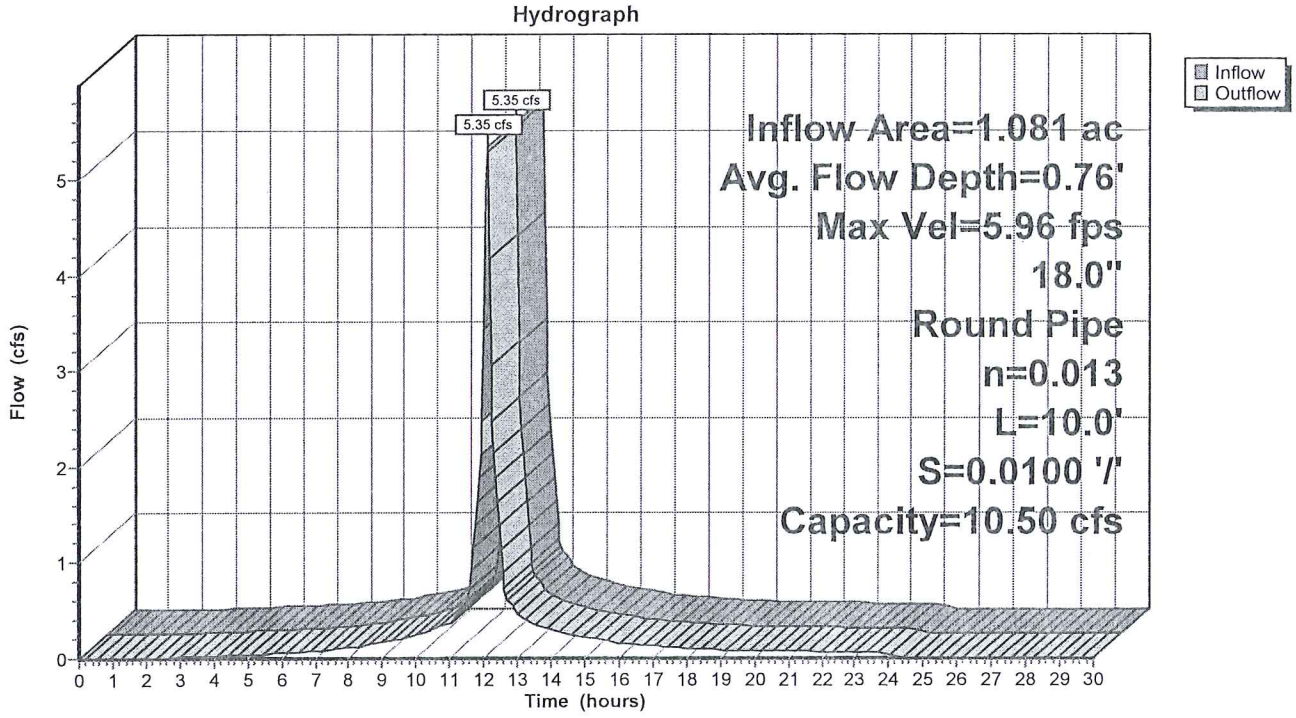
Inflow Area = 1.081 ac, 85.82% Impervious, Inflow Depth = 4.69" for 25-Year event
Inflow = 5.35 cfs @ 12.09 hrs, Volume= 0.423 af
Outflow = 5.35 cfs @ 12.09 hrs, Volume= 0.423 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.96 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.98 fps, Avg. Travel Time= 0.1 min

Peak Storage= 9 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.76'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 10.50 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 10.0' Slope= 0.0100 '/'
Inlet Invert= 1,177.30', Outlet Invert= 1,177.20'





Stage-Discharge for Reach DMH14: TO UGS#1A

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,177.30	0.00	0.00
1,177.31	0.35	0.00
1,177.32	0.63	0.00
1,177.33	0.84	0.01
1,177.34	1.01	0.01
1,177.35	1.17	0.02
1,177.36	1.32	0.03
1,177.37	1.46	0.04
1,177.38	1.59	0.06
1,177.39	1.72	0.07
1,177.40	1.84	0.09
1,177.41	1.96	0.11
1,177.42	2.07	0.14
1,177.43	2.18	0.16
1,177.44	2.28	0.19
1,177.45	2.38	0.22
1,177.46	2.48	0.25
1,177.47	2.58	0.29
1,177.48	2.67	0.32
1,177.49	2.77	0.36
1,177.50	2.86	0.40
1,177.51	2.94	0.44
1,177.52	3.03	0.49
1,177.53	3.11	0.53
1,177.54	3.20	0.58
1,177.55	3.28	0.63
1,177.56	3.35	0.69
1,177.57	3.43	0.74
1,177.58	3.51	0.80
1,177.59	3.58	0.86
1,177.60	3.66	0.92
1,177.61	3.73	0.98
1,177.62	3.80	1.05
1,177.63	3.87	1.11
1,177.64	3.94	1.18
1,177.65	4.00	1.25
1,177.66	4.07	1.33
1,177.67	4.13	1.40
1,177.68	4.20	1.48
1,177.69	4.26	1.55
1,177.70	4.32	1.63
1,177.71	4.38	1.72
1,177.72	4.44	1.80
1,177.73	4.50	1.88
1,177.74	4.56	1.97
1,177.75	4.61	2.06
1,177.76	4.67	2.15
1,177.77	4.72	2.24
1,177.78	4.78	2.33
1,177.79	4.83	2.42
1,177.80	4.88	2.52
1,177.81	4.94	2.61
1,177.82	4.99	2.71
1,177.83	5.04	2.81
1,177.84	5.08	2.91
1,177.85	5.13	3.01
1,177.86	5.18	3.12
1,177.87	5.23	3.22
1,177.88	5.27	3.33
1,177.89	5.32	3.43
1,177.90	5.36	3.54
1,177.91	5.41	3.65
1,177.92	5.45	3.76
1,177.93	5.49	3.87
1,177.94	5.53	3.98
1,177.95	5.57	4.09
1,177.96	5.61	4.20
1,177.97	5.65	4.32
1,177.98	5.69	4.43
1,177.99	5.73	4.55
1,178.00	5.77	4.66
1,178.01	5.80	4.78
1,178.02	5.84	4.90
1,178.03	5.88	5.02
1,178.04	5.91	5.13
1,178.05	5.94	5.25
1,178.06	5.98	5.37
1,178.07	6.01	5.49
1,178.08	6.04	5.61
1,178.09	6.07	5.73
1,178.10	6.10	5.85
1,178.11	6.13	5.97
1,178.12	6.16	6.09
1,178.13	6.19	6.21
1,178.14	6.22	6.33
1,178.15	6.25	6.45
1,178.16	6.27	6.58
1,178.17	6.30	6.70
1,178.18	6.33	6.82
1,178.19	6.35	6.94
1,178.20	6.37	7.06
1,178.21	6.40	7.18
1,178.22	6.42	7.30
1,178.23	6.44	7.42
1,178.24	6.46	7.53
1,178.25	6.49	7.65
1,178.26	6.51	7.77
1,178.27	6.52	7.89
1,178.28	6.54	8.00
1,178.29	6.56	8.12
1,178.30	6.58	8.23
1,178.31	6.60	8.35
1,178.32	6.61	8.46
1,178.33	6.63	8.57
1,178.34	6.64	8.68
1,178.35	6.66	8.79
1,178.36	6.67	8.90
1,178.37	6.68	9.01
1,178.38	6.69	9.12
1,178.39	6.70	9.22
1,178.40	6.71	9.33
1,178.41	6.72	9.43
1,178.42	6.73	9.53
1,178.43	6.74	9.63
1,178.44	6.75	9.73
1,178.45	6.76	9.82
1,178.46	6.76	9.91
1,178.47	6.77	10.01
1,178.48	6.77	10.09
1,178.49	6.77	10.18
1,178.50	6.77	10.27
1,178.51	6.78	10.35
1,178.52	**6.78**	10.43
1,178.53	6.78	10.51
1,178.54	6.77	10.58
1,178.55	6.77	10.66
1,178.56	6.77	10.73
1,178.57	6.76	10.79
1,178.58	6.76	10.85
1,178.59	6.75	10.92
1,178.60	6.74	10.97
1,178.61	6.73	11.02
1,178.62	6.72	11.07
1,178.63	6.71	11.12
1,178.64	6.70	11.16
1,178.65	6.68	11.20
1,178.66	6.67	11.23
1,178.67	6.65	11.25
1,178.68	6.63	11.27
1,178.69	6.61	11.29
1,178.70	6.58	11.30
1,178.71	6.55	**11.30**
1,178.72	6.52	11.29
1,178.73	6.49	11.28
1,178.74	6.46	11.25
1,178.75	6.41	11.21
1,178.76	6.36	11.16
1,178.77	6.31	11.10
1,178.78	6.24	11.00
1,178.79	6.12	10.80
1,178.80	5.94	10.50

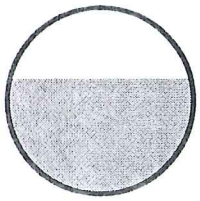
Summary for Reach DMH15: TO DMH#16

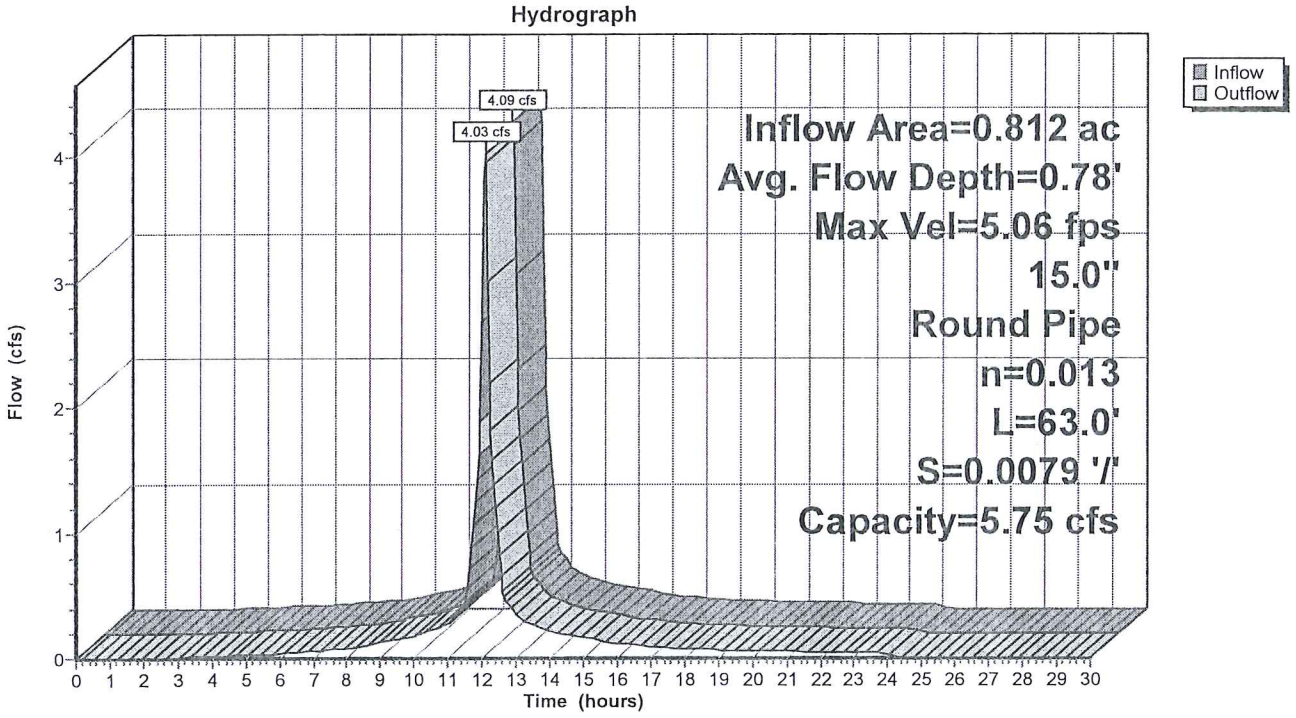
Inflow Area = 0.812 ac, 86.55% Impervious, Inflow Depth = 4.66" for 25-Year event
Inflow = 4.09 cfs @ 12.07 hrs, Volume= 0.315 af
Outflow = 4.03 cfs @ 12.08 hrs, Volume= 0.315 af, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.06 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.70 fps, Avg. Travel Time= 0.6 min

Peak Storage= 50 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.78'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.75 cfs

15.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 63.0' Slope= 0.0079 '/'
Inlet Invert= 1,180.20', Outlet Invert= 1,179.70'





Stage-Discharge for Reach DMH15: TO DMH#16

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.20	0.00	0.00
1,180.21	0.33	0.00
1,180.22	0.56	0.00
1,180.23	0.74	0.01
1,180.24	0.90	0.01
1,180.25	1.04	0.02
1,180.26	1.17	0.03
1,180.27	1.30	0.04
1,180.28	1.41	0.05
1,180.29	1.52	0.06
1,180.30	1.63	0.08
1,180.31	1.73	0.09
1,180.32	1.83	0.11
1,180.33	1.93	0.13
1,180.34	2.02	0.15
1,180.35	2.11	0.18
1,180.36	2.20	0.20
1,180.37	2.28	0.23
1,180.38	2.36	0.26
1,180.39	2.44	0.29
1,180.40	2.52	0.32
1,180.41	2.60	0.35
1,180.42	2.67	0.39
1,180.43	2.74	0.43
1,180.44	2.81	0.46
1,180.45	2.88	0.50
1,180.46	2.95	0.55
1,180.47	3.02	0.59
1,180.48	3.08	0.63
1,180.49	3.15	0.68
1,180.50	3.21	0.73
1,180.51	3.27	0.78
1,180.52	3.33	0.83
1,180.53	3.39	0.88
1,180.54	3.45	0.93
1,180.55	3.50	0.99
1,180.56	3.56	1.04
1,180.57	3.61	1.10
1,180.58	3.67	1.16
1,180.59	3.72	1.22
1,180.60	3.77	1.28
1,180.61	3.82	1.34
1,180.62	3.87	1.40
1,180.63	3.92	1.46
1,180.64	3.96	1.53
1,180.65	4.01	1.60
1,180.66	4.06	1.66
1,180.67	4.10	1.73
1,180.68	4.15	1.80
1,180.69	4.19	1.87
1,180.70	4.23	1.94
1,180.71	4.27	2.01
1,180.72	4.31	2.08
1,180.73	4.35	2.16
1,180.74	4.39	2.23
1,180.75	4.43	2.30
1,180.76	4.47	2.38
1,180.77	4.50	2.45
1,180.78	4.54	2.53
1,180.79	4.57	2.61
1,180.80	4.61	2.68
1,180.81	4.64	2.76
1,180.82	4.67	2.84
1,180.83	4.71	2.92
1,180.84	4.74	3.00
1,180.85	4.77	3.07
1,180.86	4.80	3.15
1,180.87	4.83	3.23
1,180.88	4.85	3.31
1,180.89	4.88	3.39
1,180.90	4.91	3.47
1,180.91	4.93	3.55
1,180.92	4.96	3.63
1,180.93	4.98	3.71
1,180.94	5.01	3.79
1,180.95	5.03	3.87
1,180.96	5.05	3.95
1,180.97	5.07	4.02
1,180.98	5.09	4.10
1,180.99	5.11	4.18
1,181.00	5.13	4.26
1,181.01	5.15	4.33
1,181.02	5.17	4.41
1,181.03	5.18	4.49
1,181.04	5.20	4.56
1,181.05	5.22	4.64
1,181.06	5.23	4.71
1,181.07	5.24	4.78
1,181.08	5.26	4.85
1,181.09	5.27	4.92
1,181.10	5.28	5.00
1,181.11	5.29	5.06
1,181.12	5.30	5.13
1,181.13	5.31	5.20
1,181.14	5.32	5.26
1,181.15	5.32	5.33
1,181.16	5.33	5.39
1,181.17	5.34	5.45
1,181.18	5.34	5.51
1,181.19	5.34	5.57
1,181.20	5.34	5.63
1,181.21	5.35	5.68
1,181.22	**5.35**	5.73
1,181.23	5.34	5.78
1,181.24	5.34	5.83
1,181.25	5.34	5.88
1,181.26	5.34	5.92
1,181.27	5.33	5.96
1,181.28	5.32	6.00
1,181.29	5.31	6.03
1,181.30	5.30	6.07
1,181.31	5.29	6.10
1,181.32	5.28	6.12
1,181.33	5.26	6.14
1,181.34	5.25	6.16
1,181.35	5.23	6.18
1,181.36	5.21	6.19
1,181.37	5.18	**6.19**
1,181.38	5.16	6.19
1,181.39	5.13	6.18
1,181.40	5.09	6.17
1,181.41	5.05	6.14
1,181.42	5.00	6.10
1,181.43	4.95	6.05
1,181.44	4.85	5.95
1,181.45	4.69	5.75

Summary for Reach DMH16: TO DMH#17

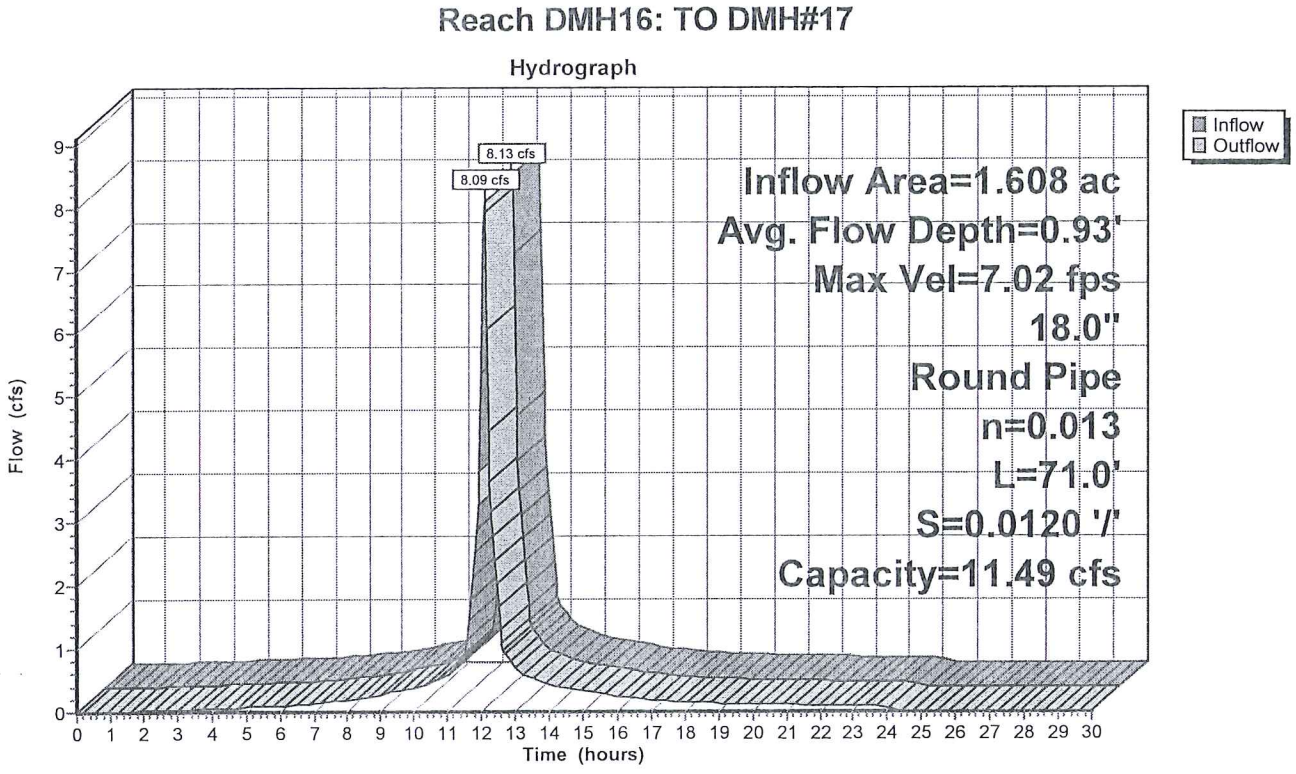
Inflow Area = 1.608 ac, 92.28% Impervious, Inflow Depth = 4.84" for 25-Year event
Inflow = 8.13 cfs @ 12.08 hrs, Volume= 0.648 af
Outflow = 8.09 cfs @ 12.08 hrs, Volume= 0.648 af, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.02 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.37 fps, Avg. Travel Time= 0.5 min

Peak Storage= 82 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.93'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 11.49 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 71.0' Slope= 0.0120 '/'
Inlet Invert= 1,179.60', Outlet Invert= 1,178.75'





Stage-Discharge for Reach DMH16: TO DMH#17

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.60	0.00	0.00
1,179.61	0.39	0.00
1,179.62	0.69	0.00
1,179.63	0.92	0.01
1,179.64	1.10	0.01
1,179.65	1.28	0.02
1,179.66	1.44	0.03
1,179.67	1.60	0.05
1,179.68	1.74	0.06
1,179.69	1.88	0.08
1,179.70	2.01	0.10
1,179.71	2.14	0.13
1,179.72	2.26	0.15
1,179.73	2.38	0.18
1,179.74	2.50	0.21
1,179.75	2.61	0.24
1,179.76	2.72	0.28
1,179.77	2.82	0.31
1,179.78	2.93	0.35
1,179.79	3.03	0.39
1,179.80	3.12	0.44
1,179.81	3.22	0.48
1,179.82	3.31	0.53
1,179.83	3.41	0.59
1,179.84	3.50	0.64
1,179.85	3.58	0.69
1,179.86	3.67	0.75
1,179.87	3.76	0.81
1,179.88	3.84	0.88
1,179.89	3.92	0.94
1,179.90	4.00	1.01
1,179.91	4.08	1.08
1,179.92	4.16	1.15
1,179.93	4.23	1.22
1,179.94	4.31	1.30
1,179.95	4.38	1.37
1,179.96	4.45	1.45
1,179.97	4.52	1.53
1,179.98	4.59	1.62
1,179.99	4.66	1.70
1,180.00	4.73	1.79
1,180.01	4.79	1.88
1,180.02	4.86	1.97
1,180.03	4.92	2.06
1,180.04	4.99	2.16
1,180.05	5.05	2.25
1,180.06	5.11	2.35
1,180.07	5.17	2.45
1,180.08	5.23	2.55
1,180.09	5.29	2.65
1,180.10	5.34	2.76
1,180.11	5.40	2.86
1,180.12	5.46	2.97
1,180.13	5.51	3.08
1,180.14	5.56	3.19
1,180.15	5.62	3.30
1,180.16	5.67	3.41
1,180.17	5.72	3.52
1,180.18	5.77	3.64
1,180.19	5.82	3.76
1,180.20	5.87	3.87
1,180.21	5.92	3.99
1,180.22	5.96	4.11
1,180.23	6.01	4.23
1,180.24	6.05	4.35
1,180.25	6.10	4.48
1,180.26	6.14	4.60
1,180.27	6.19	4.72
1,180.28	6.23	4.85
1,180.29	6.27	4.98
1,180.30	6.31	5.10
1,180.31	6.35	5.23
1,180.32	6.39	5.36
1,180.33	6.43	5.49
1,180.34	6.47	5.62
1,180.35	6.50	5.75
1,180.36	6.54	5.88
1,180.37	6.58	6.01
1,180.38	6.61	6.14
1,180.39	6.65	6.27
1,180.40	6.68	6.40
1,180.41	6.71	6.53
1,180.42	6.74	6.67
1,180.43	6.78	6.80
1,180.44	6.81	6.93
1,180.45	6.84	7.06
1,180.46	6.86	7.19
1,180.47	6.89	7.33
1,180.48	6.92	7.46
1,180.49	6.95	7.59
1,180.50	6.97	7.72
1,180.51	7.00	7.85
1,180.52	7.03	7.98
1,180.53	7.05	8.11
1,180.54	7.07	8.24
1,180.55	7.10	8.37
1,180.56	7.12	8.50
1,180.57	7.14	8.63
1,180.58	7.16	8.76
1,180.59	7.18	8.88
1,180.60	7.20	9.01
1,180.61	7.22	9.13
1,180.62	7.23	9.26
1,180.63	7.25	9.38
1,180.64	7.27	9.50
1,180.65	7.28	9.62
1,180.66	7.30	9.74
1,180.67	7.31	9.86
1,180.68	7.32	9.98
1,180.69	7.34	10.09
1,180.70	7.35	10.20
1,180.71	7.36	10.32
1,180.72	7.37	10.43
1,180.73	7.38	10.53
1,180.74	7.38	10.64
1,180.75	7.39	10.74
1,180.76	7.40	10.85
1,180.77	7.40	10.95
1,180.78	7.41	11.05
1,180.79	7.41	11.14
1,180.80	7.41	11.23
1,180.81	7.41	11.32
1,180.82	**7.41**	11.41
1,180.83	7.41	11.50
1,180.84	7.41	11.58
1,180.85	7.41	11.66
1,180.86	7.41	11.74
1,180.87	7.40	11.81
1,180.88	7.39	11.88
1,180.89	7.39	11.94
1,180.90	7.38	12.00
1,180.91	7.37	12.06
1,180.92	7.36	12.12
1,180.93	7.34	12.16
1,180.94	7.33	12.21
1,180.95	7.31	12.25
1,180.96	7.29	12.28
1,180.97	7.27	12.31
1,180.98	7.25	12.34
1,180.99	7.23	12.35
1,181.00	7.20	12.36
1,181.01	7.17	**12.36**
1,181.02	7.14	12.35
1,181.03	7.10	12.34
1,181.04	7.06	12.31
1,181.05	7.02	12.27
1,181.06	6.96	12.21
1,181.07	6.91	12.15
1,181.08	6.83	12.03
1,181.09	6.69	11.81
1,181.10	6.50	11.49

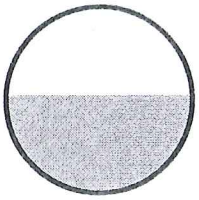
Summary for Reach DMH17: TO UGS#1B

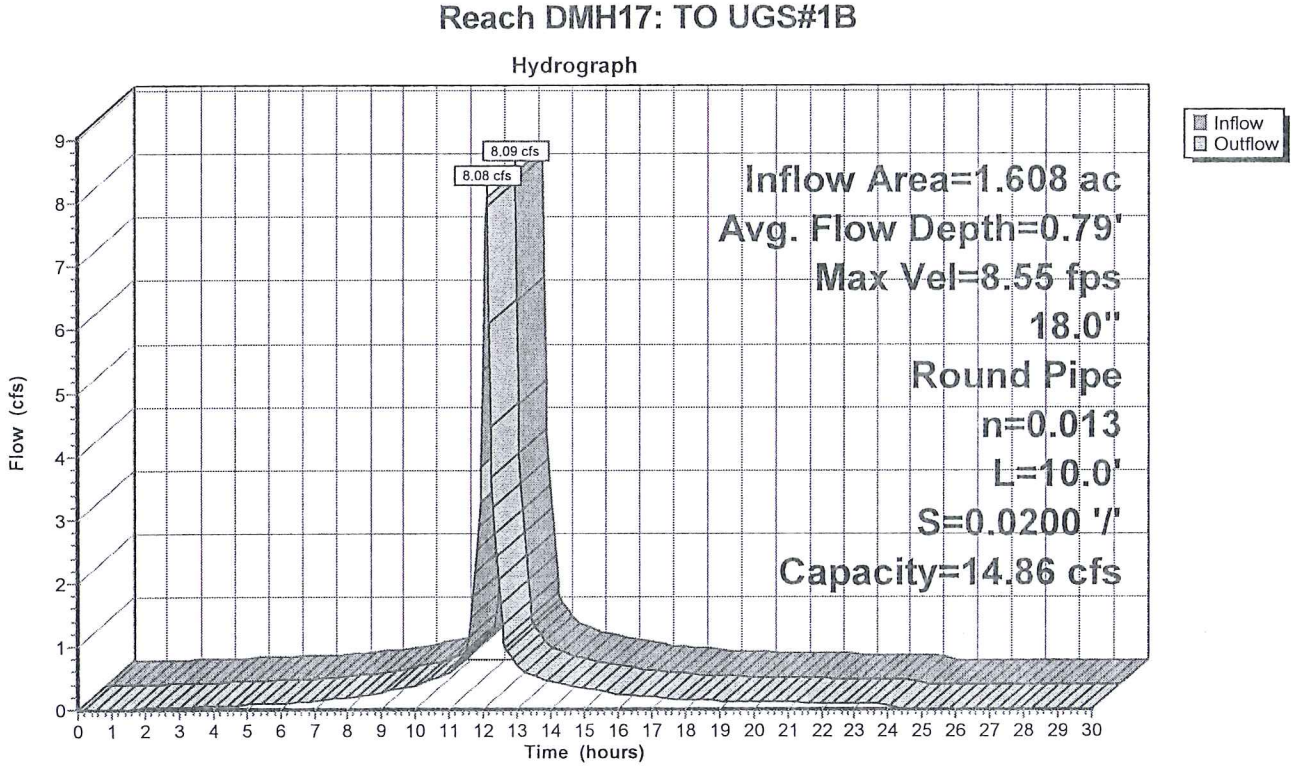
Inflow Area = 1.608 ac, 92.28% Impervious, Inflow Depth = 4.84" for 25-Year event
Inflow = 8.09 cfs @ 12.08 hrs, Volume= 0.648 af
Outflow = 8.08 cfs @ 12.08 hrs, Volume= 0.648 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.55 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.84 fps, Avg. Travel Time= 0.1 min

Peak Storage= 9 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.79'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 14.86 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 10.0' Slope= 0.0200 '/'
Inlet Invert= 1,178.50', Outlet Invert= 1,178.30'





Stage-Discharge for Reach DMH17: TO UGS#1B

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.50	0.00	0.00
1,178.51	0.50	0.00
1,178.52	0.89	0.00
1,178.53	1.18	0.01
1,178.54	1.43	0.02
1,178.55	1.65	0.03
1,178.56	1.87	0.04
1,178.57	2.06	0.06
1,178.58	2.25	0.08
1,178.59	2.43	0.11
1,178.60	2.60	0.13
1,178.61	2.77	0.16
1,178.62	2.93	0.19
1,178.63	3.08	0.23
1,178.64	3.23	0.27
1,178.65	3.37	0.31
1,178.66	3.51	0.36
1,178.67	3.65	0.40
1,178.68	3.78	0.45
1,178.69	3.91	0.51
1,178.70	4.04	0.57
1,178.71	4.16	0.63
1,178.72	4.28	0.69
1,178.73	4.40	0.76
1,178.74	4.52	0.82
1,178.75	4.63	0.90
1,178.76	4.74	0.97
1,178.77	4.85	1.05
1,178.78	4.96	1.13
1,178.79	5.07	1.22
1,178.80	5.17	1.30
1,178.81	5.27	1.39
1,178.82	5.37	1.48
1,178.83	5.47	1.58
1,178.84	5.57	1.67
1,178.85	5.66	1.77
1,178.86	5.75	1.88
1,178.87	5.84	1.98
1,178.88	5.93	2.09
1,178.89	6.02	2.20
1,178.90	6.11	2.31
1,178.91	6.20	2.43
1,178.92	6.28	2.54
1,178.93	6.36	2.66
1,178.94	6.44	2.79
1,178.95	6.52	2.91
1,178.96	6.60	3.04
1,178.97	6.68	3.16
1,178.98	6.76	3.29
1,178.99	6.83	3.43
1,179.00	6.91	3.56
1,179.01	6.98	3.70
1,179.02	7.05	3.84
1,179.03	7.12	3.98
1,179.04	7.19	4.12
1,179.05	7.26	4.26
1,179.06	7.33	4.41
1,179.07	7.39	4.56
1,179.08	7.46	4.70
1,179.09	7.52	4.85
1,179.10	7.58	5.01
1,179.11	7.65	5.16
1,179.12	7.71	5.31
1,179.13	7.77	5.47
1,179.14	7.82	5.63
1,179.15	7.88	5.79
1,179.16	7.94	5.95
1,179.17	8.00	6.11
1,179.18	8.05	6.27
1,179.19	8.10	6.43
1,179.20	8.16	6.60
1,179.21	8.21	6.76
1,179.22	8.26	6.93
1,179.23	8.31	7.09
1,179.24	8.36	7.26
1,179.25	8.41	7.43
1,179.26	8.45	7.60
1,179.27	8.50	7.77
1,179.28	8.54	7.93
1,179.29	8.59	8.10
1,179.30	8.63	8.27
1,179.31	8.67	8.44
1,179.32	8.72	8.62
1,179.33	8.76	8.79
1,179.34	8.80	8.96
1,179.35	8.84	9.13
1,179.36	8.87	9.30
1,179.37	8.91	9.47
1,179.38	8.95	9.64
1,179.39	8.98	9.81
1,179.40	9.02	9.98
1,179.41	9.05	10.15
1,179.42	9.08	10.32
1,179.43	9.11	10.49
1,179.44	9.14	10.66
1,179.45	9.17	10.82
1,179.46	9.20	10.99
1,179.47	9.23	11.15
1,179.48	9.25	11.32
1,179.49	9.28	11.48
1,179.50	9.30	11.64
1,179.51	9.33	11.81
1,179.52	9.35	11.97
1,179.53	9.37	12.12
1,179.54	9.39	12.28
1,179.55	9.41	12.44
1,179.56	9.43	12.59
1,179.57	9.45	12.74
1,179.58	9.47	12.89
1,179.59	9.48	13.04
1,179.60	9.50	13.19
1,179.61	9.51	13.33
1,179.62	9.52	13.48
1,179.63	9.53	13.62
1,179.64	9.54	13.75
1,179.65	9.55	13.89
1,179.66	9.56	14.02
1,179.67	9.57	14.15
1,179.68	9.57	14.28
1,179.69	9.58	14.40
1,179.70	9.58	14.52
1,179.71	9.58	14.64
1,179.72	**9.58**	14.75
1,179.73	9.58	14.86
1,179.74	9.58	14.97
1,179.75	9.58	15.07
1,179.76	9.57	15.17
1,179.77	9.57	15.26
1,179.78	9.56	15.35
1,179.79	9.55	15.44
1,179.80	9.54	15.52
1,179.81	9.52	15.59
1,179.82	9.51	15.66
1,179.83	9.49	15.72
1,179.84	9.47	15.78
1,179.85	9.45	15.83
1,179.86	9.43	15.88
1,179.87	9.40	15.91
1,179.88	9.37	15.94
1,179.89	9.34	15.96
1,179.90	9.31	15.97
1,179.91	9.27	**15.98**
1,179.92	9.23	15.97
1,179.93	9.18	15.95
1,179.94	9.13	15.92
1,179.95	9.07	15.86
1,179.96	9.00	15.79
1,179.97	8.93	15.70
1,179.98	8.82	15.55
1,179.99	8.65	15.27
1,180.00	8.41	14.86

Summary for Reach DMH18: TO DMH#20

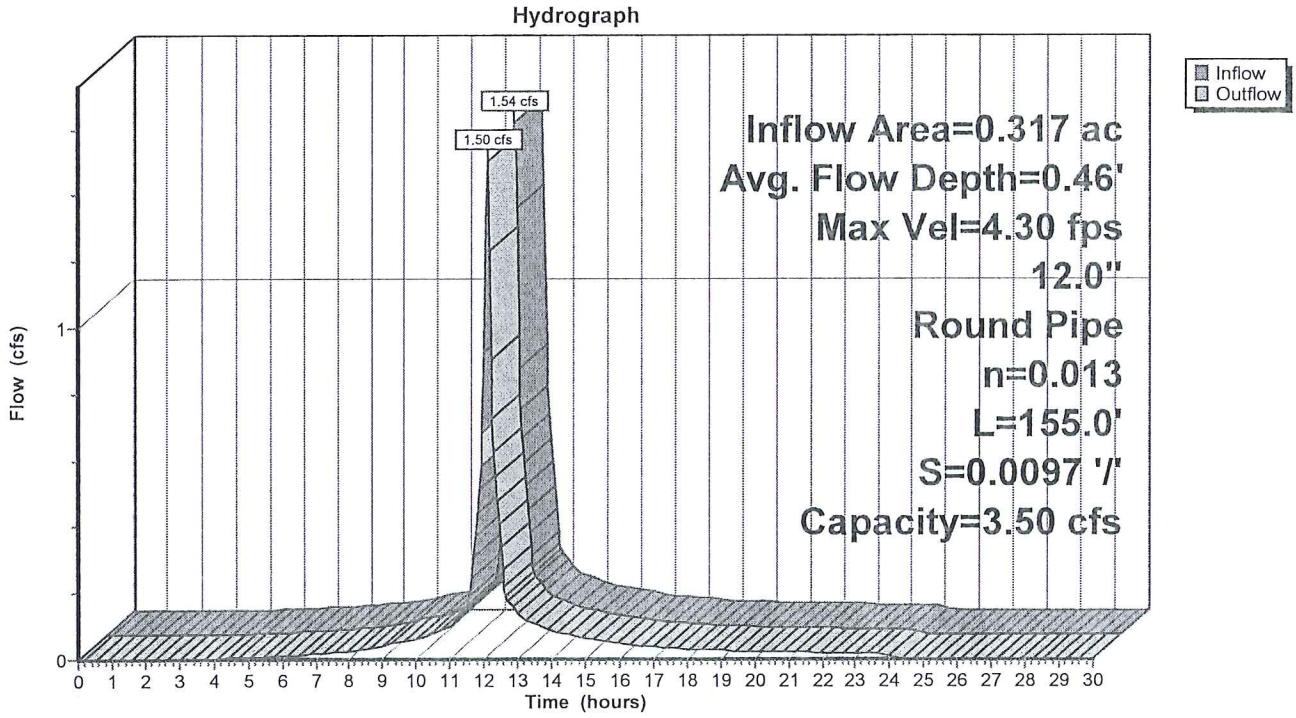
Inflow Area = 0.317 ac, 76.53% Impervious, Inflow Depth = 4.38" for 25-Year event
Inflow = 1.54 cfs @ 12.07 hrs, Volume= 0.116 af
Outflow = 1.50 cfs @ 12.09 hrs, Volume= 0.116 af, Atten= 3%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.30 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.41 fps, Avg. Travel Time= 1.8 min

Peak Storage= 55 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.46'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.50 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 155.0' Slope= 0.0097 '/'
Inlet Invert= 1,179.20', Outlet Invert= 1,177.70'





Stage-Discharge for Reach DMH18: TO DMH#20

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.20	0.00	0.00
1,179.21	0.40	0.00
1,179.22	0.63	0.00
1,179.23	0.82	0.01
1,179.24	0.99	0.01
1,179.25	1.15	0.02
1,179.26	1.29	0.02
1,179.27	1.43	0.03
1,179.28	1.55	0.05
1,179.29	1.67	0.06
1,179.30	1.79	0.07
1,179.31	1.90	0.09
1,179.32	2.01	0.11
1,179.33	2.11	0.13
1,179.34	2.21	0.15
1,179.35	2.31	0.17
1,179.36	2.40	0.19
1,179.37	2.49	0.22
1,179.38	2.58	0.25
1,179.39	2.66	0.28
1,179.40	2.74	0.31
1,179.41	2.83	0.34
1,179.42	2.90	0.37
1,179.43	2.98	0.41
1,179.44	3.05	0.44
1,179.45	3.13	0.48
1,179.46	3.20	0.52
1,179.47	3.27	0.56
1,179.48	3.33	0.60
1,179.49	3.40	0.64
1,179.50	3.46	0.69
1,179.51	3.53	0.73
1,179.52	3.59	0.78
1,179.53	3.65	0.82
1,179.54	3.70	0.87
1,179.55	3.76	0.92
1,179.56	3.82	0.97
1,179.57	3.87	1.02
1,179.58	3.92	1.07
1,179.59	3.98	1.13
1,179.60	4.03	1.18
1,179.61	4.07	1.24
1,179.62	4.12	1.29
1,179.63	4.17	1.35
1,179.64	4.21	1.40
1,179.65	4.26	1.46
1,179.66	4.30	1.52
1,179.67	4.34	1.58
1,179.68	4.38	1.63
1,179.69	4.42	1.69
1,179.70	4.46	1.75
1,179.71	4.50	1.81
1,179.72	4.54	1.87
1,179.73	4.57	1.93
1,179.74	4.61	1.99
1,179.75	4.64	2.05
1,179.76	4.67	2.11
1,179.77	4.70	2.17
1,179.78	4.73	2.23
1,179.79	4.76	2.29
1,179.80	4.79	2.35
1,179.81	4.81	2.41
1,179.82	4.84	2.47
1,179.83	4.86	2.53
1,179.84	4.88	2.59
1,179.85	4.91	2.65
1,179.86	4.93	2.71
1,179.87	4.95	2.77
1,179.88	4.96	2.82
1,179.89	4.98	2.88
1,179.90	5.00	2.93
1,179.91	5.01	2.99
1,179.92	5.03	3.04
1,179.93	5.04	3.09
1,179.94	5.05	3.15
1,179.95	5.06	3.20
1,179.96	5.07	3.24
1,179.97	5.07	3.29
1,179.98	5.08	3.34
1,179.99	5.08	3.38
1,180.00	5.09	3.43
1,180.01	**5.09**	3.47
1,180.02	5.09	3.51
1,180.03	5.09	3.54
1,180.04	5.08	3.58
1,180.05	5.08	3.61
1,180.06	5.07	3.64
1,180.07	5.06	3.67
1,180.08	5.05	3.69
1,180.09	5.03	3.72
1,180.10	5.02	3.74
1,180.11	5.00	3.75
1,180.12	4.98	3.76
1,180.13	4.95	3.77
1,180.14	4.92	**3.77**
1,180.15	4.89	3.77
1,180.16	4.85	3.76
1,180.17	4.80	3.74
1,180.18	4.74	3.70
1,180.19	4.66	3.65
1,180.20	4.46	3.50

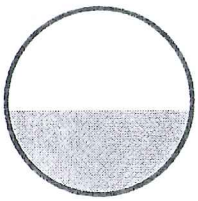
Summary for Reach DMH19: TO DMH-A1

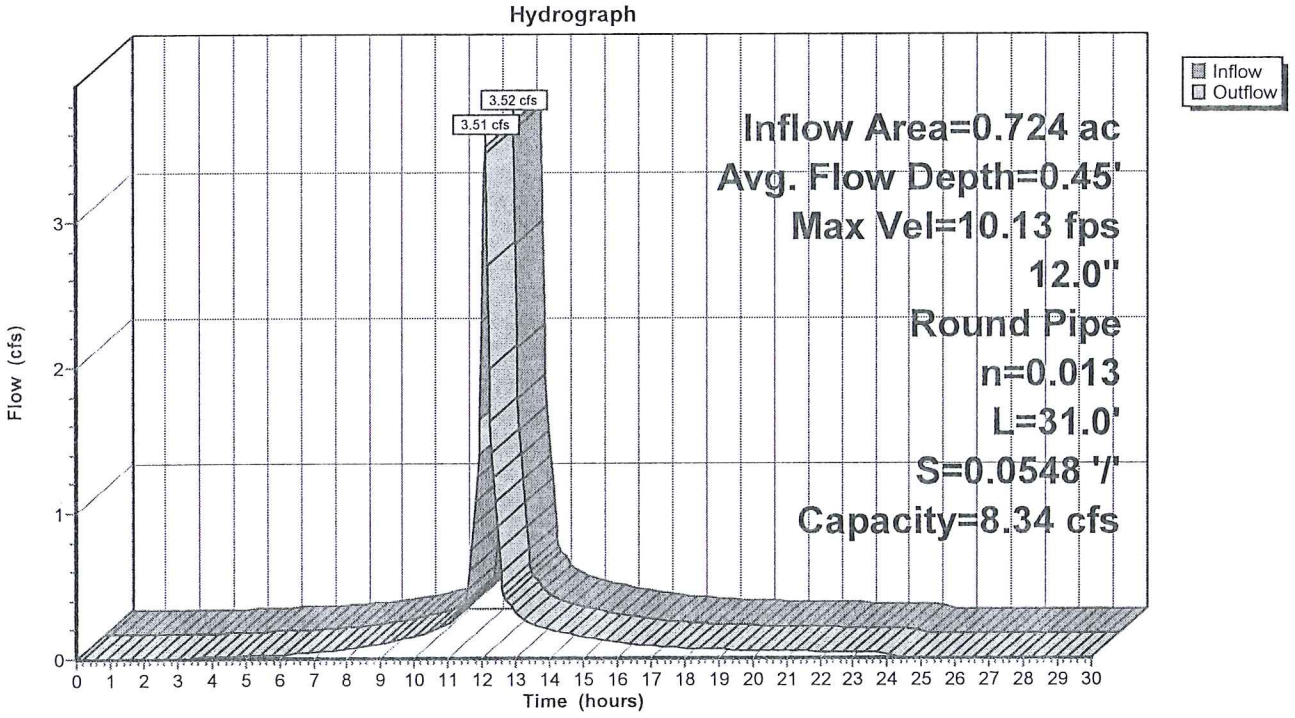
Inflow Area = 0.724 ac, 81.12% Impervious, Inflow Depth = 4.54" for 25-Year event
Inflow = 3.52 cfs @ 12.08 hrs, Volume= 0.274 af
Outflow = 3.51 cfs @ 12.08 hrs, Volume= 0.274 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.13 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.32 fps, Avg. Travel Time= 0.2 min

Peak Storage= 11 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.45'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.34 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 31.0' Slope= 0.0548 '/'
Inlet Invert= 1,177.10', Outlet Invert= 1,175.40'





Stage-Discharge for Reach DMH19: TO DMH-A1

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,177.10	0.00	0.00
1,177.11	0.95	0.00
1,177.12	1.50	0.01
1,177.13	1.95	0.01
1,177.14	2.36	0.02
1,177.15	2.73	0.04
1,177.16	3.07	0.06
1,177.17	3.39	0.08
1,177.18	3.70	0.11
1,177.19	3.99	0.14
1,177.20	4.26	0.17
1,177.21	4.53	0.21
1,177.22	4.78	0.26
1,177.23	5.02	0.30
1,177.24	5.26	0.35
1,177.25	5.49	0.41
1,177.26	5.71	0.46
1,177.27	5.93	0.52
1,177.28	6.13	0.59
1,177.29	6.34	0.66
1,177.30	6.53	0.73
1,177.31	6.73	0.81
1,177.32	6.91	0.89
1,177.33	7.09	0.97
1,177.34	7.27	1.05
1,177.35	7.44	1.14
1,177.36	7.61	1.24
1,177.37	7.78	1.33
1,177.38	7.94	1.43
1,177.39	8.09	1.53
1,177.40	8.24	1.63
1,177.41	8.39	1.74
1,177.42	8.54	1.85
1,177.43	8.68	1.96
1,177.44	8.82	2.08
1,177.45	8.95	2.19
1,177.46	9.09	2.31
1,177.47	9.22	2.43
1,177.48	9.34	2.56
1,177.49	9.46	2.68
1,177.50	9.58	2.81
1,177.51	9.70	2.94
1,177.52	9.81	3.07
1,177.53	9.93	3.21
1,177.54	10.03	3.34
1,177.55	10.14	3.48
1,177.56	10.24	3.61
1,177.57	10.34	3.75
1,177.58	10.44	3.89
1,177.59	10.53	4.03
1,177.60	10.62	4.17
1,177.61	10.71	4.31
1,177.62	10.80	4.46
1,177.63	10.88	4.60
1,177.64	10.96	4.74
1,177.65	11.04	4.89
1,177.66	11.12	5.03
1,177.67	11.19	5.17
1,177.68	11.26	5.32
1,177.69	11.33	5.46
1,177.70	11.39	5.61
1,177.71	11.45	5.75
1,177.72	11.51	5.89
1,177.73	11.57	6.03
1,177.74	11.63	6.17
1,177.75	11.68	6.31
1,177.76	11.73	6.45
1,177.77	11.77	6.59
1,177.78	11.82	6.72
1,177.79	11.86	6.85
1,177.80	11.90	6.99
1,177.81	11.93	7.11
1,177.82	11.96	7.24
1,177.83	11.99	7.37
1,177.84	12.02	7.49
1,177.85	12.04	7.61
1,177.86	12.06	7.72
1,177.87	12.08	7.84
1,177.88	12.09	7.95
1,177.89	12.10	8.05
1,177.90	12.11	8.16
1,177.91	**12.11**	8.25
1,177.92	12.11	8.35
1,177.93	12.10	8.44
1,177.94	12.10	8.52
1,177.95	12.08	8.60
1,177.96	12.07	8.67
1,177.97	12.04	8.74
1,177.98	12.02	8.80
1,177.99	11.98	8.85
1,178.00	11.94	8.89
1,178.01	11.90	8.93
1,178.02	11.85	8.95
1,178.03	11.78	8.97
1,178.04	11.71	**8.97**
1,178.05	11.63	8.96
1,178.06	11.54	8.94
1,178.07	11.42	8.89
1,178.08	11.28	8.82
1,178.09	11.09	8.69
1,178.10	10.62	8.34

Summary for Reach DMH2: TO DMH#3

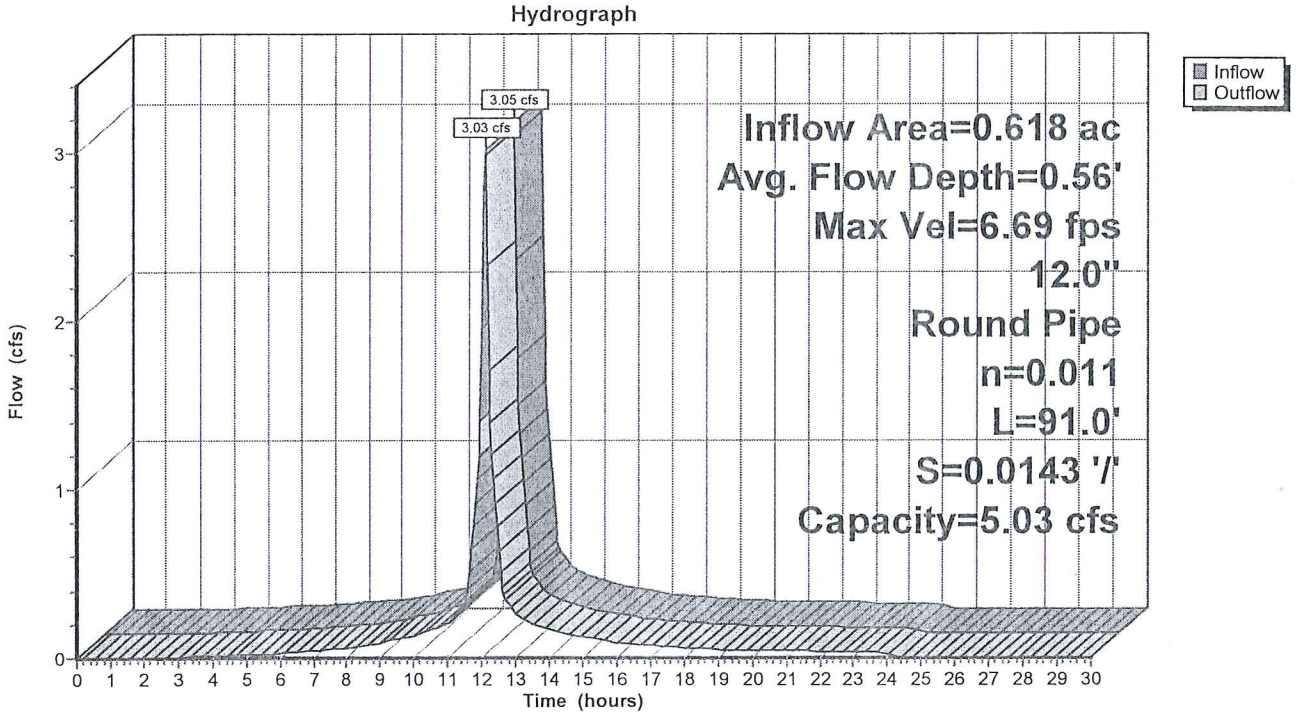
Inflow Area = 0.618 ac, 81.95% Impervious, Inflow Depth = 4.59" for 25-Year event
Inflow = 3.05 cfs @ 12.08 hrs, Volume= 0.237 af
Outflow = 3.03 cfs @ 12.09 hrs, Volume= 0.237 af, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.69 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.22 fps, Avg. Travel Time= 0.7 min

Peak Storage= 41 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.56'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.03 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 91.0' Slope= 0.0143 '/'
Inlet Invert= 1,174.60', Outlet Invert= 1,173.30'





Stage-Discharge for Reach DMH2: TO DMH#3

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,174.60	0.00	0.00
1,174.61	0.57	0.00
1,174.62	0.90	0.00
1,174.63	1.18	0.01
1,174.64	1.42	0.01
1,174.65	1.65	0.02
1,174.66	1.85	0.04
1,174.67	2.05	0.05
1,174.68	2.23	0.07
1,174.69	2.40	0.08
1,174.70	2.57	0.11
1,174.71	2.73	0.13
1,174.72	2.88	0.15
1,174.73	3.03	0.18
1,174.74	3.17	0.21
1,174.75	3.31	0.24
1,174.76	3.45	0.28
1,174.77	3.57	0.32
1,174.78	3.70	0.36
1,174.79	3.82	0.40
1,174.80	3.94	0.44
1,174.81	4.06	0.49
1,174.82	4.17	0.53
1,174.83	4.28	0.58
1,174.84	4.39	0.64
1,174.85	4.49	0.69
1,174.86	4.59	0.74
1,174.87	4.69	0.80
1,174.88	4.79	0.86
1,174.89	4.88	0.92
1,174.90	4.97	0.99
1,174.91	5.06	1.05
1,174.92	5.15	1.12
1,174.93	5.24	1.18
1,174.94	5.32	1.25
1,174.95	5.40	1.32
1,174.96	5.48	1.40
1,174.97	5.56	1.47
1,174.98	5.63	1.54
1,174.99	5.71	1.62
1,175.00	5.78	1.70
1,175.01	5.85	1.77
1,175.02	5.92	1.85
1,175.03	5.99	1.93
1,175.04	6.05	2.01
1,175.05	6.12	2.10
1,175.06	6.18	2.18
1,175.07	6.24	2.26
1,175.08	6.30	2.35
1,175.09	6.35	2.43
1,175.10	6.41	2.52
1,175.11	6.46	2.60
1,175.12	6.51	2.69
1,175.13	6.56	2.77
1,175.14	6.61	2.86
1,175.15	6.66	2.95
1,175.16	6.71	3.03
1,175.17	6.75	3.12
1,175.18	6.79	3.21
1,175.19	6.83	3.29
1,175.20	6.87	3.38
1,175.21	6.91	3.47
1,175.22	6.95	3.55
1,175.23	6.98	3.64
1,175.24	7.01	3.72
1,175.25	7.04	3.81
1,175.26	7.07	3.89
1,175.27	7.10	3.97
1,175.28	7.13	4.05
1,175.29	7.15	4.13
1,175.30	7.18	4.21
1,175.31	7.20	4.29
1,175.32	7.22	4.37
1,175.33	7.23	4.44
1,175.34	7.25	4.52
1,175.35	7.26	4.59
1,175.36	7.28	4.66
1,175.37	7.29	4.73
1,175.38	7.29	4.79
1,175.39	7.30	4.86
1,175.40	7.30	4.92
1,175.41	**7.30**	4.98
1,175.42	7.30	5.03
1,175.43	7.30	5.09
1,175.44	7.30	5.14
1,175.45	7.29	5.19
1,175.46	7.28	5.23
1,175.47	7.26	5.27
1,175.48	7.25	5.31
1,175.49	7.23	5.34
1,175.50	7.20	5.36
1,175.51	7.18	5.39
1,175.52	7.15	5.40
1,175.53	7.11	5.41
1,175.54	7.07	**5.41**
1,175.55	7.02	5.41
1,175.56	6.96	5.39
1,175.57	6.89	5.36
1,175.58	6.80	5.32
1,175.59	6.69	5.24
1,175.60	6.41	5.03

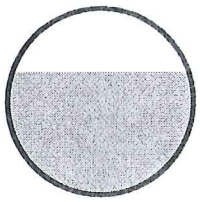
Summary for Reach DMH3: TO DMH#4

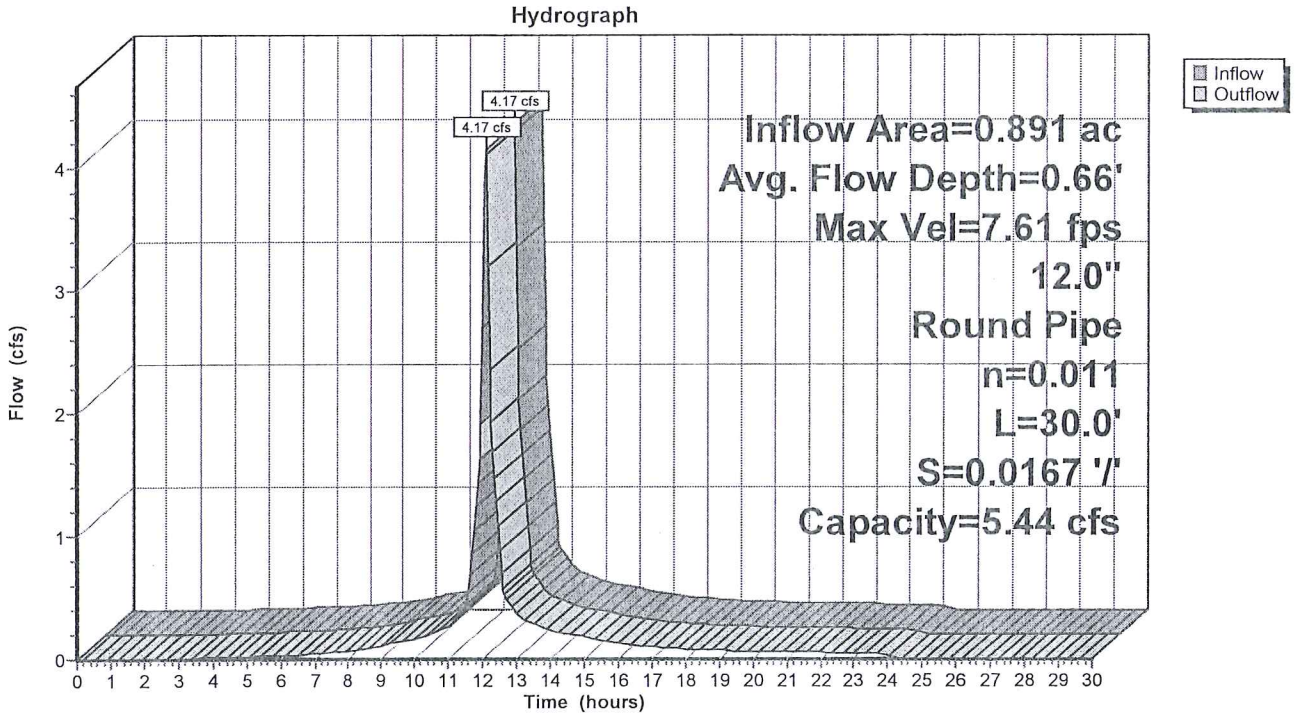
Inflow Area = 0.891 ac, 70.65% Impervious, Inflow Depth = 4.30" for 25-Year event
Inflow = 4.17 cfs @ 12.08 hrs, Volume= 0.320 af
Outflow = 4.17 cfs @ 12.09 hrs, Volume= 0.320 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.61 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.53 fps, Avg. Travel Time= 0.2 min

Peak Storage= 16 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.66'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.44 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 30.0' Slope= 0.0167 '/'
Inlet Invert= 1,173.30', Outlet Invert= 1,172.80'





Stage-Discharge for Reach DMH3: TO DMH#4

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,173.30	0.00	0.00
1,173.31	0.62	0.00
1,173.32	0.97	0.00
1,173.33	1.27	0.01
1,173.34	1.54	0.02
1,173.35	1.78	0.03
1,173.36	2.00	0.04
1,173.37	2.21	0.05
1,173.38	2.41	0.07
1,173.39	2.60	0.09
1,173.40	2.78	0.11
1,173.41	2.95	0.14
1,173.42	3.11	0.17
1,173.43	3.27	0.20
1,173.44	3.43	0.23
1,173.45	3.58	0.26
1,173.46	3.72	0.30
1,173.47	3.86	0.34
1,173.48	4.00	0.38
1,173.49	4.13	0.43
1,173.50	4.26	0.48
1,173.51	4.38	0.53
1,173.52	4.50	0.58
1,173.53	4.62	0.63
1,173.54	4.74	0.69
1,173.55	4.85	0.74
1,173.56	4.96	0.80
1,173.57	5.07	0.87
1,173.58	5.17	0.93
1,173.59	5.27	1.00
1,173.60	5.37	1.06
1,173.61	5.47	1.13
1,173.62	5.56	1.21
1,173.63	5.66	1.28
1,173.64	5.75	1.35
1,173.65	5.83	1.43
1,173.66	5.92	1.51
1,173.67	6.00	1.59
1,173.68	6.09	1.67
1,173.69	6.17	1.75
1,173.70	6.24	1.83
1,173.71	6.32	1.92
1,173.72	6.39	2.00
1,173.73	6.47	2.09
1,173.74	6.54	2.18
1,173.75	6.61	2.26
1,173.76	6.67	2.35
1,173.77	6.74	2.44
1,173.78	6.80	2.53
1,173.79	6.86	2.63
1,173.80	6.92	2.72
1,173.81	6.98	2.81
1,173.82	7.04	2.90
1,173.83	7.09	3.00
1,173.84	7.14	3.09
1,173.85	7.19	3.18
1,173.86	7.24	3.28
1,173.87	7.29	3.37
1,173.88	7.34	3.47
1,173.89	7.38	3.56
1,173.90	7.42	3.65
1,173.91	7.46	3.74
1,173.92	7.50	3.84
1,173.93	7.54	3.93
1,173.94	7.57	4.02
1,173.95	7.61	4.11
1,173.96	7.64	4.20
1,173.97	7.67	4.29
1,173.98	7.70	4.38
1,173.99	7.73	4.47
1,174.00	7.75	4.55
1,174.01	7.77	4.64
1,174.02	7.79	4.72
1,174.03	7.81	4.80
1,174.04	7.83	4.88
1,174.05	7.84	4.96
1,174.06	7.86	5.03
1,174.07	7.87	5.11
1,174.08	7.88	5.18
1,174.09	7.88	5.25
1,174.10	7.89	5.31
1,174.11	**7.89**	5.38
1,174.12	7.89	5.44
1,174.13	7.89	5.50
1,174.14	7.88	5.55
1,174.15	7.87	5.60
1,174.16	7.86	5.65
1,174.17	7.85	5.69
1,174.18	7.83	5.73
1,174.19	7.81	5.76
1,174.20	7.78	5.79
1,174.21	7.75	5.82
1,174.22	7.72	5.83
1,174.23	7.68	5.84
1,174.24	7.63	**5.85**
1,174.25	7.58	5.84
1,174.26	7.52	5.82
1,174.27	7.44	5.79
1,174.28	7.35	5.74
1,174.29	7.22	5.66
1,174.30	6.92	5.44

Summary for Reach DMH4: TO DMH-E

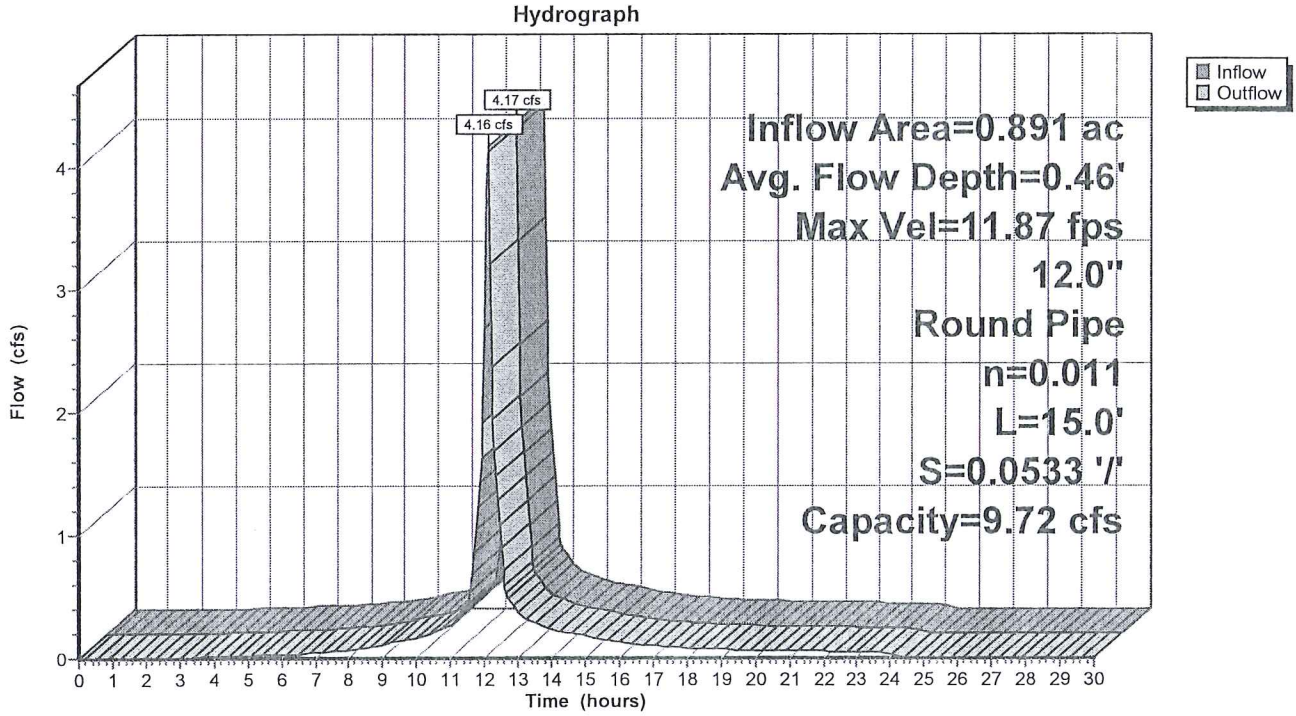
Inflow Area = 0.891 ac, 70.65% Impervious, Inflow Depth = 4.30" for 25-Year event
Inflow = 4.17 cfs @ 12.09 hrs, Volume= 0.320 af
Outflow = 4.16 cfs @ 12.09 hrs, Volume= 0.320 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 11.87 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.83 fps, Avg. Travel Time= 0.1 min

Peak Storage= 5 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.46'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 9.72 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 15.0' Slope= 0.0533 '/'
Inlet Invert= 1,172.80', Outlet Invert= 1,172.00'





Stage-Discharge for Reach DMH4: TO DMH-E

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,172.80	0.00	0.00
1,172.81	1.10	0.00
1,172.82	1.74	0.01
1,172.83	2.28	0.02
1,172.84	2.75	0.03
1,172.85	3.18	0.05
1,172.86	3.58	0.07
1,172.87	3.95	0.10
1,172.88	4.31	0.13
1,172.89	4.65	0.16
1,172.90	4.97	0.20
1,172.91	5.27	0.25
1,172.92	5.57	0.30
1,172.93	5.86	0.35
1,172.94	6.13	0.41
1,172.95	6.40	0.47
1,172.96	6.66	0.54
1,172.97	6.91	0.61
1,172.98	7.15	0.69
1,172.99	7.39	0.77
1,173.00	7.61	0.85
1,173.01	7.84	0.94
1,173.02	8.06	1.03
1,173.03	8.27	1.13
1,173.04	8.47	1.23
1,173.05	8.67	1.33
1,173.06	8.87	1.44
1,173.07	9.06	1.55
1,173.08	9.25	1.67
1,173.09	9.43	1.78
1,173.10	9.61	1.90
1,173.11	9.78	2.03
1,173.12	9.95	2.16
1,173.13	10.12	2.29
1,173.14	10.28	2.42
1,173.15	10.44	2.56
1,173.16	10.59	2.70
1,173.17	10.74	2.84
1,173.18	10.89	2.98
1,173.19	11.03	3.13
1,173.20	11.17	3.28
1,173.21	11.31	3.43
1,173.22	11.44	3.58
1,173.23	11.57	3.74
1,173.24	11.69	3.89
1,173.25	11.82	4.05
1,173.26	11.94	4.21
1,173.27	12.05	4.37
1,173.28	12.16	4.53
1,173.29	12.27	4.70
1,173.30	12.38	4.86
1,173.31	12.48	5.03
1,173.32	12.58	5.19
1,173.33	12.68	5.36
1,173.34	12.78	5.53
1,173.35	12.87	5.70
1,173.36	12.96	5.86
1,173.37	13.04	6.03
1,173.38	13.12	6.20
1,173.39	13.20	6.37
1,173.40	13.28	6.53
1,173.41	13.35	6.70
1,173.42	13.42	6.86
1,173.43	13.49	7.03
1,173.44	13.55	7.19
1,173.45	13.61	7.36
1,173.46	13.67	7.52
1,173.47	13.72	7.68
1,173.48	13.77	7.83
1,173.49	13.82	7.99
1,173.50	13.86	8.14
1,173.51	13.90	8.29
1,173.52	13.94	8.44
1,173.53	13.98	8.59
1,173.54	14.01	8.73
1,173.55	14.03	8.87
1,173.56	14.06	9.00
1,173.57	14.08	9.13
1,173.58	14.09	9.26
1,173.59	14.10	9.39
1,173.60	14.11	9.50
1,173.61	**14.11**	9.62
1,173.62	14.11	9.73
1,173.63	14.11	9.83
1,173.64	14.10	9.93
1,173.65	14.08	10.02
1,173.66	14.06	10.10
1,173.67	14.04	10.18
1,173.68	14.00	10.25
1,173.69	13.97	10.31
1,173.70	13.92	10.36
1,173.71	13.87	10.41
1,173.72	13.81	10.44
1,173.73	13.73	10.46
1,173.74	13.65	**10.46**
1,173.75	13.56	10.45
1,173.76	13.44	10.42
1,173.77	13.31	10.36
1,173.78	13.15	10.28
1,173.79	12.92	10.13
1,173.80	12.38	9.72

Summary for Reach DMH5: TO DMH#6

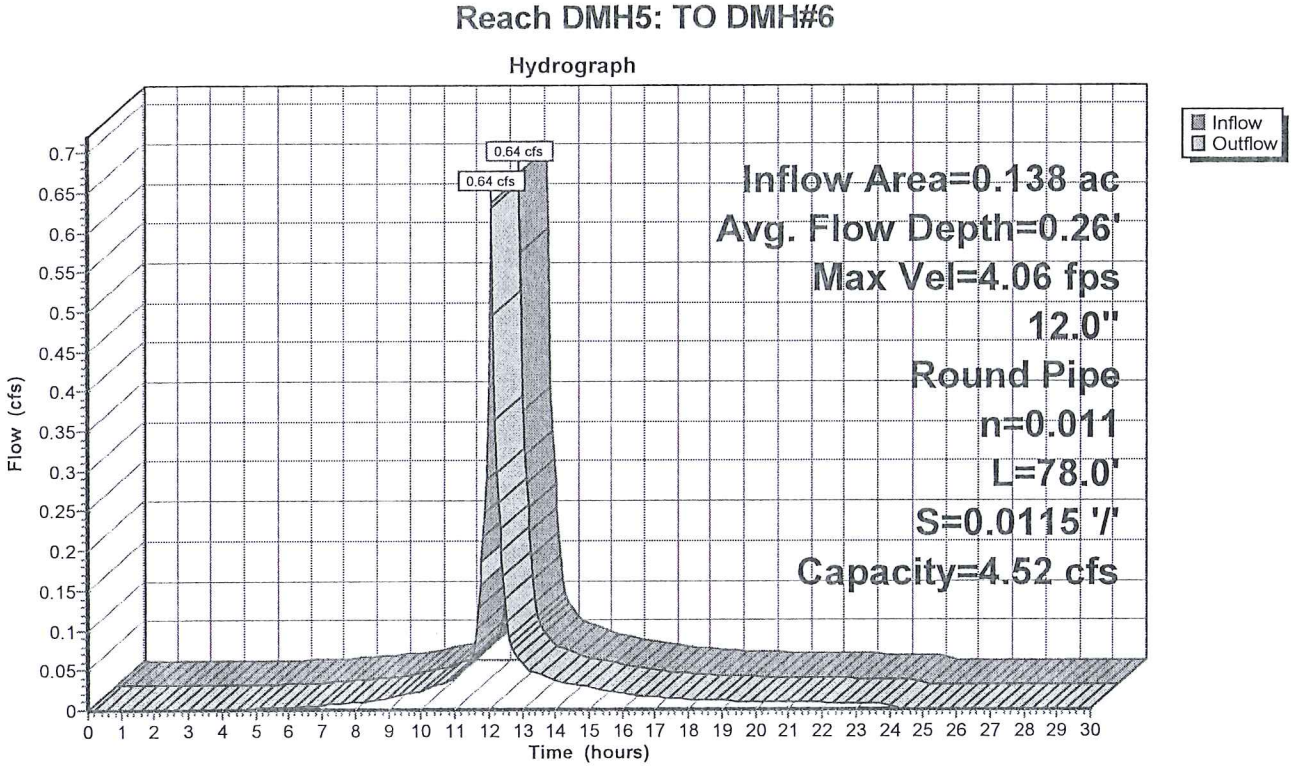
Inflow Area = 0.138 ac, 68.08% Impervious, Inflow Depth = 4.17" for 25-Year event
Inflow = 0.64 cfs @ 12.08 hrs, Volume= 0.048 af
Outflow = 0.64 cfs @ 12.09 hrs, Volume= 0.048 af, Atten= 1%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.06 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.34 fps, Avg. Travel Time= 1.0 min

Peak Storage= 12 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.26'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.52 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 78.0' Slope= 0.0115 '/'
Inlet Invert= 1,171.90', Outlet Invert= 1,171.00'





Stage-Discharge for Reach DMH5: TO DMH#6

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,171.90	0.00	0.00
1,171.91	0.51	0.00
1,171.92	0.81	0.00
1,171.93	1.06	0.01
1,171.94	1.28	0.01
1,171.95	1.48	0.02
1,171.96	1.67	0.03
1,171.97	1.84	0.04
1,171.98	2.00	0.06
1,171.99	2.16	0.08
1,172.00	2.31	0.09
1,172.01	2.45	0.12
1,172.02	2.59	0.14
1,172.03	2.72	0.16
1,172.04	2.85	0.19
1,172.05	2.98	0.22
1,172.06	3.10	0.25
1,172.07	3.21	0.28
1,172.08	3.33	0.32
1,172.09	3.44	0.36
1,172.10	3.54	0.40
1,172.11	3.65	0.44
1,172.12	3.75	0.48
1,172.13	3.85	0.52
1,172.14	3.94	0.57
1,172.15	4.03	0.62
1,172.16	4.13	0.67
1,172.17	4.22	0.72
1,172.18	4.30	0.77
1,172.19	4.39	0.83
1,172.20	4.47	0.89
1,172.21	4.55	0.94
1,172.22	4.63	1.00
1,172.23	4.71	1.06
1,172.24	4.78	1.13
1,172.25	4.85	1.19
1,172.26	4.93	1.25
1,172.27	5.00	1.32
1,172.28	5.06	1.39
1,172.29	5.13	1.45
1,172.30	5.20	1.52
1,172.31	5.26	1.59
1,172.32	5.32	1.67
1,172.33	5.38	1.74
1,172.34	5.44	1.81
1,172.35	5.50	1.88
1,172.36	5.55	1.96
1,172.37	5.61	2.03
1,172.38	5.66	2.11
1,172.39	5.71	2.18
1,172.40	5.76	2.26
1,172.41	5.81	2.34
1,172.42	5.85	2.42
1,172.43	5.90	2.49
1,172.44	5.94	2.57
1,172.45	5.99	2.65
1,172.46	6.03	2.73
1,172.47	6.07	2.81
1,172.48	6.10	2.88
1,172.49	6.14	2.96
1,172.50	6.18	3.04
1,172.51	6.21	3.12
1,172.52	6.24	3.19
1,172.53	6.27	3.27
1,172.54	6.30	3.35
1,172.55	6.33	3.42
1,172.56	6.36	3.50
1,172.57	6.38	3.57
1,172.58	6.41	3.64
1,172.59	6.43	3.72
1,172.60	6.45	3.79
1,172.61	6.47	3.86
1,172.62	6.48	3.93
1,172.63	6.50	3.99
1,172.64	6.51	4.06
1,172.65	6.53	4.12
1,172.66	6.54	4.19
1,172.67	6.55	4.25
1,172.68	6.55	4.31
1,172.69	6.56	4.37
1,172.70	6.56	4.42
1,172.71	**6.57**	4.47
1,172.72	6.56	4.52
1,172.73	6.56	4.57
1,172.74	6.56	4.62
1,172.75	6.55	4.66
1,172.76	6.54	4.70
1,172.77	6.53	4.74
1,172.78	6.51	4.77
1,172.79	6.50	4.80
1,172.80	6.47	4.82
1,172.81	6.45	4.84
1,172.82	6.42	4.85
1,172.83	6.39	4.86
1,172.84	6.35	**4.87**
1,172.85	6.31	4.86
1,172.86	6.25	4.85
1,172.87	6.19	4.82
1,172.88	6.11	4.78
1,172.89	6.01	4.71
1,172.90	5.76	4.52

Summary for Reach DMH6: TO DCB-

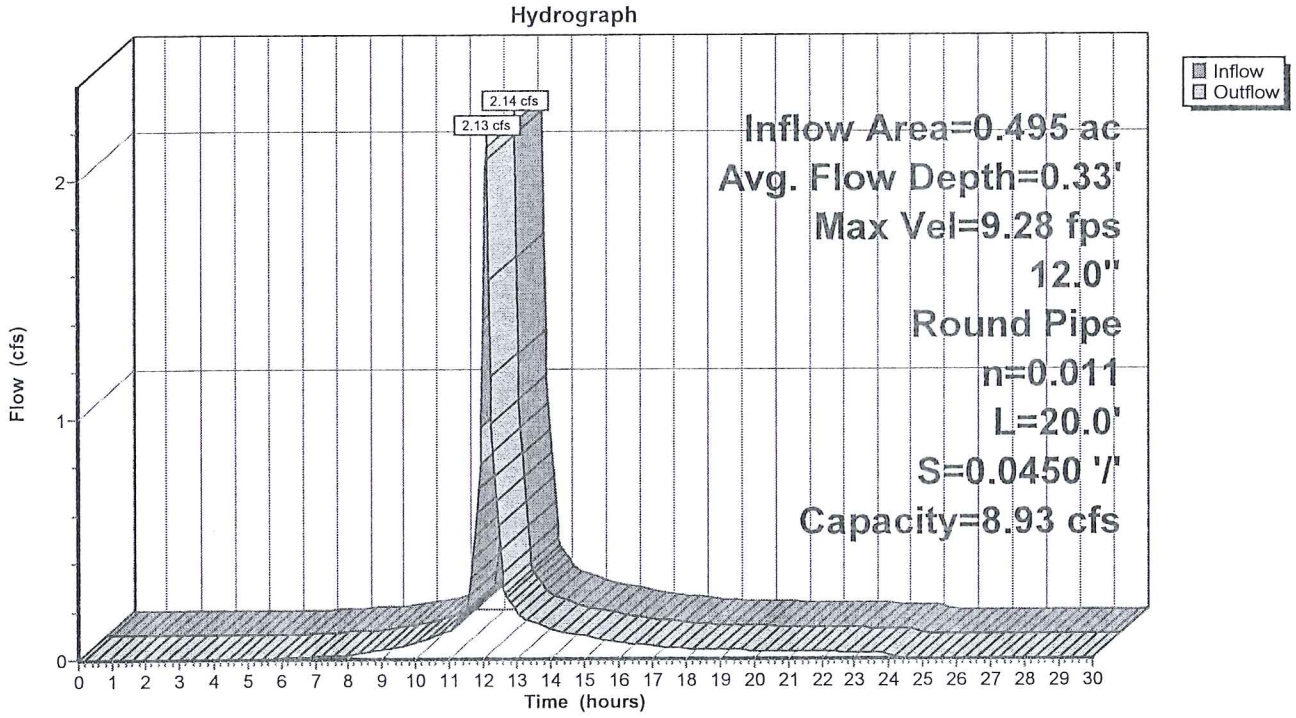
Inflow Area = 0.495 ac, 51.53% Impervious, Inflow Depth = 3.79" for 25-Year event
Inflow = 2.14 cfs @ 12.08 hrs, Volume= 0.156 af
Outflow = 2.13 cfs @ 12.08 hrs, Volume= 0.156 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.28 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.01 fps, Avg. Travel Time= 0.1 min

Peak Storage= 5 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.33'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.93 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 20.0' Slope= 0.0450 '/'
Inlet Invert= 1,170.90', Outlet Invert= 1,170.00'





Stage-Discharge for Reach DMH6: TO DCB-

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,170.90	0.00	0.00
1,170.91	1.01	0.00
1,170.92	1.60	0.01
1,170.93	2.09	0.01
1,170.94	2.53	0.03
1,170.95	2.92	0.04
1,170.96	3.29	0.06
1,170.97	3.63	0.09
1,170.98	3.96	0.12
1,170.99	4.27	0.15
1,171.00	4.56	0.19
1,171.01	4.85	0.23
1,171.02	5.12	0.27
1,171.03	5.38	0.32
1,171.04	5.63	0.38
1,171.05	5.88	0.43
1,171.06	6.11	0.50
1,171.07	6.34	0.56
1,171.08	6.57	0.63
1,171.09	6.78	0.70
1,171.10	6.99	0.78
1,171.11	7.20	0.86
1,171.12	7.40	0.95
1,171.13	7.59	1.04
1,171.14	7.78	1.13
1,171.15	7.97	1.22
1,171.16	8.15	1.32
1,171.17	8.32	1.42
1,171.18	8.50	1.53
1,171.19	8.66	1.64
1,171.20	8.83	1.75
1,171.21	8.99	1.86
1,171.22	9.14	1.98
1,171.23	9.29	2.10
1,171.24	9.44	2.22
1,171.25	9.59	2.35
1,171.26	9.73	2.48
1,171.27	9.87	2.61
1,171.28	10.00	2.74
1,171.29	10.13	2.87
1,171.30	10.26	3.01
1,171.31	10.38	3.15
1,171.32	10.51	3.29
1,171.33	10.63	3.43
1,171.34	10.74	3.58
1,171.35	10.85	3.72
1,171.36	10.96	3.87
1,171.37	11.07	4.02
1,171.38	11.17	4.16
1,171.39	11.27	4.31
1,171.40	11.37	4.47
1,171.41	11.47	4.62
1,171.42	11.56	4.77
1,171.43	11.65	4.92
1,171.44	11.74	5.08
1,171.45	11.82	5.23
1,171.46	11.90	5.39
1,171.47	11.98	5.54
1,171.48	12.05	5.69
1,171.49	12.13	5.85
1,171.50	12.20	6.00
1,171.51	12.26	6.15
1,171.52	12.33	6.31
1,171.53	12.39	6.46
1,171.54	12.45	6.61
1,171.55	12.50	6.76
1,171.56	12.55	6.90
1,171.57	12.60	7.05
1,171.58	12.65	7.19
1,171.59	12.69	7.34
1,171.60	12.73	7.48
1,171.61	12.77	7.62
1,171.62	12.81	7.75
1,171.63	12.84	7.89
1,171.64	12.87	8.02
1,171.65	12.89	8.14
1,171.66	12.91	8.27
1,171.67	12.93	8.39
1,171.68	12.94	8.51
1,171.69	12.95	8.62
1,171.70	12.96	8.73
1,171.71	**12.96**	8.84
1,171.72	12.96	8.94
1,171.73	12.96	9.03
1,171.74	12.95	9.12
1,171.75	12.94	9.20
1,171.76	12.92	9.28
1,171.77	12.89	9.35
1,171.78	12.86	9.42
1,171.79	12.83	9.47
1,171.80	12.79	9.52
1,171.81	12.74	9.56
1,171.82	12.68	9.59
1,171.83	12.62	9.60
1,171.84	12.54	**9.61**
1,171.85	12.45	9.60
1,171.86	12.35	9.57
1,171.87	12.23	9.52
1,171.88	12.07	9.44
1,171.89	11.87	9.31
1,171.90	11.37	8.93

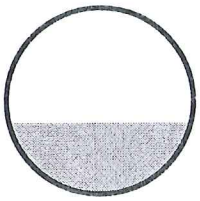
Summary for Reach DMHA: TO DP#1

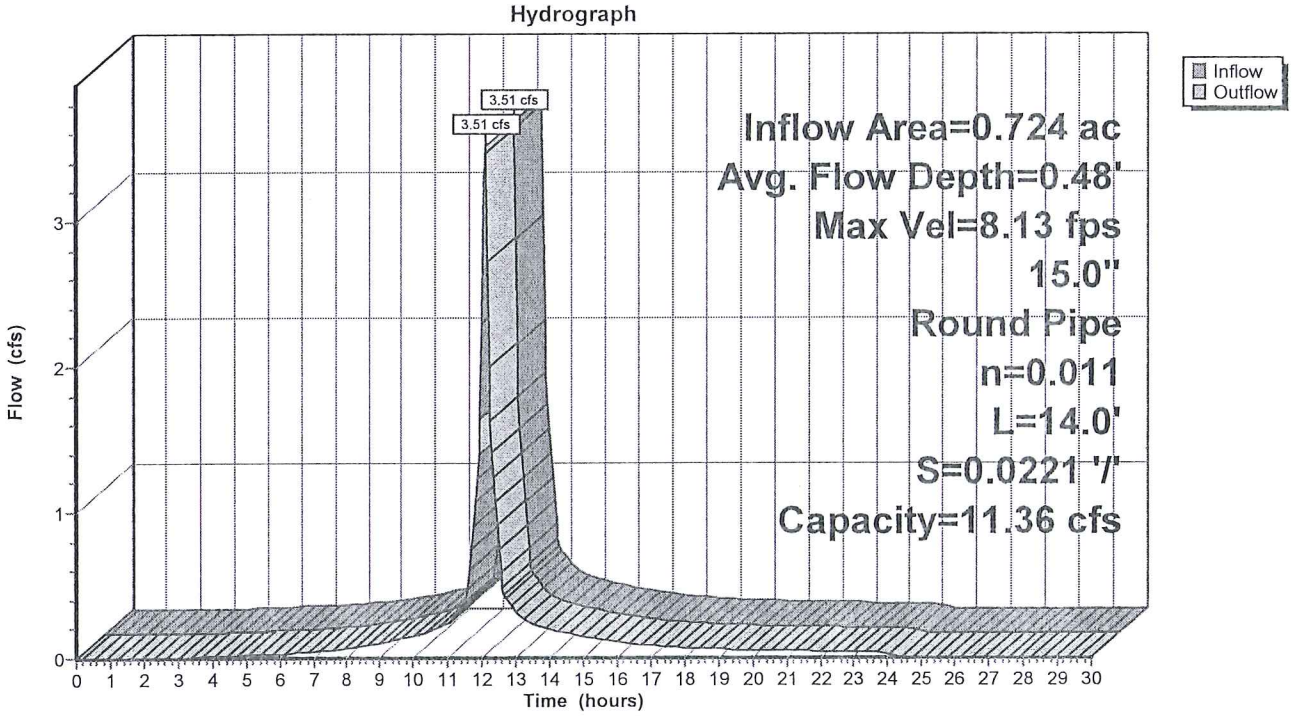
Inflow Area = 0.724 ac, 81.12% Impervious, Inflow Depth = 4.54" for 25-Year event
Inflow = 3.51 cfs @ 12.08 hrs, Volume= 0.274 af
Outflow = 3.51 cfs @ 12.09 hrs, Volume= 0.274 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.13 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.64 fps, Avg. Travel Time= 0.1 min

Peak Storage= 6 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.48'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 11.36 cfs

15.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 14.0' Slope= 0.0221 '/'
Inlet Invert= 1,175.35', Outlet Invert= 1,175.04'





Stage-Discharge for Reach DMHA: TO DP#1

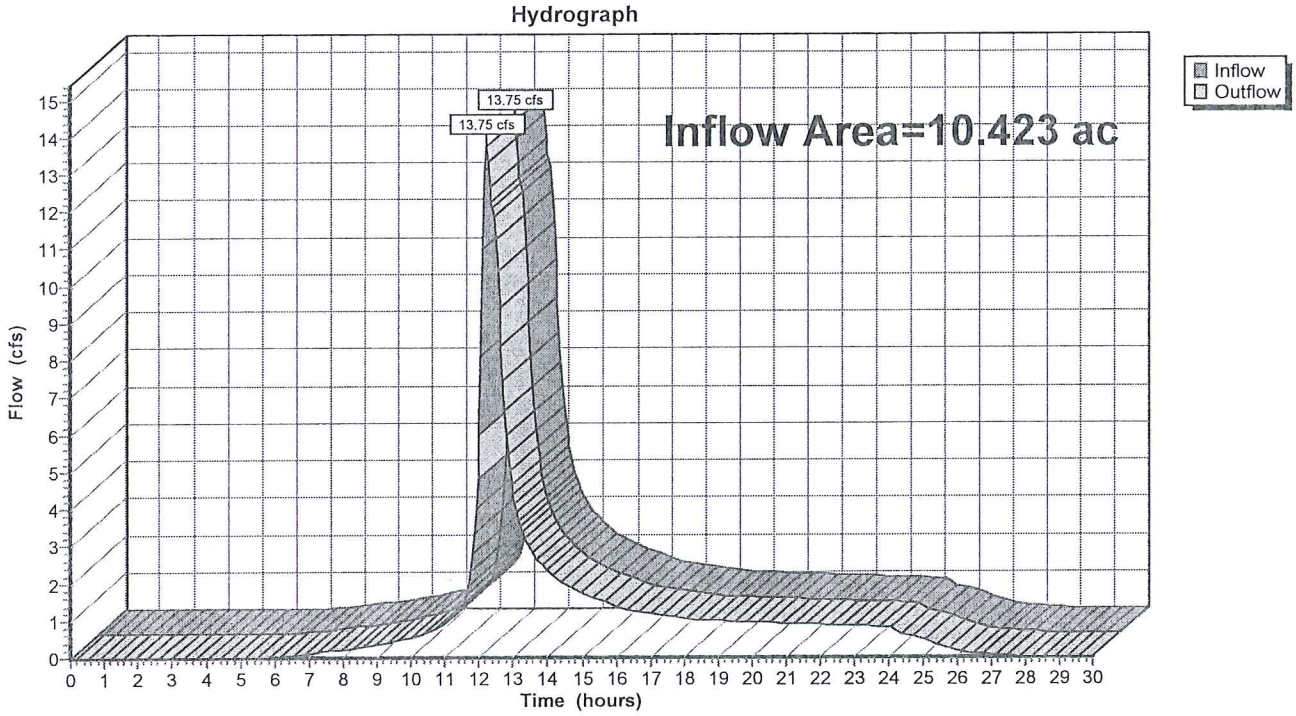
Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.35	0.00	0.00
1,175.36	0.66	0.00
1,175.37	1.11	0.01
1,175.38	1.46	0.01
1,175.39	1.77	0.02
1,175.40	2.06	0.03
1,175.41	2.31	0.05
1,175.42	2.56	0.07
1,175.43	2.79	0.09
1,175.44	3.01	0.12
1,175.45	3.22	0.15
1,175.46	3.42	0.18
1,175.47	3.62	0.22
1,175.48	3.81	0.26
1,175.49	3.99	0.30
1,175.50	4.17	0.35
1,175.51	4.34	0.40
1,175.52	4.50	0.45
1,175.53	4.66	0.51
1,175.54	4.82	0.57
1,175.55	4.98	0.63
1,175.56	5.13	0.70
1,175.57	5.27	0.77
1,175.58	5.42	0.84
1,175.59	5.56	0.92
1,175.60	5.69	0.99
1,175.61	5.83	1.08
1,175.62	5.96	1.16
1,175.63	6.09	1.25
1,175.64	6.21	1.34
1,175.65	6.34	1.43
1,175.66	6.46	1.53
1,175.67	6.57	1.63
1,175.68	6.69	1.73
1,175.69	6.80	1.84
1,175.70	6.92	1.95
1,175.71	7.02	2.06
1,175.72	7.13	2.17
1,175.73	7.24	2.28
1,175.74	7.34	2.40
1,175.75	7.44	2.52
1,175.76	7.54	2.64
1,175.77	7.64	2.77
1,175.78	7.73	2.89
1,175.79	7.83	3.02
1,175.80	7.92	3.15
1,175.81	8.01	3.28
1,175.82	8.10	3.42
1,175.83	8.18	3.55
1,175.84	8.27	3.69
1,175.85	8.35	3.83
1,175.86	8.43	3.97
1,175.87	8.51	4.11
1,175.88	8.59	4.26
1,175.89	8.67	4.40
1,175.90	8.74	4.55
1,175.91	8.82	4.69
1,175.92	8.89	4.84
1,175.93	8.96	4.99
1,175.94	9.03	5.14
1,175.95	9.10	5.30
1,175.96	9.16	5.45
1,175.97	9.23	5.60
1,175.98	9.29	5.76
1,175.99	9.35	5.91
1,176.00	9.41	6.07
1,176.01	9.47	6.22
1,176.02	9.52	6.38
1,176.03	9.58	6.54
1,176.04	9.63	6.69
1,176.05	9.69	6.85
1,176.06	9.74	7.01
1,176.07	9.79	7.16
1,176.08	9.84	7.32
1,176.09	9.88	7.48
1,176.10	9.93	7.63
1,176.11	9.97	7.79
1,176.12	10.01	7.94
1,176.13	10.05	8.10
1,176.14	10.09	8.25
1,176.15	10.13	8.40
1,176.16	10.17	8.56
1,176.17	10.20	8.71
1,176.18	10.24	8.86
1,176.19	10.27	9.00
1,176.20	10.30	9.15
1,176.21	10.33	9.30
1,176.22	10.35	9.44
1,176.23	10.38	9.58
1,176.24	10.40	9.72
1,176.25	10.42	9.86
1,176.26	10.44	10.00
1,176.27	10.46	10.13
1,176.28	10.48	10.26
1,176.29	10.50	10.39
1,176.30	10.51	10.52
1,176.31	10.52	10.64
1,176.32	10.53	10.76
1,176.33	10.54	10.88
1,176.34	10.55	10.99
1,176.35	10.55	11.10
1,176.36	10.55	11.21
1,176.37	**10.55**	11.31
1,176.38	10.55	11.41
1,176.39	10.55	11.51
1,176.40	10.54	11.60
1,176.41	10.53	11.68
1,176.42	10.52	11.77
1,176.43	10.51	11.84
1,176.44	10.49	11.91
1,176.45	10.47	11.98
1,176.46	10.45	12.03
1,176.47	10.42	12.08
1,176.48	10.39	12.13
1,176.49	10.36	12.16
1,176.50	10.32	12.19
1,176.51	10.28	12.21
1,176.52	10.23	**12.22**
1,176.53	10.18	12.21
1,176.54	10.12	12.20
1,176.55	10.05	12.17
1,176.56	9.97	12.12
1,176.57	9.88	12.05
1,176.58	9.76	11.94
1,176.59	9.58	11.74
1,176.60	9.26	11.36

Summary for Reach DP#1: CRYSTAL LAKE

Inflow Area = 10.423 ac, 31.06% Impervious, Inflow Depth = 2.71" for 25-Year event
Inflow = 13.75 cfs @ 12.21 hrs, Volume= 2.352 af
Outflow = 13.75 cfs @ 12.21 hrs, Volume= 2.352 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DP#1: CRYSTAL LAKE

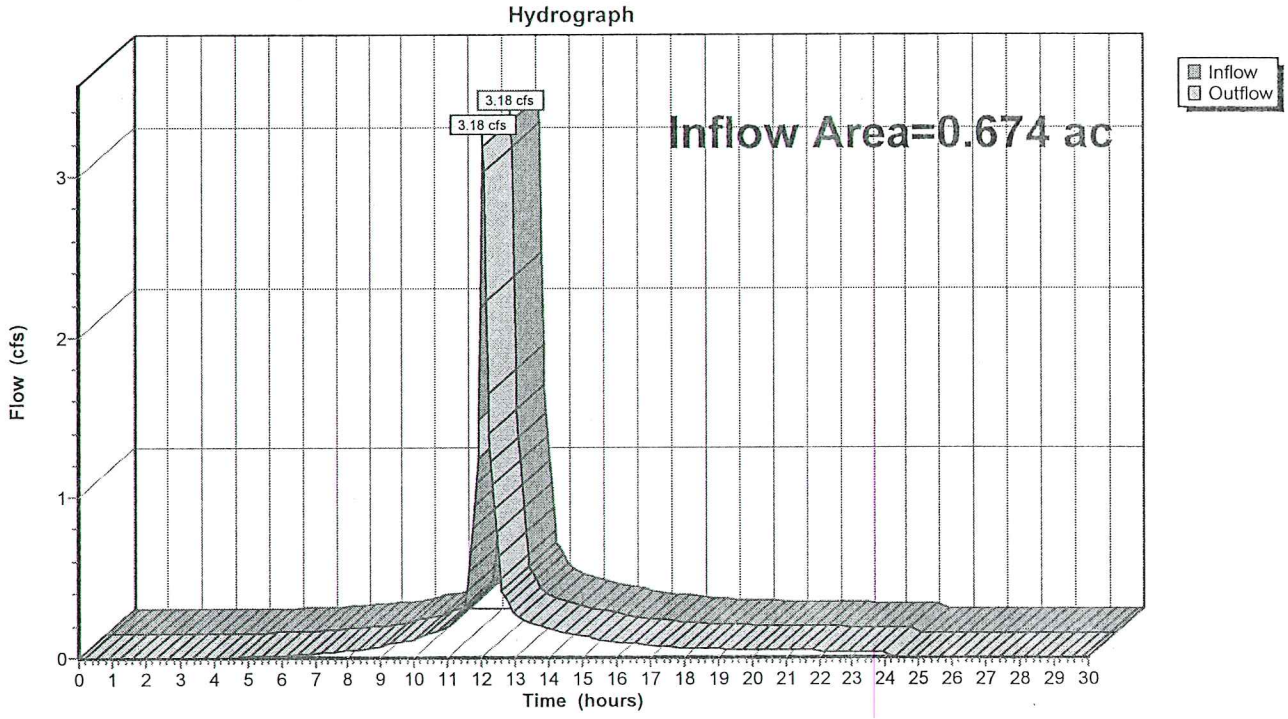


Summary for Reach DP#2: EX RAIN GARDEN

Inflow Area = 0.674 ac, 66.34% Impervious, Inflow Depth = 4.17" for 25-Year event
Inflow = 3.18 cfs @ 12.07 hrs, Volume= 0.234 af
Outflow = 3.18 cfs @ 12.07 hrs, Volume= 0.234 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DP#2: EX RAIN GARDEN

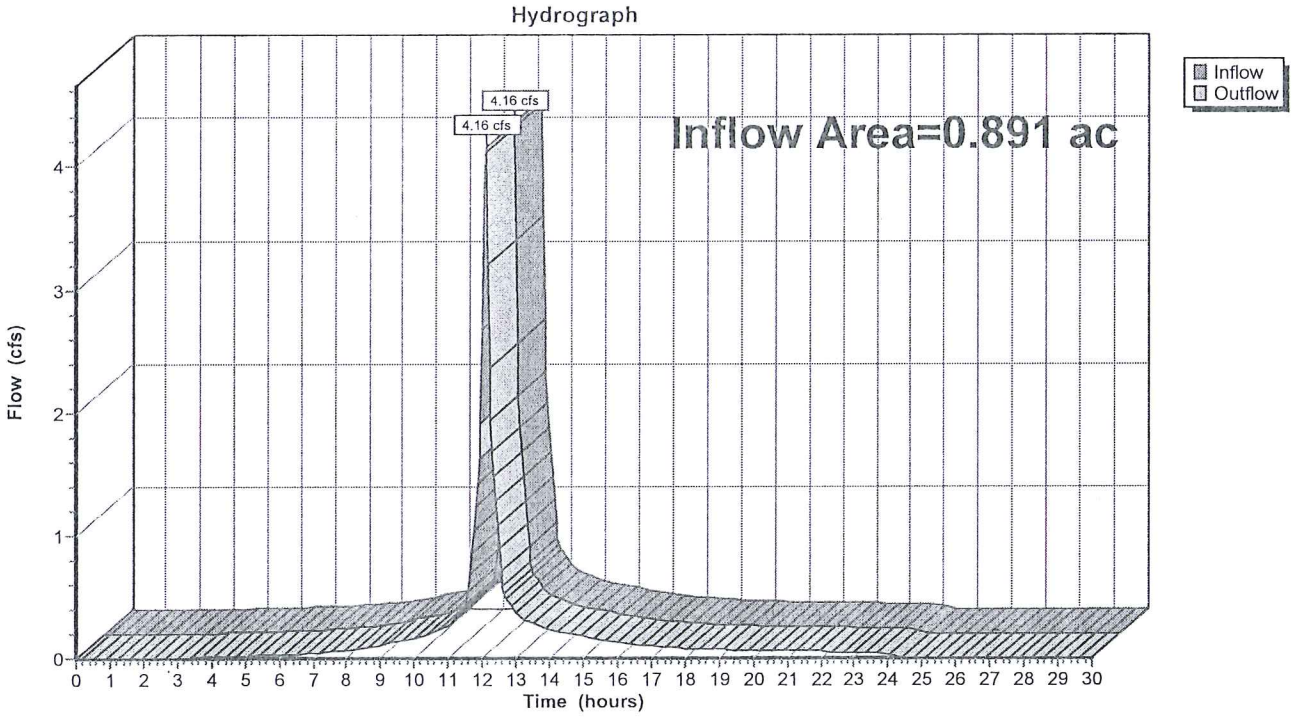


Summary for Reach DP#3: DMH-E

Inflow Area = 0.891 ac, 70.65% Impervious, Inflow Depth = 4.30" for 25-Year event
Inflow = 4.16 cfs @ 12.09 hrs, Volume= 0.320 af
Outflow = 4.16 cfs @ 12.09 hrs, Volume= 0.320 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

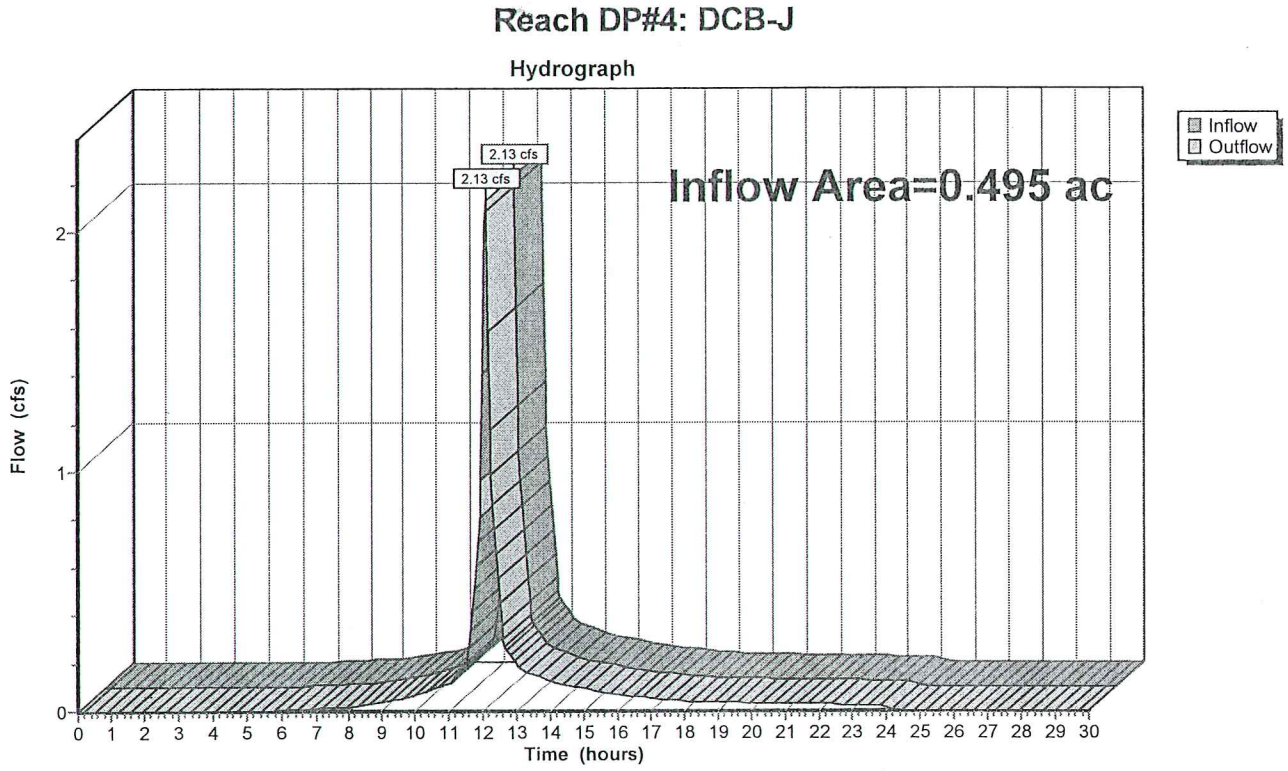
Reach DP#3: DMH-E



Summary for Reach DP#4: DCB-J

Inflow Area = 0.495 ac, 51.53% Impervious, Inflow Depth = 3.79" for 25-Year event
Inflow = 2.13 cfs @ 12.08 hrs, Volume= 0.156 af
Outflow = 2.13 cfs @ 12.08 hrs, Volume= 0.156 af, Atten= 0%, Lag= 0.0 min

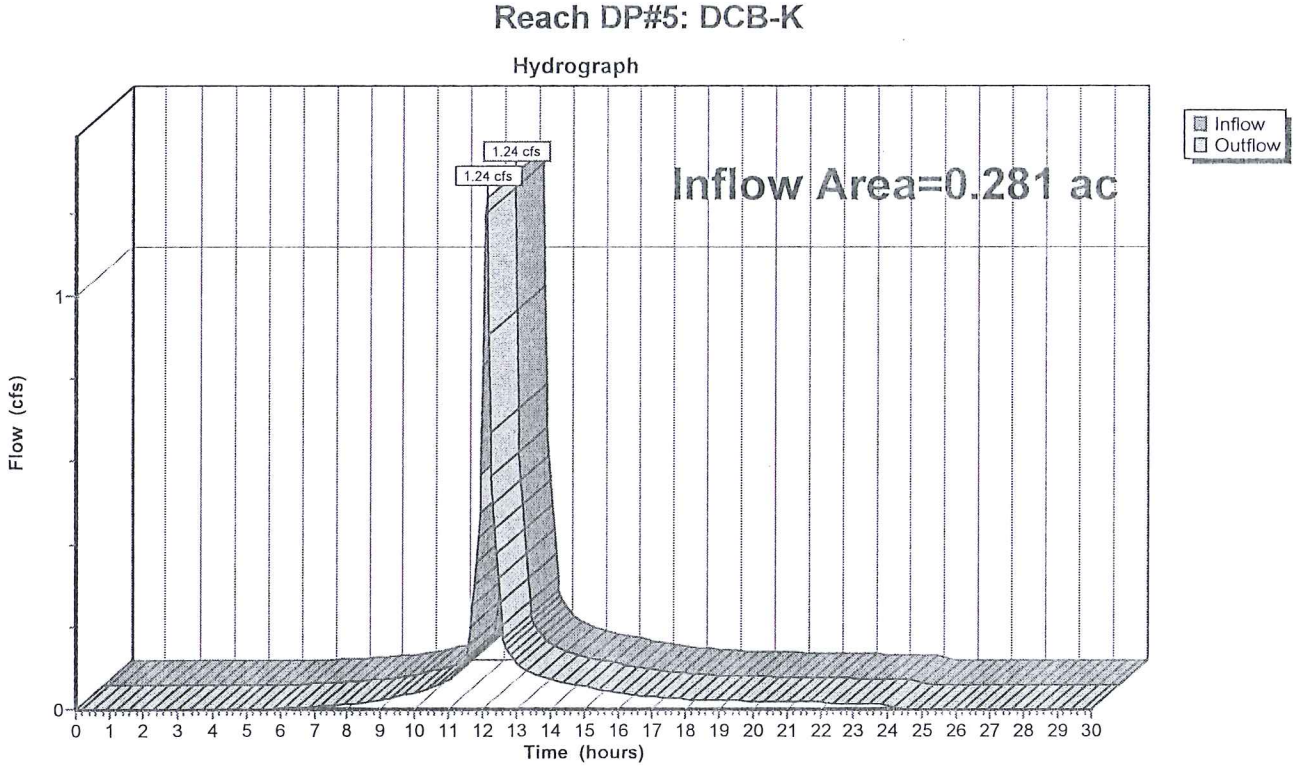
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs



Summary for Reach DP#5: DCB-K

Inflow Area = 0.281 ac, 53.18% Impervious, Inflow Depth = 3.87" for 25-Year event
Inflow = 1.24 cfs @ 12.08 hrs, Volume= 0.091 af
Outflow = 1.24 cfs @ 12.08 hrs, Volume= 0.091 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs



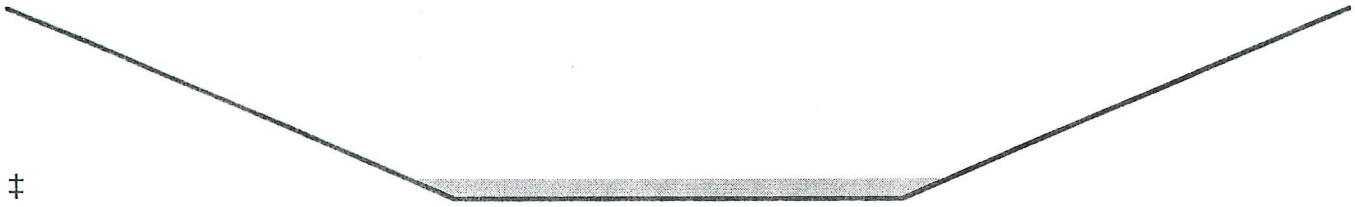
Summary for Reach OL1: OVERLAND FLOW

Inflow Area = 0.724 ac, 81.12% Impervious, Inflow Depth = 4.54" for 25-Year event
Inflow = 3.51 cfs @ 12.09 hrs, Volume= 0.274 af
Outflow = 3.50 cfs @ 12.09 hrs, Volume= 0.274 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.99 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 0.83 fps, Avg. Travel Time= 0.4 min

Peak Storage= 23 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.11'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 216.87 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 20.0' Slope= 0.4500 '/'
Inlet Invert= 1,175.00', Outlet Invert= 1,166.00'



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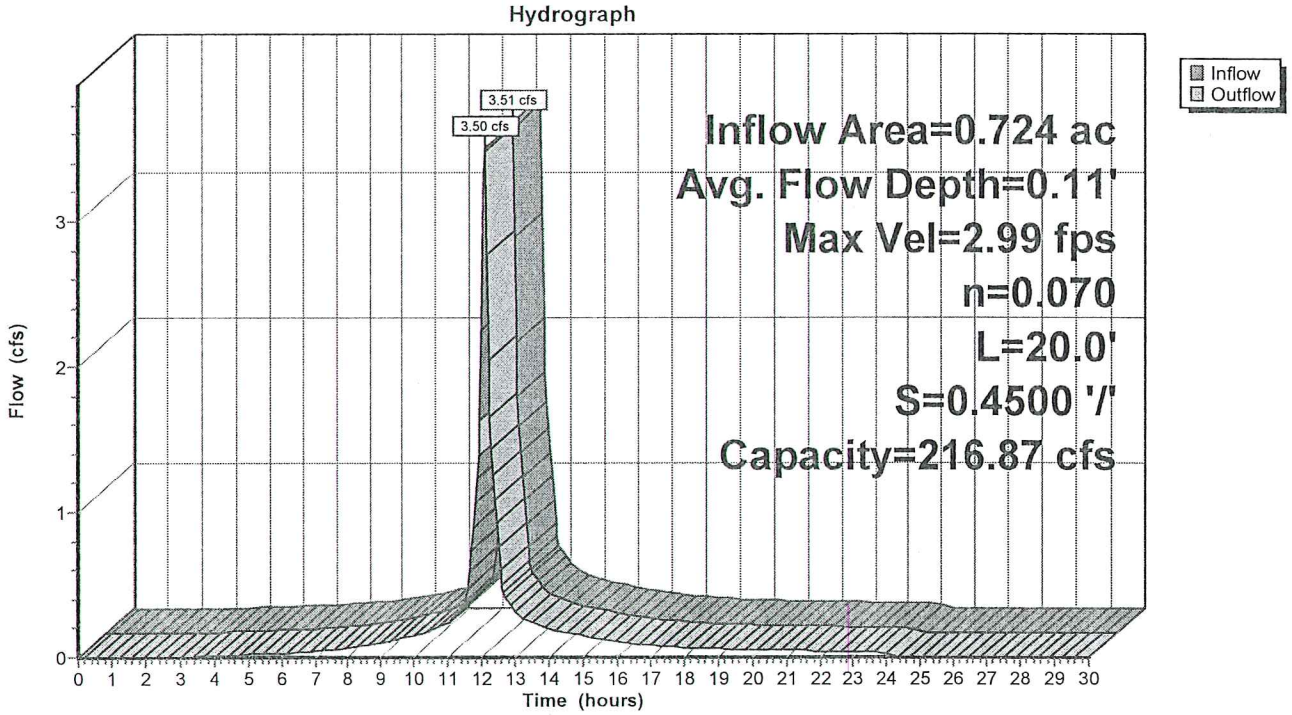
Reach OL1: OVERLAND FLOW



Stage-Discharge for Reach OL1: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.00	0.00	0.00
1,175.01	0.66	0.07
1,175.02	1.04	0.21
1,175.03	1.35	0.42
1,175.04	1.62	0.68
1,175.05	1.87	0.98
1,175.06	2.10	1.34
1,175.07	2.32	1.74
1,175.08	2.52	2.18
1,175.09	2.71	2.66
1,175.10	2.89	3.18
1,175.11	3.07	3.75
1,175.12	3.24	4.35
1,175.13	3.40	4.99
1,175.14	3.55	5.67
1,175.15	3.70	6.39
1,175.16	3.85	7.14
1,175.17	3.99	7.93
1,175.18	4.13	8.76
1,175.19	4.26	9.63
1,175.20	4.39	10.54
1,175.21	4.52	11.48
1,175.22	4.64	12.46
1,175.23	4.76	13.48
1,175.24	4.88	14.53
1,175.25	5.00	15.62
1,175.26	5.11	16.75
1,175.27	5.23	17.92
1,175.28	5.34	19.12
1,175.29	5.44	20.36
1,175.30	5.55	21.64
1,175.31	5.65	22.96
1,175.32	5.76	24.32
1,175.33	5.86	25.71
1,175.34	5.96	27.15
1,175.35	6.06	28.62
1,175.36	6.15	30.13
1,175.37	6.25	31.68
1,175.38	6.34	33.27
1,175.39	6.44	34.89
1,175.40	6.53	36.56
1,175.41	6.62	38.27
1,175.42	6.71	40.01
1,175.43	6.80	41.80
1,175.44	6.89	43.63
1,175.45	6.97	45.50
1,175.46	7.06	47.40
1,175.47	7.14	49.35
1,175.48	7.23	51.34
1,175.49	7.31	53.38
1,175.50	7.39	55.45
1,175.51	7.47	57.56
1,175.52	7.56	59.72
1,175.53	7.64	61.92
1,175.54	7.72	64.16
1,175.55	7.79	66.44
1,175.56	7.87	68.77
1,175.57	7.95	71.14
1,175.58	8.03	73.55
1,175.59	8.10	76.01
1,175.60	8.18	78.51
1,175.61	8.25	81.05
1,175.62	8.33	83.64
1,175.63	8.40	86.27
1,175.64	8.47	88.95
1,175.65	8.55	91.67
1,175.66	8.62	94.44
1,175.67	8.69	97.25
1,175.68	8.76	100.10
1,175.69	8.83	103.01
1,175.70	8.90	105.96
1,175.71	8.97	108.95
1,175.72	9.04	111.99
1,175.73	9.11	115.08
1,175.74	9.18	118.21
1,175.75	9.25	121.39
1,175.76	9.32	124.62
1,175.77	9.38	127.90
1,175.78	9.45	131.22
1,175.79	9.52	134.60
1,175.80	9.58	138.02
1,175.81	9.65	141.48
1,175.82	9.72	145.00
1,175.83	9.78	148.57
1,175.84	9.85	152.18
1,175.85	9.91	155.85
1,175.86	9.97	159.56
1,175.87	10.04	163.32
1,175.88	10.10	167.14
1,175.89	10.17	171.00
1,175.90	10.23	174.91
1,175.91	10.29	178.88
1,175.92	10.35	182.89
1,175.93	10.42	186.96
1,175.94	10.48	191.08
1,175.95	10.54	195.25
1,175.96	10.60	199.47
1,175.97	10.66	203.74
1,175.98	10.72	208.06
1,175.99	10.78	212.44
1,176.00	**10.84**	**216.87**

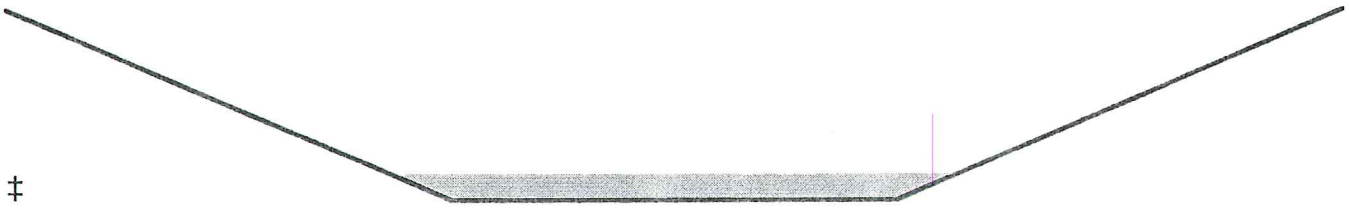
Summary for Reach OL2: OVERLAND FLOW

Inflow Area = 0.724 ac, 81.12% Impervious, Inflow Depth = 4.54" for 25-Year event
Inflow = 3.50 cfs @ 12.09 hrs, Volume= 0.274 af
Outflow = 3.29 cfs @ 12.14 hrs, Volume= 0.274 af, Atten= 6%, Lag= 3.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.19 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 0.58 fps, Avg. Travel Time= 7.0 min

Peak Storage= 378 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.14'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 136.00 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 243.0' Slope= 0.1770 '/'
Inlet Invert= 1,166.00', Outlet Invert= 1,123.00'



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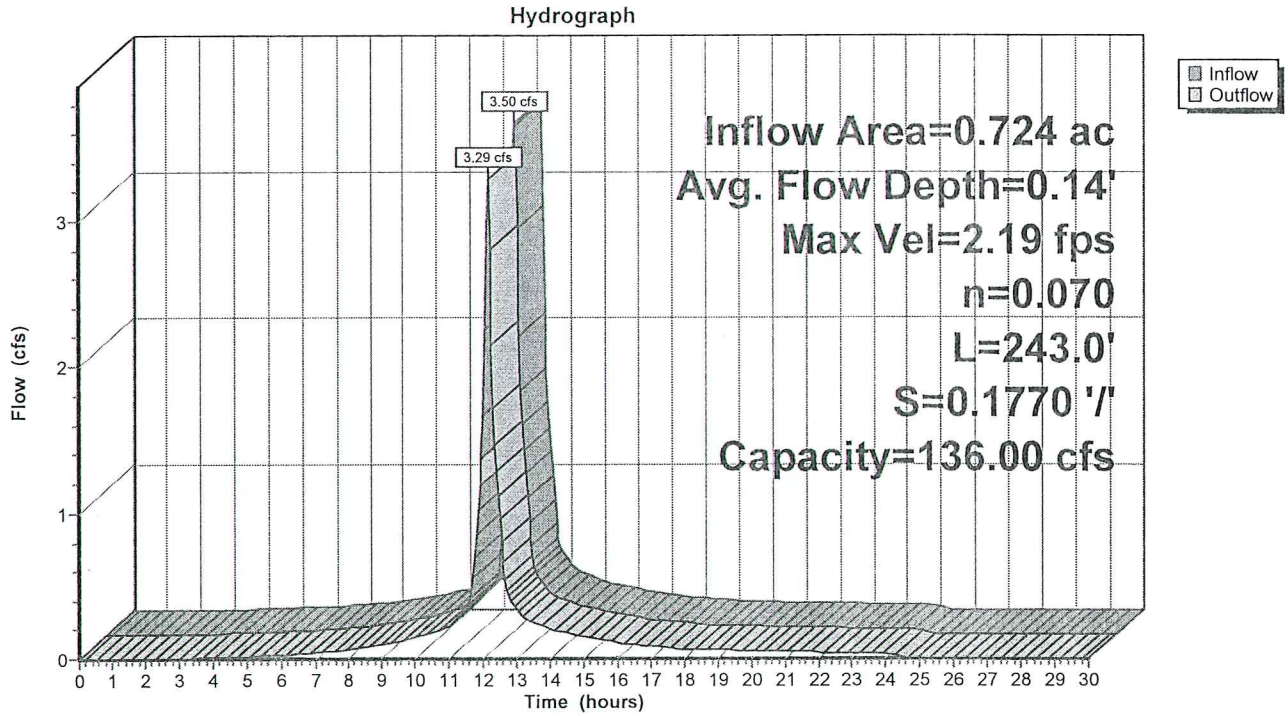
Reach OL2: OVERLAND FLOW



Stage-Discharge for Reach OL2: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,166.00	0.00	0.00
1,166.01	0.41	0.04
1,166.02	0.65	0.13
1,166.03	0.85	0.26
1,166.04	1.02	0.42
1,166.05	1.17	0.62
1,166.06	1.32	0.84
1,166.07	1.45	1.09
1,166.08	1.58	1.37
1,166.09	1.70	1.67
1,166.10	1.81	2.00
1,166.11	1.92	2.35
1,166.12	2.03	2.73
1,166.13	2.13	3.13
1,166.14	2.23	3.55
1,166.15	2.32	4.00
1,166.16	2.41	4.48
1,166.17	2.50	4.98
1,166.18	2.59	5.50
1,166.19	2.67	6.04
1,166.20	2.75	6.61
1,166.21	2.83	7.20
1,166.22	2.91	7.81
1,166.23	2.99	8.45
1,166.24	3.06	9.11
1,166.25	3.13	9.80
1,166.26	3.21	10.50
1,166.27	3.28	11.24
1,166.28	3.35	11.99
1,166.29	3.41	12.77
1,166.30	3.48	13.57
1,166.31	3.55	14.40
1,166.32	3.61	15.25
1,166.33	3.67	16.12
1,166.34	3.74	17.02
1,166.35	3.80	17.95
1,166.36	3.86	18.89
1,166.37	3.92	19.86
1,166.38	3.98	20.86
1,166.39	4.04	21.88
1,166.40	4.09	22.93
1,166.41	4.15	24.00
1,166.42	4.21	25.09
1,166.43	4.26	26.21
1,166.44	4.32	27.36
1,166.45	4.37	28.53
1,166.46	4.43	29.73
1,166.47	4.48	30.95
1,166.48	4.53	32.20
1,166.49	4.58	33.47
1,166.50	4.64	34.77
1,166.51	4.69	36.10
1,166.52	4.74	37.45
1,166.53	4.79	38.83
1,166.54	4.84	40.23
1,166.55	4.89	41.67
1,166.56	4.94	43.12
1,166.57	4.98	44.61
1,166.58	5.03	46.12
1,166.59	5.08	47.66
1,166.60	5.13	49.23
1,166.61	5.18	50.83
1,166.62	5.22	52.45
1,166.63	5.27	54.10
1,166.64	5.31	55.78
1,166.65	5.36	57.48
1,166.66	5.41	59.22
1,166.67	5.45	60.98
1,166.68	5.49	62.77
1,166.69	5.54	64.59
1,166.70	5.58	66.44
1,166.71	5.63	68.32
1,166.72	5.67	70.23
1,166.73	5.71	72.16
1,166.74	5.76	74.13
1,166.75	5.80	76.12
1,166.76	5.84	78.15
1,166.77	5.88	80.20
1,166.78	5.93	82.29
1,166.79	5.97	84.40
1,166.80	6.01	86.55
1,166.81	6.05	88.72
1,166.82	6.09	90.93
1,166.83	6.13	93.16
1,166.84	6.17	95.43
1,166.85	6.21	97.73
1,166.86	6.26	100.06
1,166.87	6.30	102.42
1,166.88	6.34	104.81
1,166.89	6.37	107.23
1,166.90	6.41	109.68
1,166.91	6.45	112.17
1,166.92	6.49	114.69
1,166.93	6.53	117.24
1,166.94	6.57	119.82
1,166.95	6.61	122.44
1,166.96	6.65	125.08
1,166.97	6.69	127.76
1,166.98	6.72	130.47
1,166.99	6.76	133.22
1,167.00	**6.80**	**136.00**

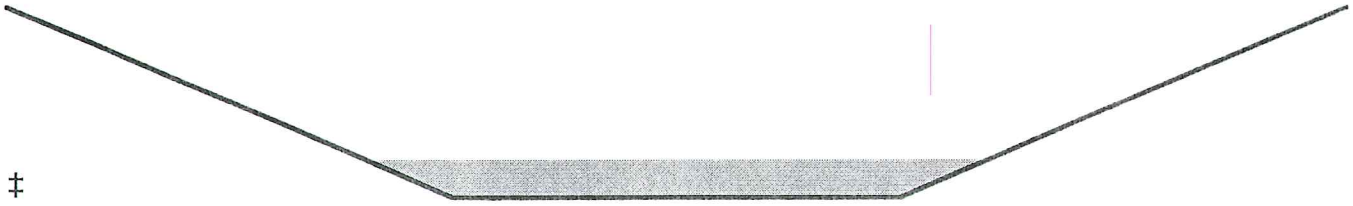
Summary for Reach OL3: OVERLAND FLOW

Inflow Area = 0.724 ac, 81.12% Impervious, Inflow Depth = 4.54" for 25-Year event
Inflow = 3.29 cfs @ 12.14 hrs, Volume= 0.274 af
Outflow = 3.23 cfs @ 12.16 hrs, Volume= 0.274 af, Atten= 2%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.38 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.36 fps, Avg. Travel Time= 2.1 min

Peak Storage= 107 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.20'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 68.16 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 45.0' Slope= 0.0444 '/'
Inlet Invert= 1,122.00', Outlet Invert= 1,120.00'



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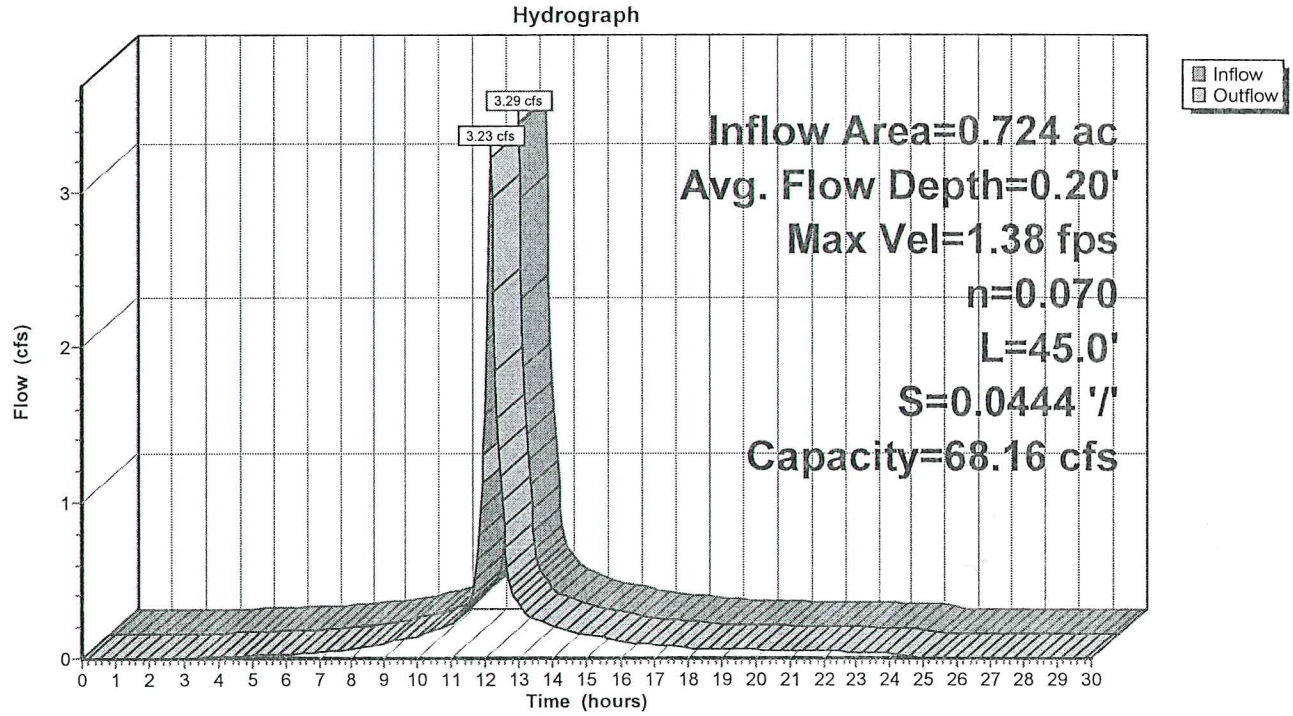
Reach OL3: OVERLAND FLOW



Stage-Discharge for Reach OL3: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,122.00	0.00	0.00
1,122.01	0.21	0.02
1,122.02	0.33	0.07
1,122.03	0.42	0.13
1,122.04	0.51	0.21
1,122.05	0.59	0.31
1,122.06	0.66	0.42
1,122.07	0.73	0.55
1,122.08	0.79	0.68
1,122.09	0.85	0.84
1,122.10	0.91	1.00
1,122.11	0.96	1.18
1,122.12	1.02	1.37
1,122.13	1.07	1.57
1,122.14	1.12	1.78
1,122.15	1.16	2.01
1,122.16	1.21	2.24
1,122.17	1.25	2.49
1,122.18	1.30	2.75
1,122.19	1.34	3.03
1,122.20	1.38	3.31
1,122.21	1.42	3.61
1,122.22	1.46	3.92
1,122.23	1.50	4.24
1,122.24	1.53	4.57
1,122.25	1.57	4.91
1,122.26	1.61	5.26
1,122.27	1.64	5.63
1,122.28	1.68	6.01
1,122.29	1.71	6.40
1,122.30	1.74	6.80
1,122.31	1.78	7.22
1,122.32	1.81	7.64
1,122.33	1.84	8.08
1,122.34	1.87	8.53
1,122.35	1.90	8.99
1,122.36	1.93	9.47
1,122.37	1.96	9.96
1,122.38	1.99	10.45
1,122.39	2.02	10.97
1,122.40	2.05	11.49
1,122.41	2.08	12.03
1,122.42	2.11	12.58
1,122.43	2.14	13.14
1,122.44	2.16	13.71
1,122.45	2.19	14.30
1,122.46	2.22	14.90
1,122.47	2.24	15.51
1,122.48	2.27	16.14
1,122.49	2.30	16.77
1,122.50	2.32	17.43
1,122.51	2.35	18.09
1,122.52	2.37	18.77
1,122.53	2.40	19.46
1,122.54	2.42	20.16
1,122.55	2.45	20.88
1,122.56	2.47	21.61
1,122.57	2.50	22.36
1,122.58	2.52	23.12
1,122.59	2.55	23.89
1,122.60	2.57	24.67
1,122.61	2.59	25.47
1,122.62	2.62	26.29
1,122.63	2.64	27.11
1,122.64	2.66	27.95
1,122.65	2.69	28.81
1,122.66	2.71	29.68
1,122.67	2.73	30.56
1,122.68	2.75	31.46
1,122.69	2.78	32.37
1,122.70	2.80	33.30
1,122.71	2.82	34.24
1,122.72	2.84	35.20
1,122.73	2.86	36.17
1,122.74	2.89	37.15
1,122.75	2.91	38.15
1,122.76	2.93	39.17
1,122.77	2.95	40.20
1,122.78	2.97	41.24
1,122.79	2.99	42.30
1,122.80	3.01	43.37
1,122.81	3.03	44.46
1,122.82	3.05	45.57
1,122.83	3.07	46.69
1,122.84	3.09	47.83
1,122.85	3.11	48.98
1,122.86	3.13	50.14
1,122.87	3.15	51.33
1,122.88	3.17	52.53
1,122.89	3.19	53.74
1,122.90	3.21	54.97
1,122.91	3.23	56.22
1,122.92	3.25	57.48
1,122.93	3.27	58.76
1,122.94	3.29	60.05
1,122.95	3.31	61.36
1,122.96	3.33	62.69
1,122.97	3.35	64.03
1,122.98	3.37	65.39
1,122.99	3.39	66.76
1,123.00	**3.41**	**68.16**

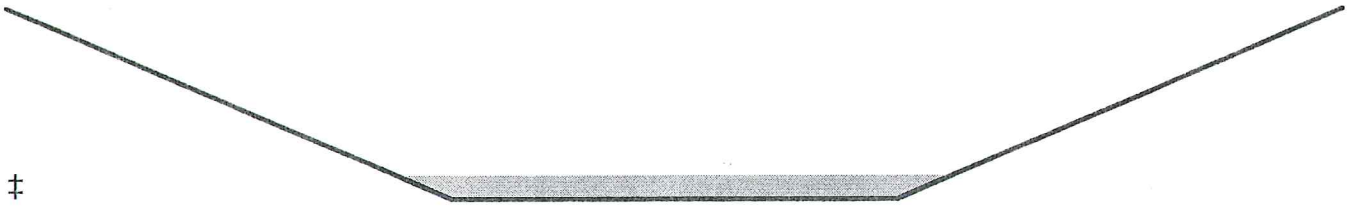
Summary for Reach OL4: OVERLAND FLOW

Inflow Area = 2.067 ac, 3.60% Impervious, Inflow Depth = 1.86" for 25-Year event
Inflow = 3.27 cfs @ 12.22 hrs, Volume= 0.320 af
Outflow = 3.22 cfs @ 12.23 hrs, Volume= 0.320 af, Atten= 1%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.30 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.79 fps, Avg. Travel Time= 1.6 min

Peak Storage= 105 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.13'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 150.33 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 74.0' Slope= 0.2162 '/'
Inlet Invert= 1,117.75', Outlet Invert= 1,101.75'



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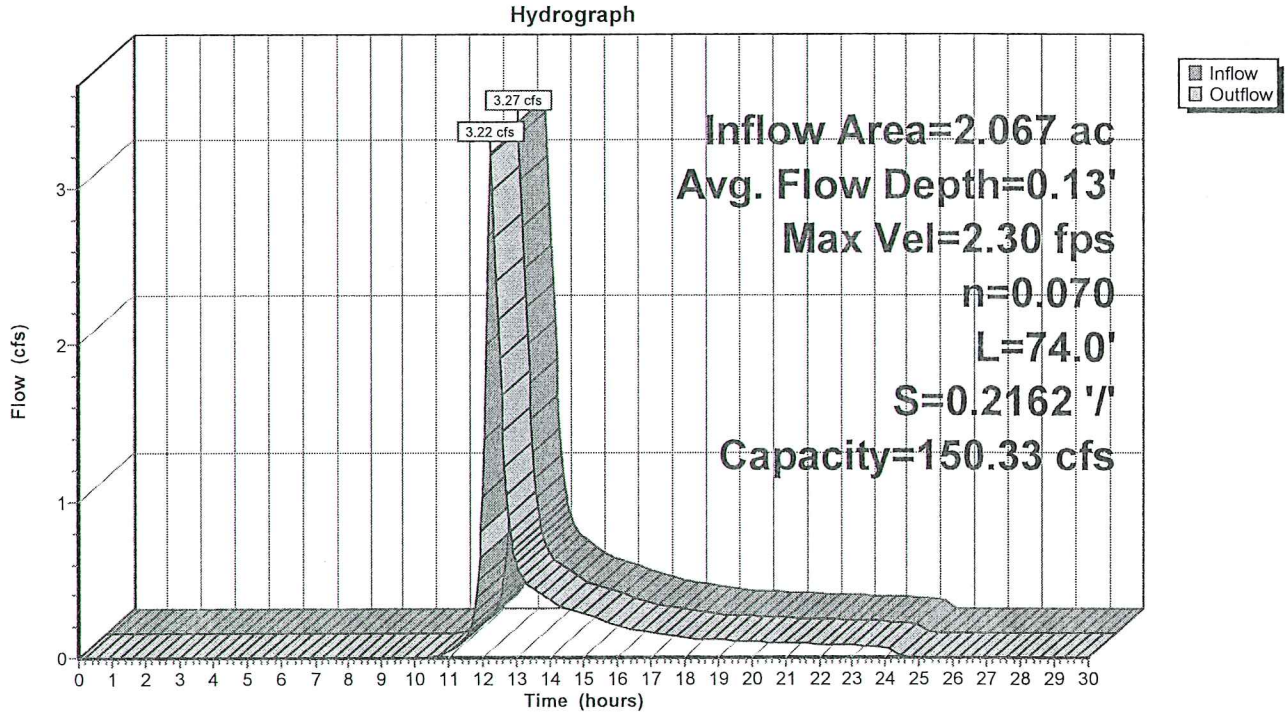
Reach OL4: OVERLAND FLOW



Stage-Discharge for Reach OL4: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,117.75	0.00	0.00
1,117.76	0.46	0.05
1,117.77	0.72	0.15
1,117.78	0.93	0.29
1,117.79	1.13	0.47
1,117.80	1.30	0.68
1,117.81	1.46	0.93
1,117.82	1.61	1.20
1,117.83	1.75	1.51
1,117.84	1.88	1.84
1,117.85	2.01	2.21
1,117.86	2.13	2.60
1,117.87	2.24	3.01
1,117.88	2.35	3.46
1,117.89	2.46	3.93
1,117.90	2.57	4.43
1,117.91	2.67	4.95
1,117.92	2.76	5.50
1,117.93	2.86	6.08
1,117.94	2.95	6.68
1,117.95	3.04	7.30
1,117.96	3.13	7.96
1,117.97	3.22	8.64
1,117.98	3.30	9.34
1,117.99	3.38	10.07
1,118.00	3.47	10.83
1,118.01	3.54	11.61
1,118.02	3.62	12.42
1,118.03	3.70	13.25
1,118.04	3.77	14.12
1,118.05	3.85	15.00
1,118.06	3.92	15.92
1,118.07	3.99	16.86
1,118.08	4.06	17.82
1,118.09	4.13	18.82
1,118.10	4.20	19.84
1,118.11	4.27	20.88
1,118.12	4.33	21.96
1,118.13	4.40	23.06
1,118.14	4.46	24.19
1,118.15	4.53	25.34
1,118.16	4.59	26.53
1,118.17	4.65	27.74
1,118.18	4.71	28.98
1,118.19	4.77	30.24
1,118.20	4.83	31.54
1,118.21	4.89	32.86
1,118.22	4.95	34.21
1,118.23	5.01	35.59
1,118.24	5.07	37.00
1,118.25	5.12	38.43
1,118.26	5.18	39.90
1,118.27	5.24	41.40
1,118.28	5.29	42.92
1,118.29	5.35	44.47
1,118.30	5.40	46.06
1,118.31	5.46	47.67
1,118.32	5.51	49.31
1,118.33	5.56	50.98
1,118.34	5.62	52.69
1,118.35	5.67	54.42
1,118.36	5.72	56.18
1,118.37	5.77	57.98
1,118.38	5.82	59.80
1,118.39	5.87	61.66
1,118.40	5.92	63.54
1,118.41	5.97	65.46
1,118.42	6.02	67.41
1,118.43	6.07	69.39
1,118.44	6.12	71.40
1,118.45	6.17	73.44
1,118.46	6.22	75.52
1,118.47	6.27	77.63
1,118.48	6.32	79.77
1,118.49	6.36	81.94
1,118.50	6.41	84.15
1,118.51	6.46	86.39
1,118.52	6.50	88.66
1,118.53	6.55	90.96
1,118.54	6.60	93.30
1,118.55	6.64	95.67
1,118.56	6.69	98.07
1,118.57	6.73	100.51
1,118.58	6.78	102.98
1,118.59	6.82	105.49
1,118.60	6.87	108.03
1,118.61	6.91	110.60
1,118.62	6.96	113.21
1,118.63	7.00	115.85
1,118.64	7.05	118.53
1,118.65	7.09	121.24
1,118.66	7.13	123.99
1,118.67	7.18	126.78
1,118.68	7.22	129.59
1,118.69	7.26	132.45
1,118.70	7.31	135.34
1,118.71	7.35	138.26
1,118.72	7.39	141.23
1,118.73	7.43	144.22
1,118.74	7.47	147.26
1,118.75	**7.52**	**150.33**

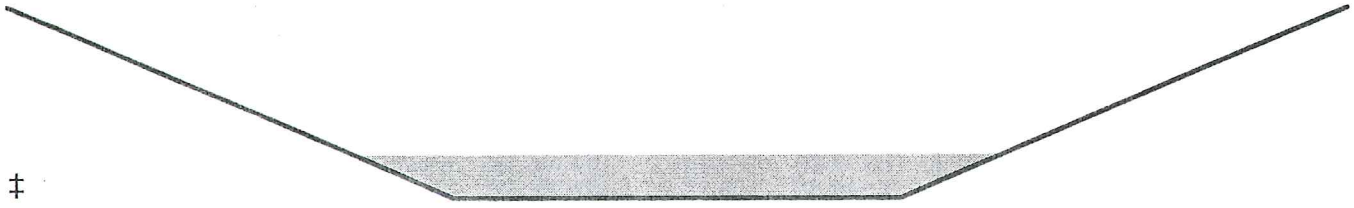
Summary for Reach OL5: OVERLAND FLOW

Inflow Area = 6.005 ac, 41.90% Impervious, Inflow Depth = 3.03" for 25-Year event
Inflow = 7.39 cfs @ 12.46 hrs, Volume= 1.518 af
Outflow = 7.36 cfs @ 12.47 hrs, Volume= 1.518 af, Atten= 0%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.63 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.03 fps, Avg. Travel Time= 1.7 min

Peak Storage= 287 cf @ 12.46 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 120.20 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 102.0' Slope= 0.1382 '/'
Inlet Invert= 1,114.10', Outlet Invert= 1,100.00'



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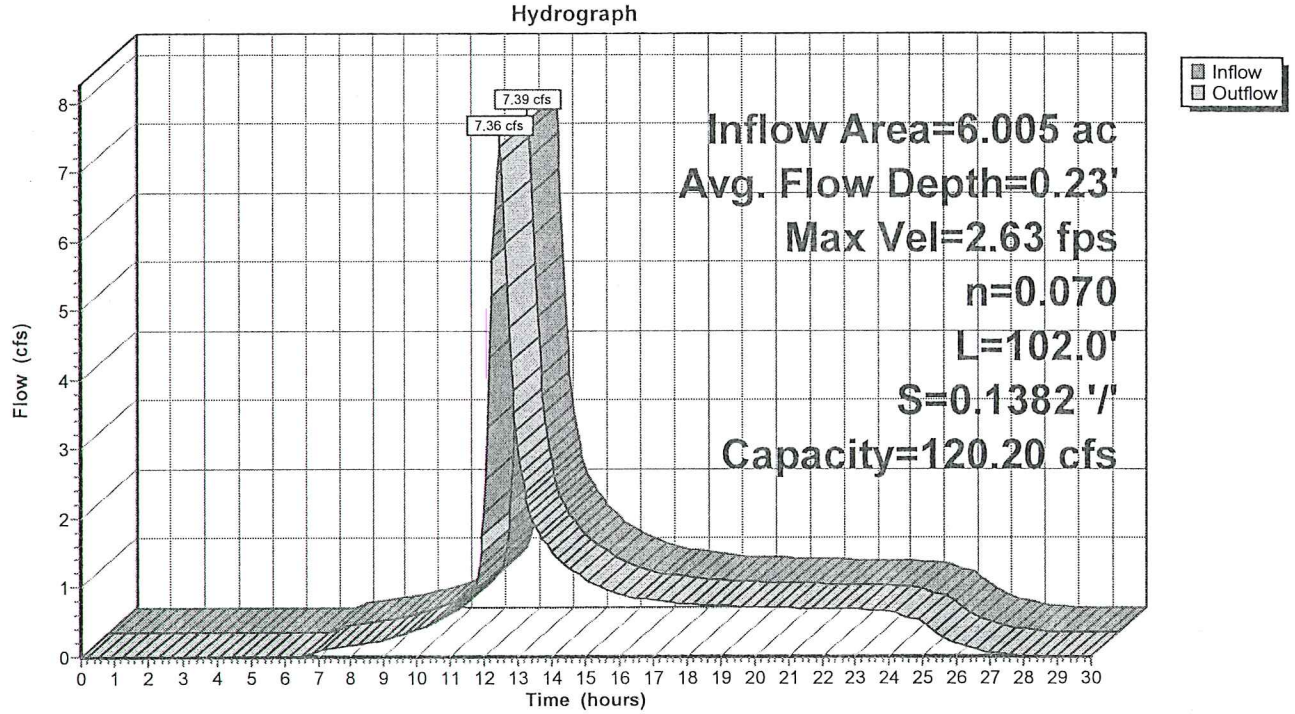
Reach OL5: OVERLAND FLOW



Stage-Discharge for Reach OL5: OVERLAND FLOW

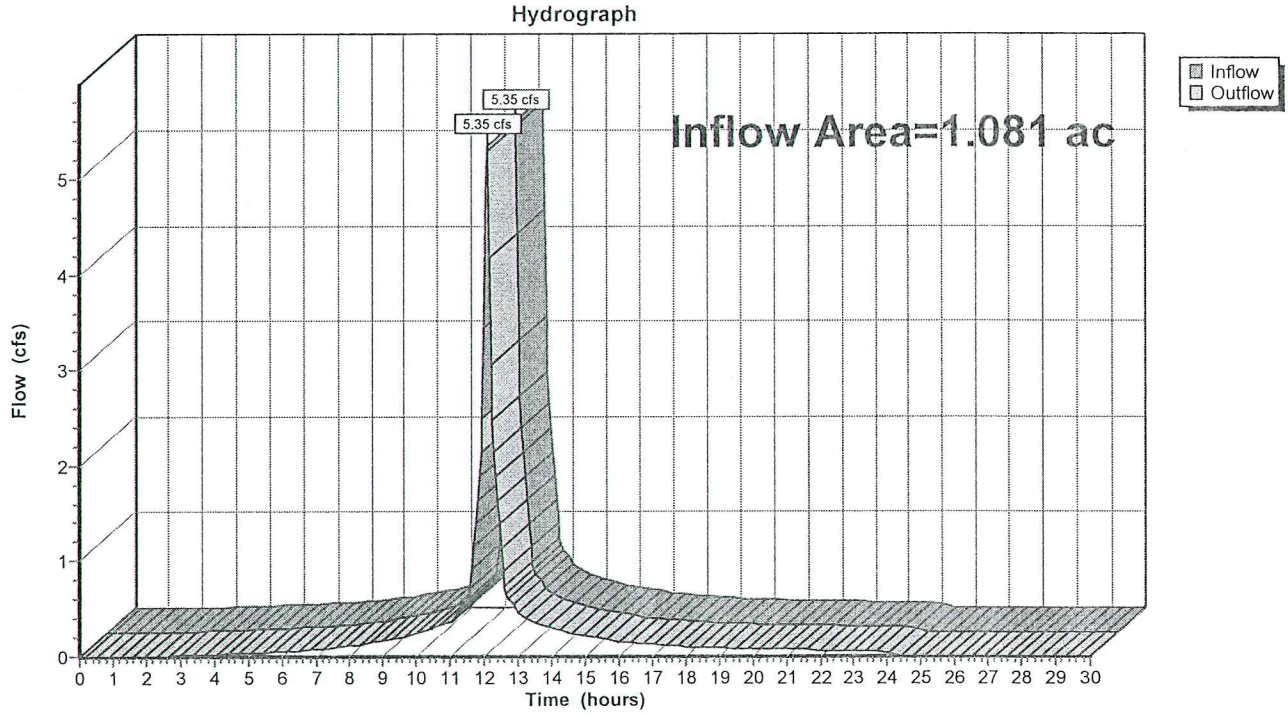
Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,114.10	0.00	0.00
1,114.11	0.36	0.04
1,114.12	0.57	0.12
1,114.13	0.75	0.23
1,114.14	0.90	0.37
1,114.15	1.04	0.55
1,114.16	1.17	0.74
1,114.17	1.28	0.96
1,114.18	1.40	1.21
1,114.19	1.50	1.47
1,114.20	1.60	1.76
1,114.21	1.70	2.08
1,114.22	1.79	2.41
1,114.23	1.88	2.77
1,114.24	1.97	3.14
1,114.25	2.05	3.54
1,114.26	2.13	3.96
1,114.27	2.21	4.40
1,114.28	2.29	4.86
1,114.29	2.36	5.34
1,114.30	2.43	5.84
1,114.31	2.50	6.36
1,114.32	2.57	6.91
1,114.33	2.64	7.47
1,114.34	2.71	8.05
1,114.35	2.77	8.66
1,114.36	2.83	9.28
1,114.37	2.90	9.93
1,114.38	2.96	10.60
1,114.39	3.02	11.29
1,114.40	3.08	12.00
1,114.41	3.13	12.73
1,114.42	3.19	13.48
1,114.43	3.25	14.25
1,114.44	3.30	15.05
1,114.45	3.36	15.86
1,114.46	3.41	16.70
1,114.47	3.46	17.56
1,114.48	3.52	18.44
1,114.49	3.57	19.34
1,114.50	3.62	20.26
1,114.51	3.67	21.21
1,114.52	3.72	22.18
1,114.53	3.77	23.17
1,114.54	3.82	24.18
1,114.55	3.86	25.22
1,114.56	3.91	26.27
1,114.57	3.96	27.35
1,114.58	4.01	28.46
1,114.59	4.05	29.58
1,114.60	4.10	30.73
1,114.61	4.14	31.90
1,114.62	4.19	33.10
1,114.63	4.23	34.32
1,114.64	4.28	35.56
1,114.65	4.32	36.83
1,114.66	4.36	38.12
1,114.67	4.41	39.43
1,114.68	4.45	40.77
1,114.69	4.49	42.13
1,114.70	4.53	43.51
1,114.71	4.57	44.92
1,114.72	4.62	46.36
1,114.73	4.66	47.82
1,114.74	4.70	49.30
1,114.75	4.74	50.81
1,114.76	4.78	52.34
1,114.77	4.82	53.90
1,114.78	4.86	55.48
1,114.79	4.90	57.09
1,114.80	4.93	58.73
1,114.81	4.97	60.39
1,114.82	5.01	62.07
1,114.83	5.05	63.78
1,114.84	5.09	65.52
1,114.85	5.13	67.28
1,114.86	5.16	69.07
1,114.87	5.20	70.89
1,114.88	5.24	72.73
1,114.89	5.28	74.60
1,114.90	5.31	76.49
1,114.91	5.35	78.42
1,114.92	5.39	80.37
1,114.93	5.42	82.34
1,114.94	5.46	84.35
1,114.95	5.49	86.38
1,114.96	5.53	88.44
1,114.97	5.56	90.52
1,114.98	5.60	92.63
1,114.99	5.63	94.78
1,115.00	5.67	96.94
1,115.01	5.70	99.14
1,115.02	5.74	101.37
1,115.03	5.77	103.62
1,115.04	5.81	105.90
1,115.05	5.84	108.21
1,115.06	5.88	110.55
1,115.07	5.91	112.92
1,115.08	5.94	115.32
1,115.09	5.98	117.74
1,115.10	**6.01**	**120.20**

Summary for Reach UGS1A: TO UGS1

Inflow Area = 1.081 ac, 85.82% Impervious, Inflow Depth = 4.69" for 25-Year event
Inflow = 5.35 cfs @ 12.09 hrs, Volume= 0.423 af
Outflow = 5.35 cfs @ 12.09 hrs, Volume= 0.423 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach UGS1A: TO UGS1

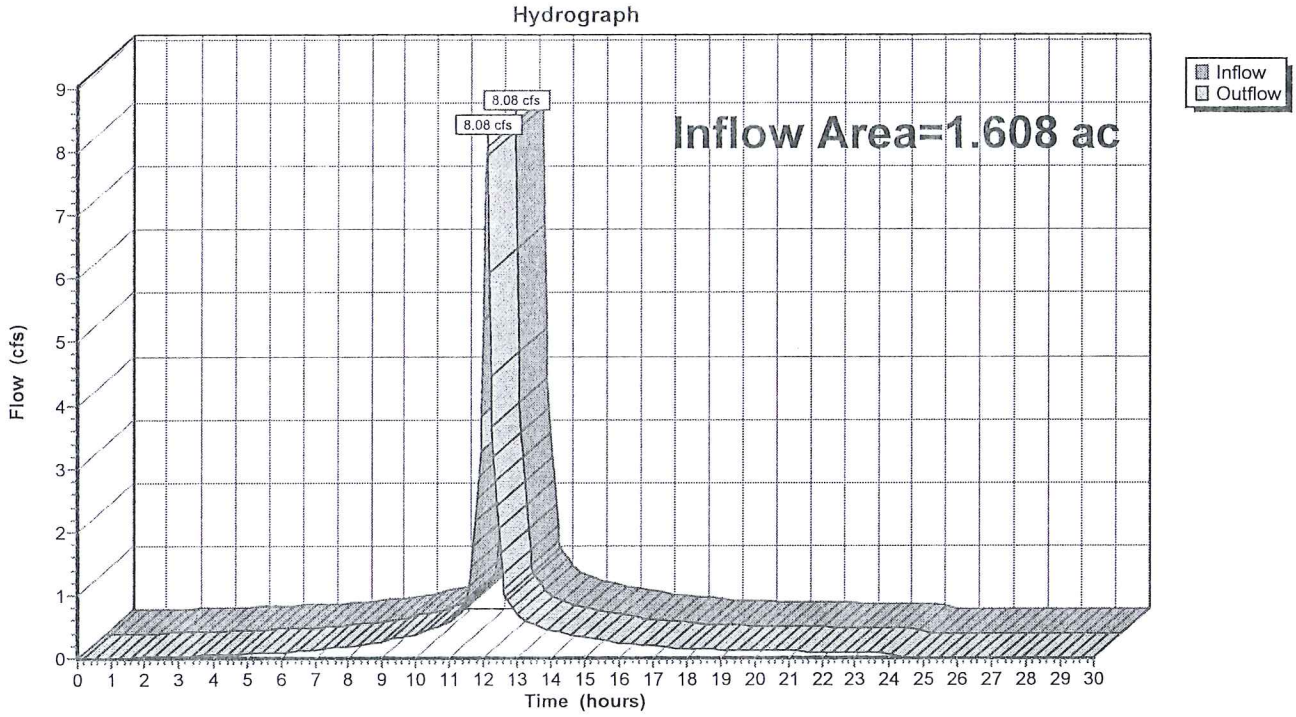


Summary for Reach UGS1B: TO UGS1

Inflow Area = 1.608 ac, 92.28% Impervious, Inflow Depth = 4.84" for 25-Year event
Inflow = 8.08 cfs @ 12.08 hrs, Volume= 0.648 af
Outflow = 8.08 cfs @ 12.08 hrs, Volume= 0.648 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach UGS1B: TO UGS1



Summary for Reach UGS1C: TO OUTLET

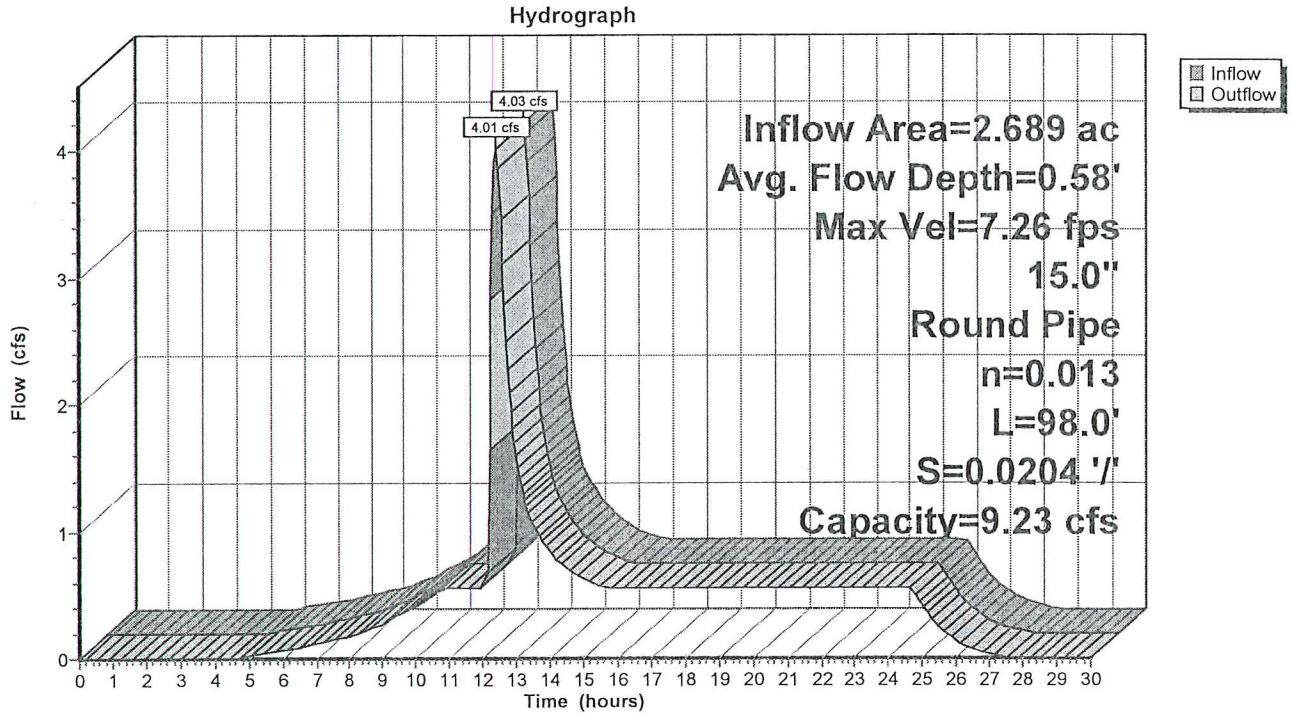
Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 4.41" for 25-Year event
Inflow = 4.03 cfs @ 12.40 hrs, Volume= 0.989 af
Outflow = 4.01 cfs @ 12.41 hrs, Volume= 0.989 af, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.26 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 3.71 fps, Avg. Travel Time= 0.4 min

Peak Storage= 54 cf @ 12.40 hrs
Average Depth at Peak Storage= 0.58'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 9.23 cfs

15.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 98.0' Slope= 0.0204 '/'
Inlet Invert= 1,172.00', Outlet Invert= 1,170.00'





Stage-Discharge for Reach UGS1C: TO OUTLET

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,172.00	0.00	0.00
1,172.01	0.54	0.00
1,172.02	0.90	0.00
1,172.03	1.19	0.01
1,172.04	1.44	0.02
1,172.05	1.67	0.03
1,172.06	1.88	0.04
1,172.07	2.08	0.06
1,172.08	2.27	0.08
1,172.09	2.44	0.10
1,172.10	2.62	0.12
1,172.11	2.78	0.15
1,172.12	2.94	0.18
1,172.13	3.09	0.21
1,172.14	3.24	0.24
1,172.15	3.38	0.28
1,172.16	3.52	0.32
1,172.17	3.66	0.37
1,172.18	3.79	0.41
1,172.19	3.92	0.46
1,172.20	4.04	0.51
1,172.21	4.16	0.57
1,172.22	4.28	0.62
1,172.23	4.40	0.68
1,172.24	4.51	0.74
1,172.25	4.63	0.81
1,172.26	4.73	0.88
1,172.27	4.84	0.94
1,172.28	4.94	1.02
1,172.29	5.05	1.09
1,172.30	5.15	1.17
1,172.31	5.24	1.24
1,172.32	5.34	1.33
1,172.33	5.43	1.41
1,172.34	5.53	1.49
1,172.35	5.62	1.58
1,172.36	5.71	1.67
1,172.37	5.79	1.76
1,172.38	5.88	1.85
1,172.39	5.96	1.95
1,172.40	6.04	2.05
1,172.41	6.13	2.15
1,172.42	6.20	2.25
1,172.43	6.28	2.35
1,172.44	6.36	2.45
1,172.45	6.43	2.56
1,172.46	6.51	2.67
1,172.47	6.58	2.77
1,172.48	6.65	2.89
1,172.49	6.72	3.00
1,172.50	6.78	3.11
1,172.51	6.85	3.22
1,172.52	6.92	3.34
1,172.53	6.98	3.46
1,172.54	7.04	3.57
1,172.55	7.10	3.69
1,172.56	7.16	3.81
1,172.57	7.22	3.93
1,172.58	7.28	4.06
1,172.59	7.33	4.18
1,172.60	7.39	4.30
1,172.61	7.44	4.43
1,172.62	7.49	4.55
1,172.63	7.55	4.68
1,172.64	7.59	4.80
1,172.65	7.64	4.93
1,172.66	7.69	5.06
1,172.67	7.74	5.18
1,172.68	7.78	5.31
1,172.69	7.83	5.44
1,172.70	7.87	5.56
1,172.71	7.91	5.69
1,172.72	7.95	5.82
1,172.73	7.99	5.95
1,172.74	8.03	6.07
1,172.75	8.06	6.20
1,172.76	8.10	6.33
1,172.77	8.13	6.45
1,172.78	8.17	6.58
1,172.79	8.20	6.70
1,172.80	8.23	6.83
1,172.81	8.26	6.95
1,172.82	8.29	7.07
1,172.83	8.31	7.19
1,172.84	8.34	7.31
1,172.85	8.36	7.43
1,172.86	8.39	7.55
1,172.87	8.41	7.67
1,172.88	8.43	7.78
1,172.89	8.45	7.90
1,172.90	8.47	8.01
1,172.91	8.48	8.12
1,172.92	8.50	8.23
1,172.93	8.51	8.34
1,172.94	8.53	8.44
1,172.95	8.54	8.54
1,172.96	8.55	8.64
1,172.97	8.56	8.74
1,172.98	8.56	8.84
1,172.99	8.57	8.93
1,173.00	8.57	9.02
1,173.01	8.57	9.11
1,173.02	**8.57**	9.19
1,173.03	8.57	9.27
1,173.04	8.57	9.35
1,173.05	8.56	9.42
1,173.06	8.56	9.49
1,173.07	8.55	9.56
1,173.08	8.53	9.62
1,173.09	8.52	9.68
1,173.10	8.51	9.73
1,173.11	8.49	9.77
1,173.12	8.47	9.82
1,173.13	8.44	9.85
1,173.14	8.42	9.88
1,173.15	8.39	9.90
1,173.16	8.35	9.92
1,173.17	8.31	**9.92**
1,173.18	8.27	9.92
1,173.19	8.22	9.91
1,173.20	8.17	9.89
1,173.21	8.10	9.85
1,173.22	8.02	9.78
1,173.23	7.93	9.70
1,173.24	7.78	9.54
1,173.25	7.52	9.23

Summary for Pond CULVERT#1: TO DP#1

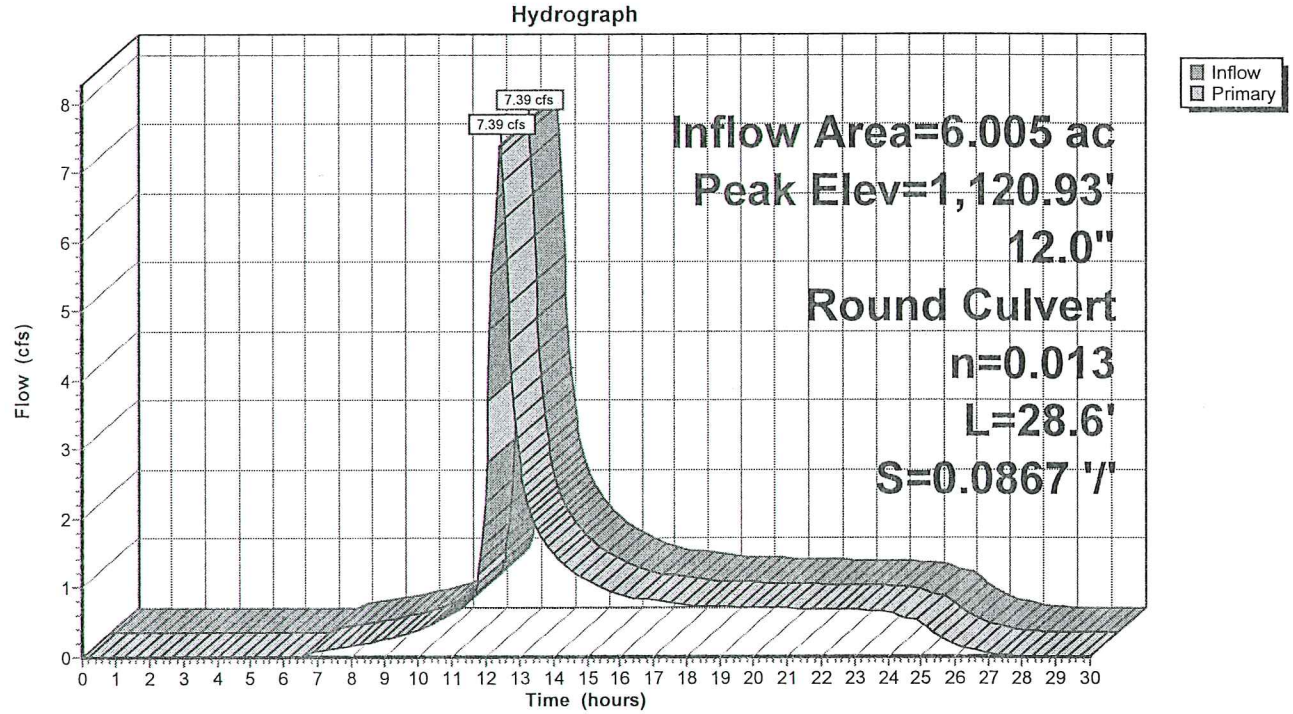
Inflow Area = 6.005 ac, 41.90% Impervious, Inflow Depth = 3.03" for 25-Year event
Inflow = 7.39 cfs @ 12.46 hrs, Volume= 1.518 af
Outflow = 7.39 cfs @ 12.46 hrs, Volume= 1.518 af, Atten= 0%, Lag= 0.0 min
Primary = 7.39 cfs @ 12.46 hrs, Volume= 1.518 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,120.93' @ 12.46 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,116.61'	**12.0" Round Culvert** L= 28.6' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,116.61' / 1,114.13' S= 0.0867 '/' Cc= 0.900 n= 0.013 Cast iron, coated, Flow Area= 0.79 sf

Primary OutFlow Max=7.37 cfs @ 12.46 hrs HW=1,120.91' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 7.37 cfs @ 9.38 fps)

Pond CULVERT#1: TO DP#1



Stage-Discharge for Pond CULVERT#1: TO DP#1

Elevation (feet)	Primary (cfs)
1,116.61	0.00
1,116.66	0.01
1,116.71	0.04
1,116.76	0.10
1,116.81	0.17
1,116.86	0.26
1,116.91	0.37
1,116.96	0.49
1,117.01	0.63
1,117.06	0.78
1,117.11	0.95
1,117.16	1.12
1,117.21	1.30
1,117.26	1.48
1,117.31	1.67
1,117.36	1.86
1,117.41	2.05
1,117.46	2.23
1,117.51	2.40
1,117.56	2.56
1,117.61	2.67
1,117.66	2.80
1,117.71	2.93
1,117.76	3.05
1,117.81	3.16
1,117.86	3.28
1,117.91	3.38
1,117.96	3.49
1,118.01	3.59
1,118.06	3.69
1,118.11	3.78
1,118.16	3.88
1,118.21	3.97
1,118.26	4.06
1,118.31	4.14
1,118.36	4.23
1,118.41	4.31
1,118.46	4.39
1,118.51	4.47
1,118.56	4.55
1,118.61	4.63
1,118.66	4.71
1,118.71	4.78
1,118.76	4.86
1,118.81	4.93
1,118.86	5.00
1,118.91	5.07
1,118.96	5.14
1,119.01	5.21
1,119.06	5.28
1,119.11	5.35
1,119.16	5.41
1,119.21	5.48
1,119.26	5.55
1,119.31	5.61
1,119.36	5.67
1,119.41	5.74
1,119.46	5.80
1,119.51	5.86
1,119.56	5.92
1,119.61	5.98
1,119.66	6.04
1,119.71	6.10
1,119.76	6.16
1,119.81	6.21
1,119.86	6.27
1,119.91	6.33
1,119.96	6.38
1,120.01	6.44
1,120.06	6.50
1,120.11	6.55
1,120.16	6.60
1,120.21	6.66
1,120.26	6.71
1,120.31	6.76
1,120.36	6.82
1,120.41	6.87
1,120.46	6.92
1,120.51	6.97
1,120.56	7.02
1,120.61	7.07
1,120.66	7.13
1,120.71	7.18
1,120.76	7.22
1,120.81	7.27
1,120.86	7.32
1,120.91	**7.37**

Summary for Pond DCBJ: TO DCB-K

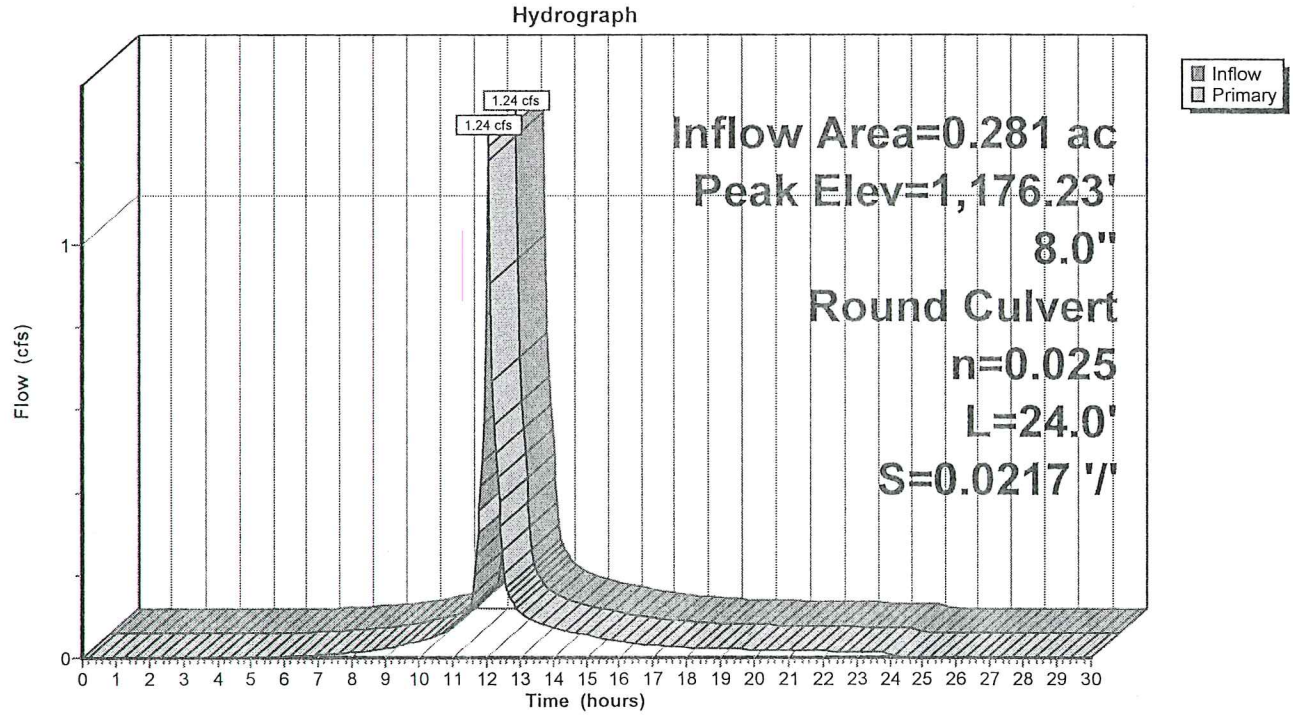
Inflow Area = 0.281 ac, 53.18% Impervious, Inflow Depth = 3.87" for 25-Year event
Inflow = 1.24 cfs @ 12.08 hrs, Volume= 0.091 af
Outflow = 1.24 cfs @ 12.08 hrs, Volume= 0.091 af, Atten= 0%, Lag= 0.0 min
Primary = 1.24 cfs @ 12.08 hrs, Volume= 0.091 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,176.23' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,174.86'	**8.0" Round Culvert** L= 24.0' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,174.86' / 1,174.34' S= 0.0217 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.35 sf

Primary OutFlow Max=1.20 cfs @ 12.08 hrs HW=1,176.16' (Free Discharge)
↑**1=Culvert** (Barrel Controls 1.20 cfs @ 3.43 fps)

Pond DCBJ: TO DCB-K



Stage-Discharge for Pond DCBJ: TO DCB-K

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,174.86	0.00	1,175.38	0.57	1,175.90	1.06
1,174.87	0.00	1,175.39	0.59	1,175.91	1.06
1,174.88	0.00	1,175.40	0.61	1,175.92	1.07
1,174.89	0.00	1,175.41	0.62	1,175.93	1.07
1,174.90	0.00	1,175.42	0.64	1,175.94	1.08
1,174.91	0.01	1,175.43	0.66	1,175.95	1.09
1,174.92	0.01	1,175.44	0.68	1,175.96	1.09
1,174.93	0.01	1,175.45	0.69	1,175.97	1.10
1,174.94	0.02	1,175.46	0.71	1,175.98	1.10
1,174.95	0.02	1,175.47	0.73	1,175.99	1.11
1,174.96	0.02	1,175.48	0.74	1,176.00	1.11
1,174.97	0.03	1,175.49	0.76	1,176.01	1.12
1,174.98	0.04	1,175.50	0.78	1,176.02	1.12
1,174.99	0.04	1,175.51	0.79	1,176.03	1.13
1,175.00	0.05	1,175.52	0.81	1,176.04	1.14
1,175.01	0.06	1,175.53	0.82	1,176.05	1.14
1,175.02	0.06	1,175.54	0.84	1,176.06	1.15
1,175.03	0.07	1,175.55	0.85	1,176.07	1.15
1,175.04	0.08	1,175.56	0.87	1,176.08	1.16
1,175.05	0.09	1,175.57	0.88	1,176.09	1.16
1,175.06	0.10	1,175.58	0.89	1,176.10	1.17
1,175.07	0.11	1,175.59	0.91	1,176.11	1.17
1,175.08	0.12	1,175.60	0.92	1,176.12	1.18
1,175.09	0.13	1,175.61	0.93	1,176.13	1.18
1,175.10	0.14	1,175.62	0.94	1,176.14	1.19
1,175.11	0.16	1,175.63	0.95	1,176.15	1.19
1,175.12	0.17	1,175.64	0.96	1,176.16	1.20
1,175.13	0.18	1,175.65	0.97	1,176.17	**1.21**
1,175.14	0.19	1,175.66	0.98		
1,175.15	0.21	1,175.67	0.99		
1,175.16	0.22	1,175.68	0.99		
1,175.17	0.23	1,175.69	1.00		
1,175.18	0.25	1,175.70	1.00		
1,175.19	0.26	1,175.71	1.00		
1,175.20	0.28	1,175.72	1.00		
1,175.21	0.29	1,175.73	1.00		
1,175.22	0.31	1,175.74	0.99		
1,175.23	0.32	1,175.75	0.96		
1,175.24	0.34	1,175.76	0.97		
1,175.25	0.35	1,175.77	0.98		
1,175.26	0.37	1,175.78	0.98		
1,175.27	0.39	1,175.79	0.99		
1,175.28	0.40	1,175.80	1.00		
1,175.29	0.42	1,175.81	1.00		
1,175.30	0.44	1,175.82	1.01		
1,175.31	0.45	1,175.83	1.01		
1,175.32	0.47	1,175.84	1.02		
1,175.33	0.49	1,175.85	1.03		
1,175.34	0.50	1,175.86	1.03		
1,175.35	0.52	1,175.87	1.04		
1,175.36	0.54	1,175.88	1.04		
1,175.37	0.56	1,175.89	1.05		

Summary for Pond sb1: TO DP#1

Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 4.41" for 25-Year event
Inflow = 4.01 cfs @ 12.41 hrs, Volume= 0.989 af
Outflow = 4.03 cfs @ 12.41 hrs, Volume= 0.983 af, Atten= 0%, Lag= 0.1 min
Primary = 4.03 cfs @ 12.41 hrs, Volume= 0.983 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,163.29' @ 12.41 hrs Surf.Area= 418 sf Storage= 376 cf

Plug-Flow detention time= 8.3 min calculated for 0.981 af (99% of inflow)
Center-of-Mass det. time= 4.6 min (970.4 - 965.8)

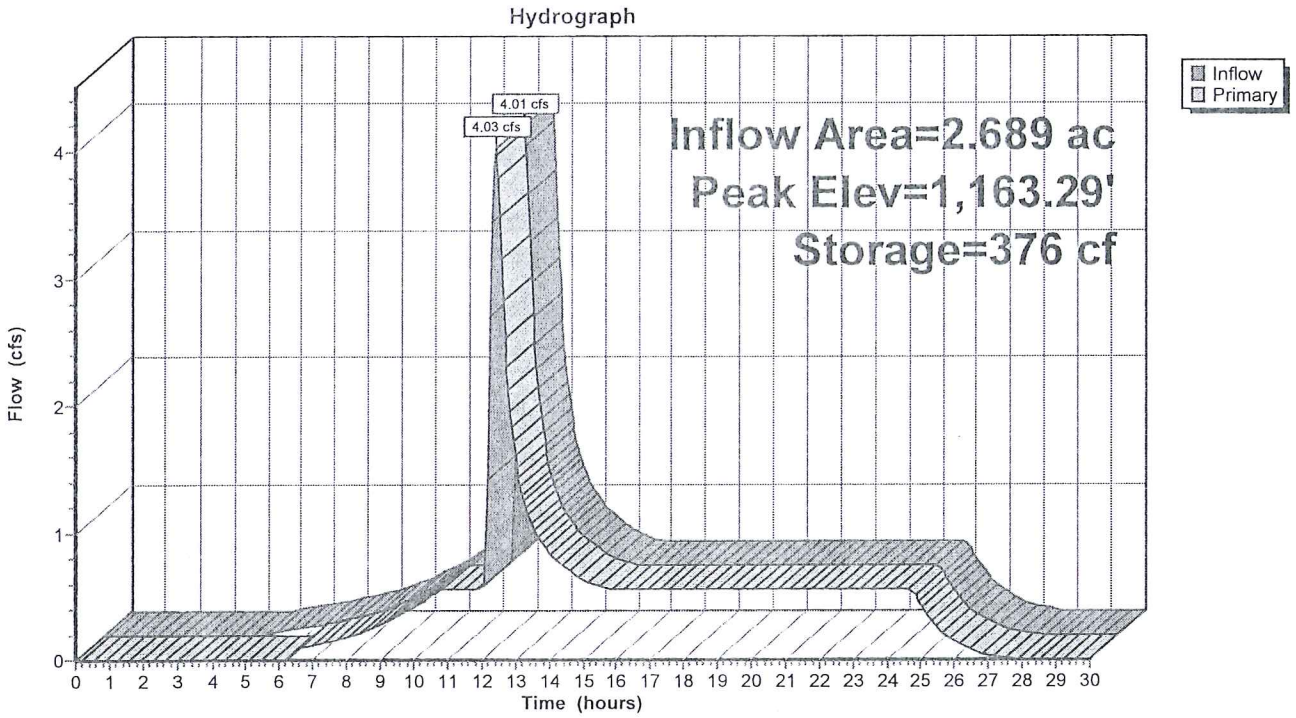
Volume	Invert	Avail.Storage	Storage Description
#1	1,162.00'	720 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,162.00	163	0	0
1,164.00	557	720	720

Device	Routing	Invert	Outlet Devices
#1	Primary	1,163.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=4.01 cfs @ 12.41 hrs HW=1,163.29' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 4.01 cfs @ 1.37 fps)

Pond sb1: TO DP#1



Stage-Discharge for Pond sb1: TO DP#1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,162.00	0.00	1,162.52	0.00	1,163.04	0.20	1,163.56	11.20
1,162.01	0.00	1,162.53	0.00	1,163.05	0.28	1,163.57	11.53
1,162.02	0.00	1,162.54	0.00	1,163.06	0.37	1,163.58	11.86
1,162.03	0.00	1,162.55	0.00	1,163.07	0.46	1,163.59	12.20
1,162.04	0.00	1,162.56	0.00	1,163.08	0.56	1,163.60	12.55
1,162.05	0.00	1,162.57	0.00	1,163.09	0.67	1,163.61	12.86
1,162.06	0.00	1,162.58	0.00	1,163.10	0.79	1,163.62	13.18
1,162.07	0.00	1,162.59	0.00	1,163.11	0.91	1,163.63	13.49
1,162.08	0.00	1,162.60	0.00	1,163.12	1.04	1,163.64	13.81
1,162.09	0.00	1,162.61	0.00	1,163.13	1.17	1,163.65	14.14
1,162.10	0.00	1,162.62	0.00	1,163.14	1.30	1,163.66	14.46
1,162.11	0.00	1,162.63	0.00	1,163.15	1.45	1,163.67	14.79
1,162.12	0.00	1,162.64	0.00	1,163.16	1.59	1,163.68	15.12
1,162.13	0.00	1,162.65	0.00	1,163.17	1.75	1,163.69	15.45
1,162.14	0.00	1,162.66	0.00	1,163.18	1.90	1,163.70	15.78
1,162.15	0.00	1,162.67	0.00	1,163.19	2.06	1,163.71	16.12
1,162.16	0.00	1,162.68	0.00	1,163.20	2.23	1,163.72	16.46
1,162.17	0.00	1,162.69	0.00	1,163.21	2.40	1,163.73	16.80
1,162.18	0.00	1,162.70	0.00	1,163.22	2.58	1,163.74	17.14
1,162.19	0.00	1,162.71	0.00	1,163.23	2.76	1,163.75	17.49
1,162.20	0.00	1,162.72	0.00	1,163.24	2.94	1,163.76	17.84
1,162.21	0.00	1,162.73	0.00	1,163.25	3.13	1,163.77	18.19
1,162.22	0.00	1,162.74	0.00	1,163.26	3.33	1,163.78	18.54
1,162.23	0.00	1,162.75	0.00	1,163.27	3.53	1,163.79	18.89
1,162.24	0.00	1,162.76	0.00	1,163.28	3.73	1,163.80	19.25
1,162.25	0.00	1,162.77	0.00	1,163.29	3.94	1,163.81	19.61
1,162.26	0.00	1,162.78	0.00	1,163.30	4.15	1,163.82	19.97
1,162.27	0.00	1,162.79	0.00	1,163.31	4.36	1,163.83	20.33
1,162.28	0.00	1,162.80	0.00	1,163.32	4.58	1,163.84	20.69
1,162.29	0.00	1,162.81	0.00	1,163.33	4.81	1,163.85	21.06
1,162.30	0.00	1,162.82	0.00	1,163.34	5.03	1,163.86	21.43
1,162.31	0.00	1,162.83	0.00	1,163.35	5.26	1,163.87	21.80
1,162.32	0.00	1,162.84	0.00	1,163.36	5.50	1,163.88	22.17
1,162.33	0.00	1,162.85	0.00	1,163.37	5.74	1,163.89	22.55
1,162.34	0.00	1,162.86	0.00	1,163.38	5.98	1,163.90	22.92
1,162.35	0.00	1,162.87	0.00	1,163.39	6.23	1,163.91	23.30
1,162.36	0.00	1,162.88	0.00	1,163.40	6.48	1,163.92	23.68
1,162.37	0.00	1,162.89	0.00	1,163.41	6.74	1,163.93	24.07
1,162.38	0.00	1,162.90	0.00	1,163.42	7.01	1,163.94	24.45
1,162.39	0.00	1,162.91	0.00	1,163.43	7.28	1,163.95	24.84
1,162.40	0.00	1,162.92	0.00	1,163.44	7.55	1,163.96	25.23
1,162.41	0.00	1,162.93	0.00	1,163.45	7.83	1,163.97	25.62
1,162.42	0.00	1,162.94	0.00	1,163.46	8.12	1,163.98	26.01
1,162.43	0.00	1,162.95	0.00	1,163.47	8.41	1,163.99	26.40
1,162.44	0.00	1,162.96	0.00	1,163.48	8.70	1,164.00	**26.80**
1,162.45	0.00	1,162.97	0.00	1,163.49	9.00		
1,162.46	0.00	1,162.98	0.00	1,163.50	9.30		
1,162.47	0.00	1,162.99	0.00	1,163.51	9.60		
1,162.48	0.00	1,163.00	0.00	1,163.52	9.91		
1,162.49	0.00	1,163.01	0.02	1,163.53	10.23		
1,162.50	0.00	1,163.02	0.07	1,163.54	10.55		
1,162.51	0.00	1,163.03	0.13	1,163.55	10.87		

Summary for Pond UGS1: EXFIL

Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 4.78" for 25-Year event
Inflow = 13.43 cfs @ 12.08 hrs, Volume= 1.071 af
Outflow = 4.08 cfs @ 12.40 hrs, Volume= 1.067 af, Atten= 70%, Lag= 19.0 min
Discarded = 0.04 cfs @ 12.40 hrs, Volume= 0.078 af
Primary = 4.03 cfs @ 12.40 hrs, Volume= 0.989 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,180.58' @ 12.40 hrs Surf.Area= 0.115 ac Storage= 0.424 af

Plug-Flow detention time= 206.7 min calculated for 1.067 af (100% of inflow)
Center-of-Mass det. time= 204.2 min (966.9 - 762.6)

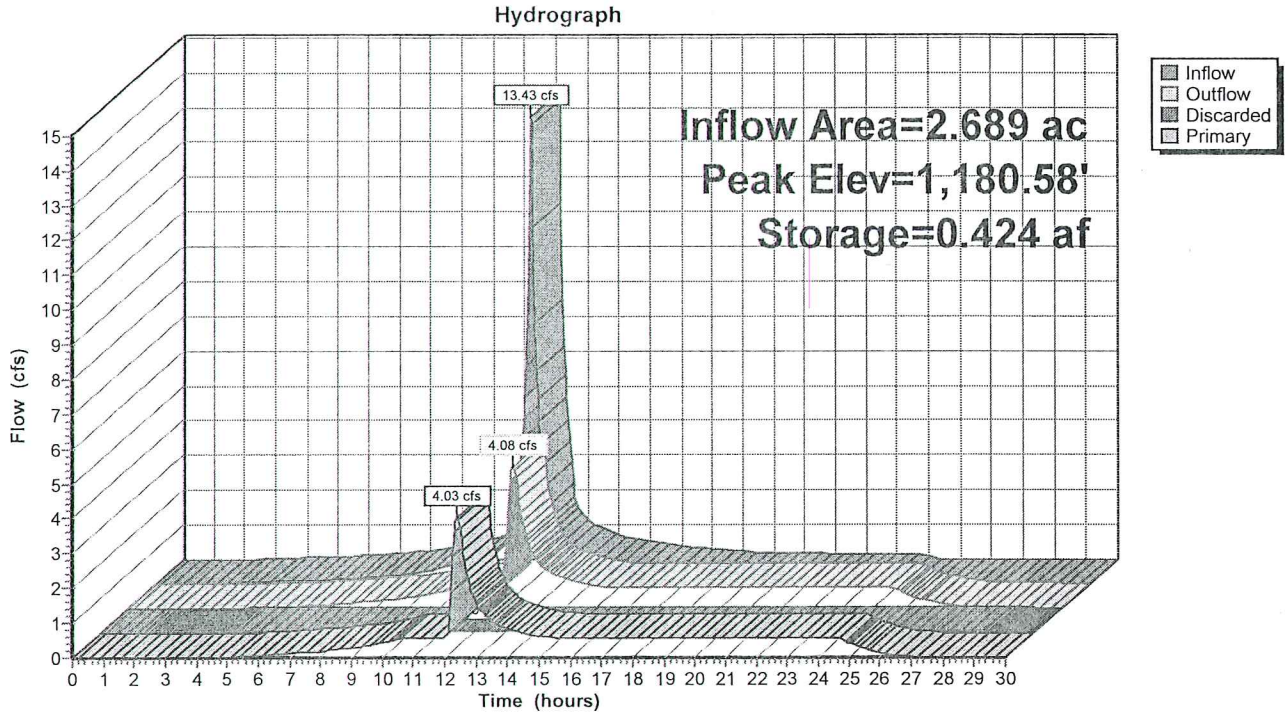
Volume	Invert	Avail.Storage	Storage Description
#1	1,175.00'	0.239 af	**44.00'W x 114.00'L x 7.90'H Prismatoid** 0.910 af Overall - 0.313 af Embedded = 0.596 af x 40.0% Voids
#2	1,176.90'	0.313 af	**ADS_StormTech MC-4500 +Cap @ 4.03' L** x 120 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.6 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 120 Chambers in 12 Rows Cap Storage= +35.7 cf x 2 x 12 rows = 856.8 cf
		0.552 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,175.00'	**0.270 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 320.00'
#2	Device 4	1,179.60'	**15.0" Vert. Orifice/Grate** C= 0.600
#3	Device 4	1,175.20'	**Special & User-Defined** Head (feet) 0.00 1.00 15.00 Disch. (cfs) 0.000 0.550 0.550
#4	Primary	1,174.80'	**15.0" Round Culvert** L= 98.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,174.80' / 1,163.00' S= 0.1204 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Discarded OutFlow Max=0.04 cfs @ 12.40 hrs HW=1,180.58' (Free Discharge)
└─**1=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=4.03 cfs @ 12.40 hrs HW=1,180.58' (Free Discharge)
└─**4=Culvert** (Passes 4.03 cfs of 10.59 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 3.48 cfs @ 3.37 fps)
  └─**3=Special & User-Defined** (Custom Controls 0.55 cfs)

Pond UGS1: EXFIL



Stage-Discharge for Pond UGS1: EXFIL

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
1,175.00	0.00	0.00	0.00
1,175.20	0.03	0.03	0.00
1,175.40	0.14	0.03	0.11
1,175.60	0.25	0.03	0.22
1,175.80	0.36	0.03	0.33
1,176.00	0.47	0.03	0.44
1,176.20	0.58	0.03	0.55
1,176.40	0.58	0.03	0.55
1,176.60	0.58	0.03	0.55
1,176.80	0.58	0.03	0.55
1,177.00	0.59	0.04	0.55
1,177.20	0.59	0.04	0.55
1,177.40	0.59	0.04	0.55
1,177.60	0.59	0.04	0.55
1,177.80	0.59	0.04	0.55
1,178.00	0.59	0.04	0.55
1,178.20	0.59	0.04	0.55
1,178.40	0.59	0.04	0.55
1,178.60	0.59	0.04	0.55
1,178.80	0.59	0.04	0.55
1,179.00	0.59	0.04	0.55
1,179.20	0.59	0.04	0.55
1,179.40	0.59	0.04	0.55
1,179.60	0.59	0.04	0.55
1,179.80	0.78	0.04	0.74
1,180.00	1.32	0.04	1.28
1,180.20	2.13	0.04	2.09
1,180.40	3.12	0.04	3.08
1,180.60	4.18	0.04	4.13
1,180.80	5.11	0.04	5.07
1,181.00	5.80	0.04	5.75
1,181.20	6.43	0.04	6.38
1,181.40	7.00	0.04	6.96
1,181.60	7.52	0.04	7.48
1,181.80	8.01	0.05	7.97
1,182.00	8.47	0.05	8.42
1,182.20	8.90	0.05	8.85
1,182.40	9.31	0.05	9.26
1,182.60	9.70	0.05	9.66
1,182.80	10.08	0.05	10.03
1,183.00	10.44	0.05	10.39
1,183.20	10.79	0.05	10.74
1,183.40	11.13	0.05	11.08
1,183.60	11.45	0.05	11.41
1,183.80	11.77	0.05	11.72
1,184.00	12.08	0.05	12.03
1,184.20	12.38	0.05	12.33
1,184.40	12.67	0.05	12.62
1,184.60	12.96	0.05	12.91
1,184.80	13.24	0.05	13.19
1,185.00	13.51	0.05	13.46
1,185.20	13.78	0.05	13.73
1,185.40	14.04	0.05	13.99
1,185.60	14.30	0.05	14.25
1,185.80	14.55	0.05	14.50
1,186.00	14.80	0.05	14.75
1,186.20	15.04	0.05	14.99
1,186.40	15.28	0.05	15.23
1,186.60	15.52	0.05	15.47
1,186.80	15.75	0.05	15.70
1,187.00	15.92	0.05	15.87
1,187.20	16.06	0.05	16.01
1,187.40	16.19	0.05	16.14
1,187.60	16.32	0.05	16.28
1,187.80	16.46	0.05	16.41
1,188.00	16.59	0.05	16.54
1,188.20	16.72	0.05	16.67
1,188.40	16.85	0.05	16.80
1,188.60	16.98	0.05	16.93
1,188.80	17.11	0.05	17.06
1,189.00	17.24	0.05	17.19
1,189.20	17.36	0.05	17.31
1,189.40	17.49	0.05	17.44
1,189.60	17.61	0.05	17.56
1,189.80	17.73	0.05	17.69
1,190.00	17.86	0.05	17.81
1,190.20	**17.98**	**0.05**	**17.93**

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P11: TO WET Runoff Area=70,866 sf 3.65% Impervious Runoff Depth=2.63"
Flow Length=109' Slope=0.1500 '/' Tc=8.2 min CN=64 Runoff=4.48 cfs 0.356 af

Subcatchment P111: TO DCB#22 Runoff Area=8,514 sf 87.17% Impervious Runoff Depth=5.91"
Flow Length=164' Tc=5.0 min CN=95 Runoff=1.23 cfs 0.096 af

Subcatchment P112: TO DCB#21 Runoff Area=9,201 sf 82.40% Impervious Runoff Depth=5.79"
Flow Length=155' Tc=5.0 min CN=94 Runoff=1.32 cfs 0.102 af

Subcatchment P113: TO DCB#21 Runoff Area=6,921 sf 80.93% Impervious Runoff Depth=5.68"
Flow Length=240' Slope=0.0150 '/' Tc=5.0 min CN=93 Runoff=0.98 cfs 0.075 af

Subcatchment P114: TO DCB#20 Runoff Area=6,898 sf 72.11% Impervious Runoff Depth=5.45"
Flow Length=214' Slope=0.0150 '/' Tc=5.0 min CN=91 Runoff=0.96 cfs 0.072 af

Subcatchment P115: TO DCB#10 Runoff Area=1,813 sf 80.86% Impervious Runoff Depth=5.68"
Flow Length=121' Slope=0.0150 '/' Tc=5.0 min CN=93 Runoff=0.26 cfs 0.020 af

Subcatchment P116: TO DCB#11 Runoff Area=11,690 sf 78.25% Impervious Runoff Depth=5.68"
Flow Length=175' Slope=0.0150 '/' Tc=5.0 min CN=93 Runoff=1.66 cfs 0.127 af

Subcatchment P117: TO DCB#4 Runoff Area=5,999 sf 68.08% Impervious Runoff Depth=5.33"
Flow Length=153' Tc=5.0 min CN=90 Runoff=0.82 cfs 0.061 af

Subcatchment P118: TO DCB#20 Runoff Area=6,282 sf 89.61% Impervious Runoff Depth=6.03"
Flow Length=134' Slope=0.0150 '/' Tc=5.0 min CN=96 Runoff=0.92 cfs 0.072 af

Subcatchment P119: TO DCB#19 Runoff Area=5,964 sf 89.42% Impervious Runoff Depth=5.91"
Flow Length=134' Slope=0.0150 '/' Tc=5.0 min CN=95 Runoff=0.86 cfs 0.067 af

Subcatchment P12: TO CULVERT#1 Runoff Area=144,472 sf 3.17% Impervious Runoff Depth=2.82"
Flow Length=587' Tc=17.1 min CN=66 Runoff=7.71 cfs 0.779 af

Subcatchment P120: TO DCB#15 Runoff Area=7,759 sf 87.98% Impervious Runoff Depth=5.91"
Flow Length=158' Slope=0.0150 '/' Tc=5.0 min CN=95 Runoff=1.12 cfs 0.088 af

Subcatchment P121: TO DCB#14 Runoff Area=7,473 sf 90.41% Impervious Runoff Depth=6.03"
Flow Length=158' Slope=0.0150 '/' Tc=5.0 min CN=96 Runoff=1.09 cfs 0.086 af

Subcatchment P122: TO DCB#17 Runoff Area=5,642 sf 91.39% Impervious Runoff Depth=6.03"
Flow Length=175' Slope=0.0250 '/' Tc=5.0 min CN=96 Runoff=0.82 cfs 0.065 af

Subcatchment P123: TO DCB#3 Runoff Area=9,992 sf 89.92% Impervious Runoff Depth=6.03"
Flow Length=195' Slope=0.0200 '/' Tc=5.0 min CN=96 Runoff=1.46 cfs 0.115 af

Subcatchment P124: TO DCB#13 Runoff Area=7,557 sf 91.70% Impervious Runoff Depth=6.03"
Flow Length=161' Slope=0.0250 '/' Tc=5.0 min CN=96 Runoff=1.10 cfs 0.087 af

Subcatchment P125: TO DCB#12 Runoff Area=10,810 sf 86.00% Impervious Runoff Depth=5.91"
Flow Length=217' Slope=0.0250 '/' Tc=5.0 min CN=95 Runoff=1.56 cfs 0.122 af

Subcatchment P126: TO DCB#18 Runoff Area=23,746 sf 84.68% Impervious Runoff Depth=5.79"
Flow Length=207' Slope=0.0150 '/' Tc=5.0 min CN=94 Runoff=3.41 cfs 0.263 af

Subcatchment P127: TO DCB#1 Runoff Area=11,126 sf 81.84% Impervious Runoff Depth=5.79"
Flow Length=140' Slope=0.0200 '/' Tc=5.0 min CN=94 Runoff=1.60 cfs 0.123 af

Subcatchment P128: (new Subcat) Runoff Area=28,389 sf 100.00% Impervious Runoff Depth=6.26"
Flow Length=140' Slope=0.0200 '/' Tc=5.0 min CN=98 Runoff=4.18 cfs 0.340 af

Subcatchment P14: TO CULVERT #2 Runoff Area=90,019 sf 3.60% Impervious Runoff Depth=2.72"
Flow Length=490' Tc=14.6 min CN=65 Runoff=4.93 cfs 0.469 af

Subcatchment P18: TO DP#2 Runoff Area=29,367 sf 66.34% Impervious Runoff Depth=5.33"
Flow Length=260' Tc=5.0 min CN=90 Runoff=4.02 cfs 0.300 af

Subcatchment P19: BUILDING Runoff Area=127,442 sf 100.00% Impervious Runoff Depth=6.26"
Tc=0.0 min CN=98 Runoff=21.34 cfs 1.527 af

Subcatchment P20: TO DCB-H Runoff Area=15,545 sf 45.15% Impervious Runoff Depth=4.78"
Flow Length=200' Tc=5.0 min CN=85 Runoff=1.96 cfs 0.142 af

Subcatchment P21: TO DCB-I Runoff Area=2,507 sf 56.44% Impervious Runoff Depth=5.11"
Flow Length=85' Tc=5.0 min CN=88 Runoff=0.33 cfs 0.025 af

Subcatchment P22: TO DCB-J Runoff Area=9,732 sf 52.34% Impervious Runoff Depth=5.00"
Flow Length=283' Tc=5.0 min CN=87 Runoff=1.27 cfs 0.093 af

Subcatchment P26: TO DCB-F Runoff Area=5,800 sf 68.40% Impervious Runoff Depth=5.33"
Flow Length=161' Tc=5.0 min CN=90 Runoff=0.79 cfs 0.059 af

Subcatchment P27: TO DCB-G Runoff Area=11,905 sf 45.12% Impervious Runoff Depth=4.78"
Flow Length=181' Slope=0.0080 '/' Tc=5.0 min CN=85 Runoff=1.50 cfs 0.109 af

Reach 2R: OVERLAND FLOW Avg. Flow Depth=0.45' Max Vel=1.05 fps Inflow=6.75 cfs 1.246 af
n=0.070 L=117.0' S=0.0103 '/' Capacity=32.74 cfs Outflow=6.71 cfs 1.246 af

Reach 3R: OVERLAND FLOW Avg. Flow Depth=0.20' Max Vel=2.85 fps Inflow=6.82 cfs 1.246 af
n=0.070 L=209.0' S=0.1923 '/' Capacity=141.79 cfs Outflow=6.75 cfs 1.246 af

Reach 5R: OVERLAND FLOW Avg. Flow Depth=0.24' Max Vel=2.34 fps Inflow=6.81 cfs 1.246 af
n=0.070 L=38.0' S=0.1053 '/' Capacity=104.89 cfs Outflow=6.82 cfs 1.246 af

Reach CULVERT#2: TO DP#1 Avg. Flow Depth=0.64' Max Vel=9.23 fps Inflow=4.93 cfs 0.469 af
12.0" Round Pipe n=0.013 L=20.3' S=0.0345 '/' Capacity=6.62 cfs Outflow=4.92 cfs 0.469 af

Reach DCB-H: TO DMH#6 Avg. Flow Depth=0.40' Max Vel=8.78 fps Inflow=1.96 cfs 0.142 af
8.0" Round Pipe n=0.010 L=6.0' S=0.0333 '/' Capacity=2.87 cfs Outflow=1.96 cfs 0.142 af

Reach DCB1: TO DMH#1 Avg. Flow Depth=0.26' Max Vel=9.85 fps Inflow=1.60 cfs 0.123 af
12.0" Round Pipe n=0.011 L=40.0' S=0.0675 '/' Capacity=10.94 cfs Outflow=1.59 cfs 0.123 af

Reach DCB10: TO DMH#10 Avg. Flow Depth=0.20' Max Vel=2.32 fps Inflow=0.26 cfs 0.020 af
12.0" Round Pipe n=0.013 L=28.0' S=0.0071 '/' Capacity=3.01 cfs Outflow=0.25 cfs 0.020 af

Reach DCB11: TO DMH#10 Avg. Flow Depth=0.37' Max Vel=6.19 fps Inflow=1.66 cfs 0.127 af
12.0" Round Pipe n=0.013 L=8.0' S=0.0250 '/' Capacity=5.63 cfs Outflow=1.66 cfs 0.127 af

Reach DCB12: TO DMH#12 Avg. Flow Depth=0.47' Max Vel=4.27 fps Inflow=1.56 cfs 0.122 af
12.0" Round Pipe n=0.013 L=42.0' S=0.0095 '/' Capacity=3.48 cfs Outflow=1.54 cfs 0.122 af

Reach DCB13: TO DMH#12 Avg. Flow Depth=0.30' Max Vel=5.52 fps Inflow=1.10 cfs 0.087 af
12.0" Round Pipe n=0.013 L=16.0' S=0.0250 '/' Capacity=5.63 cfs Outflow=1.10 cfs 0.087 af

Reach DCB14: TO DMH#11 Avg. Flow Depth=0.24' Max Vel=7.63 fps Inflow=1.09 cfs 0.086 af
12.0" Round Pipe n=0.013 L=8.0' S=0.0625 '/' Capacity=8.91 cfs Outflow=1.09 cfs 0.086 af

Reach DCB15: TO DMH#13 Avg. Flow Depth=0.25' Max Vel=7.11 fps Inflow=1.12 cfs 0.088 af
12.0" Round Pipe n=0.013 L=4.0' S=0.0500 '/' Capacity=7.97 cfs Outflow=1.12 cfs 0.088 af

Reach DCB16: TO DMH#15 Avg. Flow Depth=0.25' Max Vel=5.44 fps Inflow=0.82 cfs 0.065 af
12.0" Round Pipe n=0.013 L=46.0' S=0.0304 '/' Capacity=6.22 cfs Outflow=0.81 cfs 0.065 af

Reach DCB17: TO DMH#15 Avg. Flow Depth=0.21' Max Vel=7.30 fps Inflow=0.86 cfs 0.067 af
12.0" Round Pipe n=0.013 L=6.0' S=0.0667 '/' Capacity=9.20 cfs Outflow=0.86 cfs 0.067 af

Reach DCB18: TO DMH#15 Avg. Flow Depth=0.69' Max Vel=5.83 fps Inflow=3.41 cfs 0.263 af
12.0" Round Pipe n=0.013 L=15.0' S=0.0133 '/' Capacity=4.11 cfs Outflow=3.39 cfs 0.263 af

Reach DCB19: TO DMH#16 Avg. Flow Depth=0.26' Max Vel=5.49 fps Inflow=0.92 cfs 0.072 af
12.0" Round Pipe n=0.013 L=7.0' S=0.0286 '/' Capacity=6.02 cfs Outflow=0.91 cfs 0.072 af

Reach DCB2: TO DMH#1 Avg. Flow Depth=0.23' Max Vel=5.66 fps Inflow=0.79 cfs 0.059 af
12.0" Round Pipe n=0.011 L=8.0' S=0.0250 '/' Capacity=6.66 cfs Outflow=0.79 cfs 0.059 af

Reach DCB20: TO DMH#18 Avg. Flow Depth=0.23' Max Vel=6.79 fps Inflow=0.96 cfs 0.072 af
12.0" Round Pipe n=0.013 L=6.0' S=0.0500 '/' Capacity=7.97 cfs Outflow=0.96 cfs 0.072 af

Reach DCB21: TO DMH#18 Avg. Flow Depth=0.33' Max Vel=4.37 fps Inflow=0.98 cfs 0.075 af
12.0" Round Pipe n=0.013 L=21.0' S=0.0143 '/' Capacity=4.26 cfs Outflow=0.98 cfs 0.075 af

Reach DCB22: TO DMH#19 Avg. Flow Depth=0.38' Max Vel=4.44 fps Inflow=1.23 cfs 0.096 af
12.0" Round Pipe n=0.013 L=16.0' S=0.0125 '/' Capacity=3.98 cfs Outflow=1.23 cfs 0.096 af

Reach DCB23: TO DMH#19 Avg. Flow Depth=0.41' Max Vel=4.33 fps Inflow=1.32 cfs 0.102 af
12.0" Round Pipe n=0.013 L=18.0' S=0.0111 '/' Capacity=3.76 cfs Outflow=1.31 cfs 0.102 af

Reach DCB3: TO DMH#1 Avg. Flow Depth=0.28' Max Vel=7.79 fps Inflow=1.46 cfs 0.115 af
12.0" Round Pipe n=0.013 L=123.0' S=0.0528 '/' Capacity=8.19 cfs Outflow=1.43 cfs 0.115 af

Reach DCB4: TO DMH#5 Avg. Flow Depth=0.23' Max Vel=6.11 fps Inflow=0.82 cfs 0.061 af
12.0" Round Pipe n=0.011 L=33.0' S=0.0303 '/' Capacity=7.33 cfs Outflow=0.82 cfs 0.061 af

Reach DCBG: TO DMH#3 Avg. Flow Depth=0.29' Max Vel=7.85 fps Inflow=1.50 cfs 0.109 af
12.0" Round Pipe n=0.011 L=8.0' S=0.0375 '/' Capacity=8.15 cfs Outflow=1.50 cfs 0.109 af

Reach DCBI: TO DCB-F Avg. Flow Depth=0.33' Max Vel=2.37 fps Inflow=0.33 cfs 0.025 af
6.0" Round Pipe n=0.025 L=69.0' S=0.0209 '/' Capacity=0.42 cfs Outflow=0.33 cfs 0.025 af

Reach DMH1: TO DMH#2 Avg. Flow Depth=0.59' Max Vel=7.79 fps Inflow=3.79 cfs 0.298 af
12.0" Round Pipe n=0.011 L=16.0' S=0.0187 '/' Capacity=5.77 cfs Outflow=3.79 cfs 0.298 af

Reach DMH10: TO DMH#12 Avg. Flow Depth=0.54' Max Vel=4.31 fps Inflow=1.91 cfs 0.147 af
12.0" Round Pipe n=0.013 L=35.0' S=0.0086 '/' Capacity=3.30 cfs Outflow=1.89 cfs 0.147 af

Reach DMH11: TO DMH#12 Avg. Flow Depth=0.43' Max Vel=8.02 fps Inflow=2.64 cfs 0.209 af
12.0" Round Pipe n=0.013 L=47.0' S=0.0362 '/' Capacity=6.78 cfs Outflow=2.62 cfs 0.209 af

Reach DMH12: TO DMH#13 Avg. Flow Depth=0.95' Max Vel=5.60 fps Inflow=5.59 cfs 0.442 af
15.0" Round Pipe n=0.013 L=68.0' S=0.0088 '/' Capacity=6.07 cfs Outflow=5.55 cfs 0.442 af

Reach DMH13: TO DMH#14 Avg. Flow Depth=0.94' Max Vel=5.72 fps Inflow=6.66 cfs 0.530 af
18.0" Round Pipe n=0.013 L=38.0' S=0.0079 '/' Capacity=9.33 cfs Outflow=6.64 cfs 0.530 af

Reach DMH14: TO UGS#1A Avg. Flow Depth=0.87' Max Vel=6.27 fps Inflow=6.64 cfs 0.530 af
18.0" Round Pipe n=0.013 L=10.0' S=0.0100 '/' Capacity=10.50 cfs Outflow=6.63 cfs 0.530 af

Reach DMH15: TO DMH#16 Avg. Flow Depth=0.91' Max Vel=5.27 fps Inflow=5.07 cfs 0.396 af
15.0" Round Pipe n=0.013 L=63.0' S=0.0079 '/' Capacity=5.75 cfs Outflow=5.00 cfs 0.396 af

Reach DMH16: TO DMH#17 Avg. Flow Depth=1.09' Max Vel=7.31 fps Inflow=10.04 cfs 0.808 af
18.0" Round Pipe n=0.013 L=71.0' S=0.0120 '/' Capacity=11.49 cfs Outflow=9.99 cfs 0.808 af

Reach DMH17: TO UGS#1B Avg. Flow Depth=0.90' Max Vel=8.98 fps Inflow=9.99 cfs 0.808 af
18.0" Round Pipe n=0.013 L=10.0' S=0.0200 '/' Capacity=14.86 cfs Outflow=9.99 cfs 0.808 af

Reach DMH18: TO DMH#20 Avg. Flow Depth=0.53' Max Vel=4.55 fps Inflow=1.93 cfs 0.147 af
12.0" Round Pipe n=0.013 L=155.0' S=0.0097 '/' Capacity=3.50 cfs Outflow=1.88 cfs 0.147 af

Reach DMH19: TO DMH-A1 Avg. Flow Depth=0.52' Max Vel=10.71 fps Inflow=4.38 cfs 0.345 af
12.0" Round Pipe n=0.013 L=31.0' S=0.0548 '/' Capacity=8.34 cfs Outflow=4.38 cfs 0.345 af

Reach DMH2: TO DMH#3 Avg. Flow Depth=0.65' Max Vel=7.01 fps Inflow=3.79 cfs 0.298 af
12.0" Round Pipe n=0.011 L=91.0' S=0.0143 '/' Capacity=5.03 cfs Outflow=3.76 cfs 0.298 af

Reach DMH3: TO DMH#4 Avg. Flow Depth=0.79' Max Vel=7.88 fps Inflow=5.25 cfs 0.406 af
12.0" Round Pipe n=0.011 L=30.0' S=0.0167 '/' Capacity=5.44 cfs Outflow=5.24 cfs 0.406 af

Reach DMH4: TO DMH-E Avg. Flow Depth=0.52' Max Vel=12.57 fps Inflow=5.24 cfs 0.406 af
12.0" Round Pipe n=0.011 L=15.0' S=0.0533 '/' Capacity=9.72 cfs Outflow=5.24 cfs 0.406 af

Reach DMH5: TO DMH#6 Avg. Flow Depth=0.29' Max Vel=4.34 fps Inflow=0.82 cfs 0.061 af
12.0" Round Pipe n=0.011 L=78.0' S=0.0115 '/' Capacity=4.52 cfs Outflow=0.80 cfs 0.061 af

Reach DMH6: TO DCB- Avg. Flow Depth=0.38' Max Vel=9.94 fps Inflow=2.75 cfs 0.203 af
12.0" Round Pipe n=0.011 L=20.0' S=0.0450 '/' Capacity=8.93 cfs Outflow=2.74 cfs 0.203 af

Reach DMHA: TO DP#1 Avg. Flow Depth=0.54' Max Vel=8.63 fps Inflow=4.38 cfs 0.345 af
15.0" Round Pipe n=0.011 L=14.0' S=0.0221 '/' Capacity=11.36 cfs Outflow=4.38 cfs 0.345 af

Reach DP#1: CRYSTAL LAKE Inflow=22.07 cfs 3.194 af
Outflow=22.07 cfs 3.194 af

Reach DP#2: EX RAIN GARDEN Inflow=4.02 cfs 0.300 af
Outflow=4.02 cfs 0.300 af

Reach DP#3: DMH-E Inflow=5.24 cfs 0.406 af
Outflow=5.24 cfs 0.406 af

Reach DP#4: DCB-J Inflow=2.74 cfs 0.203 af
Outflow=2.74 cfs 0.203 af

Reach DP#5: DCB-K Inflow=1.58 cfs 0.118 af
Outflow=1.58 cfs 0.118 af

Reach OL1: OVERLAND FLOW Avg. Flow Depth=0.12' Max Vel=3.23 fps Inflow=4.38 cfs 0.345 af
n=0.070 L=20.0' S=0.4500 '/' Capacity=216.87 cfs Outflow=4.36 cfs 0.345 af

Reach OL2: OVERLAND FLOW Avg. Flow Depth=0.16' Max Vel=2.37 fps Inflow=4.36 cfs 0.345 af
n=0.070 L=243.0' S=0.1770 '/' Capacity=136.00 cfs Outflow=4.10 cfs 0.345 af

Reach OL3: OVERLAND FLOW Avg. Flow Depth=0.23' Max Vel=1.48 fps Inflow=4.10 cfs 0.345 af
n=0.070 L=45.0' S=0.0444 '/' Capacity=68.16 cfs Outflow=4.03 cfs 0.345 af

Reach OL4: OVERLAND FLOW Avg. Flow Depth=0.16' Max Vel=2.66 fps Inflow=4.92 cfs 0.469 af
n=0.070 L=74.0' S=0.2162 '/' Capacity=150.33 cfs Outflow=4.88 cfs 0.469 af

Reach OL5: OVERLAND FLOW Avg. Flow Depth=0.32' Max Vel=3.18 fps Inflow=13.31 cfs 2.024 af
n=0.070 L=102.0' S=0.1382 '/' Capacity=120.20 cfs Outflow=13.28 cfs 2.024 af

Reach UGS1A: TO UGS1 Inflow=6.63 cfs 0.530 af
Outflow=6.63 cfs 0.530 af

Reach UGS1B: TO UGS1 Inflow=9.99 cfs 0.808 af
Outflow=9.99 cfs 0.808 af

Reach UGS1C: TO OUTLET Avg. Flow Depth=0.80' Max Vel=8.22 fps Inflow=6.79 cfs 1.252 af
15.0" Round Pipe n=0.013 L=98.0' S=0.0204 '/' Capacity=9.23 cfs Outflow=6.77 cfs 1.252 af

Pond CULVERT#1: TO DP#1 Peak Elev=1,129.50' Inflow=13.31 cfs 2.024 af
12.0" Round Culvert n=0.013 L=28.6' S=0.0867 '/' Outflow=13.31 cfs 2.024 af

Pond DCBJ: TO DCB-K Peak Elev=1,177.00' Inflow=1.58 cfs 0.118 af
8.0" Round Culvert n=0.025 L=24.0' S=0.0217 '/' Outflow=1.58 cfs 0.118 af

Pond sb1: TO DP#1 Peak Elev=1,163.41' Storage=427 cf Inflow=6.77 cfs 1.252 af
Outflow=6.81 cfs 1.246 af

Pond UGS1: EXFIL Peak Elev=1,181.34' Storage=0.477 af Inflow=16.62 cfs 1.338 af
Discarded=0.04 cfs 0.081 af Primary=6.79 cfs 1.252 af Outflow=6.84 cfs 1.332 af

Total Runoff Area = 15.689 ac Runoff Volume = 5.840 af Average Runoff Depth = 4.47"
51.28% Pervious = 8.045 ac 48.72% Impervious = 7.644 ac

Summary for Subcatchment P11: TO WET

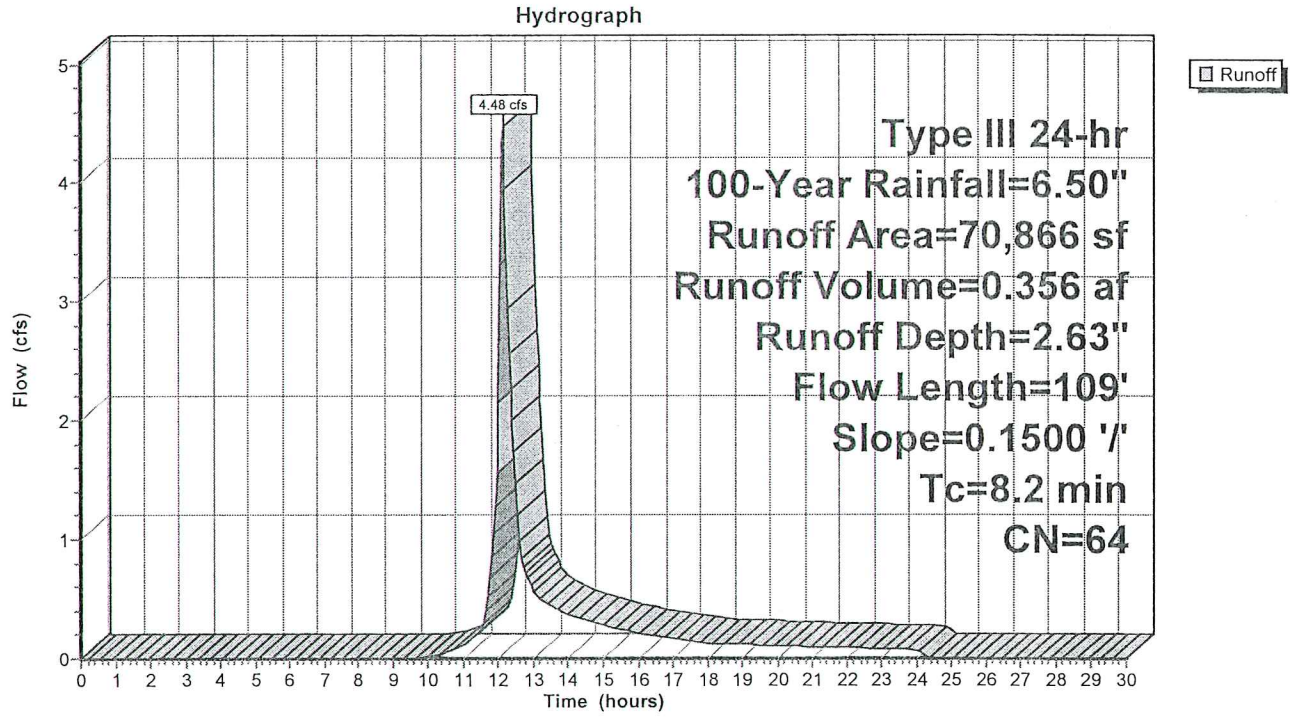
Runoff = 4.48 cfs @ 12.12 hrs, Volume= 0.356 af, Depth= 2.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
8,033	61	>75% Grass cover, Good, HSG B
30,342	55	Woods, Good, HSG B
2,584	98	Paved parking, HSG B
1,398	74	>75% Grass cover, Good, HSG C
28,509	70	Woods, Good, HSG C
70,866	64	Weighted Average
68,282		96.35% Pervious Area
2,584		3.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	75	0.1500	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.3	34	0.1500	1.94		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	109	Total			

Subcatchment P11: TO WET



Summary for Subcatchment P111: TO DCB#22

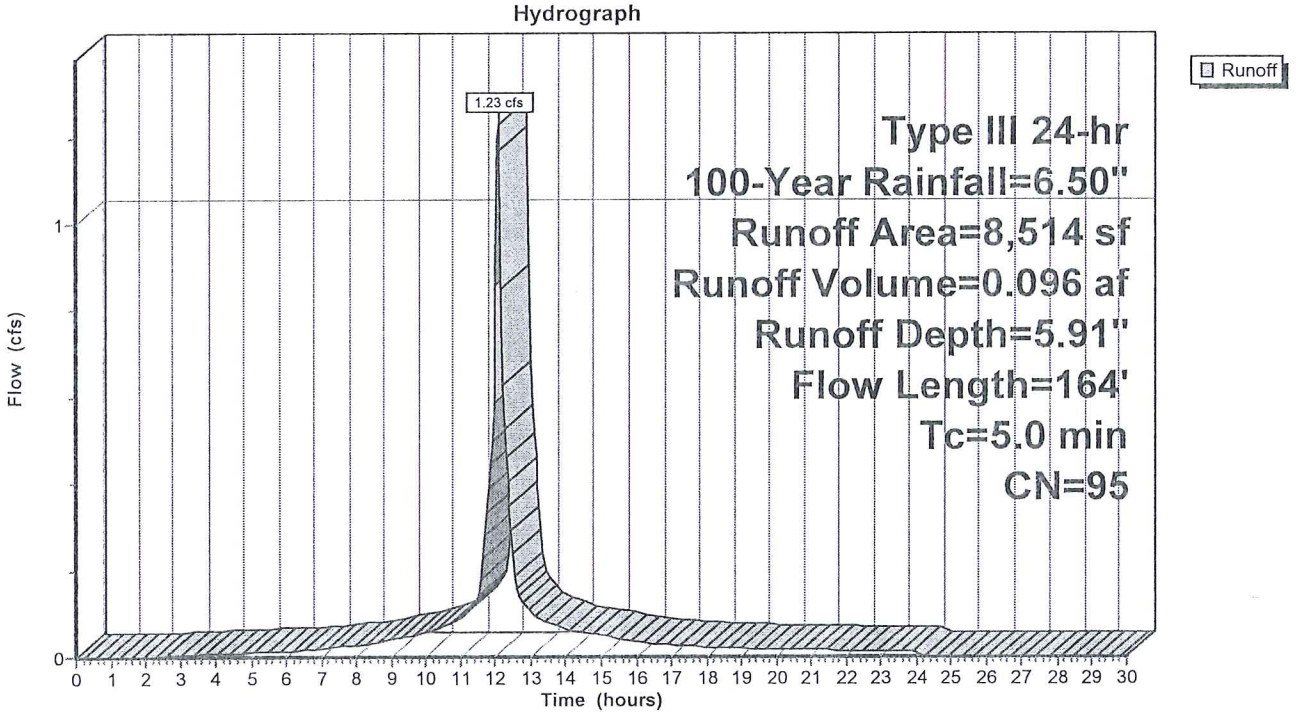
Runoff = 1.23 cfs @ 12.07 hrs, Volume= 0.096 af, Depth= 5.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
1,092	74	>75% Grass cover, Good, HSG C
7,422	98	Paved parking, HSG C
8,514	95	Weighted Average
1,092		12.83% Pervious Area
7,422		87.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	114	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	164	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P111: TO DCB#22



Summary for Subcatchment P112: TO DCB#21

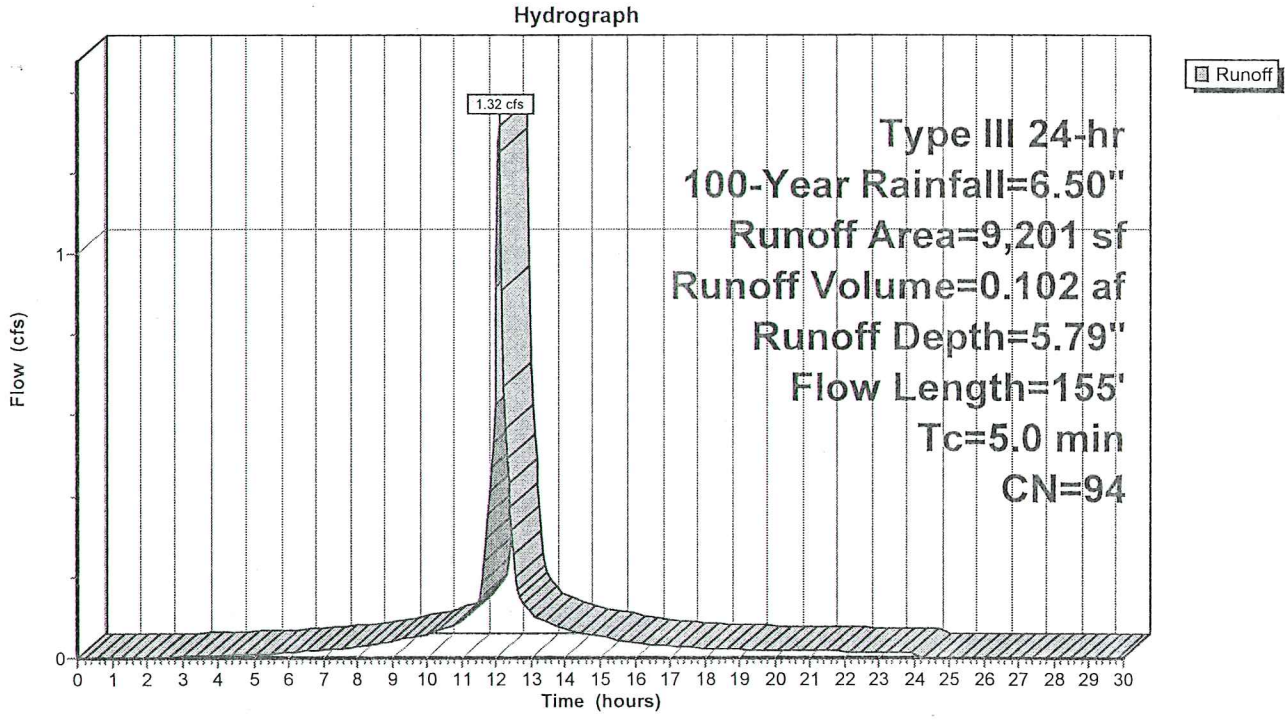
Runoff = 1.32 cfs @ 12.07 hrs, Volume= 0.102 af, Depth= 5.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
1,619	74	>75% Grass cover, Good, HSG C
7,582	98	Paved parking, HSG C
9,201	94	Weighted Average
1,619		17.60% Pervious Area
7,582		82.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.7	105	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	155	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P112: TO DCB#21



Summary for Subcatchment P113: TO DCB#21

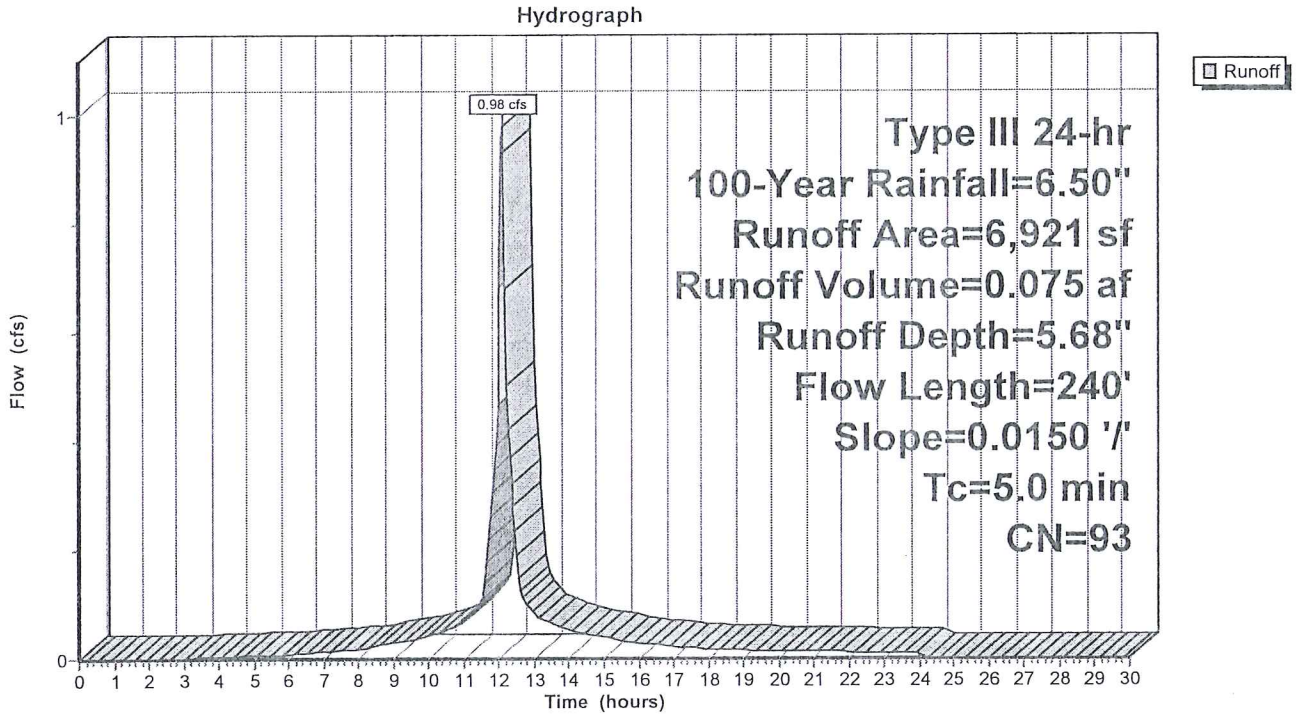
Runoff = 0.98 cfs @ 12.07 hrs, Volume= 0.075 af, Depth= 5.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
1,320	74	>75% Grass cover, Good, HSG C
5,601	98	Paved parking, HSG C
6,921	93	Weighted Average
1,320		19.07% Pervious Area
5,601		80.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.3	190	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.1	240	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P113: TO DCB#21



Summary for Subcatchment P114: TO DCB#20

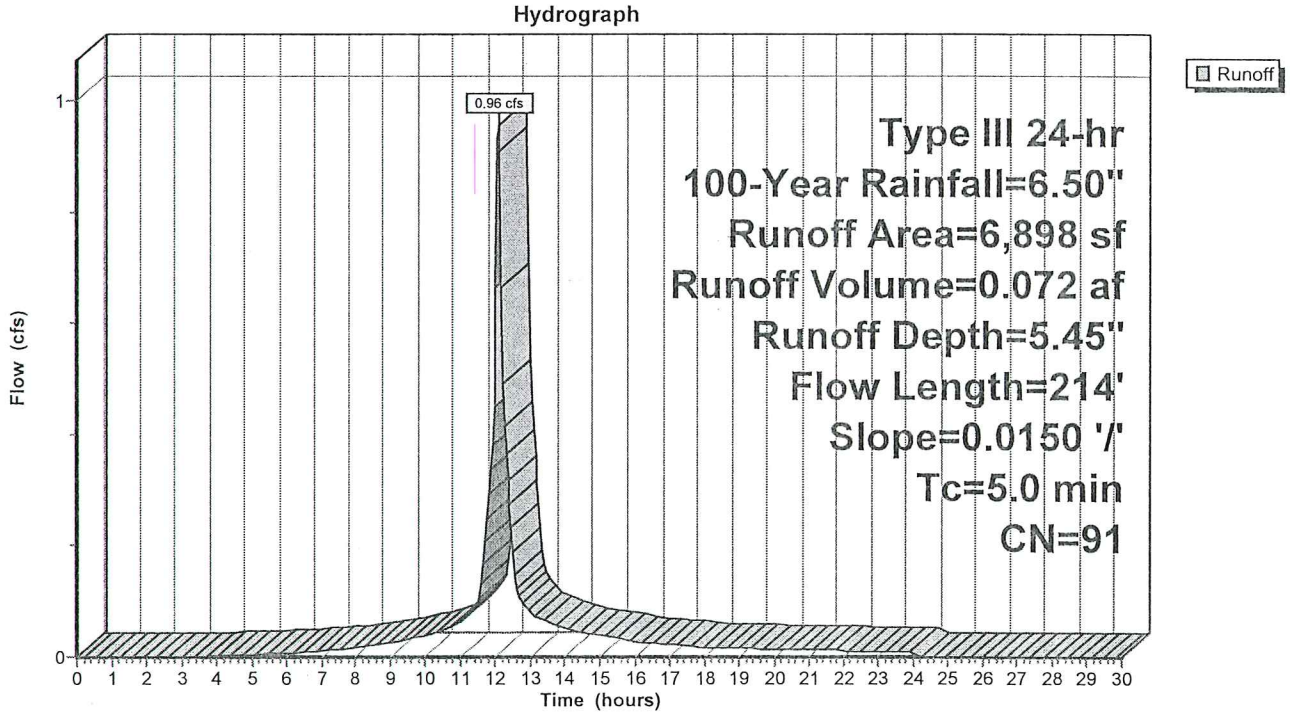
Runoff = 0.96 cfs @ 12.07 hrs, Volume= 0.072 af, Depth= 5.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
1,924	74	>75% Grass cover, Good, HSG C
4,974	98	Paved parking, HSG C
6,898	91	Weighted Average
1,924		27.89% Pervious Area
4,974		72.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	12	0.0150	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.6	38	0.0150	0.98		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.1	164	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.8	214	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P114: TO DCB#20



Summary for Subcatchment P115: TO DCB#10

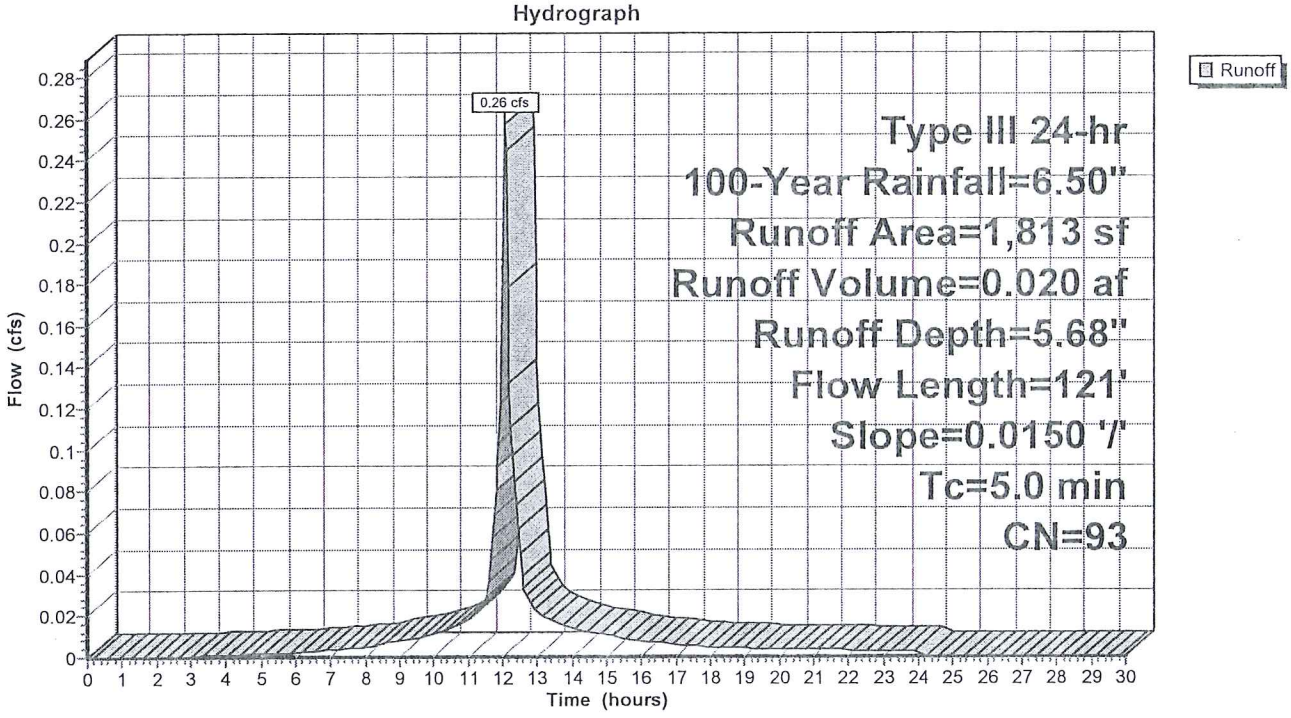
Runoff = 0.26 cfs @ 12.07 hrs, Volume= 0.020 af, Depth= 5.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
347	74	>75% Grass cover, Good, HSG C
1,466	98	Paved parking, HSG C
1,813	93	Weighted Average
347		19.14% Pervious Area
1,466		80.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	71	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	121	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P115: TO DCB#10



Summary for Subcatchment P116: TO DCB#11

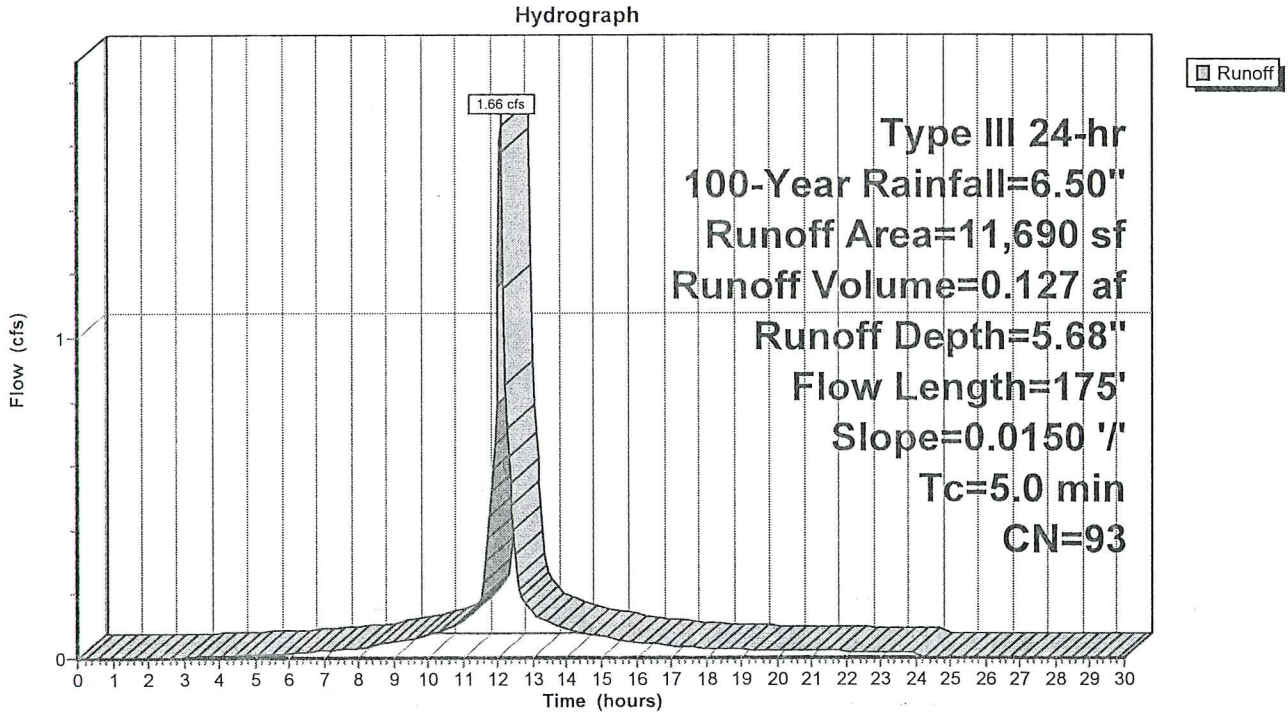
Runoff = 1.66 cfs @ 12.07 hrs, Volume= 0.127 af, Depth= 5.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
2,542	74	>75% Grass cover, Good, HSG C
9,148	98	Paved parking, HSG C
11,690	93	Weighted Average
2,542		21.75% Pervious Area
9,148		78.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	125	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	175	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P116: TO DCB#11



Summary for Subcatchment P117: TO DCB#4

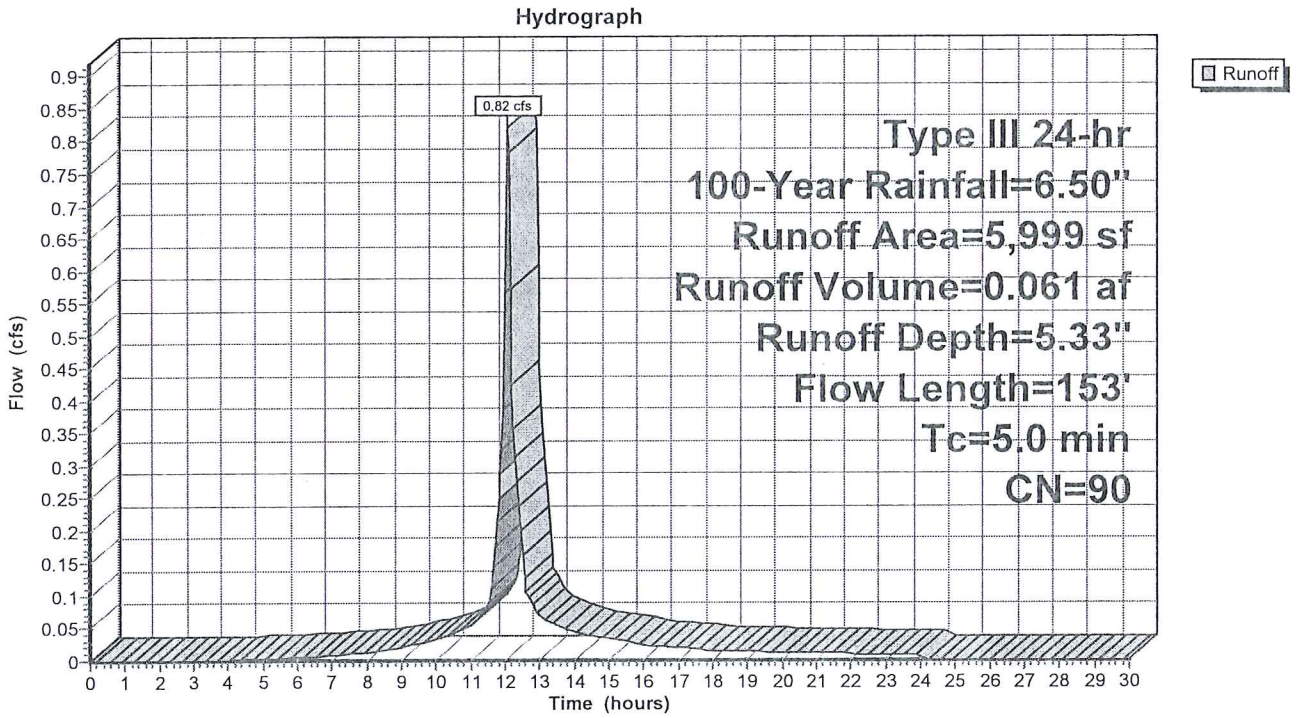
Runoff = 0.82 cfs @ 12.07 hrs, Volume= 0.061 af, Depth= 5.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
1,915	74	>75% Grass cover, Good, HSG C
4,084	98	Paved parking, HSG C
5,999	90	Weighted Average
1,915		31.92% Pervious Area
4,084		68.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	13	0.0150	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.4	37	0.0500	1.57		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	103	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0	153	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P117: TO DCB#4



Summary for Subcatchment P118: TO DCB#20

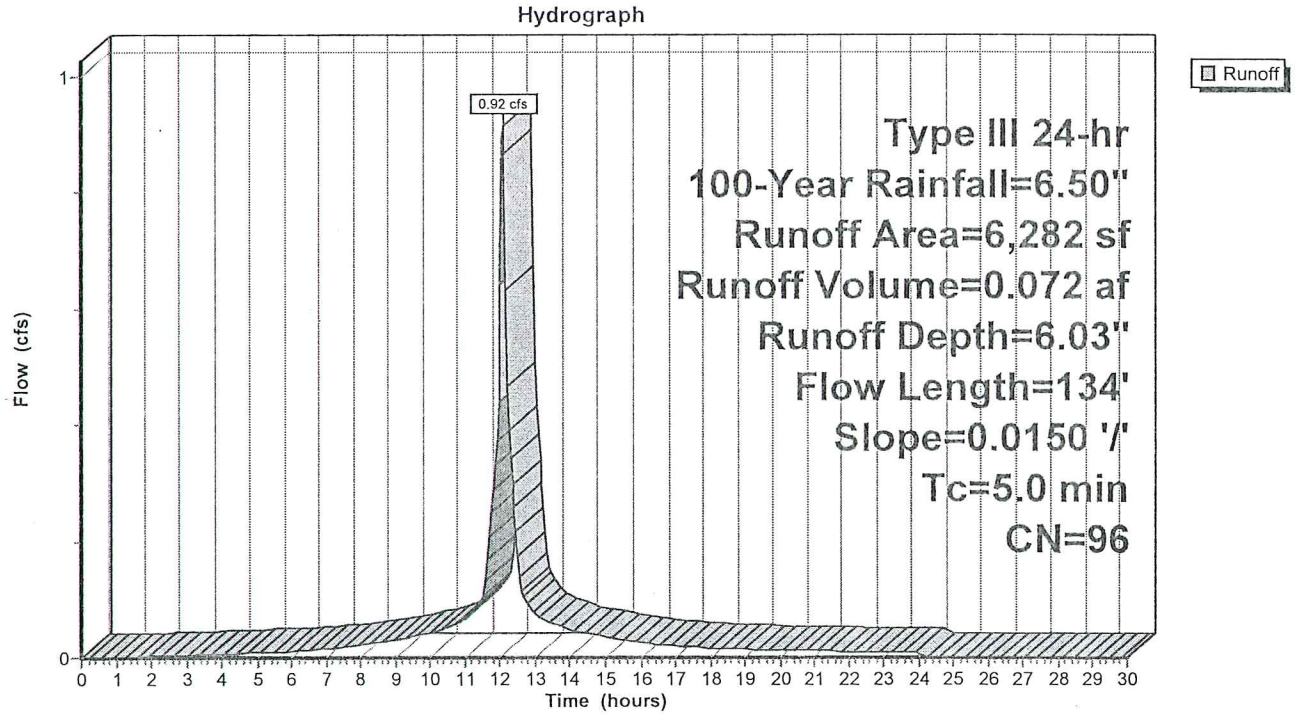
Runoff = 0.92 cfs @ 12.07 hrs, Volume= 0.072 af, Depth= 6.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
653	74	>75% Grass cover, Good, HSG C
5,629	98	Paved parking, HSG C
6,282	96	Weighted Average
653		10.39% Pervious Area
5,629		89.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	84	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	134	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P118: TO DCB#20



Summary for Subcatchment P119: TO DCB#19

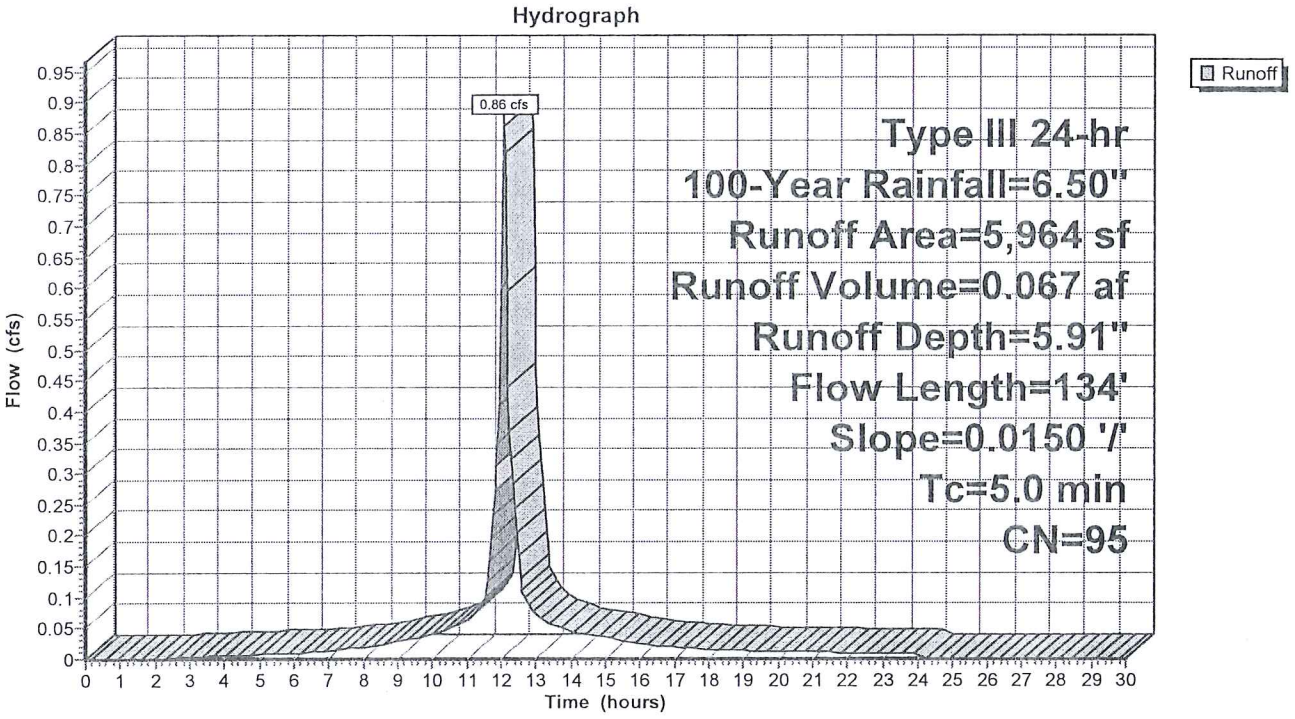
Runoff = 0.86 cfs @ 12.07 hrs, Volume= 0.067 af, Depth= 5.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
631	74	>75% Grass cover, Good, HSG C
5,333	98	Paved parking, HSG C
5,964	95	Weighted Average
631		10.58% Pervious Area
5,333		89.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	84	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	134	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P119: TO DCB#19



Summary for Subcatchment P12: TO CULVERT#1

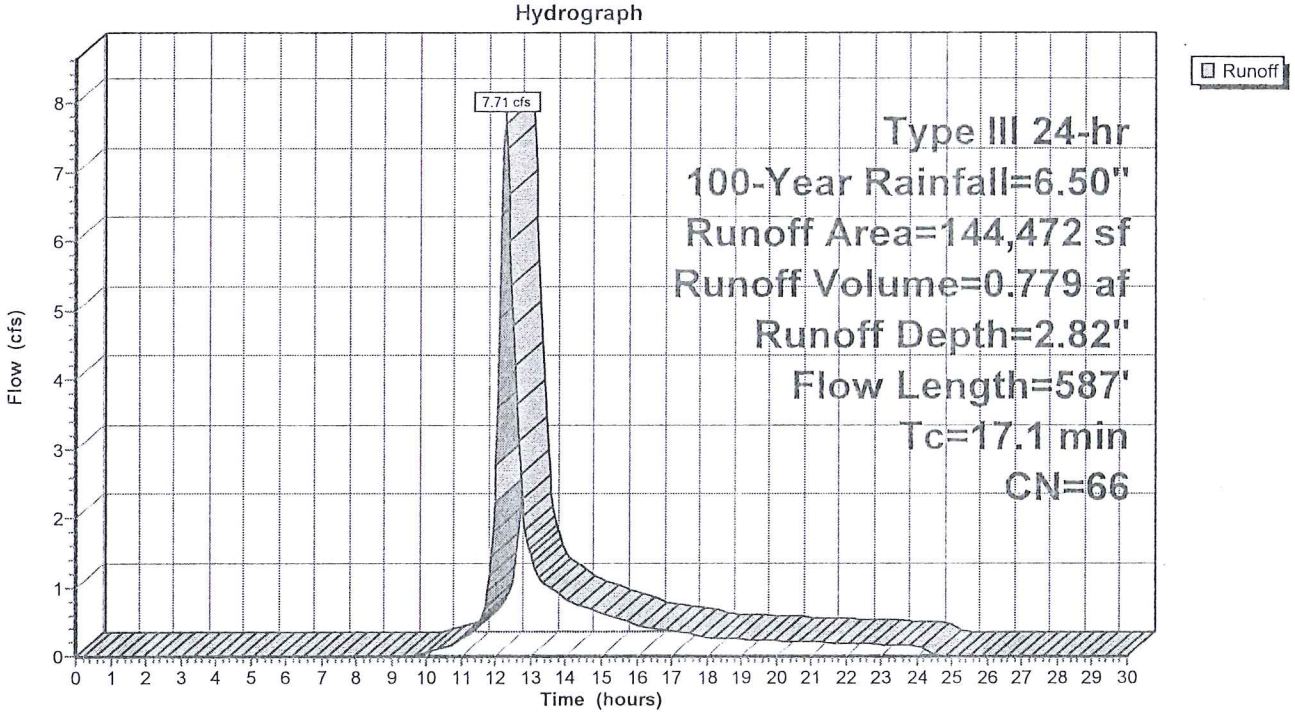
Runoff = 7.71 cfs @ 12.25 hrs, Volume= 0.779 af, Depth= 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
4,698	61	>75% Grass cover, Good, HSG B
44,370	55	Woods, Good, HSG B
3,012	98	Paved parking, HSG B
10,573	74	>75% Grass cover, Good, HSG C
80,246	70	Woods, Good, HSG C
1,573	98	Paved parking, HSG C
144,472	66	Weighted Average
139,887		96.83% Pervious Area
4,585		3.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	30	0.5000	0.47		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
4.1	45	0.2800	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.6	202	0.1700	2.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.3	310	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
17.1	587	Total			

Subcatchment P12: TO CULVERT#1



Summary for Subcatchment P120: TO DCB#15

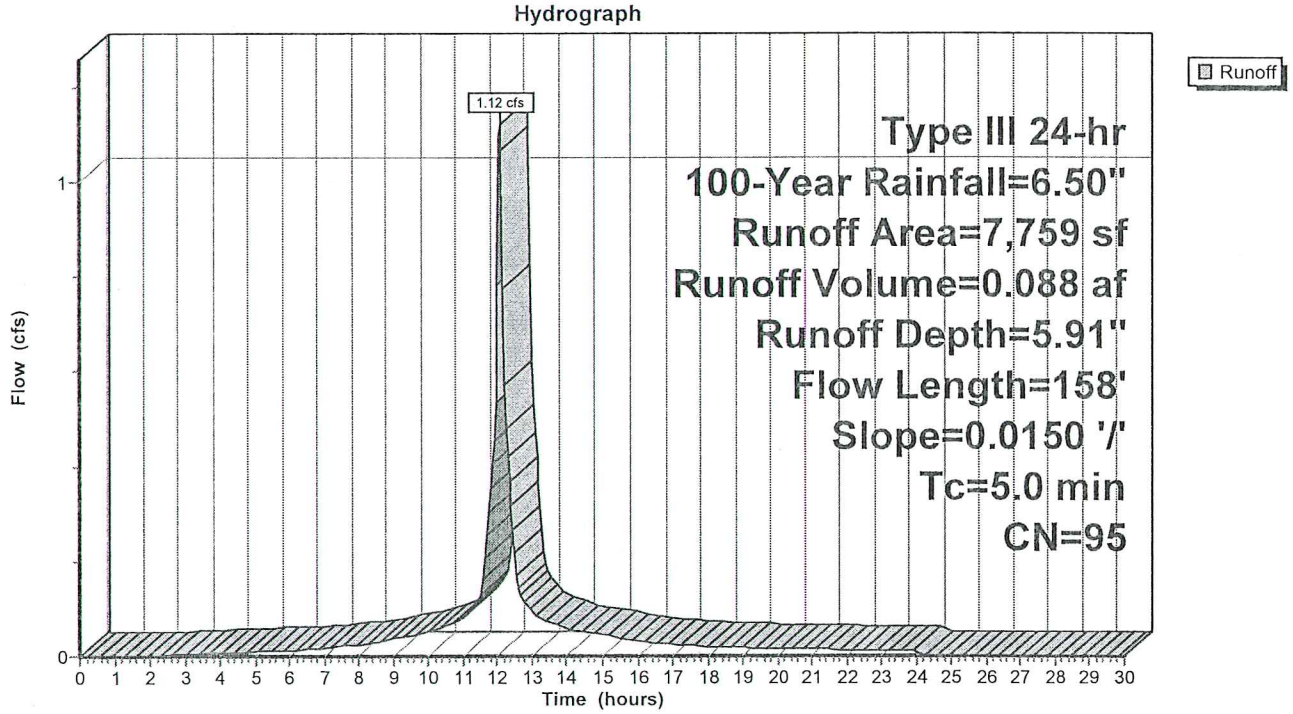
Runoff = 1.12 cfs @ 12.07 hrs, Volume= 0.088 af, Depth= 5.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
933	74	>75% Grass cover, Good, HSG C
6,826	98	Paved parking, HSG C
7,759	95	Weighted Average
933		12.02% Pervious Area
6,826		87.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.7	108	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	158	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P120: TO DCB#15



Summary for Subcatchment P121: TO DCB#14

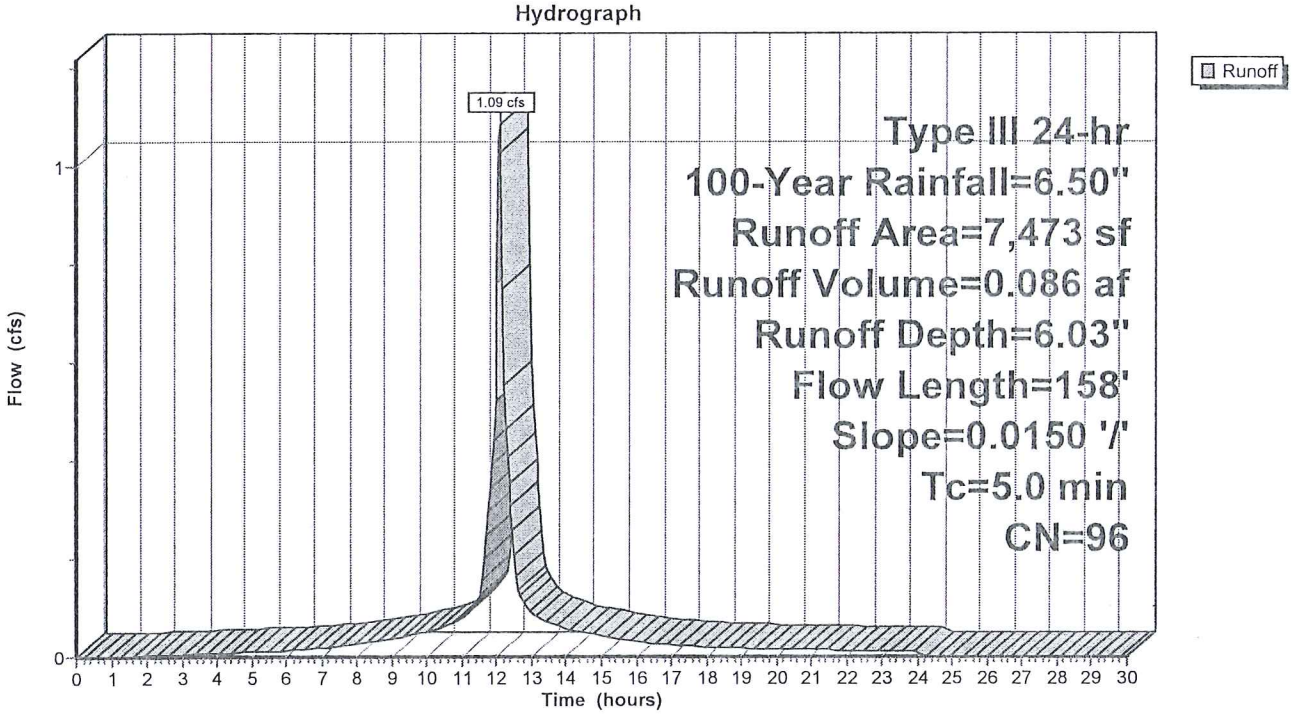
Runoff = 1.09 cfs @ 12.07 hrs, Volume= 0.086 af, Depth= 6.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
717	74	>75% Grass cover, Good, HSG C
6,756	98	Paved parking, HSG C
7,473	96	Weighted Average
717		9.59% Pervious Area
6,756		90.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.7	108	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	158	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P121: TO DCB#14



Summary for Subcatchment P122: TO DCB#17

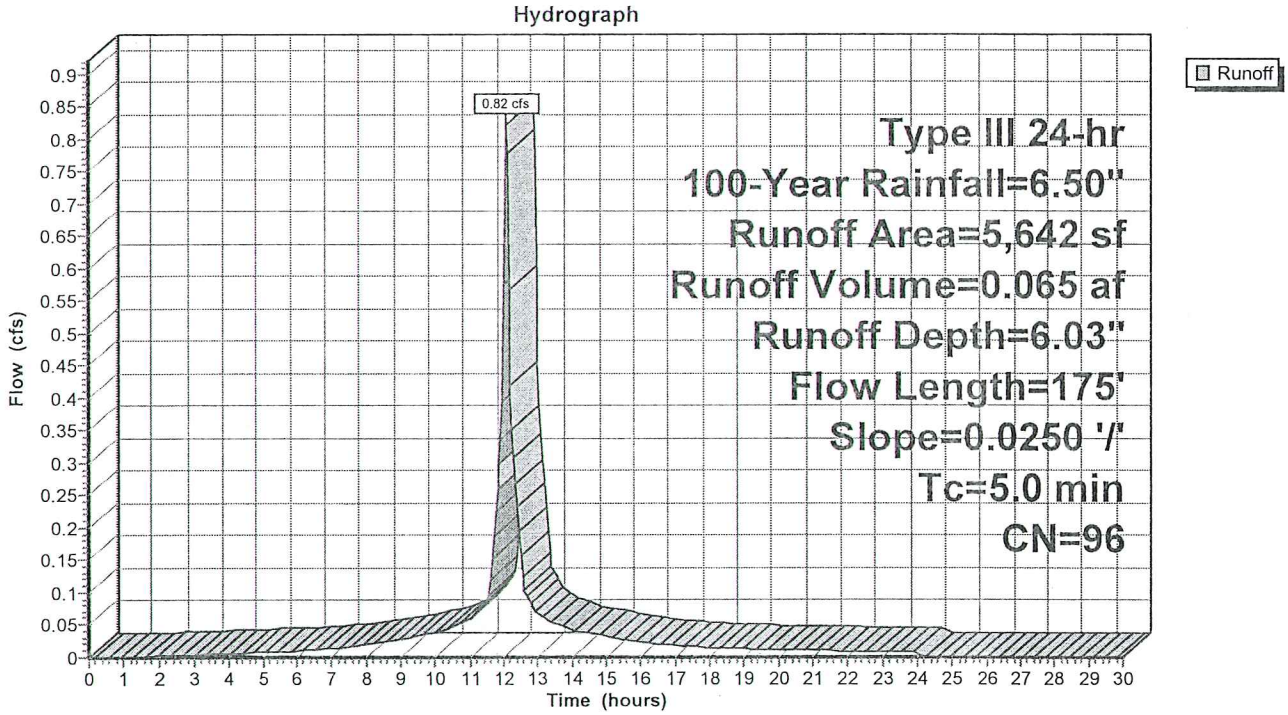
Runoff = 0.82 cfs @ 12.07 hrs, Volume= 0.065 af, Depth= 6.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
486	74	>75% Grass cover, Good, HSG C
5,156	98	Paved parking, HSG C
5,642	96	Weighted Average
486		8.61% Pervious Area
5,156		91.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0250	1.27		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	125	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	175	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P122: TO DCB#17



Summary for Subcatchment P123: TO DCB#3

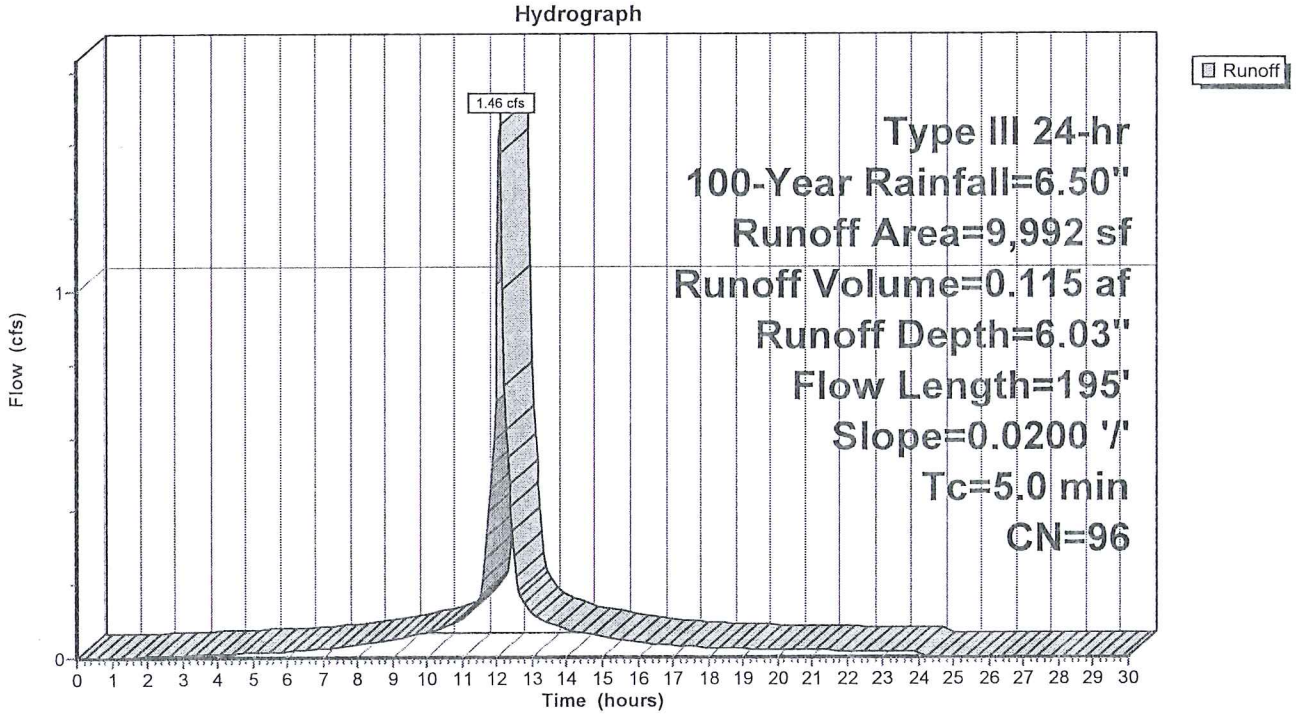
Runoff = 1.46 cfs @ 12.07 hrs, Volume= 0.115 af, Depth= 6.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
1,007	74	>75% Grass cover, Good, HSG C
8,985	98	Paved parking, HSG C
9,992	96	Weighted Average
1,007		10.08% Pervious Area
8,985		89.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0200	1.16		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	145	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	195	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P123: TO DCB#3



Summary for Subcatchment P124: TO DCB#13

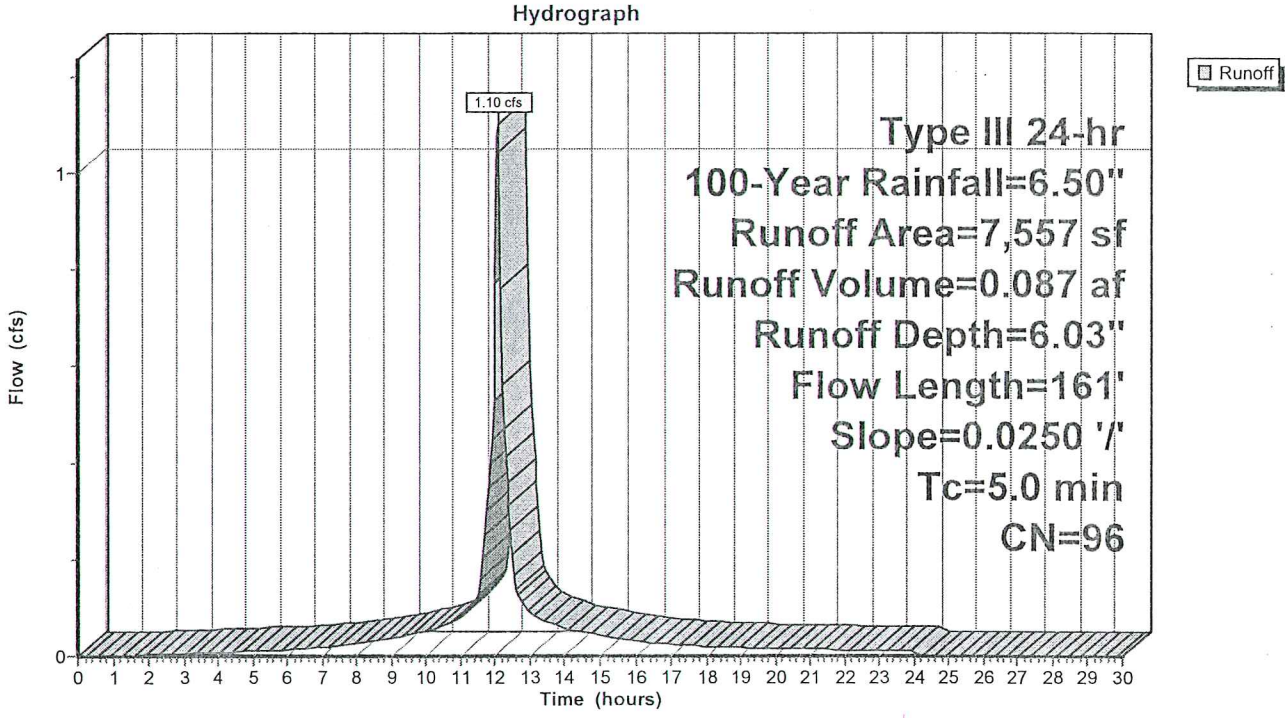
Runoff = 1.10 cfs @ 12.07 hrs, Volume= 0.087 af, Depth= 6.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
627	74	>75% Grass cover, Good, HSG C
6,930	98	Paved parking, HSG C
7,557	96	Weighted Average
627		8.30% Pervious Area
6,930		91.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0250	1.27		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	111	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	161	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P124: TO DCB#13



Summary for Subcatchment P125: TO DCB#12

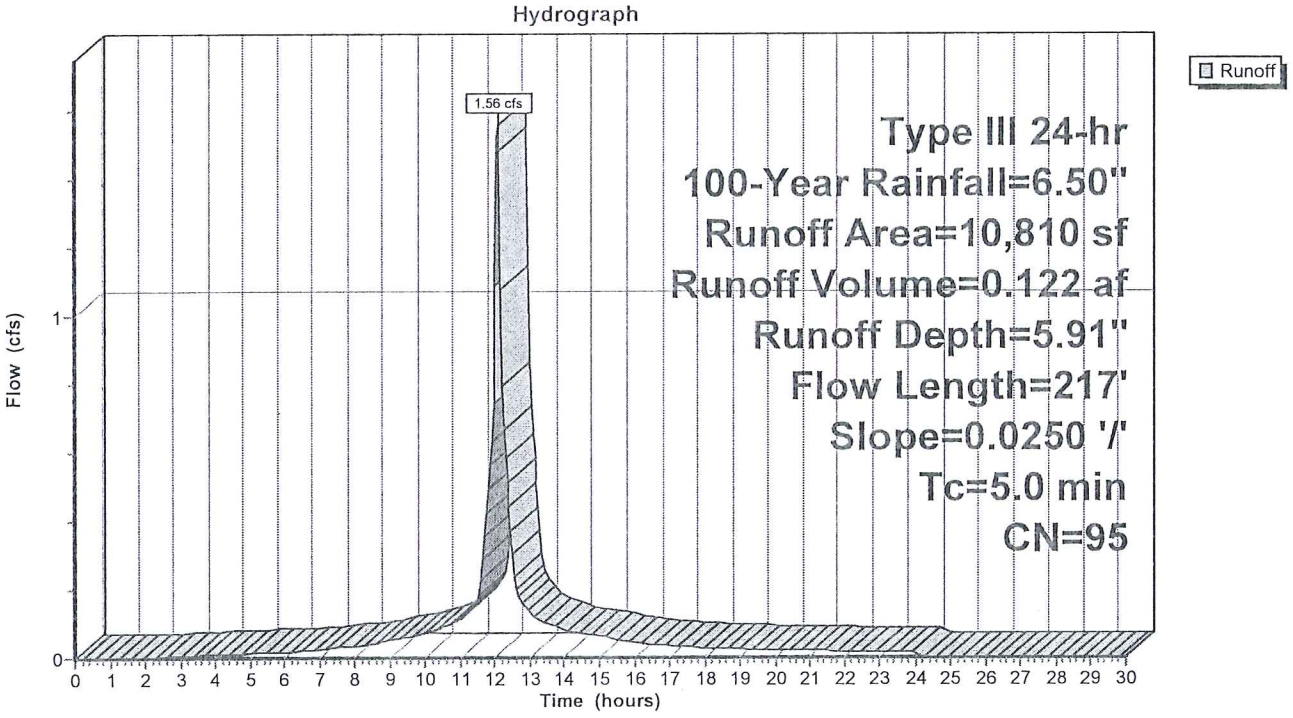
Runoff = 1.56 cfs @ 12.07 hrs, Volume= 0.122 af, Depth= 5.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
1,513	74	>75% Grass cover, Good, HSG C
9,297	98	Paved parking, HSG C
10,810	95	Weighted Average
1,513		14.00% Pervious Area
9,297		86.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0250	1.27		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.9	167	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	217	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P125: TO DCB#12



Summary for Subcatchment P126: TO DCB#18

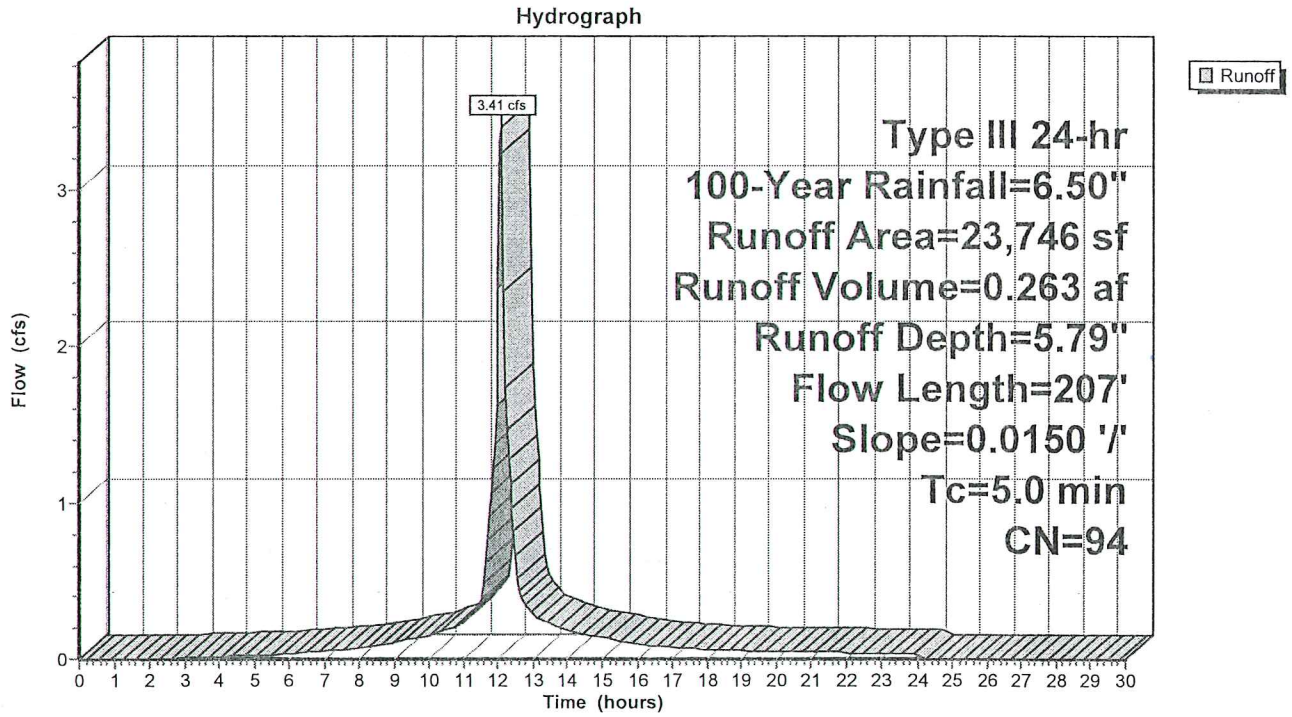
Runoff = 3.41 cfs @ 12.07 hrs, Volume= 0.263 af, Depth= 5.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
3,639	74	>75% Grass cover, Good, HSG C
20,107	98	Paved parking, HSG C
23,746	94	Weighted Average
3,639		15.32% Pervious Area
20,107		84.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	6	0.0150	0.08		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.7	44	0.0150	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.1	157	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0	207	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P126: TO DCB#18



Summary for Subcatchment P127: TO DCB#1

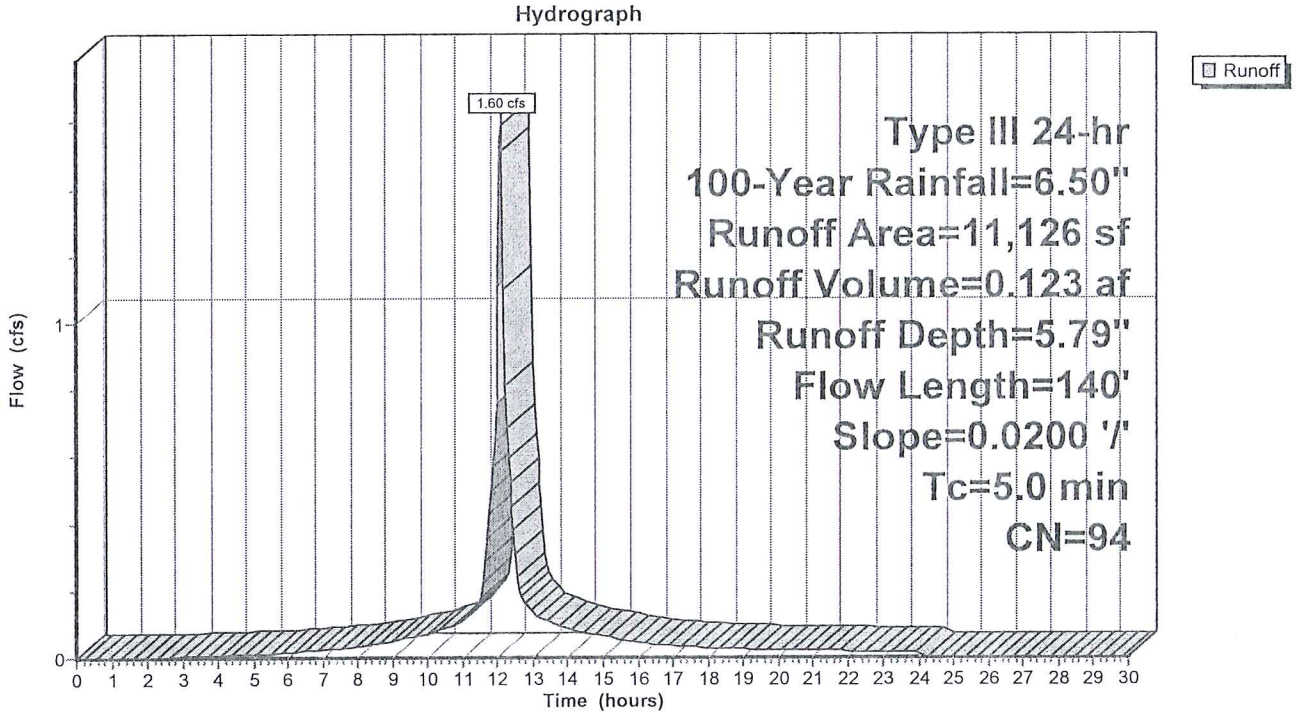
Runoff = 1.60 cfs @ 12.07 hrs, Volume= 0.123 af, Depth= 5.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
2,020	74	>75% Grass cover, Good, HSG C
9,106	98	Paved parking, HSG C
11,126	94	Weighted Average
2,020		18.16% Pervious Area
9,106		81.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0200	1.16		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	90	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.2	140	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P127: TO DCB#1



Summary for Subcatchment P128: (new Subcat)

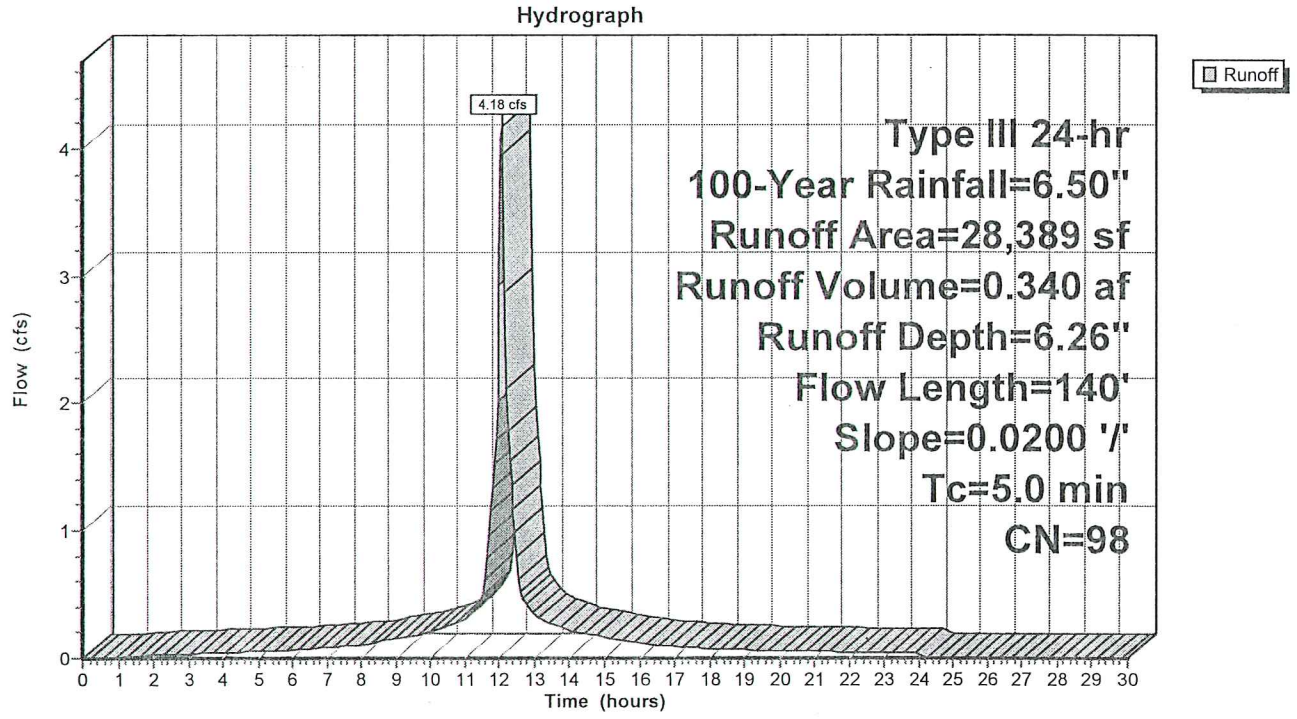
Runoff = 4.18 cfs @ 12.07 hrs, Volume= 0.340 af, Depth= 6.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
28,389	98	Paved parking, HSG C
28,389		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0200	1.16		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	90	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.2	140	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P128: (new Subcat)



Summary for Subcatchment P14: TO CULVERT #2

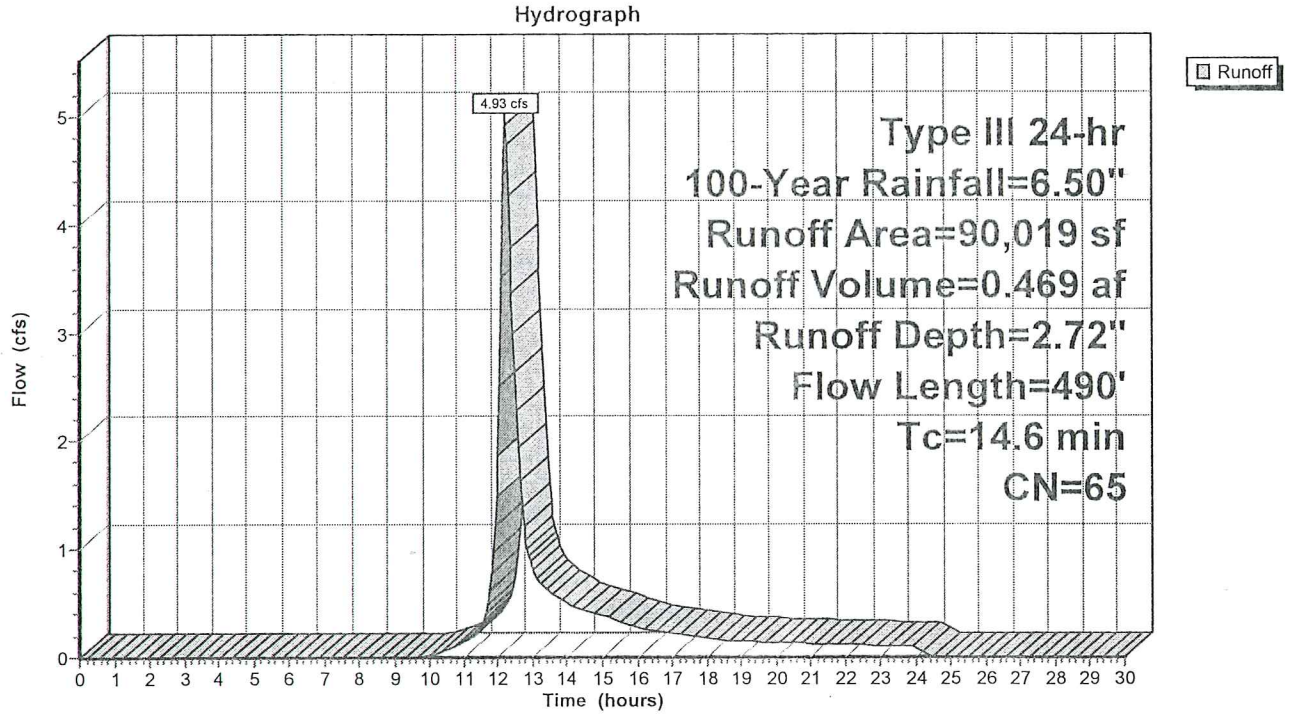
Runoff = 4.93 cfs @ 12.21 hrs, Volume= 0.469 af, Depth= 2.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
4,416	61	>75% Grass cover, Good, HSG B
947	98	Paved parking, HSG B
35,087	55	Woods, Good, HSG B
6,523	74	>75% Grass cover, Good, HSG C
40,756	70	Woods, Good, HSG C
2,290	98	Paved parking, HSG C
90,019	65	Weighted Average
86,782		96.40% Pervious Area
3,237		3.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	75	0.0500	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	43	0.4200	3.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.0	137	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.8	235	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.6	490	Total			

Subcatchment P14: TO CULVERT #2



Summary for Subcatchment P18: TO DP#2

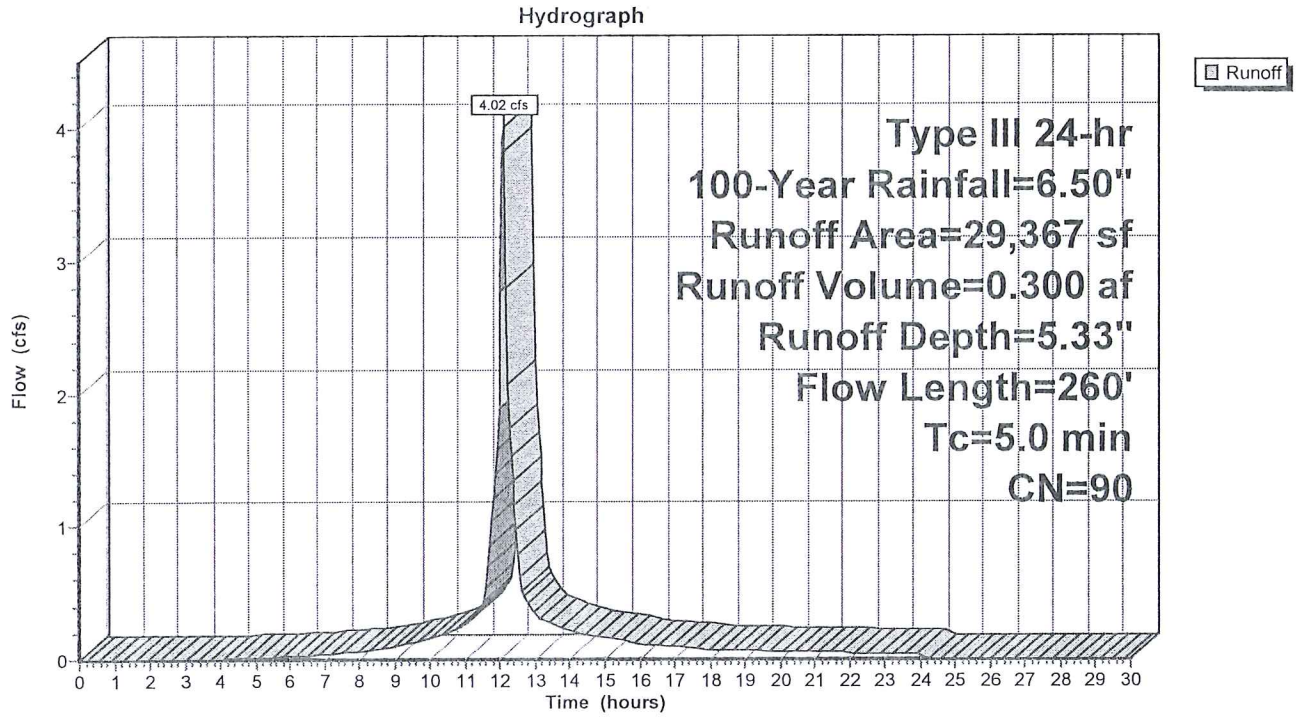
Runoff = 4.02 cfs @ 12.07 hrs, Volume= 0.300 af, Depth= 5.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
9,885	74	>75% Grass cover, Good, HSG C
19,482	98	Paved parking, HSG C
29,367	90	Weighted Average
9,885		33.66% Pervious Area
19,482		66.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0700	1.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	127	0.0700	5.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	83	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	260	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P18: TO DP#2



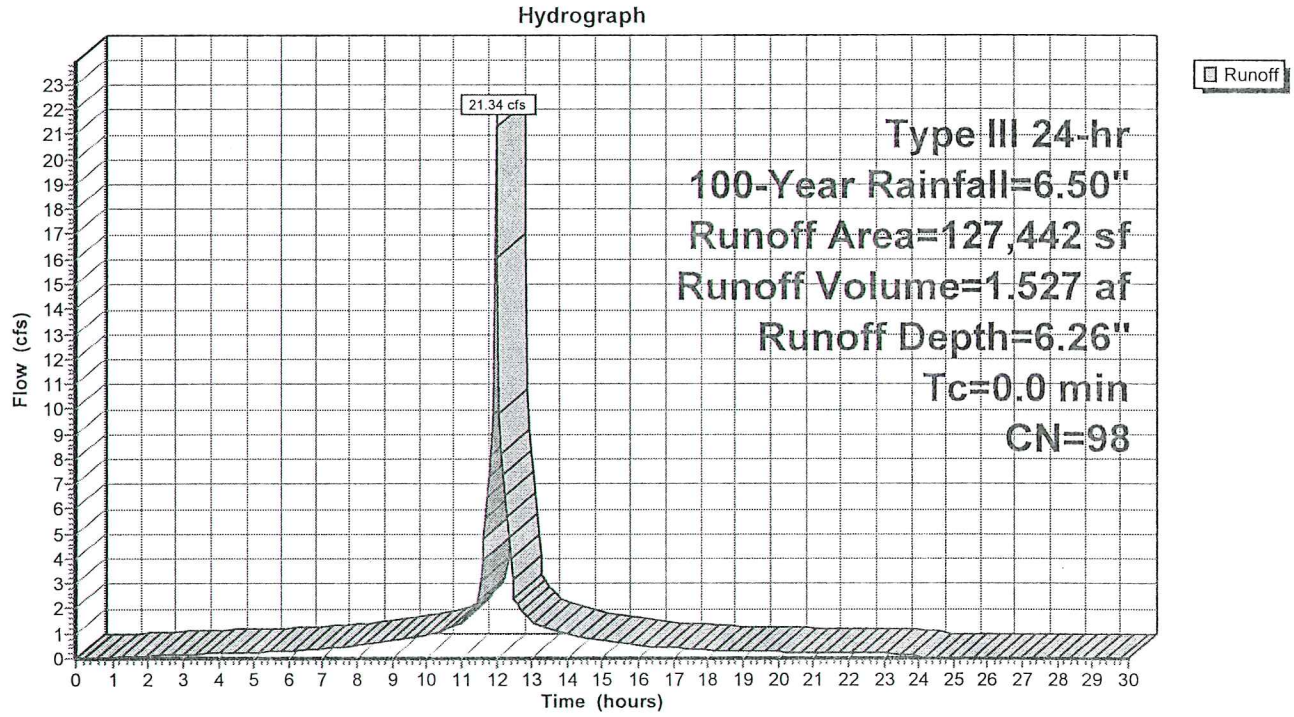
Summary for Subcatchment P19: BUILDING

Runoff = 21.34 cfs @ 12.00 hrs, Volume= 1.527 af, Depth= 6.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
127,442	98	Paved parking, HSG C
127,442		100.00% Impervious Area

Subcatchment P19: BUILDING



Summary for Subcatchment P20: TO DCB-H

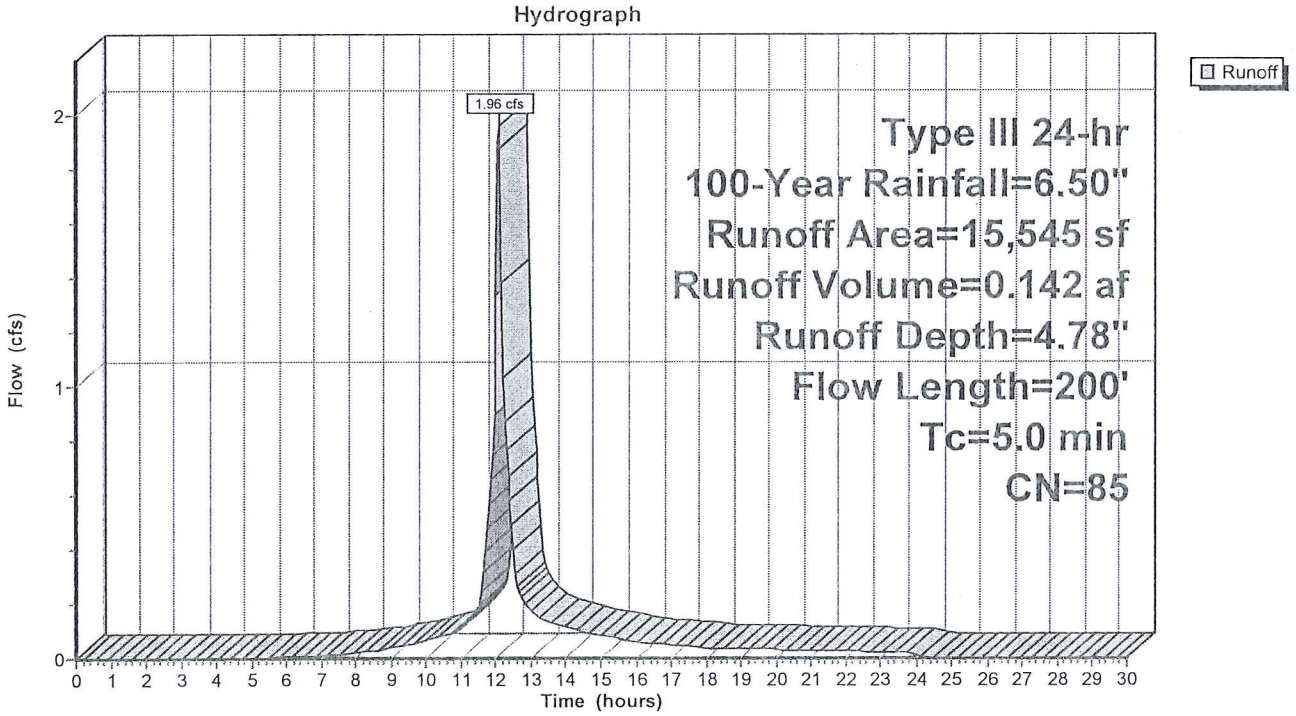
Runoff = 1.96 cfs @ 12.07 hrs, Volume= 0.142 af, Depth= 4.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
7,771	74	>75% Grass cover, Good, HSG C
7,018	98	Paved parking, HSG C
756	70	Woods, Good, HSG C
15,545	85	Weighted Average
8,527		54.85% Pervious Area
7,018		45.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	17	0.3300	0.35		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.5	33	0.0200	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.9	150	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	200	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P20: TO DCB-H



Summary for Subcatchment P21: TO DCB-I

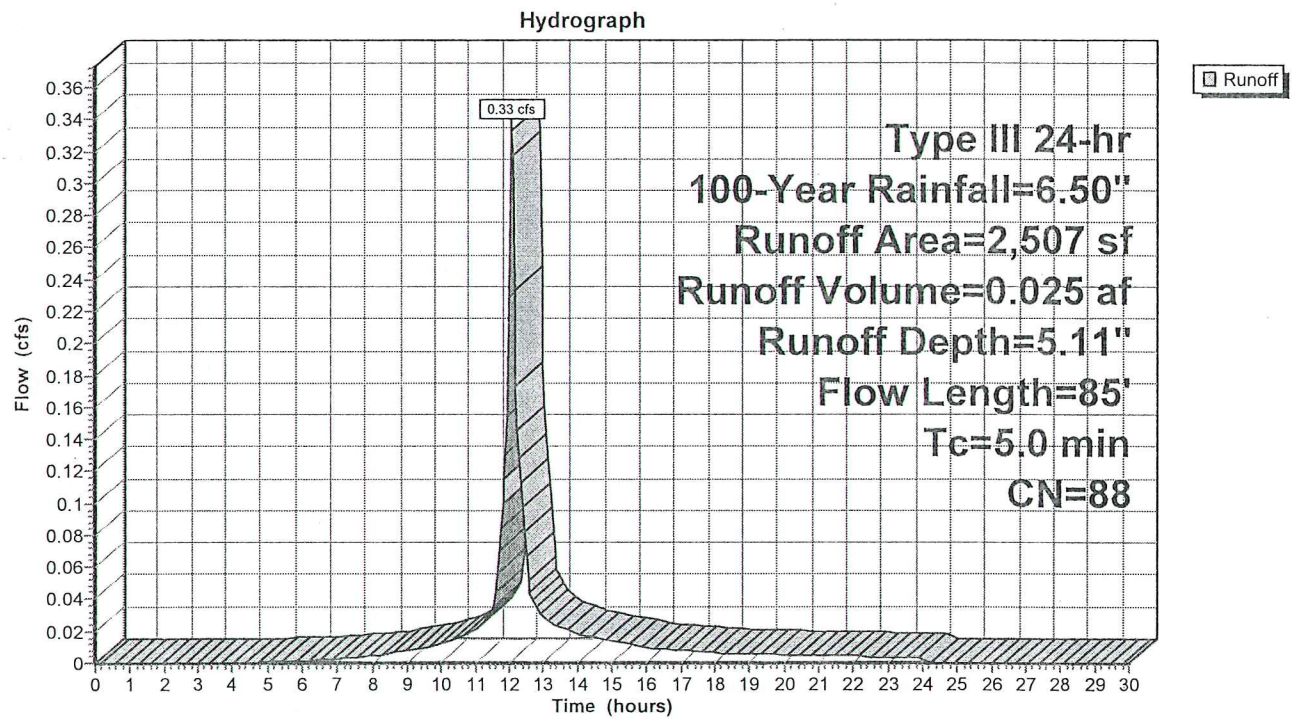
Runoff = 0.33 cfs @ 12.07 hrs, Volume= 0.025 af, Depth= 5.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
1,092	74	>75% Grass cover, Good, HSG C
1,415	98	Paved parking, HSG C
2,507	88	Weighted Average
1,092		43.56% Pervious Area
1,415		56.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	17	0.3300	0.35		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.2	33	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	35	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.2	85	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P21: TO DCB-I



Summary for Subcatchment P22: TO DCB-J

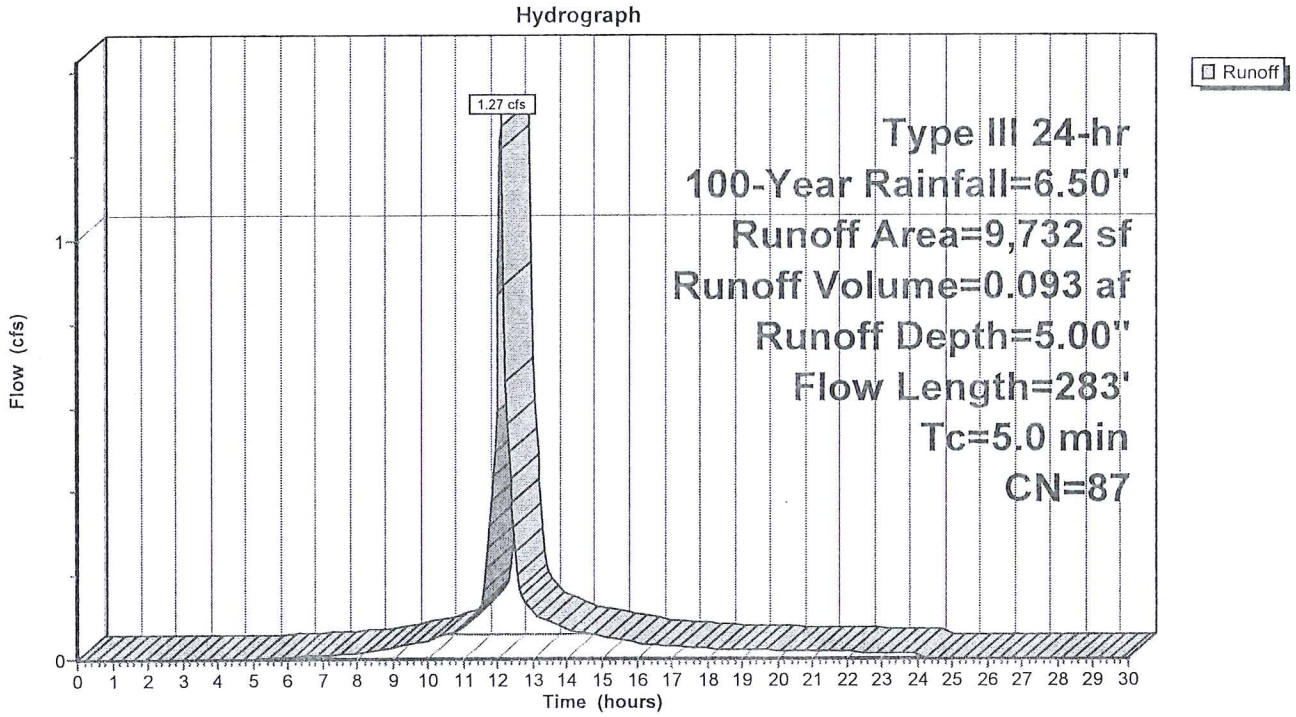
Runoff = 1.27 cfs @ 12.07 hrs, Volume= 0.093 af, Depth= 5.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
4,638	74	>75% Grass cover, Good, HSG C
5,094	98	Paved parking, HSG C
9,732	87	Weighted Average
4,638		47.66% Pervious Area
5,094		52.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	18	0.3300	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.5	32	0.0200	1.06		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.1	233	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.4	283	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P22: TO DCB-J



Summary for Subcatchment P26: TO DCB-F

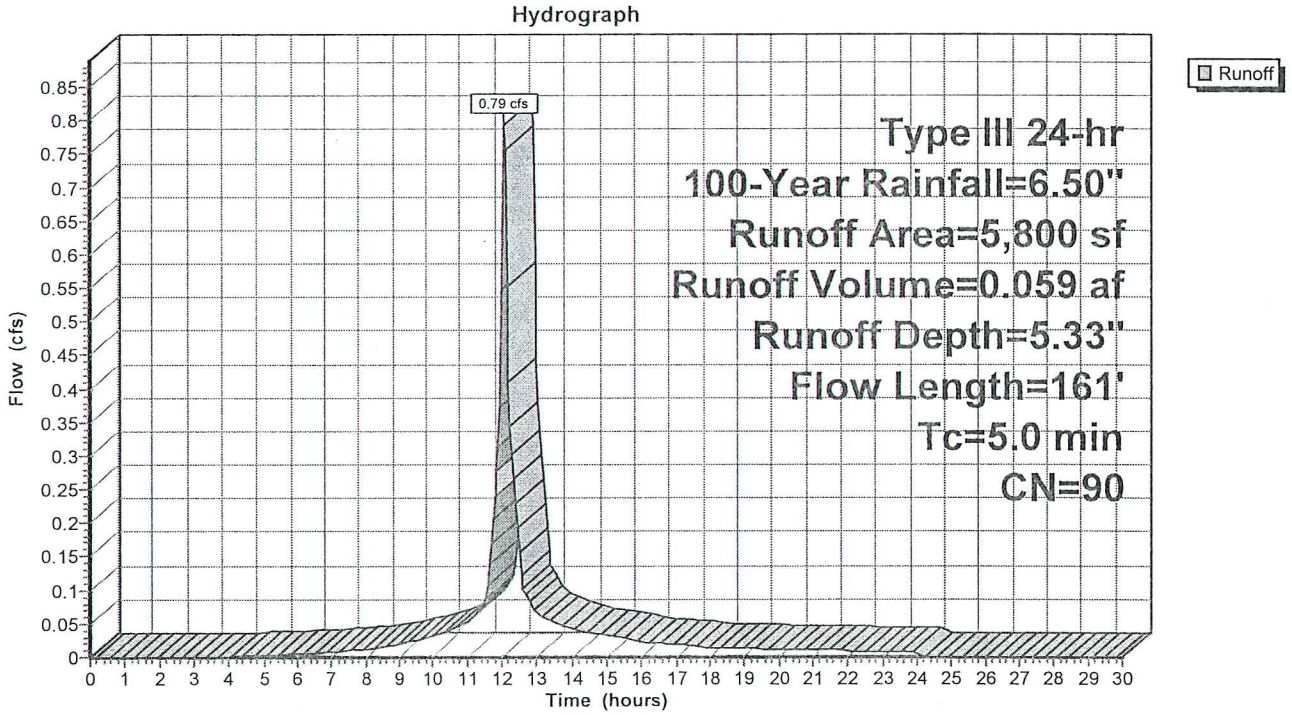
Runoff = 0.79 cfs @ 12.07 hrs, Volume= 0.059 af, Depth= 5.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
1,833	74	>75% Grass cover, Good, HSG C
3,967	98	Paved parking, HSG C
5,800	90	Weighted Average
1,833		31.60% Pervious Area
3,967		68.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	6	0.0200	0.09		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.6	44	0.0200	1.13		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	111	0.0650	5.18		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.1	161	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P26: TO DCB-F



Summary for Subcatchment P27: TO DCB-G

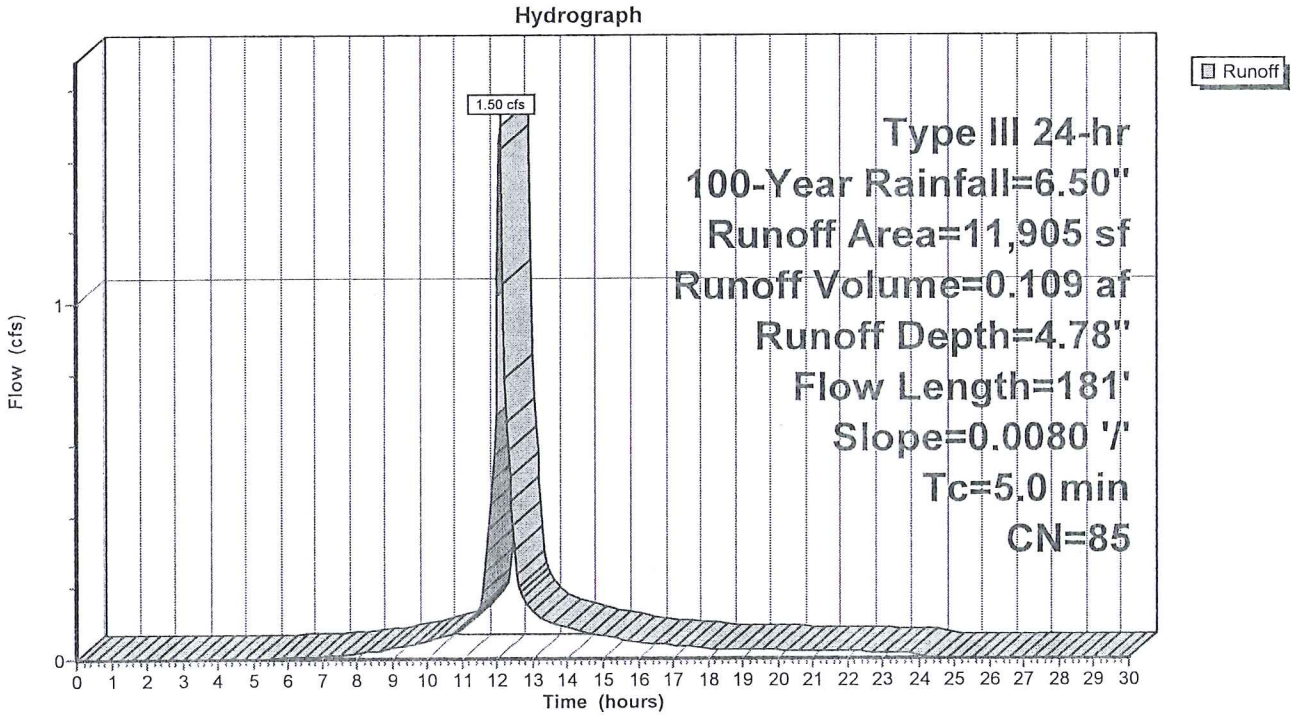
Runoff = 1.50 cfs @ 12.07 hrs, Volume= 0.109 af, Depth= 4.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
6,533	74	>75% Grass cover, Good, HSG C
5,372	98	Paved parking, HSG C
11,905	85	Weighted Average
6,533		54.88% Pervious Area
5,372		45.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	50	0.0080	0.80		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.2	131	0.0080	1.82		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	181	Total, Increased to minimum Tc = 5.0 min			

Subcatchment P27: TO DCB-G



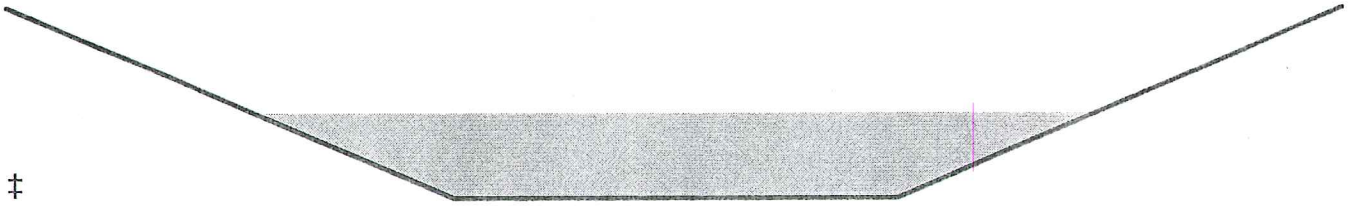
Summary for Reach 2R: OVERLAND FLOW

Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 5.56" for 100-Year event
Inflow = 6.75 cfs @ 12.35 hrs, Volume= 1.246 af
Outflow = 6.71 cfs @ 12.41 hrs, Volume= 1.246 af, Atten= 1%, Lag= 3.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.05 fps, Min. Travel Time= 1.9 min
Avg. Velocity = 0.42 fps, Avg. Travel Time= 4.7 min

Peak Storage= 753 cf @ 12.37 hrs
Average Depth at Peak Storage= 0.45'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 32.74 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 117.0' Slope= 0.0103 '/'
Inlet Invert= 1,117.80', Outlet Invert= 1,116.60'



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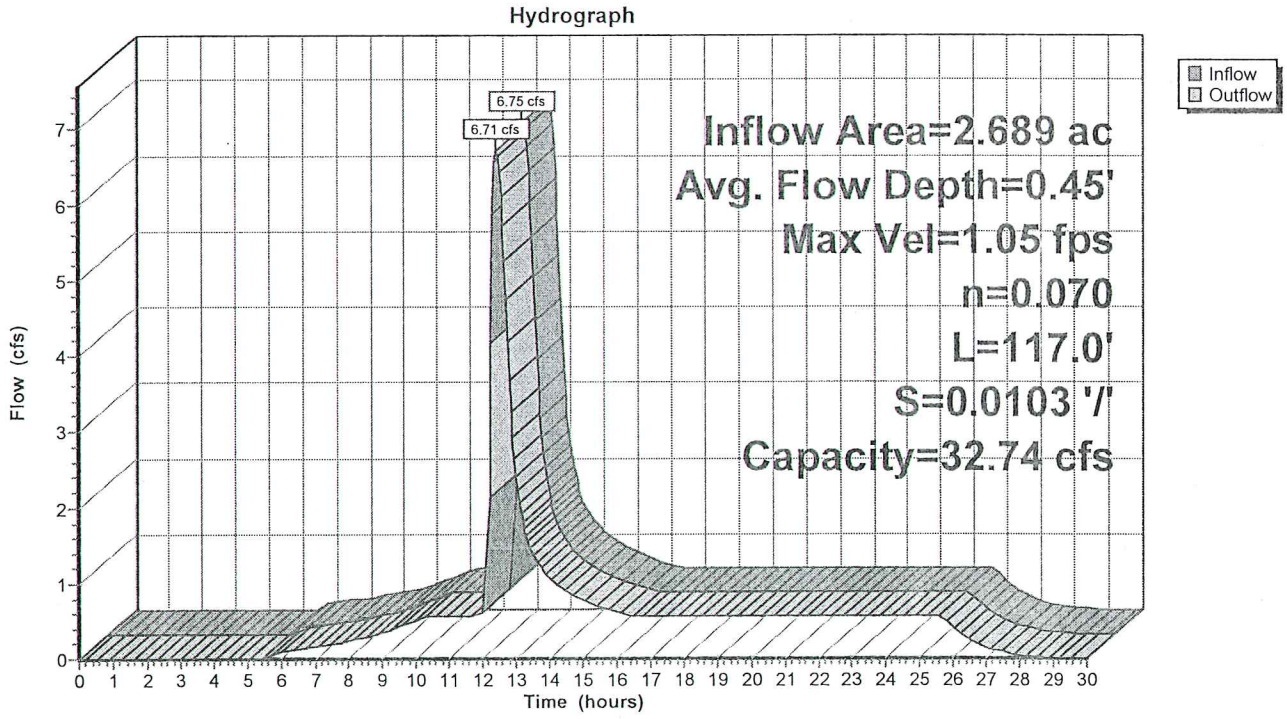
Reach 2R: OVERLAND FLOW



Stage-Discharge for Reach 2R: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,117.80	0.00	0.00
1,117.81	0.10	0.01
1,117.82	0.16	0.03
1,117.83	0.20	0.06
1,117.84	0.25	0.10
1,117.85	0.28	0.15
1,117.86	0.32	0.20
1,117.87	0.35	0.26
1,117.88	0.38	0.33
1,117.89	0.41	0.40
1,117.90	0.44	0.48
1,117.91	0.46	0.57
1,117.92	0.49	0.66
1,117.93	0.51	0.75
1,117.94	0.54	0.86
1,117.95	0.56	0.96
1,117.96	0.58	1.08
1,117.97	0.60	1.20
1,117.98	0.62	1.32
1,117.99	0.64	1.45
1,118.00	0.66	1.59
1,118.01	0.68	1.73
1,118.02	0.70	1.88
1,118.03	0.72	2.03
1,118.04	0.74	2.19
1,118.05	0.75	2.36
1,118.06	0.77	2.53
1,118.07	0.79	2.71
1,118.08	0.81	2.89
1,118.09	0.82	3.07
1,118.10	0.84	3.27
1,118.11	0.85	3.47
1,118.12	0.87	3.67
1,118.13	0.88	3.88
1,118.14	0.90	4.10
1,118.15	0.91	4.32
1,118.16	0.93	4.55
1,118.17	0.94	4.78
1,118.18	0.96	5.02
1,118.19	0.97	5.27
1,118.20	0.99	5.52
1,118.21	1.00	5.78
1,118.22	1.01	6.04
1,118.23	1.03	6.31
1,118.24	1.04	6.59
1,118.25	1.05	6.87
1,118.26	1.07	7.16
1,118.27	1.08	7.45
1,118.28	1.09	7.75
1,118.29	1.10	8.06
1,118.30	1.12	8.37
1,118.31	1.13	8.69
1,118.32	1.14	9.02
1,118.33	1.15	9.35
1,118.34	1.16	9.69
1,118.35	1.18	10.03
1,118.36	1.19	10.38
1,118.37	1.20	10.74
1,118.38	1.21	11.10
1,118.39	1.22	11.47
1,118.40	1.23	11.85
1,118.41	1.25	12.24
1,118.42	1.26	12.63
1,118.43	1.27	13.02
1,118.44	1.28	13.43
1,118.45	1.29	13.84
1,118.46	1.30	14.26
1,118.47	1.31	14.68
1,118.48	1.32	15.11
1,118.49	1.33	15.55
1,118.50	1.34	16.00
1,118.51	1.35	16.45
1,118.52	1.37	16.91
1,118.53	1.38	17.37
1,118.54	1.39	17.85
1,118.55	1.40	18.33
1,118.56	1.41	18.81
1,118.57	1.42	19.31
1,118.58	1.43	19.81
1,118.59	1.44	20.32
1,118.60	1.45	20.84
1,118.61	1.46	21.36
1,118.62	1.47	21.89
1,118.63	1.48	22.43
1,118.64	1.49	22.97
1,118.65	1.50	23.53
1,118.66	1.51	24.09
1,118.67	1.52	24.66
1,118.68	1.53	25.23
1,118.69	1.53	25.82
1,118.70	1.54	26.41
1,118.71	1.55	27.01
1,118.72	1.56	27.61
1,118.73	1.57	28.23
1,118.74	1.58	28.85
1,118.75	1.59	29.48
1,118.76	1.60	30.11
1,118.77	1.61	30.76
1,118.78	1.62	31.41
1,118.79	1.63	32.07
1,118.80	**1.64**	**32.74**

Summary for Reach 3R: OVERLAND FLOW

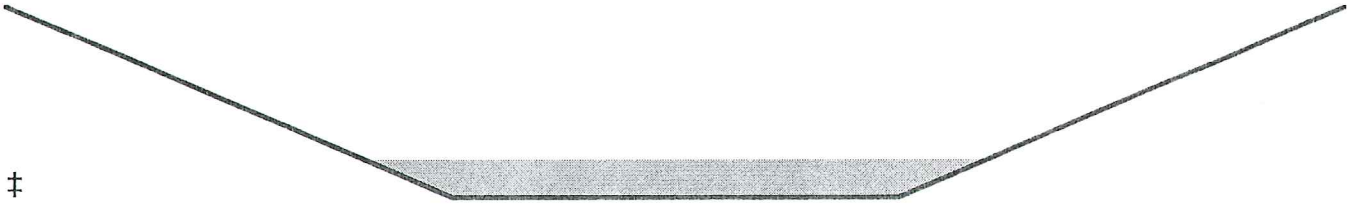
Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 5.56" for 100-Year event
Inflow = 6.82 cfs @ 12.31 hrs, Volume= 1.246 af
Outflow = 6.75 cfs @ 12.35 hrs, Volume= 1.246 af, Atten= 1%, Lag= 2.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.85 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 1.10 fps, Avg. Travel Time= 3.2 min

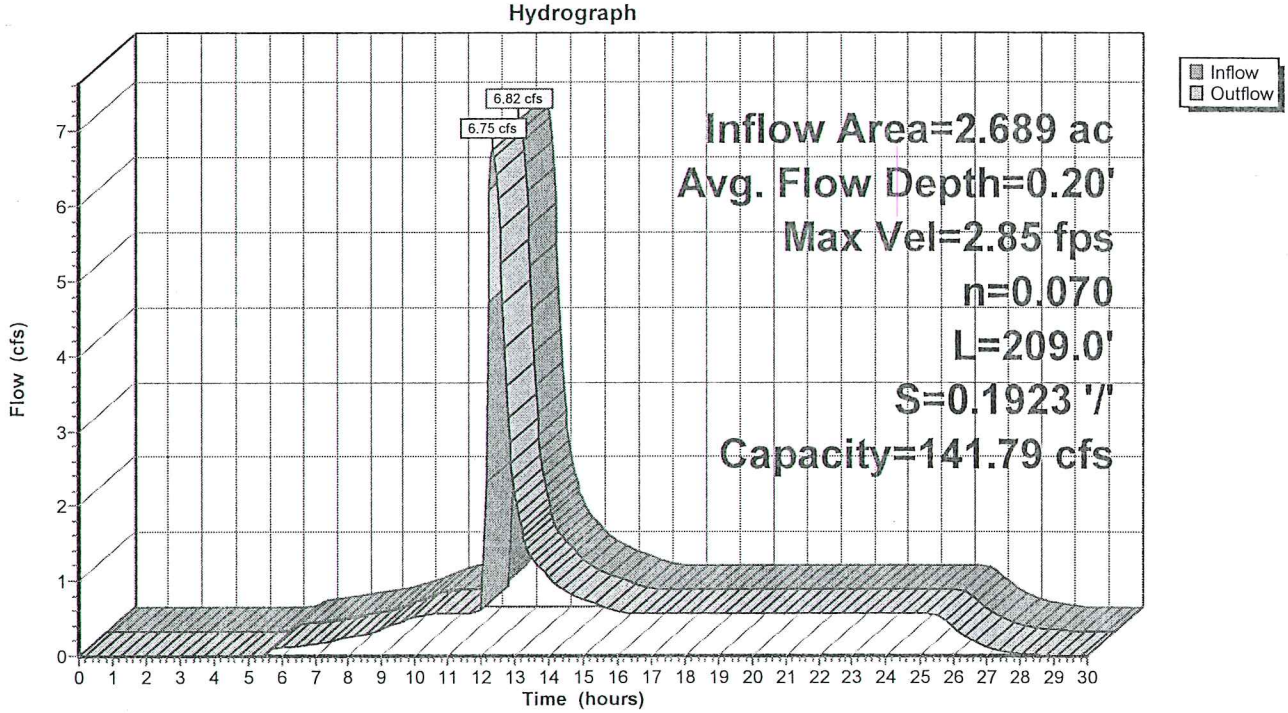
Peak Storage= 496 cf @ 12.33 hrs
Average Depth at Peak Storage= 0.20'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 141.79 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 209.0' Slope= 0.1923 '/'
Inlet Invert= 1,158.00', Outlet Invert= 1,117.80'

‡



Reach 3R: OVERLAND FLOW



Stage-Discharge for Reach 3R: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,158.00	0.00	0.00
1,158.01	0.43	0.04
1,158.02	0.68	0.14
1,158.03	0.88	0.27
1,158.04	1.06	0.44
1,158.05	1.22	0.64
1,158.06	1.37	0.87
1,158.07	1.52	1.13
1,158.08	1.65	1.42
1,158.09	1.77	1.74
1,158.10	1.89	2.08
1,158.11	2.01	2.45
1,158.12	2.12	2.84
1,158.13	2.22	3.26
1,158.14	2.32	3.71
1,158.15	2.42	4.17
1,158.16	2.52	4.67
1,158.17	2.61	5.19
1,158.18	2.70	5.73
1,158.19	2.79	6.30
1,158.20	2.87	6.89
1,158.21	2.95	7.50
1,158.22	3.03	8.15
1,158.23	3.11	8.81
1,158.24	3.19	9.50
1,158.25	3.27	10.21
1,158.26	3.34	10.95
1,158.27	3.42	11.71
1,158.28	3.49	12.50
1,158.29	3.56	13.31
1,158.30	3.63	14.15
1,158.31	3.70	15.01
1,158.32	3.76	15.90
1,158.33	3.83	16.81
1,158.34	3.90	17.75
1,158.35	3.96	18.71
1,158.36	4.02	19.70
1,158.37	4.09	20.71
1,158.38	4.15	21.75
1,158.39	4.21	22.81
1,158.40	4.27	23.90
1,158.41	4.33	25.02
1,158.42	4.39	26.16
1,158.43	4.44	27.33
1,158.44	4.50	28.52
1,158.45	4.56	29.74
1,158.46	4.61	30.99
1,158.47	4.67	32.27
1,158.48	4.73	33.57
1,158.49	4.78	34.90
1,158.50	4.83	36.25
1,158.51	4.89	37.63
1,158.52	4.94	39.04
1,158.53	4.99	40.48
1,158.54	5.04	41.95
1,158.55	5.10	43.44
1,158.56	5.15	44.96
1,158.57	5.20	46.51
1,158.58	5.25	48.09
1,158.59	5.30	49.69
1,158.60	5.35	51.33
1,158.61	5.40	52.99
1,158.62	5.44	54.68
1,158.63	5.49	56.40
1,158.64	5.54	58.15
1,158.65	5.59	59.93
1,158.66	5.64	61.74
1,158.67	5.68	63.58
1,158.68	5.73	65.45
1,158.69	5.78	67.34
1,158.70	5.82	69.27
1,158.71	5.87	71.23
1,158.72	5.91	73.22
1,158.73	5.96	75.24
1,158.74	6.00	77.29
1,158.75	6.05	79.37
1,158.76	6.09	81.48
1,158.77	6.14	83.62
1,158.78	6.18	85.79
1,158.79	6.22	88.00
1,158.80	6.27	90.23
1,158.81	6.31	92.50
1,158.82	6.35	94.80
1,158.83	6.39	97.13
1,158.84	6.44	99.49
1,158.85	6.48	101.89
1,158.86	6.52	104.32
1,158.87	6.56	106.78
1,158.88	6.60	109.27
1,158.89	6.65	111.80
1,158.90	6.69	114.36
1,158.91	6.73	116.95
1,158.92	6.77	119.57
1,158.93	6.81	122.23
1,158.94	6.85	124.92
1,158.95	6.89	127.65
1,158.96	6.93	130.41
1,158.97	6.97	133.20
1,158.98	7.01	136.03
1,158.99	7.05	138.89
1,159.00	**7.09**	**141.79**

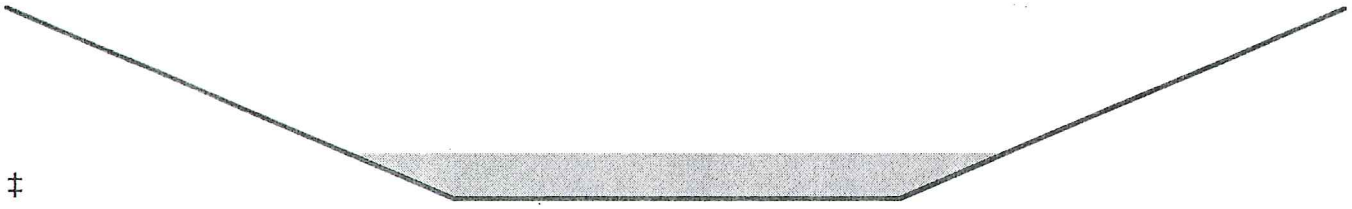
Summary for Reach 5R: OVERLAND FLOW

Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 5.56" for 100-Year event
Inflow = 6.81 cfs @ 12.30 hrs, Volume= 1.246 af
Outflow = 6.82 cfs @ 12.31 hrs, Volume= 1.246 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.34 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 0.92 fps, Avg. Travel Time= 0.7 min

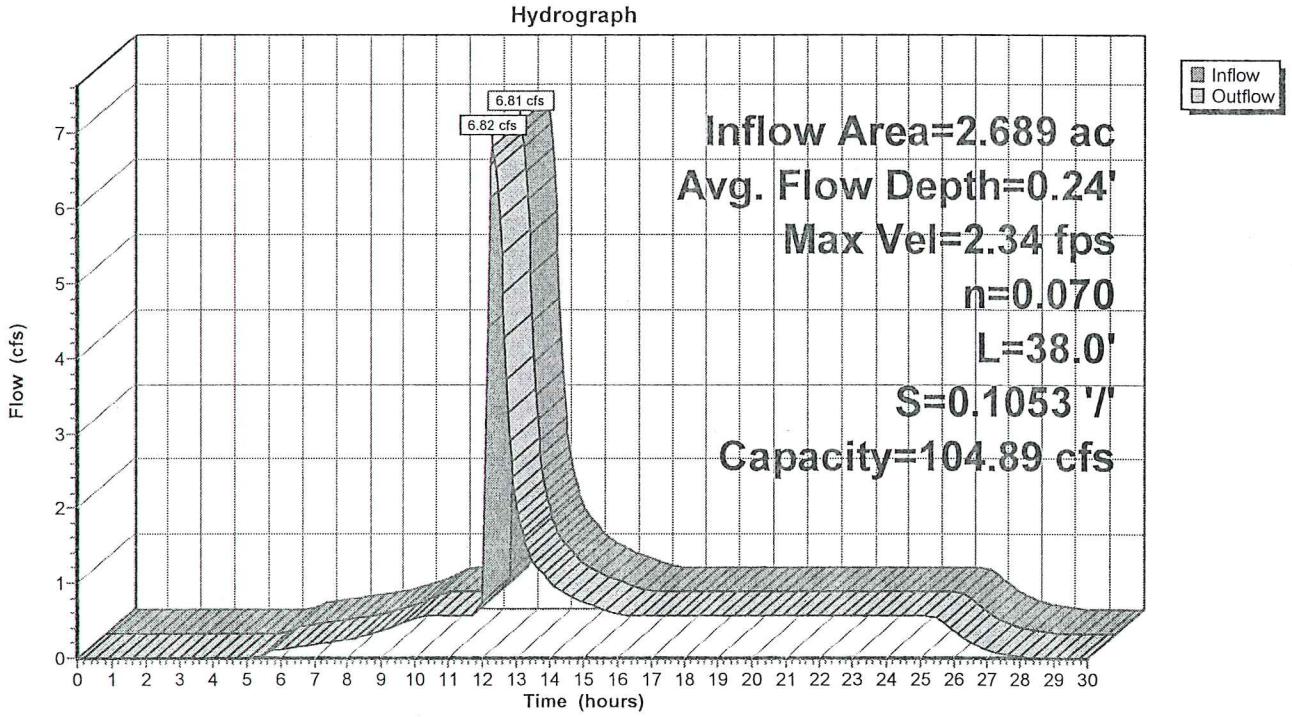
Peak Storage= 111 cf @ 12.30 hrs
Average Depth at Peak Storage= 0.24'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 104.89 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 38.0' Slope= 0.1053 '/'
Inlet Invert= 1,162.00', Outlet Invert= 1,158.00'



‡

Reach 5R: OVERLAND FLOW



Stage-Discharge for Reach 5R: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,162.00	0.00	0.00
1,162.01	0.32	0.03
1,162.02	0.50	0.10
1,162.03	0.65	0.20
1,162.04	0.79	0.33
1,162.05	0.91	0.48
1,162.06	1.02	0.65
1,162.07	1.12	0.84
1,162.08	1.22	1.05
1,162.09	1.31	1.29
1,162.10	1.40	1.54
1,162.11	1.48	1.81
1,162.12	1.56	2.10
1,162.13	1.64	2.41
1,162.14	1.72	2.74
1,162.15	1.79	3.09
1,162.16	1.86	3.45
1,162.17	1.93	3.84
1,162.18	2.00	4.24
1,162.19	2.06	4.66
1,162.20	2.12	5.10
1,162.21	2.18	5.55
1,162.22	2.25	6.03
1,162.23	2.30	6.52
1,162.24	2.36	7.03
1,162.25	2.42	7.56
1,162.26	2.47	8.10
1,162.27	2.53	8.67
1,162.28	2.58	9.25
1,162.29	2.63	9.85
1,162.30	2.68	10.47
1,162.31	2.73	11.11
1,162.32	2.78	11.76
1,162.33	2.83	12.44
1,162.34	2.88	13.13
1,162.35	2.93	13.84
1,162.36	2.98	14.57
1,162.37	3.02	15.32
1,162.38	3.07	16.09
1,162.39	3.11	16.88
1,162.40	3.16	17.68
1,162.41	3.20	18.51
1,162.42	3.24	19.35
1,162.43	3.29	20.22
1,162.44	3.33	21.10
1,162.45	3.37	22.00
1,162.46	3.41	22.93
1,162.47	3.45	23.87
1,162.48	3.50	24.83
1,162.49	3.54	25.82
1,162.50	3.58	26.82
1,162.51	3.62	27.84
1,162.52	3.65	28.88
1,162.53	3.69	29.95
1,162.54	3.73	31.03
1,162.55	3.77	32.14
1,162.56	3.81	33.26
1,162.57	3.84	34.41
1,162.58	3.88	35.57
1,162.59	3.92	36.76
1,162.60	3.96	37.97
1,162.61	3.99	39.20
1,162.62	4.03	40.45
1,162.63	4.06	41.72
1,162.64	4.10	43.02
1,162.65	4.13	44.34
1,162.66	4.17	45.67
1,162.67	4.20	47.03
1,162.68	4.24	48.42
1,162.69	4.27	49.82
1,162.70	4.31	51.25
1,162.71	4.34	52.69
1,162.72	4.37	54.16
1,162.73	4.41	55.66
1,162.74	4.44	57.17
1,162.75	4.47	58.71
1,162.76	4.51	60.27
1,162.77	4.54	61.86
1,162.78	4.57	63.47
1,162.79	4.60	65.10
1,162.80	4.64	66.75
1,162.81	4.67	68.43
1,162.82	4.70	70.13
1,162.83	4.73	71.85
1,162.84	4.76	73.60
1,162.85	4.79	75.37
1,162.86	4.82	77.17
1,162.87	4.86	78.99
1,162.88	4.89	80.84
1,162.89	4.92	82.70
1,162.90	4.95	84.60
1,162.91	4.98	86.51
1,162.92	5.01	88.46
1,162.93	5.04	90.42
1,162.94	5.07	92.41
1,162.95	5.10	94.43
1,162.96	5.13	96.47
1,162.97	5.16	98.54
1,162.98	5.19	100.63
1,162.99	5.22	102.75
1,163.00	**5.24**	**104.89**

Summary for Reach CULVERT#2: TO DP#1

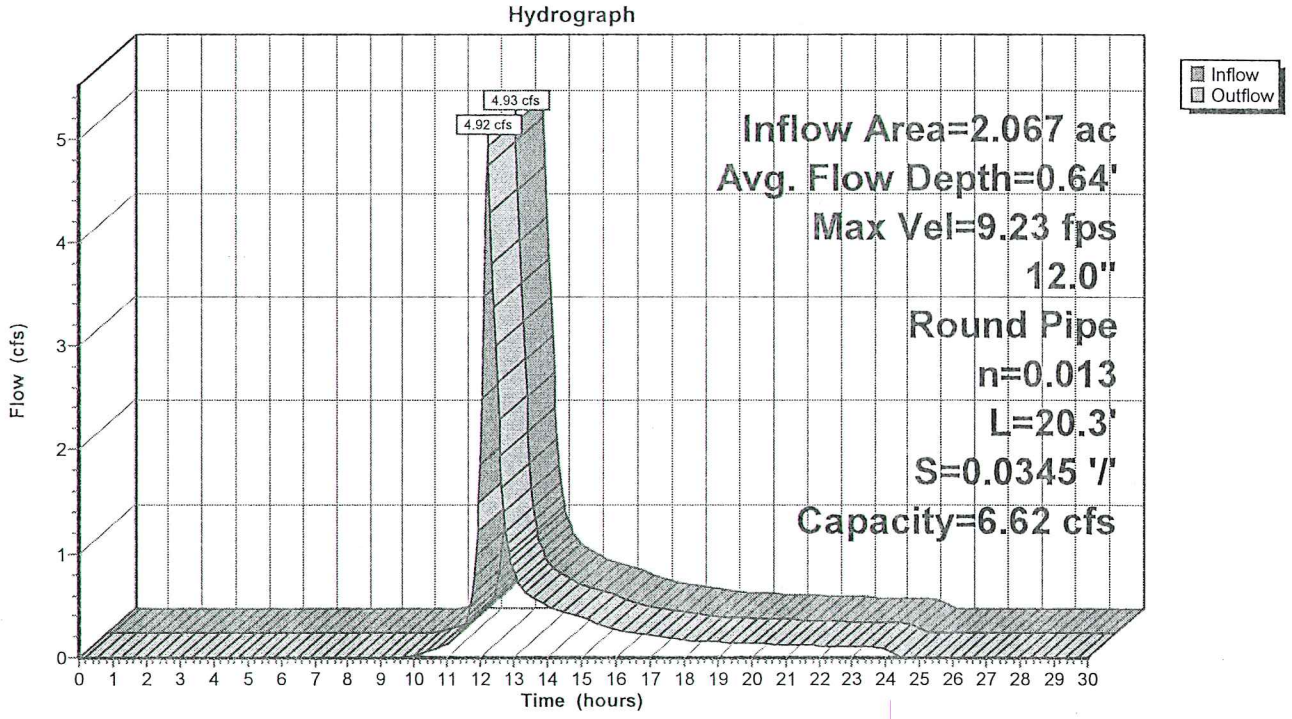
Inflow Area = 2.067 ac, 3.60% Impervious, Inflow Depth = 2.72" for 100-Year event
Inflow = 4.93 cfs @ 12.21 hrs, Volume= 0.469 af
Outflow = 4.92 cfs @ 12.21 hrs, Volume= 0.469 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.23 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.84 fps, Avg. Travel Time= 0.1 min

Peak Storage= 11 cf @ 12.21 hrs
Average Depth at Peak Storage= 0.64'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.62 cfs

12.0" Round Pipe
n= 0.013 Cast iron, coated
Length= 20.3' Slope= 0.0345 '/'
Inlet Invert= 1,118.45', Outlet Invert= 1,117.75'





Stage-Discharge for Reach CULVERT#2: TO DP#1

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,118.45	0.00	0.00
1,118.46	0.75	0.00
1,118.47	1.19	0.00
1,118.48	1.55	0.01
1,118.49	1.87	0.02
1,118.50	2.16	0.03
1,118.51	2.44	0.05
1,118.52	2.69	0.07
1,118.53	2.93	0.09
1,118.54	3.16	0.11
1,118.55	3.38	0.14
1,118.56	3.59	0.17
1,118.57	3.79	0.20
1,118.58	3.98	0.24
1,118.59	4.17	0.28
1,118.60	4.35	0.32
1,118.61	4.53	0.37
1,118.62	4.70	0.42
1,118.63	4.86	0.47
1,118.64	5.02	0.52
1,118.65	5.18	0.58
1,118.66	5.33	0.64
1,118.67	5.48	0.70
1,118.68	5.62	0.77
1,118.69	5.77	0.84
1,118.70	5.90	0.91
1,118.71	6.04	0.98
1,118.72	6.17	1.05
1,118.73	6.29	1.13
1,118.74	6.42	1.21
1,118.75	6.54	1.30
1,118.76	6.66	1.38
1,118.77	6.77	1.47
1,118.78	6.88	1.56
1,118.79	6.99	1.65
1,118.80	7.10	1.74
1,118.81	7.21	1.83
1,118.82	7.31	1.93
1,118.83	7.41	2.03
1,118.84	7.50	2.13
1,118.85	7.60	2.23
1,118.86	7.69	2.33
1,118.87	7.78	2.44
1,118.88	7.87	2.54
1,118.89	7.96	2.65
1,118.90	8.04	2.76
1,118.91	8.12	2.86
1,118.92	8.20	2.97
1,118.93	8.28	3.08
1,118.94	8.35	3.20
1,118.95	8.42	3.31
1,118.96	8.49	3.42
1,118.97	8.56	3.53
1,118.98	8.63	3.65
1,118.99	8.69	3.76
1,119.00	8.75	3.88
1,119.01	8.81	3.99
1,119.02	8.87	4.10
1,119.03	8.93	4.22
1,119.04	8.98	4.33
1,119.05	9.03	4.44
1,119.06	9.08	4.56
1,119.07	9.13	4.67
1,119.08	9.18	4.78
1,119.09	9.22	4.89
1,119.10	9.26	5.00
1,119.11	9.30	5.11
1,119.12	9.34	5.22
1,119.13	9.37	5.33
1,119.14	9.40	5.43
1,119.15	9.43	5.54
1,119.16	9.46	5.64
1,119.17	9.49	5.74
1,119.18	9.51	5.84
1,119.19	9.53	5.94
1,119.20	9.55	6.03
1,119.21	9.56	6.13
1,119.22	9.58	6.21
1,119.23	9.59	6.30
1,119.24	9.60	6.39
1,119.25	9.60	6.47
1,119.26	**9.60**	6.54
1,119.27	9.60	6.62
1,119.28	9.60	6.69
1,119.29	9.59	6.76
1,119.30	9.58	6.82
1,119.31	9.57	6.87
1,119.32	9.55	6.93
1,119.33	9.53	6.97
1,119.34	9.50	7.02
1,119.35	9.47	7.05
1,119.36	9.43	7.08
1,119.37	9.39	7.10
1,119.38	9.34	7.11
1,119.39	9.29	**7.12**
1,119.40	9.22	7.11
1,119.41	9.15	7.09
1,119.42	9.06	7.05
1,119.43	8.94	6.99
1,119.44	8.79	6.89
1,119.45	8.42	6.62

Summary for Reach DCB-H: TO DMH#6

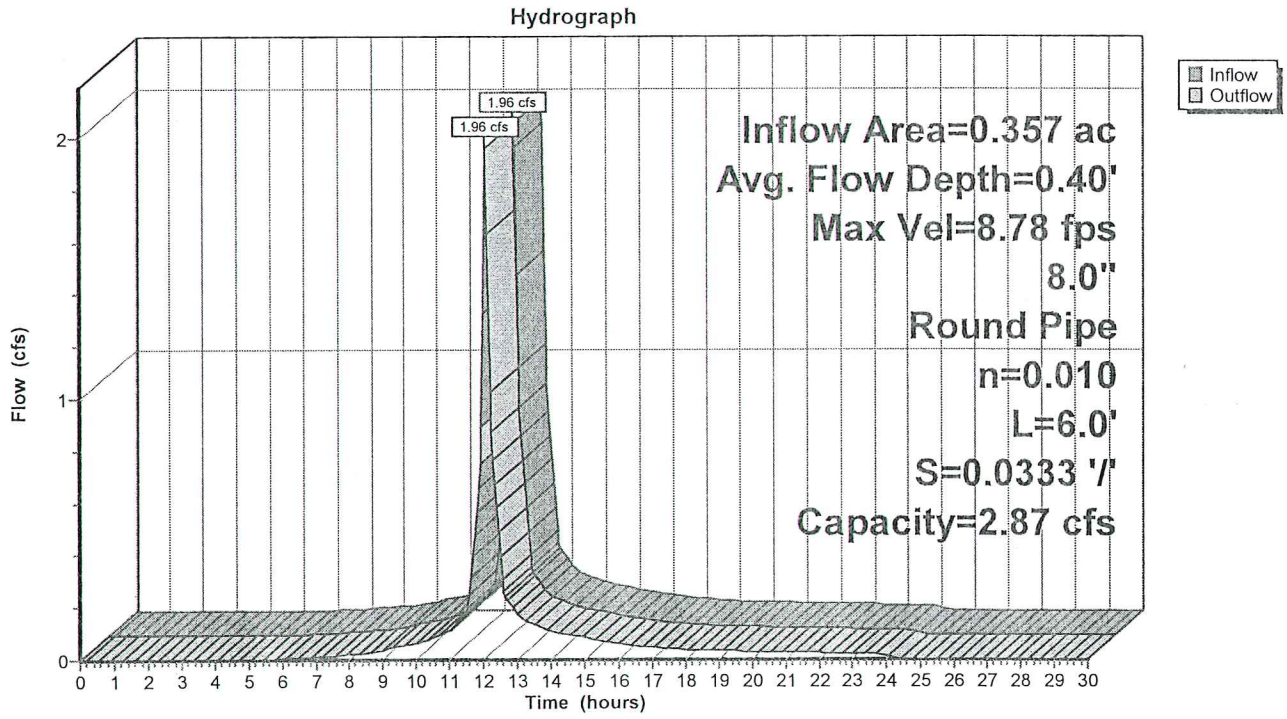
Inflow Area = 0.357 ac, 45.15% Impervious, Inflow Depth = 4.78" for 100-Year event
Inflow = 1.96 cfs @ 12.07 hrs, Volume= 0.142 af
Outflow = 1.96 cfs @ 12.07 hrs, Volume= 0.142 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.78 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.07 fps, Avg. Travel Time= 0.0 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.40'
Bank-Full Depth= 0.67' Flow Area= 0.3 sf, Capacity= 2.87 cfs

8.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 6.0' Slope= 0.0333 '/'
Inlet Invert= 1,171.70', Outlet Invert= 1,171.50'





Stage-Discharge for Reach DCB-H: TO DMH#6

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,171.70	0.00	0.00
1,171.71	0.94	0.00
1,171.72	1.51	0.00
1,171.73	1.97	0.01
1,171.74	2.38	0.02
1,171.75	2.74	0.03
1,171.76	3.08	0.05
1,171.77	3.40	0.07
1,171.78	3.70	0.09
1,171.79	3.98	0.11
1,171.80	4.25	0.14
1,171.81	4.50	0.17
1,171.82	4.74	0.20
1,171.83	4.98	0.24
1,171.84	5.20	0.28
1,171.85	5.42	0.32
1,171.86	5.62	0.36
1,171.87	5.82	0.41
1,171.88	6.01	0.46
1,171.89	6.20	0.51
1,171.90	6.38	0.56
1,171.91	6.55	0.62
1,171.92	6.71	0.67
1,171.93	6.87	0.73
1,171.94	7.03	0.80
1,171.95	7.18	0.86
1,171.96	7.32	0.92
1,171.97	7.46	0.99
1,171.98	7.59	1.06
1,171.99	7.72	1.12
1,172.00	7.84	1.19
1,172.01	7.96	1.27
1,172.02	8.07	1.34
1,172.03	8.18	1.41
1,172.04	8.29	1.48
1,172.05	8.38	1.56
1,172.06	8.48	1.63
1,172.07	8.57	1.70
1,172.08	8.65	1.78
1,172.09	8.74	1.85
1,172.10	8.81	1.93
1,172.11	8.88	2.00
1,172.12	8.95	2.07
1,172.13	9.01	2.15
1,172.14	9.07	2.22
1,172.15	9.12	2.29
1,172.16	9.17	2.36
1,172.17	9.21	2.42
1,172.18	9.25	2.49
1,172.19	9.29	2.55
1,172.20	9.31	2.62
1,172.21	9.34	2.67
1,172.22	9.35	2.73
1,172.23	9.36	2.79
1,172.24	9.37	2.84
1,172.25	9.36	2.88
1,172.26	9.36	2.93
1,172.27	9.34	2.97
1,172.28	9.31	3.00
1,172.29	9.28	3.03
1,172.30	9.24	3.06
1,172.31	9.18	3.07
1,172.32	9.11	3.08
1,172.33	9.03	3.08
1,172.34	8.92	3.07
1,172.35	8.78	3.04
1,172.36	8.58	2.99
1,172.37	8.04	2.81

Summary for Reach DCB1: TO DMH#1

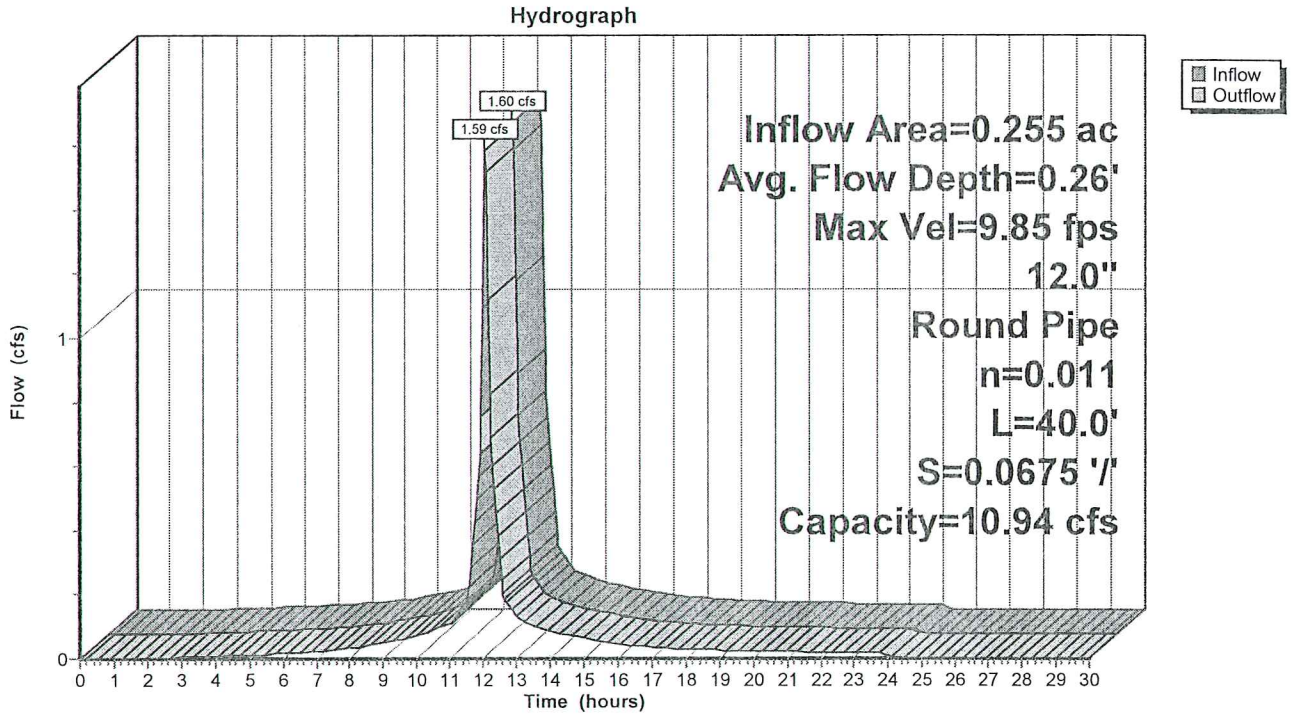
Inflow Area = 0.255 ac, 81.84% Impervious, Inflow Depth = 5.79" for 100-Year event
Inflow = 1.60 cfs @ 12.07 hrs, Volume= 0.123 af
Outflow = 1.59 cfs @ 12.07 hrs, Volume= 0.123 af, Atten= 1%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.85 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.23 fps, Avg. Travel Time= 0.2 min

Peak Storage= 6 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.26'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 10.94 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 40.0' Slope= 0.0675 '/'
Inlet Invert= 1,178.00', Outlet Invert= 1,175.30'





Stage-Discharge for Reach DCB1: TO DMH#1

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.00	0.00	0.00
1,178.01	1.24	0.00
1,178.02	1.96	0.01
1,178.03	2.56	0.02
1,178.04	3.09	0.03
1,178.05	3.58	0.05
1,178.06	4.03	0.08
1,178.07	4.45	0.11
1,178.08	4.85	0.14
1,178.09	5.23	0.18
1,178.10	5.59	0.23
1,178.11	5.93	0.28
1,178.12	6.27	0.33
1,178.13	6.59	0.40
1,178.14	6.90	0.46
1,178.15	7.20	0.53
1,178.16	7.49	0.61
1,178.17	7.77	0.69
1,178.18	8.04	0.77
1,178.19	8.31	0.86
1,178.20	8.57	0.96
1,178.21	8.82	1.06
1,178.22	9.06	1.16
1,178.23	9.30	1.27
1,178.24	9.53	1.38
1,178.25	9.76	1.50
1,178.26	9.98	1.62
1,178.27	10.20	1.74
1,178.28	10.41	1.87
1,178.29	10.61	2.01
1,178.30	10.81	2.14
1,178.31	11.01	2.28
1,178.32	11.20	2.43
1,178.33	11.38	2.57
1,178.34	11.56	2.72
1,178.35	11.74	2.88
1,178.36	11.91	3.03
1,178.37	12.08	3.19
1,178.38	12.25	3.35
1,178.39	12.41	3.52
1,178.40	12.57	3.69
1,178.41	12.72	3.86
1,178.42	12.87	4.03
1,178.43	13.01	4.20
1,178.44	13.16	4.38
1,178.45	13.29	4.56
1,178.46	13.43	4.74
1,178.47	13.56	4.92
1,178.48	13.68	5.10
1,178.49	13.81	5.28
1,178.50	13.93	5.47
1,178.51	14.04	5.66
1,178.52	14.16	5.84
1,178.53	14.27	6.03
1,178.54	14.37	6.22
1,178.55	14.48	6.41
1,178.56	14.58	6.60
1,178.57	14.67	6.78
1,178.58	14.76	6.97
1,178.59	14.85	7.16
1,178.60	14.94	7.35
1,178.61	15.02	7.54
1,178.62	15.10	7.72
1,178.63	15.17	7.91
1,178.64	15.24	8.09
1,178.65	15.31	8.27
1,178.66	15.38	8.46
1,178.67	15.44	8.63
1,178.68	15.49	8.81
1,178.69	15.55	8.99
1,178.70	15.60	9.16
1,178.71	15.64	9.33
1,178.72	15.68	9.50
1,178.73	15.72	9.66
1,178.74	15.76	9.82
1,178.75	15.79	9.98
1,178.76	15.81	10.13
1,178.77	15.84	10.28
1,178.78	15.85	10.42
1,178.79	15.87	10.56
1,178.80	15.87	10.69
1,178.81	**15.88**	10.82
1,178.82	15.88	10.94
1,178.83	15.87	11.06
1,178.84	15.86	11.17
1,178.85	15.84	11.27
1,178.86	15.82	11.37
1,178.87	15.79	11.45
1,178.88	15.75	11.53
1,178.89	15.71	11.60
1,178.90	15.66	11.66
1,178.91	15.60	11.71
1,178.92	15.53	11.74
1,178.93	15.45	11.76
1,178.94	15.36	**11.77**
1,178.95	15.25	11.75
1,178.96	15.13	11.72
1,178.97	14.98	11.66
1,178.98	14.79	11.56
1,178.99	14.54	11.40
1,179.00	13.93	10.94

Summary for Reach DCB10: TO DMH#10

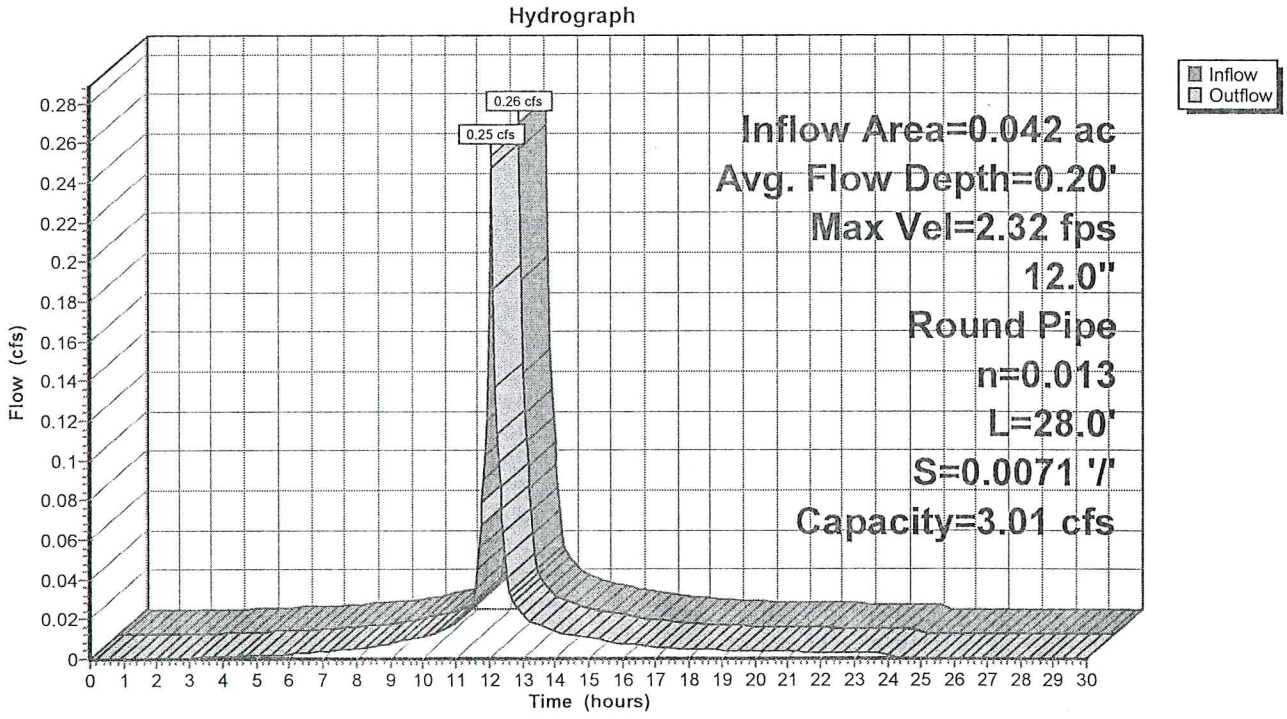
Inflow Area = 0.042 ac, 80.86% Impervious, Inflow Depth = 5.68" for 100-Year event
Inflow = 0.26 cfs @ 12.07 hrs, Volume= 0.020 af
Outflow = 0.25 cfs @ 12.08 hrs, Volume= 0.020 af, Atten= 2%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.32 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 0.76 fps, Avg. Travel Time= 0.6 min

Peak Storage= 3 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.20'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.01 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 28.0' Slope= 0.0071 '/'
Inlet Invert= 1,179.20', Outlet Invert= 1,179.00'





Stage-Discharge for Reach DCB10: TO DMH#10

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.20	0.00	0.00
1,179.21	0.34	0.00
1,179.22	0.54	0.00
1,179.23	0.71	0.00
1,179.24	0.85	0.01
1,179.25	0.98	0.01
1,179.26	1.11	0.02
1,179.27	1.22	0.03
1,179.28	1.33	0.04
1,179.29	1.44	0.05
1,179.30	1.54	0.06
1,179.31	1.63	0.08
1,179.32	1.73	0.09
1,179.33	1.81	0.11
1,179.34	1.90	0.13
1,179.35	1.98	0.15
1,179.36	2.06	0.17
1,179.37	2.14	0.19
1,179.38	2.21	0.21
1,179.39	2.29	0.24
1,179.40	2.36	0.26
1,179.41	2.43	0.29
1,179.42	2.49	0.32
1,179.43	2.56	0.35
1,179.44	2.62	0.38
1,179.45	2.69	0.41
1,179.46	2.75	0.45
1,179.47	2.81	0.48
1,179.48	2.86	0.52
1,179.49	2.92	0.55
1,179.50	2.98	0.59
1,179.51	3.03	0.63
1,179.52	3.08	0.67
1,179.53	3.13	0.71
1,179.54	3.18	0.75
1,179.55	3.23	0.79
1,179.56	3.28	0.83
1,179.57	3.33	0.88
1,179.58	3.37	0.92
1,179.59	3.42	0.97
1,179.60	3.46	1.01
1,179.61	3.50	1.06
1,179.62	3.54	1.11
1,179.63	3.58	1.16
1,179.64	3.62	1.21
1,179.65	3.66	1.25
1,179.66	3.70	1.30
1,179.67	3.73	1.35
1,179.68	3.77	1.40
1,179.69	3.80	1.45
1,179.70	3.83	1.51
1,179.71	3.87	1.56
1,179.72	3.90	1.61
1,179.73	3.93	1.66
1,179.74	3.96	1.71
1,179.75	3.98	1.76
1,179.76	4.01	1.82
1,179.77	4.04	1.87
1,179.78	4.06	1.92
1,179.79	4.09	1.97
1,179.80	4.11	2.02
1,179.81	4.13	2.07
1,179.82	4.16	2.13
1,179.83	4.18	2.18
1,179.84	4.20	2.23
1,179.85	4.21	2.28
1,179.86	4.23	2.33
1,179.87	4.25	2.38
1,179.88	4.26	2.43
1,179.89	4.28	2.47
1,179.90	4.29	2.52
1,179.91	4.31	2.57
1,179.92	4.32	2.61
1,179.93	4.33	2.66
1,179.94	4.34	2.70
1,179.95	4.35	2.75
1,179.96	4.35	2.79
1,179.97	4.36	2.83
1,179.98	4.36	2.87
1,179.99	4.37	2.91
1,180.00	4.37	2.94
1,180.01	**4.37**	2.98
1,180.02	4.37	3.01
1,180.03	4.37	3.04
1,180.04	4.37	3.07
1,180.05	4.36	3.10
1,180.06	4.35	3.13
1,180.07	4.35	3.15
1,180.08	4.34	3.17
1,180.09	4.32	3.19
1,180.10	4.31	3.21
1,180.11	4.29	3.22
1,180.12	4.28	3.23
1,180.13	4.25	3.24
1,180.14	4.23	**3.24**
1,180.15	4.20	3.24
1,180.16	4.16	3.23
1,180.17	4.12	3.21
1,180.18	4.07	3.18
1,180.19	4.00	3.14
1,180.20	3.83	3.01

Summary for Reach DCB11: TO DMH#10

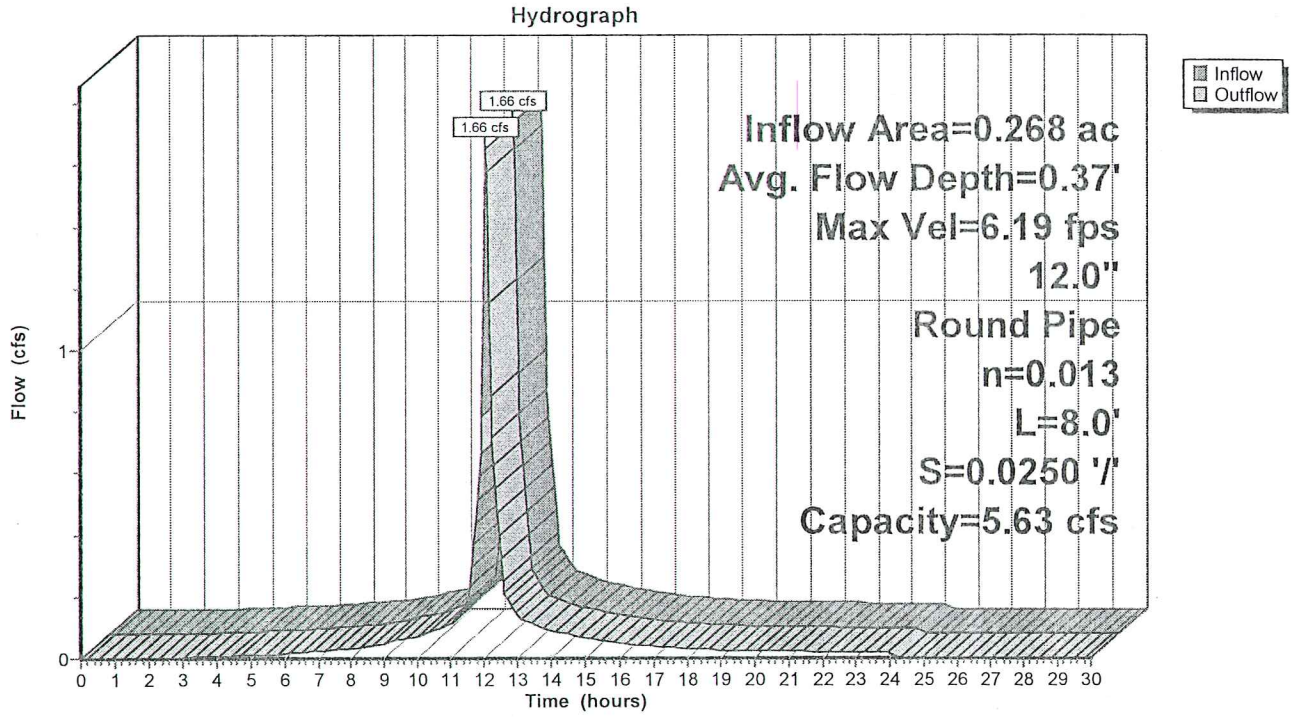
Inflow Area = 0.268 ac, 78.25% Impervious, Inflow Depth = 5.68" for 100-Year event
Inflow = 1.66 cfs @ 12.07 hrs, Volume= 0.127 af
Outflow = 1.66 cfs @ 12.07 hrs, Volume= 0.127 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.19 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.05 fps, Avg. Travel Time= 0.1 min

Peak Storage= 2 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.37'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.63 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 8.0' Slope= 0.0250 '/'
Inlet Invert= 1,179.20', Outlet Invert= 1,179.00'





Stage-Discharge for Reach DCB11: TO DMH#10

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.20	0.00	0.00
1,179.21	0.64	0.00
1,179.22	1.01	0.00
1,179.23	1.32	0.01
1,179.24	1.59	0.02
1,179.25	1.84	0.03
1,179.26	2.07	0.04
1,179.27	2.29	0.06
1,179.28	2.50	0.07
1,179.29	2.69	0.09
1,179.30	2.88	0.12
1,179.31	3.06	0.14
1,179.32	3.23	0.17
1,179.33	3.39	0.20
1,179.34	3.55	0.24
1,179.35	3.71	0.27
1,179.36	3.86	0.31
1,179.37	4.00	0.35
1,179.38	4.14	0.40
1,179.39	4.28	0.44
1,179.40	4.41	0.49
1,179.41	4.54	0.54
1,179.42	4.67	0.60
1,179.43	4.79	0.65
1,179.44	4.91	0.71
1,179.45	5.03	0.77
1,179.46	5.14	0.83
1,179.47	5.25	0.90
1,179.48	5.36	0.96
1,179.49	5.46	1.03
1,179.50	5.57	1.10
1,179.51	5.67	1.18
1,179.52	5.77	1.25
1,179.53	5.86	1.32
1,179.54	5.95	1.40
1,179.55	6.05	1.48
1,179.56	6.14	1.56
1,179.57	6.22	1.64
1,179.58	6.31	1.73
1,179.59	6.39	1.81
1,179.60	6.47	1.90
1,179.61	6.55	1.99
1,179.62	6.63	2.07
1,179.63	6.70	2.16
1,179.64	6.77	2.25
1,179.65	6.85	2.35
1,179.66	6.91	2.44
1,179.67	6.98	2.53
1,179.68	7.05	2.63
1,179.69	7.11	2.72
1,179.70	7.17	2.82
1,179.71	7.23	2.91
1,179.72	7.29	3.01
1,179.73	7.35	3.11
1,179.74	7.40	3.20
1,179.75	7.45	3.30
1,179.76	7.51	3.40
1,179.77	7.55	3.49
1,179.78	7.60	3.59
1,179.79	7.65	3.69
1,179.80	7.69	3.78
1,179.81	7.73	3.88
1,179.82	7.77	3.98
1,179.83	7.81	4.07
1,179.84	7.85	4.17
1,179.85	7.88	4.26
1,179.86	7.92	4.35
1,179.87	7.95	4.45
1,179.88	7.98	4.54
1,179.89	8.01	4.63
1,179.90	8.03	4.72
1,179.91	8.06	4.80
1,179.92	8.08	4.89
1,179.93	8.10	4.97
1,179.94	8.11	5.06
1,179.95	8.13	5.14
1,179.96	8.14	5.22
1,179.97	8.15	5.29
1,179.98	8.16	5.37
1,179.99	8.17	5.44
1,180.00	8.17	5.51
1,180.01	**8.18**	5.57
1,180.02	8.18	5.64
1,180.03	8.17	5.70
1,180.04	8.17	5.75
1,180.05	8.16	5.80
1,180.06	8.15	5.85
1,180.07	8.13	5.90
1,180.08	8.11	5.94
1,180.09	8.09	5.97
1,180.10	8.06	6.00
1,180.11	8.03	6.03
1,180.12	8.00	6.05
1,180.13	7.96	6.06
1,180.14	7.91	**6.06**
1,180.15	7.85	6.05
1,180.16	7.79	6.04
1,180.17	7.71	6.00
1,180.18	7.62	5.95
1,180.19	7.49	5.87
1,180.20	7.17	5.63

Summary for Reach DCB12: TO DMH#12

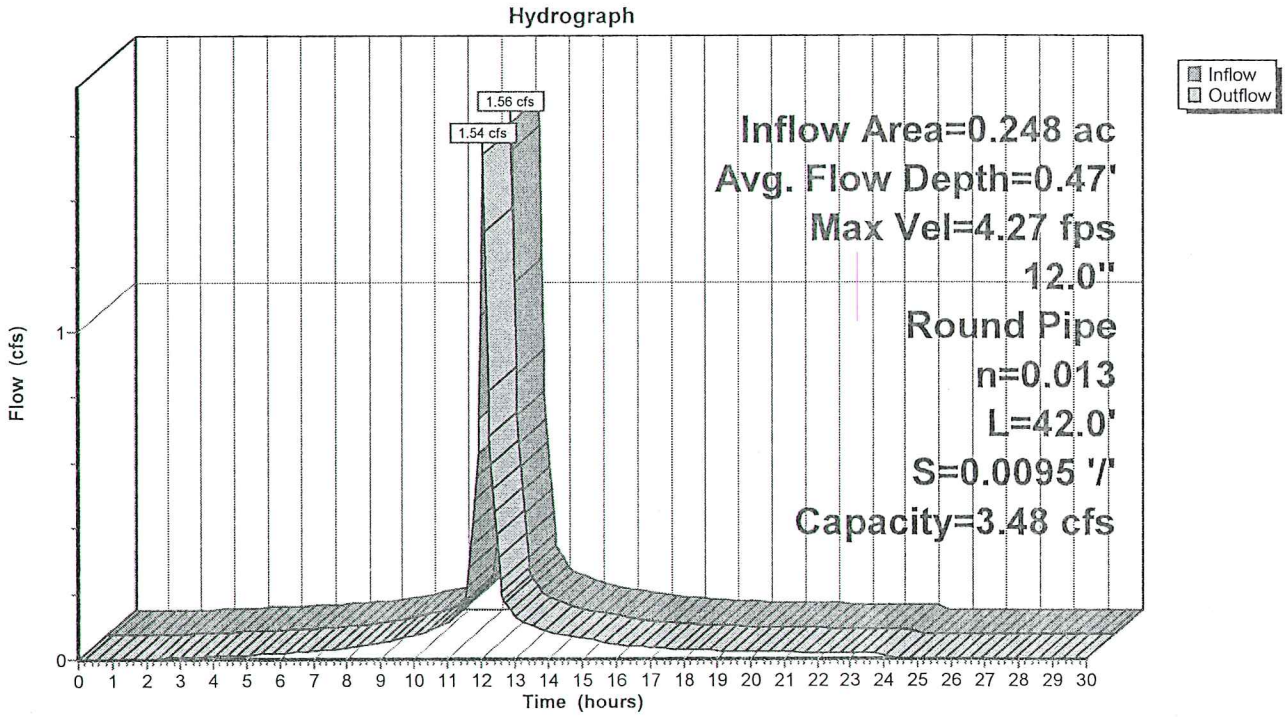
Inflow Area = 0.248 ac, 86.00% Impervious, Inflow Depth = 5.91" for 100-Year event
Inflow = 1.56 cfs @ 12.07 hrs, Volume= 0.122 af
Outflow = 1.54 cfs @ 12.08 hrs, Volume= 0.122 af, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.27 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.43 fps, Avg. Travel Time= 0.5 min

Peak Storage= 15 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.47'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.48 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 42.0' Slope= 0.0095 '/'
Inlet Invert= 1,180.80', Outlet Invert= 1,180.40'





Stage-Discharge for Reach DCB12: TO DMH#12

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.80	0.00	0.00
1,180.81	0.39	0.00
1,180.82	0.62	0.00
1,180.83	0.81	0.01
1,180.84	0.98	0.01
1,180.85	1.14	0.02
1,180.86	1.28	0.02
1,180.87	1.41	0.03
1,180.88	1.54	0.05
1,180.89	1.66	0.06
1,180.90	1.78	0.07
1,180.91	1.89	0.09
1,180.92	1.99	0.11
1,180.93	2.09	0.13
1,180.94	2.19	0.15
1,180.95	2.29	0.17
1,180.96	2.38	0.19
1,180.97	2.47	0.22
1,180.98	2.56	0.25
1,180.99	2.64	0.27
1,181.00	2.72	0.30
1,181.01	2.80	0.34
1,181.02	2.88	0.37
1,181.03	2.96	0.40
1,181.04	3.03	0.44
1,181.05	3.10	0.48
1,181.06	3.17	0.51
1,181.07	3.24	0.55
1,181.08	3.31	0.60
1,181.09	3.37	0.64
1,181.10	3.44	0.68
1,181.11	3.50	0.73
1,181.12	3.56	0.77
1,181.13	3.62	0.82
1,181.14	3.68	0.87
1,181.15	3.73	0.91
1,181.16	3.79	0.96
1,181.17	3.84	1.01
1,181.18	3.89	1.07
1,181.19	3.94	1.12
1,181.20	3.99	1.17
1,181.21	4.04	1.23
1,181.22	4.09	1.28
1,181.23	4.14	1.34
1,181.24	4.18	1.39
1,181.25	4.22	1.45
1,181.26	4.27	1.51
1,181.27	4.31	1.56
1,181.28	4.35	1.62
1,181.29	4.39	1.68
1,181.30	4.43	1.74
1,181.31	4.46	1.80
1,181.32	4.50	1.86
1,181.33	4.53	1.92
1,181.34	4.57	1.98
1,181.35	4.60	2.04
1,181.36	4.63	2.10
1,181.37	4.66	2.16
1,181.38	4.69	2.22
1,181.39	4.72	2.28
1,181.40	4.75	2.34
1,181.41	4.77	2.40
1,181.42	4.80	2.45
1,181.43	4.82	2.51
1,181.44	4.85	2.57
1,181.45	4.87	2.63
1,181.46	4.89	2.69
1,181.47	4.91	2.74
1,181.48	4.92	2.80
1,181.49	4.94	2.86
1,181.50	4.96	2.91
1,181.51	4.97	2.96
1,181.52	4.99	3.02
1,181.53	5.00	3.07
1,181.54	5.01	3.12
1,181.55	5.02	3.17
1,181.56	5.03	3.22
1,181.57	5.03	3.27
1,181.58	5.04	3.31
1,181.59	5.04	3.36
1,181.60	5.05	3.40
1,181.61	**5.05**	3.44
1,181.62	5.05	3.48
1,181.63	5.04	3.52
1,181.64	5.04	3.55
1,181.65	5.04	3.58
1,181.66	5.03	3.61
1,181.67	5.02	3.64
1,181.68	5.01	3.67
1,181.69	4.99	3.69
1,181.70	4.98	3.71
1,181.71	4.96	3.72
1,181.72	4.94	3.73
1,181.73	4.91	3.74
1,181.74	4.88	**3.74**
1,181.75	4.85	3.74
1,181.76	4.81	3.73
1,181.77	4.76	3.71
1,181.78	4.70	3.67
1,181.79	4.62	3.62
1,181.80	4.43	3.48

Summary for Reach DCB13: TO DMH#12

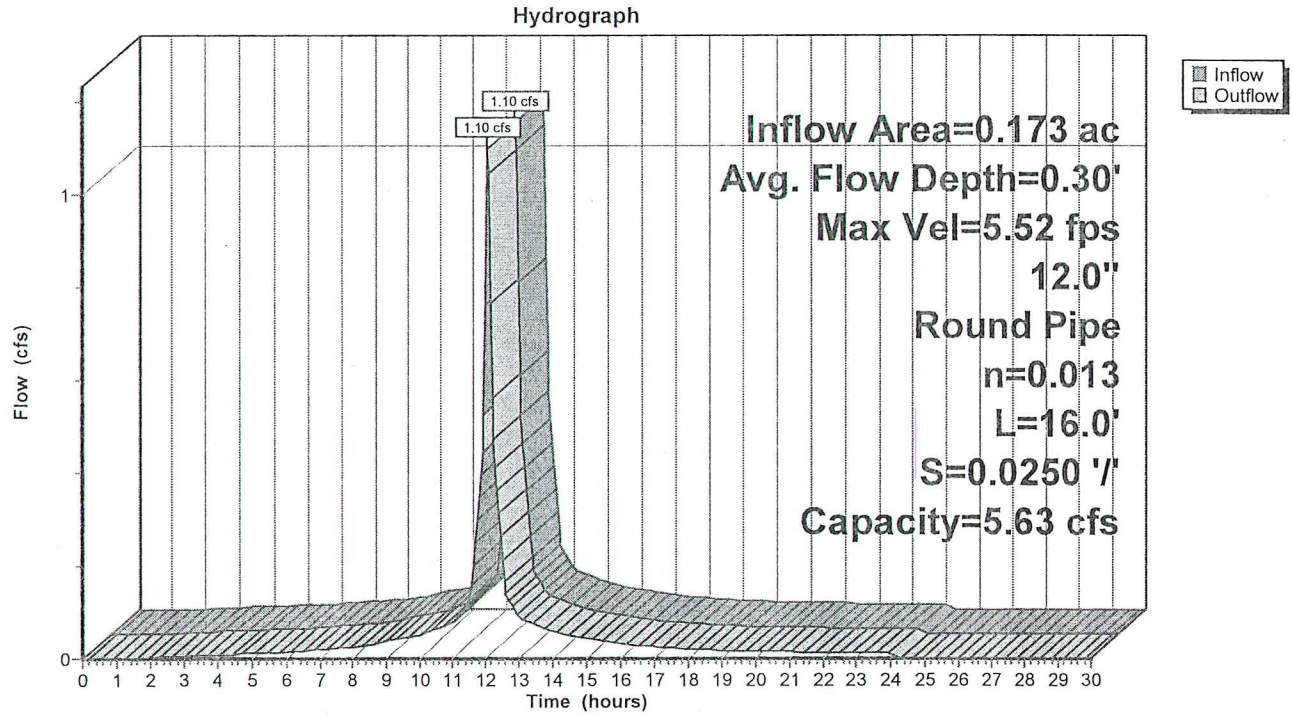
Inflow Area = 0.173 ac, 91.70% Impervious, Inflow Depth = 6.03" for 100-Year event
Inflow = 1.10 cfs @ 12.07 hrs, Volume= 0.087 af
Outflow = 1.10 cfs @ 12.07 hrs, Volume= 0.087 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.52 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.82 fps, Avg. Travel Time= 0.1 min

Peak Storage= 3 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.30'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.63 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 16.0' Slope= 0.0250 '/'
Inlet Invert= 1,180.80', Outlet Invert= 1,180.40'





Stage-Discharge for Reach DCB13: TO DMH#12

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.80	0.00	0.00
1,180.81	0.64	0.00
1,180.82	1.01	0.00
1,180.83	1.32	0.01
1,180.84	1.59	0.02
1,180.85	1.84	0.03
1,180.86	2.07	0.04
1,180.87	2.29	0.06
1,180.88	2.50	0.07
1,180.89	2.69	0.09
1,180.90	2.88	0.12
1,180.91	3.06	0.14
1,180.92	3.23	0.17
1,180.93	3.39	0.20
1,180.94	3.55	0.24
1,180.95	3.71	0.27
1,180.96	3.86	0.31
1,180.97	4.00	0.35
1,180.98	4.14	0.40
1,180.99	4.28	0.44
1,181.00	4.41	0.49
1,181.01	4.54	0.54
1,181.02	4.67	0.60
1,181.03	4.79	0.65
1,181.04	4.91	0.71
1,181.05	5.03	0.77
1,181.06	5.14	0.83
1,181.07	5.25	0.90
1,181.08	5.36	0.96
1,181.09	5.46	1.03
1,181.10	5.57	1.10
1,181.11	5.67	1.18
1,181.12	5.77	1.25
1,181.13	5.86	1.32
1,181.14	5.95	1.40
1,181.15	6.05	1.48
1,181.16	6.14	1.56
1,181.17	6.22	1.64
1,181.18	6.31	1.73
1,181.19	6.39	1.81
1,181.20	6.47	1.90
1,181.21	6.55	1.99
1,181.22	6.63	2.07
1,181.23	6.70	2.16
1,181.24	6.77	2.25
1,181.25	6.85	2.35
1,181.26	6.91	2.44
1,181.27	6.98	2.53
1,181.28	7.05	2.63
1,181.29	7.11	2.72
1,181.30	7.17	2.82
1,181.31	7.23	2.91
1,181.32	7.29	3.01
1,181.33	7.35	3.11
1,181.34	7.40	3.20
1,181.35	7.45	3.30
1,181.36	7.51	3.40
1,181.37	7.55	3.49
1,181.38	7.60	3.59
1,181.39	7.65	3.69
1,181.40	7.69	3.78
1,181.41	7.73	3.88
1,181.42	7.77	3.98
1,181.43	7.81	4.07
1,181.44	7.85	4.17
1,181.45	7.88	4.26
1,181.46	7.92	4.35
1,181.47	7.95	4.45
1,181.48	7.98	4.54
1,181.49	8.01	4.63
1,181.50	8.03	4.72
1,181.51	8.06	4.80
1,181.52	8.08	4.89
1,181.53	8.10	4.97
1,181.54	8.11	5.06
1,181.55	8.13	5.14
1,181.56	8.14	5.22
1,181.57	8.15	5.29
1,181.58	8.16	5.37
1,181.59	8.17	5.44
1,181.60	8.17	5.51
1,181.61	**8.18**	5.57
1,181.62	8.18	5.64
1,181.63	8.17	5.70
1,181.64	8.17	5.75
1,181.65	8.16	5.80
1,181.66	8.15	5.85
1,181.67	8.13	5.90
1,181.68	8.11	5.94
1,181.69	8.09	5.97
1,181.70	8.06	6.00
1,181.71	8.03	6.03
1,181.72	8.00	6.05
1,181.73	7.96	6.06
1,181.74	7.91	**6.06**
1,181.75	7.85	6.05
1,181.76	7.79	6.04
1,181.77	7.71	6.00
1,181.78	7.62	5.95
1,181.79	7.49	5.87
1,181.80	7.17	5.63

Summary for Reach DCB14: TO DMH#11

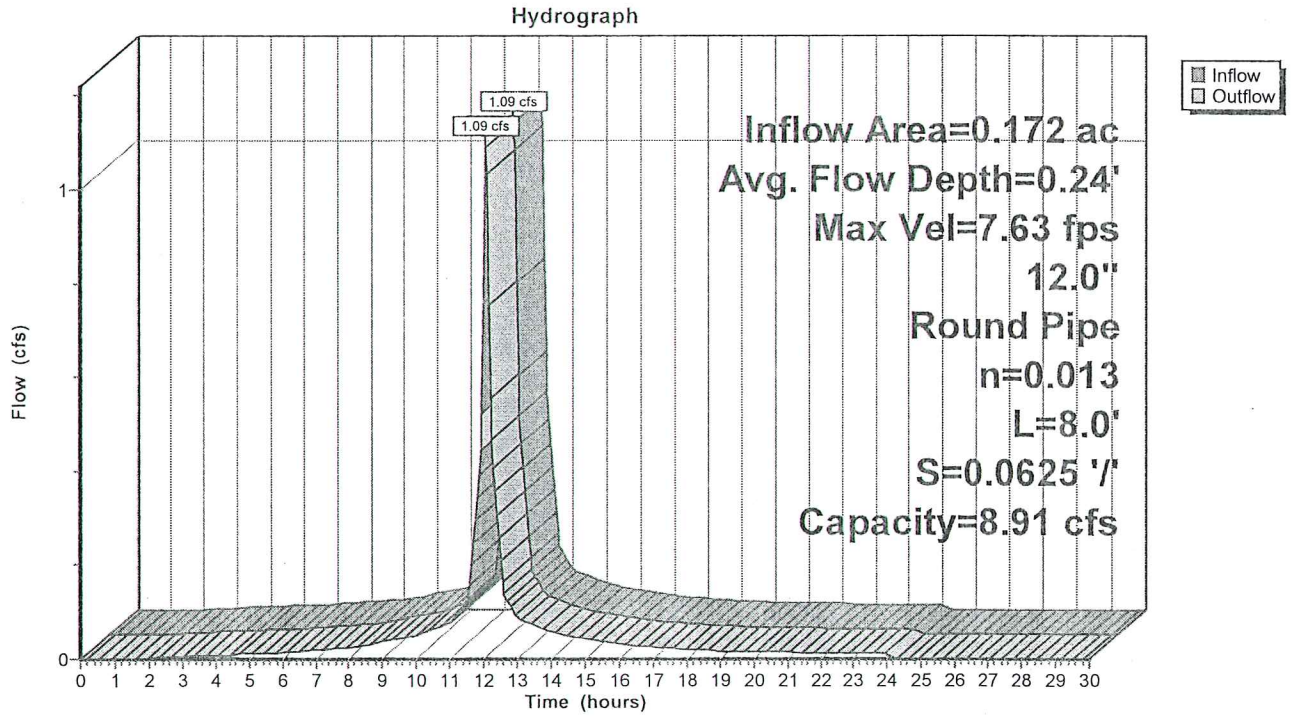
Inflow Area = 0.172 ac, 90.41% Impervious, Inflow Depth = 6.03" for 100-Year event
Inflow = 1.09 cfs @ 12.07 hrs, Volume= 0.086 af
Outflow = 1.09 cfs @ 12.07 hrs, Volume= 0.086 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.63 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.50 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.24'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.91 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 8.0' Slope= 0.0625 '/'
Inlet Invert= 1,180.50', Outlet Invert= 1,180.00'





Stage-Discharge for Reach DCB14: TO DMH#11

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.50	0.00	0.00
1,180.51	1.01	0.00
1,180.52	1.60	0.01
1,180.53	2.09	0.01
1,180.54	2.52	0.03
1,180.55	2.91	0.04
1,180.56	3.28	0.06
1,180.57	3.62	0.09
1,180.58	3.95	0.12
1,180.59	4.25	0.15
1,180.60	4.55	0.19
1,180.61	4.83	0.23
1,180.62	5.10	0.27
1,180.63	5.36	0.32
1,180.64	5.62	0.38
1,180.65	5.86	0.43
1,180.66	6.10	0.49
1,180.67	6.33	0.56
1,180.68	6.55	0.63
1,180.69	6.77	0.70
1,180.70	6.98	0.78
1,180.71	7.18	0.86
1,180.72	7.38	0.95
1,180.73	7.57	1.03
1,180.74	7.76	1.13
1,180.75	7.95	1.22
1,180.76	8.13	1.32
1,180.77	8.30	1.42
1,180.78	8.47	1.53
1,180.79	8.64	1.63
1,180.80	8.80	1.74
1,180.81	8.96	1.86
1,180.82	9.12	1.98
1,180.83	9.27	2.09
1,180.84	9.42	2.22
1,180.85	9.56	2.34
1,180.86	9.70	2.47
1,180.87	9.84	2.60
1,180.88	9.97	2.73
1,180.89	10.10	2.87
1,180.90	10.23	3.00
1,180.91	10.36	3.14
1,180.92	10.48	3.28
1,180.93	10.60	3.42
1,180.94	10.71	3.57
1,180.95	10.82	3.71
1,180.96	10.93	3.86
1,180.97	11.04	4.00
1,180.98	11.14	4.15
1,180.99	11.24	4.30
1,181.00	11.34	4.45
1,181.01	11.44	4.61
1,181.02	11.53	4.76
1,181.03	11.62	4.91
1,181.04	11.70	5.06
1,181.05	11.79	5.22
1,181.06	11.87	5.37
1,181.07	11.95	5.52
1,181.08	12.02	5.68
1,181.09	12.09	5.83
1,181.10	12.16	5.98
1,181.11	12.23	6.14
1,181.12	12.29	6.29
1,181.13	12.35	6.44
1,181.14	12.41	6.59
1,181.15	12.47	6.74
1,181.16	12.52	6.88
1,181.17	12.57	7.03
1,181.18	12.62	7.17
1,181.19	12.66	7.32
1,181.20	12.70	7.46
1,181.21	12.74	7.60
1,181.22	12.77	7.73
1,181.23	12.80	7.86
1,181.24	12.83	7.99
1,181.25	12.85	8.12
1,181.26	12.88	8.25
1,181.27	12.89	8.37
1,181.28	12.91	8.48
1,181.29	12.92	8.60
1,181.30	12.93	8.71
1,181.31	**12.93**	8.81
1,181.32	12.93	8.91
1,181.33	12.92	9.01
1,181.34	12.91	9.09
1,181.35	12.90	9.18
1,181.36	12.88	9.26
1,181.37	12.86	9.33
1,181.38	12.83	9.39
1,181.39	12.79	9.45
1,181.40	12.75	9.49
1,181.41	12.70	9.53
1,181.42	12.65	9.56
1,181.43	12.58	9.58
1,181.44	12.51	**9.58**
1,181.45	12.42	9.57
1,181.46	12.32	9.54
1,181.47	12.19	9.49
1,181.48	12.04	9.41
1,181.49	11.84	9.28
1,181.50	11.34	8.91

Summary for Reach DCB15: TO DMH#13

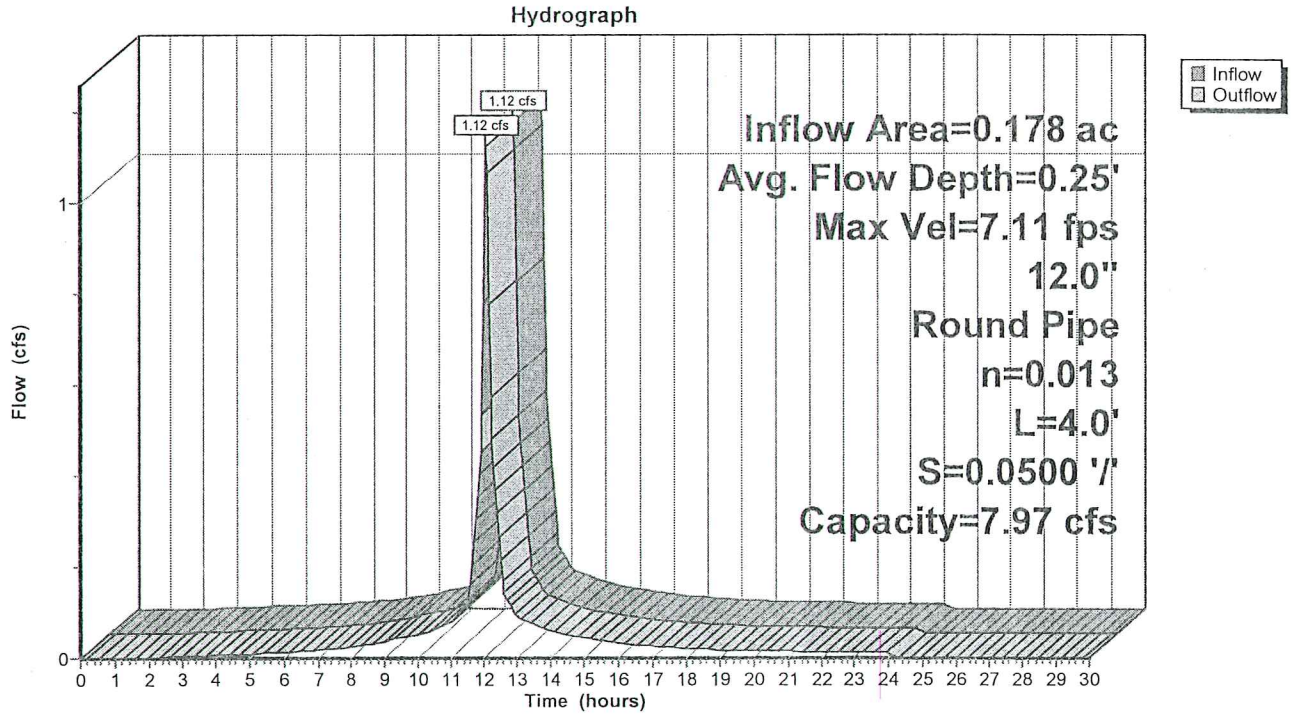
Inflow Area = 0.178 ac, 87.98% Impervious, Inflow Depth = 5.91" for 100-Year event
Inflow = 1.12 cfs @ 12.07 hrs, Volume= 0.088 af
Outflow = 1.12 cfs @ 12.07 hrs, Volume= 0.088 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.11 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.33 fps, Avg. Travel Time= 0.0 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.25'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 7.97 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 4.0' Slope= 0.0500 '/'
Inlet Invert= 1,181.80', Outlet Invert= 1,181.60'





Stage-Discharge for Reach DCB15: TO DMH#13

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,181.80	0.00	0.00
1,181.81	0.90	0.00
1,181.82	1.43	0.01
1,181.83	1.87	0.01
1,181.84	2.25	0.02
1,181.85	2.61	0.04
1,181.86	2.93	0.06
1,181.87	3.24	0.08
1,181.88	3.53	0.10
1,181.89	3.81	0.13
1,181.90	4.07	0.17
1,181.91	4.32	0.20
1,181.92	4.56	0.24
1,181.93	4.80	0.29
1,181.94	5.02	0.34
1,181.95	5.24	0.39
1,181.96	5.45	0.44
1,181.97	5.66	0.50
1,181.98	5.86	0.56
1,181.99	6.05	0.63
1,182.00	6.24	0.70
1,182.01	6.42	0.77
1,182.02	6.60	0.85
1,182.03	6.77	0.92
1,182.04	6.94	1.01
1,182.05	7.11	1.09
1,182.06	7.27	1.18
1,182.07	7.42	1.27
1,182.08	7.58	1.36
1,182.09	7.73	1.46
1,182.10	7.87	1.56
1,182.11	8.01	1.66
1,182.12	8.15	1.77
1,182.13	8.29	1.87
1,182.14	8.42	1.98
1,182.15	8.55	2.09
1,182.16	8.68	2.21
1,182.17	8.80	2.32
1,182.18	8.92	2.44
1,182.19	9.04	2.56
1,182.20	9.15	2.68
1,182.21	9.26	2.81
1,182.22	9.37	2.93
1,182.23	9.48	3.06
1,182.24	9.58	3.19
1,182.25	9.68	3.32
1,182.26	9.78	3.45
1,182.27	9.87	3.58
1,182.28	9.97	3.71
1,182.29	10.06	3.85
1,182.30	10.14	3.98
1,182.31	10.23	4.12
1,182.32	10.31	4.26
1,182.33	10.39	4.39
1,182.34	10.47	4.53
1,182.35	10.54	4.67
1,182.36	10.61	4.80
1,182.37	10.68	4.94
1,182.38	10.75	5.08
1,182.39	10.82	5.22
1,182.40	10.88	5.35
1,182.41	10.94	5.49
1,182.42	10.99	5.62
1,182.43	11.05	5.76
1,182.44	11.10	5.89
1,182.45	11.15	6.03
1,182.46	11.20	6.16
1,182.47	11.24	6.29
1,182.48	11.28	6.42
1,182.49	11.32	6.54
1,182.50	11.36	6.67
1,182.51	11.39	6.79
1,182.52	11.42	6.91
1,182.53	11.45	7.03
1,182.54	11.48	7.15
1,182.55	11.50	7.26
1,182.56	11.52	7.38
1,182.57	11.53	7.48
1,182.58	11.55	7.59
1,182.59	11.55	7.69
1,182.60	11.56	7.79
1,182.61	**11.56**	7.88
1,182.62	11.56	7.97
1,182.63	11.56	8.05
1,182.64	11.55	8.13
1,182.65	11.54	8.21
1,182.66	11.52	8.28
1,182.67	11.50	8.34
1,182.68	11.47	8.40
1,182.69	11.44	8.45
1,182.70	11.40	8.49
1,182.71	11.36	8.53
1,182.72	11.31	8.55
1,182.73	11.25	8.57
1,182.74	11.19	**8.57**
1,182.75	11.11	8.56
1,182.76	11.02	8.54
1,182.77	10.91	8.49
1,182.78	10.77	8.42
1,182.79	10.59	8.30
1,182.80	10.14	7.97

Summary for Reach DCB16: TO DMH#15

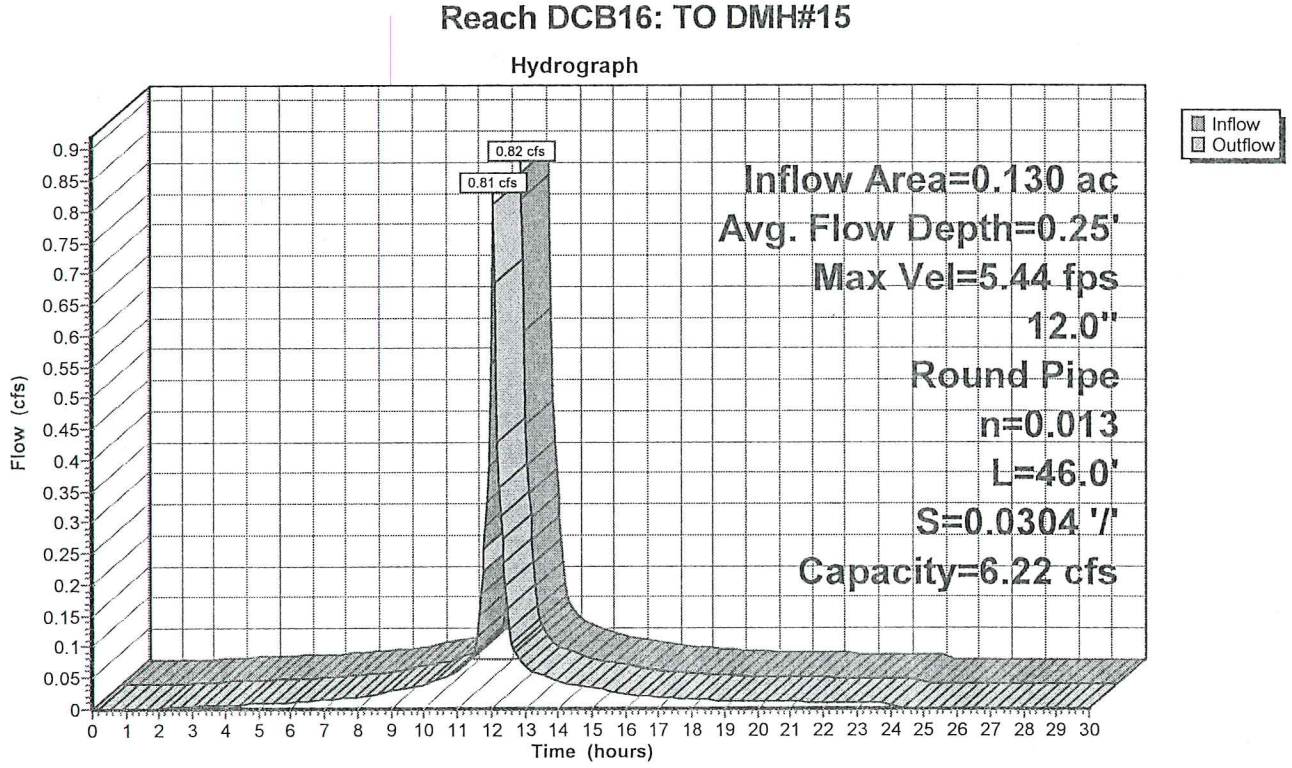
Inflow Area = 0.130 ac, 91.39% Impervious, Inflow Depth = 6.03" for 100-Year event
Inflow = 0.82 cfs @ 12.07 hrs, Volume= 0.065 af
Outflow = 0.81 cfs @ 12.08 hrs, Volume= 0.065 af, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.44 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.79 fps, Avg. Travel Time= 0.4 min

Peak Storage= 7 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.25'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.22 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 46.0' Slope= 0.0304 '/'
Inlet Invert= 1,181.70', Outlet Invert= 1,180.30'





Stage-Discharge for Reach DCB16: TO DMH#15

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,181.70	0.00	0.00
1,181.71	0.70	0.00
1,181.72	1.11	0.00
1,181.73	1.46	0.01
1,181.74	1.76	0.02
1,181.75	2.03	0.03
1,181.76	2.29	0.04
1,181.77	2.53	0.06
1,181.78	2.75	0.08
1,181.79	2.97	0.10
1,181.80	3.17	0.13
1,181.81	3.37	0.16
1,181.82	3.56	0.19
1,181.83	3.74	0.22
1,181.84	3.92	0.26
1,181.85	4.09	0.30
1,181.86	4.25	0.35
1,181.87	4.41	0.39
1,181.88	4.57	0.44
1,181.89	4.72	0.49
1,181.90	4.87	0.54
1,181.91	5.01	0.60
1,181.92	5.15	0.66
1,181.93	5.28	0.72
1,181.94	5.42	0.79
1,181.95	5.54	0.85
1,181.96	5.67	0.92
1,181.97	5.79	0.99
1,181.98	5.91	1.06
1,181.99	6.03	1.14
1,182.00	6.14	1.22
1,182.01	6.25	1.30
1,182.02	6.36	1.38
1,182.03	6.47	1.46
1,182.04	6.57	1.55
1,182.05	6.67	1.63
1,182.06	6.77	1.72
1,182.07	6.87	1.81
1,182.08	6.96	1.91
1,182.09	7.05	2.00
1,182.10	7.14	2.09
1,182.11	7.23	2.19
1,182.12	7.31	2.29
1,182.13	7.39	2.39
1,182.14	7.47	2.49
1,182.15	7.55	2.59
1,182.16	7.63	2.69
1,182.17	7.70	2.79
1,182.18	7.78	2.90
1,182.19	7.85	3.00
1,182.20	7.91	3.11
1,182.21	7.98	3.21
1,182.22	8.04	3.32
1,182.23	8.11	3.43
1,182.24	8.17	3.53
1,182.25	8.22	3.64
1,182.26	8.28	3.75
1,182.27	8.34	3.85
1,182.28	8.39	3.96
1,182.29	8.44	4.07
1,182.30	8.49	4.18
1,182.31	8.53	4.28
1,182.32	8.58	4.39
1,182.33	8.62	4.49
1,182.34	8.66	4.60
1,182.35	8.70	4.70
1,182.36	8.74	4.80
1,182.37	8.77	4.91
1,182.38	8.80	5.01
1,182.39	8.83	5.11
1,182.40	8.86	5.20
1,182.41	8.89	5.30
1,182.42	8.91	5.39
1,182.43	8.93	5.49
1,182.44	8.95	5.58
1,182.45	8.97	5.67
1,182.46	8.98	5.75
1,182.47	9.00	5.84
1,182.48	9.01	5.92
1,182.49	9.01	6.00
1,182.50	9.02	6.08
1,182.51	**9.02**	6.15
1,182.52	9.02	6.22
1,182.53	9.02	6.28
1,182.54	9.01	6.35
1,182.55	9.00	6.40
1,182.56	8.99	6.46
1,182.57	8.97	6.51
1,182.58	8.95	6.55
1,182.59	8.93	6.59
1,182.60	8.90	6.62
1,182.61	8.86	6.65
1,182.62	8.82	6.67
1,182.63	8.78	6.68
1,182.64	8.73	**6.69**
1,182.65	8.67	6.68
1,182.66	8.59	6.66
1,182.67	8.51	6.62
1,182.68	8.40	6.57
1,182.69	8.26	6.48
1,182.70	7.91	6.22

Summary for Reach DCB17: TO DMH#15

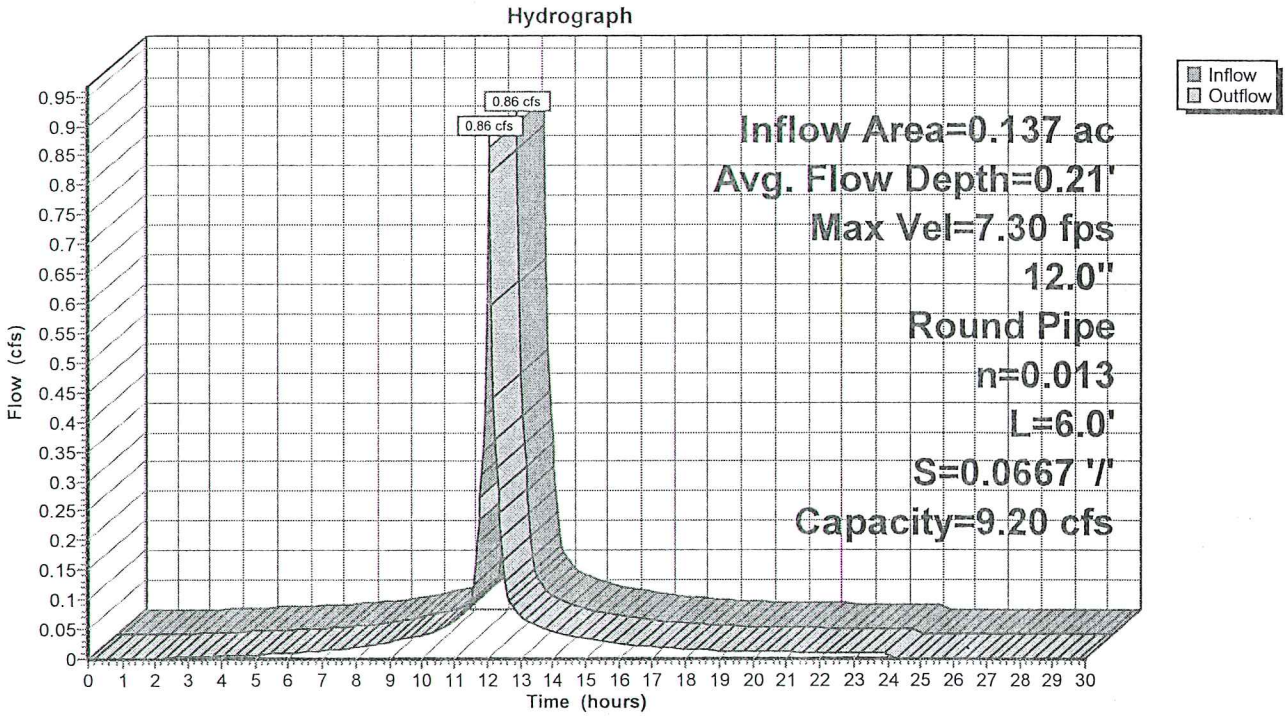
Inflow Area = 0.137 ac, 89.42% Impervious, Inflow Depth = 5.91" for 100-Year event
Inflow = 0.86 cfs @ 12.07 hrs, Volume= 0.067 af
Outflow = 0.86 cfs @ 12.07 hrs, Volume= 0.067 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.30 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.39 fps, Avg. Travel Time= 0.0 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.21'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 9.20 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 6.0' Slope= 0.0667 '/'
Inlet Invert= 1,180.80', Outlet Invert= 1,180.40'





Stage-Discharge for Reach DCB17: TO DMH#15

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.80	0.00	0.00
1,180.81	1.04	0.00
1,180.82	1.65	0.01
1,180.83	2.15	0.01
1,180.84	2.60	0.03
1,180.85	3.01	0.04
1,180.86	3.39	0.07
1,180.87	3.74	0.09
1,180.88	4.08	0.12
1,180.89	4.39	0.15
1,180.90	4.70	0.19
1,180.91	4.99	0.23
1,180.92	5.27	0.28
1,180.93	5.54	0.33
1,180.94	5.80	0.39
1,180.95	6.05	0.45
1,180.96	6.30	0.51
1,180.97	6.53	0.58
1,180.98	6.76	0.65
1,180.99	6.99	0.73
1,181.00	7.20	0.81
1,181.01	7.42	0.89
1,181.02	7.62	0.98
1,181.03	7.82	1.07
1,181.04	8.02	1.16
1,181.05	8.21	1.26
1,181.06	8.39	1.36
1,181.07	8.57	1.47
1,181.08	8.75	1.58
1,181.09	8.92	1.69
1,181.10	9.09	1.80
1,181.11	9.25	1.92
1,181.12	9.42	2.04
1,181.13	9.57	2.16
1,181.14	9.72	2.29
1,181.15	9.87	2.42
1,181.16	10.02	2.55
1,181.17	10.16	2.68
1,181.18	10.30	2.82
1,181.19	10.43	2.96
1,181.20	10.57	3.10
1,181.21	10.70	3.24
1,181.22	10.82	3.39
1,181.23	10.94	3.53
1,181.24	11.06	3.68
1,181.25	11.18	3.83
1,181.26	11.29	3.98
1,181.27	11.40	4.14
1,181.28	11.51	4.29
1,181.29	11.61	4.44
1,181.30	11.71	4.60
1,181.31	11.81	4.76
1,181.32	11.91	4.91
1,181.33	12.00	5.07
1,181.34	12.09	5.23
1,181.35	12.17	5.39
1,181.36	12.26	5.55
1,181.37	12.34	5.71
1,181.38	12.41	5.86
1,181.39	12.49	6.02
1,181.40	12.56	6.18
1,181.41	12.63	6.34
1,181.42	12.70	6.49
1,181.43	12.76	6.65
1,181.44	12.82	6.80
1,181.45	12.88	6.96
1,181.46	12.93	7.11
1,181.47	12.98	7.26
1,181.48	13.03	7.41
1,181.49	13.07	7.56
1,181.50	13.12	7.70
1,181.51	13.15	7.84
1,181.52	13.19	7.98
1,181.53	13.22	8.12
1,181.54	13.25	8.26
1,181.55	13.28	8.39
1,181.56	13.30	8.52
1,181.57	13.32	8.64
1,181.58	13.33	8.76
1,181.59	13.34	8.88
1,181.60	13.35	8.99
1,181.61	**13.35**	9.10
1,181.62	13.35	9.20
1,181.63	13.35	9.30
1,181.64	13.34	9.39
1,181.65	13.32	9.48
1,181.66	13.30	9.56
1,181.67	13.28	9.63
1,181.68	13.25	9.70
1,181.69	13.21	9.76
1,181.70	13.17	9.80
1,181.71	13.12	9.84
1,181.72	13.06	9.87
1,181.73	12.99	9.89
1,181.74	12.92	**9.90**
1,181.75	12.83	9.88
1,181.76	12.72	9.86
1,181.77	12.59	9.80
1,181.78	12.44	9.72
1,181.79	12.22	9.59
1,181.80	11.71	9.20

Summary for Reach DCB18: TO DMH#15

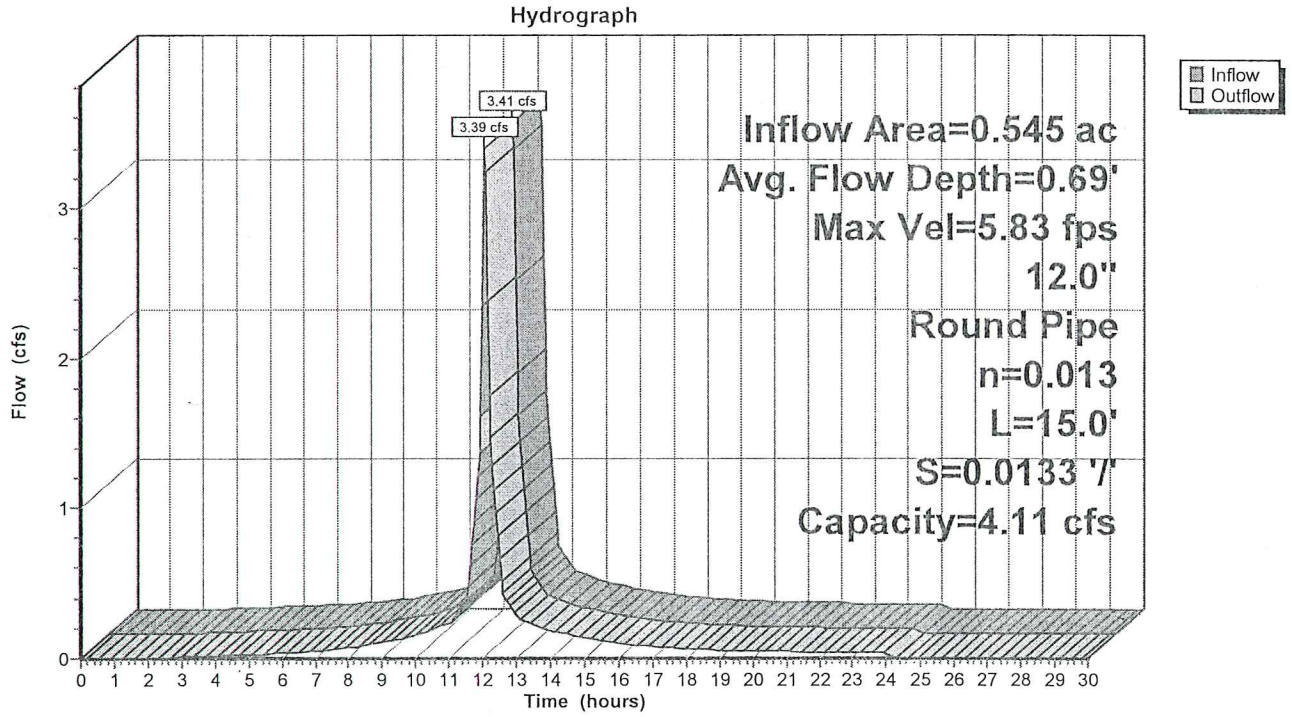
Inflow Area = 0.545 ac, 84.68% Impervious, Inflow Depth = 5.79" for 100-Year event
Inflow = 3.41 cfs @ 12.07 hrs, Volume= 0.263 af
Outflow = 3.39 cfs @ 12.07 hrs, Volume= 0.263 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.83 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.03 fps, Avg. Travel Time= 0.1 min

Peak Storage= 9 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.69'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.11 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 15.0' Slope= 0.0133 '/'
Inlet Invert= 1,180.50', Outlet Invert= 1,180.30'





Stage-Discharge for Reach DCB18: TO DMH#15

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.50	0.00	0.00
1,180.51	0.47	0.00
1,180.52	0.74	0.00
1,180.53	0.96	0.01
1,180.54	1.16	0.01
1,180.55	1.35	0.02
1,180.56	1.51	0.03
1,180.57	1.67	0.04
1,180.58	1.82	0.05
1,180.59	1.97	0.07
1,180.60	2.10	0.09
1,180.61	2.23	0.10
1,180.62	2.36	0.13
1,180.63	2.48	0.15
1,180.64	2.59	0.17
1,180.65	2.71	0.20
1,180.66	2.82	0.23
1,180.67	2.92	0.26
1,180.68	3.02	0.29
1,180.69	3.12	0.32
1,180.70	3.22	0.36
1,180.71	3.32	0.40
1,180.72	3.41	0.44
1,180.73	3.50	0.48
1,180.74	3.59	0.52
1,180.75	3.67	0.56
1,180.76	3.75	0.61
1,180.77	3.83	0.66
1,180.78	3.91	0.70
1,180.79	3.99	0.75
1,180.80	4.07	0.81
1,180.81	4.14	0.86
1,180.82	4.21	0.91
1,180.83	4.28	0.97
1,180.84	4.35	1.02
1,180.85	4.42	1.08
1,180.86	4.48	1.14
1,180.87	4.54	1.20
1,180.88	4.61	1.26
1,180.89	4.67	1.32
1,180.90	4.73	1.39
1,180.91	4.78	1.45
1,180.92	4.84	1.51
1,180.93	4.89	1.58
1,180.94	4.95	1.65
1,180.95	5.00	1.71
1,180.96	5.05	1.78
1,180.97	5.10	1.85
1,180.98	5.15	1.92
1,180.99	5.19	1.99
1,181.00	5.24	2.06
1,181.01	5.28	2.13
1,181.02	5.32	2.20
1,181.03	5.37	2.27
1,181.04	5.41	2.34
1,181.05	5.44	2.41
1,181.06	5.48	2.48
1,181.07	5.52	2.55
1,181.08	5.55	2.62
1,181.09	5.59	2.69
1,181.10	5.62	2.76
1,181.11	5.65	2.83
1,181.12	5.68	2.90
1,181.13	5.71	2.97
1,181.14	5.73	3.04
1,181.15	5.76	3.11
1,181.16	5.78	3.18
1,181.17	5.81	3.25
1,181.18	5.83	3.31
1,181.19	5.85	3.38
1,181.20	5.87	3.44
1,181.21	5.88	3.51
1,181.22	5.90	3.57
1,181.23	5.91	3.63
1,181.24	5.93	3.69
1,181.25	5.94	3.75
1,181.26	5.95	3.81
1,181.27	5.96	3.86
1,181.28	5.96	3.92
1,181.29	5.97	3.97
1,181.30	5.97	4.02
1,181.31	**5.97**	4.07
1,181.32	5.97	4.12
1,181.33	5.97	4.16
1,181.34	5.96	4.20
1,181.35	5.96	4.24
1,181.36	5.95	4.27
1,181.37	5.94	4.31
1,181.38	5.92	4.34
1,181.39	5.91	4.36
1,181.40	5.89	4.38
1,181.41	5.87	4.40
1,181.42	5.84	4.42
1,181.43	5.81	4.42
1,181.44	5.78	**4.43**
1,181.45	5.74	4.42
1,181.46	5.69	4.41
1,181.47	5.63	4.38
1,181.48	5.56	4.35
1,181.49	5.47	4.29
1,181.50	5.24	4.11

Summary for Reach DCB19: TO DMH#16

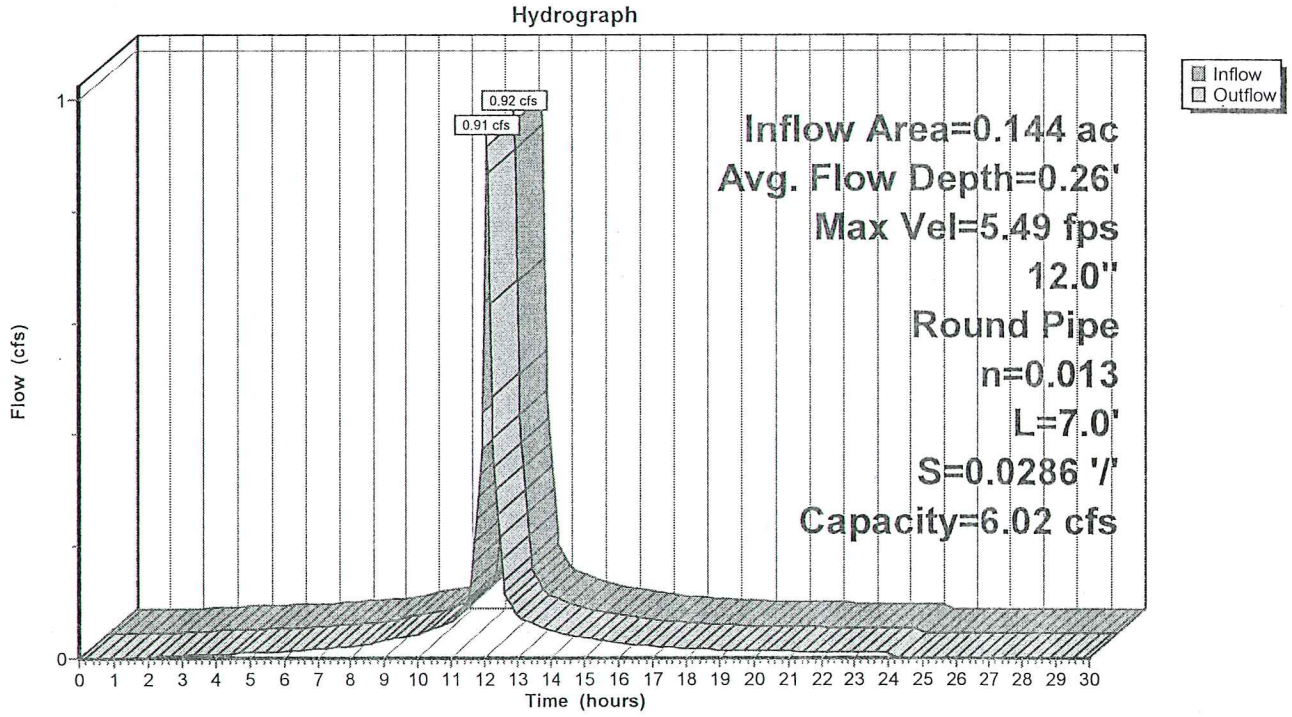
Inflow Area = 0.144 ac, 89.61% Impervious, Inflow Depth = 6.03" for 100-Year event
Inflow = 0.92 cfs @ 12.07 hrs, Volume= 0.072 af
Outflow = 0.91 cfs @ 12.07 hrs, Volume= 0.072 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.49 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.81 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.26'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.02 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 7.0' Slope= 0.0286 '/'
Inlet Invert= 1,181.50', Outlet Invert= 1,181.30'





Stage-Discharge for Reach DCB19: TO DMH#16

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,181.50	0.00	0.00
1,181.51	0.68	0.00
1,181.52	1.08	0.00
1,181.53	1.41	0.01
1,181.54	1.70	0.02
1,181.55	1.97	0.03
1,181.56	2.22	0.04
1,181.57	2.45	0.06
1,181.58	2.67	0.08
1,181.59	2.88	0.10
1,181.60	3.08	0.13
1,181.61	3.27	0.15
1,181.62	3.45	0.18
1,181.63	3.63	0.22
1,181.64	3.80	0.25
1,181.65	3.96	0.29
1,181.66	4.12	0.33
1,181.67	4.28	0.38
1,181.68	4.43	0.43
1,181.69	4.57	0.48
1,181.70	4.72	0.53
1,181.71	4.85	0.58
1,181.72	4.99	0.64
1,181.73	5.12	0.70
1,181.74	5.25	0.76
1,181.75	5.37	0.82
1,181.76	5.49	0.89
1,181.77	5.61	0.96
1,181.78	5.73	1.03
1,181.79	5.84	1.10
1,181.80	5.95	1.18
1,181.81	6.06	1.26
1,181.82	6.16	1.34
1,181.83	6.27	1.42
1,181.84	6.37	1.50
1,181.85	6.46	1.58
1,181.86	6.56	1.67
1,181.87	6.65	1.76
1,181.88	6.74	1.85
1,181.89	6.83	1.94
1,181.90	6.92	2.03
1,181.91	7.00	2.12
1,181.92	7.08	2.22
1,181.93	7.16	2.31
1,181.94	7.24	2.41
1,181.95	7.32	2.51
1,181.96	7.39	2.61
1,181.97	7.46	2.71
1,181.98	7.53	2.81
1,181.99	7.60	2.91
1,182.00	7.67	3.01
1,182.01	7.73	3.11
1,182.02	7.79	3.22
1,182.03	7.85	3.32
1,182.04	7.91	3.42
1,182.05	7.97	3.53
1,182.06	8.02	3.63
1,182.07	8.08	3.74
1,182.08	8.13	3.84
1,182.09	8.18	3.94
1,182.10	8.22	4.05
1,182.11	8.27	4.15
1,182.12	8.31	4.25
1,182.13	8.35	4.35
1,182.14	8.39	4.45
1,182.15	8.43	4.56
1,182.16	8.46	4.65
1,182.17	8.50	4.75
1,182.18	8.53	4.85
1,182.19	8.56	4.95
1,182.20	8.59	5.04
1,182.21	8.61	5.14
1,182.22	8.63	5.23
1,182.23	8.66	5.32
1,182.24	8.67	5.41
1,182.25	8.69	5.49
1,182.26	8.71	5.58
1,182.27	8.72	5.66
1,182.28	8.73	5.74
1,182.29	8.73	5.81
1,182.30	8.74	5.89
1,182.31	**8.74**	5.96
1,182.32	8.74	6.02
1,182.33	8.74	6.09
1,182.34	8.73	6.15
1,182.35	8.72	6.21
1,182.36	8.71	6.26
1,182.37	8.69	6.31
1,182.38	8.67	6.35
1,182.39	8.65	6.39
1,182.40	8.62	6.42
1,182.41	8.59	6.44
1,182.42	8.55	6.46
1,182.43	8.51	6.48
1,182.44	8.46	**6.48**
1,182.45	8.40	6.47
1,182.46	8.33	6.45
1,182.47	8.24	6.42
1,182.48	8.14	6.36
1,182.49	8.00	6.27
1,182.50	7.67	6.02

Summary for Reach DCB2: TO DMH#1

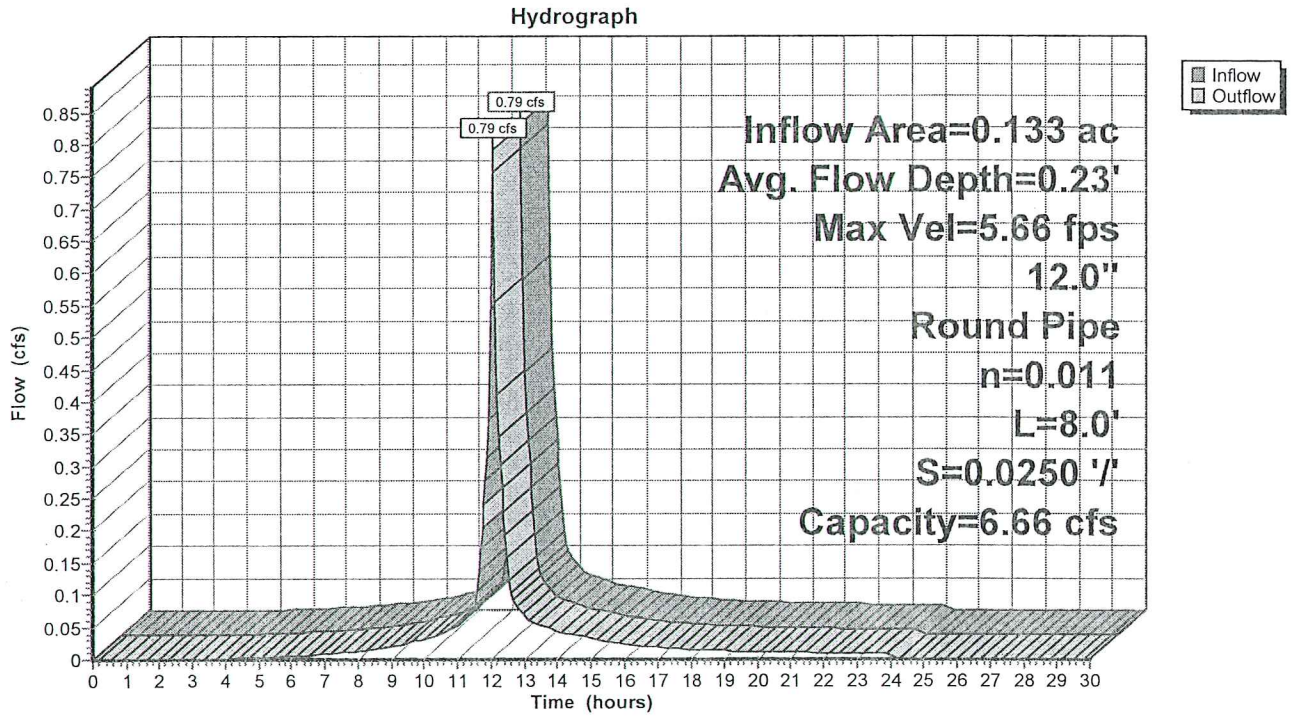
Inflow Area = 0.133 ac, 68.40% Impervious, Inflow Depth = 5.33" for 100-Year event
Inflow = 0.79 cfs @ 12.07 hrs, Volume= 0.059 af
Outflow = 0.79 cfs @ 12.07 hrs, Volume= 0.059 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.66 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.86 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.66 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 8.0' Slope= 0.0250 '/'
Inlet Invert= 1,175.50', Outlet Invert= 1,175.30'





Stage-Discharge for Reach DCB2: TO DMH#1

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.50	0.00	0.00
1,175.51	0.75	0.00
1,175.52	1.19	0.00
1,175.53	1.56	0.01
1,175.54	1.88	0.02
1,175.55	2.18	0.03
1,175.56	2.45	0.05
1,175.57	2.71	0.07
1,175.58	2.95	0.09
1,175.59	3.18	0.11
1,175.60	3.40	0.14
1,175.61	3.61	0.17
1,175.62	3.81	0.20
1,175.63	4.01	0.24
1,175.64	4.20	0.28
1,175.65	4.38	0.32
1,175.66	4.56	0.37
1,175.67	4.73	0.42
1,175.68	4.89	0.47
1,175.69	5.06	0.53
1,175.70	5.21	0.58
1,175.71	5.37	0.64
1,175.72	5.52	0.71
1,175.73	5.66	0.77
1,175.74	5.80	0.84
1,175.75	5.94	0.91
1,175.76	6.07	0.99
1,175.77	6.20	1.06
1,175.78	6.33	1.14
1,175.79	6.46	1.22
1,175.80	6.58	1.30
1,175.81	6.70	1.39
1,175.82	6.81	1.48
1,175.83	6.93	1.57
1,175.84	7.04	1.66
1,175.85	7.15	1.75
1,175.86	7.25	1.85
1,175.87	7.35	1.94
1,175.88	7.45	2.04
1,175.89	7.55	2.14
1,175.90	7.65	2.24
1,175.91	7.74	2.35
1,175.92	7.83	2.45
1,175.93	7.92	2.56
1,175.94	8.01	2.66
1,175.95	8.09	2.77
1,175.96	8.17	2.88
1,175.97	8.25	2.99
1,175.98	8.33	3.10
1,175.99	8.40	3.22
1,176.00	8.48	3.33
1,176.01	8.55	3.44
1,176.02	8.62	3.56
1,176.03	8.68	3.67
1,176.04	8.75	3.78
1,176.05	8.81	3.90
1,176.06	8.87	4.01
1,176.07	8.93	4.13
1,176.08	8.98	4.24
1,176.09	9.04	4.36
1,176.10	9.09	4.47
1,176.11	9.14	4.59
1,176.12	9.19	4.70
1,176.13	9.23	4.81
1,176.14	9.28	4.92
1,176.15	9.32	5.04
1,176.16	9.36	5.15
1,176.17	9.39	5.25
1,176.18	9.43	5.36
1,176.19	9.46	5.47
1,176.20	9.49	5.57
1,176.21	9.52	5.68
1,176.22	9.55	5.78
1,176.23	9.57	5.88
1,176.24	9.59	5.98
1,176.25	9.61	6.07
1,176.26	9.62	6.16
1,176.27	9.64	6.25
1,176.28	9.65	6.34
1,176.29	9.66	6.43
1,176.30	9.66	6.51
1,176.31	**9.66**	6.59
1,176.32	9.66	6.66
1,176.33	9.66	6.73
1,176.34	9.65	6.80
1,176.35	9.64	6.86
1,176.36	9.63	6.92
1,176.37	9.61	6.97
1,176.38	9.59	7.02
1,176.39	9.56	7.06
1,176.40	9.53	7.10
1,176.41	9.49	7.12
1,176.42	9.45	7.15
1,176.43	9.40	7.16
1,176.44	9.35	**7.16**
1,176.45	9.28	7.15
1,176.46	9.21	7.13
1,176.47	9.11	7.10
1,176.48	9.00	7.03
1,176.49	8.85	6.94
1,176.50	8.48	6.66

Summary for Reach DCB20: TO DMH#18

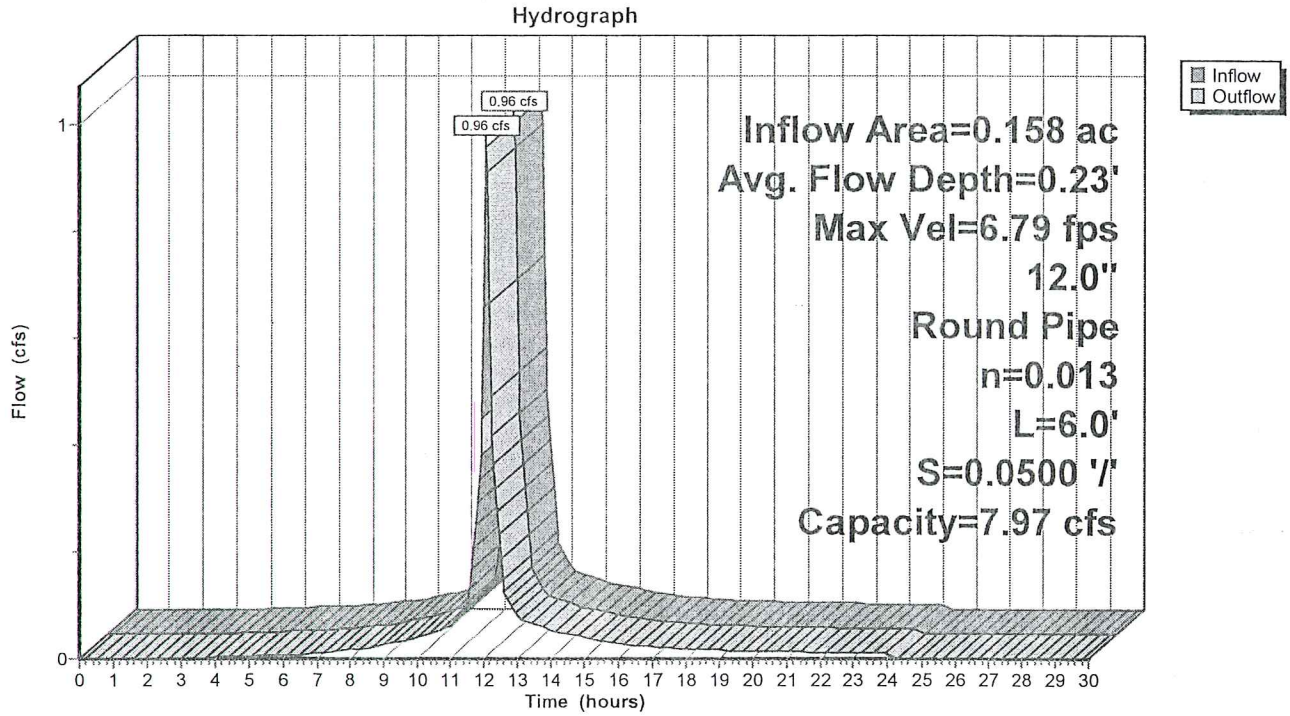
Inflow Area = 0.158 ac, 72.11% Impervious, Inflow Depth = 5.45" for 100-Year event
Inflow = 0.96 cfs @ 12.07 hrs, Volume= 0.072 af
Outflow = 0.96 cfs @ 12.07 hrs, Volume= 0.072 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.79 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.22 fps, Avg. Travel Time= 0.0 min

Peak Storage= 1 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 7.97 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 6.0' Slope= 0.0500 '/'
Inlet Invert= 1,179.60', Outlet Invert= 1,179.30'





Stage-Discharge for Reach DCB20: TO DMH#18

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.60	0.00	0.00
1,179.61	0.90	0.00
1,179.62	1.43	0.01
1,179.63	1.87	0.01
1,179.64	2.25	0.02
1,179.65	2.61	0.04
1,179.66	2.93	0.06
1,179.67	3.24	0.08
1,179.68	3.53	0.10
1,179.69	3.81	0.13
1,179.70	4.07	0.17
1,179.71	4.32	0.20
1,179.72	4.56	0.24
1,179.73	4.80	0.29
1,179.74	5.02	0.34
1,179.75	5.24	0.39
1,179.76	5.45	0.44
1,179.77	5.66	0.50
1,179.78	5.86	0.56
1,179.79	6.05	0.63
1,179.80	6.24	0.70
1,179.81	6.42	0.77
1,179.82	6.60	0.85
1,179.83	6.77	0.92
1,179.84	6.94	1.01
1,179.85	7.11	1.09
1,179.86	7.27	1.18
1,179.87	7.42	1.27
1,179.88	7.58	1.36
1,179.89	7.73	1.46
1,179.90	7.87	1.56
1,179.91	8.01	1.66
1,179.92	8.15	1.77
1,179.93	8.29	1.87
1,179.94	8.42	1.98
1,179.95	8.55	2.09
1,179.96	8.68	2.21
1,179.97	8.80	2.32
1,179.98	8.92	2.44
1,179.99	9.04	2.56
1,180.00	9.15	2.68
1,180.01	9.26	2.81
1,180.02	9.37	2.93
1,180.03	9.48	3.06
1,180.04	9.58	3.19
1,180.05	9.68	3.32
1,180.06	9.78	3.45
1,180.07	9.87	3.58
1,180.08	9.97	3.71
1,180.09	10.06	3.85
1,180.10	10.14	3.98
1,180.11	10.23	4.12
1,180.12	10.31	4.26
1,180.13	10.39	4.39
1,180.14	10.47	4.53
1,180.15	10.54	4.67
1,180.16	10.61	4.80
1,180.17	10.68	4.94
1,180.18	10.75	5.08
1,180.19	10.82	5.22
1,180.20	10.88	5.35
1,180.21	10.94	5.49
1,180.22	10.99	5.62
1,180.23	11.05	5.76
1,180.24	11.10	5.89
1,180.25	11.15	6.03
1,180.26	11.20	6.16
1,180.27	11.24	6.29
1,180.28	11.28	6.42
1,180.29	11.32	6.54
1,180.30	11.36	6.67
1,180.31	11.39	6.79
1,180.32	11.42	6.91
1,180.33	11.45	7.03
1,180.34	11.48	7.15
1,180.35	11.50	7.26
1,180.36	11.52	7.38
1,180.37	11.53	7.48
1,180.38	11.55	7.59
1,180.39	11.55	7.69
1,180.40	11.56	7.79
1,180.41	**11.56**	7.88
1,180.42	11.56	7.97
1,180.43	11.56	8.05
1,180.44	11.55	8.13
1,180.45	11.54	8.21
1,180.46	11.52	8.28
1,180.47	11.50	8.34
1,180.48	11.47	8.40
1,180.49	11.44	8.45
1,180.50	11.40	8.49
1,180.51	11.36	8.53
1,180.52	11.31	8.55
1,180.53	11.25	8.57
1,180.54	11.19	**8.57**
1,180.55	11.11	8.56
1,180.56	11.02	8.54
1,180.57	10.91	8.49
1,180.58	10.77	8.42
1,180.59	10.59	8.30
1,180.60	10.14	7.97

Summary for Reach DCB21: TO DMH#18

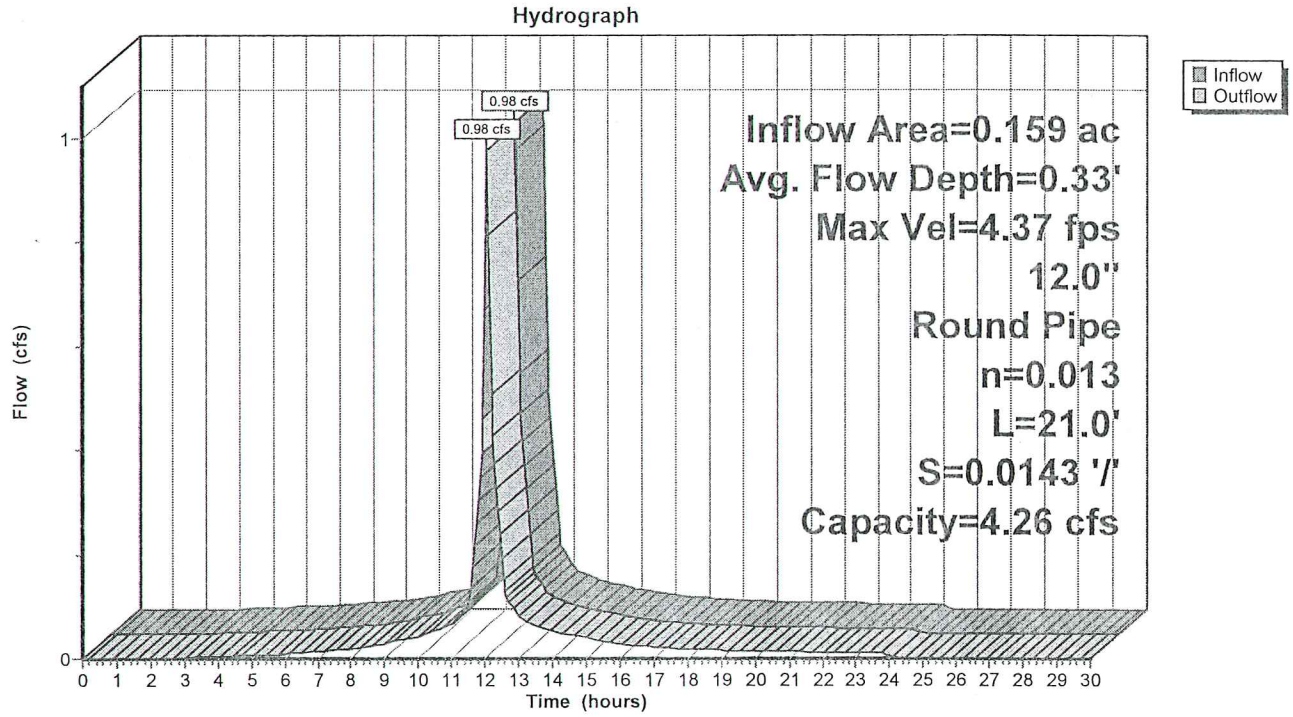
Inflow Area = 0.159 ac, 80.93% Impervious, Inflow Depth = 5.68" for 100-Year event
Inflow = 0.98 cfs @ 12.07 hrs, Volume= 0.075 af
Outflow = 0.98 cfs @ 12.07 hrs, Volume= 0.075 af, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.37 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.44 fps, Avg. Travel Time= 0.2 min

Peak Storage= 5 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.33'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.26 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 21.0' Slope= 0.0143 '/'
Inlet Invert= 1,179.60', Outlet Invert= 1,179.30'





Stage-Discharge for Reach DCB21: TO DMH#18

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.60	0.00	0.00
1,179.61	0.48	0.00
1,179.62	0.76	0.00
1,179.63	1.00	0.01
1,179.64	1.20	0.01
1,179.65	1.39	0.02
1,179.66	1.57	0.03
1,179.67	1.73	0.04
1,179.68	1.89	0.06
1,179.69	2.03	0.07
1,179.70	2.18	0.09
1,179.71	2.31	0.11
1,179.72	2.44	0.13
1,179.73	2.56	0.15
1,179.74	2.69	0.18
1,179.75	2.80	0.21
1,179.76	2.92	0.24
1,179.77	3.02	0.27
1,179.78	3.13	0.30
1,179.79	3.23	0.34
1,179.80	3.33	0.37
1,179.81	3.43	0.41
1,179.82	3.53	0.45
1,179.83	3.62	0.49
1,179.84	3.71	0.54
1,179.85	3.80	0.58
1,179.86	3.88	0.63
1,179.87	3.97	0.68
1,179.88	4.05	0.73
1,179.89	4.13	0.78
1,179.90	4.21	0.83
1,179.91	4.28	0.89
1,179.92	4.36	0.94
1,179.93	4.43	1.00
1,179.94	4.50	1.06
1,179.95	4.57	1.12
1,179.96	4.64	1.18
1,179.97	4.70	1.24
1,179.98	4.77	1.31
1,179.99	4.83	1.37
1,180.00	4.89	1.44
1,180.01	4.95	1.50
1,180.02	5.01	1.57
1,180.03	5.07	1.64
1,180.04	5.12	1.70
1,180.05	5.17	1.77
1,180.06	5.23	1.84
1,180.07	5.28	1.91
1,180.08	5.33	1.99
1,180.09	5.38	2.06
1,180.10	5.42	2.13
1,180.11	5.47	2.20
1,180.12	5.51	2.27
1,180.13	5.55	2.35
1,180.14	5.60	2.42
1,180.15	5.64	2.49
1,180.16	5.67	2.57
1,180.17	5.71	2.64
1,180.18	5.75	2.71
1,180.19	5.78	2.79
1,180.20	5.81	2.86
1,180.21	5.85	2.93
1,180.22	5.88	3.01
1,180.23	5.91	3.08
1,180.24	5.93	3.15
1,180.25	5.96	3.22
1,180.26	5.99	3.29
1,180.27	6.01	3.36
1,180.28	6.03	3.43
1,180.29	6.05	3.50
1,180.30	6.07	3.57
1,180.31	6.09	3.63
1,180.32	6.11	3.70
1,180.33	6.12	3.76
1,180.34	6.13	3.82
1,180.35	6.15	3.88
1,180.36	6.16	3.94
1,180.37	6.16	4.00
1,180.38	6.17	4.06
1,180.39	6.18	4.11
1,180.40	6.18	4.16
1,180.41	**6.18**	4.21
1,180.42	6.18	4.26
1,180.43	6.18	4.31
1,180.44	6.17	4.35
1,180.45	6.17	4.39
1,180.46	6.16	4.42
1,180.47	6.15	4.46
1,180.48	6.13	4.49
1,180.49	6.12	4.52
1,180.50	6.10	4.54
1,180.51	6.07	4.56
1,180.52	6.05	4.57
1,180.53	6.01	4.58
1,180.54	5.98	**4.58**
1,180.55	5.94	4.58
1,180.56	5.89	4.56
1,180.57	5.83	4.54
1,180.58	5.76	4.50
1,180.59	5.66	4.44
1,180.60	5.42	4.26

Summary for Reach DCB22: TO DMH#19

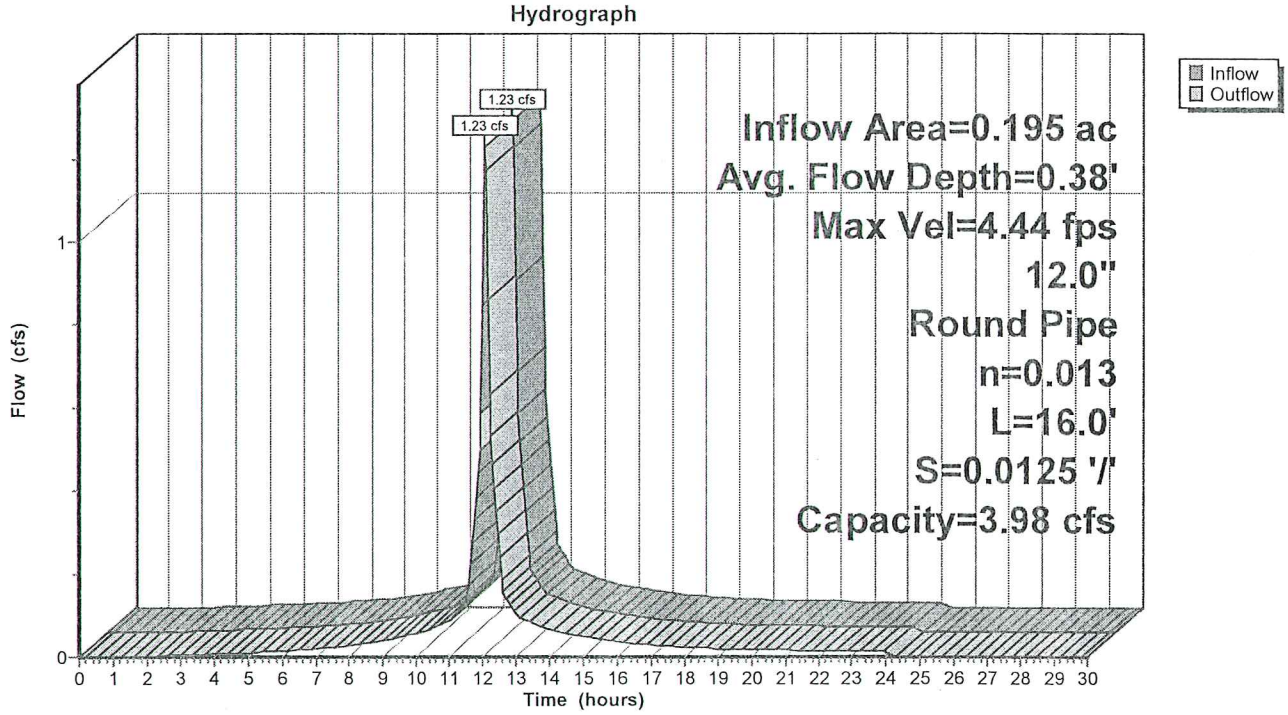
Inflow Area = 0.195 ac, 87.17% Impervious, Inflow Depth = 5.91" for 100-Year event
Inflow = 1.23 cfs @ 12.07 hrs, Volume= 0.096 af
Outflow = 1.23 cfs @ 12.07 hrs, Volume= 0.096 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.44 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.47 fps, Avg. Travel Time= 0.2 min

Peak Storage= 4 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.38'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.98 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 16.0' Slope= 0.0125 '/'
Inlet Invert= 1,178.50', Outlet Invert= 1,178.30'





Stage-Discharge for Reach DCB22: TO DMH#19

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.50	0.00	0.00
1,178.51	0.45	0.00
1,178.52	0.71	0.00
1,178.53	0.93	0.01
1,178.54	1.13	0.01
1,178.55	1.30	0.02
1,178.56	1.47	0.03
1,178.57	1.62	0.04
1,178.58	1.77	0.05
1,178.59	1.90	0.07
1,178.60	2.03	0.08
1,178.61	2.16	0.10
1,178.62	2.28	0.12
1,178.63	2.40	0.14
1,178.64	2.51	0.17
1,178.65	2.62	0.19
1,178.66	2.73	0.22
1,178.67	2.83	0.25
1,178.68	2.93	0.28
1,178.69	3.03	0.31
1,178.70	3.12	0.35
1,178.71	3.21	0.38
1,178.72	3.30	0.42
1,178.73	3.39	0.46
1,178.74	3.47	0.50
1,178.75	3.55	0.55
1,178.76	3.63	0.59
1,178.77	3.71	0.64
1,178.78	3.79	0.68
1,178.79	3.86	0.73
1,178.80	3.94	0.78
1,178.81	4.01	0.83
1,178.82	4.08	0.88
1,178.83	4.14	0.94
1,178.84	4.21	0.99
1,178.85	4.28	1.05
1,178.86	4.34	1.10
1,178.87	4.40	1.16
1,178.88	4.46	1.22
1,178.89	4.52	1.28
1,178.90	4.58	1.34
1,178.91	4.63	1.40
1,178.92	4.69	1.47
1,178.93	4.74	1.53
1,178.94	4.79	1.59
1,178.95	4.84	1.66
1,178.96	4.89	1.72
1,178.97	4.94	1.79
1,178.98	4.98	1.86
1,178.99	5.03	1.92
1,179.00	5.07	1.99
1,179.01	5.11	2.06
1,179.02	5.16	2.13
1,179.03	5.20	2.20
1,179.04	5.23	2.26
1,179.05	5.27	2.33
1,179.06	5.31	2.40
1,179.07	5.34	2.47
1,179.08	5.38	2.54
1,179.09	5.41	2.61
1,179.10	5.44	2.68
1,179.11	5.47	2.74
1,179.12	5.50	2.81
1,179.13	5.52	2.88
1,179.14	5.55	2.95
1,179.15	5.58	3.01
1,179.16	5.60	3.08
1,179.17	5.62	3.14
1,179.18	5.64	3.21
1,179.19	5.66	3.27
1,179.20	5.68	3.33
1,179.21	5.70	3.40
1,179.22	5.71	3.46
1,179.23	5.73	3.52
1,179.24	5.74	3.58
1,179.25	5.75	3.63
1,179.26	5.76	3.69
1,179.27	5.77	3.74
1,179.28	5.77	3.79
1,179.29	5.78	3.84
1,179.30	5.78	3.89
1,179.31	**5.78**	3.94
1,179.32	5.78	3.98
1,179.33	5.78	4.03
1,179.34	5.77	4.07
1,179.35	5.77	4.10
1,179.36	5.76	4.14
1,179.37	5.75	4.17
1,179.38	5.74	4.20
1,179.39	5.72	4.22
1,179.40	5.70	4.25
1,179.41	5.68	4.26
1,179.42	5.66	4.28
1,179.43	5.63	4.28
1,179.44	5.59	**4.28**
1,179.45	5.55	4.28
1,179.46	5.51	4.27
1,179.47	5.45	4.25
1,179.48	5.38	4.21
1,179.49	5.29	4.15
1,179.50	5.07	3.98

Summary for Reach DCB23: TO DMH#19

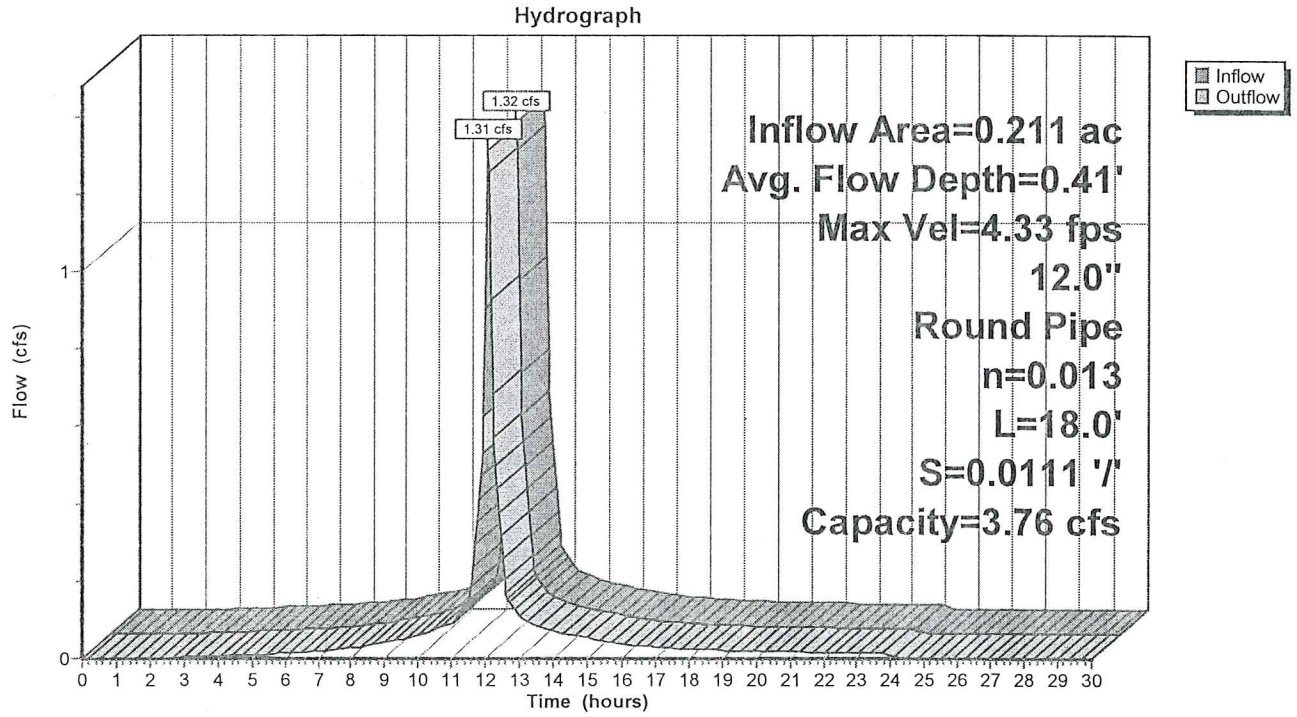
Inflow Area = 0.211 ac, 82.40% Impervious, Inflow Depth = 5.79" for 100-Year event
Inflow = 1.32 cfs @ 12.07 hrs, Volume= 0.102 af
Outflow = 1.31 cfs @ 12.07 hrs, Volume= 0.102 af, Atten= 1%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.33 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.44 fps, Avg. Travel Time= 0.2 min

Peak Storage= 5 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.41'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.76 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 18.0' Slope= 0.0111 '/'
Inlet Invert= 1,178.50', Outlet Invert= 1,178.30'





Stage-Discharge for Reach DCB23: TO DMH#19

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.50	0.00	0.00
1,178.51	0.43	0.00
1,178.52	0.67	0.00
1,178.53	0.88	0.01
1,178.54	1.06	0.01
1,178.55	1.23	0.02
1,178.56	1.38	0.03
1,178.57	1.53	0.04
1,178.58	1.66	0.05
1,178.59	1.79	0.06
1,178.60	1.92	0.08
1,178.61	2.04	0.10
1,178.62	2.15	0.11
1,178.63	2.26	0.14
1,178.64	2.37	0.16
1,178.65	2.47	0.18
1,178.66	2.57	0.21
1,178.67	2.67	0.24
1,178.68	2.76	0.27
1,178.69	2.85	0.30
1,178.70	2.94	0.33
1,178.71	3.03	0.36
1,178.72	3.11	0.40
1,178.73	3.19	0.44
1,178.74	3.27	0.47
1,178.75	3.35	0.51
1,178.76	3.43	0.56
1,178.77	3.50	0.60
1,178.78	3.57	0.64
1,178.79	3.64	0.69
1,178.80	3.71	0.74
1,178.81	3.78	0.78
1,178.82	3.84	0.83
1,178.83	3.91	0.88
1,178.84	3.97	0.93
1,178.85	4.03	0.99
1,178.86	4.09	1.04
1,178.87	4.15	1.10
1,178.88	4.20	1.15
1,178.89	4.26	1.21
1,178.90	4.31	1.27
1,178.91	4.37	1.32
1,178.92	4.42	1.38
1,178.93	4.47	1.44
1,178.94	4.52	1.50
1,178.95	4.56	1.56
1,178.96	4.61	1.63
1,178.97	4.65	1.69
1,178.98	4.70	1.75
1,178.99	4.74	1.81
1,179.00	4.78	1.88
1,179.01	4.82	1.94
1,179.02	4.86	2.01
1,179.03	4.90	2.07
1,179.04	4.93	2.13
1,179.05	4.97	2.20
1,179.06	5.00	2.26
1,179.07	5.04	2.33
1,179.08	5.07	2.39
1,179.09	5.10	2.46
1,179.10	5.13	2.52
1,179.11	5.16	2.59
1,179.12	5.18	2.65
1,179.13	5.21	2.71
1,179.14	5.23	2.78
1,179.15	5.26	2.84
1,179.16	5.28	2.90
1,179.17	5.30	2.96
1,179.18	5.32	3.03
1,179.19	5.34	3.09
1,179.20	5.35	3.14
1,179.21	5.37	3.20
1,179.22	5.38	3.26
1,179.23	5.40	3.32
1,179.24	5.41	3.37
1,179.25	5.42	3.42
1,179.26	5.43	3.48
1,179.27	5.44	3.53
1,179.28	5.44	3.58
1,179.29	5.45	3.62
1,179.30	5.45	3.67
1,179.31	**5.45**	3.71
1,179.32	5.45	3.76
1,179.33	5.45	3.80
1,179.34	5.44	3.83
1,179.35	5.44	3.87
1,179.36	5.43	3.90
1,179.37	5.42	3.93
1,179.38	5.41	3.96
1,179.39	5.39	3.98
1,179.40	5.38	4.00
1,179.41	5.36	4.02
1,179.42	5.33	4.03
1,179.43	5.30	4.04
1,179.44	5.27	**4.04**
1,179.45	5.24	4.04
1,179.46	5.19	4.02
1,179.47	5.14	4.00
1,179.48	5.08	3.97
1,179.49	4.99	3.91
1,179.50	4.78	3.76

Summary for Reach DCB3: TO DMH#1

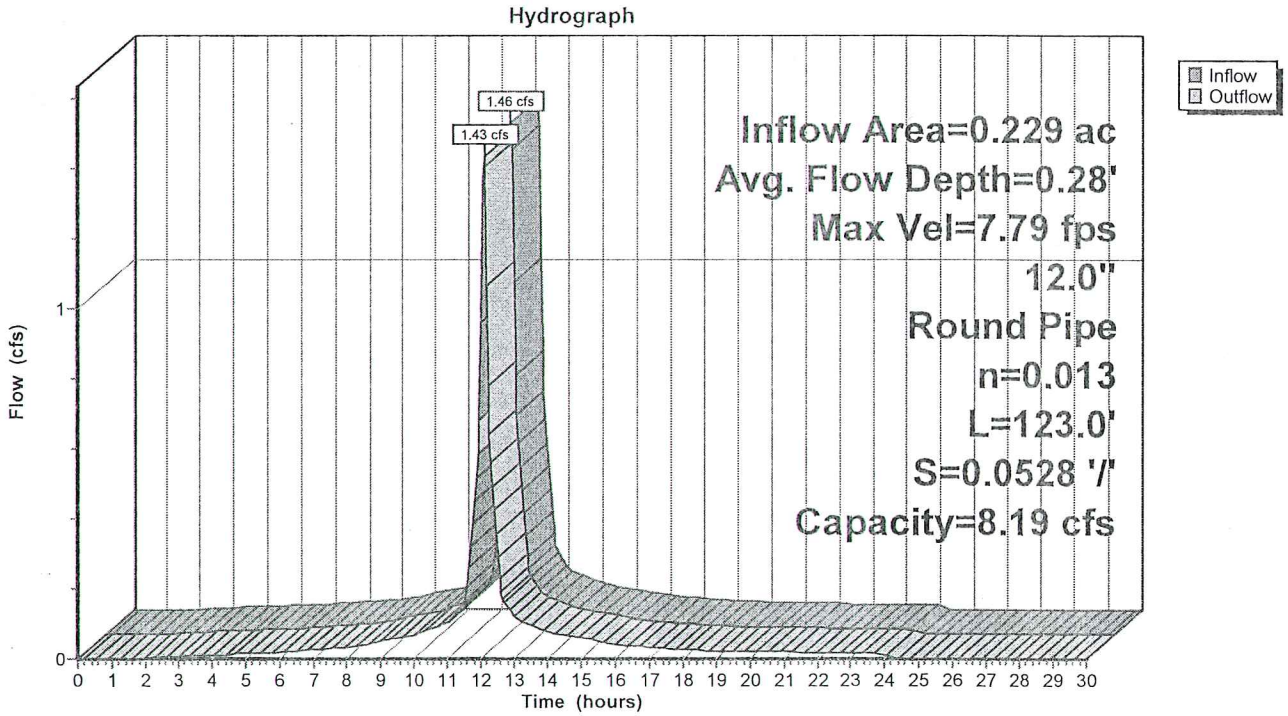
Inflow Area = 0.229 ac, 89.92% Impervious, Inflow Depth = 6.03" for 100-Year event
Inflow = 1.46 cfs @ 12.07 hrs, Volume= 0.115 af
Outflow = 1.43 cfs @ 12.08 hrs, Volume= 0.115 af, Atten= 2%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.79 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.57 fps, Avg. Travel Time= 0.8 min

Peak Storage= 23 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.28'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.19 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 123.0' Slope= 0.0528 '/'
Inlet Invert= 1,181.80', Outlet Invert= 1,175.30'





Stage-Discharge for Reach DCB3: TO DMH#1

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,181.80	0.00	0.00
1,181.81	0.93	0.00
1,181.82	1.47	0.01
1,181.83	1.92	0.01
1,181.84	2.32	0.02
1,181.85	2.68	0.04
1,181.86	3.02	0.06
1,181.87	3.33	0.08
1,181.88	3.63	0.11
1,181.89	3.91	0.14
1,181.90	4.18	0.17
1,181.91	4.44	0.21
1,181.92	4.69	0.25
1,181.93	4.93	0.30
1,181.94	5.16	0.35
1,181.95	5.39	0.40
1,181.96	5.61	0.45
1,181.97	5.82	0.52
1,181.98	6.02	0.58
1,181.99	6.22	0.65
1,182.00	6.41	0.72
1,182.01	6.60	0.79
1,182.02	6.79	0.87
1,182.03	6.96	0.95
1,182.04	7.14	1.03
1,182.05	7.31	1.12
1,182.06	7.47	1.21
1,182.07	7.63	1.31
1,182.08	7.79	1.40
1,182.09	7.94	1.50
1,182.10	8.09	1.60
1,182.11	8.24	1.71
1,182.12	8.38	1.82
1,182.13	8.52	1.93
1,182.14	8.66	2.04
1,182.15	8.79	2.15
1,182.16	8.92	2.27
1,182.17	9.05	2.39
1,182.18	9.17	2.51
1,182.19	9.29	2.63
1,182.20	9.41	2.76
1,182.21	9.52	2.89
1,182.22	9.63	3.02
1,182.23	9.74	3.15
1,182.24	9.85	3.28
1,182.25	9.95	3.41
1,182.26	10.05	3.55
1,182.27	10.15	3.68
1,182.28	10.25	3.82
1,182.29	10.34	3.96
1,182.30	10.43	4.10
1,182.31	10.52	4.23
1,182.32	10.60	4.37
1,182.33	10.68	4.52
1,182.34	10.76	4.66
1,182.35	10.84	4.80
1,182.36	10.91	4.94
1,182.37	10.98	5.08
1,182.38	11.05	5.22
1,182.39	11.12	5.36
1,182.40	11.18	5.50
1,182.41	11.24	5.64
1,182.42	11.30	5.78
1,182.43	11.36	5.92
1,182.44	11.41	6.06
1,182.45	11.46	6.20
1,182.46	11.51	6.33
1,182.47	11.56	6.46
1,182.48	11.60	6.60
1,182.49	11.64	6.73
1,182.50	11.68	6.86
1,182.51	11.71	6.98
1,182.52	11.74	7.11
1,182.53	11.77	7.23
1,182.54	11.80	7.35
1,182.55	11.82	7.47
1,182.56	11.84	7.58
1,182.57	11.86	7.69
1,182.58	11.87	7.80
1,182.59	11.88	7.91
1,182.60	11.89	8.01
1,182.61	**11.89**	8.10
1,182.62	11.89	8.19
1,182.63	11.88	8.28
1,182.64	11.87	8.36
1,182.65	11.86	8.44
1,182.66	11.84	8.51
1,182.67	11.82	8.58
1,182.68	11.80	8.63
1,182.69	11.76	8.69
1,182.70	11.72	8.73
1,182.71	11.68	8.76
1,182.72	11.63	8.79
1,182.73	11.57	8.81
1,182.74	11.50	**8.81**
1,182.75	11.42	8.80
1,182.76	11.32	8.77
1,182.77	11.21	8.73
1,182.78	11.07	8.65
1,182.79	10.88	8.53
1,182.80	10.43	8.19

Summary for Reach DCB4: TO DMH#5

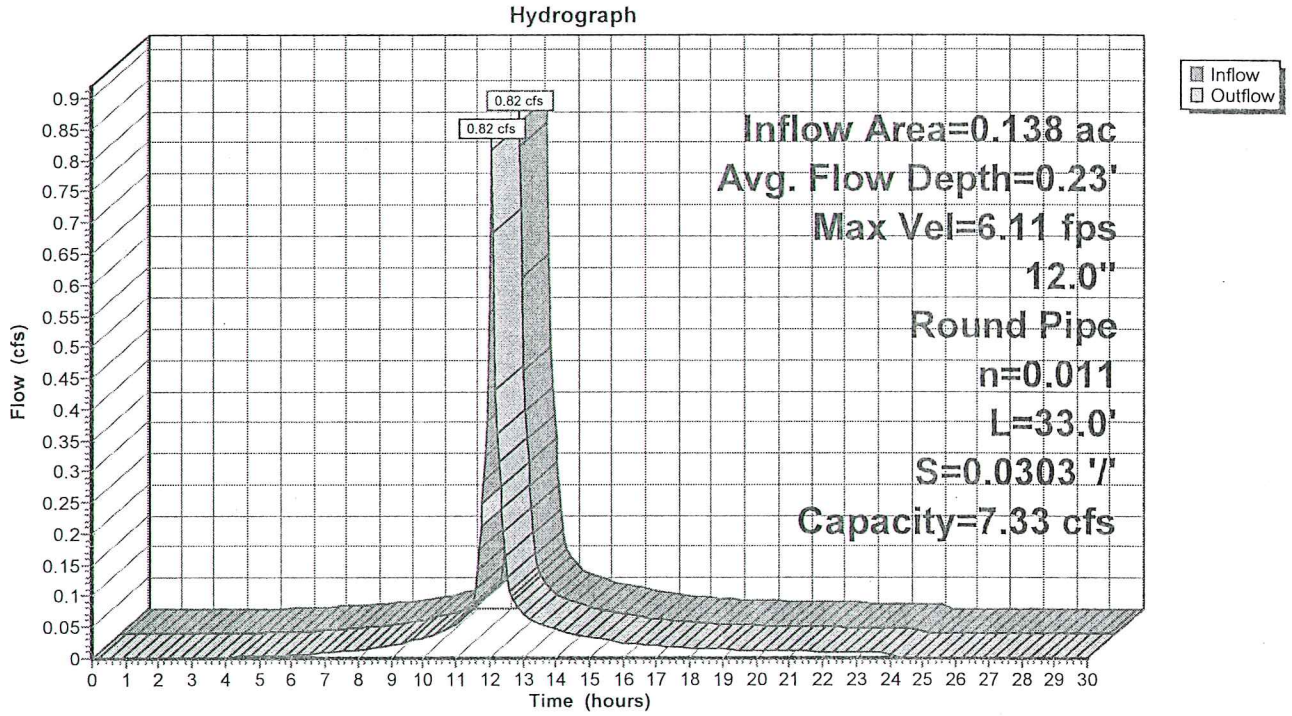
Inflow Area = 0.138 ac, 68.08% Impervious, Inflow Depth = 5.33" for 100-Year event
Inflow = 0.82 cfs @ 12.07 hrs, Volume= 0.061 af
Outflow = 0.82 cfs @ 12.07 hrs, Volume= 0.061 af, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.11 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.01 fps, Avg. Travel Time= 0.3 min

Peak Storage= 4 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 7.33 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 33.0' Slope= 0.0303 '/'
Inlet Invert= 1,173.00', Outlet Invert= 1,172.00'





Stage-Discharge for Reach DCB4: TO DMH#5

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,173.00	0.00	0.00
1,173.01	0.83	0.00
1,173.02	1.31	0.00
1,173.03	1.72	0.01
1,173.04	2.07	0.02
1,173.05	2.40	0.04
1,173.06	2.70	0.05
1,173.07	2.98	0.07
1,173.08	3.25	0.10
1,173.09	3.50	0.12
1,173.10	3.74	0.15
1,173.11	3.98	0.19
1,173.12	4.20	0.22
1,173.13	4.41	0.26
1,173.14	4.62	0.31
1,173.15	4.82	0.36
1,173.16	5.02	0.41
1,173.17	5.21	0.46
1,173.18	5.39	0.52
1,173.19	5.57	0.58
1,173.20	5.74	0.64
1,173.21	5.91	0.71
1,173.22	6.07	0.78
1,173.23	6.23	0.85
1,173.24	6.39	0.93
1,173.25	6.54	1.00
1,173.26	6.69	1.09
1,173.27	6.83	1.17
1,173.28	6.97	1.26
1,173.29	7.11	1.34
1,173.30	7.24	1.44
1,173.31	7.37	1.53
1,173.32	7.50	1.63
1,173.33	7.63	1.72
1,173.34	7.75	1.82
1,173.35	7.87	1.93
1,173.36	7.98	2.03
1,173.37	8.10	2.14
1,173.38	8.21	2.25
1,173.39	8.31	2.36
1,173.40	8.42	2.47
1,173.41	8.52	2.58
1,173.42	8.62	2.70
1,173.43	8.72	2.82
1,173.44	8.81	2.93
1,173.45	8.91	3.05
1,173.46	9.00	3.17
1,173.47	9.08	3.29
1,173.48	9.17	3.42
1,173.49	9.25	3.54
1,173.50	9.33	3.66
1,173.51	9.41	3.79
1,173.52	9.49	3.91
1,173.53	9.56	4.04
1,173.54	9.63	4.17
1,173.55	9.70	4.29
1,173.56	9.77	4.42
1,173.57	9.83	4.55
1,173.58	9.89	4.67
1,173.59	9.95	4.80
1,173.60	10.01	4.92
1,173.61	10.06	5.05
1,173.62	10.12	5.17
1,173.63	10.17	5.30
1,173.64	10.21	5.42
1,173.65	10.26	5.54
1,173.66	10.30	5.67
1,173.67	10.34	5.79
1,173.68	10.38	5.90
1,173.69	10.42	6.02
1,173.70	10.45	6.14
1,173.71	10.48	6.25
1,173.72	10.51	6.36
1,173.73	10.53	6.47
1,173.74	10.56	6.58
1,173.75	10.58	6.68
1,173.76	10.60	6.79
1,173.77	10.61	6.89
1,173.78	10.62	6.98
1,173.79	10.63	7.07
1,173.80	10.64	7.16
1,173.81	**10.64**	7.25
1,173.82	10.64	7.33
1,173.83	10.63	7.41
1,173.84	10.63	7.48
1,173.85	10.61	7.55
1,173.86	10.60	7.62
1,173.87	10.58	7.67
1,173.88	10.56	7.73
1,173.89	10.53	7.77
1,173.90	10.49	7.81
1,173.91	10.45	7.84
1,173.92	10.41	7.87
1,173.93	10.35	7.88
1,173.94	10.29	**7.88**
1,173.95	10.22	7.88
1,173.96	10.13	7.85
1,173.97	10.03	7.81
1,173.98	9.91	7.75
1,173.99	9.74	7.64
1,174.00	9.33	7.33

Summary for Reach DCBG: TO DMH#3

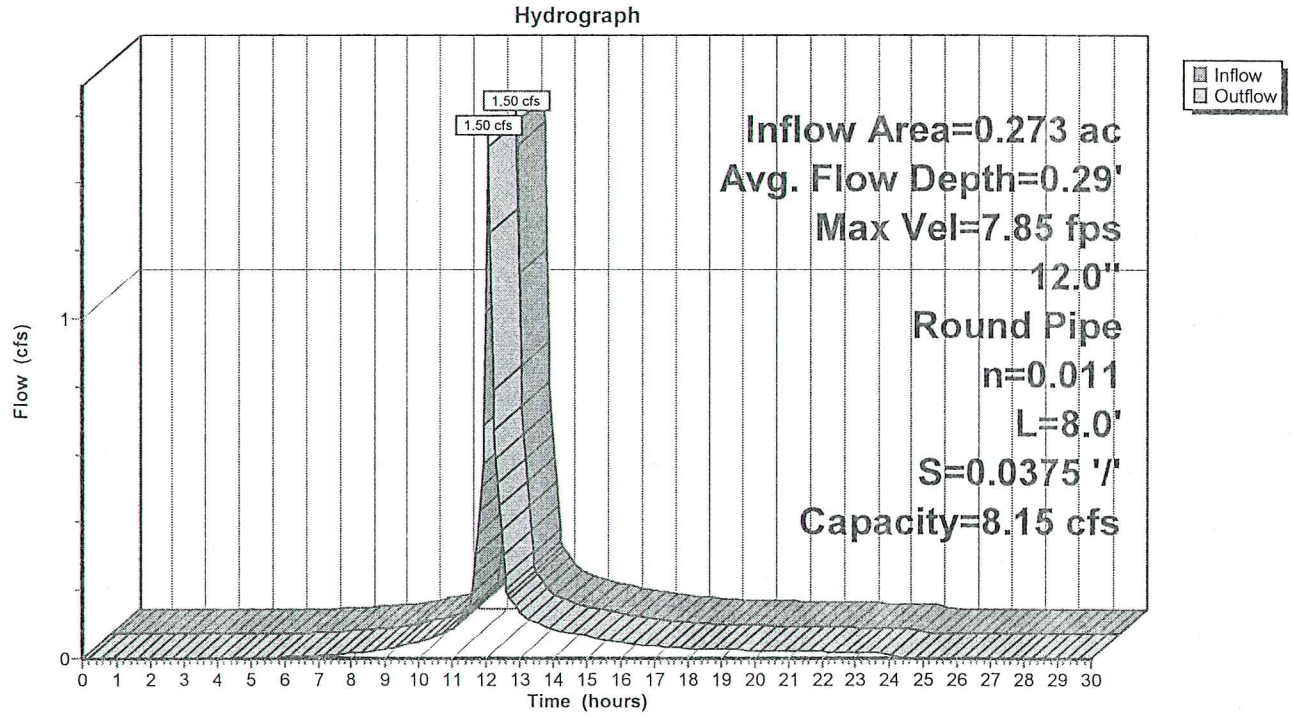
Inflow Area = 0.273 ac, 45.12% Impervious, Inflow Depth = 4.78" for 100-Year event
Inflow = 1.50 cfs @ 12.07 hrs, Volume= 0.109 af
Outflow = 1.50 cfs @ 12.07 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.85 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.62 fps, Avg. Travel Time= 0.1 min

Peak Storage= 2 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.29'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.15 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 8.0' Slope= 0.0375 '/'
Inlet Invert= 1,174.80', Outlet Invert= 1,174.50'





Stage-Discharge for Reach DCBG: TO DMH#3

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,174.80	0.00	0.00
1,174.81	0.92	0.00
1,174.82	1.46	0.01
1,174.83	1.91	0.01
1,174.84	2.31	0.02
1,174.85	2.67	0.04
1,174.86	3.00	0.06
1,174.87	3.32	0.08
1,174.88	3.61	0.11
1,174.89	3.90	0.14
1,174.90	4.16	0.17
1,174.91	4.42	0.21
1,174.92	4.67	0.25
1,174.93	4.91	0.29
1,174.94	5.14	0.34
1,174.95	5.37	0.40
1,174.96	5.58	0.45
1,174.97	5.79	0.51
1,174.98	6.00	0.58
1,174.99	6.19	0.64
1,175.00	6.39	0.71
1,175.01	6.57	0.79
1,175.02	6.75	0.87
1,175.03	6.93	0.95
1,175.04	7.11	1.03
1,175.05	7.27	1.12
1,175.06	7.44	1.21
1,175.07	7.60	1.30
1,175.08	7.76	1.40
1,175.09	7.91	1.50
1,175.10	8.06	1.60
1,175.11	8.20	1.70
1,175.12	8.35	1.81
1,175.13	8.48	1.92
1,175.14	8.62	2.03
1,175.15	8.75	2.14
1,175.16	8.88	2.26
1,175.17	9.01	2.38
1,175.18	9.13	2.50
1,175.19	9.25	2.62
1,175.20	9.37	2.75
1,175.21	9.48	2.87
1,175.22	9.59	3.00
1,175.23	9.70	3.13
1,175.24	9.81	3.26
1,175.25	9.91	3.40
1,175.26	10.01	3.53
1,175.27	10.11	3.67
1,175.28	10.20	3.80
1,175.29	10.29	3.94
1,175.30	10.38	4.08
1,175.31	10.47	4.22
1,175.32	10.55	4.36
1,175.33	10.63	4.49
1,175.34	10.71	4.64
1,175.35	10.79	4.78
1,175.36	10.86	4.92
1,175.37	10.94	5.06
1,175.38	11.00	5.20
1,175.39	11.07	5.34
1,175.40	11.13	5.48
1,175.41	11.19	5.62
1,175.42	11.25	5.76
1,175.43	11.31	5.89
1,175.44	11.36	6.03
1,175.45	11.41	6.17
1,175.46	11.46	6.30
1,175.47	11.51	6.44
1,175.48	11.55	6.57
1,175.49	11.59	6.70
1,175.50	11.63	6.83
1,175.51	11.66	6.95
1,175.52	11.69	7.08
1,175.53	11.72	7.20
1,175.54	11.74	7.32
1,175.55	11.77	7.44
1,175.56	11.79	7.55
1,175.57	11.80	7.66
1,175.58	11.82	7.77
1,175.59	11.83	7.87
1,175.60	11.83	7.97
1,175.61	**11.84**	8.07
1,175.62	11.83	8.16
1,175.63	11.83	8.24
1,175.64	11.82	8.33
1,175.65	11.81	8.40
1,175.66	11.79	8.47
1,175.67	11.77	8.54
1,175.68	11.74	8.60
1,175.69	11.71	8.65
1,175.70	11.67	8.69
1,175.71	11.63	8.73
1,175.72	11.58	8.75
1,175.73	11.52	8.77
1,175.74	11.45	**8.77**
1,175.75	11.37	8.76
1,175.76	11.27	8.74
1,175.77	11.16	8.69
1,175.78	11.02	8.62
1,175.79	10.84	8.50
1,175.80	10.38	8.15

Summary for Reach DCBI: TO DCB-F

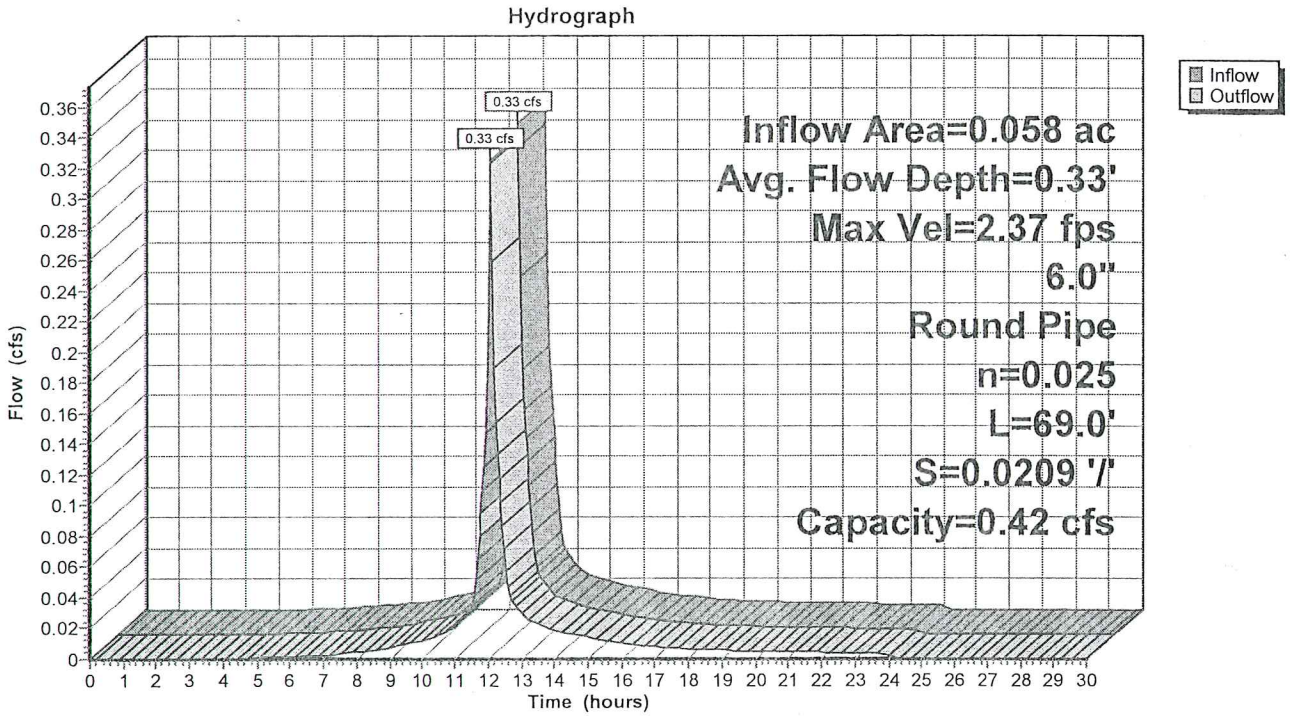
Inflow Area = 0.058 ac, 56.44% Impervious, Inflow Depth = 5.11" for 100-Year event
Inflow = 0.33 cfs @ 12.07 hrs, Volume= 0.025 af
Outflow = 0.33 cfs @ 12.09 hrs, Volume= 0.025 af, Atten= 2%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.37 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.82 fps, Avg. Travel Time= 1.4 min

Peak Storage= 10 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.33'
Bank-Full Depth= 0.50' Flow Area= 0.2 sf, Capacity= 0.42 cfs

6.0" Round Pipe
n= 0.025 Corrugated metal
Length= 69.0' Slope= 0.0209 '/'
Inlet Invert= 1,175.50', Outlet Invert= 1,174.06'





Stage-Discharge for Reach DCBI: TO DCB-F

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.50	0.00	0.00
1,175.51	0.30	0.00
1,175.52	0.48	0.00
1,175.53	0.62	0.00
1,175.54	0.75	0.01
1,175.55	0.86	0.01
1,175.56	0.97	0.01
1,175.57	1.06	0.02
1,175.58	1.15	0.02
1,175.59	1.24	0.03
1,175.60	1.32	0.04
1,175.61	1.40	0.04
1,175.62	1.47	0.05
1,175.63	1.54	0.06
1,175.64	1.60	0.07
1,175.65	1.67	0.08
1,175.66	1.73	0.09
1,175.67	1.78	0.10
1,175.68	1.84	0.12
1,175.69	1.89	0.13
1,175.70	1.94	0.14
1,175.71	1.98	0.16
1,175.72	2.03	0.17
1,175.73	2.07	0.18
1,175.74	2.11	0.20
1,175.75	2.15	0.21
1,175.76	2.18	0.23
1,175.77	2.22	0.24
1,175.78	2.25	0.25
1,175.79	2.28	0.27
1,175.80	2.30	0.28
1,175.81	2.33	0.30
1,175.82	2.35	0.31
1,175.83	2.37	0.33
1,175.84	2.39	0.34
1,175.85	2.40	0.35
1,175.86	2.42	0.37
1,175.87	2.43	0.38
1,175.88	2.44	0.39
1,175.89	2.44	0.40
1,175.90	2.45	0.41
1,175.91	**2.45**	0.42
1,175.92	2.44	0.43
1,175.93	2.44	0.44
1,175.94	2.43	0.44
1,175.95	2.41	0.45
1,175.96	2.39	0.45
1,175.97	2.37	**0.45**
1,175.98	2.33	0.45
1,175.99	2.28	0.45
1,176.00	2.15	0.42

Summary for Reach DMH1: TO DMH#2

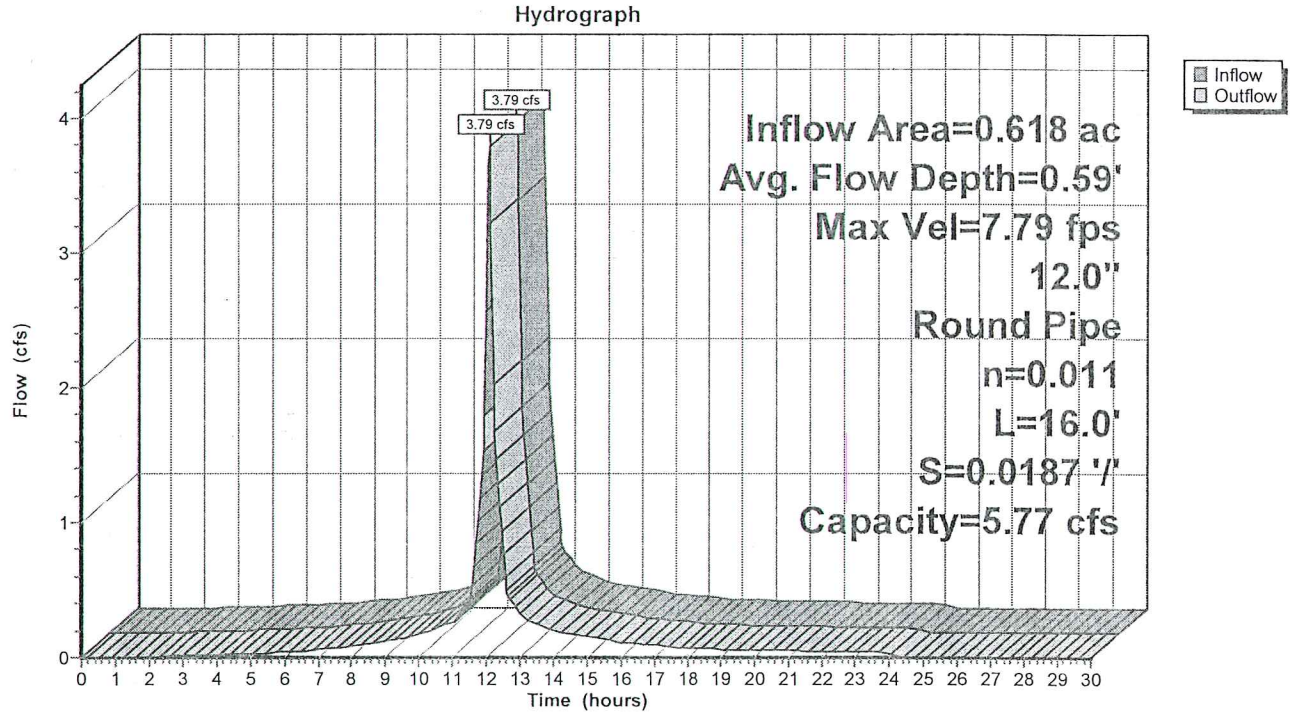
Inflow Area = 0.618 ac, 81.95% Impervious, Inflow Depth = 5.78" for 100-Year event
Inflow = 3.79 cfs @ 12.08 hrs, Volume= 0.298 af
Outflow = 3.79 cfs @ 12.08 hrs, Volume= 0.298 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.79 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.62 fps, Avg. Travel Time= 0.1 min

Peak Storage= 8 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.59'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.77 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 16.0' Slope= 0.0187 '/'
Inlet Invert= 1,175.00', Outlet Invert= 1,174.70'





Stage-Discharge for Reach DMH1: TO DMH#2

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.00	0.00	0.00
1,175.01	0.65	0.00
1,175.02	1.03	0.00
1,175.03	1.35	0.01
1,175.04	1.63	0.02
1,175.05	1.89	0.03
1,175.06	2.12	0.04
1,175.07	2.34	0.06
1,175.08	2.55	0.08
1,175.09	2.75	0.10
1,175.10	2.94	0.12
1,175.11	3.13	0.15
1,175.12	3.30	0.18
1,175.13	3.47	0.21
1,175.14	3.64	0.24
1,175.15	3.79	0.28
1,175.16	3.95	0.32
1,175.17	4.10	0.36
1,175.18	4.24	0.41
1,175.19	4.38	0.45
1,175.20	4.52	0.50
1,175.21	4.65	0.56
1,175.22	4.78	0.61
1,175.23	4.90	0.67
1,175.24	5.02	0.73
1,175.25	5.14	0.79
1,175.26	5.26	0.85
1,175.27	5.37	0.92
1,175.28	5.48	0.99
1,175.29	5.59	1.06
1,175.30	5.70	1.13
1,175.31	5.80	1.20
1,175.32	5.90	1.28
1,175.33	6.00	1.36
1,175.34	6.09	1.44
1,175.35	6.19	1.52
1,175.36	6.28	1.60
1,175.37	6.37	1.68
1,175.38	6.46	1.77
1,175.39	6.54	1.85
1,175.40	6.62	1.94
1,175.41	6.70	2.03
1,175.42	6.78	2.12
1,175.43	6.86	2.21
1,175.44	6.93	2.31
1,175.45	7.01	2.40
1,175.46	7.08	2.50
1,175.47	7.15	2.59
1,175.48	7.21	2.69
1,175.49	7.28	2.79
1,175.50	7.34	2.88
1,175.51	7.40	2.98
1,175.52	7.46	3.08
1,175.53	7.52	3.18
1,175.54	7.58	3.28
1,175.55	7.63	3.38
1,175.56	7.68	3.48
1,175.57	7.73	3.58
1,175.58	7.78	3.68
1,175.59	7.83	3.77
1,175.60	7.87	3.87
1,175.61	7.92	3.97
1,175.62	7.96	4.07
1,175.63	8.00	4.17
1,175.64	8.03	4.26
1,175.65	8.07	4.36
1,175.66	8.10	4.46
1,175.67	8.14	4.55
1,175.68	8.17	4.64
1,175.69	8.19	4.74
1,175.70	8.22	4.83
1,175.71	8.24	4.92
1,175.72	8.27	5.00
1,175.73	8.29	5.09
1,175.74	8.30	5.18
1,175.75	8.32	5.26
1,175.76	8.33	5.34
1,175.77	8.35	5.42
1,175.78	8.36	5.49
1,175.79	8.36	5.57
1,175.80	8.37	5.64
1,175.81	**8.37**	5.70
1,175.82	8.37	5.77
1,175.83	8.36	5.83
1,175.84	8.36	5.89
1,175.85	8.35	5.94
1,175.86	8.34	5.99
1,175.87	8.32	6.04
1,175.88	8.30	6.08
1,175.89	8.28	6.11
1,175.90	8.25	6.14
1,175.91	8.22	6.17
1,175.92	8.19	6.19
1,175.93	8.14	6.20
1,175.94	8.09	**6.20**
1,175.95	8.04	6.20
1,175.96	7.97	6.18
1,175.97	7.89	6.14
1,175.98	7.79	6.09
1,175.99	7.66	6.01
1,176.00	7.34	5.77

Summary for Reach DMH10: TO DMH#12

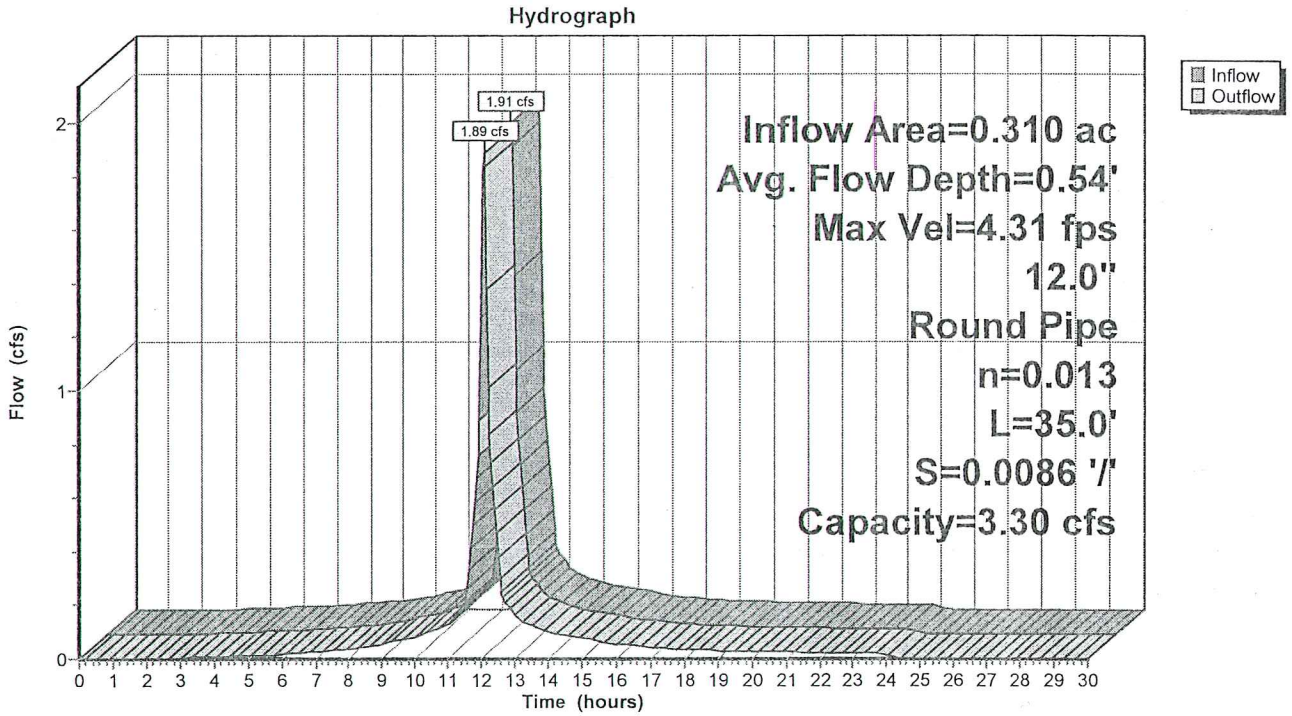
Inflow Area = 0.310 ac, 78.60% Impervious, Inflow Depth = 5.68" for 100-Year event
Inflow = 1.91 cfs @ 12.07 hrs, Volume= 0.147 af
Outflow = 1.89 cfs @ 12.08 hrs, Volume= 0.147 af, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.31 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.46 fps, Avg. Travel Time= 0.4 min

Peak Storage= 15 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.54'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.30 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 35.0' Slope= 0.0086 '/'
Inlet Invert= 1,178.90', Outlet Invert= 1,178.60'





Stage-Discharge for Reach DMH10: TO DMH#12

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.90	0.00	0.00
1,178.91	0.37	0.00
1,178.92	0.59	0.00
1,178.93	0.77	0.01
1,178.94	0.93	0.01
1,178.95	1.08	0.02
1,178.96	1.21	0.02
1,178.97	1.34	0.03
1,178.98	1.46	0.04
1,178.99	1.58	0.06
1,179.00	1.68	0.07
1,179.01	1.79	0.08
1,179.02	1.89	0.10
1,179.03	1.99	0.12
1,179.04	2.08	0.14
1,179.05	2.17	0.16
1,179.06	2.26	0.18
1,179.07	2.34	0.21
1,179.08	2.43	0.23
1,179.09	2.51	0.26
1,179.10	2.58	0.29
1,179.11	2.66	0.32
1,179.12	2.73	0.35
1,179.13	2.80	0.38
1,179.14	2.87	0.42
1,179.15	2.94	0.45
1,179.16	3.01	0.49
1,179.17	3.07	0.53
1,179.18	3.14	0.56
1,179.19	3.20	0.60
1,179.20	3.26	0.65
1,179.21	3.32	0.69
1,179.22	3.38	0.73
1,179.23	3.43	0.78
1,179.24	3.49	0.82
1,179.25	3.54	0.87
1,179.26	3.59	0.91
1,179.27	3.64	0.96
1,179.28	3.69	1.01
1,179.29	3.74	1.06
1,179.30	3.79	1.11
1,179.31	3.84	1.16
1,179.32	3.88	1.21
1,179.33	3.92	1.27
1,179.34	3.97	1.32
1,179.35	4.01	1.37
1,179.36	4.05	1.43
1,179.37	4.09	1.48
1,179.38	4.13	1.54
1,179.39	4.16	1.59
1,179.40	4.20	1.65
1,179.41	4.23	1.71
1,179.42	4.27	1.76
1,179.43	4.30	1.82
1,179.44	4.33	1.88
1,179.45	4.36	1.93
1,179.46	4.39	1.99
1,179.47	4.42	2.05
1,179.48	4.45	2.10
1,179.49	4.48	2.16
1,179.50	4.50	2.22
1,179.51	4.53	2.27
1,179.52	4.55	2.33
1,179.53	4.57	2.38
1,179.54	4.60	2.44
1,179.55	4.62	2.50
1,179.56	4.64	2.55
1,179.57	4.65	2.60
1,179.58	4.67	2.66
1,179.59	4.69	2.71
1,179.60	4.70	2.76
1,179.61	4.72	2.81
1,179.62	4.73	2.86
1,179.63	4.74	2.91
1,179.64	4.75	2.96
1,179.65	4.76	3.01
1,179.66	4.77	3.05
1,179.67	4.77	3.10
1,179.68	4.78	3.14
1,179.69	4.78	3.18
1,179.70	4.79	3.22
1,179.71	**4.79**	3.26
1,179.72	4.79	3.30
1,179.73	4.79	3.33
1,179.74	4.78	3.37
1,179.75	4.78	3.40
1,179.76	4.77	3.43
1,179.77	4.76	3.45
1,179.78	4.75	3.48
1,179.79	4.74	3.50
1,179.80	4.72	3.52
1,179.81	4.70	3.53
1,179.82	4.68	3.54
1,179.83	4.66	3.55
1,179.84	4.63	**3.55**
1,179.85	4.60	3.54
1,179.86	4.56	3.53
1,179.87	4.52	3.52
1,179.88	4.46	3.49
1,179.89	4.38	3.44
1,179.90	4.20	3.30

Summary for Reach DMH11: TO DMH#12

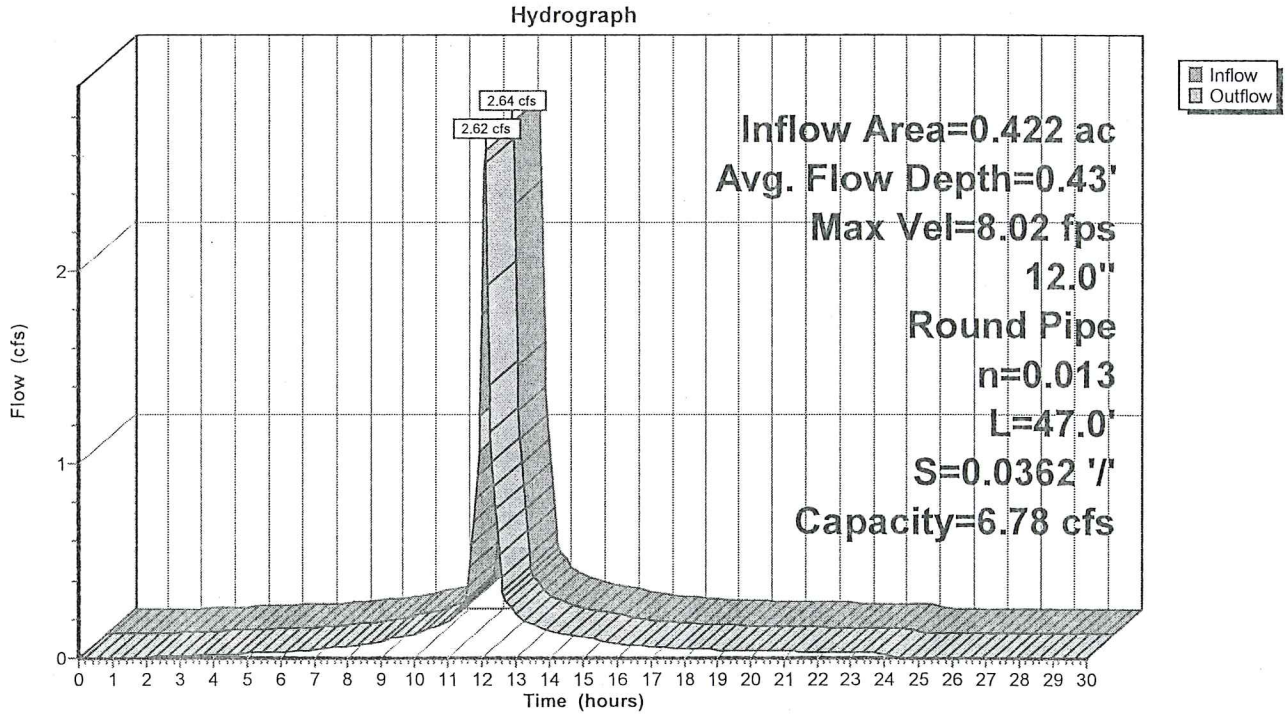
Inflow Area = 0.422 ac, 88.35% Impervious, Inflow Depth = 5.96" for 100-Year event
Inflow = 2.64 cfs @ 12.07 hrs, Volume= 0.209 af
Outflow = 2.62 cfs @ 12.08 hrs, Volume= 0.209 af, Atten= 1%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.02 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.67 fps, Avg. Travel Time= 0.3 min

Peak Storage= 15 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.43'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.78 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 47.0' Slope= 0.0362 '/'
Inlet Invert= 1,180.30', Outlet Invert= 1,178.60'





Stage-Discharge for Reach DMH11: TO DMH#12

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.30	0.00	0.00
1,180.31	0.77	0.00
1,180.32	1.21	0.00
1,180.33	1.59	0.01
1,180.34	1.92	0.02
1,180.35	2.22	0.03
1,180.36	2.49	0.05
1,180.37	2.76	0.07
1,180.38	3.00	0.09
1,180.39	3.24	0.11
1,180.40	3.46	0.14
1,180.41	3.68	0.17
1,180.42	3.88	0.21
1,180.43	4.08	0.24
1,180.44	4.27	0.29
1,180.45	4.46	0.33
1,180.46	4.64	0.38
1,180.47	4.81	0.43
1,180.48	4.98	0.48
1,180.49	5.15	0.53
1,180.50	5.31	0.59
1,180.51	5.46	0.65
1,180.52	5.61	0.72
1,180.53	5.76	0.79
1,180.54	5.90	0.86
1,180.55	6.04	0.93
1,180.56	6.18	1.00
1,180.57	6.31	1.08
1,180.58	6.45	1.16
1,180.59	6.57	1.24
1,180.60	6.70	1.33
1,180.61	6.82	1.41
1,180.62	6.94	1.50
1,180.63	7.05	1.59
1,180.64	7.16	1.69
1,180.65	7.27	1.78
1,180.66	7.38	1.88
1,180.67	7.48	1.98
1,180.68	7.59	2.08
1,180.69	7.69	2.18
1,180.70	7.78	2.28
1,180.71	7.88	2.39
1,180.72	7.97	2.50
1,180.73	8.06	2.60
1,180.74	8.15	2.71
1,180.75	8.23	2.82
1,180.76	8.32	2.93
1,180.77	8.40	3.05
1,180.78	8.48	3.16
1,180.79	8.55	3.27
1,180.80	8.63	3.39
1,180.81	8.70	3.50
1,180.82	8.77	3.62
1,180.83	8.84	3.74
1,180.84	8.90	3.85
1,180.85	8.97	3.97
1,180.86	9.03	4.09
1,180.87	9.09	4.20
1,180.88	9.14	4.32
1,180.89	9.20	4.44
1,180.90	9.25	4.55
1,180.91	9.30	4.67
1,180.92	9.35	4.78
1,180.93	9.40	4.90
1,180.94	9.44	5.01
1,180.95	9.48	5.13
1,180.96	9.52	5.24
1,180.97	9.56	5.35
1,180.98	9.60	5.46
1,180.99	9.63	5.57
1,181.00	9.66	5.67
1,181.01	9.69	5.78
1,181.02	9.72	5.88
1,181.03	9.74	5.98
1,181.04	9.76	6.08
1,181.05	9.78	6.18
1,181.06	9.80	6.27
1,181.07	9.81	6.37
1,181.08	9.82	6.45
1,181.09	9.83	6.54
1,181.10	9.83	6.62
1,181.11	**9.84**	6.70
1,181.12	9.83	6.78
1,181.13	9.83	6.85
1,181.14	9.82	6.92
1,181.15	9.81	6.98
1,181.16	9.80	7.04
1,181.17	9.78	7.09
1,181.18	9.76	7.14
1,181.19	9.73	7.19
1,181.20	9.70	7.22
1,181.21	9.66	7.25
1,181.22	9.62	7.27
1,181.23	9.57	7.29
1,181.24	9.51	**7.29**
1,181.25	9.45	7.28
1,181.26	9.37	7.26
1,181.27	9.28	7.22
1,181.28	9.16	7.16
1,181.29	9.00	7.06
1,181.30	8.63	6.78

Summary for Reach DMH12: TO DMH#13

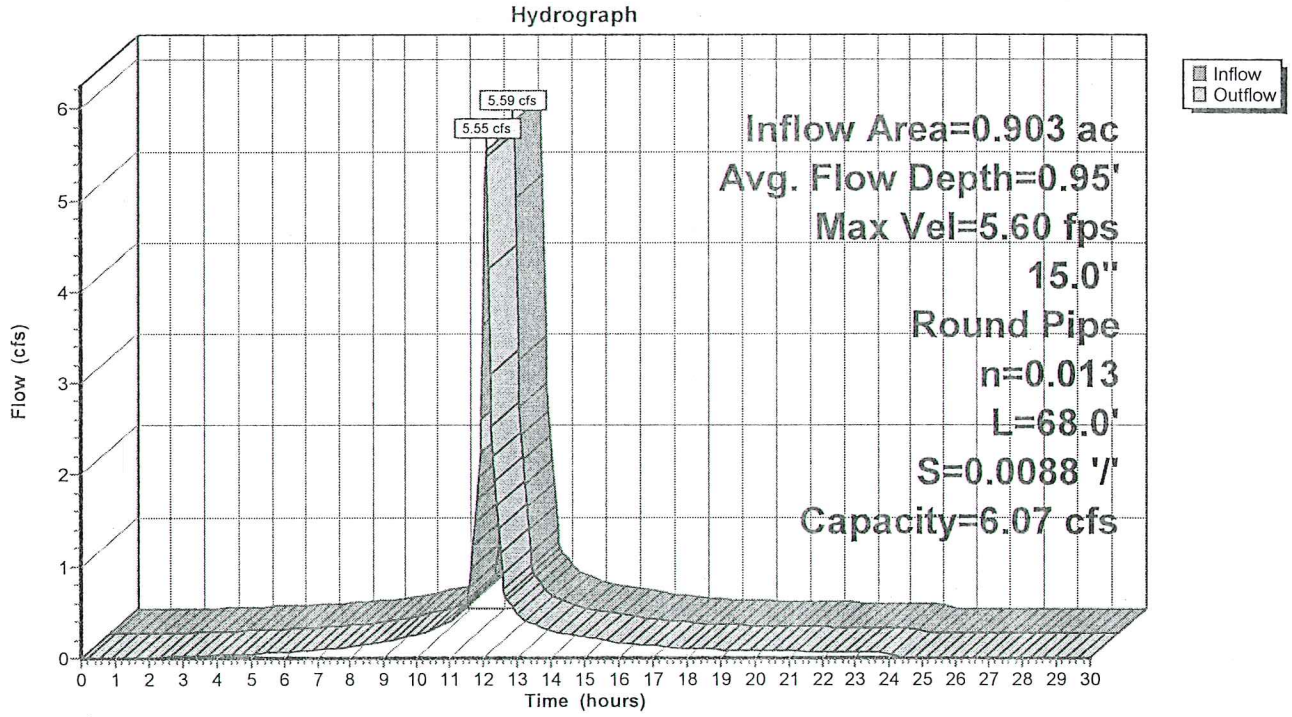
Inflow Area = 0.903 ac, 85.40% Impervious, Inflow Depth = 5.87" for 100-Year event
Inflow = 5.59 cfs @ 12.08 hrs, Volume= 0.442 af
Outflow = 5.55 cfs @ 12.08 hrs, Volume= 0.442 af, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.60 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.96 fps, Avg. Travel Time= 0.6 min

Peak Storage= 68 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.95'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 6.07 cfs

15.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 68.0' Slope= 0.0088 '/'
Inlet Invert= 1,178.50', Outlet Invert= 1,177.90'





Stage-Discharge for Reach DMH12: TO DMH#13

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.50	0.00	0.00
1,178.51	0.35	0.00
1,178.52	0.59	0.00
1,178.53	0.78	0.01
1,178.54	0.95	0.01
1,178.55	1.10	0.02
1,178.56	1.24	0.03
1,178.57	1.37	0.04
1,178.58	1.49	0.05
1,178.59	1.61	0.06
1,178.60	1.72	0.08
1,178.61	1.83	0.10
1,178.62	1.93	0.12
1,178.63	2.03	0.14
1,178.64	2.13	0.16
1,178.65	2.22	0.19
1,178.66	2.32	0.21
1,178.67	2.40	0.24
1,178.68	2.49	0.27
1,178.69	2.58	0.30
1,178.70	2.66	0.34
1,178.71	2.74	0.37
1,178.72	2.82	0.41
1,178.73	2.89	0.45
1,178.74	2.97	0.49
1,178.75	3.04	0.53
1,178.76	3.11	0.58
1,178.77	3.18	0.62
1,178.78	3.25	0.67
1,178.79	3.32	0.72
1,178.80	3.38	0.77
1,178.81	3.45	0.82
1,178.82	3.51	0.87
1,178.83	3.57	0.93
1,178.84	3.63	0.98
1,178.85	3.69	1.04
1,178.86	3.75	1.10
1,178.87	3.81	1.16
1,178.88	3.87	1.22
1,178.89	3.92	1.28
1,178.90	3.97	1.35
1,178.91	4.03	1.41
1,178.92	4.08	1.48
1,178.93	4.13	1.54
1,178.94	4.18	1.61
1,178.95	4.23	1.68
1,178.96	4.28	1.75
1,178.97	4.32	1.82
1,178.98	4.37	1.90
1,178.99	4.42	1.97
1,179.00	4.46	2.04
1,179.01	4.50	2.12
1,179.02	4.55	2.20
1,179.03	4.59	2.27
1,179.04	4.63	2.35
1,179.05	4.67	2.43
1,179.06	4.71	2.51
1,179.07	4.75	2.59
1,179.08	4.79	2.67
1,179.09	4.82	2.75
1,179.10	4.86	2.83
1,179.11	4.89	2.91
1,179.12	4.93	2.99
1,179.13	4.96	3.08
1,179.14	4.99	3.16
1,179.15	5.03	3.24
1,179.16	5.06	3.32
1,179.17	5.09	3.41
1,179.18	5.12	3.49
1,179.19	5.15	3.57
1,179.20	5.17	3.66
1,179.21	5.20	3.74
1,179.22	5.23	3.83
1,179.23	5.25	3.91
1,179.24	5.28	3.99
1,179.25	5.30	4.08
1,179.26	5.33	4.16
1,179.27	5.35	4.24
1,179.28	5.37	4.32
1,179.29	5.39	4.41
1,179.30	5.41	4.49
1,179.31	5.43	4.57
1,179.32	5.45	4.65
1,179.33	5.47	4.73
1,179.34	5.48	4.81
1,179.35	5.50	4.89
1,179.36	5.52	4.97
1,179.37	5.53	5.04
1,179.38	5.54	5.12
1,179.39	5.56	5.19
1,179.40	5.57	5.27
1,179.41	5.58	5.34
1,179.42	5.59	5.41
1,179.43	5.60	5.48
1,179.44	5.61	5.55
1,179.45	5.61	5.62
1,179.46	5.62	5.68
1,179.47	5.63	5.75
1,179.48	5.63	5.81
1,179.49	5.63	5.87
1,179.50	5.64	5.93
1,179.51	5.64	5.99
1,179.52	**5.64**	6.04
1,179.53	5.64	6.10
1,179.54	5.63	6.15
1,179.55	5.63	6.20
1,179.56	5.63	6.24
1,179.57	5.62	6.28
1,179.58	5.61	6.32
1,179.59	5.60	6.36
1,179.60	5.59	6.40
1,179.61	5.58	6.43
1,179.62	5.57	6.45
1,179.63	5.55	6.48
1,179.64	5.53	6.50
1,179.65	5.51	6.51
1,179.66	5.49	6.52
1,179.67	5.47	**6.53**
1,179.68	5.44	6.52
1,179.69	5.41	6.52
1,179.70	5.37	6.50
1,179.71	5.33	6.47
1,179.72	5.28	6.43
1,179.73	5.21	6.38
1,179.74	5.12	6.27
1,179.75	4.94	6.07

Summary for Reach DMH13: TO DMH#14

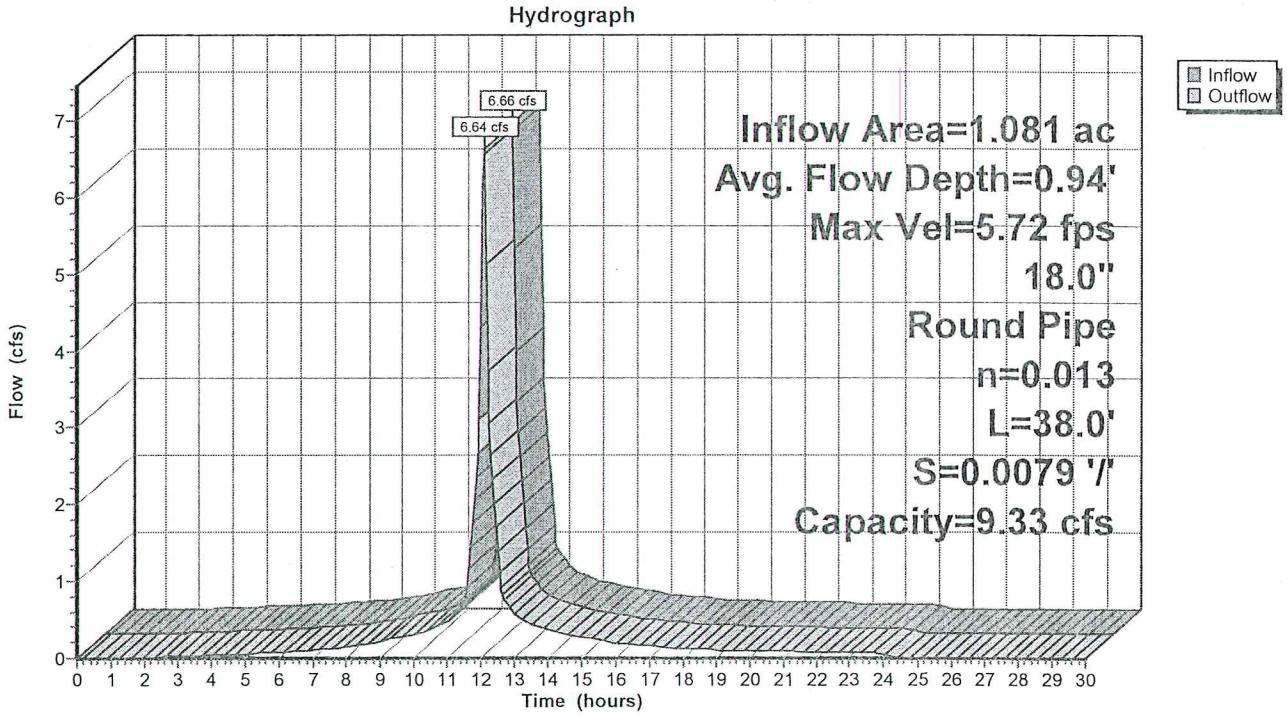
Inflow Area = 1.081 ac, 85.82% Impervious, Inflow Depth = 5.88" for 100-Year event
Inflow = 6.66 cfs @ 12.08 hrs, Volume= 0.530 af
Outflow = 6.64 cfs @ 12.09 hrs, Volume= 0.530 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.72 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.94 fps, Avg. Travel Time= 0.3 min

Peak Storage= 44 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.94'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 9.33 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 38.0' Slope= 0.0079 '/'
Inlet Invert= 1,177.80', Outlet Invert= 1,177.50'





Stage-Discharge for Reach DMH13: TO DMH#14

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,177.80	0.00	0.00
1,177.81	0.31	0.00
1,177.82	0.56	0.00
1,177.83	0.74	0.01
1,177.84	0.90	0.01
1,177.85	1.04	0.02
1,177.86	1.17	0.03
1,177.87	1.30	0.04
1,177.88	1.41	0.05
1,177.89	1.53	0.07
1,177.90	1.63	0.08
1,177.91	1.74	0.10
1,177.92	1.84	0.12
1,177.93	1.93	0.14
1,177.94	2.03	0.17
1,177.95	2.12	0.19
1,177.96	2.21	0.22
1,177.97	2.29	0.25
1,177.98	2.38	0.29
1,177.99	2.46	0.32
1,178.00	2.54	0.36
1,178.01	2.62	0.39
1,178.02	2.69	0.43
1,178.03	2.77	0.48
1,178.04	2.84	0.52
1,178.05	2.91	0.56
1,178.06	2.98	0.61
1,178.07	3.05	0.66
1,178.08	3.12	0.71
1,178.09	3.18	0.76
1,178.10	3.25	0.82
1,178.11	3.31	0.87
1,178.12	3.37	0.93
1,178.13	3.44	0.99
1,178.14	3.50	1.05
1,178.15	3.56	1.11
1,178.16	3.61	1.18
1,178.17	3.67	1.25
1,178.18	3.73	1.31
1,178.19	3.78	1.38
1,178.20	3.84	1.45
1,178.21	3.89	1.52
1,178.22	3.95	1.60
1,178.23	4.00	1.67
1,178.24	4.05	1.75
1,178.25	4.10	1.83
1,178.26	4.15	1.91
1,178.27	4.20	1.99
1,178.28	4.25	2.07
1,178.29	4.29	2.15
1,178.30	4.34	2.24
1,178.31	4.39	2.32
1,178.32	4.43	2.41
1,178.33	4.47	2.50
1,178.34	4.52	2.59
1,178.35	4.56	2.68
1,178.36	4.60	2.77
1,178.37	4.64	2.86
1,178.38	4.69	2.96
1,178.39	4.73	3.05
1,178.40	4.76	3.15
1,178.41	4.80	3.24
1,178.42	4.84	3.34
1,178.43	4.88	3.44
1,178.44	4.92	3.54
1,178.45	4.95	3.64
1,178.46	4.99	3.74
1,178.47	5.02	3.84
1,178.48	5.06	3.94
1,178.49	5.09	4.04
1,178.50	5.12	4.14
1,178.51	5.16	4.25
1,178.52	5.19	4.35
1,178.53	5.22	4.46
1,178.54	5.25	4.56
1,178.55	5.28	4.67
1,178.56	5.31	4.77
1,178.57	5.34	4.88
1,178.58	5.37	4.99
1,178.59	5.40	5.09
1,178.60	5.42	5.20
1,178.61	5.45	5.31
1,178.62	5.48	5.41
1,178.63	5.50	5.52
1,178.64	5.53	5.63
1,178.65	5.55	5.74
1,178.66	5.57	5.84
1,178.67	5.60	5.95
1,178.68	5.62	6.06
1,178.69	5.64	6.16
1,178.70	5.66	6.27
1,178.71	5.68	6.38
1,178.72	5.71	6.48
1,178.73	5.72	6.59
1,178.74	5.74	6.69
1,178.75	5.76	6.80
1,178.76	5.78	6.90
1,178.77	5.80	7.01
1,178.78	5.81	7.11
1,178.79	5.83	7.21
1,178.80	5.85	7.32
1,178.81	5.86	7.42
1,178.82	5.88	7.52
1,178.83	5.89	7.62
1,178.84	5.90	7.72
1,178.85	5.91	7.81
1,178.86	5.93	7.91
1,178.87	5.94	8.01
1,178.88	5.95	8.10
1,178.89	5.96	8.19
1,178.90	5.97	8.29
1,178.91	5.98	8.38
1,178.92	5.98	8.47
1,178.93	5.99	8.55
1,178.94	6.00	8.64
1,178.95	6.00	8.73
1,178.96	6.01	8.81
1,178.97	6.01	8.89
1,178.98	6.01	8.97
1,178.99	6.02	9.05
1,179.00	6.02	9.12
1,179.01	6.02	9.20
1,179.02	**6.02**	9.27
1,179.03	6.02	9.34
1,179.04	6.02	9.40
1,179.05	6.02	9.47
1,179.06	6.01	9.53
1,179.07	6.01	9.59
1,179.08	6.00	9.64
1,179.09	6.00	9.70
1,179.10	5.99	9.75
1,179.11	5.98	9.79
1,179.12	5.97	9.84
1,179.13	5.96	9.88
1,179.14	5.95	9.91
1,179.15	5.94	9.95
1,179.16	5.92	9.97
1,179.17	5.91	10.00
1,179.18	5.89	10.02
1,179.19	5.87	10.03
1,179.20	5.85	10.04
1,179.21	5.82	**10.04**
1,179.22	5.80	10.03
1,179.23	5.77	10.02
1,179.24	5.74	10.00
1,179.25	5.70	9.96
1,179.26	5.65	9.92
1,179.27	5.61	9.86
1,179.28	5.54	9.77
1,179.29	5.44	9.59
1,179.30	5.28	9.33

Summary for Reach DMH14: TO UGS#1A

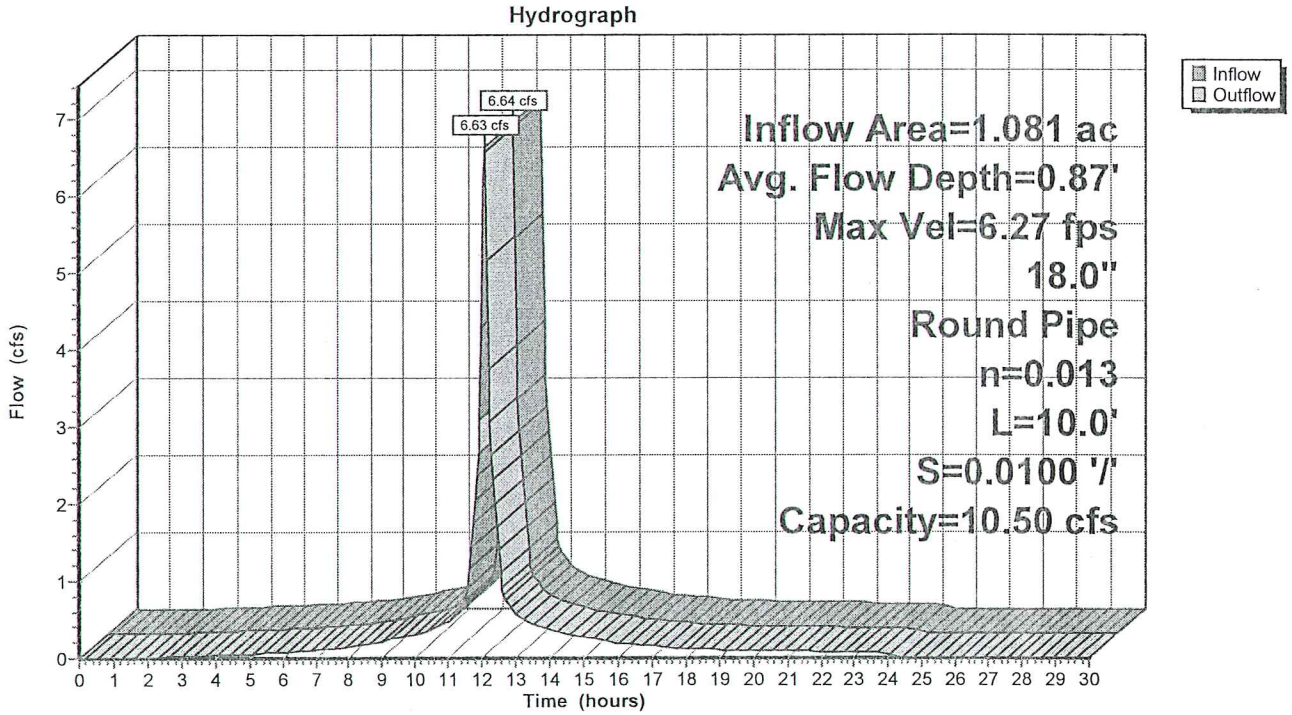
Inflow Area = 1.081 ac, 85.82% Impervious, Inflow Depth = 5.88" for 100-Year event
Inflow = 6.64 cfs @ 12.09 hrs, Volume= 0.530 af
Outflow = 6.63 cfs @ 12.09 hrs, Volume= 0.530 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.27 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.11 fps, Avg. Travel Time= 0.1 min

Peak Storage= 11 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.87'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 10.50 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 10.0' Slope= 0.0100 '/'
Inlet Invert= 1,177.30', Outlet Invert= 1,177.20'





Stage-Discharge for Reach DMH14: TO UGS#1A

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,177.30	0.00	0.00
1,177.31	0.35	0.00
1,177.32	0.63	0.00
1,177.33	0.84	0.01
1,177.34	1.01	0.01
1,177.35	1.17	0.02
1,177.36	1.32	0.03
1,177.37	1.46	0.04
1,177.38	1.59	0.06
1,177.39	1.72	0.07
1,177.40	1.84	0.09
1,177.41	1.96	0.11
1,177.42	2.07	0.14
1,177.43	2.18	0.16
1,177.44	2.28	0.19
1,177.45	2.38	0.22
1,177.46	2.48	0.25
1,177.47	2.58	0.29
1,177.48	2.67	0.32
1,177.49	2.77	0.36
1,177.50	2.86	0.40
1,177.51	2.94	0.44
1,177.52	3.03	0.49
1,177.53	3.11	0.53
1,177.54	3.20	0.58
1,177.55	3.28	0.63
1,177.56	3.35	0.69
1,177.57	3.43	0.74
1,177.58	3.51	0.80
1,177.59	3.58	0.86
1,177.60	3.66	0.92
1,177.61	3.73	0.98
1,177.62	3.80	1.05
1,177.63	3.87	1.11
1,177.64	3.94	1.18
1,177.65	4.00	1.25
1,177.66	4.07	1.33
1,177.67	4.13	1.40
1,177.68	4.20	1.48
1,177.69	4.26	1.55
1,177.70	4.32	1.63
1,177.71	4.38	1.72
1,177.72	4.44	1.80
1,177.73	4.50	1.88
1,177.74	4.56	1.97
1,177.75	4.61	2.06
1,177.76	4.67	2.15
1,177.77	4.72	2.24
1,177.78	4.78	2.33
1,177.79	4.83	2.42
1,177.80	4.88	2.52
1,177.81	4.94	2.61
1,177.82	4.99	2.71
1,177.83	5.04	2.81
1,177.84	5.08	2.91
1,177.85	5.13	3.01
1,177.86	5.18	3.12
1,177.87	5.23	3.22
1,177.88	5.27	3.33
1,177.89	5.32	3.43
1,177.90	5.36	3.54
1,177.91	5.41	3.65
1,177.92	5.45	3.76
1,177.93	5.49	3.87
1,177.94	5.53	3.98
1,177.95	5.57	4.09
1,177.96	5.61	4.20
1,177.97	5.65	4.32
1,177.98	5.69	4.43
1,177.99	5.73	4.55
1,178.00	5.77	4.66
1,178.01	5.80	4.78
1,178.02	5.84	4.90
1,178.03	5.88	5.02
1,178.04	5.91	5.13
1,178.05	5.94	5.25
1,178.06	5.98	5.37
1,178.07	6.01	5.49
1,178.08	6.04	5.61
1,178.09	6.07	5.73
1,178.10	6.10	5.85
1,178.11	6.13	5.97
1,178.12	6.16	6.09
1,178.13	6.19	6.21
1,178.14	6.22	6.33
1,178.15	6.25	6.45
1,178.16	6.27	6.58
1,178.17	6.30	6.70
1,178.18	6.33	6.82
1,178.19	6.35	6.94
1,178.20	6.37	7.06
1,178.21	6.40	7.18
1,178.22	6.42	7.30
1,178.23	6.44	7.42
1,178.24	6.46	7.53
1,178.25	6.49	7.65
1,178.26	6.51	7.77
1,178.27	6.52	7.89
1,178.28	6.54	8.00
1,178.29	6.56	8.12
1,178.30	6.58	8.23
1,178.31	6.60	8.35
1,178.32	6.61	8.46
1,178.33	6.63	8.57
1,178.34	6.64	8.68
1,178.35	6.66	8.79
1,178.36	6.67	8.90
1,178.37	6.68	9.01
1,178.38	6.69	9.12
1,178.39	6.70	9.22
1,178.40	6.71	9.33
1,178.41	6.72	9.43
1,178.42	6.73	9.53
1,178.43	6.74	9.63
1,178.44	6.75	9.73
1,178.45	6.76	9.82
1,178.46	6.76	9.91
1,178.47	6.77	10.01
1,178.48	6.77	10.09
1,178.49	6.77	10.18
1,178.50	6.77	10.27
1,178.51	6.78	10.35
1,178.52	**6.78**	10.43
1,178.53	6.78	10.51
1,178.54	6.77	10.58
1,178.55	6.77	10.66
1,178.56	6.77	10.73
1,178.57	6.76	10.79
1,178.58	6.76	10.85
1,178.59	6.75	10.92
1,178.60	6.74	10.97
1,178.61	6.73	11.02
1,178.62	6.72	11.07
1,178.63	6.71	11.12
1,178.64	6.70	11.16
1,178.65	6.68	11.20
1,178.66	6.67	11.23
1,178.67	6.65	11.25
1,178.68	6.63	11.27
1,178.69	6.61	11.29
1,178.70	6.58	11.30
1,178.71	6.55	**11.30**
1,178.72	6.52	11.29
1,178.73	6.49	11.28
1,178.74	6.46	11.25
1,178.75	6.41	11.21
1,178.76	6.36	11.16
1,178.77	6.31	11.10
1,178.78	6.24	11.00
1,178.79	6.12	10.80
1,178.80	5.94	10.50

Summary for Reach DMH15: TO DMH#16

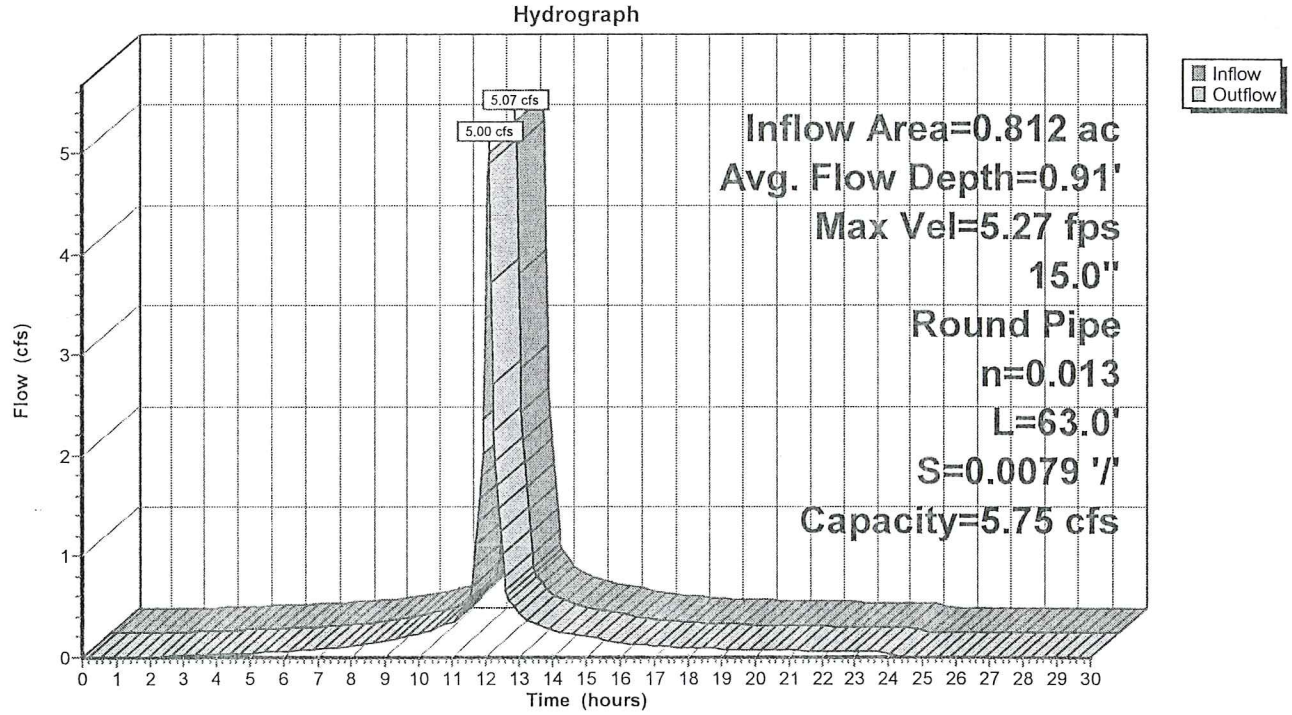
Inflow Area = 0.812 ac, 86.55% Impervious, Inflow Depth = 5.85" for 100-Year event
Inflow = 5.07 cfs @ 12.07 hrs, Volume= 0.396 af
Outflow = 5.00 cfs @ 12.08 hrs, Volume= 0.396 af, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.27 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.82 fps, Avg. Travel Time= 0.6 min

Peak Storage= 60 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.91'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.75 cfs

15.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 63.0' Slope= 0.0079 '/'
Inlet Invert= 1,180.20', Outlet Invert= 1,179.70'





Stage-Discharge for Reach DMH15: TO DMH#16

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,180.20	0.00	0.00
1,180.21	0.33	0.00
1,180.22	0.56	0.00
1,180.23	0.74	0.01
1,180.24	0.90	0.01
1,180.25	1.04	0.02
1,180.26	1.17	0.03
1,180.27	1.30	0.04
1,180.28	1.41	0.05
1,180.29	1.52	0.06
1,180.30	1.63	0.08
1,180.31	1.73	0.09
1,180.32	1.83	0.11
1,180.33	1.93	0.13
1,180.34	2.02	0.15
1,180.35	2.11	0.18
1,180.36	2.20	0.20
1,180.37	2.28	0.23
1,180.38	2.36	0.26
1,180.39	2.44	0.29
1,180.40	2.52	0.32
1,180.41	2.60	0.35
1,180.42	2.67	0.39
1,180.43	2.74	0.43
1,180.44	2.81	0.46
1,180.45	2.88	0.50
1,180.46	2.95	0.55
1,180.47	3.02	0.59
1,180.48	3.08	0.63
1,180.49	3.15	0.68
1,180.50	3.21	0.73
1,180.51	3.27	0.78
1,180.52	3.33	0.83
1,180.53	3.39	0.88
1,180.54	3.45	0.93
1,180.55	3.50	0.99
1,180.56	3.56	1.04
1,180.57	3.61	1.10
1,180.58	3.67	1.16
1,180.59	3.72	1.22
1,180.60	3.77	1.28
1,180.61	3.82	1.34
1,180.62	3.87	1.40
1,180.63	3.92	1.46
1,180.64	3.96	1.53
1,180.65	4.01	1.60
1,180.66	4.06	1.66
1,180.67	4.10	1.73
1,180.68	4.15	1.80
1,180.69	4.19	1.87
1,180.70	4.23	1.94
1,180.71	4.27	2.01
1,180.72	4.31	2.08
1,180.73	4.35	2.16
1,180.74	4.39	2.23
1,180.75	4.43	2.30
1,180.76	4.47	2.38
1,180.77	4.50	2.45
1,180.78	4.54	2.53
1,180.79	4.57	2.61
1,180.80	4.61	2.68
1,180.81	4.64	2.76
1,180.82	4.67	2.84
1,180.83	4.71	2.92
1,180.84	4.74	3.00
1,180.85	4.77	3.07
1,180.86	4.80	3.15
1,180.87	4.83	3.23
1,180.88	4.85	3.31
1,180.89	4.88	3.39
1,180.90	4.91	3.47
1,180.91	4.93	3.55
1,180.92	4.96	3.63
1,180.93	4.98	3.71
1,180.94	5.01	3.79
1,180.95	5.03	3.87
1,180.96	5.05	3.95
1,180.97	5.07	4.02
1,180.98	5.09	4.10
1,180.99	5.11	4.18
1,181.00	5.13	4.26
1,181.01	5.15	4.33
1,181.02	5.17	4.41
1,181.03	5.18	4.49
1,181.04	5.20	4.56
1,181.05	5.22	4.64
1,181.06	5.23	4.71
1,181.07	5.24	4.78
1,181.08	5.26	4.85
1,181.09	5.27	4.92
1,181.10	5.28	5.00
1,181.11	5.29	5.06
1,181.12	5.30	5.13
1,181.13	5.31	5.20
1,181.14	5.32	5.26
1,181.15	5.32	5.33
1,181.16	5.33	5.39
1,181.17	5.34	5.45
1,181.18	5.34	5.51
1,181.19	5.34	5.57
1,181.20	5.34	5.63
1,181.21	5.35	5.68
1,181.22	**5.35**	5.73
1,181.23	5.34	5.78
1,181.24	5.34	5.83
1,181.25	5.34	5.88
1,181.26	5.34	5.92
1,181.27	5.33	5.96
1,181.28	5.32	6.00
1,181.29	5.31	6.03
1,181.30	5.30	6.07
1,181.31	5.29	6.10
1,181.32	5.28	6.12
1,181.33	5.26	6.14
1,181.34	5.25	6.16
1,181.35	5.23	6.18
1,181.36	5.21	6.19
1,181.37	5.18	**6.19**
1,181.38	5.16	6.19
1,181.39	5.13	6.18
1,181.40	5.09	6.17
1,181.41	5.05	6.14
1,181.42	5.00	6.10
1,181.43	4.95	6.05
1,181.44	4.85	5.95
1,181.45	4.69	5.75

Summary for Reach DMH16: TO DMH#17

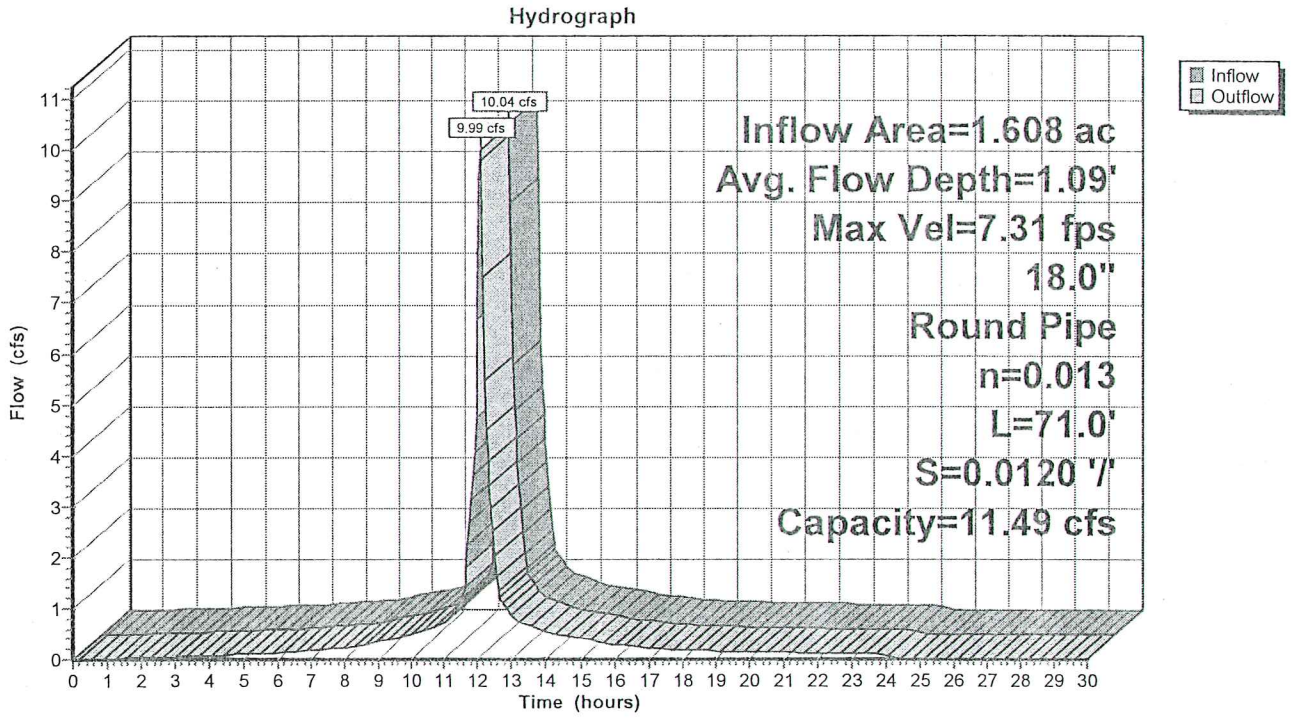
Inflow Area = 1.608 ac, 92.28% Impervious, Inflow Depth = 6.03" for 100-Year event
Inflow = 10.04 cfs @ 12.08 hrs, Volume= 0.808 af
Outflow = 9.99 cfs @ 12.08 hrs, Volume= 0.808 af, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.31 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.54 fps, Avg. Travel Time= 0.5 min

Peak Storage= 97 cf @ 12.08 hrs
Average Depth at Peak Storage= 1.09'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 11.49 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 71.0' Slope= 0.0120 '/'
Inlet Invert= 1,179.60', Outlet Invert= 1,178.75'





Stage-Discharge for Reach DMH16: TO DMH#17

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.60	0.00	0.00
1,179.61	0.39	0.00
1,179.62	0.69	0.00
1,179.63	0.92	0.01
1,179.64	1.10	0.01
1,179.65	1.28	0.02
1,179.66	1.44	0.03
1,179.67	1.60	0.05
1,179.68	1.74	0.06
1,179.69	1.88	0.08
1,179.70	2.01	0.10
1,179.71	2.14	0.13
1,179.72	2.26	0.15
1,179.73	2.38	0.18
1,179.74	2.50	0.21
1,179.75	2.61	0.24
1,179.76	2.72	0.28
1,179.77	2.82	0.31
1,179.78	2.93	0.35
1,179.79	3.03	0.39
1,179.80	3.12	0.44
1,179.81	3.22	0.48
1,179.82	3.31	0.53
1,179.83	3.41	0.59
1,179.84	3.50	0.64
1,179.85	3.58	0.69
1,179.86	3.67	0.75
1,179.87	3.76	0.81
1,179.88	3.84	0.88
1,179.89	3.92	0.94
1,179.90	4.00	1.01
1,179.91	4.08	1.08
1,179.92	4.16	1.15
1,179.93	4.23	1.22
1,179.94	4.31	1.30
1,179.95	4.38	1.37
1,179.96	4.45	1.45
1,179.97	4.52	1.53
1,179.98	4.59	1.62
1,179.99	4.66	1.70
1,180.00	4.73	1.79
1,180.01	4.79	1.88
1,180.02	4.86	1.97
1,180.03	4.92	2.06
1,180.04	4.99	2.16
1,180.05	5.05	2.25
1,180.06	5.11	2.35
1,180.07	5.17	2.45
1,180.08	5.23	2.55
1,180.09	5.29	2.65
1,180.10	5.34	2.76
1,180.11	5.40	2.86
1,180.12	5.46	2.97
1,180.13	5.51	3.08
1,180.14	5.56	3.19
1,180.15	5.62	3.30
1,180.16	5.67	3.41
1,180.17	5.72	3.52
1,180.18	5.77	3.64
1,180.19	5.82	3.76
1,180.20	5.87	3.87
1,180.21	5.92	3.99
1,180.22	5.96	4.11
1,180.23	6.01	4.23
1,180.24	6.05	4.35
1,180.25	6.10	4.48
1,180.26	6.14	4.60
1,180.27	6.19	4.72
1,180.28	6.23	4.85
1,180.29	6.27	4.98
1,180.30	6.31	5.10
1,180.31	6.35	5.23
1,180.32	6.39	5.36
1,180.33	6.43	5.49
1,180.34	6.47	5.62
1,180.35	6.50	5.75
1,180.36	6.54	5.88
1,180.37	6.58	6.01
1,180.38	6.61	6.14
1,180.39	6.65	6.27
1,180.40	6.68	6.40
1,180.41	6.71	6.53
1,180.42	6.74	6.67
1,180.43	6.78	6.80
1,180.44	6.81	6.93
1,180.45	6.84	7.06
1,180.46	6.86	7.19
1,180.47	6.89	7.33
1,180.48	6.92	7.46
1,180.49	6.95	7.59
1,180.50	6.97	7.72
1,180.51	7.00	7.85
1,180.52	7.03	7.98
1,180.53	7.05	8.11
1,180.54	7.07	8.24
1,180.55	7.10	8.37
1,180.56	7.12	8.50
1,180.57	7.14	8.63
1,180.58	7.16	8.76
1,180.59	7.18	8.88
1,180.60	7.20	9.01
1,180.61	7.22	9.13
1,180.62	7.23	9.26
1,180.63	7.25	9.38
1,180.64	7.27	9.50
1,180.65	7.28	9.62
1,180.66	7.30	9.74
1,180.67	7.31	9.86
1,180.68	7.32	9.98
1,180.69	7.34	10.09
1,180.70	7.35	10.20
1,180.71	7.36	10.32
1,180.72	7.37	10.43
1,180.73	7.38	10.53
1,180.74	7.38	10.64
1,180.75	7.39	10.74
1,180.76	7.40	10.85
1,180.77	7.40	10.95
1,180.78	7.41	11.05
1,180.79	7.41	11.14
1,180.80	7.41	11.23
1,180.81	7.41	11.32
1,180.82	**7.41**	11.41
1,180.83	7.41	11.50
1,180.84	7.41	11.58
1,180.85	7.41	11.66
1,180.86	7.41	11.74
1,180.87	7.40	11.81
1,180.88	7.39	11.88
1,180.89	7.39	11.94
1,180.90	7.38	12.00
1,180.91	7.37	12.06
1,180.92	7.36	12.12
1,180.93	7.34	12.16
1,180.94	7.33	12.21
1,180.95	7.31	12.25
1,180.96	7.29	12.28
1,180.97	7.27	12.31
1,180.98	7.25	12.34
1,180.99	7.23	12.35
1,181.00	7.20	12.36
1,181.01	7.17	**12.36**
1,181.02	7.14	12.35
1,181.03	7.10	12.34
1,181.04	7.06	12.31
1,181.05	7.02	12.27
1,181.06	6.96	12.21
1,181.07	6.91	12.15
1,181.08	6.83	12.03
1,181.09	6.69	11.81
1,181.10	6.50	11.49

Summary for Reach DMH17: TO UGS#1B

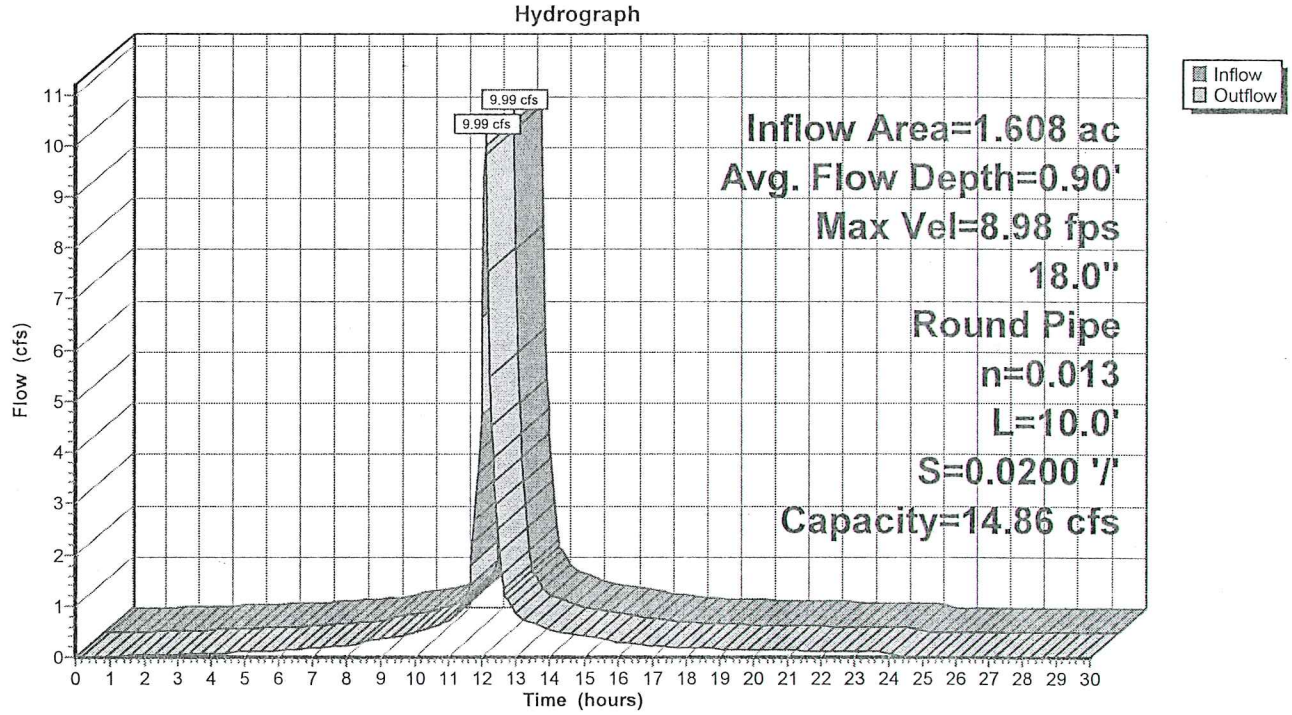
Inflow Area = 1.608 ac, 92.28% Impervious, Inflow Depth = 6.03" for 100-Year event
Inflow = 9.99 cfs @ 12.08 hrs, Volume= 0.808 af
Outflow = 9.99 cfs @ 12.08 hrs, Volume= 0.808 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.98 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.04 fps, Avg. Travel Time= 0.1 min

Peak Storage= 11 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.90'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 14.86 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 10.0' Slope= 0.0200 '/'
Inlet Invert= 1,178.50', Outlet Invert= 1,178.30'





Stage-Discharge for Reach DMH17: TO UGS#1B

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,178.50	0.00	0.00
1,178.51	0.50	0.00
1,178.52	0.89	0.00
1,178.53	1.18	0.01
1,178.54	1.43	0.02
1,178.55	1.65	0.03
1,178.56	1.87	0.04
1,178.57	2.06	0.06
1,178.58	2.25	0.08
1,178.59	2.43	0.11
1,178.60	2.60	0.13
1,178.61	2.77	0.16
1,178.62	2.93	0.19
1,178.63	3.08	0.23
1,178.64	3.23	0.27
1,178.65	3.37	0.31
1,178.66	3.51	0.36
1,178.67	3.65	0.40
1,178.68	3.78	0.45
1,178.69	3.91	0.51
1,178.70	4.04	0.57
1,178.71	4.16	0.63
1,178.72	4.28	0.69
1,178.73	4.40	0.76
1,178.74	4.52	0.82
1,178.75	4.63	0.90
1,178.76	4.74	0.97
1,178.77	4.85	1.05
1,178.78	4.96	1.13
1,178.79	5.07	1.22
1,178.80	5.17	1.30
1,178.81	5.27	1.39
1,178.82	5.37	1.48
1,178.83	5.47	1.58
1,178.84	5.57	1.67
1,178.85	5.66	1.77
1,178.86	5.75	1.88
1,178.87	5.84	1.98
1,178.88	5.93	2.09
1,178.89	6.02	2.20
1,178.90	6.11	2.31
1,178.91	6.20	2.43
1,178.92	6.28	2.54
1,178.93	6.36	2.66
1,178.94	6.44	2.79
1,178.95	6.52	2.91
1,178.96	6.60	3.04
1,178.97	6.68	3.16
1,178.98	6.76	3.29
1,178.99	6.83	3.43
1,179.00	6.91	3.56
1,179.01	6.98	3.70
1,179.02	7.05	3.84
1,179.03	7.12	3.98
1,179.04	7.19	4.12
1,179.05	7.26	4.26
1,179.06	7.33	4.41
1,179.07	7.39	4.56
1,179.08	7.46	4.70
1,179.09	7.52	4.85
1,179.10	7.58	5.01
1,179.11	7.65	5.16
1,179.12	7.71	5.31
1,179.13	7.77	5.47
1,179.14	7.82	5.63
1,179.15	7.88	5.79
1,179.16	7.94	5.95
1,179.17	8.00	6.11
1,179.18	8.05	6.27
1,179.19	8.10	6.43
1,179.20	8.16	6.60
1,179.21	8.21	6.76
1,179.22	8.26	6.93
1,179.23	8.31	7.09
1,179.24	8.36	7.26
1,179.25	8.41	7.43
1,179.26	8.45	7.60
1,179.27	8.50	7.77
1,179.28	8.54	7.93
1,179.29	8.59	8.10
1,179.30	8.63	8.27
1,179.31	8.67	8.44
1,179.32	8.72	8.62
1,179.33	8.76	8.79
1,179.34	8.80	8.96
1,179.35	8.84	9.13
1,179.36	8.87	9.30
1,179.37	8.91	9.47
1,179.38	8.95	9.64
1,179.39	8.98	9.81
1,179.40	9.02	9.98
1,179.41	9.05	10.15
1,179.42	9.08	10.32
1,179.43	9.11	10.49
1,179.44	9.14	10.66
1,179.45	9.17	10.82
1,179.46	9.20	10.99
1,179.47	9.23	11.15
1,179.48	9.25	11.32
1,179.49	9.28	11.48
1,179.50	9.30	11.64
1,179.51	9.33	11.81
1,179.52	9.35	11.97
1,179.53	9.37	12.12
1,179.54	9.39	12.28
1,179.55	9.41	12.44
1,179.56	9.43	12.59
1,179.57	9.45	12.74
1,179.58	9.47	12.89
1,179.59	9.48	13.04
1,179.60	9.50	13.19
1,179.61	9.51	13.33
1,179.62	9.52	13.48
1,179.63	9.53	13.62
1,179.64	9.54	13.75
1,179.65	9.55	13.89
1,179.66	9.56	14.02
1,179.67	9.57	14.15
1,179.68	9.57	14.28
1,179.69	9.58	14.40
1,179.70	9.58	14.52
1,179.71	9.58	14.64
1,179.72	**9.58**	14.75
1,179.73	9.58	14.86
1,179.74	9.58	14.97
1,179.75	9.58	15.07
1,179.76	9.57	15.17
1,179.77	9.57	15.26
1,179.78	9.56	15.35
1,179.79	9.55	15.44
1,179.80	9.54	15.52
1,179.81	9.52	15.59
1,179.82	9.51	15.66
1,179.83	9.49	15.72
1,179.84	9.47	15.78
1,179.85	9.45	15.83
1,179.86	9.43	15.88
1,179.87	9.40	15.91
1,179.88	9.37	15.94
1,179.89	9.34	15.96
1,179.90	9.31	15.97
1,179.91	9.27	**15.98**
1,179.92	9.23	15.97
1,179.93	9.18	15.95
1,179.94	9.13	15.92
1,179.95	9.07	15.86
1,179.96	9.00	15.79
1,179.97	8.93	15.70
1,179.98	8.82	15.55
1,179.99	8.65	15.27
1,180.00	8.41	14.86

Summary for Reach DMH18: TO DMH#20

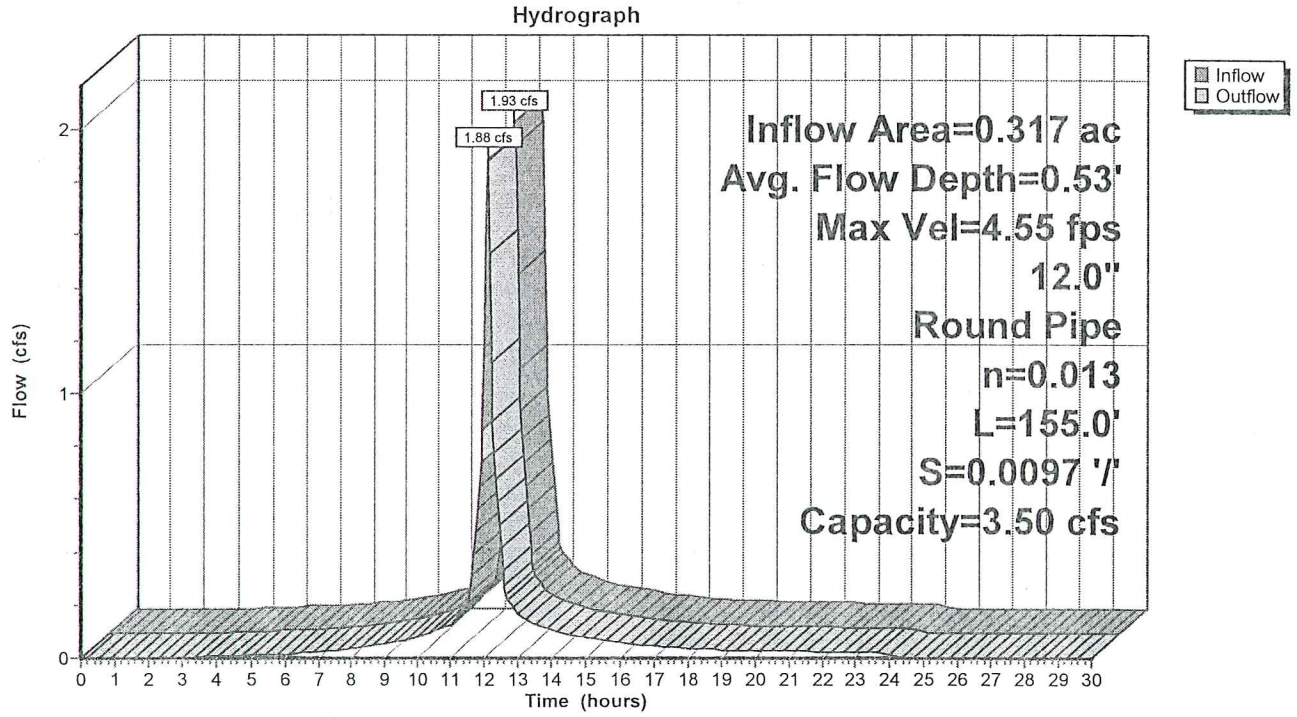
Inflow Area = 0.317 ac, 76.53% Impervious, Inflow Depth = 5.56" for 100-Year event
Inflow = 1.93 cfs @ 12.07 hrs, Volume= 0.147 af
Outflow = 1.88 cfs @ 12.09 hrs, Volume= 0.147 af, Atten= 3%, Lag= 1.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.55 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.51 fps, Avg. Travel Time= 1.7 min

Peak Storage= 65 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.53'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.50 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 155.0' Slope= 0.0097 '/'
Inlet Invert= 1,179.20', Outlet Invert= 1,177.70'





Stage-Discharge for Reach DMH18: TO DMH#20

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,179.20	0.00	0.00
1,179.21	0.40	0.00
1,179.22	0.63	0.00
1,179.23	0.82	0.01
1,179.24	0.99	0.01
1,179.25	1.15	0.02
1,179.26	1.29	0.02
1,179.27	1.43	0.03
1,179.28	1.55	0.05
1,179.29	1.67	0.06
1,179.30	1.79	0.07
1,179.31	1.90	0.09
1,179.32	2.01	0.11
1,179.33	2.11	0.13
1,179.34	2.21	0.15
1,179.35	2.31	0.17
1,179.36	2.40	0.19
1,179.37	2.49	0.22
1,179.38	2.58	0.25
1,179.39	2.66	0.28
1,179.40	2.74	0.31
1,179.41	2.83	0.34
1,179.42	2.90	0.37
1,179.43	2.98	0.41
1,179.44	3.05	0.44
1,179.45	3.13	0.48
1,179.46	3.20	0.52
1,179.47	3.27	0.56
1,179.48	3.33	0.60
1,179.49	3.40	0.64
1,179.50	3.46	0.69
1,179.51	3.53	0.73
1,179.52	3.59	0.78
1,179.53	3.65	0.82
1,179.54	3.70	0.87
1,179.55	3.76	0.92
1,179.56	3.82	0.97
1,179.57	3.87	1.02
1,179.58	3.92	1.07
1,179.59	3.98	1.13
1,179.60	4.03	1.18
1,179.61	4.07	1.24
1,179.62	4.12	1.29
1,179.63	4.17	1.35
1,179.64	4.21	1.40
1,179.65	4.26	1.46
1,179.66	4.30	1.52
1,179.67	4.34	1.58
1,179.68	4.38	1.63
1,179.69	4.42	1.69
1,179.70	4.46	1.75
1,179.71	4.50	1.81
1,179.72	4.54	1.87
1,179.73	4.57	1.93
1,179.74	4.61	1.99
1,179.75	4.64	2.05
1,179.76	4.67	2.11
1,179.77	4.70	2.17
1,179.78	4.73	2.23
1,179.79	4.76	2.29
1,179.80	4.79	2.35
1,179.81	4.81	2.41
1,179.82	4.84	2.47
1,179.83	4.86	2.53
1,179.84	4.88	2.59
1,179.85	4.91	2.65
1,179.86	4.93	2.71
1,179.87	4.95	2.77
1,179.88	4.96	2.82
1,179.89	4.98	2.88
1,179.90	5.00	2.93
1,179.91	5.01	2.99
1,179.92	5.03	3.04
1,179.93	5.04	3.09
1,179.94	5.05	3.15
1,179.95	5.06	3.20
1,179.96	5.07	3.24
1,179.97	5.07	3.29
1,179.98	5.08	3.34
1,179.99	5.08	3.38
1,180.00	5.09	3.43
1,180.01	**5.09**	3.47
1,180.02	5.09	3.51
1,180.03	5.09	3.54
1,180.04	5.08	3.58
1,180.05	5.08	3.61
1,180.06	5.07	3.64
1,180.07	5.06	3.67
1,180.08	5.05	3.69
1,180.09	5.03	3.72
1,180.10	5.02	3.74
1,180.11	5.00	3.75
1,180.12	4.98	3.76
1,180.13	4.95	3.77
1,180.14	4.92	**3.77**
1,180.15	4.89	3.77
1,180.16	4.85	3.76
1,180.17	4.80	3.74
1,180.18	4.74	3.70
1,180.19	4.66	3.65
1,180.20	4.46	3.50

Summary for Reach DMH19: TO DMH-A1

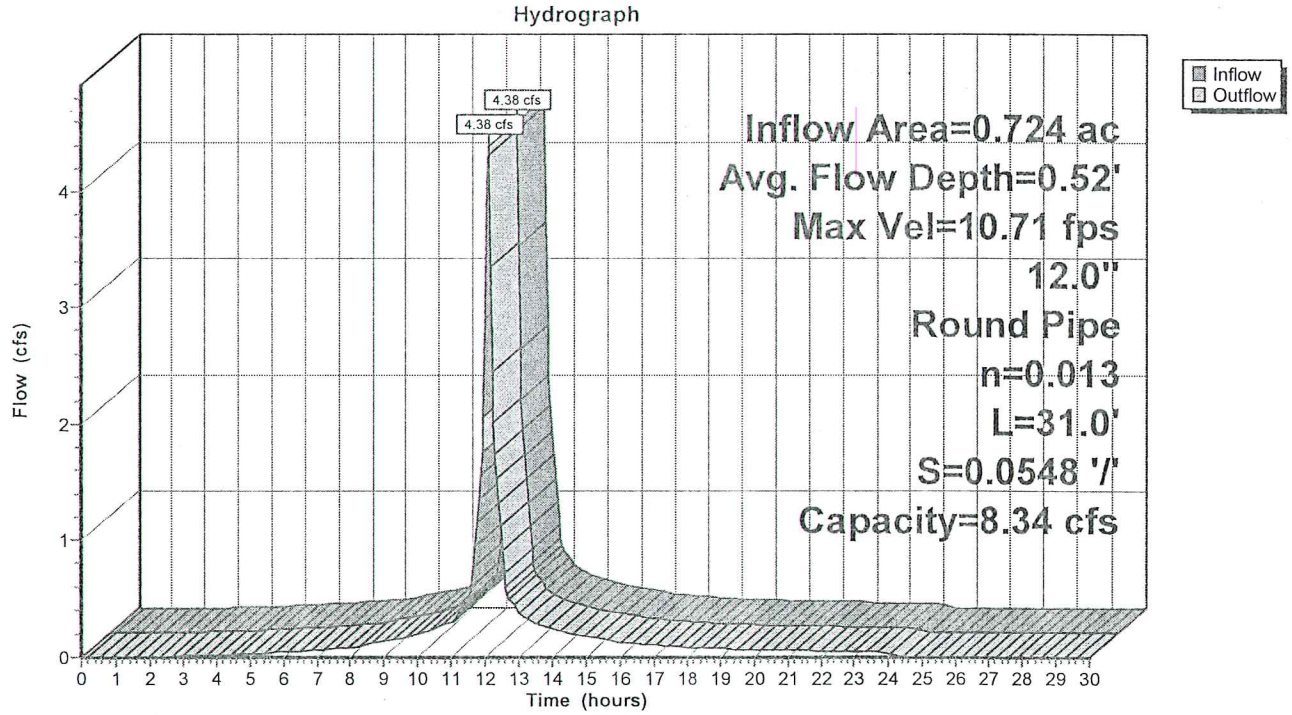
Inflow Area = 0.724 ac, 81.12% Impervious, Inflow Depth = 5.72" for 100-Year event
Inflow = 4.38 cfs @ 12.08 hrs, Volume= 0.345 af
Outflow = 4.38 cfs @ 12.08 hrs, Volume= 0.345 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.71 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.55 fps, Avg. Travel Time= 0.1 min

Peak Storage= 13 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.52'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.34 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 31.0' Slope= 0.0548 '/'
Inlet Invert= 1,177.10', Outlet Invert= 1,175.40'





Stage-Discharge for Reach DMH19: TO DMH-A1

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,177.10	0.00	0.00
1,177.11	0.95	0.00
1,177.12	1.50	0.01
1,177.13	1.95	0.01
1,177.14	2.36	0.02
1,177.15	2.73	0.04
1,177.16	3.07	0.06
1,177.17	3.39	0.08
1,177.18	3.70	0.11
1,177.19	3.99	0.14
1,177.20	4.26	0.17
1,177.21	4.53	0.21
1,177.22	4.78	0.26
1,177.23	5.02	0.30
1,177.24	5.26	0.35
1,177.25	5.49	0.41
1,177.26	5.71	0.46
1,177.27	5.93	0.52
1,177.28	6.13	0.59
1,177.29	6.34	0.66
1,177.30	6.53	0.73
1,177.31	6.73	0.81
1,177.32	6.91	0.89
1,177.33	7.09	0.97
1,177.34	7.27	1.05
1,177.35	7.44	1.14
1,177.36	7.61	1.24
1,177.37	7.78	1.33
1,177.38	7.94	1.43
1,177.39	8.09	1.53
1,177.40	8.24	1.63
1,177.41	8.39	1.74
1,177.42	8.54	1.85
1,177.43	8.68	1.96
1,177.44	8.82	2.08
1,177.45	8.95	2.19
1,177.46	9.09	2.31
1,177.47	9.22	2.43
1,177.48	9.34	2.56
1,177.49	9.46	2.68
1,177.50	9.58	2.81
1,177.51	9.70	2.94
1,177.52	9.81	3.07
1,177.53	9.93	3.21
1,177.54	10.03	3.34
1,177.55	10.14	3.48
1,177.56	10.24	3.61
1,177.57	10.34	3.75
1,177.58	10.44	3.89
1,177.59	10.53	4.03
1,177.60	10.62	4.17
1,177.61	10.71	4.31
1,177.62	10.80	4.46
1,177.63	10.88	4.60
1,177.64	10.96	4.74
1,177.65	11.04	4.89
1,177.66	11.12	5.03
1,177.67	11.19	5.17
1,177.68	11.26	5.32
1,177.69	11.33	5.46
1,177.70	11.39	5.61
1,177.71	11.45	5.75
1,177.72	11.51	5.89
1,177.73	11.57	6.03
1,177.74	11.63	6.17
1,177.75	11.68	6.31
1,177.76	11.73	6.45
1,177.77	11.77	6.59
1,177.78	11.82	6.72
1,177.79	11.86	6.85
1,177.80	11.90	6.99
1,177.81	11.93	7.11
1,177.82	11.96	7.24
1,177.83	11.99	7.37
1,177.84	12.02	7.49
1,177.85	12.04	7.61
1,177.86	12.06	7.72
1,177.87	12.08	7.84
1,177.88	12.09	7.95
1,177.89	12.10	8.05
1,177.90	12.11	8.16
1,177.91	**12.11**	8.25
1,177.92	12.11	8.35
1,177.93	12.10	8.44
1,177.94	12.10	8.52
1,177.95	12.08	8.60
1,177.96	12.07	8.67
1,177.97	12.04	8.74
1,177.98	12.02	8.80
1,177.99	11.98	8.85
1,178.00	11.94	8.89
1,178.01	11.90	8.93
1,178.02	11.85	8.95
1,178.03	11.78	8.97
1,178.04	11.71	**8.97**
1,178.05	11.63	8.96
1,178.06	11.54	8.94
1,178.07	11.42	8.89
1,178.08	11.28	8.82
1,178.09	11.09	8.69
1,178.10	10.62	8.34

Summary for Reach DMH2: TO DMH#3

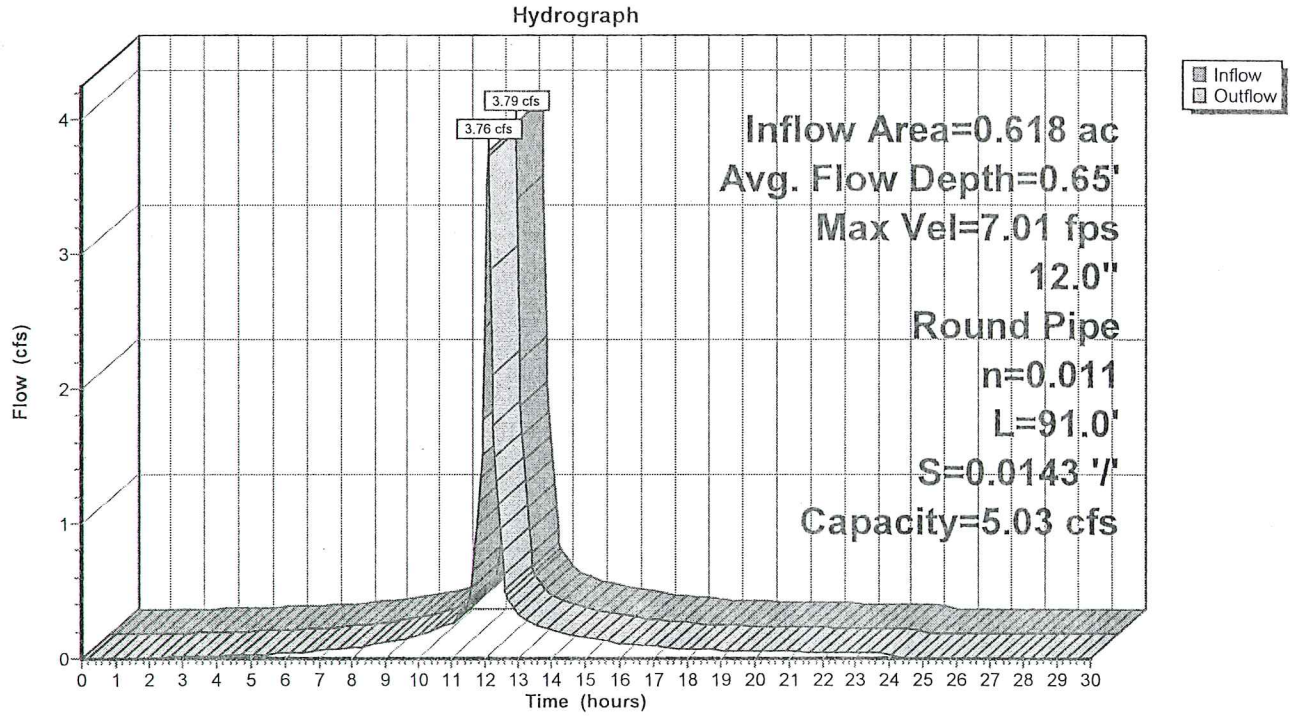
Inflow Area = 0.618 ac, 81.95% Impervious, Inflow Depth = 5.78" for 100-Year event
Inflow = 3.79 cfs @ 12.08 hrs, Volume= 0.298 af
Outflow = 3.76 cfs @ 12.08 hrs, Volume= 0.298 af, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.01 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.38 fps, Avg. Travel Time= 0.6 min

Peak Storage= 49 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.65'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.03 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 91.0' Slope= 0.0143 '/'
Inlet Invert= 1,174.60', Outlet Invert= 1,173.30'





Stage-Discharge for Reach DMH2: TO DMH#3

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,174.60	0.00	0.00
1,174.61	0.57	0.00
1,174.62	0.90	0.00
1,174.63	1.18	0.01
1,174.64	1.42	0.01
1,174.65	1.65	0.02
1,174.66	1.85	0.04
1,174.67	2.05	0.05
1,174.68	2.23	0.07
1,174.69	2.40	0.08
1,174.70	2.57	0.11
1,174.71	2.73	0.13
1,174.72	2.88	0.15
1,174.73	3.03	0.18
1,174.74	3.17	0.21
1,174.75	3.31	0.24
1,174.76	3.45	0.28
1,174.77	3.57	0.32
1,174.78	3.70	0.36
1,174.79	3.82	0.40
1,174.80	3.94	0.44
1,174.81	4.06	0.49
1,174.82	4.17	0.53
1,174.83	4.28	0.58
1,174.84	4.39	0.64
1,174.85	4.49	0.69
1,174.86	4.59	0.74
1,174.87	4.69	0.80
1,174.88	4.79	0.86
1,174.89	4.88	0.92
1,174.90	4.97	0.99
1,174.91	5.06	1.05
1,174.92	5.15	1.12
1,174.93	5.24	1.18
1,174.94	5.32	1.25
1,174.95	5.40	1.32
1,174.96	5.48	1.40
1,174.97	5.56	1.47
1,174.98	5.63	1.54
1,174.99	5.71	1.62
1,175.00	5.78	1.70
1,175.01	5.85	1.77
1,175.02	5.92	1.85
1,175.03	5.99	1.93
1,175.04	6.05	2.01
1,175.05	6.12	2.10
1,175.06	6.18	2.18
1,175.07	6.24	2.26
1,175.08	6.30	2.35
1,175.09	6.35	2.43
1,175.10	6.41	2.52
1,175.11	6.46	2.60
1,175.12	6.51	2.69
1,175.13	6.56	2.77
1,175.14	6.61	2.86
1,175.15	6.66	2.95
1,175.16	6.71	3.03
1,175.17	6.75	3.12
1,175.18	6.79	3.21
1,175.19	6.83	3.29
1,175.20	6.87	3.38
1,175.21	6.91	3.47
1,175.22	6.95	3.55
1,175.23	6.98	3.64
1,175.24	7.01	3.72
1,175.25	7.04	3.81
1,175.26	7.07	3.89
1,175.27	7.10	3.97
1,175.28	7.13	4.05
1,175.29	7.15	4.13
1,175.30	7.18	4.21
1,175.31	7.20	4.29
1,175.32	7.22	4.37
1,175.33	7.23	4.44
1,175.34	7.25	4.52
1,175.35	7.26	4.59
1,175.36	7.28	4.66
1,175.37	7.29	4.73
1,175.38	7.29	4.79
1,175.39	7.30	4.86
1,175.40	7.30	4.92
1,175.41	**7.30**	4.98
1,175.42	7.30	5.03
1,175.43	7.30	5.09
1,175.44	7.30	5.14
1,175.45	7.29	5.19
1,175.46	7.28	5.23
1,175.47	7.26	5.27
1,175.48	7.25	5.31
1,175.49	7.23	5.34
1,175.50	7.20	5.36
1,175.51	7.18	5.39
1,175.52	7.15	5.40
1,175.53	7.11	5.41
1,175.54	7.07	**5.41**
1,175.55	7.02	5.41
1,175.56	6.96	5.39
1,175.57	6.89	5.36
1,175.58	6.80	5.32
1,175.59	6.69	5.24
1,175.60	6.41	5.03

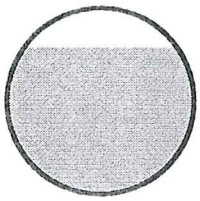
Summary for Reach DMH3: TO DMH#4

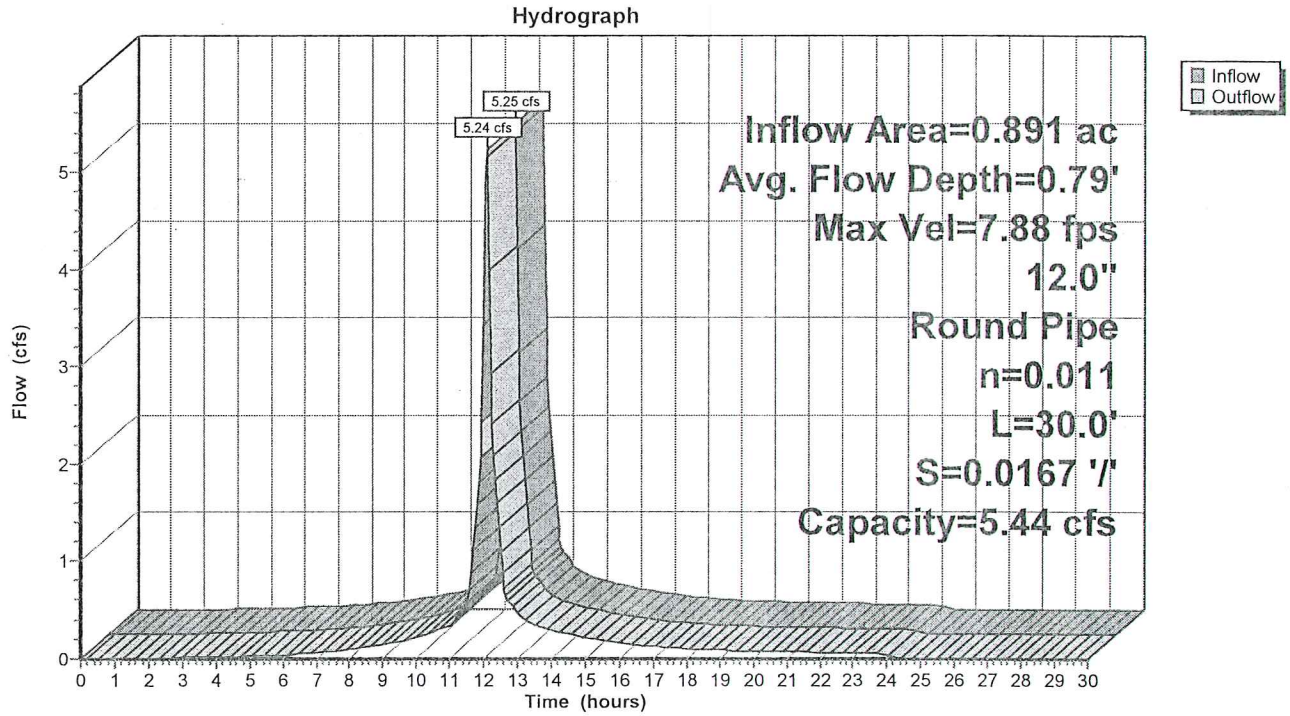
Inflow Area = 0.891 ac, 70.65% Impervious, Inflow Depth = 5.47" for 100-Year event
Inflow = 5.25 cfs @ 12.08 hrs, Volume= 0.406 af
Outflow = 5.24 cfs @ 12.08 hrs, Volume= 0.406 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 7.88 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.72 fps, Avg. Travel Time= 0.2 min

Peak Storage= 20 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.79'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.44 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 30.0' Slope= 0.0167 '/'
Inlet Invert= 1,173.30', Outlet Invert= 1,172.80'





Stage-Discharge for Reach DMH3: TO DMH#4

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,173.30	0.00	0.00
1,173.31	0.62	0.00
1,173.32	0.97	0.00
1,173.33	1.27	0.01
1,173.34	1.54	0.02
1,173.35	1.78	0.03
1,173.36	2.00	0.04
1,173.37	2.21	0.05
1,173.38	2.41	0.07
1,173.39	2.60	0.09
1,173.40	2.78	0.11
1,173.41	2.95	0.14
1,173.42	3.11	0.17
1,173.43	3.27	0.20
1,173.44	3.43	0.23
1,173.45	3.58	0.26
1,173.46	3.72	0.30
1,173.47	3.86	0.34
1,173.48	4.00	0.38
1,173.49	4.13	0.43
1,173.50	4.26	0.48
1,173.51	4.38	0.53
1,173.52	4.50	0.58
1,173.53	4.62	0.63
1,173.54	4.74	0.69
1,173.55	4.85	0.74
1,173.56	4.96	0.80
1,173.57	5.07	0.87
1,173.58	5.17	0.93
1,173.59	5.27	1.00
1,173.60	5.37	1.06
1,173.61	5.47	1.13
1,173.62	5.56	1.21
1,173.63	5.66	1.28
1,173.64	5.75	1.35
1,173.65	5.83	1.43
1,173.66	5.92	1.51
1,173.67	6.00	1.59
1,173.68	6.09	1.67
1,173.69	6.17	1.75
1,173.70	6.24	1.83
1,173.71	6.32	1.92
1,173.72	6.39	2.00
1,173.73	6.47	2.09
1,173.74	6.54	2.18
1,173.75	6.61	2.26
1,173.76	6.67	2.35
1,173.77	6.74	2.44
1,173.78	6.80	2.53
1,173.79	6.86	2.63
1,173.80	6.92	2.72
1,173.81	6.98	2.81
1,173.82	7.04	2.90
1,173.83	7.09	3.00
1,173.84	7.14	3.09
1,173.85	7.19	3.18
1,173.86	7.24	3.28
1,173.87	7.29	3.37
1,173.88	7.34	3.47
1,173.89	7.38	3.56
1,173.90	7.42	3.65
1,173.91	7.46	3.74
1,173.92	7.50	3.84
1,173.93	7.54	3.93
1,173.94	7.57	4.02
1,173.95	7.61	4.11
1,173.96	7.64	4.20
1,173.97	7.67	4.29
1,173.98	7.70	4.38
1,173.99	7.73	4.47
1,174.00	7.75	4.55
1,174.01	7.77	4.64
1,174.02	7.79	4.72
1,174.03	7.81	4.80
1,174.04	7.83	4.88
1,174.05	7.84	4.96
1,174.06	7.86	5.03
1,174.07	7.87	5.11
1,174.08	7.88	5.18
1,174.09	7.88	5.25
1,174.10	7.89	5.31
1,174.11	**7.89**	5.38
1,174.12	7.89	5.44
1,174.13	7.89	5.50
1,174.14	7.88	5.55
1,174.15	7.87	5.60
1,174.16	7.86	5.65
1,174.17	7.85	5.69
1,174.18	7.83	5.73
1,174.19	7.81	5.76
1,174.20	7.78	5.79
1,174.21	7.75	5.82
1,174.22	7.72	5.83
1,174.23	7.68	5.84
1,174.24	7.63	**5.85**
1,174.25	7.58	5.84
1,174.26	7.52	5.82
1,174.27	7.44	5.79
1,174.28	7.35	5.74
1,174.29	7.22	5.66
1,174.30	6.92	5.44

Summary for Reach DMH4: TO DMH-E

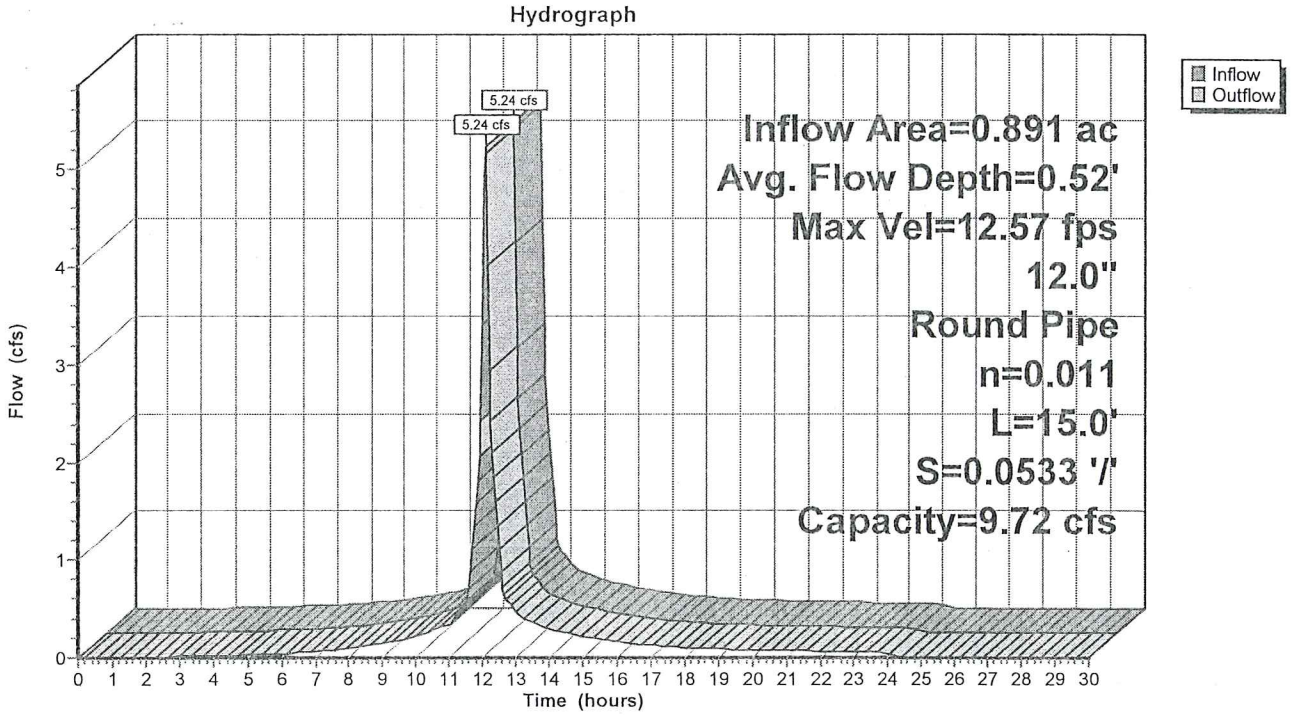
Inflow Area = 0.891 ac, 70.65% Impervious, Inflow Depth = 5.47" for 100-Year event
Inflow = 5.24 cfs @ 12.08 hrs, Volume= 0.406 af
Outflow = 5.24 cfs @ 12.08 hrs, Volume= 0.406 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.57 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 4.11 fps, Avg. Travel Time= 0.1 min

Peak Storage= 6 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.52'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 9.72 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 15.0' Slope= 0.0533 '/'
Inlet Invert= 1,172.80', Outlet Invert= 1,172.00'





Stage-Discharge for Reach DMH4: TO DMH-E

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,172.80	0.00	0.00
1,172.81	1.10	0.00
1,172.82	1.74	0.01
1,172.83	2.28	0.02
1,172.84	2.75	0.03
1,172.85	3.18	0.05
1,172.86	3.58	0.07
1,172.87	3.95	0.10
1,172.88	4.31	0.13
1,172.89	4.65	0.16
1,172.90	4.97	0.20
1,172.91	5.27	0.25
1,172.92	5.57	0.30
1,172.93	5.86	0.35
1,172.94	6.13	0.41
1,172.95	6.40	0.47
1,172.96	6.66	0.54
1,172.97	6.91	0.61
1,172.98	7.15	0.69
1,172.99	7.39	0.77
1,173.00	7.61	0.85
1,173.01	7.84	0.94
1,173.02	8.06	1.03
1,173.03	8.27	1.13
1,173.04	8.47	1.23
1,173.05	8.67	1.33
1,173.06	8.87	1.44
1,173.07	9.06	1.55
1,173.08	9.25	1.67
1,173.09	9.43	1.78
1,173.10	9.61	1.90
1,173.11	9.78	2.03
1,173.12	9.95	2.16
1,173.13	10.12	2.29
1,173.14	10.28	2.42
1,173.15	10.44	2.56
1,173.16	10.59	2.70
1,173.17	10.74	2.84
1,173.18	10.89	2.98
1,173.19	11.03	3.13
1,173.20	11.17	3.28
1,173.21	11.31	3.43
1,173.22	11.44	3.58
1,173.23	11.57	3.74
1,173.24	11.69	3.89
1,173.25	11.82	4.05
1,173.26	11.94	4.21
1,173.27	12.05	4.37
1,173.28	12.16	4.53
1,173.29	12.27	4.70
1,173.30	12.38	4.86
1,173.31	12.48	5.03
1,173.32	12.58	5.19
1,173.33	12.68	5.36
1,173.34	12.78	5.53
1,173.35	12.87	5.70
1,173.36	12.96	5.86
1,173.37	13.04	6.03
1,173.38	13.12	6.20
1,173.39	13.20	6.37
1,173.40	13.28	6.53
1,173.41	13.35	6.70
1,173.42	13.42	6.86
1,173.43	13.49	7.03
1,173.44	13.55	7.19
1,173.45	13.61	7.36
1,173.46	13.67	7.52
1,173.47	13.72	7.68
1,173.48	13.77	7.83
1,173.49	13.82	7.99
1,173.50	13.86	8.14
1,173.51	13.90	8.29
1,173.52	13.94	8.44
1,173.53	13.98	8.59
1,173.54	14.01	8.73
1,173.55	14.03	8.87
1,173.56	14.06	9.00
1,173.57	14.08	9.13
1,173.58	14.09	9.26
1,173.59	14.10	9.39
1,173.60	14.11	9.50
1,173.61	**14.11**	9.62
1,173.62	14.11	9.73
1,173.63	14.11	9.83
1,173.64	14.10	9.93
1,173.65	14.08	10.02
1,173.66	14.06	10.10
1,173.67	14.04	10.18
1,173.68	14.00	10.25
1,173.69	13.97	10.31
1,173.70	13.92	10.36
1,173.71	13.87	10.41
1,173.72	13.81	10.44
1,173.73	13.73	10.46
1,173.74	13.65	**10.46**
1,173.75	13.56	10.45
1,173.76	13.44	10.42
1,173.77	13.31	10.36
1,173.78	13.15	10.28
1,173.79	12.92	10.13
1,173.80	12.38	9.72

Summary for Reach DMH5: TO DMH#6

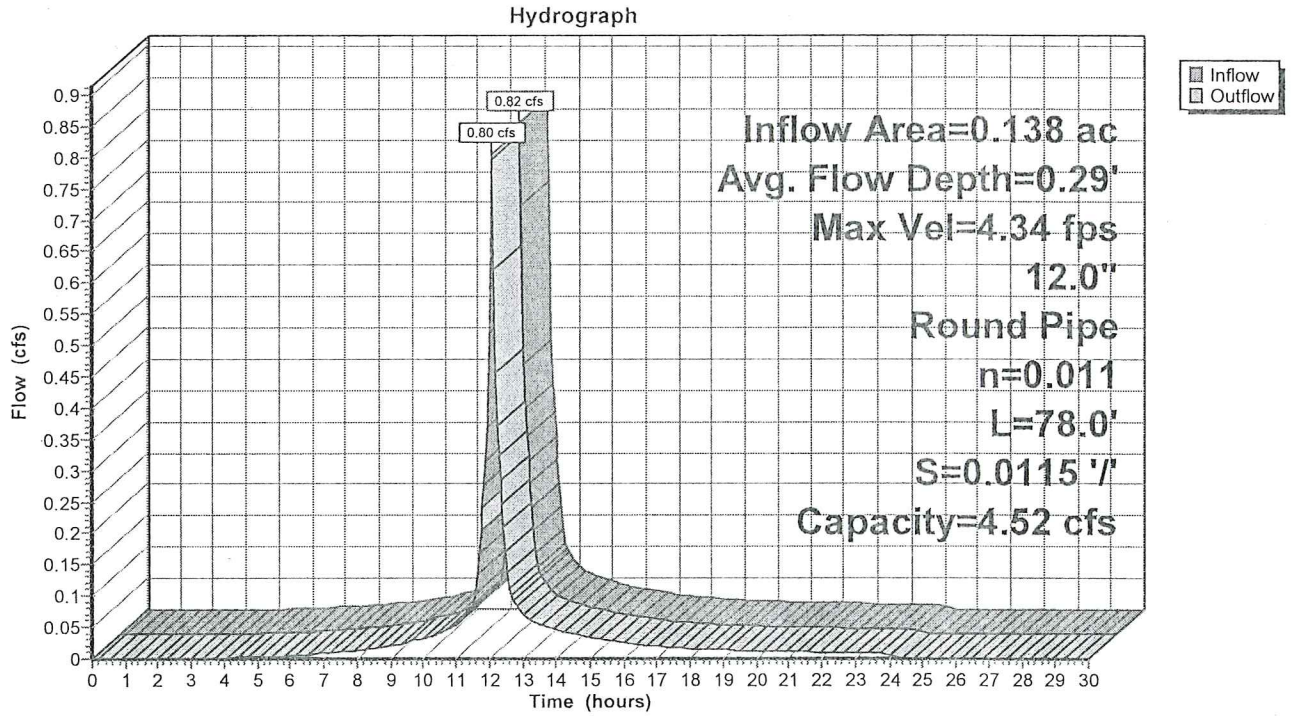
Inflow Area = 0.138 ac, 68.08% Impervious, Inflow Depth = 5.33" for 100-Year event
Inflow = 0.82 cfs @ 12.07 hrs, Volume= 0.061 af
Outflow = 0.80 cfs @ 12.09 hrs, Volume= 0.061 af, Atten= 1%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.34 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.43 fps, Avg. Travel Time= 0.9 min

Peak Storage= 15 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.29'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.52 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 78.0' Slope= 0.0115 '/'
Inlet Invert= 1,171.90', Outlet Invert= 1,171.00'





Stage-Discharge for Reach DMH5: TO DMH#6

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,171.90	0.00	0.00
1,171.91	0.51	0.00
1,171.92	0.81	0.00
1,171.93	1.06	0.01
1,171.94	1.28	0.01
1,171.95	1.48	0.02
1,171.96	1.67	0.03
1,171.97	1.84	0.04
1,171.98	2.00	0.06
1,171.99	2.16	0.08
1,172.00	2.31	0.09
1,172.01	2.45	0.12
1,172.02	2.59	0.14
1,172.03	2.72	0.16
1,172.04	2.85	0.19
1,172.05	2.98	0.22
1,172.06	3.10	0.25
1,172.07	3.21	0.28
1,172.08	3.33	0.32
1,172.09	3.44	0.36
1,172.10	3.54	0.40
1,172.11	3.65	0.44
1,172.12	3.75	0.48
1,172.13	3.85	0.52
1,172.14	3.94	0.57
1,172.15	4.03	0.62
1,172.16	4.13	0.67
1,172.17	4.22	0.72
1,172.18	4.30	0.77
1,172.19	4.39	0.83
1,172.20	4.47	0.89
1,172.21	4.55	0.94
1,172.22	4.63	1.00
1,172.23	4.71	1.06
1,172.24	4.78	1.13
1,172.25	4.85	1.19
1,172.26	4.93	1.25
1,172.27	5.00	1.32
1,172.28	5.06	1.39
1,172.29	5.13	1.45
1,172.30	5.20	1.52
1,172.31	5.26	1.59
1,172.32	5.32	1.67
1,172.33	5.38	1.74
1,172.34	5.44	1.81
1,172.35	5.50	1.88
1,172.36	5.55	1.96
1,172.37	5.61	2.03
1,172.38	5.66	2.11
1,172.39	5.71	2.18
1,172.40	5.76	2.26
1,172.41	5.81	2.34
1,172.42	5.85	2.42
1,172.43	5.90	2.49
1,172.44	5.94	2.57
1,172.45	5.99	2.65
1,172.46	6.03	2.73
1,172.47	6.07	2.81
1,172.48	6.10	2.88
1,172.49	6.14	2.96
1,172.50	6.18	3.04
1,172.51	6.21	3.12
1,172.52	6.24	3.19
1,172.53	6.27	3.27
1,172.54	6.30	3.35
1,172.55	6.33	3.42
1,172.56	6.36	3.50
1,172.57	6.38	3.57
1,172.58	6.41	3.64
1,172.59	6.43	3.72
1,172.60	6.45	3.79
1,172.61	6.47	3.86
1,172.62	6.48	3.93
1,172.63	6.50	3.99
1,172.64	6.51	4.06
1,172.65	6.53	4.12
1,172.66	6.54	4.19
1,172.67	6.55	4.25
1,172.68	6.55	4.31
1,172.69	6.56	4.37
1,172.70	6.56	4.42
1,172.71	**6.57**	4.47
1,172.72	6.56	4.52
1,172.73	6.56	4.57
1,172.74	6.56	4.62
1,172.75	6.55	4.66
1,172.76	6.54	4.70
1,172.77	6.53	4.74
1,172.78	6.51	4.77
1,172.79	6.50	4.80
1,172.80	6.47	4.82
1,172.81	6.45	4.84
1,172.82	6.42	4.85
1,172.83	6.39	4.86
1,172.84	6.35	**4.87**
1,172.85	6.31	4.86
1,172.86	6.25	4.85
1,172.87	6.19	4.82
1,172.88	6.11	4.78
1,172.89	6.01	4.71
1,172.90	5.76	4.52

Summary for Reach DMH6: TO DCB-

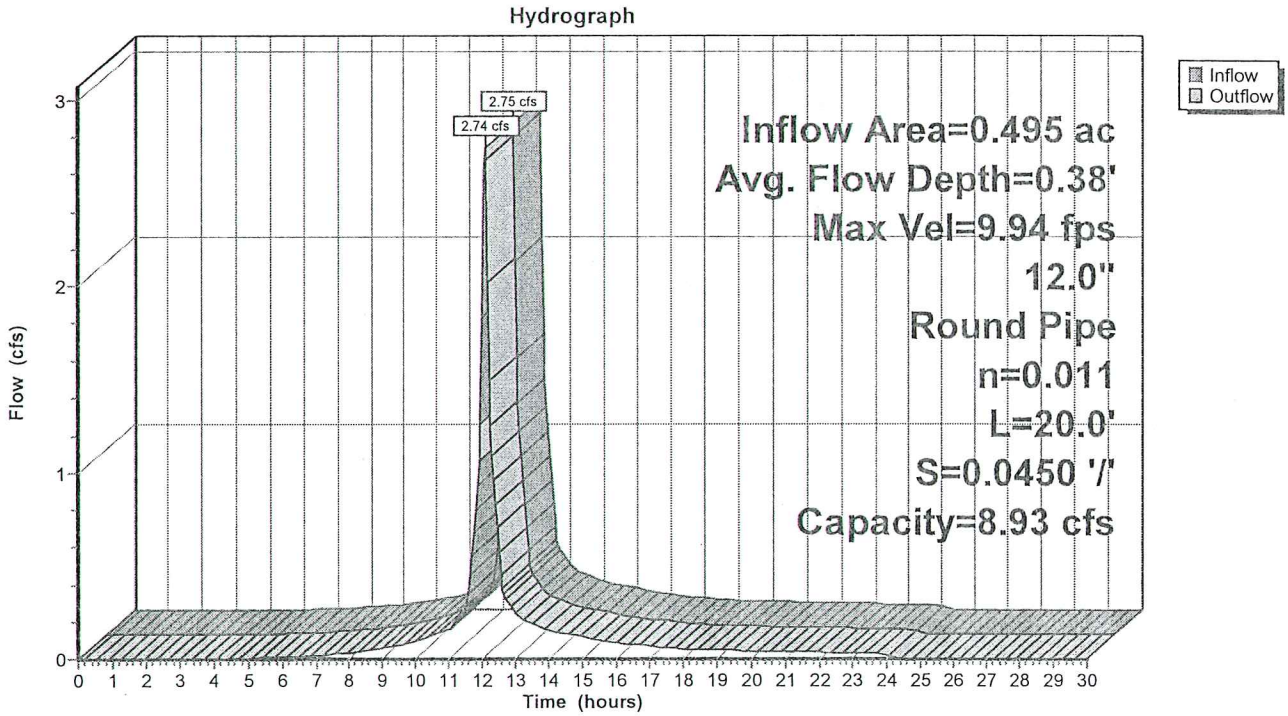
Inflow Area = 0.495 ac, 51.53% Impervious, Inflow Depth = 4.93" for 100-Year event
Inflow = 2.75 cfs @ 12.08 hrs, Volume= 0.203 af
Outflow = 2.74 cfs @ 12.08 hrs, Volume= 0.203 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.94 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.22 fps, Avg. Travel Time= 0.1 min

Peak Storage= 5 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.38'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.93 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 20.0' Slope= 0.0450 '/'
Inlet Invert= 1,170.90', Outlet Invert= 1,170.00'





Stage-Discharge for Reach DMH6: TO DCB-

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,170.90	0.00	0.00
1,170.91	1.01	0.00
1,170.92	1.60	0.01
1,170.93	2.09	0.01
1,170.94	2.53	0.03
1,170.95	2.92	0.04
1,170.96	3.29	0.06
1,170.97	3.63	0.09
1,170.98	3.96	0.12
1,170.99	4.27	0.15
1,171.00	4.56	0.19
1,171.01	4.85	0.23
1,171.02	5.12	0.27
1,171.03	5.38	0.32
1,171.04	5.63	0.38
1,171.05	5.88	0.43
1,171.06	6.11	0.50
1,171.07	6.34	0.56
1,171.08	6.57	0.63
1,171.09	6.78	0.70
1,171.10	6.99	0.78
1,171.11	7.20	0.86
1,171.12	7.40	0.95
1,171.13	7.59	1.04
1,171.14	7.78	1.13
1,171.15	7.97	1.22
1,171.16	8.15	1.32
1,171.17	8.32	1.42
1,171.18	8.50	1.53
1,171.19	8.66	1.64
1,171.20	8.83	1.75
1,171.21	8.99	1.86
1,171.22	9.14	1.98
1,171.23	9.29	2.10
1,171.24	9.44	2.22
1,171.25	9.59	2.35
1,171.26	9.73	2.48
1,171.27	9.87	2.61
1,171.28	10.00	2.74
1,171.29	10.13	2.87
1,171.30	10.26	3.01
1,171.31	10.38	3.15
1,171.32	10.51	3.29
1,171.33	10.63	3.43
1,171.34	10.74	3.58
1,171.35	10.85	3.72
1,171.36	10.96	3.87
1,171.37	11.07	4.02
1,171.38	11.17	4.16
1,171.39	11.27	4.31
1,171.40	11.37	4.47
1,171.41	11.47	4.62
1,171.42	11.56	4.77
1,171.43	11.65	4.92
1,171.44	11.74	5.08
1,171.45	11.82	5.23
1,171.46	11.90	5.39
1,171.47	11.98	5.54
1,171.48	12.05	5.69
1,171.49	12.13	5.85
1,171.50	12.20	6.00
1,171.51	12.26	6.15
1,171.52	12.33	6.31
1,171.53	12.39	6.46
1,171.54	12.45	6.61
1,171.55	12.50	6.76
1,171.56	12.55	6.90
1,171.57	12.60	7.05
1,171.58	12.65	7.19
1,171.59	12.69	7.34
1,171.60	12.73	7.48
1,171.61	12.77	7.62
1,171.62	12.81	7.75
1,171.63	12.84	7.89
1,171.64	12.87	8.02
1,171.65	12.89	8.14
1,171.66	12.91	8.27
1,171.67	12.93	8.39
1,171.68	12.94	8.51
1,171.69	12.95	8.62
1,171.70	12.96	8.73
1,171.71	**12.96**	8.84
1,171.72	12.96	8.94
1,171.73	12.96	9.03
1,171.74	12.95	9.12
1,171.75	12.94	9.20
1,171.76	12.92	9.28
1,171.77	12.89	9.35
1,171.78	12.86	9.42
1,171.79	12.83	9.47
1,171.80	12.79	9.52
1,171.81	12.74	9.56
1,171.82	12.68	9.59
1,171.83	12.62	9.60
1,171.84	12.54	**9.61**
1,171.85	12.45	9.60
1,171.86	12.35	9.57
1,171.87	12.23	9.52
1,171.88	12.07	9.44
1,171.89	11.87	9.31
1,171.90	11.37	8.93

Summary for Reach DMHA: TO DP#1

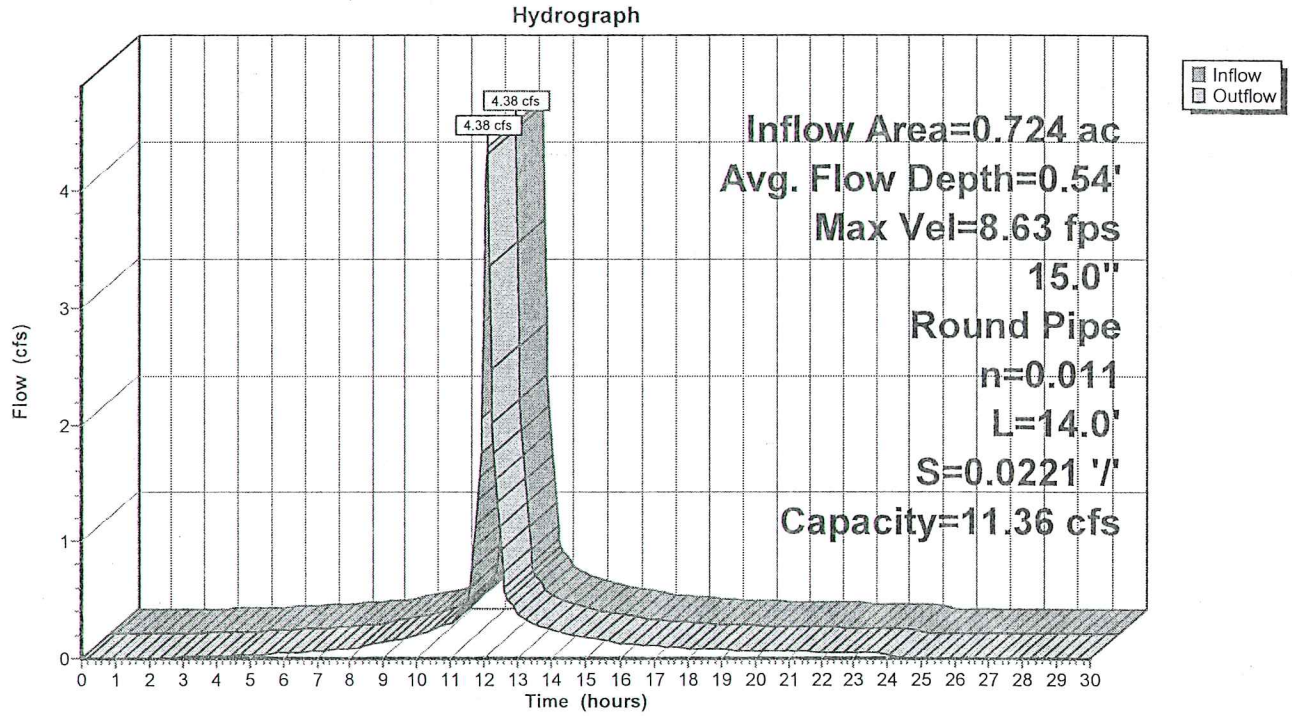
Inflow Area = 0.724 ac, 81.12% Impervious, Inflow Depth = 5.72" for 100-Year event
Inflow = 4.38 cfs @ 12.08 hrs, Volume= 0.345 af
Outflow = 4.38 cfs @ 12.08 hrs, Volume= 0.345 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.63 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.82 fps, Avg. Travel Time= 0.1 min

Peak Storage= 7 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.54'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 11.36 cfs

15.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 14.0' Slope= 0.0221 '/'
Inlet Invert= 1,175.35', Outlet Invert= 1,175.04'





Stage-Discharge for Reach DMHA: TO DP#1

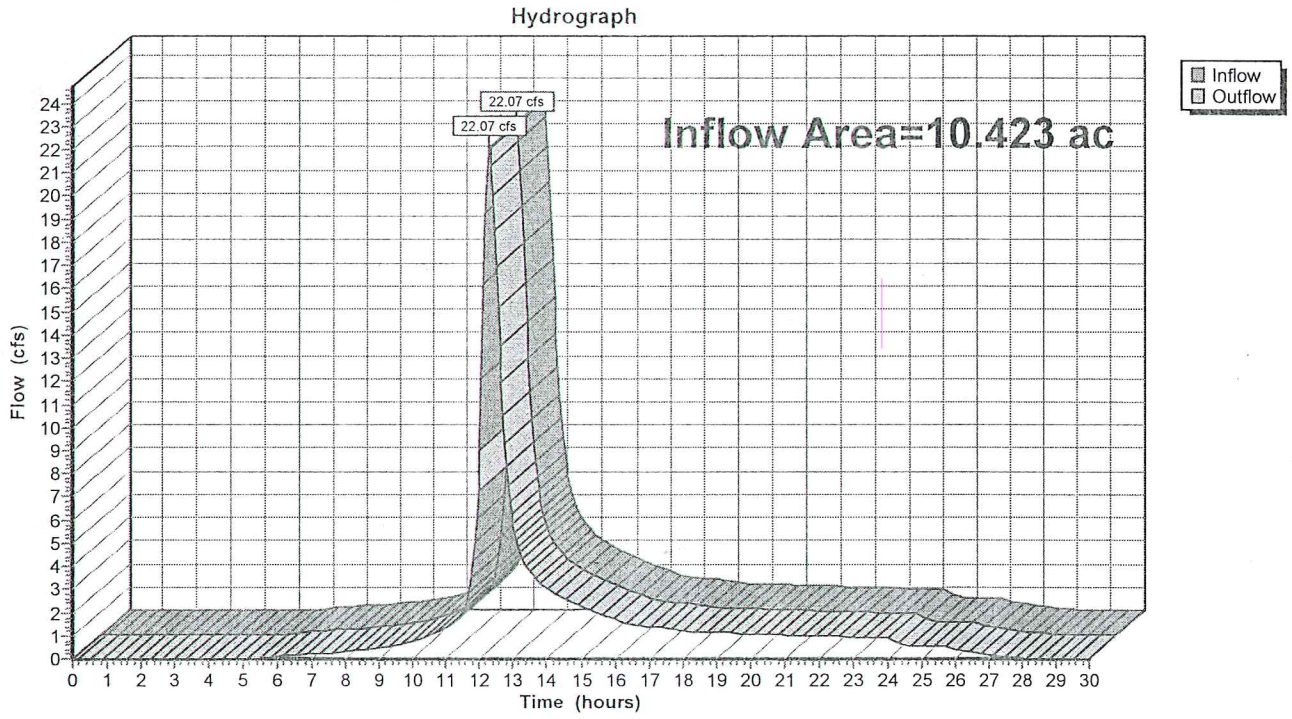
Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.35	0.00	0.00
1,175.36	0.66	0.00
1,175.37	1.11	0.01
1,175.38	1.46	0.01
1,175.39	1.77	0.02
1,175.40	2.06	0.03
1,175.41	2.31	0.05
1,175.42	2.56	0.07
1,175.43	2.79	0.09
1,175.44	3.01	0.12
1,175.45	3.22	0.15
1,175.46	3.42	0.18
1,175.47	3.62	0.22
1,175.48	3.81	0.26
1,175.49	3.99	0.30
1,175.50	4.17	0.35
1,175.51	4.34	0.40
1,175.52	4.50	0.45
1,175.53	4.66	0.51
1,175.54	4.82	0.57
1,175.55	4.98	0.63
1,175.56	5.13	0.70
1,175.57	5.27	0.77
1,175.58	5.42	0.84
1,175.59	5.56	0.92
1,175.60	5.69	0.99
1,175.61	5.83	1.08
1,175.62	5.96	1.16
1,175.63	6.09	1.25
1,175.64	6.21	1.34
1,175.65	6.34	1.43
1,175.66	6.46	1.53
1,175.67	6.57	1.63
1,175.68	6.69	1.73
1,175.69	6.80	1.84
1,175.70	6.92	1.95
1,175.71	7.02	2.06
1,175.72	7.13	2.17
1,175.73	7.24	2.28
1,175.74	7.34	2.40
1,175.75	7.44	2.52
1,175.76	7.54	2.64
1,175.77	7.64	2.77
1,175.78	7.73	2.89
1,175.79	7.83	3.02
1,175.80	7.92	3.15
1,175.81	8.01	3.28
1,175.82	8.10	3.42
1,175.83	8.18	3.55
1,175.84	8.27	3.69
1,175.85	8.35	3.83
1,175.86	8.43	3.97
1,175.87	8.51	4.11
1,175.88	8.59	4.26
1,175.89	8.67	4.40
1,175.90	8.74	4.55
1,175.91	8.82	4.69
1,175.92	8.89	4.84
1,175.93	8.96	4.99
1,175.94	9.03	5.14
1,175.95	9.10	5.30
1,175.96	9.16	5.45
1,175.97	9.23	5.60
1,175.98	9.29	5.76
1,175.99	9.35	5.91
1,176.00	9.41	6.07
1,176.01	9.47	6.22
1,176.02	9.52	6.38
1,176.03	9.58	6.54
1,176.04	9.63	6.69
1,176.05	9.69	6.85
1,176.06	9.74	7.01
1,176.07	9.79	7.16
1,176.08	9.84	7.32
1,176.09	9.88	7.48
1,176.10	9.93	7.63
1,176.11	9.97	7.79
1,176.12	10.01	7.94
1,176.13	10.05	8.10
1,176.14	10.09	8.25
1,176.15	10.13	8.40
1,176.16	10.17	8.56
1,176.17	10.20	8.71
1,176.18	10.24	8.86
1,176.19	10.27	9.00
1,176.20	10.30	9.15
1,176.21	10.33	9.30
1,176.22	10.35	9.44
1,176.23	10.38	9.58
1,176.24	10.40	9.72
1,176.25	10.42	9.86
1,176.26	10.44	10.00
1,176.27	10.46	10.13
1,176.28	10.48	10.26
1,176.29	10.50	10.39
1,176.30	10.51	10.52
1,176.31	10.52	10.64
1,176.32	10.53	10.76
1,176.33	10.54	10.88
1,176.34	10.55	10.99
1,176.35	10.55	11.10
1,176.36	10.55	11.21
1,176.37	**10.55**	11.31
1,176.38	10.55	11.41
1,176.39	10.55	11.51
1,176.40	10.54	11.60
1,176.41	10.53	11.68
1,176.42	10.52	11.77
1,176.43	10.51	11.84
1,176.44	10.49	11.91
1,176.45	10.47	11.98
1,176.46	10.45	12.03
1,176.47	10.42	12.08
1,176.48	10.39	12.13
1,176.49	10.36	12.16
1,176.50	10.32	12.19
1,176.51	10.28	12.21
1,176.52	10.23	12.22
1,176.53	10.18	12.21
1,176.54	10.12	12.20
1,176.55	10.05	12.17
1,176.56	9.97	12.12
1,176.57	9.88	12.05
1,176.58	9.76	11.94
1,176.59	9.58	11.74
1,176.60	9.26	11.36

Summary for Reach DP#1: CRYSTAL LAKE

Inflow Area = 10.423 ac, 31.06% Impervious, Inflow Depth = 3.68" for 100-Year event
Inflow = 22.07 cfs @ 12.29 hrs, Volume= 3.194 af
Outflow = 22.07 cfs @ 12.29 hrs, Volume= 3.194 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DP#1: CRYSTAL LAKE

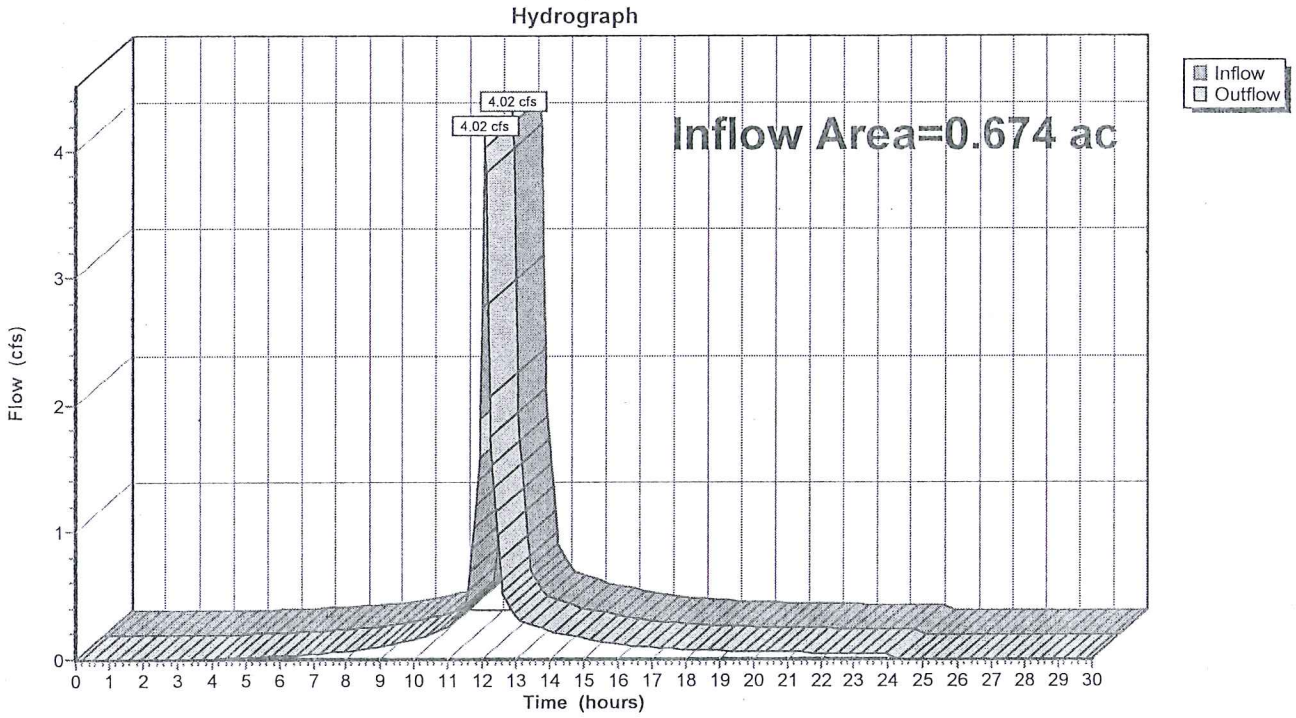


Summary for Reach DP#2: EX RAIN GARDEN

Inflow Area = 0.674 ac, 66.34% Impervious, Inflow Depth = 5.33" for 100-Year event
Inflow = 4.02 cfs @ 12.07 hrs, Volume= 0.300 af
Outflow = 4.02 cfs @ 12.07 hrs, Volume= 0.300 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

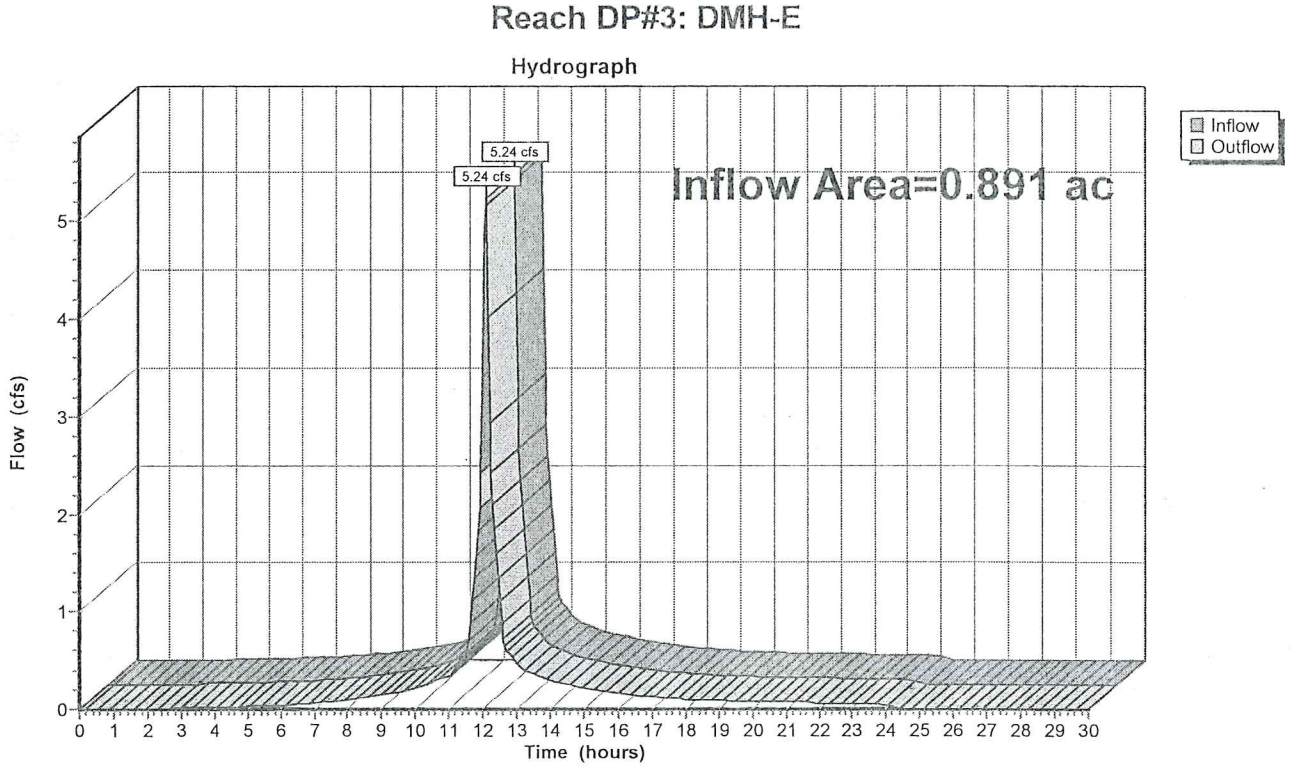
Reach DP#2: EX RAIN GARDEN



Summary for Reach DP#3: DMH-E

Inflow Area = 0.891 ac, 70.65% Impervious, Inflow Depth = 5.47" for 100-Year event
Inflow = 5.24 cfs @ 12.08 hrs, Volume= 0.406 af
Outflow = 5.24 cfs @ 12.08 hrs, Volume= 0.406 af, Atten= 0%, Lag= 0.0 min

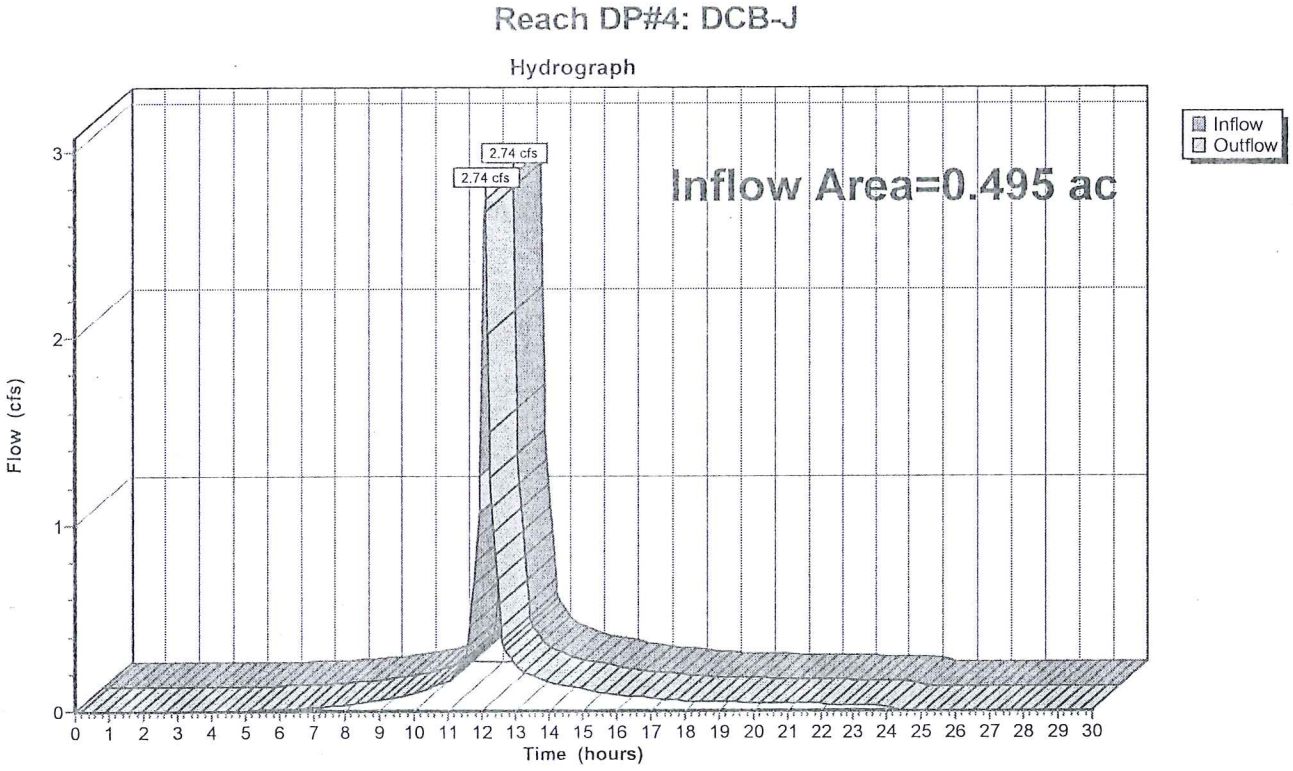
Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs



Summary for Reach DP#4: DCB-J

Inflow Area = 0.495 ac, 51.53% Impervious, Inflow Depth = 4.93" for 100-Year event
Inflow = 2.74 cfs @ 12.08 hrs, Volume= 0.203 af
Outflow = 2.74 cfs @ 12.08 hrs, Volume= 0.203 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

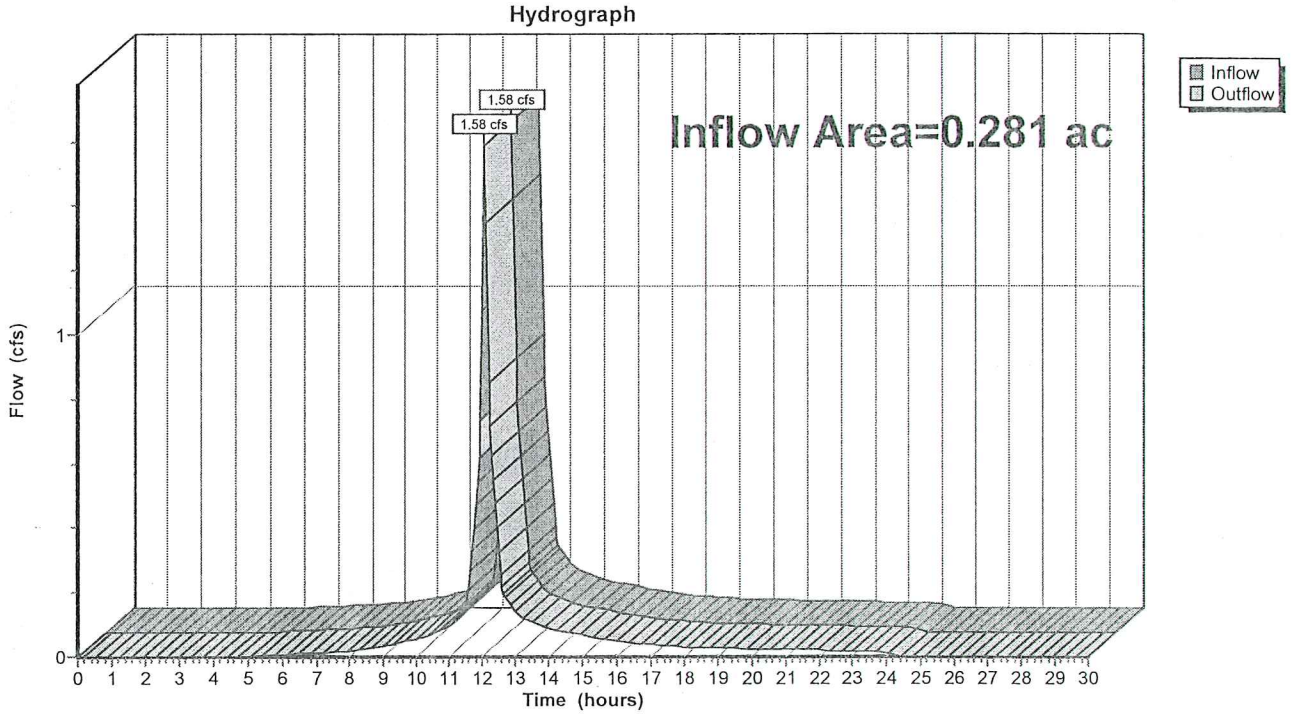


Summary for Reach DP#5: DCB-K

Inflow Area = 0.281 ac, 53.18% Impervious, Inflow Depth = 5.02" for 100-Year event
Inflow = 1.58 cfs @ 12.08 hrs, Volume= 0.118 af
Outflow = 1.58 cfs @ 12.08 hrs, Volume= 0.118 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Reach DP#5: DCB-K



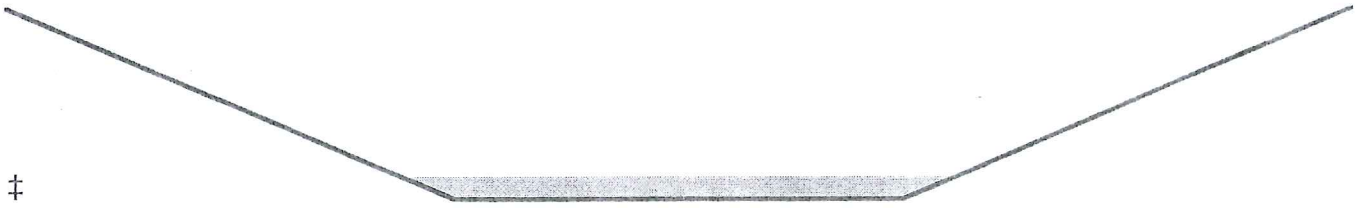
Summary for Reach OL1: OVERLAND FLOW

Inflow Area = 0.724 ac, 81.12% Impervious, Inflow Depth = 5.72" for 100-Year event
Inflow = 4.38 cfs @ 12.08 hrs, Volume= 0.345 af
Outflow = 4.36 cfs @ 12.09 hrs, Volume= 0.345 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.23 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 0.87 fps, Avg. Travel Time= 0.4 min

Peak Storage= 27 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.12'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 216.87 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 20.0' Slope= 0.4500 '/'
Inlet Invert= 1,175.00', Outlet Invert= 1,166.00'



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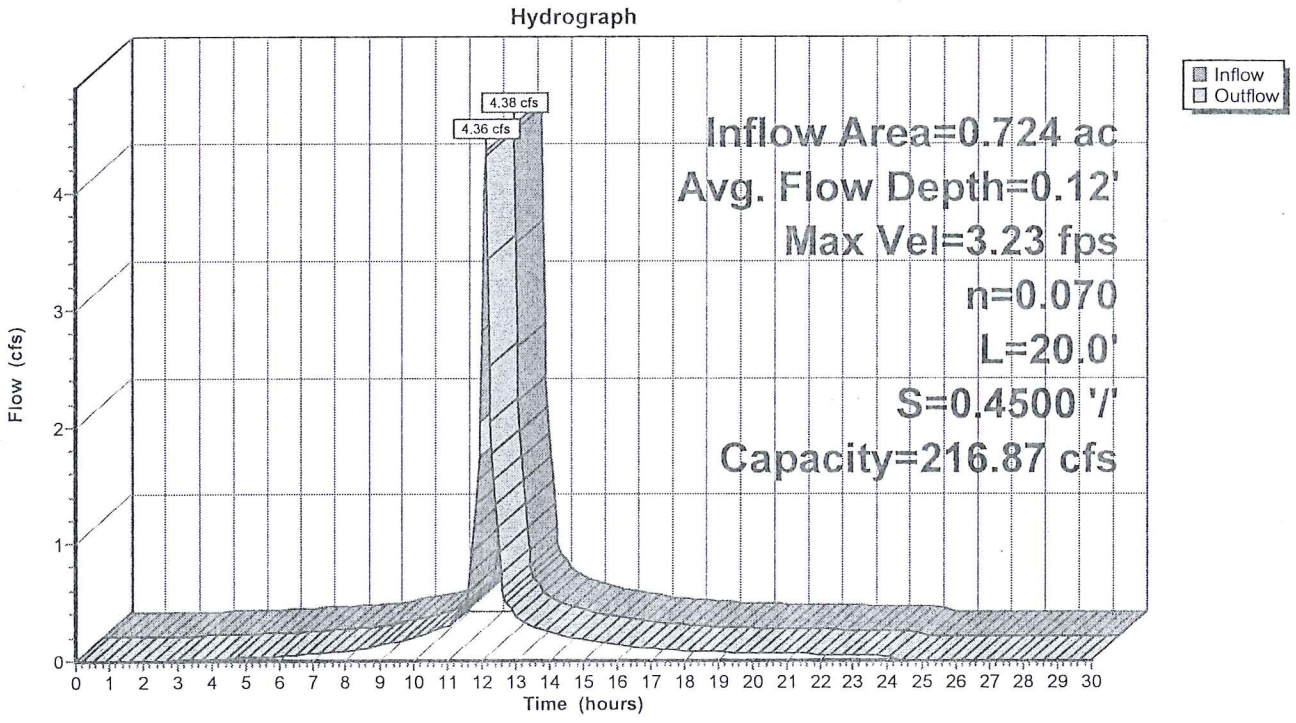


Stage-Discharge for Reach OL1: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,175.00	0.00	0.00
1,175.01	0.66	0.07
1,175.02	1.04	0.21
1,175.03	1.35	0.42
1,175.04	1.62	0.68
1,175.05	1.87	0.98
1,175.06	2.10	1.34
1,175.07	2.32	1.74
1,175.08	2.52	2.18
1,175.09	2.71	2.66
1,175.10	2.89	3.18
1,175.11	3.07	3.75
1,175.12	3.24	4.35
1,175.13	3.40	4.99
1,175.14	3.55	5.67
1,175.15	3.70	6.39
1,175.16	3.85	7.14
1,175.17	3.99	7.93
1,175.18	4.13	8.76
1,175.19	4.26	9.63
1,175.20	4.39	10.54
1,175.21	4.52	11.48
1,175.22	4.64	12.46
1,175.23	4.76	13.48
1,175.24	4.88	14.53
1,175.25	5.00	15.62
1,175.26	5.11	16.75
1,175.27	5.23	17.92
1,175.28	5.34	19.12
1,175.29	5.44	20.36
1,175.30	5.55	21.64
1,175.31	5.65	22.96
1,175.32	5.76	24.32
1,175.33	5.86	25.71
1,175.34	5.96	27.15
1,175.35	6.06	28.62
1,175.36	6.15	30.13
1,175.37	6.25	31.68
1,175.38	6.34	33.27
1,175.39	6.44	34.89
1,175.40	6.53	36.56
1,175.41	6.62	38.27
1,175.42	6.71	40.01
1,175.43	6.80	41.80
1,175.44	6.89	43.63
1,175.45	6.97	45.50
1,175.46	7.06	47.40
1,175.47	7.14	49.35
1,175.48	7.23	51.34
1,175.49	7.31	53.38
1,175.50	7.39	55.45
1,175.51	7.47	57.56
1,175.52	7.56	59.72
1,175.53	7.64	61.92
1,175.54	7.72	64.16
1,175.55	7.79	66.44
1,175.56	7.87	68.77
1,175.57	7.95	71.14
1,175.58	8.03	73.55
1,175.59	8.10	76.01
1,175.60	8.18	78.51
1,175.61	8.25	81.05
1,175.62	8.33	83.64
1,175.63	8.40	86.27
1,175.64	8.47	88.95
1,175.65	8.55	91.67
1,175.66	8.62	94.44
1,175.67	8.69	97.25
1,175.68	8.76	100.10
1,175.69	8.83	103.01
1,175.70	8.90	105.96
1,175.71	8.97	108.95
1,175.72	9.04	111.99
1,175.73	9.11	115.08
1,175.74	9.18	118.21
1,175.75	9.25	121.39
1,175.76	9.32	124.62
1,175.77	9.38	127.90
1,175.78	9.45	131.22
1,175.79	9.52	134.60
1,175.80	9.58	138.02
1,175.81	9.65	141.48
1,175.82	9.72	145.00
1,175.83	9.78	148.57
1,175.84	9.85	152.18
1,175.85	9.91	155.85
1,175.86	9.97	159.56
1,175.87	10.04	163.32
1,175.88	10.10	167.14
1,175.89	10.17	171.00
1,175.90	10.23	174.91
1,175.91	10.29	178.88
1,175.92	10.35	182.89
1,175.93	10.42	186.96
1,175.94	10.48	191.08
1,175.95	10.54	195.25
1,175.96	10.60	199.47
1,175.97	10.66	203.74
1,175.98	10.72	208.06
1,175.99	10.78	212.44
1,176.00	**10.84**	**216.87**

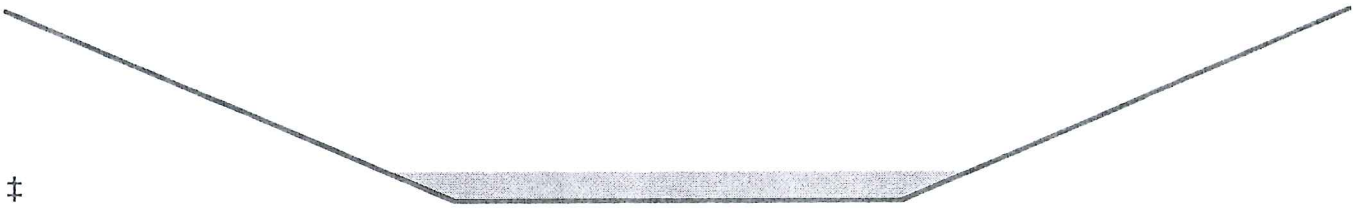
Summary for Reach OL2: OVERLAND FLOW

Inflow Area = 0.724 ac, 81.12% Impervious, Inflow Depth = 5.72" for 100-Year event
Inflow = 4.36 cfs @ 12.09 hrs, Volume= 0.345 af
Outflow = 4.10 cfs @ 12.14 hrs, Volume= 0.345 af, Atten= 6%, Lag= 3.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.37 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 0.62 fps, Avg. Travel Time= 6.5 min

Peak Storage= 437 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.16'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 136.00 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 243.0' Slope= 0.1770 '/'
Inlet Invert= 1,166.00', Outlet Invert= 1,123.00'



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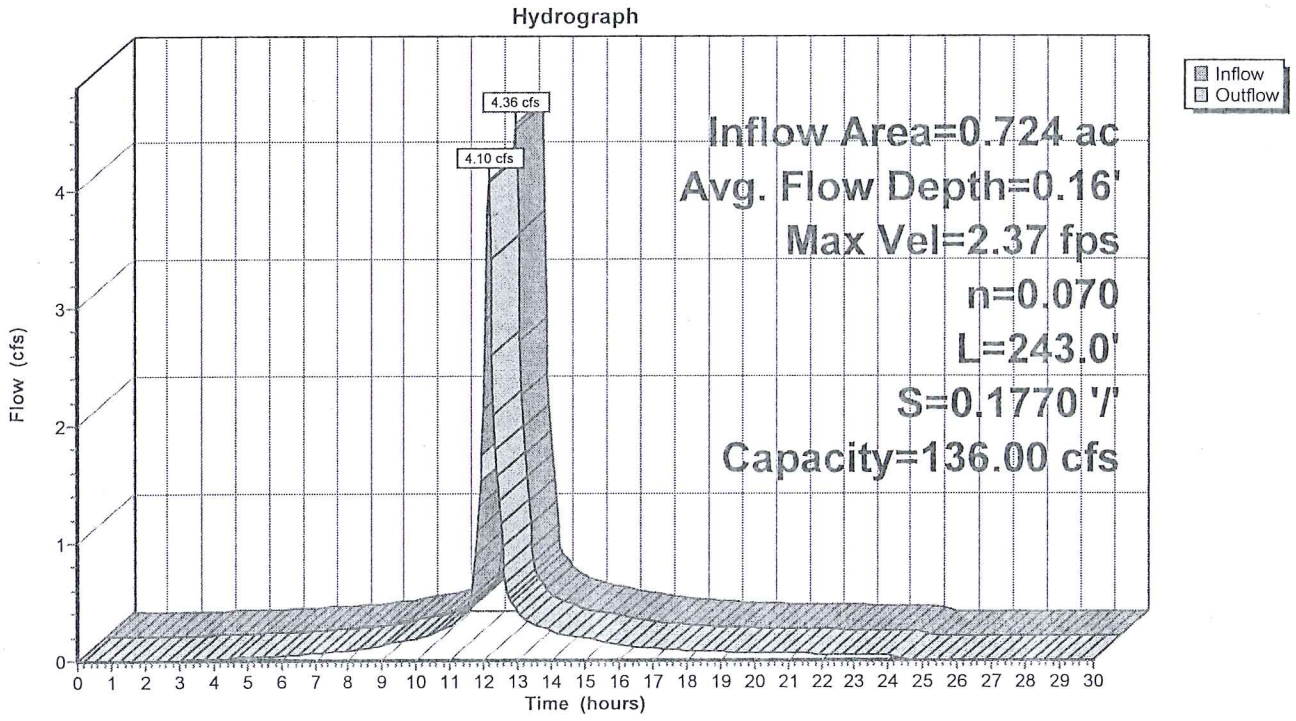
Reach OL2: OVERLAND FLOW



Stage-Discharge for Reach OL2: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,166.00	0.00	0.00
1,166.01	0.41	0.04
1,166.02	0.65	0.13
1,166.03	0.85	0.26
1,166.04	1.02	0.42
1,166.05	1.17	0.62
1,166.06	1.32	0.84
1,166.07	1.45	1.09
1,166.08	1.58	1.37
1,166.09	1.70	1.67
1,166.10	1.81	2.00
1,166.11	1.92	2.35
1,166.12	2.03	2.73
1,166.13	2.13	3.13
1,166.14	2.23	3.55
1,166.15	2.32	4.00
1,166.16	2.41	4.48
1,166.17	2.50	4.98
1,166.18	2.59	5.50
1,166.19	2.67	6.04
1,166.20	2.75	6.61
1,166.21	2.83	7.20
1,166.22	2.91	7.81
1,166.23	2.99	8.45
1,166.24	3.06	9.11
1,166.25	3.13	9.80
1,166.26	3.21	10.50
1,166.27	3.28	11.24
1,166.28	3.35	11.99
1,166.29	3.41	12.77
1,166.30	3.48	13.57
1,166.31	3.55	14.40
1,166.32	3.61	15.25
1,166.33	3.67	16.12
1,166.34	3.74	17.02
1,166.35	3.80	17.95
1,166.36	3.86	18.89
1,166.37	3.92	19.86
1,166.38	3.98	20.86
1,166.39	4.04	21.88
1,166.40	4.09	22.93
1,166.41	4.15	24.00
1,166.42	4.21	25.09
1,166.43	4.26	26.21
1,166.44	4.32	27.36
1,166.45	4.37	28.53
1,166.46	4.43	29.73
1,166.47	4.48	30.95
1,166.48	4.53	32.20
1,166.49	4.58	33.47
1,166.50	4.64	34.77
1,166.51	4.69	36.10
1,166.52	4.74	37.45
1,166.53	4.79	38.83
1,166.54	4.84	40.23
1,166.55	4.89	41.67
1,166.56	4.94	43.12
1,166.57	4.98	44.61
1,166.58	5.03	46.12
1,166.59	5.08	47.66
1,166.60	5.13	49.23
1,166.61	5.18	50.83
1,166.62	5.22	52.45
1,166.63	5.27	54.10
1,166.64	5.31	55.78
1,166.65	5.36	57.48
1,166.66	5.41	59.22
1,166.67	5.45	60.98
1,166.68	5.49	62.77
1,166.69	5.54	64.59
1,166.70	5.58	66.44
1,166.71	5.63	68.32
1,166.72	5.67	70.23
1,166.73	5.71	72.16
1,166.74	5.76	74.13
1,166.75	5.80	76.12
1,166.76	5.84	78.15
1,166.77	5.88	80.20
1,166.78	5.93	82.29
1,166.79	5.97	84.40
1,166.80	6.01	86.55
1,166.81	6.05	88.72
1,166.82	6.09	90.93
1,166.83	6.13	93.16
1,166.84	6.17	95.43
1,166.85	6.21	97.73
1,166.86	6.26	100.06
1,166.87	6.30	102.42
1,166.88	6.34	104.81
1,166.89	6.37	107.23
1,166.90	6.41	109.68
1,166.91	6.45	112.17
1,166.92	6.49	114.69
1,166.93	6.53	117.24
1,166.94	6.57	119.82
1,166.95	6.61	122.44
1,166.96	6.65	125.08
1,166.97	6.69	127.76
1,166.98	6.72	130.47
1,166.99	6.76	133.22
1,167.00	**6.80**	**136.00**

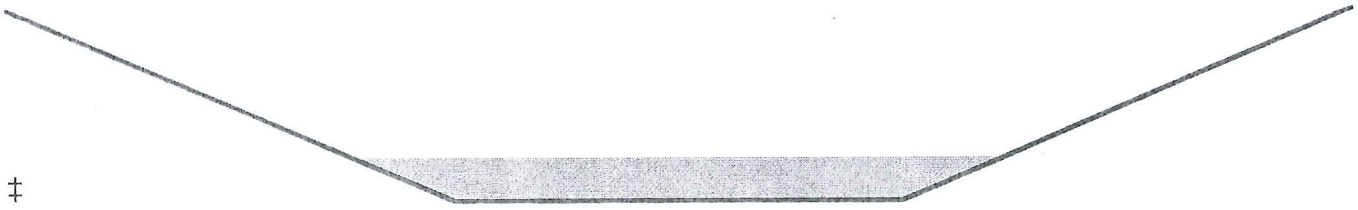
Summary for Reach OL3: OVERLAND FLOW

Inflow Area = 0.724 ac, 81.12% Impervious, Inflow Depth = 5.72" for 100-Year event
Inflow = 4.10 cfs @ 12.14 hrs, Volume= 0.345 af
Outflow = 4.03 cfs @ 12.15 hrs, Volume= 0.345 af, Atten= 2%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.48 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.39 fps, Avg. Travel Time= 1.9 min

Peak Storage= 125 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 68.16 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 45.0' Slope= 0.0444 '/'
Inlet Invert= 1,122.00', Outlet Invert= 1,120.00'



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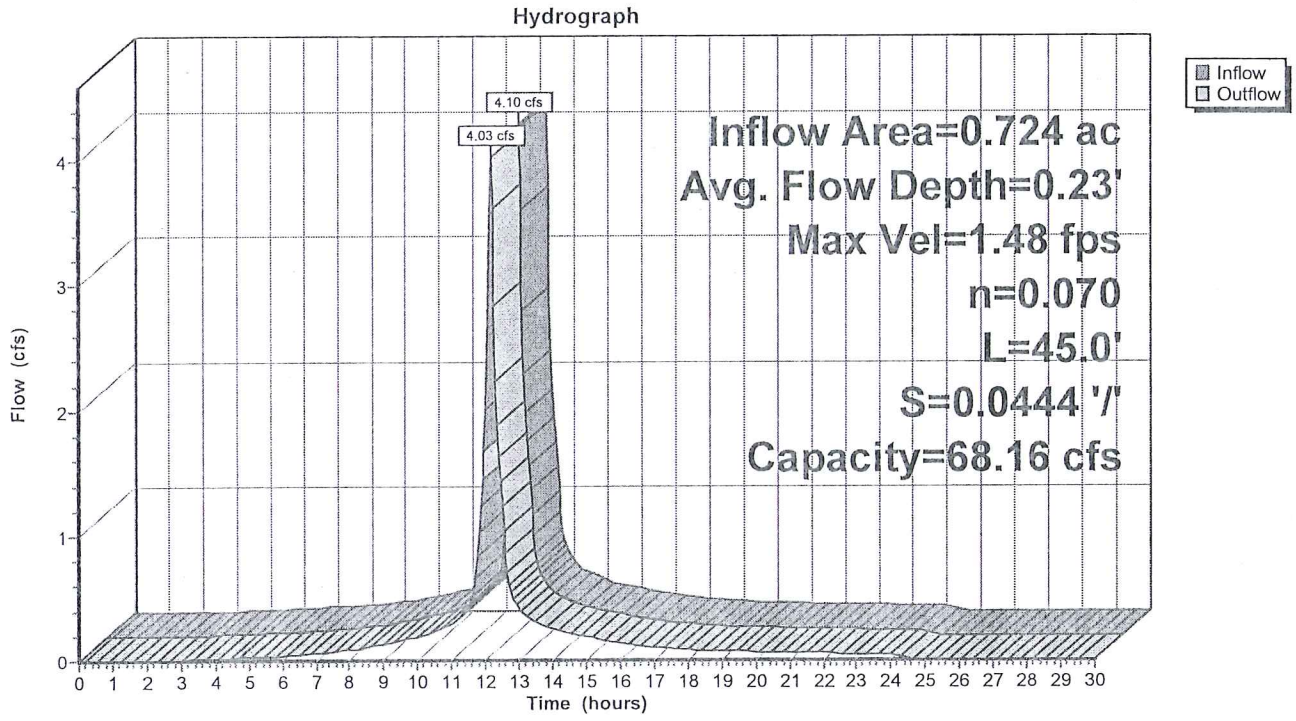
Reach OL3: OVERLAND FLOW



Stage-Discharge for Reach OL3: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,122.00	0.00	0.00
1,122.01	0.21	0.02
1,122.02	0.33	0.07
1,122.03	0.42	0.13
1,122.04	0.51	0.21
1,122.05	0.59	0.31
1,122.06	0.66	0.42
1,122.07	0.73	0.55
1,122.08	0.79	0.68
1,122.09	0.85	0.84
1,122.10	0.91	1.00
1,122.11	0.96	1.18
1,122.12	1.02	1.37
1,122.13	1.07	1.57
1,122.14	1.12	1.78
1,122.15	1.16	2.01
1,122.16	1.21	2.24
1,122.17	1.25	2.49
1,122.18	1.30	2.75
1,122.19	1.34	3.03
1,122.20	1.38	3.31
1,122.21	1.42	3.61
1,122.22	1.46	3.92
1,122.23	1.50	4.24
1,122.24	1.53	4.57
1,122.25	1.57	4.91
1,122.26	1.61	5.26
1,122.27	1.64	5.63
1,122.28	1.68	6.01
1,122.29	1.71	6.40
1,122.30	1.74	6.80
1,122.31	1.78	7.22
1,122.32	1.81	7.64
1,122.33	1.84	8.08
1,122.34	1.87	8.53
1,122.35	1.90	8.99
1,122.36	1.93	9.47
1,122.37	1.96	9.96
1,122.38	1.99	10.45
1,122.39	2.02	10.97
1,122.40	2.05	11.49
1,122.41	2.08	12.03
1,122.42	2.11	12.58
1,122.43	2.14	13.14
1,122.44	2.16	13.71
1,122.45	2.19	14.30
1,122.46	2.22	14.90
1,122.47	2.24	15.51
1,122.48	2.27	16.14
1,122.49	2.30	16.77
1,122.50	2.32	17.43
1,122.51	2.35	18.09
1,122.52	2.37	18.77
1,122.53	2.40	19.46
1,122.54	2.42	20.16
1,122.55	2.45	20.88
1,122.56	2.47	21.61
1,122.57	2.50	22.36
1,122.58	2.52	23.12
1,122.59	2.55	23.89
1,122.60	2.57	24.67
1,122.61	2.59	25.47
1,122.62	2.62	26.29
1,122.63	2.64	27.11
1,122.64	2.66	27.95
1,122.65	2.69	28.81
1,122.66	2.71	29.68
1,122.67	2.73	30.56
1,122.68	2.75	31.46
1,122.69	2.78	32.37
1,122.70	2.80	33.30
1,122.71	2.82	34.24
1,122.72	2.84	35.20
1,122.73	2.86	36.17
1,122.74	2.89	37.15
1,122.75	2.91	38.15
1,122.76	2.93	39.17
1,122.77	2.95	40.20
1,122.78	2.97	41.24
1,122.79	2.99	42.30
1,122.80	3.01	43.37
1,122.81	3.03	44.46
1,122.82	3.05	45.57
1,122.83	3.07	46.69
1,122.84	3.09	47.83
1,122.85	3.11	48.98
1,122.86	3.13	50.14
1,122.87	3.15	51.33
1,122.88	3.17	52.53
1,122.89	3.19	53.74
1,122.90	3.21	54.97
1,122.91	3.23	56.22
1,122.92	3.25	57.48
1,122.93	3.27	58.76
1,122.94	3.29	60.05
1,122.95	3.31	61.36
1,122.96	3.33	62.69
1,122.97	3.35	64.03
1,122.98	3.37	65.39
1,122.99	3.39	66.76
1,123.00	**3.41**	**68.16**

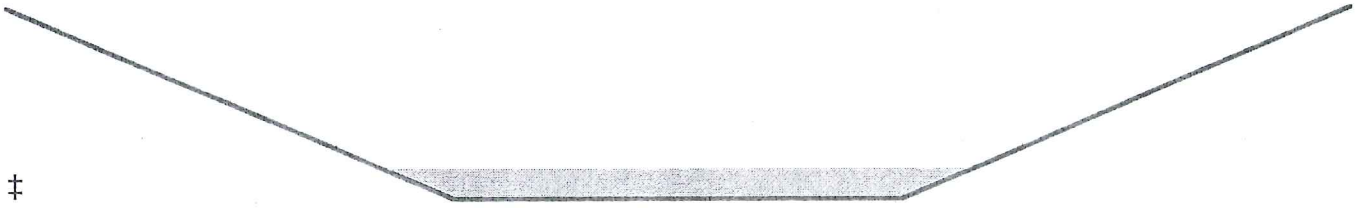
Summary for Reach OL4: OVERLAND FLOW

Inflow Area = 2.067 ac, 3.60% Impervious, Inflow Depth = 2.72" for 100-Year event
Inflow = 4.92 cfs @ 12.21 hrs, Volume= 0.469 af
Outflow = 4.88 cfs @ 12.22 hrs, Volume= 0.469 af, Atten= 1%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.66 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.87 fps, Avg. Travel Time= 1.4 min

Peak Storage= 137 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.16'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 150.33 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 74.0' Slope= 0.2162 '/'
Inlet Invert= 1,117.75', Outlet Invert= 1,101.75'



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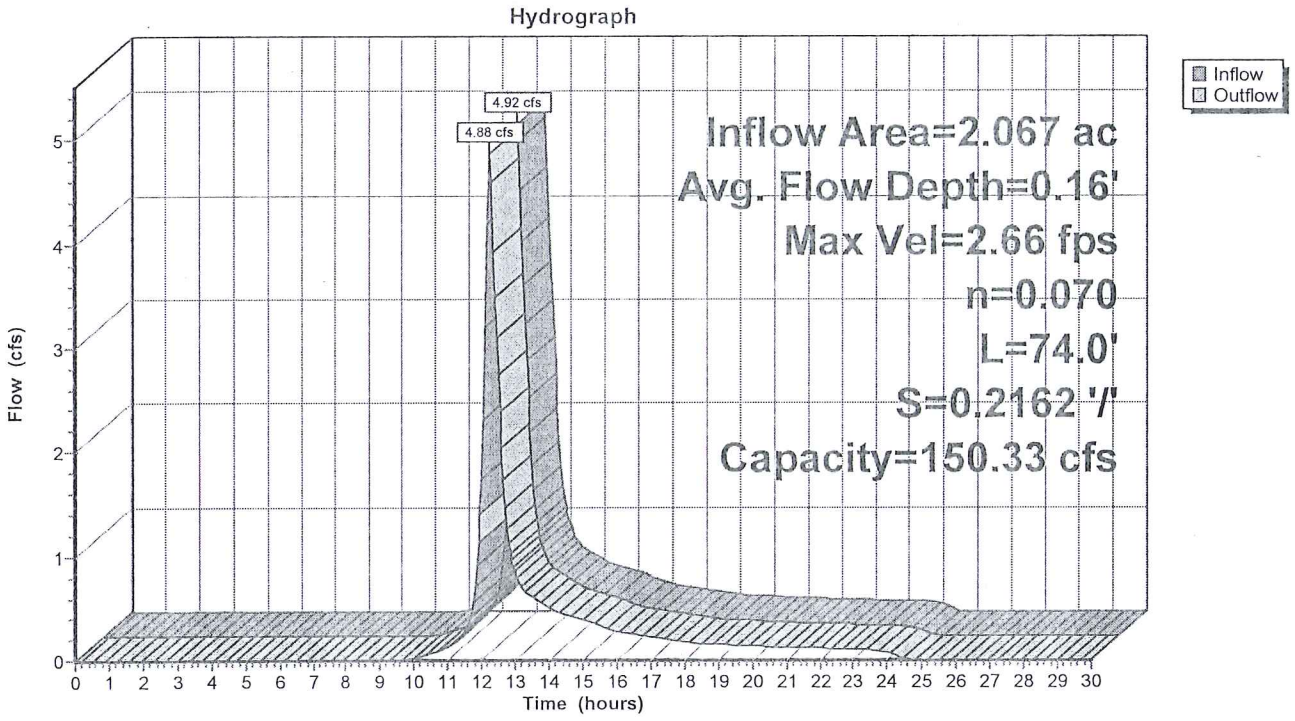
Reach OL4: OVERLAND FLOW



Stage-Discharge for Reach OL4: OVERLAND FLOW

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,117.75	0.00	0.00
1,117.76	0.46	0.05
1,117.77	0.72	0.15
1,117.78	0.93	0.29
1,117.79	1.13	0.47
1,117.80	1.30	0.68
1,117.81	1.46	0.93
1,117.82	1.61	1.20
1,117.83	1.75	1.51
1,117.84	1.88	1.84
1,117.85	2.01	2.21
1,117.86	2.13	2.60
1,117.87	2.24	3.01
1,117.88	2.35	3.46
1,117.89	2.46	3.93
1,117.90	2.57	4.43
1,117.91	2.67	4.95
1,117.92	2.76	5.50
1,117.93	2.86	6.08
1,117.94	2.95	6.68
1,117.95	3.04	7.30
1,117.96	3.13	7.96
1,117.97	3.22	8.64
1,117.98	3.30	9.34
1,117.99	3.38	10.07
1,118.00	3.47	10.83
1,118.01	3.54	11.61
1,118.02	3.62	12.42
1,118.03	3.70	13.25
1,118.04	3.77	14.12
1,118.05	3.85	15.00
1,118.06	3.92	15.92
1,118.07	3.99	16.86
1,118.08	4.06	17.82
1,118.09	4.13	18.82
1,118.10	4.20	19.84
1,118.11	4.27	20.88
1,118.12	4.33	21.96
1,118.13	4.40	23.06
1,118.14	4.46	24.19
1,118.15	4.53	25.34
1,118.16	4.59	26.53
1,118.17	4.65	27.74
1,118.18	4.71	28.98
1,118.19	4.77	30.24
1,118.20	4.83	31.54
1,118.21	4.89	32.86
1,118.22	4.95	34.21
1,118.23	5.01	35.59
1,118.24	5.07	37.00
1,118.25	5.12	38.43
1,118.26	5.18	39.90
1,118.27	5.24	41.40
1,118.28	5.29	42.92
1,118.29	5.35	44.47
1,118.30	5.40	46.06
1,118.31	5.46	47.67
1,118.32	5.51	49.31
1,118.33	5.56	50.98
1,118.34	5.62	52.69
1,118.35	5.67	54.42
1,118.36	5.72	56.18
1,118.37	5.77	57.98
1,118.38	5.82	59.80
1,118.39	5.87	61.66
1,118.40	5.92	63.54
1,118.41	5.97	65.46
1,118.42	6.02	67.41
1,118.43	6.07	69.39
1,118.44	6.12	71.40
1,118.45	6.17	73.44
1,118.46	6.22	75.52
1,118.47	6.27	77.63
1,118.48	6.32	79.77
1,118.49	6.36	81.94
1,118.50	6.41	84.15
1,118.51	6.46	86.39
1,118.52	6.50	88.66
1,118.53	6.55	90.96
1,118.54	6.60	93.30
1,118.55	6.64	95.67
1,118.56	6.69	98.07
1,118.57	6.73	100.51
1,118.58	6.78	102.98
1,118.59	6.82	105.49
1,118.60	6.87	108.03
1,118.61	6.91	110.60
1,118.62	6.96	113.21
1,118.63	7.00	115.85
1,118.64	7.05	118.53
1,118.65	7.09	121.24
1,118.66	7.13	123.99
1,118.67	7.18	126.78
1,118.68	7.22	129.59
1,118.69	7.26	132.45
1,118.70	7.31	135.34
1,118.71	7.35	138.26
1,118.72	7.39	141.23
1,118.73	7.43	144.22
1,118.74	7.47	147.26
1,118.75	**7.52**	**150.33**

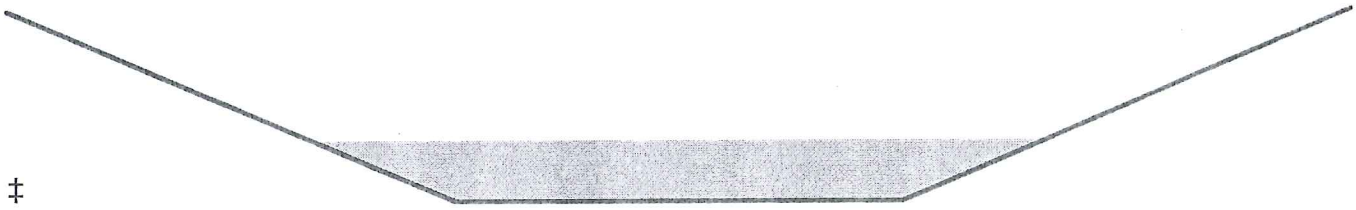
Summary for Reach OL5: OVERLAND FLOW

Inflow Area = 6.005 ac, 41.90% Impervious, Inflow Depth = 4.04" for 100-Year event
Inflow = 13.31 cfs @ 12.33 hrs, Volume= 2.024 af
Outflow = 13.28 cfs @ 12.35 hrs, Volume= 2.024 af, Atten= 0%, Lag= 1.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.18 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.10 fps, Avg. Travel Time= 1.5 min

Peak Storage= 428 cf @ 12.34 hrs
Average Depth at Peak Storage= 0.32'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 120.20 cfs

10.00' x 1.00' deep channel, n= 0.070 Medium-dense brush, winter
Side Slope Z-value= 10.0 '/' Top Width= 30.00'
Length= 102.0' Slope= 0.1382 '/'
Inlet Invert= 1,114.10', Outlet Invert= 1,100.00'



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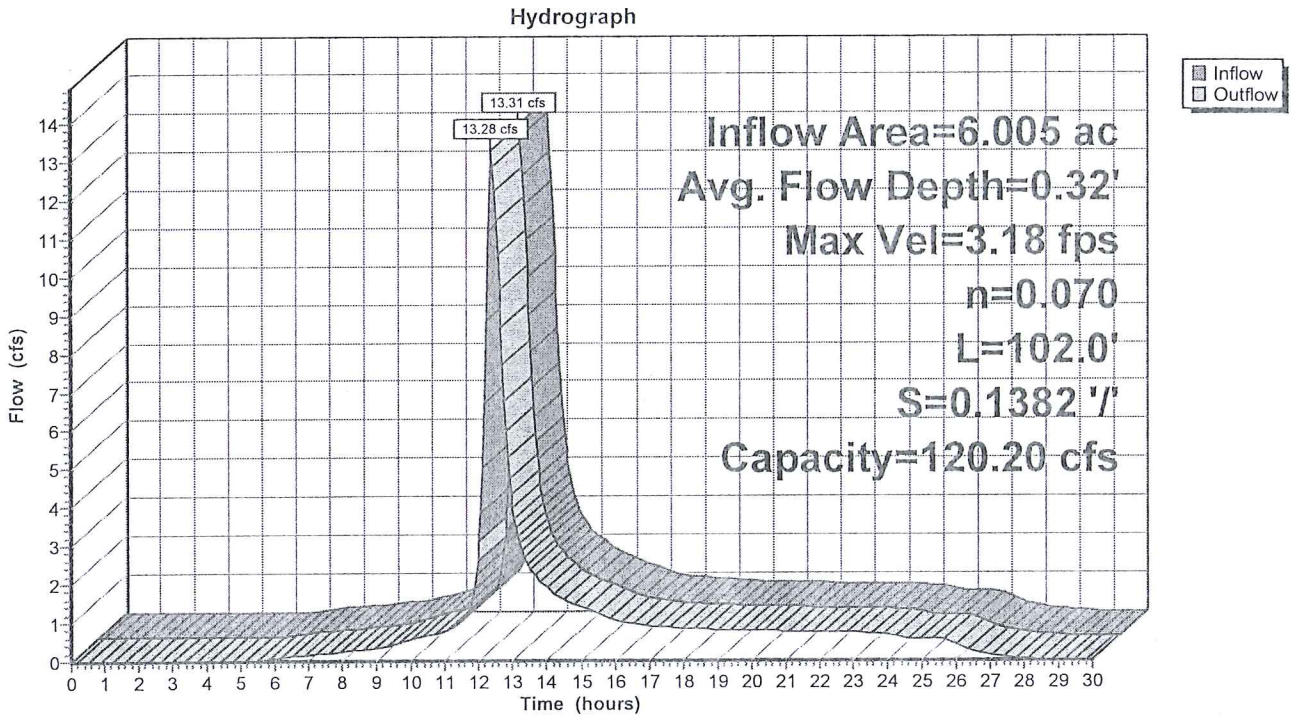
Reach OL5: OVERLAND FLOW



Stage-Discharge for Reach OL5: OVERLAND FLOW

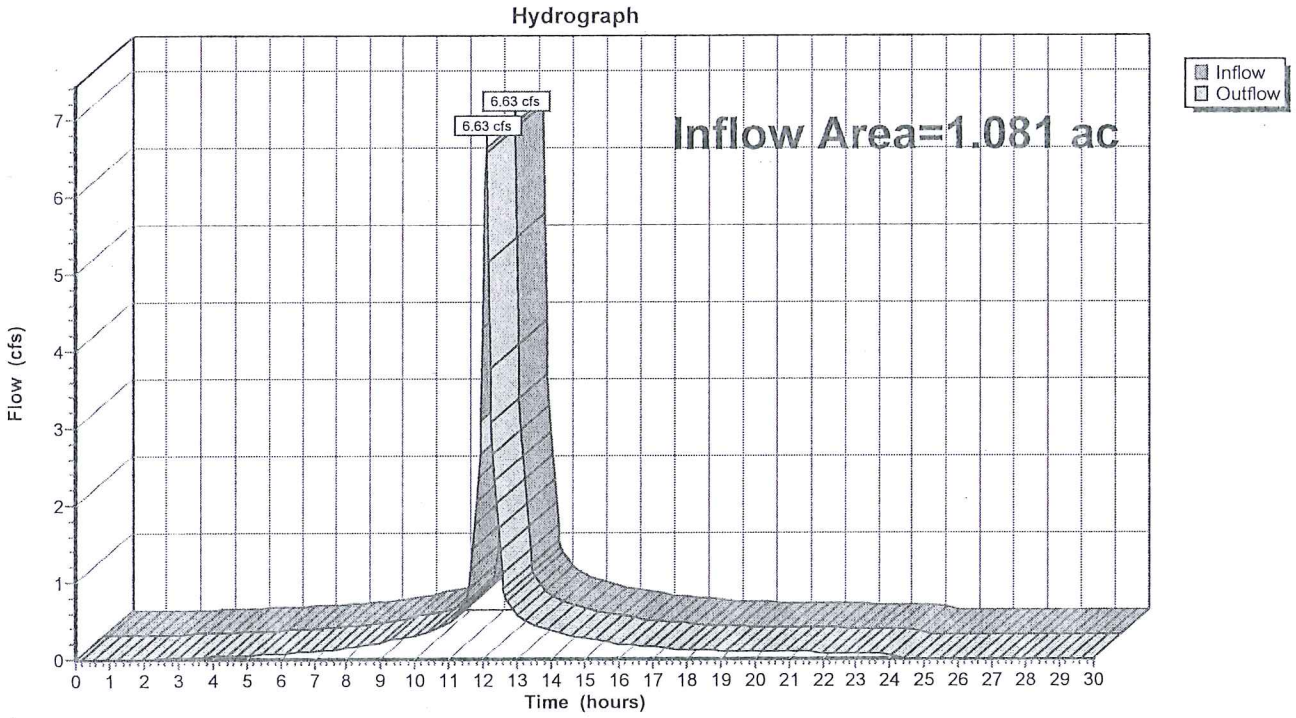
Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,114.10	0.00	0.00
1,114.11	0.36	0.04
1,114.12	0.57	0.12
1,114.13	0.75	0.23
1,114.14	0.90	0.37
1,114.15	1.04	0.55
1,114.16	1.17	0.74
1,114.17	1.28	0.96
1,114.18	1.40	1.21
1,114.19	1.50	1.47
1,114.20	1.60	1.76
1,114.21	1.70	2.08
1,114.22	1.79	2.41
1,114.23	1.88	2.77
1,114.24	1.97	3.14
1,114.25	2.05	3.54
1,114.26	2.13	3.96
1,114.27	2.21	4.40
1,114.28	2.29	4.86
1,114.29	2.36	5.34
1,114.30	2.43	5.84
1,114.31	2.50	6.36
1,114.32	2.57	6.91
1,114.33	2.64	7.47
1,114.34	2.71	8.05
1,114.35	2.77	8.66
1,114.36	2.83	9.28
1,114.37	2.90	9.93
1,114.38	2.96	10.60
1,114.39	3.02	11.29
1,114.40	3.08	12.00
1,114.41	3.13	12.73
1,114.42	3.19	13.48
1,114.43	3.25	14.25
1,114.44	3.30	15.05
1,114.45	3.36	15.86
1,114.46	3.41	16.70
1,114.47	3.46	17.56
1,114.48	3.52	18.44
1,114.49	3.57	19.34
1,114.50	3.62	20.26
1,114.51	3.67	21.21
1,114.52	3.72	22.18
1,114.53	3.77	23.17
1,114.54	3.82	24.18
1,114.55	3.86	25.22
1,114.56	3.91	26.27
1,114.57	3.96	27.35
1,114.58	4.01	28.46
1,114.59	4.05	29.58
1,114.60	4.10	30.73
1,114.61	4.14	31.90
1,114.62	4.19	33.10
1,114.63	4.23	34.32
1,114.64	4.28	35.56
1,114.65	4.32	36.83
1,114.66	4.36	38.12
1,114.67	4.41	39.43
1,114.68	4.45	40.77
1,114.69	4.49	42.13
1,114.70	4.53	43.51
1,114.71	4.57	44.92
1,114.72	4.62	46.36
1,114.73	4.66	47.82
1,114.74	4.70	49.30
1,114.75	4.74	50.81
1,114.76	4.78	52.34
1,114.77	4.82	53.90
1,114.78	4.86	55.48
1,114.79	4.90	57.09
1,114.80	4.93	58.73
1,114.81	4.97	60.39
1,114.82	5.01	62.07
1,114.83	5.05	63.78
1,114.84	5.09	65.52
1,114.85	5.13	67.28
1,114.86	5.16	69.07
1,114.87	5.20	70.89
1,114.88	5.24	72.73
1,114.89	5.28	74.60
1,114.90	5.31	76.49
1,114.91	5.35	78.42
1,114.92	5.39	80.37
1,114.93	5.42	82.34
1,114.94	5.46	84.35
1,114.95	5.49	86.38
1,114.96	5.53	88.44
1,114.97	5.56	90.52
1,114.98	5.60	92.63
1,114.99	5.63	94.78
1,115.00	5.67	96.94
1,115.01	5.70	99.14
1,115.02	5.74	101.37
1,115.03	5.77	103.62
1,115.04	5.81	105.90
1,115.05	5.84	108.21
1,115.06	5.88	110.55
1,115.07	5.91	112.92
1,115.08	5.94	115.32
1,115.09	5.98	117.74
1,115.10	**6.01**	**120.20**

Summary for Reach UGS1A: TO UGS1

Inflow Area = 1.081 ac, 85.82% Impervious, Inflow Depth = 5.88" for 100-Year event
Inflow = 6.63 cfs @ 12.09 hrs, Volume= 0.530 af
Outflow = 6.63 cfs @ 12.09 hrs, Volume= 0.530 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

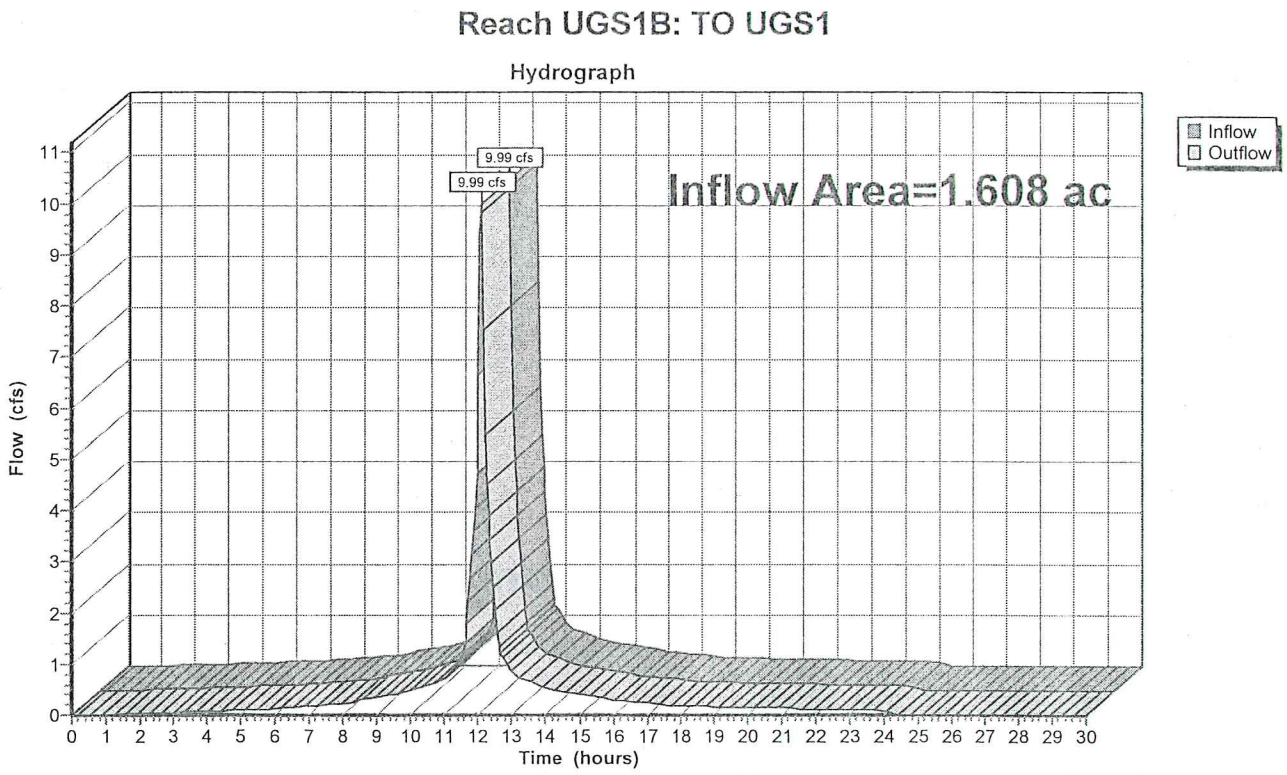
Reach UGS1A: TO UGS1



Summary for Reach UGS1B: TO UGS1

Inflow Area = 1.608 ac, 92.28% Impervious, Inflow Depth = 6.03" for 100-Year event
Inflow = 9.99 cfs @ 12.08 hrs, Volume= 0.808 af
Outflow = 9.99 cfs @ 12.08 hrs, Volume= 0.808 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs



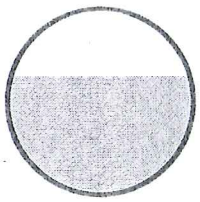
Summary for Reach UGS1C: TO OUTLET

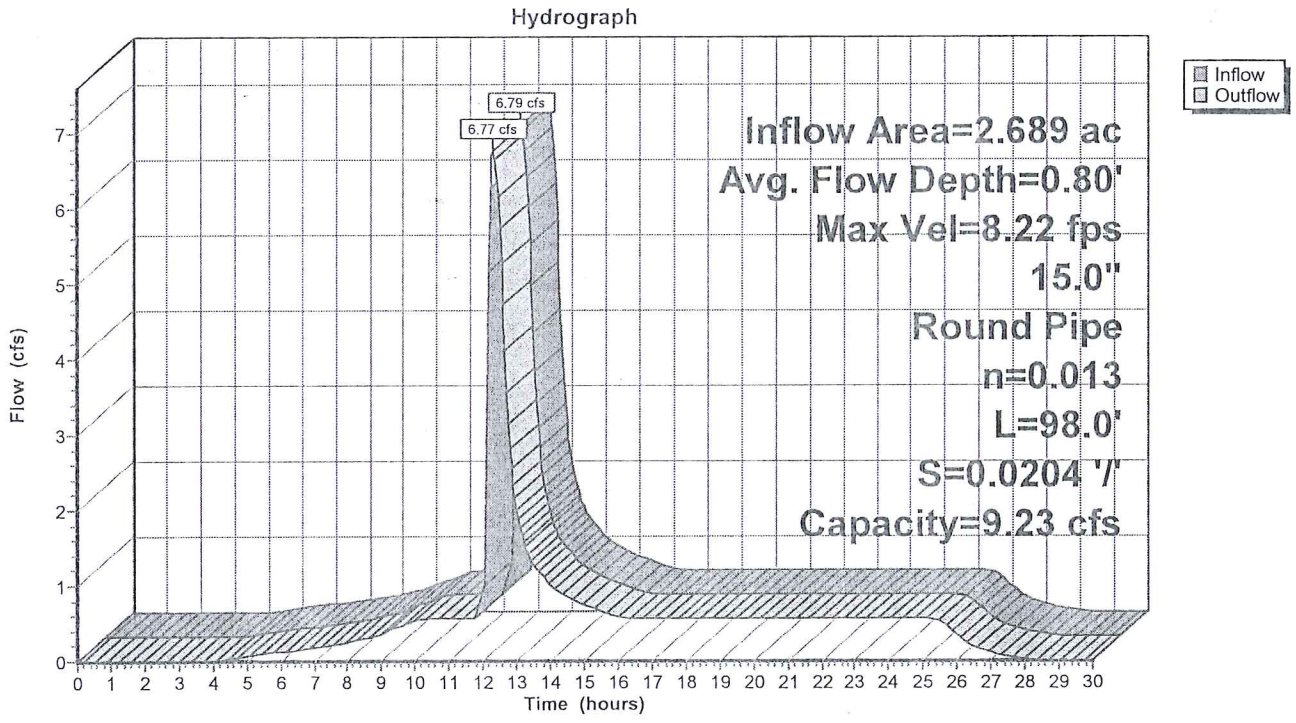
Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 5.59" for 100-Year event
Inflow = 6.79 cfs @ 12.29 hrs, Volume= 1.252 af
Outflow = 6.77 cfs @ 12.29 hrs, Volume= 1.252 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 8.22 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 3.81 fps, Avg. Travel Time= 0.4 min

Peak Storage= 81 cf @ 12.29 hrs
Average Depth at Peak Storage= 0.80'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 9.23 cfs

15.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 98.0' Slope= 0.0204 '/'
Inlet Invert= 1,172.00', Outlet Invert= 1,170.00'





Stage-Discharge for Reach UGS1C: TO OUTLET

Elevation (feet)	Velocity (ft/sec)	Discharge (cfs)
1,172.00	0.00	0.00
1,172.01	0.54	0.00
1,172.02	0.90	0.00
1,172.03	1.19	0.01
1,172.04	1.44	0.02
1,172.05	1.67	0.03
1,172.06	1.88	0.04
1,172.07	2.08	0.06
1,172.08	2.27	0.08
1,172.09	2.44	0.10
1,172.10	2.62	0.12
1,172.11	2.78	0.15
1,172.12	2.94	0.18
1,172.13	3.09	0.21
1,172.14	3.24	0.24
1,172.15	3.38	0.28
1,172.16	3.52	0.32
1,172.17	3.66	0.37
1,172.18	3.79	0.41
1,172.19	3.92	0.46
1,172.20	4.04	0.51
1,172.21	4.16	0.57
1,172.22	4.28	0.62
1,172.23	4.40	0.68
1,172.24	4.51	0.74
1,172.25	4.63	0.81
1,172.26	4.73	0.88
1,172.27	4.84	0.94
1,172.28	4.94	1.02
1,172.29	5.05	1.09
1,172.30	5.15	1.17
1,172.31	5.24	1.24
1,172.32	5.34	1.33
1,172.33	5.43	1.41
1,172.34	5.53	1.49
1,172.35	5.62	1.58
1,172.36	5.71	1.67
1,172.37	5.79	1.76
1,172.38	5.88	1.85
1,172.39	5.96	1.95
1,172.40	6.04	2.05
1,172.41	6.13	2.15
1,172.42	6.20	2.25
1,172.43	6.28	2.35
1,172.44	6.36	2.45
1,172.45	6.43	2.56
1,172.46	6.51	2.67
1,172.47	6.58	2.77
1,172.48	6.65	2.89
1,172.49	6.72	3.00
1,172.50	6.78	3.11
1,172.51	6.85	3.22
1,172.52	6.92	3.34
1,172.53	6.98	3.46
1,172.54	7.04	3.57
1,172.55	7.10	3.69
1,172.56	7.16	3.81
1,172.57	7.22	3.93
1,172.58	7.28	4.06
1,172.59	7.33	4.18
1,172.60	7.39	4.30
1,172.61	7.44	4.43
1,172.62	7.49	4.55
1,172.63	7.55	4.68
1,172.64	7.59	4.80
1,172.65	7.64	4.93
1,172.66	7.69	5.06
1,172.67	7.74	5.18
1,172.68	7.78	5.31
1,172.69	7.83	5.44
1,172.70	7.87	5.56
1,172.71	7.91	5.69
1,172.72	7.95	5.82
1,172.73	7.99	5.95
1,172.74	8.03	6.07
1,172.75	8.06	6.20
1,172.76	8.10	6.33
1,172.77	8.13	6.45
1,172.78	8.17	6.58
1,172.79	8.20	6.70
1,172.80	8.23	6.83
1,172.81	8.26	6.95
1,172.82	8.29	7.07
1,172.83	8.31	7.19
1,172.84	8.34	7.31
1,172.85	8.36	7.43
1,172.86	8.39	7.55
1,172.87	8.41	7.67
1,172.88	8.43	7.78
1,172.89	8.45	7.90
1,172.90	8.47	8.01
1,172.91	8.48	8.12
1,172.92	8.50	8.23
1,172.93	8.51	8.34
1,172.94	8.53	8.44
1,172.95	8.54	8.54
1,172.96	8.55	8.64
1,172.97	8.56	8.74
1,172.98	8.56	8.84
1,172.99	8.57	8.93
1,173.00	8.57	9.02
1,173.01	8.57	9.11
1,173.02	**8.57**	9.19
1,173.03	8.57	9.27
1,173.04	8.57	9.35
1,173.05	8.56	9.42
1,173.06	8.56	9.49
1,173.07	8.55	9.56
1,173.08	8.53	9.62
1,173.09	8.52	9.68
1,173.10	8.51	9.73
1,173.11	8.49	9.77
1,173.12	8.47	9.82
1,173.13	8.44	9.85
1,173.14	8.42	9.88
1,173.15	8.39	9.90
1,173.16	8.35	9.92
1,173.17	8.31	**9.92**
1,173.18	8.27	9.92
1,173.19	8.22	9.91
1,173.20	8.17	9.89
1,173.21	8.10	9.85
1,173.22	8.02	9.78
1,173.23	7.93	9.70
1,173.24	7.78	9.54
1,173.25	7.52	9.23

Summary for Pond CULVERT#1: TO DP#1

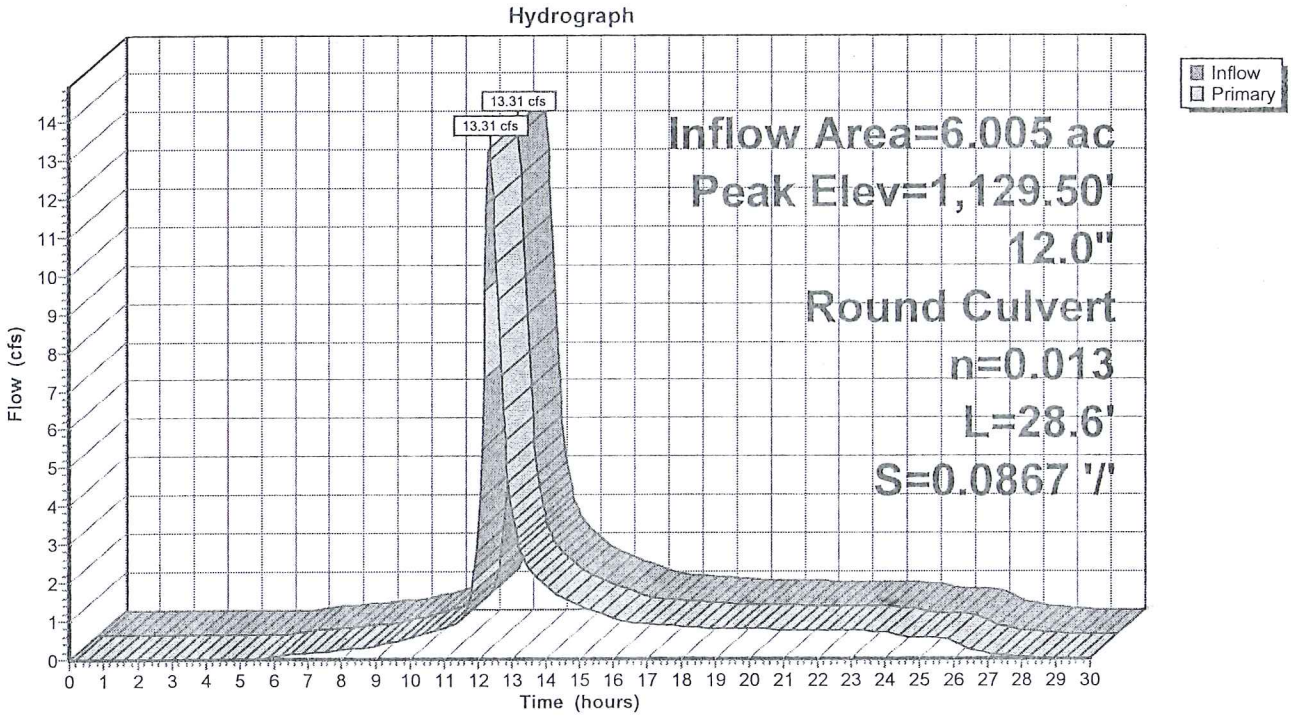
Inflow Area = 6.005 ac, 41.90% Impervious, Inflow Depth = 4.04" for 100-Year event
Inflow = 13.31 cfs @ 12.33 hrs, Volume= 2.024 af
Outflow = 13.31 cfs @ 12.33 hrs, Volume= 2.024 af, Atten= 0%, Lag= 0.0 min
Primary = 13.31 cfs @ 12.33 hrs, Volume= 2.024 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,129.50' @ 12.33 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,116.61'	**12.0" Round Culvert** L= 28.6' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,116.61' / 1,114.13' S= 0.0867 '/' Cc= 0.900 n= 0.013 Cast iron, coated, Flow Area= 0.79 sf

Primary OutFlow Max=13.24 cfs @ 12.33 hrs HW=1,129.37' (Free Discharge)
↑**1=Culvert** (Inlet Controls 13.24 cfs @ 16.86 fps)

Pond CULVERT#1: TO DP#1



Stage-Discharge for Pond CULVERT#1: TO DP#1

Elevation (feet)	Primary (cfs)
1,116.61	0.00
1,116.76	0.10
1,116.91	0.37
1,117.06	0.78
1,117.21	1.30
1,117.36	1.86
1,117.51	2.40
1,117.66	2.80
1,117.81	3.16
1,117.96	3.49
1,118.11	3.78
1,118.26	4.06
1,118.41	4.31
1,118.56	4.55
1,118.71	4.78
1,118.86	5.00
1,119.01	5.21
1,119.16	5.41
1,119.31	5.61
1,119.46	5.80
1,119.61	5.98
1,119.76	6.16
1,119.91	6.33
1,120.06	6.50
1,120.21	6.66
1,120.36	6.82
1,120.51	6.97
1,120.66	7.13
1,120.81	7.27
1,120.96	7.42
1,121.11	7.56
1,121.26	7.70
1,121.41	7.84
1,121.56	7.98
1,121.71	8.11
1,121.86	8.24
1,122.01	8.37
1,122.16	8.50
1,122.31	8.62
1,122.46	8.75
1,122.61	8.87
1,122.76	8.99
1,122.91	9.11
1,123.06	9.22
1,123.21	9.34
1,123.36	9.45
1,123.51	9.57
1,123.66	9.68
1,123.81	9.79
1,123.96	9.90
1,124.11	10.01
1,124.26	10.11
1,124.41	10.22
1,124.56	10.32
1,124.71	10.43
1,124.86	10.53
1,125.01	10.63
1,125.16	10.73
1,125.31	10.83
1,125.46	10.93
1,125.61	11.03
1,125.76	11.12
1,125.91	11.22
1,126.06	11.31
1,126.21	11.41
1,126.36	11.50
1,126.51	11.59
1,126.66	11.69
1,126.81	11.78
1,126.96	11.87
1,127.11	11.96
1,127.26	12.05
1,127.41	12.14
1,127.56	12.22
1,127.71	12.31
1,127.86	12.40
1,128.01	12.49
1,128.16	12.57
1,128.31	12.66
1,128.46	12.74
1,128.61	12.82
1,128.76	12.91
1,128.91	12.99
1,129.06	13.07
1,129.21	13.15
1,129.36	**13.24**

Summary for Pond DCBJ: TO DCB-K

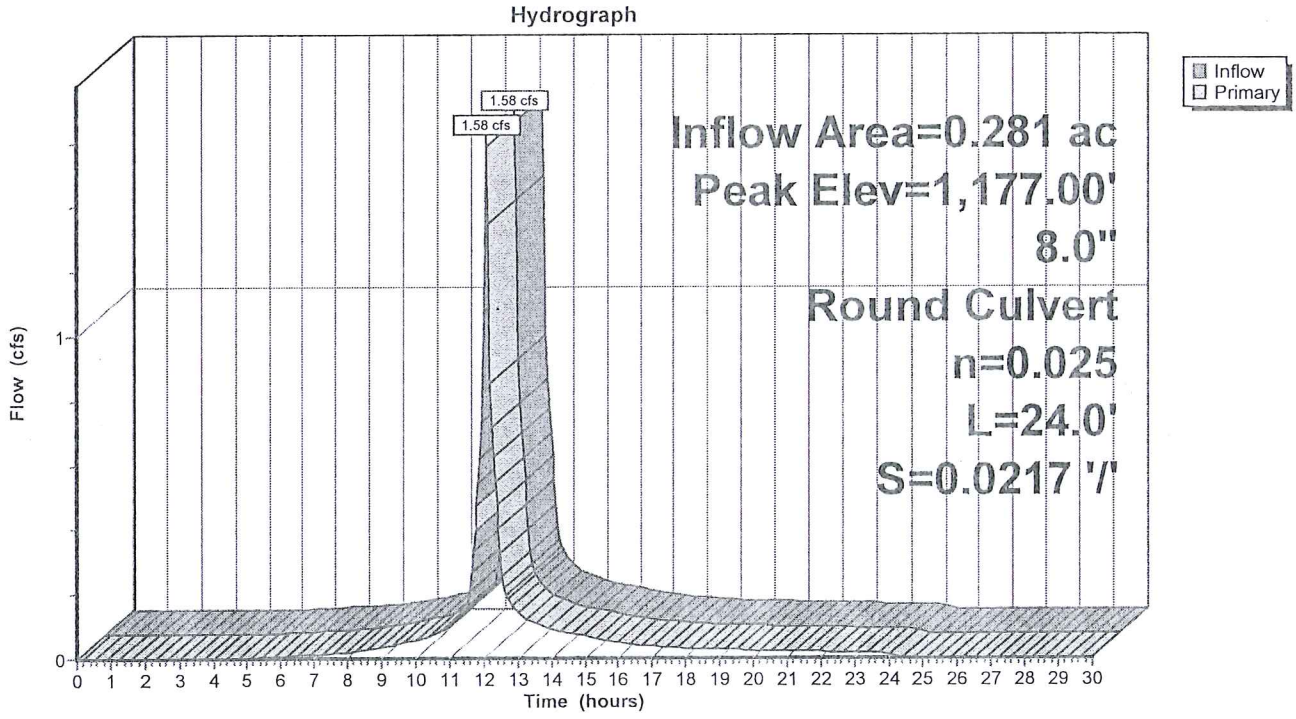
Inflow Area = 0.281 ac, 53.18% Impervious, Inflow Depth = 5.02" for 100-Year event
Inflow = 1.58 cfs @ 12.08 hrs, Volume= 0.118 af
Outflow = 1.58 cfs @ 12.08 hrs, Volume= 0.118 af, Atten= 0%, Lag= 0.0 min
Primary = 1.58 cfs @ 12.08 hrs, Volume= 0.118 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,177.00' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	1,174.86'	**8.0" Round Culvert** L= 24.0' Square-edged headwall, Ke= 0.500 Inlet / Outlet Invert= 1,174.86' / 1,174.34' S= 0.0217 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.35 sf

Primary OutFlow Max=1.53 cfs @ 12.08 hrs HW=1,176.89' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 1.53 cfs @ 4.40 fps)

Pond DCBJ: TO DCB-K



Stage-Discharge for Pond DCBJ: TO DCB-K

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,174.86	0.00	1,175.38	0.57	1,175.90	1.06	1,176.42	1.33
1,174.87	0.00	1,175.39	0.59	1,175.91	1.06	1,176.43	1.33
1,174.88	0.00	1,175.40	0.61	1,175.92	1.07	1,176.44	1.34
1,174.89	0.00	1,175.41	0.62	1,175.93	1.07	1,176.45	1.34
1,174.90	0.00	1,175.42	0.64	1,175.94	1.08	1,176.46	1.35
1,174.91	0.01	1,175.43	0.66	1,175.95	1.09	1,176.47	1.35
1,174.92	0.01	1,175.44	0.68	1,175.96	1.09	1,176.48	1.36
1,174.93	0.01	1,175.45	0.69	1,175.97	1.10	1,176.49	1.36
1,174.94	0.02	1,175.46	0.71	1,175.98	1.10	1,176.50	1.37
1,174.95	0.02	1,175.47	0.73	1,175.99	1.11	1,176.51	1.37
1,174.96	0.02	1,175.48	0.74	1,176.00	1.11	1,176.52	1.37
1,174.97	0.03	1,175.49	0.76	1,176.01	1.12	1,176.53	1.38
1,174.98	0.04	1,175.50	0.78	1,176.02	1.12	1,176.54	1.38
1,174.99	0.04	1,175.51	0.79	1,176.03	1.13	1,176.55	1.39
1,175.00	0.05	1,175.52	0.81	1,176.04	1.14	1,176.56	1.39
1,175.01	0.06	1,175.53	0.82	1,176.05	1.14	1,176.57	1.40
1,175.02	0.06	1,175.54	0.84	1,176.06	1.15	1,176.58	1.40
1,175.03	0.07	1,175.55	0.85	1,176.07	1.15	1,176.59	1.41
1,175.04	0.08	1,175.56	0.87	1,176.08	1.16	1,176.60	1.41
1,175.05	0.09	1,175.57	0.88	1,176.09	1.16	1,176.61	1.41
1,175.06	0.10	1,175.58	0.89	1,176.10	1.17	1,176.62	1.42
1,175.07	0.11	1,175.59	0.91	1,176.11	1.17	1,176.63	1.42
1,175.08	0.12	1,175.60	0.92	1,176.12	1.18	1,176.64	1.43
1,175.09	0.13	1,175.61	0.93	1,176.13	1.18	1,176.65	1.43
1,175.10	0.14	1,175.62	0.94	1,176.14	1.19	1,176.66	1.44
1,175.11	0.16	1,175.63	0.95	1,176.15	1.19	1,176.67	1.44
1,175.12	0.17	1,175.64	0.96	1,176.16	1.20	1,176.68	1.45
1,175.13	0.18	1,175.65	0.97	1,176.17	1.21	1,176.69	1.45
1,175.14	0.19	1,175.66	0.98	1,176.18	1.21	1,176.70	1.45
1,175.15	0.21	1,175.67	0.99	1,176.19	1.22	1,176.71	1.46
1,175.16	0.22	1,175.68	0.99	1,176.20	1.22	1,176.72	1.46
1,175.17	0.23	1,175.69	1.00	1,176.21	1.23	1,176.73	1.47
1,175.18	0.25	1,175.70	1.00	1,176.22	1.23	1,176.74	1.47
1,175.19	0.26	1,175.71	1.00	1,176.23	1.24	1,176.75	1.48
1,175.20	0.28	1,175.72	1.00	1,176.24	1.24	1,176.76	1.48
1,175.21	0.29	1,175.73	1.00	1,176.25	1.25	1,176.77	1.48
1,175.22	0.31	1,175.74	0.99	1,176.26	1.25	1,176.78	1.49
1,175.23	0.32	1,175.75	0.96	1,176.27	1.26	1,176.79	1.49
1,175.24	0.34	1,175.76	0.97	1,176.28	1.26	1,176.80	1.50
1,175.25	0.35	1,175.77	0.98	1,176.29	1.27	1,176.81	1.50
1,175.26	0.37	1,175.78	0.98	1,176.30	1.27	1,176.82	1.50
1,175.27	0.39	1,175.79	0.99	1,176.31	1.28	1,176.83	1.51
1,175.28	0.40	1,175.80	1.00	1,176.32	1.28	1,176.84	1.51
1,175.29	0.42	1,175.81	1.00	1,176.33	1.29	1,176.85	1.52
1,175.30	0.44	1,175.82	1.01	1,176.34	1.29	1,176.86	1.52
1,175.31	0.45	1,175.83	1.01	1,176.35	1.30	1,176.87	1.53
1,175.32	0.47	1,175.84	1.02	1,176.36	1.30	1,176.88	1.53
1,175.33	0.49	1,175.85	1.03	1,176.37	1.30	1,176.89	1.53
1,175.34	0.50	1,175.86	1.03	1,176.38	1.31	1,176.90	1.54
1,175.35	0.52	1,175.87	1.04	1,176.39	1.31	1,176.91	**1.54**
1,175.36	0.54	1,175.88	1.04	1,176.40	1.32		
1,175.37	0.56	1,175.89	1.05	1,176.41	1.32		

Summary for Pond sb1: TO DP#1

Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 5.59" for 100-Year event
Inflow = 6.77 cfs @ 12.29 hrs, Volume= 1.252 af
Outflow = 6.81 cfs @ 12.30 hrs, Volume= 1.246 af, Atten= 0%, Lag= 0.5 min
Primary = 6.81 cfs @ 12.30 hrs, Volume= 1.246 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,163.41' @ 12.30 hrs Surf.Area= 441 sf Storage= 427 cf

Plug-Flow detention time= 7.1 min calculated for 1.243 af (99% of inflow)
Center-of-Mass det. time= 3.8 min (942.4 - 938.5)

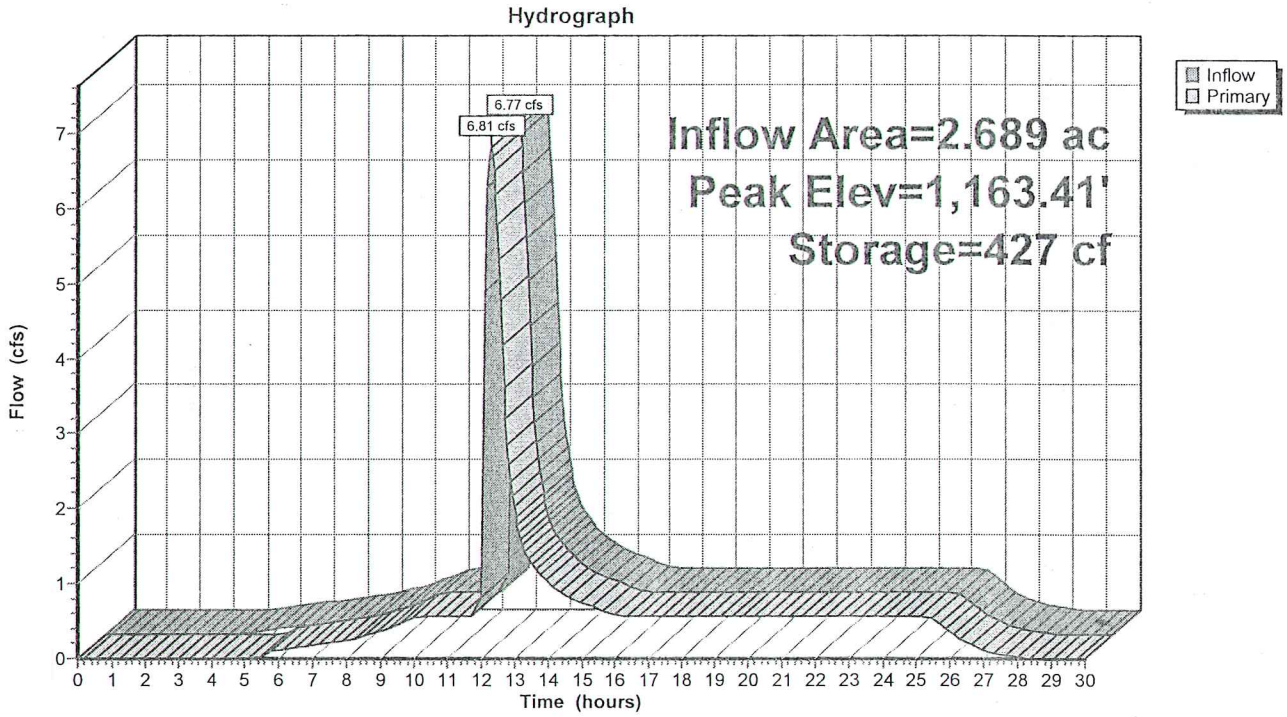
Volume	Invert	Avail.Storage	Storage Description
#1	1,162.00'	720 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,162.00	163	0	0
1,164.00	557	720	720

Device	Routing	Invert	Outlet Devices
#1	Primary	1,163.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=6.80 cfs @ 12.30 hrs HW=1,163.41' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 6.80 cfs @ 1.65 fps)

Pond sb1: TO DP#1



Stage-Discharge for Pond sb1: TO DP#1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,162.00	0.00	1,162.52	0.00	1,163.04	0.20	1,163.56	11.20
1,162.01	0.00	1,162.53	0.00	1,163.05	0.28	1,163.57	11.53
1,162.02	0.00	1,162.54	0.00	1,163.06	0.37	1,163.58	11.86
1,162.03	0.00	1,162.55	0.00	1,163.07	0.46	1,163.59	12.20
1,162.04	0.00	1,162.56	0.00	1,163.08	0.56	1,163.60	12.55
1,162.05	0.00	1,162.57	0.00	1,163.09	0.67	1,163.61	12.86
1,162.06	0.00	1,162.58	0.00	1,163.10	0.79	1,163.62	13.18
1,162.07	0.00	1,162.59	0.00	1,163.11	0.91	1,163.63	13.49
1,162.08	0.00	1,162.60	0.00	1,163.12	1.04	1,163.64	13.81
1,162.09	0.00	1,162.61	0.00	1,163.13	1.17	1,163.65	14.14
1,162.10	0.00	1,162.62	0.00	1,163.14	1.30	1,163.66	14.46
1,162.11	0.00	1,162.63	0.00	1,163.15	1.45	1,163.67	14.79
1,162.12	0.00	1,162.64	0.00	1,163.16	1.59	1,163.68	15.12
1,162.13	0.00	1,162.65	0.00	1,163.17	1.75	1,163.69	15.45
1,162.14	0.00	1,162.66	0.00	1,163.18	1.90	1,163.70	15.78
1,162.15	0.00	1,162.67	0.00	1,163.19	2.06	1,163.71	16.12
1,162.16	0.00	1,162.68	0.00	1,163.20	2.23	1,163.72	16.46
1,162.17	0.00	1,162.69	0.00	1,163.21	2.40	1,163.73	16.80
1,162.18	0.00	1,162.70	0.00	1,163.22	2.58	1,163.74	17.14
1,162.19	0.00	1,162.71	0.00	1,163.23	2.76	1,163.75	17.49
1,162.20	0.00	1,162.72	0.00	1,163.24	2.94	1,163.76	17.84
1,162.21	0.00	1,162.73	0.00	1,163.25	3.13	1,163.77	18.19
1,162.22	0.00	1,162.74	0.00	1,163.26	3.33	1,163.78	18.54
1,162.23	0.00	1,162.75	0.00	1,163.27	3.53	1,163.79	18.89
1,162.24	0.00	1,162.76	0.00	1,163.28	3.73	1,163.80	19.25
1,162.25	0.00	1,162.77	0.00	1,163.29	3.94	1,163.81	19.61
1,162.26	0.00	1,162.78	0.00	1,163.30	4.15	1,163.82	19.97
1,162.27	0.00	1,162.79	0.00	1,163.31	4.36	1,163.83	20.33
1,162.28	0.00	1,162.80	0.00	1,163.32	4.58	1,163.84	20.69
1,162.29	0.00	1,162.81	0.00	1,163.33	4.81	1,163.85	21.06
1,162.30	0.00	1,162.82	0.00	1,163.34	5.03	1,163.86	21.43
1,162.31	0.00	1,162.83	0.00	1,163.35	5.26	1,163.87	21.80
1,162.32	0.00	1,162.84	0.00	1,163.36	5.50	1,163.88	22.17
1,162.33	0.00	1,162.85	0.00	1,163.37	5.74	1,163.89	22.55
1,162.34	0.00	1,162.86	0.00	1,163.38	5.98	1,163.90	22.92
1,162.35	0.00	1,162.87	0.00	1,163.39	6.23	1,163.91	23.30
1,162.36	0.00	1,162.88	0.00	1,163.40	6.48	1,163.92	23.68
1,162.37	0.00	1,162.89	0.00	1,163.41	6.74	1,163.93	24.07
1,162.38	0.00	1,162.90	0.00	1,163.42	7.01	1,163.94	24.45
1,162.39	0.00	1,162.91	0.00	1,163.43	7.28	1,163.95	24.84
1,162.40	0.00	1,162.92	0.00	1,163.44	7.55	1,163.96	25.23
1,162.41	0.00	1,162.93	0.00	1,163.45	7.83	1,163.97	25.62
1,162.42	0.00	1,162.94	0.00	1,163.46	8.12	1,163.98	26.01
1,162.43	0.00	1,162.95	0.00	1,163.47	8.41	1,163.99	26.40
1,162.44	0.00	1,162.96	0.00	1,163.48	8.70	1,164.00	**26.80**
1,162.45	0.00	1,162.97	0.00	1,163.49	9.00		
1,162.46	0.00	1,162.98	0.00	1,163.50	9.30		
1,162.47	0.00	1,162.99	0.00	1,163.51	9.60		
1,162.48	0.00	1,163.00	0.00	1,163.52	9.91		
1,162.49	0.00	1,163.01	0.02	1,163.53	10.23		
1,162.50	0.00	1,163.02	0.07	1,163.54	10.55		
1,162.51	0.00	1,163.03	0.13	1,163.55	10.87		

Summary for Pond UGS1: EXFIL

Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 5.97" for 100-Year event
Inflow = 16.62 cfs @ 12.08 hrs, Volume= 1.338 af
Outflow = 6.84 cfs @ 12.29 hrs, Volume= 1.332 af, Atten= 59%, Lag= 12.3 min
Discarded = 0.04 cfs @ 12.29 hrs, Volume= 0.081 af
Primary = 6.79 cfs @ 12.29 hrs, Volume= 1.252 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,181.34' @ 12.29 hrs Surf.Area= 0.115 ac Storage= 0.477 af

Plug-Flow detention time= 185.0 min calculated for 1.330 af (99% of inflow)
Center-of-Mass det. time= 182.6 min (940.7 - 758.1)

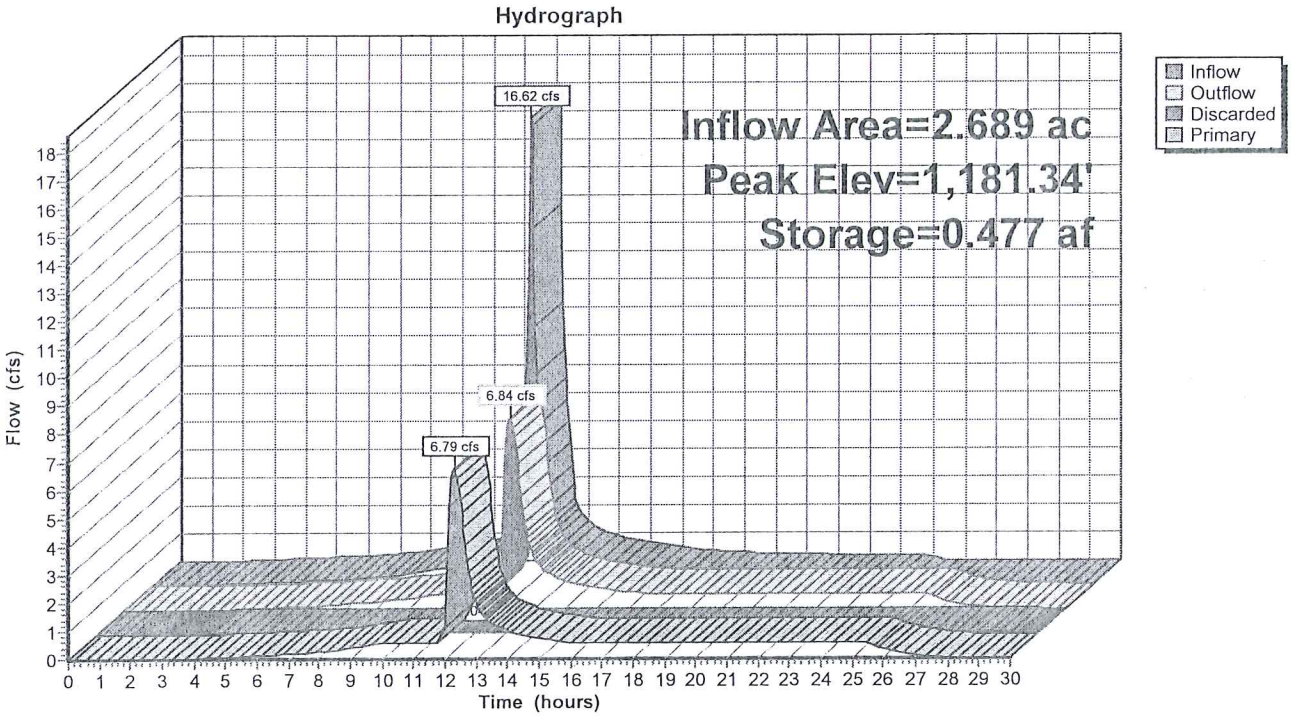
Volume	Invert	Avail.Storage	Storage Description
#1	1,175.00'	0.239 af	**44.00'W x 114.00'L x 7.90'H Prismatoid** 0.910 af Overall - 0.313 af Embedded = 0.596 af x 40.0% Voids
#2	1,176.90'	0.313 af	**ADS_StormTech MC-4500 +Cap @ 4.03' L** x 120 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.6 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 120 Chambers in 12 Rows Cap Storage= +35.7 cf x 2 x 12 rows = 856.8 cf
		0.552 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,175.00'	**0.270 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 320.00'
#2	Device 4	1,179.60'	**15.0" Vert. Orifice/Grate** C= 0.600
#3	Device 4	1,175.20'	**Special & User-Defined** Head (feet) 0.00 1.00 15.00 Disch. (cfs) 0.000 0.550 0.550
#4	Primary	1,174.80'	**15.0" Round Culvert** L= 98.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,174.80' / 1,163.00' S= 0.1204 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Discarded OutFlow Max=0.04 cfs @ 12.29 hrs HW=1,181.34' (Free Discharge)
└─**1=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=6.78 cfs @ 12.29 hrs HW=1,181.34' (Free Discharge)
└─**4=Culvert** (Passes 6.78 cfs of 11.34 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 6.23 cfs @ 5.08 fps)
  └─**3=Special & User-Defined** (Custom Controls 0.55 cfs)

Pond UGS1: EXFIL



Stage-Discharge for Pond UGS1: EXFIL

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
1,175.00	0.00	0.00	0.00
1,175.20	0.03	0.03	0.00
1,175.40	0.14	0.03	0.11
1,175.60	0.25	0.03	0.22
1,175.80	0.36	0.03	0.33
1,176.00	0.47	0.03	0.44
1,176.20	0.58	0.03	0.55
1,176.40	0.58	0.03	0.55
1,176.60	0.58	0.03	0.55
1,176.80	0.58	0.03	0.55
1,177.00	0.59	0.04	0.55
1,177.20	0.59	0.04	0.55
1,177.40	0.59	0.04	0.55
1,177.60	0.59	0.04	0.55
1,177.80	0.59	0.04	0.55
1,178.00	0.59	0.04	0.55
1,178.20	0.59	0.04	0.55
1,178.40	0.59	0.04	0.55
1,178.60	0.59	0.04	0.55
1,178.80	0.59	0.04	0.55
1,179.00	0.59	0.04	0.55
1,179.20	0.59	0.04	0.55
1,179.40	0.59	0.04	0.55
1,179.60	0.59	0.04	0.55
1,179.80	0.78	0.04	0.74
1,180.00	1.32	0.04	1.28
1,180.20	2.13	0.04	2.09
1,180.40	3.12	0.04	3.08
1,180.60	4.18	0.04	4.13
1,180.80	5.11	0.04	5.07
1,181.00	5.80	0.04	5.75
1,181.20	6.43	0.04	6.38
1,181.40	7.00	0.04	6.96
1,181.60	7.52	0.04	7.48
1,181.80	8.01	0.05	7.97
1,182.00	8.47	0.05	8.42
1,182.20	8.90	0.05	8.85
1,182.40	9.31	0.05	9.26
1,182.60	9.70	0.05	9.66
1,182.80	10.08	0.05	10.03
1,183.00	10.44	0.05	10.39
1,183.20	10.79	0.05	10.74
1,183.40	11.13	0.05	11.08
1,183.60	11.45	0.05	11.41
1,183.80	11.77	0.05	11.72
1,184.00	12.08	0.05	12.03
1,184.20	12.38	0.05	12.33
1,184.40	12.67	0.05	12.62
1,184.60	12.96	0.05	12.91
1,184.80	13.24	0.05	13.19
1,185.00	13.51	0.05	13.46
1,185.20	13.78	0.05	13.73
1,185.40	14.04	0.05	13.99
1,185.60	14.30	0.05	14.25
1,185.80	14.55	0.05	14.50
1,186.00	14.80	0.05	14.75
1,186.20	15.04	0.05	14.99
1,186.40	15.28	0.05	15.23
1,186.60	15.52	0.05	15.47
1,186.80	15.75	0.05	15.70
1,187.00	15.92	0.05	15.87
1,187.20	16.06	0.05	16.01
1,187.40	16.19	0.05	16.14
1,187.60	16.32	0.05	16.28
1,187.80	16.46	0.05	16.41
1,188.00	16.59	0.05	16.54
1,188.20	16.72	0.05	16.67
1,188.40	16.85	0.05	16.80
1,188.60	16.98	0.05	16.93
1,188.80	17.11	0.05	17.06
1,189.00	17.24	0.05	17.19
1,189.20	17.36	0.05	17.31
1,189.40	17.49	0.05	17.44
1,189.60	17.61	0.05	17.56
1,189.80	17.73	0.05	17.69
1,190.00	17.86	0.05	17.81
1,190.20	**17.98**	**0.05**	**17.93**

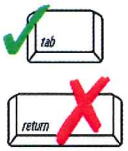
3.0
STORMWATER MANAGEMENT FORMS

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the Massachusetts Stormwater Handbook. The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.[1] This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8[2]
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

[1] The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

[2] For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

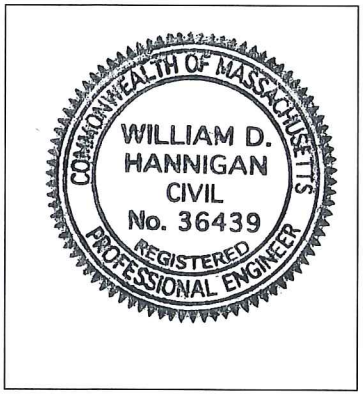
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



Signature and Date 5-17-21

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

☐ New development

☐ Redevelopment

☒ Mix of New Development and Redevelopment

Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- ☒ No disturbance to any Wetland Resource Areas
- ☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- ☐ Reduced Impervious Area (Redevelopment Only)
- ☒ Minimizing disturbance to existing trees and shrubs
- ☐ LID Site Design Credit Requested:
  - ☐ Credit 1
  - ☐ Credit 2
  - ☐ Credit 3
- ☐ Use of "country drainage" versus curb and gutter conveyance and pipe
- ☐ Bioretention Cells (includes Rain Gardens)
- ☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- ☐ Treebox Filter
- ☐ Water Quality Swale
- ☐ Grass Channel
- ☐ Green Roof
- ☒ Other (describe): Deep Sump Catchbasins, Hydroworks Proprietary Unit, Underground Storage System

Standard 1: No New Untreated Discharges

- ☒ No new untreated discharges
- ☒ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- ☒ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.

Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.

☒ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.

☒ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do no exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

☐ Soil Analysis provided. (***Soil review based on SCS Soils Mapping***)

☒ Required Recharge Volume calculation provided.

☐ Required Recharge volume reduced through use of the LID site Design Credits.

☒ Sizing the infiltration, BMPs is based on the following method: Check the method used.

☒ Static ☐ Simple Dynamic ☐ Dynamic Field[1]

☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.

☒ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.

☒ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.

☒ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:

☒ Site is comprised solely of C and D soils and/or bedrock at the land surface

☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000

☐ Solid Waste Landfill pursuant to 310 CMR 19.000

☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.

☒ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.

☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

Checklist for Stormwater Report

[1] 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.

Checklist (continued)

Standard 3: Recharge (continued)

☒ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.

☐ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
- Provisions for storing materials and waste products inside or under cover;
- Vehicle washing controls;
- Requirements for routine inspections and maintenance of stormwater BMPs;
- Spill prevention and response plans;
- Provisions for maintenance of lawns, gardens, and other landscaped areas;
- Requirements for storage and use of fertilizers, herbicides, and pesticides;
- Pet waste management provisions;
- Provisions for operation and management of septic systems;
- Provisions for solid waste management;
- Snow disposal and plowing plans relative to Wetland Resource Areas;
- Winter Road Salt and/or Sand Use and Storage restrictions;
- Street sweeping schedules;
- Provisions for prevention of illicit discharges to the stormwater management system;
- Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
- Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
- List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.

☒ A Long-Term Pollution Prevention Plan is attached to Stormwater.

☒ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:

☐ is within the Zone II or Interim Wellhead Protection Area

☐ is near or to other critical areas

☐ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)

☒ involves runoff from land uses with higher potential pollutant loads.

☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.

☒ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.

Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

☒ The BMP is sized (and calculations provided) based on:

- ☒ The ½" or 1" Water Quality Volume or
- ☐ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.

☒ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.

☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.

☐ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted ***prior to*** the discharge of stormwater to the post-construction stormwater BMPs.

☐ The NPDES Multi-Sector General Permit does ***not*** cover the land use.

☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.

☐ All exposure has been eliminated.

☐ All exposure has ***not*** been eliminated and all BMPs selected are on MassDEP LUHPPL list.

☒ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

☒ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.

☒ Critical areas and BMPs are identified in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable.

☒ *Portions of the project are* subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:

- ☐ Limited Project
- ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
- ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
- ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
- ☐ Bike Path and/or Foot Path
- ☐ Redevelopment Project
- ☒ Redevelopment portion of mix of new and redevelopment.

☐ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.

☐ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
- Construction Period Operation and Maintenance Plan;
- Names of Persons or Entity Responsible for Plan Compliance;
- Construction Period Pollution Prevention Measures;
- Erosion and Sedimentation Control Plan Drawings;
- Detail drawings and specifications for erosion control BMPs, including sizing calculations;
- Vegetation Planning;
- Site Development Plan;
- Construction Sequencing Plan;
- Sequencing of Erosion and Sedimentation Controls;
- Operation and Maintenance of Erosion and Sedimentation Controls;
- Inspection Schedule;
- Maintenance Schedule;
- Inspection and Maintenance Log Form.

☒ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has ***not*** been included in the Stormwater Report but will be submitted ***before*** land disturbance begins.

☐ The project is ***not*** covered by a NPDES Construction General Permit

☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.

☒ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:

- ☒ Name of the stormwater management system owners;
- ☒ Party responsible for operation and maintenance;
- ☒ Schedule for implementation of routine and non-routine maintenance tasks;
- ☐ Plan showing the location of all stormwater BMPs maintenance access areas;
- ☐ Description and delineation of public safety features;
- ☒ Estimated operation and maintenance budget; and
- ☒ Operation and Maintenance Log Form.

☐ The responsible party is ***not*** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:

- ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
- ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

☐ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;

☐ An Illicit Discharge Compliance Statement is attached;

☒ NO Illicit Discharge Compliance Statement is attached but will be submitted ***prior to*** the discharge of any stormwater to post-construction BMPs.

Stormwater Compliance Documentation

Heywood Hospital Addition
May 17, 2021

NOTE: Stormwater Compliance Documentation is being provided for the New and Redeveloped portions of the property. The review herein is limited to those area on the southerly portion of the site.

Standard 1: No Untreated Discharges or Erosion to Wetlands

The drainage from the site currently flows to one of several Design Points located throughout the area. Design Point (DP#1) has been designated as Crystal Lake which receives the mass majority of the runoff from the site. Design Points #2 (DP#2) has been designated as an existing raingarden along the westerly side of the existing building. Design Points #3, #4, and #5 have been designated as various points within the municipal drainage system within Green Street. As these discharge points are remaining upon the completion of construction and the treatment as required under Standard #4 is being met, there will be no new untreated discharges as part of this project.

Provided are the computations showing the calculations per the Connecticut DOT Drainage Manual, Section 11.13 that the proposed rip-rap aprons will provide adequate protection from scouring.

Equation-11.31
L=1.80(Q-5)/Sp^(1.5) + 10

Equation-11.33
W2=3Sp +0.7La

For 15-inch HDPE pipe (FE#1) to Settling Basin

Qmax=6.86 cfs (100-Year) Sp=15/12 → 1.25ft

L=1.8(6.86-5)/(1.25^1.5) + 10 → 2.4 + 10 = 12.4 → 13 feet

W2=3(1.25) +0.7(13) → 3.75 + 9.1=12.85 → 13 feet

Flows from this pipe are directed towards a 25-foot long settling basin area to mitigate the velocity.

See the narrative within the Drainage Analysis and Report for further information.

Standard 2:Peak Rate Attenuation

Table #1: Peak Rate of Runoff

Design Point		2-yr Storm	10-yr Storm	25-yr Storm	100-yr Storm
#1	Pre-	4.38	11.23	15.45	22.23
	Post-	4.14	10.06	13.75	22.08
#2	Pre-	1.67	2.79	3.39	4.28
	Post-	1.56	2.62	3.18	4.02
#3	Pre-	2.33	3.81	4.59	5.77
	Post-	2.10	3.44	4.16	5.27
#4	Pre-	1.22	2.24	2.79	3.61
	Post-	0.97	1.73	2.13	2.74
#5	Pre-	1.56	2.89	3.61	4.71
	Post-	0.57	1.01	1.24	1.58

All flows are in cubic feet per second.

As outline above, the post-development peak rates are of runoff have been mitigated for all Storm Events.

Standard 3:Stormwater Recharge

Impervious Area Proposed: (This area includes all proposed buildings, driveways, etc.) The soils within project scope are classified as HSG B & C. DEP Stormwater Management requires the restoration of recharge using infiltration measures.

The soils within the project area classified as HSG B:
Existing Impervious HSG-B: 6,534 s.f.
Proposed Impervious HSG-B: 6,534 s.f.
Net New Impervious HSG-B: +0 s.f.

The soils within the project area classified as HSG C:
Existing Impervious HSG-C: 250,731 s.f.
Proposed Impervious HSG-C: 327,756 s.f.
Net New Impervious HSG-C: +77,025 s.f.

Total Impervious for Project = 152,216 s.f.

Required Recharge Volume:

Net New Impervious HSG B = 0.00 sf
HSG B: 0 sf x (0.35 in/12) = 0 c.f.
Required Recharge Volume = 0 c.f.

Net New Impervious HSG C = 77,025 sf
HSG C: 68,477 sf x (0.25 in/12) = 1,604 c.f.
Required Recharge Volume = 1,604 c.f.

Capture Rate Calculation

Total Impervious Area 152,216 sf

Impervious to UGS #1 105,044 sf

Capture Rate-Overall: 105,044 / 152,216 = 69.0%

- *Capture rate greater than 65% , compliance provided*

Storage Volume Provided:

Volume below lowest orifice invert within detention facility.

UGS#1: 14,810 c.f. of storage volume provided
(lowest invert is at an elevation of 1079.6)

Infiltration Provided:

Recharge Volume Required: = 1,604 cubic feet.

UGS#1: 2,570 c.f. of discarded volume provided (exfiltrated) during 1-year event

Compliance is provided.

Drawdown Time: (72 Hours Max.)

Time = Storage Volume / (K x Bottom Area)
Where K = Saturated Hydraulic Conductivity (inches/hour) (From table 2.3.3 1982 Rawls Rates – Mass Stormwater Handbook)

UGS#1: 14,810 c.f. of storage volume provided.
Time = 14,810 c.f. / [(0.55cf/s x 3600 s/hr) + (0.27 in/hr x (1 ft/ 12 in) x 4,928 s.f.) = **7.08 hrs**

Compliance is provided.

Groundwater Mounding:

UGS#1	Bottom Elevation:	1,175
	Existing Ground – *High*	1,175.8
	Existing Ground – *Low*	1,168.0
	Estimated Groundwater Elevation	1172.8 to 1165.0 (*Presume 36" to ESHGWT*)
	Offset to Groundwater Provided:	2.2ft to 10-ft

The proposed Stormwater Management system utilizes exfiltration as a means of peak rate mitigation. Due to topography change Soil testing to be performed to confirm offset compliance.

Standard 4: Water Quality

Water Quality Volume (WQV) = Water Quality Depth x Impervious Area

Water Quality Depth = 1-inch

WQV = [(1-inch) / 12 inches/foot]x(152,216 s.f.) = 12,684 cf

The flows from this area of the project have been designed to be directed towards one of four Hydroworks Hydroguard unit within DCB#4, DMH#1, DMH#14 and DMH#17. The unit has been sized to provide in excess of 80% TSS removal. Due to the traffic generated on the site and the project discharging to a Critical Area (Zone A – SWP) the Water Quality volume has been increased to 1-inch. The volume of water being treated in this unit during the 1-year storm event is 784 c.f. at DCB#4, 4,182 c.f. at DMH#1, 7,623 c.f. at DMH#14 and 12,110 c.f. at DMH#17 for a total of 24,699 cf.

TSS Removal Calculations:
TSS Removal forms are attached for each unit.

Standard 5: Land Uses with Higher Potential Pollutant Loads

This project is for a medical center/hospital parking lot and roadway system. It is anticipated that the overall development will experience in excess of 1,000 trips per day. As such the Water Quality Volume is increased to 1-inch and the pretreatment requirement is 44% prior to discharge.

The proprietary Water Quality Units are able to treat runoff from a LUHPPL as it is considered an oil-grit separator. Prior to discharge the combination of BMPs removes a minimum 80% of TSS, in excess of 44%. Additionally, prior to discharge both a deep sump catch basin and oil grit separator has been incorporated to satisfy Standard 5.

See Operation and Maintenance for Source Control and Pollution Prevention Plan.

Standard 6: Critical Areas

This project is subject to the requirements of Standard #6 as the runoff from this development will be discharged towards a Critical Area as listed under Chapter 1, Volume 1, Page 18 – Table CA 2-Surface water sources for Public Water Systems. As such several requirements will be met as part of this project

- A SWPPP will be generated for the project
- The discharge points are located as far back as possible from the receiving waters (+400 ft)
- All stormwater features are located outside of the 400-foot Zone A of the receiving waters
- Water Quality volume has been increased to 1-inch.
- The required 80% TSS Removal will be achieved prior to discharge to an infiltration system.

Standard 7: Redevelopment

Not Applicable

Standard 8: Construction Period Controls

Proper erosion controls have been incorporated into the submitted plans and details to ensure compliance with the standard.

Standard 9: Operation and Maintenance Plan

Operation and Maintenance plans for the project have been incorporated into the submitted plans and details to ensure compliance with the standard.

Standard 10: Illicit Discharges to Drainage System

No Illicit discharges to the drainage system will occur as a result of this proposed project. A No Illicit discharge statement shall be provided prior to construction.

MASS DEP "Standard Method to Convert Required Water Quality Volume to a Discharge Rate for Sizing Flow Based Manufactured Proprietary Stormwater Treatment Practices"

DCB#4-Water Quality Unit

For First 1-Inch Runoff WQV

Step 1: Area of Impervious Surface to Structure

0.138 acres @ 68.08% Impervious = 0.094 Acres Impervious
0.094 Acres x .0015625 sq mi = ***1.5(-4) square miles.***

Step 2: Tc of Train

P-117 to DCB#4:	5.0 min
Total Tc to DMH#S3	***5.0 min or 0.083 hours***

Step 3: Determine qu

From Figure 4:

Tc @ 0.083, qu=795csm/in

Step 4: Determine Q1

Q1=(qu)x(A)x(WQV)

Q1=(795csm/in)x(1.5e-4)x(1 in)

Q1=0.119 CFS

Determination

Determination of Water Quality Flow rates for units by New Jersey Corporation for Advanced Technology (NJCAT) Program

From Technology Verification
HG 4i Treatment Flow rate
1.1 cf.s > 0.12 c.f.s. *"Pass"*

HydroGuard HG4i to be utilized in Design.

MASS DEP "Standard Method to Convert Required Water Quality Volume to a Discharge Rate for Sizing Flow Based Manufactured Proprietary Stormwater Treatment Practices"

DMH#1 Water Quality Unit

For First 1/2-Inch Runoff WQV

Step 1: Area of Impervious Surface to Structure

0.618 acres @ 81.95% Impervious = 0.508 Acres Impervious

0.508 Acres x .0015625 sq mi = ***7.9e(-4) square miles.***

Step 2: Tc of Train

P-123 to DCB#3:	5.0 min
DCB#3 To DMH#1:	1.1 min
Total Tc to DMH#S3	***6.1 min or 0.102 hours***

Step 3: Determine qu

From Figure 4:

Tc @ 0.10, qu=774 csm/in

Step 4: Determine Q1

Q1=(qu)x(A)x(WQV)

Q1=(774csm/in)x(7.9e-4)x(1 in)

Q1=0.61 CFS

Determination

Determination of Water Quality Flow rates for units by New Jersey Corporation for Advanced Technology (NJCAT) Program

From Technology Verification
HG 4 Treatment Flow rate

1.1 cf.s > 0.61 c.f.s. *"Pass"*

HydroGuard HG4 to be utilized in Design.

MASS DEP "Standard Method to Convert Required Water Quality Volume to a Discharge Rate for Sizing Flow Based Manufactured Proprietary Stormwater Treatment Practices"

DMH#14 Water Quality Unit

For First 1-Inch Runoff WQV

Step 1: Area of Impervious Surface to Structure

1.081 acres @ 85.82% Impervious = 0.928 Acres Impervious

0.928 Acres x .0015625 sq mi = ***1.5e(-3) square miles.***

Step 2: Tc of Train

P-115 to DCB#10:	5.0 min
DCB#10 to DMH#10:	0.8 min
DMH#10 to DMH#12:	0.5 min
DMH#12 to DMH#13:	0.8 min
DMH#13 to DMH#14:	0.4 min
Total Tc to DMH#14:	***7.5 min or 0.125 hours***

Step 3: Determine qu

From Figure 4:

Tc @ 0.116, qu=755 csm/in

Step 4: Determine Q1

Q1=(qu)x(A)x(WQV)

Q1=(755csm/in)x(1.5e-3)x(1 in)

Q1=1.13 CFS

Determination

Determination of Water Quality Flow rates for units by New Jersey Corporation for Advanced Technology (NJCAT) Program

From Technology Verification
HG 5 Treatment Flow rate

1.7 cf.s > 0.61 c.f.s. *"Pass"*

HydroGuard HG5 to be utilized in Design.

MASS DEP "Standard Method to Convert Required Water Quality Volume to a Discharge Rate for Sizing Flow Based Manufactured Proprietary Stormwater Treatment Practices"

DMH#17 Water Quality Unit

For First 1-Inch Runoff WQV

Step 1: Area of Impervious Surface to Structure

1.608 acres @ 92.3% Impervious = 1.484 Acres Impervious

1.484 Acres x .0015625 sq mi = ***2.3e(-3) square miles.***

Step 2: Tc of Train

P-122 to DCB#16:	5.0 min
DCB#16 to DMH#15:	0.6 min
DMH#15 to DMH#16:	0.8 min
DMH#16 to DMH#17:	0.6 min
Total Tc to DMH#14:	***7.0 min or 0.116 hours***

Step 3: Determine qu

From Figure 4:

Tc @ 0.116, qu=755 csm/in

Step 4: Determine Q1

Q1=(qu)x(A)x(WQV)

Q1=(755csm/in)x(2.3e-3)x(1 in)

Q1=1.74 CFS

Determination

Determination of Water Quality Flow rates for units by New Jersey Corporation for Advanced Technology (NJCAT) Program

From Technology Verification
HG 6 Treatment Flow rate

2.6 cf.s > 1.74 c.f.s. *"Pass"*

HydroGuard HG6 to be utilized in Design.

Summary for Pond UGS1: EXFIL

Inflow Area = 2.689 ac, 89.68% Impervious, Inflow Depth = 3.18" for Custom event
Inflow = 9.10 cfs @ 12.09 hrs, Volume= 0.712 af
Outflow = 0.59 cfs @ 13.61 hrs, Volume= 0.709 af, Atten= 94%, Lag= 91.7 min
Discarded = 0.04 cfs @ 13.61 hrs, Volume= 0.069 af
Primary = 0.55 cfs @ 13.61 hrs, Volume= 0.640 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 1,179.60' @ 13.61 hrs Surf.Area= 0.113 ac Storage= 0.340 af ← STORAGE VOLUME

Plug-Flow detention time= 237.8 min calculated for 0.709 af (100% of inflow)
Center-of-Mass det. time= 235.8 min (1,007.6 - 771.8)

Volume	Invert	Avail.Storage	Storage Description
#1	1,175.00'	0.232 af	**44.00'W x 112.00'L x 7.90'H Prismatoid** 0.894 af Overall - 0.313 af Embedded = 0.580 af x 40.0% Voids
#2	1,176.90'	0.313 af	**ADS_StormTech MC-4500 +Cap @ 4.03' L** x 120 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.6 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 120 Chambers in 12 Rows Cap Storage= +35.7 cf x 2 x 12 rows = 856.8 cf
		0.546 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	1,175.00'	**0.270 in/hr Exfiltration over Wetted area** Conductivity to Groundwater Elevation = 320.00'
#2	Device 4	1,179.60'	**15.0" Vert. Orifice/Grate** C= 0.600
#3	Device 4	1,175.20'	**Special & User-Defined** Head (feet) 0.00 1.00 15.00 Disch. (cfs) 0.000 0.550 0.550
#4	Primary	1,174.80'	**15.0" Round Culvert** L= 98.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,174.80' / 1,163.00' S= 0.1204 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Discarded OutFlow Max=0.04 cfs @ 13.61 hrs HW=1,179.60' (Free Discharge)
└**1=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=0.55 cfs @ 13.61 hrs HW=1,179.60' (Free Discharge)
└**4=Culvert** (Passes 0.55 cfs of 9.53 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.00 cfs @ 0.13 fps)
  └**3=Special & User-Defined** (Custom Controls 0.55 cfs)

MASS DEP "Standard Method to Convert Required Water Quality Volume to a Discharge Rate for Sizing Flow Based Manufactured Proprietary Stormwater Treatment Practices"

DCB#4-Water Quality Unit

For First 1-Inch Runoff WQV

Step 1: Area of Impervious Surface to Structure

0.138 acres @ 68.08% Impervious = 0.094 Acres Impervious
0.094 Acres x .0015625 sq mi = ***1.5(-4) square miles.***

Step 2: Tc of Train

P-117 to DCB#4:	5.0 min
Total Tc to DMH#S3	***5.0 min or 0.083 hours***

Step 3: Determine qu

From Figure 4:

Tc @ 0.083, qu=795csm/in

Step 4: Determine Q1

Q1=(qu)x(A)x(WQV)

Q1=(795csm/in)x(1.5e-4)x(1 in)

Q1=0.119 CFS

Determination

Determination of Water Quality Flow rates for units by New Jersey Corporation for Advanced Technology (NJCAT) Program

From Technology Verification
HG 4i Treatment Flow rate
1.1 cf.s > 0.12 c.f.s. *"Pass"*

HydroGuard HG4i to be utilized in Design.

INSTRUCTIONS:

Non-automated: Mar. 4, 2008

1. Sheet is nonautomated. Print sheet and complete using hand calculations. Column A and B: See MassDEP Structural BMP Table
2. The calculations must be completed using the Column Headings specified in Chart and Not the Excel Column Headings
3. To complete Chart Column D, multiple Column B value within Row x Column C value within Row
4. To complete Chart Column E value, subtract Column D value within Row from Column C within Row
5. Total TSS Removal = Sum All Values in Column D

Location: DCB#4

TSS Removal Calculation Worksheet

A BMP[1]	B TSS Removal Rate[1]	C Starting TSS Load*	D Amount Removed (B*C)	E Remaining Load (C-D)
Deep Sump Hooded Catch Basin & Infiltration Basin	**0.92**	**1.00**	**0.92**	**0.08**
		0.08	**0.00**	**0.08**

Total TSS Removal = **92%**

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: **Heywood Hospital**

Prepared By: **Hannigan Engineering, Inc.**

Date: **5/11/2021**

*Equals remaining load from previous BMP (E) which enters the BMP

Summary for Reach DCB4: TO DMH#5

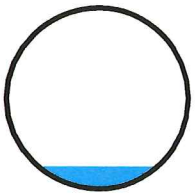
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.138 ac, 68.08% Impervious, Inflow Depth = 1.53" for 1-Year event
Inflow = 0.25 cfs @ 12.08 hrs, Volume= 0.018 af <= Water Quailty Volume
Outflow = 0.25 cfs @ 12.08 hrs, Volume= 0.018 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.29 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.50 fps, Avg. Travel Time= 0.4 min

Peak Storage= 2 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.13'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 7.33 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 33.0' Slope= 0.0303 '/'
Inlet Invert= 1,173.00', Outlet Invert= 1,172.00'



Summary for Subcatchment P117: TO DCB#4

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.82 cfs @ 12.07 hrs, Volume= 0.061 af, Depth= 5.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

Area (sf)	CN	Description
1,915	74	>75% Grass cover, Good, HSG C
4,084	98	Paved parking, HSG C
5,999	90	Weighted Average
1,915		31.92% Pervious Area
4,084		68.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	13	0.0150	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.4	37	0.0500	1.57		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	103	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0	153	Total, Increased to minimum Tc = 5.0 min <=Tc			

```
**************************************************
*      Storm Water Management Sizing Model       *
*                Hydroworks, LLC                 *
*                 Version 4.4                    *
*                                                *
*        Continuous Simulation Program           *
*              Based on SWMM 4.4H                *
*              Hydroworks, LLC                   *
*               Graham Bryant                    *
*                2003 - 2013                     *
**************************************************

                Developed by

**************************************************
*               Hydroworks, LLC                  *
*            Metcalf & Eddy, Inc.                *
*           University of Florida                *
*       Water Resources Engineers, Inc.          *
*      (Now Camp Dresser & McKee, Inc.)          *
*               Modified SWMM 4.4                *
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*     If any problems occur executing this       *
*     model, contact Mr. Graham Bryant at        *
*     Hydroworks, LLC by phone at 908-272-4411   *
*     or by e-mail: support@hydroworks.com       *
**************************************************

**************************************************
*     This model is based on EPA SWMM 4.4        *
*  "Nature is full of infinite causes which      *
*   have never occurred in experience" da Vinci  *
**************************************************


**************************************************
* Entry made to the Rain Block                   *
* Created by the University of Florida - 1988    *
* Updated by Oregon State University, March 2000 *
**************************************************
```

Heywood Hospital Addition
DCB#4

```
 ########################################
 #  Precipitation Block Input Commands  #
 ########################################

Station Name.........................  Sterling 2 Nnw

Station Location.....................  Massachusetts

Station, ISTA........................    8159

Beginning date, IYBEG (Yr/Mo/Dy).....  1948/ 1/ 1

Ending date, IYEND (Yr/Mo/Dy)........  1972/12/31

Minimum interevent time, MIT.........     1

Number of ranked storms, NPTS.........    10

NWS format, IFORM (See text).........     1

Print storm summary, ISUM (O-No 1-Yes)     0

Print all rainfall, IYEAR (O-No 1-Yes)     0

Save storm event data on NSCRAT(1)....     0
(IFILE =0 -Do not save, =1 -Save data)

IDECID 0 - Create interface file
       1 - Create file and analyze
       2 - Synoptic analysis.........     2

Plotting position parameter, A........  0.40

Storm event statistics, NOSTAT........  1100


KODEA (from optional group B0)........     2
 = 0, Do not include NCDC cumulative values.
 = 1, Average NCDC cumulative values.
 = 2, Use NCDC cumulative value as inst. rain.

KODEPR (from optional group B0).......     0
 Print NCDC special codes in event summary:
 = 0, only on days with events.
 = 1, on all days with codes present.
 Codes: A = accumulated value, I = incomplete value,
        M = missing value,     O = other code present
```

```
*******************************************************
*  Precipitation output created using the Rain block   *
*  Number of precipitation stations...        1        *
*******************************************************

Location Station Number
-------- --------------
       1.     8159


STATION ID ON PRECIP. DATA INPUT FILE = 5902
REQUESTED STATION ID =     8159  CHECK TO BE SURE THEY MATCH.


$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
Note, 15-min. data are being processed, but hourly
print-out, summaries, and statistics are based on
hourly totals only.  Data placed on interface file
are at correct 15-min. intervals.
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$

#####################################################
# Entry made to the Runoff Block, last updated by #
# Oregon State University, and Camp, Dresser and  #
# McKee, Inc., March 2002.                        #
#####################################################
# "And wherever water goes, amoebae go along for  #
#  the ride"                    Tom Robbins       #
#####################################################


                  Heywood Hospital Addition

                  DCB#4


Snowmelt parameter - ISNOW.....................          0

Number of rain gages - NRGAG...................          1

Horton infiltration equation used - INFILM.....          2
Maximum infiltration volume is limited to RMAXINF input on  subcatchment lines.
Infiltration volume regenerates during  non rainfall periods.

Quality is simulated - KWALTY..................          1

IVAP is negative.  Evaporation will be set to zero
    during time steps with rainfall.

Read evaporation data on line(s) F1 (F2) - IVAP..          1
```

```
Hour of day at start of storm - NHR.............          1

Minute of hour at start of storm - NMN..........          1

Time TZERO at start of storm (hours).............      1.017

Use U.S. Customary units for most I/O - METRIC...          0

Runoff input print control...                              0

Runoff graph plot control....                              1

Runoff output print control..                              0

Print headers every 50 lines - NOHEAD (0=yes, 1=no)        0

Print land use load percentages -LANDUPR (0=no, 1=yes)     0

Limit number of groundwater convergence messages to 10000 (if simulated)

Month, day, year of start of storm is:              1/ 1/1948

Wet time step length (seconds).......                   300.

Dry time step length (seconds).......                   900.

Wet/Dry time step length (seconds)...                   450.

Simulation length is......                       19721231.0 Yr/Mo/Dy

Percent of impervious area with zero detention depth    25.0

Horton infiltration model being used
Rate for regeneration of infiltration = REGEN * DECAY
DECAY is read in for each subcatchment
REGEN = ........................................   0.01000
```



```
*******************************************************
*   Processed Precipitation will be read from file    *
*******************************************************

  ############################
  #        Data Group F1     #
  # Evaporation Rate (in/day) #
  ############################
```

JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
0.00	0.00	0.00	0.10	0.10	0.15	0.15	0.15	0.10	0.10	0.00	0.00



****
* C H A N N E L A N D P I P E D A T A *
****

Input equen umber	NAMEG: Channel ID #	Drains to NGTO:	Channel Type	Width (ft)	Length (ft)	Invert Slope (ft/ft)	L Side Slope (ft/ft)	R Side Slope (ft/ft)	Intial Depth (ft)	Max Depth (ft)	Mann- ings "N"	Full Flow (cfs)
1	201	200	Dummy	0.0	0.0	0.0000	0.0000	0.0000	0.0	0.0	0.0000	0.00E+00

****
* S U B C A T C H M E N T D A T A *
****

NOTE. SEE LATER TABLE FOR OPTIONAL SUBCATCHMENT PARAMETERS

	SUBCATCH- MENT NO.	CHANNEL OR INLET	WIDTH (FT)	AREA (AC)	PERCENT IMPERV.	SLOPE (FT/FT)	RESISTANCE IMPERV.	FACTOR PERV.	DEPRES. IMPERV.	STORAGE(IN) PERV.	INFILTRATION RATE(IN/HR) MAXIMUM	INFILTRATION RATE(IN/HR) MINIMUM	DECAY RATE (1/SEC)	GAGE NO.	MAXIMUM VOLUME (INCHES)
1	300	200	77.53	0.14	68.08	0.0200	0.015	0.250	0.020	0.200	2.50	0.40	0.00055	1	4.00000

TOTAL NUMBER OF SUBCATCHMENTS... 1
TOTAL TRIBUTARY AREA (ACRES).... 0.14
IMPERVIOUS AREA (ACRES)..... 0.09
PERVIOUS AREA (ACRES)..... 0.04
TOTAL WIDTH (FEET)..... 77.53
PERCENT IMPERVIOUSNESS..... 68.08

****
* G R O U N D W A T E R I N P U T D A T A *
****

SUB- CATCH NUMBER	CHANNEL OR INLET	ELEVATIONS GROUND (FT)	BOTTOM (FT)	STAGE (FT)	BC (FT)	TW (FT)	FLOW CONSTANTS A1 (IN/HR-FT^B1)	B1	A2 (IN/HR-FT^B2)	B2	A3 (IN/HR-FT^2)
0	602	10.00	0.00	0.00	2.00	2.00	4.500E-05	2.600	0.000E+00	1.000	0.00E+00

****
* G R O U N D W A T E R I N P U T D A T A (CONTINUED) *
****

S O I L P R O P E R T I E S

SUBCAT. NO.	POROSITY	SATURATED HYDRAULIC CONDUCTIVITY (in/hr)	WILTING POINT	FIELD CAPACITY	INITIAL MOISTURE	MAX. DEEP PERCOLATION (in/hr)	PERCOLATION PARAMETERS HCO	PCO	ET PARAMETERS DEPTH OF ET (ft)	FRACTION OF ET TO UPPER ZONE
0	.4000	5.000	.1500	.3000	.3000	2.000E-03	10.00	15.00	14.00	0.350

```
*******************************************************
*    Arrangement of Subcatchments and Channel/Pipes     *
*******************************************************
* See second subcatchment output table for connectivity *
* of subcatchment to subcatchment flows.                *
*******************************************************

   Channel
   or Pipe
      201     No Tributary Channel/Pipes
              No Tributary Subareas.....


    INLET
      200     Tributary Channel/Pipes...        201
              Tributary Subareas........        300


*******************************************************
* Hydrographs will be stored for the following   1 INLETS *
*******************************************************
          200

↑
#####################################################
#                 Quality Simulation                #
#####################################################
#      General Quality Control Data Groups          #
#####################################################

 Description                          Variable       Value
 -----------                          --------       -----

 Number of quality constituents.....    NQS.......         1

 Number of land uses................  JLAND.......         1

 Standard catchbasin volume.........  CBVOL.......      4.00 cubic feet

 Erosion is not simulated.........    IROS........         0

 DRY DAYS PRIOR TO START OF STORM... DRYDAY.......      3.00 DAYS

 DRY DAYS REQUIRED TO RECHARGE
 CATCHBASIN CONCENTRATION TO
 INITIAL VALUES..................... DRYBSN.......      5.00 DAYS

 DUST AND DIRT
 STREET SWEEPING EFFICIENCY......... REFFDD.......     0.000

 DAY OF YEAR ON WHICH STREET
 SWEEPING BEGINS.................... KLNBGN.......       120

 DAY OF YEAR ON WHICH STREET
 SWEEPING ENDS...................... KLNEND.......       270
```

```
##########################################
#     Land use data on data group J2     #
##########################################
```

AND USE LNAME)	BUILDUP EQUATION TYPE (METHOD)	FUNCTIONAL DEPENDENCE OF BUILDUP PARAMETER(JACGUT)	LIMITING BUILDUP QUANTITY (DDLIM)	BUILDUP POWER (DDPOW)	BUILDUP COEFF. (DDFACT)	CLEANING INTERVAL IN DAYS (CLFREQ)	AVAIL. FACTOR FRACTION (AVSWP)	DAYS SINCE LAST SWEEPING (DSLCL)
Urban De	EXPONENTIAL(1)	AREA(1)	2.500E+01	0.500	60.000	30.000	0.300	30.000

```
##############################################
#     Constituent data on data group J3      #
##############################################
```

	Total Su
Constituent units.....	mg/l
Type of units.....	0
KALC.....	2
Type of buildup calc.....	EXPONENTIAL(2)
KWASH.....	0
Type of washoff calc.....	POWER EXPONEN.(0)
KACGUT.....	1
Dependence of buildup....	AREA(1)
LINKUP.....	0
Linkage to snowmelt.....	NO SNOW LINKAGE
Buildup param 1 (QFACT1).	25.000
Buildup param 2 (QFACT2).	0.500
Buildup param 3 (QFACT3).	60.000
Buildup param 4 (QFACT4).	0.000
Buildup param 5 (QFACT5).	0.000
Washoff power (WASHPO)...	1.100
Washoff coef. (RCOEF)....	3.000
Init catchb conc (CBFACT)	100.000
Precip. conc. (CONCRN)...	0.000
Street sweep effic (REFF)	0.000
Remove fraction (REMOVE).	0.000
1st order QDECAY, 1/day..	0.000
Land use number.....	1

```
**********************************************
* Constant Groundwater Quality Concentration(s) *
**********************************************

 Total Susp has a concentration of..    0.0000   mg/l
```

```
**********************************************
* REMOVAL FRACTIONS FOR SELECTED CHANNEL/PIPES *
* FROM J7 LINES                                *
**********************************************

  CHANNEL/   CONSTITUENT
     PIPE Total Susp
---------- --------
       201    0.000


**************************************************
*     Subcatchment surface quality on data group L1 *
**************************************************
```

No.	Land Usage	Land Use No.	Total Gutter Length 10**2ft	Number of Catch-Basins	Input Loading load/ac Total Su
1	300 Urban De	1	1.60	1.00	0.0E+00
Totals (Loads in lb or other)			1.60	1.00	0.0E+00

```
    ***********************
    *    DATA GROUP M1    *
    ***********************


TOTAL NUMBER OF PRINTED GUTTERS/INLETS...NPRNT..        1
NUMBER OF TIME STEPS BETWEEN PRINTINGS..INTERV..        0
STARTING AND STOPPING PRINTOUT DATES.....               0         0


    ***********************
    *    DATA GROUP M3    *
    ***********************

CHANNEL/INLET PRINT DATA GROUPS......       -200



          ****************************************
          * Rainfall from Nat. Weather Serv. file  *
          * in units of hundredths of an inch      *
          ****************************************

         Heywood Hospital Addition
         DCB#4
```

Rainfall Station Sterling 2 Nnw
State/Province Massachusetts

Rainfall Depth Summary (in)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1948.	1.8	0.0	0.0	0.0	6.8	4.1	4.8	1.6	0.4	2.7	7.7	3.0	32.9
1949.	4.7	3.9	2.2	5.2	3.0	0.4	1.9	2.1	3.7	2.6	1.0	3.8	34.5
1950.	5.6	5.2	4.8	3.7	2.5	1.9	2.0	0.0	0.0	0.3	7.1	3.8	36.9
1951.	4.4	6.8	6.4	3.3	5.2	3.2	6.7	3.2	2.7	5.8	6.9	5.1	59.6
1952.	5.8	2.8	4.5	5.5	4.2	4.7	3.3	8.1	2.4	0.8	5.0	3.0	50.1
1953.	6.4	3.9	8.7	8.2	4.8	2.6	1.9	2.0	2.0	6.4	3.4	5.9	56.3
1954.	2.9	3.4	3.3	5.1	7.2	3.9	2.6	7.8	7.6	4.1	6.7	5.7	60.3
1955.	0.6	4.2	4.6	4.6	1.7	5.7	2.2	10.6	2.3	11.0	5.2	1.6	54.1
1956.	8.4	4.7	6.9	5.4	2.0	3.8	2.3	1.4	3.9	2.7	4.4	6.0	51.9
1957.	2.9	2.1	3.3	2.9	3.8	3.0	0.9	2.7	1.7	4.3	6.3	6.4	40.2
1958.	10.3	3.3	4.8	6.4	4.3	2.3	4.9	3.7	6.6	2.7	4.4	2.6	56.4
1959.	3.9	3.4	5.3	4.7	1.5	3.7	8.8	5.1	2.3	6.7	4.9	6.6	56.9
1960.	2.6	5.3	3.4	4.6	5.6	2.4	6.7	2.3	7.6	3.5	5.2	3.8	52.9
1961.	1.0	3.1	3.0	6.1	3.1	3.4	4.4	2.6	5.6	2.5	4.4	5.4	44.4
1962.	2.4	5.9	2.8	5.4	4.1	4.2	1.4	4.3	8.3	6.6	5.3	5.9	56.5
1963.	3.7	3.6	4.6	1.8	2.7	2.4	1.7	3.0	4.5	1.4	9.1	3.9	42.6
1964.	5.8	3.3	4.1	3.7	2.0	2.0	2.6	1.5	1.8	2.1	2.9	5.6	37.4
1965.	2.5	3.7	3.7	2.6	2.6	1.6	1.9	2.1	2.7	3.1	2.9	2.4	31.9
1966.	4.2	4.6	2.6	1.5	3.5	2.9	2.6	1.1	6.8	3.0	4.4	3.8	40.8
1967.	2.6	4.0	5.1	6.0	7.6	4.5	4.7	3.5	4.3	2.1	5.1	2.8	52.3
1968.	3.3	1.4	7.5	2.0	5.5	9.5	3.3	0.8	2.2	2.5	9.2	4.6	51.7
1969.	1.7	2.2	2.8	4.2	1.8	2.3	3.6	5.0	5.0	0.5	0.0	5.6	34.8
1970.	1.2	5.4	4.4	3.8	0.0	0.0	0.3	3.5	3.2	3.1	1.4	4.3	30.5
1971.	3.2	4.5	2.6	2.7	5.1	3.2	2.6	7.0	0.8	3.4	5.6	3.4	44.2
1972.	2.6	5.6	7.8	1.5	7.9	5.3	2.5	3.4	2.1	0.0	0.0	0.0	38.7

Total Rainfall Depth for Simulation Period 1149.0 (in)

Rainfall Intensity Analysis (in/hr)

(in/hr)	(#)	(%)	(in)	(%)
0.10	26817	69.7	333.	29.0
0.20	7398	19.2	274.	23.9
0.30	1466	3.8	94.	8.2
0.40	1250	3.2	110.	9.5
0.50	371	1.0	42.	3.7
0.60	207	0.5	28.	2.4
0.70	273	0.7	43.	3.8
0.80	174	0.5	33.	2.8
0.90	81	0.2	18.	1.5
1.00	93	0.2	22.	1.9
1.10	34	0.1	9.	0.8
1.20	29	0.1	8.	0.7

1.30	39	0.1	12.	1.1
1.40	35	0.1	12.	1.0
1.50	19	0.0	7.	0.6
1.60	39	0.1	15.	1.3
1.70	6	0.0	3.	0.2
1.80	21	0.1	9.	0.8
1.90	15	0.0	7.	0.6
2.00	14	0.0	7.	0.6
> 2.00	88	0.2	64.	5.5

Total # of Intensities 38469

Daily Rainfall Depth Analysis (in)

(in)	(#)	(%)	(in)	(%)
0.10	693	26.0	40.	3.5
0.20	458	17.2	66.	5.7
0.30	322	12.1	78.	6.8
0.40	232	8.7	80.	6.9
0.50	171	6.4	76.	6.7
0.60	161	6.0	88.	7.6
0.70	116	4.3	75.	6.5
0.80	92	3.4	68.	6.0
0.90	68	2.5	57.	5.0
1.00	62	2.3	59.	5.1
1.10	37	1.4	39.	3.4
1.20	49	1.8	56.	4.9
1.30	38	1.4	47.	4.1
1.40	31	1.2	42.	3.6
1.50	18	0.7	26.	2.3
1.60	24	0.9	37.	3.2
1.70	15	0.6	25.	2.1
1.80	16	0.6	28.	2.4
1.90	13	0.5	24.	2.1
2.00	7	0.3	14.	1.2
> 2.00	46	1.7	124.	10.8

Total # Days with Rain 2669

****
* End of time step DO-loop in Runoff *
****

Final Date (Mo/Day/Year) = 12/31/1972
Total number of time steps = 1668773
Final Julian Date = 1972366
Final time of day = 86397. seconds.
Final time of day = 24.00 hours.
Final running time = 219168.0000 hours.
Final running time = 9132.0000 days.

****
* Extrapolation Summary for Watersheds *

```
* # Steps ==> Total Number of Extrapolated Steps *
* # Calls ==> Total Number of OVERLND Calls      *
**************************************************

 Subcatch   # Steps   # Calls  Subcatch   # Steps   # Calls  Subcatch   # Steps   # Calls
 --------   -------   -------  --------   -------   -------  --------   -------   -------
      300   7189340   1820424

**************************************************
*     Extrapolation Summary for Channel/Pipes    *
* # Steps ==> Total Number of Extrapolated Steps *
* # Calls ==> Total Number of GUTNR Calls        *
**************************************************

Chan/Pipe   # Steps   # Calls Chan/Pipe   # Steps   # Calls Chan/Pipe   # Steps   # Calls
 --------   -------   -------  --------   -------   -------  --------   -------   -------
      201         0         0
↑
**********************************************
*       Continuity Check for Surface Water   *
**********************************************
                                                                  Inches over
                                                     cubic feet    Total Basin
Total Precipitation (Rain plus Snow)                    574779.       1147.
Total Infiltration                                      178198.        356.
Total Evaporation                                        15902.         32.
Surface Runoff from Watersheds                          385941.        770.
Total Water remaining in Surface Storage                     0.          0.
Infiltration over the Pervious Area...                  178198.       1114.
                      --------
Infiltration + Evaporation +
Surface Runoff + Snow removal +
Water remaining in Surface Storage +
Water remaining in Snow Cover.........                  580041.       1158.
Total Precipitation + Initial Storage.                  574779.       1147.


The error in continuity is calculated as
***************************************
* Precipitation + Initial Snow Cover  *
*      - Infiltration -               *
*Evaporation - Snow removal -         *
*Surface Runoff from Watersheds -     *
*Water in Surface Storage -           *
*Water remaining in Snow Cover        *
*-------------------------------------*
* Precipitation + Initial Snow Cover  *
***************************************
Error.................................       -0.915 Percent


**********************************************
*       Continuity Check for Channel/Pipes   *
**********************************************
                                                                  Inches over
```

	cubic feet	Total Basin
Initial Channel/Pipe Storage.....	0.	0.
Final Channel/Pipe Storage.....	0.	0.
Surface Runoff from Watersheds.....	385941.	770.
Baseflow.....	0.	
Groundwater Subsurface Inflow.....	0.	0.
Evaporation Loss from Channels.....	0.	0.
Channel/Pipe/Inlet Outflow.....	385941.	770.
Initial Storage + Inflow.....	385941.	770.
Final Storage + Outflow.....	385941.	770.

```
*****************************************
* Final Storage + Outflow + Evaporation  - *
* Watershed Runoff - Groundwater Inflow  - *
*     Initial Channel/Pipe Storage         *
*     ---------------------------------    *
*  Final Storage + Outflow  + Evaporation  *
*****************************************
```

Error..... 0.000 Percent


```
************************************************
*     Continuity Check for Subsurface Water    *
************************************************
```

	cubic feet	Inches over Subsurface Basin
Total Infiltration	0.	0.
Total Upper Zone ET	0.	0.
Total Lower Zone ET	0.	0.
Total Groundwater flow	0.	0.
Total Deep percolation	0.	0.
Initial Subsurface Storage	18034.	36.
Final Subsurface Storage	18034.	36.
Upper Zone ET over Pervious Area	0.	0.
Lower Zone ET over Pervious Area	0.	0.

```
*****************************************
* Infiltration + Initial Storage - Final *
* Storage - Upper and Lower Zone ET -    *
* Groundwater Flow - Deep Percolation    *
* -------------------------------------- *
*     Infiltration + Initial Storage     *
*****************************************
```

Error ..... 0.000 Percent



SUMMARY STATISTICS FOR SUBCATCHMENTS
====================================

	PERVIOUS AREA	IMPERVIOUS AREA	TOTAL SUBCATCHMENT AREA

SUBCATCH-MENT NO.	GUTTER OR INLET NO.	AREA (AC)	PERCENT IMPER.	TOTAL SIMULATED RAINFALL (IN)	TOTAL RUNOFF DEPTH (IN)	TOTAL LOSSES (IN)	PEAK RUNOFF RATE (CFS)	RUNOFF DEPTH (IN)	PEAK RUNOFF RATE (CFS)	RUNOFF DEPTH (IN)	PEAK RUNOFF RATE (CFS)	PEAK UNIT RUNOFF (IN/HR)
300	200	0.14	68.1	1147.40	33.001	1115.391	0.209	1115.895	0.561	770.235	0.770	5.580

*** NOTE *** IMPERVIOUS AREA STATISTICS AGGREGATE IMPERVIOUS AREAS WITH AND WITHOUT DEPRESSION STORAGE

SUMMARY STATISTICS FOR CHANNEL/PIPES

CHANNEL NUMBER	FULL FLOW (CFS)	FULL VELOCITY (FPS)	FULL DEPTH (FT)	MAXIMUM COMPUTED INFLOW (CFS)	MAXIMUM COMPUTED OUTFLOW (CFS)	MAXIMUM COMPUTED DEPTH (FT)	MAXIMUM COMPUTED VELOCITY (FPS)	TIME OF OCCURRENCE DAY	TIME OF OCCURRENCE HR.	LENGTH OF SURCHARGE (HOUR)	MAXIMUM SURCHARGE VOLUME (AC-FT)	RATIO OF MAX. TO FULL FLOW	RATIO OF MAX. DEPTH TO FULL DEPTH
201				0.00				1/ 0/1900	0.00				
200				0.77				11/13/1968	5.50				

TOTAL NUMBER OF CHANNELS/PIPES = 2

*** NOTE *** THE MAXIMUM FLOWS AND DEPTHS ARE CALCULATED AT THE END OF THE TIME INTERVAL



```
#######################################################
#             Runoff Quality Summary Page             #
# If NDIM = 0 Units for:   loads    mass rates        #
#             METRIC = 1    lb        lb/sec          #
#             METRIC = 2    kg        kg/sec          #
# If NDIM = 1 Loads are in units of quantity          #
#             and mass rates are quantity/sec         #
# If NDIM = 2 loads are in units of concentration     #
#             times volume and mass rates have units  #
#             of concentration times volume/second    #
#######################################################
```

Total Su NDIM = 0
METRIC = 1

	Total Su
Inputs	
1. INITIAL SURFACE LOAD.....	3.
2. TOTAL SURFACE BUILDUP.....	2610.
3. INITIAL CATCHBASIN LOAD.....	0.
4. TOTAL CATCHBASIN LOAD.....	0.
5. TOTAL CATCHBASIN AND SURFACE BUILDUP (2+4).....	2610.

Remaining Loads

6.	LOAD REMAINING ON SURFACE...	1.
7.	REMAINING IN CATCHBASINS....	0.
8.	REMAINING IN CHANNEL/PIPES..	0.

Removals

9.	STREET SWEEPING REMOVAL.....	0.
10.	NET SURFACE BUILDUP (2-9)...	2610.
11.	SURFACE WASHOFF.....	2609.
12.	CATCHBASIN WASHOFF.....	0.
13.	TOTAL WASHOFF (11+12).....	2609.
14.	LOAD FROM OTHER CONSTITUENTS	0.
15.	PRECIPITATION LOAD.....	0.
15a.	SUM SURFACE LOAD (13+14+15).	2609.
16.	TOTAL GROUNDWATER LOAD.....	0.
16a.	TOTAL I/I LOAD.....	0.
17.	NET SUBCATCHMENT LOAD (15a-15b-15c-15d+16+16a)....	2609.
>>Removal in channel/pipes (17a, 17b):		
17a.	REMOVE BY BMP FRACTION.....	0.
17b.	REMOVE BY 1st ORDER DECAY...	0.
18.	TOTAL LOAD TO INLETS.....	2609.
19.	FLOW WT'D AVE.CONCENTRATION mg/l (INLET LOAD/TOTAL FLOW).....	108.

Percentages

20.	STREET SWEEPING (9/2).....	0.
21.	SURFACE WASHOFF (11/2).....	100.
22.	NET SURFACE WASHOFF(11/10)..	100.
23.	WASHOFF/SUBCAT LOAD(11/17)..	100.
24.	SURFACE WASHOFF/INLET LOAD (11/18).....	100.
25.	CATCHBASIN WASHOFF/ SUBCATCHMENT LOAD (12/17)...	0.
26.	CATCHBASIN WASHOFF/ INLET LOAD (12/18).....	0.
27.	OTHER CONSTITUENT LOAD/ SUBCATCHMENT LOAD (14/17)...	0.
28.	INSOLUBLE FRACTION/ INLET LOAD (14/18).....	0.
29.	PRECIPITATION/ SUBCATCHMENT LOAD (15/17)...	0.
30.	PRECIPITATION/ INLET LOAD (15/18).....	0.
31.	GROUNDWATER LOAD/ SUBCATCHMENT LOAD (16/17)...	0.
32.	GROUNDWATER LOAD/ INLET LOAD (16/18).....	0.
32a.	INFILTRATION/INFLOW LOAD/ SUBCATCHMENT LOAD (16a/17)..	0.
32b.	INFILTRATION/INFLOW LOAD/ INLET LOAD (16a/18).....	0.

```
32c.CH/PIPE BMP FRACTION REMOVAL/
    SUBCATCHMENT LOAD (17a/17)..        0.
32d.CH/PIPE 1st ORDER DECAY REMOVAL/
    SUBCATCHMENT LOAD (17b/17)..        0.
33. INLET LOAD SUMMATION ERROR
    (18+8+6a+17a+17b-17)/17.....        0.

CAUTION. Due to method of quality routing (Users Manual, Appendix IX)
quality routing through channel/pipes is sensitive to the time step.
Large "Inlet Load Summation Errors" may result.
These can be reduced by adjusting the time step(s).
Note: surface accumulation during dry time steps at end of simulation is
not included in totals.  Buildup is only performed at beginning of
wet steps or for street cleaning.


*******************************************************
*            TSS Particle Size Distribution           *
*******************************************************
   Diameter     %      Specific     Settling Velocity    Critical Peclet
     (um)              Gravity         (ft/s)                Number


       2.      5.0      2.65          0.000009             0.032973
       5.      5.0      2.65          0.000055             0.056296
       8.     10.0      2.65          0.000141             0.074071
      20.     15.0      2.65          0.000875             0.126463
      50.     10.0      2.65          0.005346             0.215914
      75.      5.0      2.65          0.011640             0.273579
     100.     10.0      2.65          0.019828             0.323611
     150.     15.0      2.65          0.040138             0.410039
     250.     15.0      2.65          0.087320             0.552510
     500.      5.0      2.65          0.198831             0.828097
    1000.      5.0      2.65          0.365264             1.241146

*************************************************
*                                               *
*              Summary of TSS Removal           *
*                                               *
*************************************************

TSS Removal based on NJCAT Lab Performance Curve

 Model       Low Q Treated   High Q Treated      Runoff Treated        TSS Removed
   #            (cfs)           (cfs)                (%)                 (%)

 HS 4          0.694           6.171               100.0                92.4 <=TSS Removal
 HS 5          1.048           6.171               100.0                95.3
 HS 6          1.435           6.171               100.0                97.0
 HS 7          1.928           6.171               100.0                97.9
 HS 8          2.466           6.171               100.0                98.4
 HS 9          3.072           6.171               100.0                99.0
 HS 10         3.766           6.171               100.0                99.3
 HS 12         5.433           6.171               100.0                99.7
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****
* Summary of Annual Flow Treatmnet & TSS Removal *
****

HS 4

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	119501.9	119501.9	74.4	68.1	6.3	100.0	91.5
1949.	125049.3	125049.3	96.6	91.5	5.1	100.0	94.7
1950.	136153.9	136153.9	89.3	84.3	5.1	100.0	94.3
1951.	218565.0	218565.0	127.0	119.5	7.4	100.0	94.2
1952.	183938.7	183938.7	110.3	102.7	7.5	100.0	93.2
1953.	208586.6	208586.6	119.9	112.0	7.8	100.0	93.5
1954.	225379.7	225379.7	124.0	116.6	7.4	100.0	94.0
1955.	207675.6	207675.6	97.6	90.2	7.3	100.0	92.5
1956.	189914.1	189914.1	120.7	113.6	7.1	100.0	94.1
1957.	147059.5	147059.5	96.2	89.4	6.7	100.0	93.0
1958.	204701.6	204701.5	121.4	112.6	8.8	100.0	92.7
1959.	211432.6	211432.6	116.0	108.3	7.7	100.0	93.4
1960.	194686.8	194686.8	115.3	107.9	7.4	100.0	93.6
1961.	162125.5	162125.5	110.5	99.6	10.9	100.0	90.1
1962.	211352.9	211352.9	113.5	105.6	7.9	100.0	93.1
1963.	154711.4	154711.4	102.6	95.9	6.8	100.0	93.4
1964.	137240.0	137240.0	98.8	90.8	8.0	100.0	91.9
1965.	114519.8	114519.8	92.8	87.2	5.7	100.0	93.9
1966.	149333.4	149333.4	101.5	95.7	5.8	100.0	94.3
1967.	189946.3	189946.3	123.4	113.6	9.8	100.0	92.0
1968.	195140.8	194318.6	106.7	95.7	11.0	99.6	89.7
1969.	130561.1	130561.1	78.2	68.8	9.4	100.0	88.0
1970.	124698.2	124698.2	72.9	58.4	14.5	100.0	80.1
1971.	161817.0	161817.0	112.2	101.9	10.2	100.0	90.9
1972.	140668.0	140668.0	88.6	81.7	7.0	100.0	92.1

HS 5

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	119501.9	119501.9	74.4	70.7	3.7	100.0	95.0
1949.	125049.3	125049.3	96.6	93.9	2.7	100.0	97.2
1950.	136153.9	136153.9	89.3	86.1	3.2	100.0	96.4
1951.	218565.0	218565.0	127.0	123.0	4.0	100.0	96.9
1952.	183938.7	183938.7	110.3	106.0	4.3	100.0	96.1
1953.	208586.6	208586.6	119.9	115.7	4.2	100.0	96.5
1954.	225379.7	225379.7	124.0	120.2	3.8	100.0	97.0
1955.	207675.6	207675.6	97.6	93.3	4.3	100.0	95.6
1956.	189914.1	189914.1	120.7	116.7	4.1	100.0	96.6

1957.	147059.5	147059.5	96.2	92.3	3.8	100.0	96.0
1958.	204701.6	204701.5	121.4	116.0	5.4	100.0	95.5
1959.	211432.6	211432.6	116.0	110.6	5.4	100.0	95.3
1960.	194686.8	194686.8	115.3	111.4	3.9	100.0	96.6
1961.	162125.5	162125.5	110.5	102.6	7.9	100.0	92.8
1962.	211352.9	211352.9	113.5	109.0	4.5	100.0	96.0
1963.	154711.4	154711.4	102.6	98.4	4.2	100.0	95.9
1964.	137240.0	137240.0	98.8	93.8	5.0	100.0	95.0
1965.	114519.8	114519.8	92.8	89.6	3.2	100.0	96.5
1966.	149333.4	149333.4	101.5	98.2	3.4	100.0	96.7
1967.	189946.3	189946.3	123.4	117.8	5.6	100.0	95.5
1968.	195140.8	195140.8	106.7	98.8	7.9	100.0	92.6
1969.	130561.1	130561.1	78.2	71.4	6.8	100.0	91.3
1970.	124698.2	124698.2	72.9	61.1	11.8	100.0	83.8
1971.	161817.0	161817.0	112.2	106.1	6.0	100.0	94.6
1972.	140668.0	140668.0	88.6	83.8	4.8	100.0	94.6

HS 6

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	119501.9	119501.9	74.4	72.2	2.2	100.0	97.1
1949.	125049.3	125049.3	96.6	95.1	1.5	100.0	98.4
1950.	136153.9	136153.9	89.3	87.3	2.1	100.0	97.7
1951.	218565.0	218565.0	127.0	124.9	2.0	100.0	98.4
1952.	183938.7	183938.7	110.3	107.8	2.5	100.0	97.8
1953.	208586.6	208586.6	119.9	117.1	2.7	100.0	97.7
1954.	225379.7	225379.7	124.0	121.9	2.1	100.0	98.3
1955.	207675.6	207675.6	97.6	95.1	2.4	100.0	97.5
1956.	189914.1	189914.1	120.7	118.6	2.2	100.0	98.2
1957.	147059.5	147059.5	96.2	94.2	2.0	100.0	98.0
1958.	204701.6	204701.5	121.4	118.0	3.4	100.0	97.2
1959.	211432.6	211432.6	116.0	112.3	3.7	100.0	96.8
1960.	194686.8	194686.8	115.3	113.0	2.3	100.0	98.0
1961.	162125.5	162125.5	110.5	105.4	5.0	100.0	95.4
1962.	211352.9	211352.9	113.5	110.8	2.7	100.0	97.6
1963.	154711.4	154711.4	102.6	100.3	2.3	100.0	97.8
1964.	137240.0	137240.0	98.8	95.1	3.7	100.0	96.3
1965.	114519.8	114519.8	92.8	91.1	1.8	100.0	98.1
1966.	149333.4	149333.4	101.5	99.6	2.0	100.0	98.1
1967.	189946.3	189946.3	123.4	120.3	3.2	100.0	97.4
1968.	195140.8	195140.8	106.7	101.0	5.7	100.0	94.7
1969.	130561.1	130561.1	78.2	73.3	4.9	100.0	93.7
1970.	124698.2	124698.2	72.9	63.2	9.8	100.0	86.6
1971.	161817.0	161817.0	112.2	108.5	3.7	100.0	96.7
1972.	140668.0	140668.0	88.6	85.9	2.7	100.0	96.9

HS 7

Year	Flow Vol	Flow Treated	TSS IN	TSS Rem	TSS Out	Flow Treated	TSS Removal

	(ft3)	(ft3)	(lb)	(lb)	(lb)	(%)	(%)
1948.	119501.9	119501.9	74.4	72.9	1.6	100.0	97.9
1949.	125049.3	125049.3	96.6	95.7	1.0	100.0	99.0
1950.	136153.9	136153.9	89.3	88.1	1.2	100.0	98.6
1951.	218565.0	218565.0	127.0	125.6	1.4	100.0	98.9
1952.	183938.7	183938.7	110.3	108.7	1.5	100.0	98.6
1953.	208586.6	208586.6	119.9	118.0	1.9	100.0	98.4
1954.	225379.7	225379.7	124.0	122.7	1.4	100.0	98.9
1955.	207675.6	207675.6	97.6	95.8	1.8	100.0	98.2
1956.	189914.1	189914.1	120.7	119.3	1.5	100.0	98.8
1957.	147059.5	147059.5	96.2	94.9	1.3	100.0	98.7
1958.	204701.6	204701.5	121.4	119.3	2.1	100.0	98.3
1959.	211432.6	211432.6	116.0	113.7	2.3	100.0	98.0
1960.	194686.8	194686.8	115.3	113.8	1.5	100.0	98.7
1961.	162125.5	162125.5	110.5	106.9	3.6	100.0	96.7
1962.	211352.9	211352.9	113.5	111.5	2.0	100.0	98.2
1963.	154711.4	154711.4	102.6	100.9	1.7	100.0	98.3
1964.	137240.0	137240.0	98.8	96.2	2.6	100.0	97.4
1965.	114519.8	114519.8	92.8	91.7	1.2	100.0	98.7
1966.	149333.4	149333.4	101.5	100.0	1.5	100.0	98.5
1967.	189946.3	189946.3	123.4	121.1	2.3	100.0	98.1
1968.	195140.8	195140.8	106.7	102.8	3.9	100.0	96.4
1969.	130561.1	130561.1	78.2	74.6	3.6	100.0	95.4
1970.	124698.2	124698.2	72.9	65.1	7.8	100.0	89.3
1971.	161817.0	161817.0	112.2	109.6	2.6	100.0	97.7
1972.	140668.0	140668.0	88.6	86.8	1.8	100.0	97.9

HS 8

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	119501.9	119501.9	74.4	73.3	1.2	100.0	98.5
1949.	125049.3	125049.3	96.6	96.1	0.6	100.0	99.4
1950.	136153.9	136153.9	89.3	88.5	0.8	100.0	99.1
1951.	218565.0	218565.0	127.0	126.0	1.0	100.0	99.2
1952.	183938.7	183938.7	110.3	109.3	1.0	100.0	99.1
1953.	208586.6	208586.6	119.9	118.6	1.3	100.0	98.9
1954.	225379.7	225379.7	124.0	123.1	0.9	100.0	99.3
1955.	207675.6	207675.6	97.6	96.2	1.3	100.0	98.6
1956.	189914.1	189914.1	120.7	119.7	1.1	100.0	99.1
1957.	147059.5	147059.5	96.2	95.3	0.9	100.0	99.0
1958.	204701.6	204701.5	121.4	119.8	1.6	100.0	98.7
1959.	211432.6	211432.6	116.0	114.3	1.7	100.0	98.5
1960.	194686.8	194686.8	115.3	114.3	1.0	100.0	99.1
1961.	162125.5	162125.5	110.5	107.9	2.5	100.0	97.7
1962.	211352.9	211352.9	113.5	112.1	1.4	100.0	98.7
1963.	154711.4	154711.4	102.6	101.3	1.3	100.0	98.7
1964.	137240.0	137240.0	98.8	96.9	1.9	100.0	98.1
1965.	114519.8	114519.8	92.8	92.2	0.7	100.0	99.2
1966.	149333.4	149333.4	101.5	100.4	1.1	100.0	98.9
1967.	189946.3	189946.3	123.4	121.8	1.7	100.0	98.6

1968.	195140.8	195140.8	106.7	103.5	3.3	100.0	97.0
1969.	130561.1	130561.1	78.2	75.3	2.9	100.0	96.3
1970.	124698.2	124698.2	72.9	66.7	6.2	100.0	91.5
1971.	161817.0	161817.0	112.2	110.3	1.8	100.0	98.4
1972.	140668.0	140668.0	88.6	87.3	1.4	100.0	98.4

HS 9

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	119501.9	119501.9	74.4	73.7	0.7	100.0	99.1
1949.	125049.3	125049.3	96.6	96.3	0.3	100.0	99.7
1950.	136153.9	136153.9	89.3	88.7	0.6	100.0	99.4
1951.	218565.0	218565.0	127.0	126.4	0.6	100.0	99.5
1952.	183938.7	183938.7	110.3	109.6	0.6	100.0	99.4
1953.	208586.6	208586.6	119.9	119.1	0.7	100.0	99.4
1954.	225379.7	225379.7	124.0	123.4	0.6	100.0	99.5
1955.	207675.6	207675.6	97.6	96.7	0.9	100.0	99.1
1956.	189914.1	189914.1	120.7	120.1	0.7	100.0	99.5
1957.	147059.5	147059.5	96.2	95.6	0.6	100.0	99.4
1958.	204701.6	204701.5	121.4	120.3	1.1	100.0	99.1
1959.	211432.6	211432.6	116.0	114.7	1.3	100.0	98.9
1960.	194686.8	194686.8	115.3	114.7	0.6	100.0	99.5
1961.	162125.5	162125.5	110.5	108.7	1.7	100.0	98.4
1962.	211352.9	211352.9	113.5	112.6	0.9	100.0	99.2
1963.	154711.4	154711.4	102.6	101.8	0.8	100.0	99.2
1964.	137240.0	137240.0	98.8	97.4	1.3	100.0	98.6
1965.	114519.8	114519.8	92.8	92.4	0.5	100.0	99.5
1966.	149333.4	149333.4	101.5	100.9	0.7	100.0	99.3
1967.	189946.3	189946.3	123.4	122.4	1.0	100.0	99.2
1968.	195140.8	195140.8	106.7	104.2	2.6	100.0	97.6
1969.	130561.1	130561.1	78.2	76.1	2.1	100.0	97.3
1970.	124698.2	124698.2	72.9	68.6	4.4	100.0	94.0
1971.	161817.0	161817.0	112.2	111.0	1.1	100.0	99.0
1972.	140668.0	140668.0	88.6	87.7	1.0	100.0	98.9

HS 10

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	119501.9	119501.9	74.4	73.9	0.5	100.0	99.4
1949.	125049.3	125049.3	96.6	96.4	0.2	100.0	99.8
1950.	136153.9	136153.9	89.3	88.9	0.4	100.0	99.5
1951.	218565.0	218565.0	127.0	126.6	0.4	100.0	99.7
1952.	183938.7	183938.7	110.3	109.9	0.4	100.0	99.7
1953.	208586.6	208586.6	119.9	119.4	0.5	100.0	99.6
1954.	225379.7	225379.7	124.0	123.7	0.3	100.0	99.7
1955.	207675.6	207675.6	97.6	97.0	0.6	100.0	99.4
1956.	189914.1	189914.1	120.7	120.4	0.4	100.0	99.7

1957.	147059.5	147059.5	96.2	95.8	0.4	100.0	99.6
1958.	204701.6	204701.5	121.4	120.6	0.7	100.0	99.4
1959.	211432.6	211432.6	116.0	115.1	0.9	100.0	99.2
1960.	194686.8	194686.8	115.3	115.0	0.3	100.0	99.7
1961.	162125.5	162125.5	110.5	109.1	1.3	100.0	98.8
1962.	211352.9	211352.9	113.5	113.0	0.5	100.0	99.5
1963.	154711.4	154711.4	102.6	102.0	0.6	100.0	99.4
1964.	137240.0	137240.0	98.8	97.9	0.8	100.0	99.2
1965.	114519.8	114519.8	92.8	92.6	0.3	100.0	99.7
1966.	149333.4	149333.4	101.5	101.0	0.5	100.0	99.5
1967.	189946.3	189946.3	123.4	122.8	0.6	100.0	99.5
1968.	195140.8	195140.8	106.7	105.0	1.8	100.0	98.3
1969.	130561.1	130561.1	78.2	76.8	1.4	100.0	98.2
1970.	124698.2	124698.2	72.9	69.5	3.4	100.0	95.3
1971.	161817.0	161817.0	112.2	111.5	0.7	100.0	99.4
1972.	140668.0	140668.0	88.6	87.9	0.7	100.0	99.2

HS 12

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	119501.9	119501.9	74.4	74.2	0.2	100.0	99.8
1949.	125049.3	125049.3	96.6	96.6	0.1	100.0	99.9
1950.	136153.9	136153.9	89.3	89.1	0.2	100.0	99.8
1951.	218565.0	218565.0	127.0	126.8	0.1	100.0	99.9
1952.	183938.7	183938.7	110.3	110.1	0.2	100.0	99.9
1953.	208586.6	208586.6	119.9	119.6	0.3	100.0	99.8
1954.	225379.7	225379.7	124.0	123.9	0.1	100.0	99.9
1955.	207675.6	207675.6	97.6	97.3	0.2	100.0	99.8
1956.	189914.1	189914.1	120.7	120.6	0.2	100.0	99.9
1957.	147059.5	147059.5	96.2	96.0	0.1	100.0	99.9
1958.	204701.6	204701.5	121.4	121.0	0.4	100.0	99.7
1959.	211432.6	211432.6	116.0	115.6	0.5	100.0	99.6
1960.	194686.8	194686.8	115.3	115.1	0.1	100.0	99.9
1961.	162125.5	162125.5	110.5	109.9	0.5	100.0	99.5
1962.	211352.9	211352.9	113.5	113.3	0.2	100.0	99.8
1963.	154711.4	154711.4	102.6	102.4	0.2	100.0	99.8
1964.	137240.0	137240.0	98.8	98.2	0.5	100.0	99.5
1965.	114519.8	114519.8	92.8	92.7	0.1	100.0	99.9
1966.	149333.4	149333.4	101.5	101.4	0.2	100.0	99.8
1967.	189946.3	189946.3	123.4	123.2	0.3	100.0	99.8
1968.	195140.8	195140.8	106.7	105.8	0.9	100.0	99.1
1969.	130561.1	130561.1	78.2	77.4	0.8	100.0	98.9
1970.	124698.2	124698.2	72.9	70.9	2.1	100.0	97.2
1971.	161817.0	161817.0	112.2	111.9	0.3	100.0	99.7
1972.	140668.0	140668.0	88.6	88.4	0.3	100.0	99.7

```
************************************************
*  Summary of Quantity and Quality Results at  *
*  Location        200  INFlow in cfs.         *
*  Values are instantaneous at indicated time step *
************************************************

  Heywood Hospital Addition
  DCB#4

     Date      Time         Flow   Total Su
 Mo/Da/Year  Hr:Min          cfs    mg/l
 ----------  -------     -------  --------
Flow wtd means.....         0.001      108.
Flow wtd std devs..         0.008       71.
Maximum value......         0.770      293.
Minimum value......         0.000        0.
Total loads........       385812.     2610.
                         Cub-Ft     POUNDS

===> Runoff simulation ended normally.

===> SWMM 4.4     simulation ended normally.
     Always check output file for possible warning messages.

*****************************************************
*       SWMM 4.4     Simulation Date and Time Summary  *
*****************************************************
* Starting Date... April      13, 2021                *
*          Time...          12:23:21.648              *
*   Ending Date... April      13, 2021                *
*          Time...          12:23:25.833              *
*  Elapsed Time...               0.070 minutes.       *
*  Elapsed Time...               4.185 seconds.       *
*****************************************************
```

MASS DEP "Standard Method to Convert Required Water Quality Volume to a Discharge Rate for Sizing Flow Based Manufactured Proprietary Stormwater Treatment Practices"

DMH#1 Water Quality Unit

For First 1/2-Inch Runoff WQV

Step 1: Area of Impervious Surface to Structure

0.618 acres @ 81.95% Impervious = 0.508 Acres Impervious

0.508 Acres x .0015625 sq mi = ***7.9e(-4) square miles.***

Step 2: Tc of Train

P-123 to DCB#3:	5.0 min
DCB#3 To DMH#1:	1.1 min
Total Tc to DMH#S3	***6.1 min or 0.102 hours***

Step 3: Determine qu

From Figure 4:

Tc @ 0.10, qu=774 csm/in

Step 4: Determine Q1

Q1=(qu)x(A)x(WQV)

Q1=(774csm/in)x(7.9e-4)x(1 in)

Q1=0.61 CFS

Determination

Determination of Water Quality Flow rates for units by New Jersey Corporation for Advanced Technology (NJCAT) Program

From Technology Verification

HG 4 Treatment Flow rate

1.1 cf.s > 0.61 c.f.s. *"Pass"*

HydroGuard HG4 to be utilized in Design.

INSTRUCTIONS:

Non-automated: Mar. 4, 2008

1. Sheet is nonautomated. Print sheet and complete using hand calculations. Column A and B: See MassDEP Structural BMP Table
2. The calculations must be completed using the Column Headings specified in Chart and Not the Excel Column Headings
3. To complete Chart Column D, multiple Column B value within Row x Column C value within Row
4. To complete Chart Column E value, subtract Column D value within Row from Column C within Row
5. Total TSS Removal = Sum All Values in Column D

Location: DMH#1

TSS Removal Calculation Worksheet

A BMP[1]	B TSS Removal Rate[1]	C Starting TSS Load*	D Amount Removed (B*C)	E Remaining Load (C-D)
Deep Sump Hooded Catch Basin	**0.25**	**1.00**	**0.25**	**0.75**
HydroWorks HG4	**0.77**	**0.75**	**0.58**	**0.17**

Total TSS Removal = **83%**

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: **Heywood Hospital**

Prepared By: **Hannigan Engineering, Inc.**

Date: **5/11/2021**

*Equals remaining load from previous BMP (E) which enters the BMP

Summary for Reach DMH1: TO DMH#2

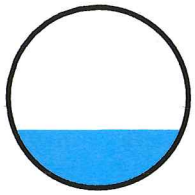
[52] Hint: Inlet/Outlet conditions not evaluated
[61] Hint: Exceeded Reach DCB1 outlet invert by 0.02' @ 12.10 hrs
[61] Hint: Exceeded Reach DCB2 outlet invert by 0.02' @ 12.10 hrs
[61] Hint: Exceeded Reach DCB3 outlet invert by 0.02' @ 12.10 hrs

Inflow Area = 0.618 ac, 81.95% Impervious, Inflow Depth = 1.87" for 1-Year event
Inflow = 1.30 cfs @ 12.08 hrs, Volume= 0.096 af <=Water Quality Volume
Outflow = 1.29 cfs @ 12.08 hrs, Volume= 0.096 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.89 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.91 fps, Avg. Travel Time= 0.1 min

Peak Storage= 4 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.32'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.77 cfs

12.0" Round Pipe
n= 0.011 Concrete pipe, straight & clean
Length= 16.0' Slope= 0.0187 '/'
Inlet Invert= 1,175.00', Outlet Invert= 1,174.70'



Summary for Subcatchment P123: TO DCB#3

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.53 cfs @ 12.07 hrs, Volume= 0.039 af, Depth= 2.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-Year Rainfall=2.50"

Area (sf)	CN	Description
1,007	74	>75% Grass cover, Good, HSG C
8,985	98	Paved parking, HSG C
9,992	96	Weighted Average
1,007		10.08% Pervious Area
8,985		89.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0200	1.16		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	145	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	195	Total, Increased to minimum Tc = 5.0 min <=Tc			

Summary for Reach DCB3: TO DMH#1

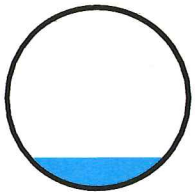
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.229 ac, 89.92% Impervious, Inflow Depth = 2.06" for 1-Year event
Inflow = 0.53 cfs @ 12.07 hrs, Volume= 0.039 af
Outflow = 0.52 cfs @ 12.08 hrs, Volume= 0.039 af, Atten= 2%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.81 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 1.91 fps, Avg. Travel Time= 1.1 min <=Tc

Peak Storage= 11 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.17'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 8.19 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 123.0' Slope= 0.0528 '/'
Inlet Invert= 1,181.80', Outlet Invert= 1,175.30'



```
**************************************************
*      Storm Water Management Sizing Model       *
*                Hydroworks, LLC                 *
*                 Version 4.4                    *
*                                                *
*        Continuous Simulation Program           *
*              Based on SWMM 4.4H                *
*              Hydroworks, LLC                   *
*               Graham Bryant                    *
*                2003 - 2013                     *
**************************************************

                 Developed by

**************************************************
*               Hydroworks, LLC                  *
*             Metcalf & Eddy, Inc.               *
*            University of Florida               *
*       Water Resources Engineers, Inc.          *
*      (Now Camp Dresser & McKee, Inc.)          *
*               Modified SWMM 4.4                *
**************************************************

          Distributed and Maintained by

**************************************************
*                                                *
*               Hydroworks, LLC                  *
*                888-290-7900                    *
*              www.hydroworks.com                *
*                                                *
**************************************************

**************************************************
*     If any problems occur executing this       *
*     model, contact Mr. Graham Bryant at        *
*     Hydroworks, LLC by phone at 908-272-4411   *
*     or by e-mail: support@hydroworks.com       *
**************************************************

**************************************************
*     This model is based on EPA SWMM 4.4        *
*  "Nature is full of infinite causes which      *
*   have never occurred in experience" da Vinci  *
**************************************************


**************************************************
* Entry made to the Rain Block                   *
* Created by the University of Florida - 1988    *
* Updated by Oregon State University, March 2000 *
**************************************************
```

Heywood Hospital Addition
DMH1

```
 ########################################
 #  Precipitation Block Input Commands  #
 ########################################

Station Name.........................  Sterling 2 Nnw

Station Location.....................  Massachusetts

Station, ISTA........................    8159

Beginning date, IYBEG (Yr/Mo/Dy).....  1948/ 1/ 1

Ending date, IYEND (Yr/Mo/Dy)........  1972/12/31

Minimum interevent time, MIT.........     1

Number of ranked storms, NPTS........    10

NWS format, IFORM (See text).........     1

Print storm summary, ISUM (O-No 1-Yes)    0

Print all rainfall, IYEAR (O-No 1-Yes)    0

Save storm event data on NSCRAT(1)....    0
(IFILE =0 -Do not save, =1 -Save data)

IDECID 0 - Create interface file
       1 - Create file and analyze
       2 - Synoptic analysis.........     2

Plotting position parameter, A........  0.40

Storm event statistics, NOSTAT........  1100


KODEA (from optional group B0)........     2
 = 0, Do not include NCDC cumulative values.
 = 1, Average NCDC cumulative values.
 = 2, Use NCDC cumulative value as inst. rain.

KODEPR (from optional group B0).......     0
 Print NCDC special codes in event summary:
 = 0, only on days with events.
 = 1, on all days with codes present.
 Codes: A = accumulated value, I = incomplete value,
        M = missing value,     O = other code present
```

```
*****************************************************
*  Precipitation output created using the Rain block   *
*  Number of precipitation stations...        1        *
*****************************************************

Location Station Number
-------- --------------
       1.     8159


STATION ID ON PRECIP. DATA INPUT FILE = 5902
REQUESTED STATION ID =     8159  CHECK TO BE SURE THEY MATCH.


$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
Note, 15-min. data are being processed, but hourly
print-out, summaries, and statistics are based on
hourly totals only.  Data placed on interface file
are at correct 15-min. intervals.
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$

###################################################
# Entry made to the Runoff Block, last updated by #
# Oregon State University, and Camp, Dresser and  #
# McKee, Inc., March 2002.                        #
###################################################
# "And wherever water goes, amoebae go along for  #
#  the ride"                    Tom Robbins       #
###################################################


                  Heywood Hospital Addition

                  DMH1


Snowmelt parameter - ISNOW.....................          0

Number of rain gages - NRGAG...................          1

Horton infiltration equation used - INFILM.....          2
Maximum infiltration volume is limited to RMAXINF input on  subcatchment lines.
Infiltration volume regenerates during  non rainfall periods.

Quality is simulated - KWALTY..................          1

IVAP is negative.  Evaporation will be set to zero
    during time steps with rainfall.

Read evaporation data on line(s) F1 (F2) - IVAP..          1
```

```
Hour of day at start of storm - NHR.............          1

Minute of hour at start of storm - NMN..........          1

Time TZERO at start of storm (hours).............      1.017

Use U.S. Customary units for most I/O - METRIC...          0

Runoff input print control...                              0

Runoff graph plot control....                              1

Runoff output print control..                              0

Print headers every 50 lines - NOHEAD (0=yes, 1=no)        0

Print land use load percentages -LANDUPR (0=no, 1=yes)     0

Limit number of groundwater convergence messages to 10000 (if simulated)

Month, day, year of start of storm is:              1/ 1/1948

Wet time step length (seconds).......                   300.

Dry time step length (seconds).......                   900.

Wet/Dry time step length (seconds)...                   450.

Simulation length is......                        19721231.0 Yr/Mo/Dy

Percent of impervious area with zero detention depth    25.0

Horton infiltration model being used
Rate for regeneration of infiltration = REGEN * DECAY
DECAY is read in for each subcatchment
REGEN = ........................................   0.01000
```



```
*******************************************************
*   Processed Precipitation will be read from file    *
*******************************************************

  ##############################
  #        Data Group F1       #
  # Evaporation Rate (in/day)  #
  ##############################

 JAN.  FEB.  MAR.  APR.  MAY   JUN.  JUL.  AUG.  SEP.  OCT.  NOV.  DEC.
 ----  ----  ----  ----  ----  ----  ----  ----  ----  ----  ----  ----
 0.00  0.00  0.00  0.10  0.10  0.15  0.15  0.15  0.10  0.10  0.00  0.00
```



****
* C H A N N E L A N D P I P E D A T A *
****

Input equen umber	NAMEG: Channel ID #	Drains to NGTO:	Channel Type	Width (ft)	Length (ft)	Invert Slope (ft/ft)	L Side Slope (ft/ft)	R Side Slope (ft/ft)	Intial Depth (ft)	Max Depth (ft)	Mann- ings "N"	Full Flow (cfs)
1	201	200	Dummy	0.0	0.0	0.0000	0.0000	0.0000	0.0	0.0	0.0000	0.00E+00

****
* S U B C A T C H M E N T D A T A *
****

NOTE. SEE LATER TABLE FOR OPTIONAL SUBCATCHMENT PARAMETERS

	SUBCATCH- MENT NO.	CHANNEL OR INLET	WIDTH (FT)	AREA (AC)	PERCENT IMPERV.	SLOPE (FT/FT)	RESISTANCE IMPERV.	FACTOR PERV.	DEPRES. IMPERV.	STORAGE(IN) PERV.	INFILTRATION RATE(IN/HR) MAXIMUM	INFILTRATION RATE(IN/HR) MINIMUM	DECAY RATE (1/SEC)	GAGE NO.	MAXIMUM VOLUME (INCHES)
1	300	200	164.07	0.62	81.95	0.0200	0.015	0.250	0.020	0.200	2.50	0.40	0.00055	1	4.00000

TOTAL NUMBER OF SUBCATCHMENTS... 1
TOTAL TRIBUTARY AREA (ACRES).... 0.62
IMPERVIOUS AREA (ACRES)..... 0.51
PERVIOUS AREA (ACRES)..... 0.11
TOTAL WIDTH (FEET)..... 164.07
PERCENT IMPERVIOUSNESS..... 81.95

****
* G R O U N D W A T E R I N P U T D A T A *
****

SUB-CATCH NUMBER	CHANNEL OR INLET	ELEVATIONS GROUND (FT)	ELEVATIONS BOTTOM (FT)	ELEVATIONS STAGE (FT)	ELEVATIONS BC (FT)	ELEVATIONS TW (FT)	FLOW CONSTANTS A1 (IN/HR-FT^B1)	FLOW CONSTANTS B1	FLOW CONSTANTS A2 (IN/HR-FT^B2)	FLOW CONSTANTS B2	FLOW CONSTANTS A3 (IN/HR-FT^2)
0	602	10.00	0.00	0.00	2.00	2.00	4.500E-05	2.600	0.000E+00	1.000	0.00E+00

****
* G R O U N D W A T E R I N P U T D A T A (CONTINUED) *
****

S O I L P R O P E R T I E S

SUBCAT. NO.	POROSITY	SATURATED HYDRAULIC CONDUCTIVITY (in/hr)	WILTING POINT	FIELD CAPACITY	INITIAL MOISTURE	MAX. DEEP PERCOLATION (in/hr)	PERCOLATION PARAMETERS HCO	PERCOLATION PARAMETERS PCO	ET PARAMETERS DEPTH OF ET (ft)	ET PARAMETERS FRACTION OF ET TO UPPER ZONE
0	.4000	5.000	.1500	.3000	.3000	2.000E-03	10.00	15.00	14.00	0.350

```
*******************************************************
*    Arrangement of Subcatchments and Channel/Pipes     *
*******************************************************
* See second subcatchment output table for connectivity *
* of subcatchment to subcatchment flows.                *
*******************************************************

   Channel
   or Pipe
      201     No Tributary Channel/Pipes
              No Tributary Subareas.....


    INLET
      200     Tributary Channel/Pipes...        201
              Tributary Subareas........        300


*******************************************************
* Hydrographs will be stored for the following   1 INLETS *
*******************************************************
          200
```



```
#####################################################
#              Quality Simulation                   #
#####################################################
#      General Quality Control Data Groups          #
#####################################################
```

Description	Variable	Value	
Number of quality constituents.....	NQS.....	1	
Number of land uses.....	JLAND.....	1	
Standard catchbasin volume.....	CBVOL.....	4.00	cubic feet
Erosion is not simulated.....	IROS.....	0	
DRY DAYS PRIOR TO START OF STORM...	DRYDAY.....	3.00	DAYS
DRY DAYS REQUIRED TO RECHARGE CATCHBASIN CONCENTRATION TO INITIAL VALUES.....	DRYBSN.....	5.00	DAYS
DUST AND DIRT STREET SWEEPING EFFICIENCY.....	REFFDD.....	0.000	
DAY OF YEAR ON WHICH STREET SWEEPING BEGINS.....	KLNBGN.....	120	
DAY OF YEAR ON WHICH STREET SWEEPING ENDS.....	KLNEND.....	270	

```
##########################################
#     Land use data on data group J2     #
##########################################
```

AND USE LNAME)	BUILDUP EQUATION TYPE (METHOD)	FUNCTIONAL DEPENDENCE OF BUILDUP PARAMETER(JACGUT)	LIMITING BUILDUP QUANTITY (DDLIM)	BUILDUP POWER (DDPOW)	BUILDUP COEFF. (DDFACT)	CLEANING INTERVAL IN DAYS (CLFREQ)	AVAIL. FACTOR FRACTION (AVSWP)	DAYS SINCE LAST SWEEPING (DSLCL)
Urban De	EXPONENTIAL(1)	AREA(1)	2.500E+01	0.500	60.000	30.000	0.300	30.000

```
##############################################
#     Constituent data on data group J3      #
##############################################
```

	Total Su
Constituent units.....	mg/l
Type of units.....	0
KALC.....	2
Type of buildup calc.....	EXPONENTIAL(2)
KWASH.....	0
Type of washoff calc.....	POWER EXPONEN.(0)
KACGUT.....	1
Dependence of buildup....	AREA(1)
LINKUP.....	0
Linkage to snowmelt.....	NO SNOW LINKAGE
Buildup param 1 (QFACT1).	25.000
Buildup param 2 (QFACT2).	0.500
Buildup param 3 (QFACT3).	60.000
Buildup param 4 (QFACT4).	0.000
Buildup param 5 (QFACT5).	0.000
Washoff power (WASHPO)...	1.100
Washoff coef. (RCOEF)....	3.000
Init catchb conc (CBFACT)	100.000
Precip. conc. (CONCRN)...	0.000
Street sweep effic (REFF)	0.000
Remove fraction (REMOVE).	0.000
1st order QDECAY, 1/day..	0.000
Land use number.....	1

```
**********************************************
* Constant Groundwater Quality Concentration(s) *
**********************************************

 Total Susp has a concentration of..    0.0000   mg/l
```

```
**********************************************
* REMOVAL FRACTIONS FOR SELECTED CHANNEL/PIPES *
* FROM J7 LINES                                *
**********************************************
```

CHANNEL/ PIPE	CONSTITUENT Total Susp
201	0.000

```
**************************************************
*     Subcatchment surface quality on data group L1 *
**************************************************
```

	No.	Land Usage	Land Use No.	Total Gutter Length 10**2ft	Number of Catch-Basins	Input Loading load/ac Total Su
1	300	Urban De	1	3.30	1.00	0.0E+00
Totals (Loads in lb or other)				3.30	1.00	0.0E+00

```
    **********************
    *    DATA GROUP M1    *
    **********************

TOTAL NUMBER OF PRINTED GUTTERS/INLETS...NPRNT..        1
NUMBER OF TIME STEPS BETWEEN PRINTINGS..INTERV..        0
STARTING AND STOPPING PRINTOUT DATES.....               0        0

    **********************
    *    DATA GROUP M3    *
    **********************

CHANNEL/INLET PRINT DATA GROUPS.....       -200

          ****************************************
          * Rainfall from Nat. Weather Serv. file  *
          * in units of hundredths of an inch      *
          ****************************************

         Heywood Hospital Addition
         DMH1
```

Rainfall Station Sterling 2 Nnw
State/Province Massachusetts

Rainfall Depth Summary (in)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1948.	1.8	0.0	0.0	0.0	6.8	4.1	4.8	1.6	0.4	2.7	7.7	3.0	32.9
1949.	4.7	3.9	2.2	5.2	3.0	0.4	1.9	2.1	3.7	2.6	1.0	3.8	34.5
1950.	5.6	5.2	4.8	3.7	2.5	1.9	2.0	0.0	0.0	0.3	7.1	3.8	36.9
1951.	4.4	6.8	6.4	3.3	5.2	3.2	6.7	3.2	2.7	5.8	6.9	5.1	59.6
1952.	5.8	2.8	4.5	5.5	4.2	4.7	3.3	8.1	2.4	0.8	5.0	3.0	50.1
1953.	6.4	3.9	8.7	8.2	4.8	2.6	1.9	2.0	2.0	6.4	3.4	5.9	56.3
1954.	2.9	3.4	3.3	5.1	7.2	3.9	2.6	7.8	7.6	4.1	6.7	5.7	60.3
1955.	0.6	4.2	4.6	4.6	1.7	5.7	2.2	10.6	2.3	11.0	5.2	1.6	54.1
1956.	8.4	4.7	6.9	5.4	2.0	3.8	2.3	1.4	3.9	2.7	4.4	6.0	51.9
1957.	2.9	2.1	3.3	2.9	3.8	3.0	0.9	2.7	1.7	4.3	6.3	6.4	40.2
1958.	10.3	3.3	4.8	6.4	4.3	2.3	4.9	3.7	6.6	2.7	4.4	2.6	56.4
1959.	3.9	3.4	5.3	4.7	1.5	3.7	8.8	5.1	2.3	6.7	4.9	6.6	56.9
1960.	2.6	5.3	3.4	4.6	5.6	2.4	6.7	2.3	7.6	3.5	5.2	3.8	52.9
1961.	1.0	3.1	3.0	6.1	3.1	3.4	4.4	2.6	5.6	2.5	4.4	5.4	44.4
1962.	2.4	5.9	2.8	5.4	4.1	4.2	1.4	4.3	8.3	6.6	5.3	5.9	56.5
1963.	3.7	3.6	4.6	1.8	2.7	2.4	1.7	3.0	4.5	1.4	9.1	3.9	42.6
1964.	5.8	3.3	4.1	3.7	2.0	2.0	2.6	1.5	1.8	2.1	2.9	5.6	37.4
1965.	2.5	3.7	3.7	2.6	2.6	1.6	1.9	2.1	2.7	3.1	2.9	2.4	31.9
1966.	4.2	4.6	2.6	1.5	3.5	2.9	2.6	1.1	6.8	3.0	4.4	3.8	40.8
1967.	2.6	4.0	5.1	6.0	7.6	4.5	4.7	3.5	4.3	2.1	5.1	2.8	52.3
1968.	3.3	1.4	7.5	2.0	5.5	9.5	3.3	0.8	2.2	2.5	9.2	4.6	51.7
1969.	1.7	2.2	2.8	4.2	1.8	2.3	3.6	5.0	5.0	0.5	0.0	5.6	34.8
1970.	1.2	5.4	4.4	3.8	0.0	0.0	0.3	3.5	3.2	3.1	1.4	4.3	30.5
1971.	3.2	4.5	2.6	2.7	5.1	3.2	2.6	7.0	0.8	3.4	5.6	3.4	44.2
1972.	2.6	5.6	7.8	1.5	7.9	5.3	2.5	3.4	2.1	0.0	0.0	0.0	38.7

Total Rainfall Depth for Simulation Period 1149.0 (in)

Rainfall Intensity Analysis (in/hr)

(in/hr)	(#)	(%)	(in)	(%)
0.10	26817	69.7	333.	29.0
0.20	7398	19.2	274.	23.9
0.30	1466	3.8	94.	8.2
0.40	1250	3.2	110.	9.5
0.50	371	1.0	42.	3.7
0.60	207	0.5	28.	2.4
0.70	273	0.7	43.	3.8
0.80	174	0.5	33.	2.8
0.90	81	0.2	18.	1.5
1.00	93	0.2	22.	1.9
1.10	34	0.1	9.	0.8
1.20	29	0.1	8.	0.7

1.30	39	0.1	12.	1.1
1.40	35	0.1	12.	1.0
1.50	19	0.0	7.	0.6
1.60	39	0.1	15.	1.3
1.70	6	0.0	3.	0.2
1.80	21	0.1	9.	0.8
1.90	15	0.0	7.	0.6
2.00	14	0.0	7.	0.6
> 2.00	88	0.2	64.	5.5

Total # of Intensities 38469

Daily Rainfall Depth Analysis (in)

(in)	(#)	(%)	(in)	(%)
0.10	693	26.0	40.	3.5
0.20	458	17.2	66.	5.7
0.30	322	12.1	78.	6.8
0.40	232	8.7	80.	6.9
0.50	171	6.4	76.	6.7
0.60	161	6.0	88.	7.6
0.70	116	4.3	75.	6.5
0.80	92	3.4	68.	6.0
0.90	68	2.5	57.	5.0
1.00	62	2.3	59.	5.1
1.10	37	1.4	39.	3.4
1.20	49	1.8	56.	4.9
1.30	38	1.4	47.	4.1
1.40	31	1.2	42.	3.6
1.50	18	0.7	26.	2.3
1.60	24	0.9	37.	3.2
1.70	15	0.6	25.	2.1
1.80	16	0.6	28.	2.4
1.90	13	0.5	24.	2.1
2.00	7	0.3	14.	1.2
> 2.00	46	1.7	124.	10.8

Total # Days with Rain 2669

****
* End of time step DO-loop in Runoff *
****

Final Date (Mo/Day/Year) = 1/ 1/1973
Total number of time steps = 1668863
Final Julian Date = 1973001
Final time of day = 0. seconds.
Final time of day = 0.00 hours.
Final running time = 219168.0000 hours.
Final running time = 9132.0000 days.

****
* Extrapolation Summary for Watersheds *

```
* # Steps ==> Total Number of Extrapolated Steps *
* # Calls ==> Total Number of OVERLND Calls      *
************************************************
```

Subcatch	# Steps	# Calls	Subcatch	# Steps	# Calls	Subcatch	# Steps	# Calls
300	7220512	1842192						

```
************************************************
*     Extrapolation Summary for Channel/Pipes  *
* # Steps ==> Total Number of Extrapolated Steps *
* # Calls ==> Total Number of GUTNR Calls       *
************************************************
```

Chan/Pipe	# Steps	# Calls	Chan/Pipe	# Steps	# Calls	Chan/Pipe	# Steps	# Calls
201	0	0						

```
*********************************************
*       Continuity Check for Surface Water  *
*********************************************
```

	cubic feet	Inches over Total Basin
Total Precipitation (Rain plus Snow)	2574008.	1147.
Total Infiltration	451498.	201.
Total Evaporation	90882.	41.
Surface Runoff from Watersheds	2050908.	914.
Total Water remaining in Surface Storage	0.	0.
Infiltration over the Pervious Area...	451498.	1115.

Infiltration + Evaporation + Surface Runoff + Snow removal + Water remaining in Surface Storage + Water remaining in Snow Cover.....	2593289.	1156.
Total Precipitation + Initial Storage.	2574008.	1147.

```
The error in continuity is calculated as
************************************
* Precipitation + Initial Snow Cover  *
*      - Infiltration -               *
*Evaporation - Snow removal -         *
*Surface Runoff from Watersheds -     *
*Water in Surface Storage -           *
*Water remaining in Snow Cover        *
*-----------------------------------*
* Precipitation + Initial Snow Cover  *
************************************
Error.................................       -0.749 Percent


*********************************************
*       Continuity Check for Channel/Pipes  *
*********************************************
                                                Inches over
```

	cubic feet	Total Basin
Initial Channel/Pipe Storage	0.	0.
Final Channel/Pipe Storage	0.	0.
Surface Runoff from Watersheds	2050908.	914.
Baseflow	0.	
Groundwater Subsurface Inflow	0.	0.
Evaporation Loss from Channels	0.	0.
Channel/Pipe/Inlet Outflow	2050908.	914.
Initial Storage + Inflow	2050908.	914.
Final Storage + Outflow	2050908.	914.

```
*****************************************
* Final Storage + Outflow + Evaporation  - *
* Watershed Runoff - Groundwater Inflow  - *
*     Initial Channel/Pipe Storage         *
*     ---------------------------------    *
*  Final Storage + Outflow  + Evaporation  *
*****************************************
```

Error..... 0.000 Percent



```
************************************************
*     Continuity Check for Subsurface Water    *
************************************************
```

	cubic feet	Inches over Subsurface Basin
Total Infiltration	0.	0.
Total Upper Zone ET	0.	0.
Total Lower Zone ET	0.	0.
Total Groundwater flow	0.	0.
Total Deep percolation	0.	0.
Initial Subsurface Storage	80760.	36.
Final Subsurface Storage	80760.	36.
Upper Zone ET over Pervious Area	0.	0.
Lower Zone ET over Pervious Area	0.	0.

```
*****************************************
* Infiltration + Initial Storage - Final *
* Storage - Upper and Lower Zone ET -    *
* Groundwater Flow - Deep Percolation    *
* -------------------------------------- *
*     Infiltration + Initial Storage     *
*****************************************
```

Error ..... 0.000 Percent



SUMMARY STATISTICS FOR SUBCATCHMENTS
==========

	PERVIOUS AREA	IMPERVIOUS AREA	TOTAL SUBCATCHMENT AREA

SUBCATCH-MENT NO.	GUTTER OR INLET NO.	AREA (AC)	PERCENT IMPER.	TOTAL SIMULATED RAINFALL (IN)	TOTAL RUNOFF DEPTH (IN)	TOTAL LOSSES (IN)	PEAK RUNOFF RATE (CFS)	RUNOFF DEPTH (IN)	PEAK RUNOFF RATE (CFS)	RUNOFF DEPTH (IN)	PEAK RUNOFF RATE (CFS)	PEAK UNIT RUNOFF (IN/HR)
300	200	0.62	81.9	1147.40	32.349	1115.987	0.529	1108.083	3.023	913.913	3.552	5.747

*** NOTE *** IMPERVIOUS AREA STATISTICS AGGREGATE IMPERVIOUS AREAS WITH AND WITHOUT DEPRESSION STORAGE

SUMMARY STATISTICS FOR CHANNEL/PIPES

CHANNEL NUMBER	FULL FLOW (CFS)	FULL VELOCITY (FPS)	FULL DEPTH (FT)	MAXIMUM COMPUTED INFLOW (CFS)	MAXIMUM COMPUTED OUTFLOW (CFS)	MAXIMUM COMPUTED DEPTH (FT)	MAXIMUM COMPUTED VELOCITY (FPS)	TIME OF OCCURRENCE DAY	TIME OF OCCURRENCE HR.	LENGTH OF SURCHARGE (HOUR)	MAXIMUM SURCHARGE VOLUME (AC-FT)	RATIO OF MAX. TO FULL FLOW	RATIO OF MAX. DEPTH TO FULL DEPTH
201				0.00				1/ 0/1900	0.00				
200				3.55				11/13/1968	5.50				

TOTAL NUMBER OF CHANNELS/PIPES = 2

*** NOTE *** THE MAXIMUM FLOWS AND DEPTHS ARE CALCULATED AT THE END OF THE TIME INTERVAL



```
#######################################################
#             Runoff Quality Summary Page             #
# If NDIM = 0 Units for:   loads    mass rates        #
#             METRIC = 1    lb        lb/sec          #
#             METRIC = 2    kg        kg/sec          #
# If NDIM = 1 Loads are in units of quantity          #
#             and mass rates are quantity/sec         #
# If NDIM = 2 loads are in units of concentration     #
#             times volume and mass rates have units  #
#             of concentration times volume/second    #
#######################################################
```

Total Su NDIM = 0
METRIC = 1

	Total Su
Inputs	
1. INITIAL SURFACE LOAD.....	12.
2. TOTAL SURFACE BUILDUP.....	12310.
3. INITIAL CATCHBASIN LOAD.....	0.
4. TOTAL CATCHBASIN LOAD.....	0.
5. TOTAL CATCHBASIN AND SURFACE BUILDUP (2+4).....	12310.

Remaining Loads

6.	LOAD REMAINING ON SURFACE...	3.
7.	REMAINING IN CATCHBASINS....	0.
8.	REMAINING IN CHANNEL/PIPES..	0.

Removals

9.	STREET SWEEPING REMOVAL.....	0.
10.	NET SURFACE BUILDUP (2-9)...	12310.
11.	SURFACE WASHOFF.....	12304.
12.	CATCHBASIN WASHOFF.....	0.
13.	TOTAL WASHOFF (11+12).....	12304.
14.	LOAD FROM OTHER CONSTITUENTS	0.
15.	PRECIPITATION LOAD.....	0.
15a.	SUM SURFACE LOAD (13+14+15).	12304.
16.	TOTAL GROUNDWATER LOAD.....	0.
16a.	TOTAL I/I LOAD.....	0.
17.	NET SUBCATCHMENT LOAD (15a-15b-15c-15d+16+16a)....	12304.
>>Removal in channel/pipes (17a, 17b):		
17a.	REMOVE BY BMP FRACTION.....	0.
17b.	REMOVE BY 1st ORDER DECAY...	0.
18.	TOTAL LOAD TO INLETS.....	12304.
19.	FLOW WT'D AVE.CONCENTRATION mg/l (INLET LOAD/TOTAL FLOW).....	96.

Percentages

20.	STREET SWEEPING (9/2).....	0.
21.	SURFACE WASHOFF (11/2).....	100.
22.	NET SURFACE WASHOFF(11/10)..	100.
23.	WASHOFF/SUBCAT LOAD(11/17)..	100.
24.	SURFACE WASHOFF/INLET LOAD (11/18).....	100.
25.	CATCHBASIN WASHOFF/ SUBCATCHMENT LOAD (12/17)...	0.
26.	CATCHBASIN WASHOFF/ INLET LOAD (12/18).....	0.
27.	OTHER CONSTITUENT LOAD/ SUBCATCHMENT LOAD (14/17)...	0.
28.	INSOLUBLE FRACTION/ INLET LOAD (14/18).....	0.
29.	PRECIPITATION/ SUBCATCHMENT LOAD (15/17)...	0.
30.	PRECIPITATION/ INLET LOAD (15/18).....	0.
31.	GROUNDWATER LOAD/ SUBCATCHMENT LOAD (16/17)...	0.
32.	GROUNDWATER LOAD/ INLET LOAD (16/18).....	0.
32a.	INFILTRATION/INFLOW LOAD/ SUBCATCHMENT LOAD (16a/17)..	0.
32b.	INFILTRATION/INFLOW LOAD/ INLET LOAD (16a/18).....	0.

32c.CH/PIPE BMP FRACTION REMOVAL/
SUBCATCHMENT LOAD (17a/17).. 0.
32d.CH/PIPE 1st ORDER DECAY REMOVAL/
SUBCATCHMENT LOAD (17b/17).. 0.
33. INLET LOAD SUMMATION ERROR
(18+8+6a+17a+17b-17)/17..... 0.

CAUTION. Due to method of quality routing (Users Manual, Appendix IX)
quality routing through channel/pipes is sensitive to the time step.
Large "Inlet Load Summation Errors" may result.
These can be reduced by adjusting the time step(s).
Note: surface accumulation during dry time steps at end of simulation is
not included in totals. Buildup is only performed at beginning of
wet steps or for street cleaning.

****
* TSS Particle Size Distribution *
****

Diameter (um)	%	Specific Gravity	Settling Velocity (ft/s)	Critical Peclet Number
2.	5.0	2.65	0.000009	0.032973
5.	5.0	2.65	0.000055	0.056296
8.	10.0	2.65	0.000141	0.074071
20.	15.0	2.65	0.000875	0.126463
50.	10.0	2.65	0.005346	0.215914
75.	5.0	2.65	0.011640	0.273579
100.	10.0	2.65	0.019828	0.323611
150.	15.0	2.65	0.040138	0.410039
250.	15.0	2.65	0.087320	0.552510
500.	5.0	2.65	0.198831	0.828097
1000.	5.0	2.65	0.365264	1.241146

****
* *
* Summary of TSS Removal *
* *
****

TSS Removal based on NJCAT Lab Performance Curve

Model #	Low Q Treated (cfs)	High Q Treated (cfs)	Runoff Treated (%)	TSS Removed (%)
HS 4	0.694	6.171	96.0	77.0 <=TSS Removal
HS 5	1.048	6.171	98.1	83.5
HS 6	1.435	6.171	99.1	87.6
HS 7	1.928	6.171	99.6	90.3
HS 8	2.466	6.171	99.8	92.2
HS 9	3.072	6.171	100.0	94.1
HS 10	3.766	6.171	100.0	95.4
HS 12	5.433	6.171	100.0	97.2

****
*
* Summary of Annual Flow Treatmnet & TSS Removal *
*
****

HS 4

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	638314.7	625423.7	351.2	270.1	81.2	98.0	76.9
1949.	668896.4	668628.5	463.4	372.9	90.5	100.0	80.5
1950.	728623.3	714805.1	416.7	336.9	79.8	98.1	80.9
1951.	1167774.9	1150848.6	589.5	464.9	124.6	98.6	78.9
1952.	981521.1	961733.7	517.5	399.6	117.9	98.0	77.2
1953.	1112411.5	1083714.2	555.7	429.2	126.5	97.4	77.2
1954.	1191180.1	1145909.0	584.0	463.5	120.6	96.2	79.4
1955.	1085587.0	1064543.1	458.1	354.6	103.4	98.1	77.4
1956.	1015557.4	1004576.4	564.6	448.2	116.4	98.9	79.4
1957.	785455.2	774365.4	457.4	356.4	101.1	98.6	77.9
1958.	1092080.4	1062268.4	567.4	434.9	132.5	97.3	76.6
1959.	1117577.0	1046411.0	543.4	426.3	117.1	93.6	78.5
1960.	1035169.9	1021450.8	545.0	424.2	120.8	98.7	77.8
1961.	862713.9	811812.7	523.7	387.8	135.8	94.1	74.1
1962.	1117521.5	1099171.2	532.1	417.7	114.4	98.4	78.5
1963.	826696.3	810975.4	487.6	387.2	100.3	98.1	79.4
1964.	729336.1	686970.2	472.1	365.8	106.3	94.2	77.5
1965.	611924.5	607995.0	448.3	353.3	95.1	99.4	78.8
1966.	797377.8	783816.8	483.8	387.2	96.6	98.3	80.0
1967.	1015507.2	1003057.8	583.6	447.7	135.9	98.8	76.7
1968.	1030136.4	923323.1	500.0	360.2	139.7	89.6	72.1
1969.	685612.9	592094.3	374.0	263.1	110.9	86.4	70.3
1970.	641818.8	429280.1	345.7	209.8	135.9	66.9	60.7
1971.	866135.6	853275.6	530.6	399.3	131.3	98.5	75.3
1972.	750760.6	726203.6	417.7	315.1	102.6	96.7	75.4

HS 5

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	638314.7	633692.9	351.2	292.0	59.2	99.3	83.1
1949.	668896.4	668896.4	463.4	399.9	63.4	100.0	86.3
1950.	728623.3	721829.8	416.7	360.6	56.1	99.1	86.5
1951.	1167774.9	1164486.8	589.5	503.6	85.9	99.7	85.4
1952.	981521.1	976907.4	517.5	434.8	82.7	99.5	84.0
1953.	1112411.5	1091944.9	555.7	466.5	89.3	98.2	83.9
1954.	1191180.1	1177655.2	584.0	497.3	86.8	98.9	85.1
1955.	1085587.0	1083427.6	458.1	384.5	73.6	99.8	83.9
1956.	1015557.4	1015557.4	564.6	483.2	81.5	100.0	85.6

1957.	785455.2	785455.2	457.4	384.6	72.8	100.0	84.1
1958.	1092080.4	1081047.4	567.4	472.4	94.9	99.0	83.3
1959.	1117577.0	1086808.9	543.4	463.0	80.3	97.2	85.2
1960.	1035169.9	1033310.2	545.0	461.2	83.8	99.8	84.6
1961.	862713.9	844016.4	523.7	423.2	100.5	97.8	80.8
1962.	1117521.5	1114337.2	532.1	451.0	81.2	99.7	84.7
1963.	826696.3	825719.8	487.6	416.5	71.1	99.9	85.4
1964.	729336.1	706430.3	472.1	394.8	77.3	96.9	83.6
1965.	611924.5	611924.5	448.3	381.1	67.3	100.0	85.0
1966.	797377.8	793916.6	483.8	419.4	64.5	99.6	86.7
1967.	1015507.2	1015507.2	583.6	484.6	99.0	100.0	83.0
1968.	1030136.4	961630.8	500.0	398.1	101.8	93.3	79.6
1969.	685612.9	624241.8	374.0	292.0	82.0	91.0	78.1
1970.	641818.8	496060.6	345.7	236.8	108.9	77.3	68.5
1971.	866135.6	866135.6	530.6	433.3	97.3	100.0	81.7
1972.	750760.6	743575.2	417.7	343.8	73.9	99.0	82.3

HS 6

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	638314.7	638314.6	351.2	307.2	44.0	100.0	87.5
1949.	668896.4	668896.4	463.4	418.1	45.2	100.0	90.2
1950.	728623.3	728086.1	416.7	375.4	41.3	99.9	90.1
1951.	1167774.9	1167774.1	589.5	530.1	59.5	100.0	89.9
1952.	981521.1	981521.1	517.5	456.2	61.4	100.0	88.1
1953.	1112411.5	1099604.9	555.7	492.6	63.1	98.8	88.6
1954.	1191180.1	1191103.5	584.0	523.5	60.5	100.0	89.6
1955.	1085587.0	1085587.0	458.1	404.1	54.0	100.0	88.2
1956.	1015557.4	1015557.4	564.6	504.7	59.9	100.0	89.4
1957.	785455.2	785455.2	457.4	402.7	54.7	100.0	88.0
1958.	1092080.4	1090876.5	567.4	494.6	72.8	99.9	87.2
1959.	1117577.0	1108918.5	543.4	482.3	61.1	99.2	88.8
1960.	1035169.9	1035169.9	545.0	483.6	61.5	100.0	88.7
1961.	862713.9	859952.1	523.7	443.6	80.0	99.7	84.7
1962.	1117521.5	1117521.5	532.1	472.2	59.9	100.0	88.7
1963.	826696.3	826696.2	487.6	435.4	52.2	100.0	89.3
1964.	729336.1	717922.7	472.1	411.4	60.7	98.4	87.1
1965.	611924.5	611924.5	448.3	399.1	49.2	100.0	89.0
1966.	797377.8	797377.9	483.8	438.9	45.0	100.0	90.7
1967.	1015507.2	1015507.2	583.6	510.8	72.8	100.0	87.5
1968.	1030136.4	989164.7	500.0	419.9	80.0	96.0	84.0
1969.	685612.9	643172.3	374.0	307.3	66.7	93.8	82.2
1970.	641818.8	554898.6	345.7	254.0	91.6	86.5	73.5
1971.	866135.6	866135.6	530.6	456.3	74.4	100.0	86.0
1972.	750760.6	750760.6	417.7	361.3	56.4	100.0	86.5

HS 7

Year	Flow Vol	Flow Treated	TSS IN	TSS Rem	TSS Out	Flow Treated	TSS Removal

	(ft3)	(ft3)	(lb)	(lb)	(lb)	(%)	(%)
1948.	638314.7	638314.6	351.2	315.1	36.2	100.0	89.7
1949.	668896.4	668896.4	463.4	429.2	34.2	100.0	92.6
1950.	728623.3	728623.3	416.7	384.5	32.2	100.0	92.3
1951.	1167774.9	1167774.1	589.5	545.0	44.5	100.0	92.4
1952.	981521.1	981521.1	517.5	469.4	48.1	100.0	90.7
1953.	1112411.5	1108343.4	555.7	506.9	48.8	99.6	91.2
1954.	1191180.1	1191180.1	584.0	540.2	43.8	100.0	92.5
1955.	1085587.0	1085587.0	458.1	418.0	40.0	100.0	91.3
1956.	1015557.4	1015557.4	564.6	521.0	43.6	100.0	92.3
1957.	785455.2	785455.2	457.4	415.5	41.9	100.0	90.8
1958.	1092080.4	1092080.4	567.4	512.1	55.3	100.0	90.3
1959.	1117577.0	1117577.0	543.4	496.3	47.1	100.0	91.3
1960.	1035169.9	1035169.9	545.0	497.9	47.2	100.0	91.3
1961.	862713.9	862713.9	523.7	458.7	65.0	100.0	87.6
1962.	1117521.5	1117521.5	532.1	486.3	45.8	100.0	91.4
1963.	826696.3	826696.2	487.6	448.3	39.2	100.0	92.0
1964.	729336.1	729124.4	472.1	423.2	48.8	100.0	89.7
1965.	611924.5	611924.5	448.3	411.2	37.1	100.0	91.7
1966.	797377.8	797377.9	483.8	448.8	35.0	100.0	92.8
1967.	1015507.2	1015507.2	583.6	527.7	55.9	100.0	90.4
1968.	1030136.4	1001535.6	500.0	433.8	66.1	97.2	86.8
1969.	685612.9	661377.9	374.0	317.3	56.7	96.5	84.8
1970.	641818.8	603571.2	345.7	263.4	82.3	94.0	76.2
1971.	866135.6	866135.6	530.6	470.7	60.0	100.0	88.7
1972.	750760.6	750760.6	417.7	373.5	44.2	100.0	89.4

HS 8

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	638314.7	638314.6	351.2	322.7	28.6	100.0	91.9
1949.	668896.4	668896.4	463.4	438.3	25.0	100.0	94.6
1950.	728623.3	728623.3	416.7	390.5	26.2	100.0	93.7
1951.	1167774.9	1167774.1	589.5	555.6	34.0	100.0	94.2
1952.	981521.1	981521.1	517.5	480.8	36.8	100.0	92.9
1953.	1112411.5	1112411.5	555.7	516.4	39.4	100.0	92.9
1954.	1191180.1	1191180.1	584.0	549.7	34.4	100.0	94.1
1955.	1085587.0	1085587.0	458.1	425.5	32.6	100.0	92.9
1956.	1015557.4	1015557.4	564.6	531.5	33.2	100.0	94.1
1957.	785455.2	785455.2	457.4	426.8	30.6	100.0	93.3
1958.	1092080.4	1092080.4	567.4	525.5	41.9	100.0	92.6
1959.	1117577.0	1117577.0	543.4	504.6	38.7	100.0	92.9
1960.	1035169.9	1035169.9	545.0	508.7	36.3	100.0	93.3
1961.	862713.9	862713.9	523.7	470.3	53.4	100.0	89.8
1962.	1117521.5	1117521.5	532.1	495.8	36.3	100.0	93.2
1963.	826696.3	826696.2	487.6	456.5	31.1	100.0	93.6
1964.	729336.1	729336.1	472.1	431.5	40.6	100.0	91.4
1965.	611924.5	611924.5	448.3	419.9	28.4	100.0	93.7
1966.	797377.8	797377.9	483.8	456.4	27.4	100.0	94.3
1967.	1015507.2	1015507.2	583.6	539.2	44.4	100.0	92.4

1968.	1030136.4	1012192.6	500.0	444.9	55.1	98.3	89.0
1969.	685612.9	676621.3	374.0	326.0	48.0	98.7	87.2
1970.	641818.8	626184.3	345.7	271.9	73.8	97.6	78.7
1971.	866135.6	866135.6	530.6	480.9	49.7	100.0	90.6
1972.	750760.6	750760.6	417.7	384.9	32.8	100.0	92.2

HS 9

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	638314.7	638314.6	351.2	328.6	22.6	100.0	93.6
1949.	668896.4	668896.4	463.4	445.0	18.3	100.0	96.0
1950.	728623.3	728623.3	416.7	398.3	18.5	100.0	95.6
1951.	1167774.9	1167774.1	589.5	565.5	24.0	100.0	95.9
1952.	981521.1	981521.1	517.5	492.2	25.3	100.0	95.1
1953.	1112411.5	1112411.5	555.7	529.1	26.6	100.0	95.2
1954.	1191180.1	1191180.1	584.0	559.4	24.6	100.0	95.8
1955.	1085587.0	1085587.0	458.1	432.7	25.4	100.0	94.5
1956.	1015557.4	1015557.4	564.6	540.1	24.5	100.0	95.7
1957.	785455.2	785455.2	457.4	434.5	22.9	100.0	95.0
1958.	1092080.4	1092080.4	567.4	536.8	30.6	100.0	94.6
1959.	1117577.0	1117577.0	543.4	515.0	28.4	100.0	94.8
1960.	1035169.9	1035169.9	545.0	520.2	24.8	100.0	95.5
1961.	862713.9	862713.9	523.7	481.2	42.5	100.0	91.9
1962.	1117521.5	1117521.5	532.1	503.4	28.8	100.0	94.6
1963.	826696.3	826696.2	487.6	463.2	24.4	100.0	95.0
1964.	729336.1	729336.1	472.1	441.2	30.9	100.0	93.5
1965.	611924.5	611924.5	448.3	427.6	20.8	100.0	95.4
1966.	797377.8	797377.9	483.8	462.9	21.0	100.0	95.7
1967.	1015507.2	1015507.2	583.6	549.2	34.4	100.0	94.1
1968.	1030136.4	1023525.6	500.0	457.9	42.1	99.4	91.6
1969.	685612.9	685612.9	374.0	335.3	38.7	100.0	89.7
1970.	641818.8	640828.1	345.7	283.2	62.5	99.8	81.9
1971.	866135.6	866135.6	530.6	492.1	38.6	100.0	92.7
1972.	750760.6	750760.6	417.7	392.0	25.7	100.0	93.8

HS 10

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	638314.7	638314.6	351.2	333.5	17.7	100.0	95.0
1949.	668896.4	668896.4	463.4	451.1	12.2	100.0	97.4
1950.	728623.3	728623.3	416.7	402.6	14.1	100.0	96.6
1951.	1167774.9	1167774.1	589.5	572.3	17.2	100.0	97.1
1952.	981521.1	981521.1	517.5	499.6	17.9	100.0	96.5
1953.	1112411.5	1112411.5	555.7	537.1	18.6	100.0	96.7
1954.	1191180.1	1191180.1	584.0	566.4	17.6	100.0	97.0
1955.	1085587.0	1085587.0	458.1	438.7	19.4	100.0	95.8
1956.	1015557.4	1015557.4	564.6	545.9	18.7	100.0	96.7

1957.	785455.2	785455.2	457.4	440.2	17.2	100.0	96.2
1958.	1092080.4	1092080.4	567.4	543.1	24.3	100.0	95.7
1959.	1117577.0	1117577.0	543.4	520.1	23.3	100.0	95.7
1960.	1035169.9	1035169.9	545.0	526.7	18.3	100.0	96.6
1961.	862713.9	862713.9	523.7	489.2	34.5	100.0	93.4
1962.	1117521.5	1117521.5	532.1	509.7	22.5	100.0	95.8
1963.	826696.3	826696.2	487.6	468.3	19.3	100.0	96.0
1964.	729336.1	729336.1	472.1	447.2	24.8	100.0	94.7
1965.	611924.5	611924.5	448.3	433.7	14.7	100.0	96.7
1966.	797377.8	797377.9	483.8	467.4	16.5	100.0	96.6
1967.	1015507.2	1015507.2	583.6	557.4	26.2	100.0	95.5
1968.	1030136.4	1030136.4	500.0	463.8	36.2	100.0	92.8
1969.	685612.9	685612.9	374.0	342.0	32.0	100.0	91.4
1970.	641818.8	641818.8	345.7	290.4	55.3	100.0	84.0
1971.	866135.6	866135.6	530.6	501.4	29.2	100.0	94.5
1972.	750760.6	750760.6	417.7	397.0	20.7	100.0	95.0

HS 12

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	638314.7	638314.6	351.2	341.0	10.3	100.0	97.1
1949.	668896.4	668896.4	463.4	456.9	6.4	100.0	98.6
1950.	728623.3	728623.3	416.7	407.9	8.8	100.0	97.9
1951.	1167774.9	1167774.1	589.5	580.4	9.1	100.0	98.5
1952.	981521.1	981521.1	517.5	507.9	9.6	100.0	98.1
1953.	1112411.5	1112411.5	555.7	545.1	10.7	100.0	98.1
1954.	1191180.1	1191180.1	584.0	574.9	9.2	100.0	98.4
1955.	1085587.0	1085587.0	458.1	447.0	11.1	100.0	97.6
1956.	1015557.4	1015557.4	564.6	554.6	10.1	100.0	98.2
1957.	785455.2	785455.2	457.4	448.2	9.2	100.0	98.0
1958.	1092080.4	1092080.4	567.4	552.5	14.9	100.0	97.4
1959.	1117577.0	1117577.0	543.4	527.1	16.2	100.0	97.0
1960.	1035169.9	1035169.9	545.0	535.7	9.4	100.0	98.3
1961.	862713.9	862713.9	523.7	500.7	23.0	100.0	95.6
1962.	1117521.5	1117521.5	532.1	519.9	12.2	100.0	97.7
1963.	826696.3	826696.2	487.6	476.0	11.5	100.0	97.6
1964.	729336.1	729336.1	472.1	457.0	15.0	100.0	96.8
1965.	611924.5	611924.5	448.3	440.5	7.8	100.0	98.3
1966.	797377.8	797377.9	483.8	473.9	9.9	100.0	97.9
1967.	1015507.2	1015507.2	583.6	568.9	14.7	100.0	97.5
1968.	1030136.4	1030136.4	500.0	473.9	26.0	100.0	94.8
1969.	685612.9	685612.9	374.0	352.1	21.9	100.0	94.1
1970.	641818.8	641818.8	345.7	301.6	44.1	100.0	87.3
1971.	866135.6	866135.6	530.6	514.7	15.9	100.0	97.0
1972.	750760.6	750760.6	417.7	404.1	13.6	100.0	96.7

```
**************************************************
*  Summary of Quantity and Quality Results at    *
*  Location        200  INFlow in cfs.           *
*  Values are instantaneous at indicated time step *
**************************************************

  Heywood Hospital Addition
  DMH1

     Date      Time         Flow   Total Su
 Mo/Da/Year  Hr:Min          cfs    mg/l
 ----------  -------     -------  --------
Flow wtd means.....         0.006       96.
Flow wtd std devs..         0.038       70.
Maximum value......         3.552      292.
Minimum value......         0.000        0.
Total loads........      2050315.    12311.
                         Cub-Ft     POUNDS

===> Runoff simulation ended normally.

===> SWMM 4.4    simulation ended normally.
     Always check output file for possible warning messages.

**************************************************
*       SWMM 4.4    Simulation Date and Time Summary  *
**************************************************
* Starting Date... April      13, 2021              *
*          Time...          12:27:42.397            *
*   Ending Date... April      13, 2021              *
*          Time...          12:27:46.570            *
*  Elapsed Time...               0.070 minutes.     *
*  Elapsed Time...               4.173 seconds.     *
**************************************************
```

MASS DEP "Standard Method to Convert Required Water Quality Volume to a Discharge Rate for Sizing Flow Based Manufactured Proprietary Stormwater Treatment Practices"

DMH#14 Water Quality Unit

For First 1-Inch Runoff WQV

Step 1: Area of Impervious Surface to Structure

1.081 acres @ 85.82% Impervious = 0.928 Acres Impervious
0.928 Acres x .0015625 sq mi = ***1.5e(-3) square miles.***

Step 2: Tc of Train

P-115 to DCB#10:	5.0 min
DCB#10 to DMH#10:	0.8 min
DMH#10 to DMH#12:	0.5 min
DMH#12 to DMH#13:	0.8 min
DMH#13 to DMH#14:	0.4 min
Total Tc to DMH#14:	***7.5 min or 0.125 hours***

Step 3: Determine qu

From Figure 4:

Tc @ 0.116, qu=755 csm/in

Step 4: Determine Q1

Q1=(qu)x(A)x(WQV)

Q1=(755csm/in)x(1.5e-3)x(1 in)

Q1=1.13 CFS

Determination

Determination of Water Quality Flow rates for units by New Jersey Corporation for Advanced Technology (NJCAT) Program

From Technology Verification
HG 5 Treatment Flow rate
1.7 cf.s > 0.61 c.f.s. *"Pass"*

HydroGuard HG5 to be utilized in Design.

INSTRUCTIONS:

Non-automated: Mar. 4, 2008

1. Sheet is nonautomated. Print sheet and complete using hand calculations. Column A and B: See MassDEP Structural BMP Table
2. The calculations must be completed using the Column Headings specified in Chart and Not the Excel Column Headings
3. To complete Chart Column D, multiple Column B value within Row x Column C value within Row
4. To complete Chart Column E value, subtract Column D value within Row from Column C within Row
5. Total TSS Removal = Sum All Values in Column D

Location: DMH#14

TSS Removal Calculation Worksheet

A BMP[1]	B TSS Removal Rate[1]	C Starting TSS Load*	D Amount Removed (B*C)	E Remaining Load (C-D)
Deep Sump Hooded Catch Basin	**0.25**	**1.00**	**0.25**	**0.75**
HydroWorks HG5	**0.76**	**0.75**	**0.57**	**0.18**

Total TSS Removal = **82%**

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: **Heywood Hospital**

Prepared By: **Hannigan Engineering, Inc.**

Date: **5/11/2021**

*Equals remaining load from previous BMP (E) which enters the BMP

Summary for Reach DMH14: TO UGS#1A

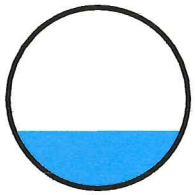
[52] Hint: Inlet/Outlet conditions not evaluated
[61] Hint: Exceeded Reach DMH13 outlet invert by 0.28' @ 12.10 hrs

Inflow Area = 1.081 ac, 85.82% Impervious, Inflow Depth = 1.94" for 1-Year event
Inflow = 2.32 cfs @ 12.09 hrs, Volume= 0.175 af <=WQV
Outflow = 2.32 cfs @ 12.09 hrs, Volume= 0.175 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.77 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.54 fps, Avg. Travel Time= 0.1 min

Peak Storage= 5 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.48'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 10.50 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 10.0' Slope= 0.0100 '/'
Inlet Invert= 1,177.30', Outlet Invert= 1,177.20'



Summary for Subcatchment P115: TO DCB#10

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.09 cfs @ 12.07 hrs, Volume= 0.006 af, Depth= 1.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-Year Rainfall=2.50"

Area (sf)	CN	Description
347	74	>75% Grass cover, Good, HSG C
1,466	98	Paved parking, HSG C
1,813	93	Weighted Average
347		19.14% Pervious Area
1,466		80.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.03		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	71	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	121	Total, Increased to minimum Tc = 5.0 min <== Tc			

Summary for Reach DCB10: TO DMH#10

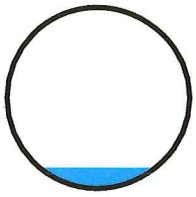
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.042 ac, 80.86% Impervious, Inflow Depth = 1.78" for 1-Year event
Inflow = 0.09 cfs @ 12.07 hrs, Volume= 0.006 af
Outflow = 0.08 cfs @ 12.08 hrs, Volume= 0.006 af, Atten= 2%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.68 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 0.57 fps, Avg. Travel Time= 0.8 min<=Tc

Peak Storage= 1 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.12'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.01 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 28.0' Slope= 0.0071 '/'
Inlet Invert= 1,179.20', Outlet Invert= 1,179.00'



Summary for Reach DMH10: TO DMH#12

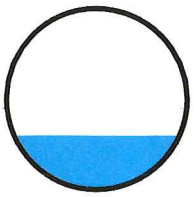
[52] Hint: Inlet/Outlet conditions not evaluated
[62] Hint: Exceeded Reach DCB10 OUTLET depth by 0.08' @ 12.10 hrs
[61] Hint: Exceeded Reach DCB11 outlet invert by 0.19' @ 12.10 hrs

Inflow Area = 0.310 ac, 78.60% Impervious, Inflow Depth = 1.78" for 1-Year event
Inflow = 0.63 cfs @ 12.08 hrs, Volume= 0.046 af
Outflow = 0.63 cfs @ 12.08 hrs, Volume= 0.046 af, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.22 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.08 fps, Avg. Travel Time= 0.5 min <=Tc

Peak Storage= 7 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.30'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.30 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 35.0' Slope= 0.0086 '/'
Inlet Invert= 1,178.90', Outlet Invert= 1,178.60'



Summary for Reach DMH12: TO DMH#13

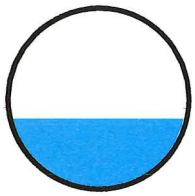
[52] Hint: Inlet/Outlet conditions not evaluated
[62] Hint: Exceeded Reach DMH10 OUTLET depth by 0.09' @ 12.10 hrs
[62] Hint: Exceeded Reach DMH11 OUTLET depth by 0.14' @ 12.10 hrs

Inflow Area = 0.903 ac, 85.40% Impervious, Inflow Depth = 1.94" for 1-Year event
Inflow = 1.95 cfs @ 12.08 hrs, Volume= 0.146 af
Outflow = 1.94 cfs @ 12.09 hrs, Volume= 0.146 af, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.39 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.43 fps, Avg. Travel Time= 0.8 min<=Tc

Peak Storage= 30 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.49'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 6.07 cfs

15.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 68.0' Slope= 0.0088 '/'
Inlet Invert= 1,178.50', Outlet Invert= 1,177.90'



Summary for Reach DMH13: TO DMH#14

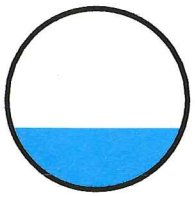
[52] Hint: Inlet/Outlet conditions not evaluated
[61] Hint: Exceeded Reach DMH12 outlet invert by 0.41' @ 12.10 hrs

Inflow Area = 1.081 ac, 85.82% Impervious, Inflow Depth = 1.94" for 1-Year event
Inflow = 2.33 cfs @ 12.09 hrs, Volume= 0.175 af
Outflow = 2.32 cfs @ 12.09 hrs, Volume= 0.175 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.38 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.42 fps, Avg. Travel Time= 0.4 min <=Tc

Peak Storage= 20 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.51'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 9.33 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 38.0' Slope= 0.0079 '/'
Inlet Invert= 1,177.80', Outlet Invert= 1,177.50'



```
**************************************************
*      Storm Water Management Sizing Model       *
*                Hydroworks, LLC                 *
*                 Version 4.4                    *
*                                                *
*        Continuous Simulation Program           *
*              Based on SWMM 4.4H                *
*              Hydroworks, LLC                   *
*               Graham Bryant                    *
*                2003 - 2013                     *
**************************************************

                 Developed by

**************************************************
*               Hydroworks, LLC                  *
*             Metcalf & Eddy, Inc.               *
*            University of Florida               *
*       Water Resources Engineers, Inc.          *
*      (Now Camp Dresser & McKee, Inc.)          *
*               Modified SWMM 4.4                *
**************************************************

         Distributed and Maintained by

**************************************************
*                                                *
*               Hydroworks, LLC                  *
*                888-290-7900                    *
*              www.hydroworks.com                *
*                                                *
**************************************************

**************************************************
*     If any problems occur executing this       *
*     model, contact Mr. Graham Bryant at        *
*     Hydroworks, LLC by phone at 908-272-4411   *
*     or by e-mail: support@hydroworks.com       *
**************************************************

**************************************************
*     This model is based on EPA SWMM 4.4        *
*  "Nature is full of infinite causes which      *
*   have never occurred in experience" da Vinci  *
**************************************************


**************************************************
* Entry made to the Rain Block                   *
* Created by the University of Florida - 1988    *
* Updated by Oregon State University, March 2000 *
**************************************************
```

Heywood Hospital Addition
DMH#14

```
########################################
#  Precipitation Block Input Commands  #
########################################

Station Name.........................  Sterling 2 Nnw

Station Location.....................  Massachusetts

Station, ISTA........................    8159

Beginning date, IYBEG (Yr/Mo/Dy).....  1948/ 1/ 1

Ending date, IYEND (Yr/Mo/Dy)........  1972/12/31

Minimum interevent time, MIT.........     1

Number of ranked storms, NPTS.........    10

NWS format, IFORM (See text).........     1

Print storm summary, ISUM (O-No 1-Yes)     0

Print all rainfall, IYEAR (O-No 1-Yes)     0

Save storm event data on NSCRAT(1)....     0
(IFILE =0 -Do not save, =1 -Save data)

IDECID 0 - Create interface file
       1 - Create file and analyze
       2 - Synoptic analysis.........     2

Plotting position parameter, A........  0.40

Storm event statistics, NOSTAT........  1100


KODEA (from optional group B0)........     2
 = 0, Do not include NCDC cumulative values.
 = 1, Average NCDC cumulative values.
 = 2, Use NCDC cumulative value as inst. rain.

KODEPR (from optional group B0).......     0
 Print NCDC special codes in event summary:
 = 0, only on days with events.
 = 1, on all days with codes present.
 Codes: A = accumulated value, I = incomplete value,
        M = missing value,     O = other code present
```

```
*****************************************************
*  Precipitation output created using the Rain block   *
*  Number of precipitation stations...        1        *
*****************************************************

Location Station Number
-------- --------------
       1.     8159


STATION ID ON PRECIP. DATA INPUT FILE = 5902
REQUESTED STATION ID =     8159  CHECK TO BE SURE THEY MATCH.



$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
Note, 15-min. data are being processed, but hourly
print-out, summaries, and statistics are based on
hourly totals only.  Data placed on interface file
are at correct 15-min. intervals.
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$

###################################################
# Entry made to the Runoff Block, last updated by #
# Oregon State University, and Camp, Dresser and  #
# McKee, Inc., March 2002.                        #
###################################################
# "And wherever water goes, amoebae go along for  #
#  the ride"                    Tom Robbins       #
###################################################


                  Heywood Hospital Addition

                  DMH#14



Snowmelt parameter - ISNOW.....................          0

Number of rain gages - NRGAG...................          1

Horton infiltration equation used - INFILM.....          2
Maximum infiltration volume is limited to RMAXINF input on  subcatchment lines.
Infiltration volume regenerates during  non rainfall periods.

Quality is simulated - KWALTY..................          1

IVAP is negative.  Evaporation will be set to zero
    during time steps with rainfall.

Read evaporation data on line(s) F1 (F2) - IVAP..          1
```

```
Hour of day at start of storm - NHR.............          1

Minute of hour at start of storm - NMN..........          1

Time TZERO at start of storm (hours).............      1.017

Use U.S. Customary units for most I/O - METRIC...          0

Runoff input print control...                              0

Runoff graph plot control....                              1

Runoff output print control..                              0

Print headers every 50 lines - NOHEAD (0=yes, 1=no)        0

Print land use load percentages -LANDUPR (0=no, 1=yes)     0

Limit number of groundwater convergence messages to 10000 (if simulated)

Month, day, year of start of storm is:              1/ 1/1948

Wet time step length (seconds).......                   300.

Dry time step length (seconds).......                   900.

Wet/Dry time step length (seconds)...                   450.

Simulation length is......                       19721231.0 Yr/Mo/Dy

Percent of impervious area with zero detention depth    25.0

Horton infiltration model being used
Rate for regeneration of infiltration = REGEN * DECAY
DECAY is read in for each subcatchment
REGEN = ........................................   0.01000
```



```
*******************************************************
*   Processed Precipitation will be read from file    *
*******************************************************

  ############################
  #        Data Group F1     #
  # Evaporation Rate (in/day) #
  ############################

 JAN.  FEB.  MAR.  APR.  MAY   JUN.  JUL.  AUG.  SEP.  OCT.  NOV.  DEC.
 ----  ----  ----  ----  ----  ----  ----  ----  ----  ----  ----  ----
 0.00  0.00  0.00  0.10  0.10  0.15  0.15  0.15  0.10  0.10  0.00  0.00
```



****
* C H A N N E L A N D P I P E D A T A *
****

Input equen umber	NAMEG: Channel ID #	Drains to NGTO:	Channel Type	Width (ft)	Length (ft)	Invert Slope (ft/ft)	L Side Slope (ft/ft)	R Side Slope (ft/ft)	Intial Depth (ft)	Max Depth (ft)	Mann- ings "N"	Full Flow (cfs)
1	201	200	Dummy	0.0	0.0	0.0000	0.0000	0.0000	0.0	0.0	0.0000	0.00E+00

****
* S U B C A T C H M E N T D A T A *
****

NOTE. SEE LATER TABLE FOR OPTIONAL SUBCATCHMENT PARAMETERS

	SUBCATCH- MENT NO.	CHANNEL OR INLET	WIDTH (FT)	AREA (AC)	PERCENT IMPERV.	SLOPE (FT/FT)	RESISTANCE IMPERV.	FACTOR PERV.	DEPRES. IMPERV.	STORAGE(IN) PERV.	INFILTRATION RATE(IN/HR) MAXIMUM	MINIMUM	DECAY RATE (1/SEC)	GAGE NO.	MAXIMUM VOLUME (INCHES)
1	300	200	217.00	1.08	85.20	0.0200	0.015	0.250	0.020	0.200	2.50	0.40	0.00055	1	4.00000

TOTAL NUMBER OF SUBCATCHMENTS... 1
TOTAL TRIBUTARY AREA (ACRES).... 1.08
IMPERVIOUS AREA (ACRES)..... 0.92
PERVIOUS AREA (ACRES)..... 0.16
TOTAL WIDTH (FEET)..... 217.00
PERCENT IMPERVIOUSNESS..... 85.20

****
* G R O U N D W A T E R I N P U T D A T A *
****

SUB- CATCH NUMBER	CHANNEL OR INLET	ELEVATIONS GROUND (FT)	BOTTOM (FT)	STAGE (FT)	BC (FT)	TW (FT)	FLOW CONSTANTS A1 (IN/HR-FT^B1)	B1	A2 (IN/HR-FT^B2)	B2	A3 (IN/HR-FT^2)
0	602	10.00	0.00	0.00	2.00	2.00	4.500E-05	2.600	0.000E+00	1.000	0.00E+00

****
* G R O U N D W A T E R I N P U T D A T A (CONTINUED) *
****

S O I L P R O P E R T I E S

SUBCAT. NO.	POROSITY	SATURATED HYDRAULIC CONDUCTIVITY (in/hr)	WILTING POINT	FIELD CAPACITY	INITIAL MOISTURE	MAX. DEEP PERCOLATION (in/hr)	PERCOLATION PARAMETERS HCO	PCO	E T P A R A M E T E R S DEPTH OF ET (ft)	FRACTION OF ET TO UPPER ZONE
0	.4000	5.000	.1500	.3000	.3000	2.000E-03	10.00	15.00	14.00	0.350

```
*******************************************************
*    Arrangement of Subcatchments and Channel/Pipes     *
*******************************************************
* See second subcatchment output table for connectivity *
* of subcatchment to subcatchment flows.                *
*******************************************************

   Channel
   or Pipe
      201     No Tributary Channel/Pipes
              No Tributary Subareas.....


    INLET
      200     Tributary Channel/Pipes...        201
              Tributary Subareas........        300


*******************************************************
* Hydrographs will be stored for the following   1 INLETS *
*******************************************************
          200

^
###################################################
#              Quality Simulation                 #
###################################################
#      General Quality Control Data Groups        #
###################################################

 Description                          Variable       Value
 -----------                          --------       -----

 Number of quality constituents.....    NQS.......         1

 Number of land uses................  JLAND.......         1

 Standard catchbasin volume.........  CBVOL.......      4.00 cubic feet

 Erosion is not simulated.........    IROS........         0

 DRY DAYS PRIOR TO START OF STORM... DRYDAY.......      3.00 DAYS

 DRY DAYS REQUIRED TO RECHARGE
 CATCHBASIN CONCENTRATION TO
 INITIAL VALUES..................... DRYBSN.......      5.00 DAYS

 DUST AND DIRT
 STREET SWEEPING EFFICIENCY......... REFFDD.......     0.000

 DAY OF YEAR ON WHICH STREET
 SWEEPING BEGINS.................... KLNBGN.......       120

 DAY OF YEAR ON WHICH STREET
 SWEEPING ENDS...................... KLNEND.......       270
```

```
##########################################
#     Land use data on data group J2     #
##########################################
```

AND USE LNAME)	BUILDUP EQUATION TYPE (METHOD)	FUNCTIONAL DEPENDENCE OF BUILDUP PARAMETER(JACGUT)	LIMITING BUILDUP QUANTITY (DDLIM)	BUILDUP POWER (DDPOW)	BUILDUP COEFF. (DDFACT)	CLEANING INTERVAL IN DAYS (CLFREQ)	AVAIL. FACTOR FRACTION (AVSWP)	DAYS SINCE LAST SWEEPING (DSLCL)
Urban De	EXPONENTIAL(1)	AREA(1)	2.500E+01	0.500	60.000	30.000	0.300	30.000

```
##############################################
#     Constituent data on data group J3      #
##############################################
```

	Total Su
Constituent units.....	mg/l
Type of units.....	0
KALC.....	2
Type of buildup calc.....	EXPONENTIAL(2)
KWASH.....	0
Type of washoff calc.....	POWER EXPONEN.(0)
KACGUT.....	1
Dependence of buildup....	AREA(1)
LINKUP.....	0
Linkage to snowmelt.....	NO SNOW LINKAGE
Buildup param 1 (QFACT1).	25.000
Buildup param 2 (QFACT2).	0.500
Buildup param 3 (QFACT3).	60.000
Buildup param 4 (QFACT4).	0.000
Buildup param 5 (QFACT5).	0.000
Washoff power (WASHPO)...	1.100
Washoff coef. (RCOEF)....	3.000
Init catchb conc (CBFACT)	100.000
Precip. conc. (CONCRN)...	0.000
Street sweep effic (REFF)	0.000
Remove fraction (REMOVE).	0.000
1st order QDECAY, 1/day..	0.000
Land use number.....	1

```
**********************************************
* Constant Groundwater Quality Concentration(s) *
**********************************************

 Total Susp has a concentration of..    0.0000   mg/l
```

```
************************************************
* REMOVAL FRACTIONS FOR SELECTED CHANNEL/PIPES *
* FROM J7 LINES                                *
************************************************

  CHANNEL/   CONSTITUENT
     PIPE Total Susp
----------  --------
       201     0.000


*****************************************************
*     Subcatchment surface quality on data group L1 *
*****************************************************


                                  Total   Number   Input
                        Land      Gutter     of    Loading
                Land     Use      Length   Catch-  load/ac
           No.  Usage    No.     10**2ft   Basins   Total Su
        ------ --------  ----    -------- --------  -------
   1       300 Urban De  1          4.30     1.00  0.0E+00
   Totals (Loads in lb or other)    4.30     1.00  0.0E+00

    **********************
    *    DATA GROUP M1   *
    **********************


TOTAL NUMBER OF PRINTED GUTTERS/INLETS...NPRNT..        1
NUMBER OF TIME STEPS BETWEEN PRINTINGS..INTERV..        0
STARTING AND STOPPING PRINTOUT DATES............        0        0


    **********************
    *    DATA GROUP M3   *
    **********************

CHANNEL/INLET PRINT DATA GROUPS......       -200



          ******************************************
          * Rainfall from Nat. Weather Serv. file  *
          * in units of hundredths of an inch      *
          ******************************************

         Heywood Hospital Addition
         DMH#14
```

Rainfall Station Sterling 2 Nnw
State/Province Massachusetts

Rainfall Depth Summary (in)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1948.	1.8	0.0	0.0	0.0	6.8	4.1	4.8	1.6	0.4	2.7	7.7	3.0	32.9
1949.	4.7	3.9	2.2	5.2	3.0	0.4	1.9	2.1	3.7	2.6	1.0	3.8	34.5
1950.	5.6	5.2	4.8	3.7	2.5	1.9	2.0	0.0	0.0	0.3	7.1	3.8	36.9
1951.	4.4	6.8	6.4	3.3	5.2	3.2	6.7	3.2	2.7	5.8	6.9	5.1	59.6
1952.	5.8	2.8	4.5	5.5	4.2	4.7	3.3	8.1	2.4	0.8	5.0	3.0	50.1
1953.	6.4	3.9	8.7	8.2	4.8	2.6	1.9	2.0	2.0	6.4	3.4	5.9	56.3
1954.	2.9	3.4	3.3	5.1	7.2	3.9	2.6	7.8	7.6	4.1	6.7	5.7	60.3
1955.	0.6	4.2	4.6	4.6	1.7	5.7	2.2	10.6	2.3	11.0	5.2	1.6	54.1
1956.	8.4	4.7	6.9	5.4	2.0	3.8	2.3	1.4	3.9	2.7	4.4	6.0	51.9
1957.	2.9	2.1	3.3	2.9	3.8	3.0	0.9	2.7	1.7	4.3	6.3	6.4	40.2
1958.	10.3	3.3	4.8	6.4	4.3	2.3	4.9	3.7	6.6	2.7	4.4	2.6	56.4
1959.	3.9	3.4	5.3	4.7	1.5	3.7	8.8	5.1	2.3	6.7	4.9	6.6	56.9
1960.	2.6	5.3	3.4	4.6	5.6	2.4	6.7	2.3	7.6	3.5	5.2	3.8	52.9
1961.	1.0	3.1	3.0	6.1	3.1	3.4	4.4	2.6	5.6	2.5	4.4	5.4	44.4
1962.	2.4	5.9	2.8	5.4	4.1	4.2	1.4	4.3	8.3	6.6	5.3	5.9	56.5
1963.	3.7	3.6	4.6	1.8	2.7	2.4	1.7	3.0	4.5	1.4	9.1	3.9	42.6
1964.	5.8	3.3	4.1	3.7	2.0	2.0	2.6	1.5	1.8	2.1	2.9	5.6	37.4
1965.	2.5	3.7	3.7	2.6	2.6	1.6	1.9	2.1	2.7	3.1	2.9	2.4	31.9
1966.	4.2	4.6	2.6	1.5	3.5	2.9	2.6	1.1	6.8	3.0	4.4	3.8	40.8
1967.	2.6	4.0	5.1	6.0	7.6	4.5	4.7	3.5	4.3	2.1	5.1	2.8	52.3
1968.	3.3	1.4	7.5	2.0	5.5	9.5	3.3	0.8	2.2	2.5	9.2	4.6	51.7
1969.	1.7	2.2	2.8	4.2	1.8	2.3	3.6	5.0	5.0	0.5	0.0	5.6	34.8
1970.	1.2	5.4	4.4	3.8	0.0	0.0	0.3	3.5	3.2	3.1	1.4	4.3	30.5
1971.	3.2	4.5	2.6	2.7	5.1	3.2	2.6	7.0	0.8	3.4	5.6	3.4	44.2
1972.	2.6	5.6	7.8	1.5	7.9	5.3	2.5	3.4	2.1	0.0	0.0	0.0	38.7

Total Rainfall Depth for Simulation Period 1149.0 (in)

Rainfall Intensity Analysis (in/hr)

(in/hr)	(#)	(%)	(in)	(%)
0.10	26817	69.7	333.	29.0
0.20	7398	19.2	274.	23.9
0.30	1466	3.8	94.	8.2
0.40	1250	3.2	110.	9.5
0.50	371	1.0	42.	3.7
0.60	207	0.5	28.	2.4
0.70	273	0.7	43.	3.8
0.80	174	0.5	33.	2.8
0.90	81	0.2	18.	1.5
1.00	93	0.2	22.	1.9
1.10	34	0.1	9.	0.8
1.20	29	0.1	8.	0.7

1.30	39	0.1	12.	1.1
1.40	35	0.1	12.	1.0
1.50	19	0.0	7.	0.6
1.60	39	0.1	15.	1.3
1.70	6	0.0	3.	0.2
1.80	21	0.1	9.	0.8
1.90	15	0.0	7.	0.6
2.00	14	0.0	7.	0.6
> 2.00	88	0.2	64.	5.5

Total # of Intensities 38469

Daily Rainfall Depth Analysis (in)

(in)	(#)	(%)	(in)	(%)
0.10	693	26.0	40.	3.5
0.20	458	17.2	66.	5.7
0.30	322	12.1	78.	6.8
0.40	232	8.7	80.	6.9
0.50	171	6.4	76.	6.7
0.60	161	6.0	88.	7.6
0.70	116	4.3	75.	6.5
0.80	92	3.4	68.	6.0
0.90	68	2.5	57.	5.0
1.00	62	2.3	59.	5.1
1.10	37	1.4	39.	3.4
1.20	49	1.8	56.	4.9
1.30	38	1.4	47.	4.1
1.40	31	1.2	42.	3.6
1.50	18	0.7	26.	2.3
1.60	24	0.9	37.	3.2
1.70	15	0.6	25.	2.1
1.80	16	0.6	28.	2.4
1.90	13	0.5	24.	2.1
2.00	7	0.3	14.	1.2
> 2.00	46	1.7	124.	10.8

Total # Days with Rain 2669

```
************************************************
*      End of time step DO-loop in Runoff      *
************************************************

Final Date (Mo/Day/Year)    =                 1/ 1/1973
Total number of time steps =                   1668908
Final Julian Date  =                           1973001
Final time of day  =                                2. seconds.
Final time of day  =                             0.00   hours.
Final running time =                        219168.0000   hours.
Final running time =                          9132.0000    days.

************************************************
*     Extrapolation Summary for Watersheds     *
```

```
* # Steps ==> Total Number of Extrapolated Steps *
* # Calls ==> Total Number of OVERLND Calls      *
**************************************************

 Subcatch   # Steps   # Calls  Subcatch   # Steps   # Calls  Subcatch   # Steps   # Calls
 --------   -------   -------  --------   -------   -------  --------   -------   -------
      300   7230337   1851335

**************************************************
*     Extrapolation Summary for Channel/Pipes    *
* # Steps ==> Total Number of Extrapolated Steps *
* # Calls ==> Total Number of GUTNR Calls        *
**************************************************

Chan/Pipe   # Steps   # Calls Chan/Pipe   # Steps   # Calls Chan/Pipe   # Steps   # Calls
 --------   -------   -------  --------   -------   -------  --------   -------   -------
      201         0         0
↑
**********************************************
*       Continuity Check for Surface Water   *
**********************************************
                                                                  Inches over
                                                       cubic feet   Total Basin
Total Precipitation (Rain plus Snow)                    4502432.      1147.
Total Infiltration                                       647701.       165.
Total Evaporation                                        169848.        43.
Surface Runoff from Watersheds                          3714359.       947.
Total Water remaining in Surface Storage                      0.         0.
Infiltration over the Pervious Area...                   647701.      1115.
                      --------
Infiltration + Evaporation +
Surface Runoff + Snow removal +
Water remaining in Surface Storage +
Water remaining in Snow Cover.........                  4531908.      1155.
Total Precipitation + Initial Storage.                  4502432.      1147.


The error in continuity is calculated as
***************************************
* Precipitation + Initial Snow Cover  *
*      - Infiltration -               *
*Evaporation - Snow removal -         *
*Surface Runoff from Watersheds -     *
*Water in Surface Storage -           *
*Water remaining in Snow Cover        *
*-------------------------------------*
* Precipitation + Initial Snow Cover  *
***************************************
Error.................................       -0.655 Percent


**********************************************
*       Continuity Check for Channel/Pipes   *
**********************************************
                                                                  Inches over
```

	cubic feet	Total Basin
Initial Channel/Pipe Storage.....	0.	0.
Final Channel/Pipe Storage.....	0.	0.
Surface Runoff from Watersheds.....	3714359.	947.
Baseflow.....	0.	
Groundwater Subsurface Inflow.....	0.	0.
Evaporation Loss from Channels.....	0.	0.
Channel/Pipe/Inlet Outflow.....	3714359.	947.
Initial Storage + Inflow.....	3714359.	947.
Final Storage + Outflow.....	3714359.	947.

```
*****************************************
* Final Storage + Outflow + Evaporation  - *
* Watershed Runoff - Groundwater Inflow  - *
*     Initial Channel/Pipe Storage         *
*     ---------------------------------    *
*  Final Storage + Outflow  + Evaporation  *
*****************************************
```

Error..... 0.000 Percent

↑

```
************************************************
*     Continuity Check for Subsurface Water    *
************************************************
```

	cubic feet	Inches over Subsurface Basin
Total Infiltration	0.	0.
Total Upper Zone ET	0.	0.
Total Lower Zone ET	0.	0.
Total Groundwater flow	0.	0.
Total Deep percolation	0.	0.
Initial Subsurface Storage	141265.	36.
Final Subsurface Storage	141265.	36.
Upper Zone ET over Pervious Area	0.	0.
Lower Zone ET over Pervious Area	0.	0.

```
*****************************************
* Infiltration + Initial Storage - Final *
* Storage - Upper and Lower Zone ET -    *
* Groundwater Flow - Deep Percolation    *
* -------------------------------------- *
*     Infiltration + Initial Storage     *
*****************************************
```

Error ..... 0.000 Percent

↑

SUMMARY STATISTICS FOR SUBCATCHMENTS
====================================

	PERVIOUS AREA	IMPERVIOUS AREA	TOTAL SUBCATCHMENT AREA

SUBCATCH-MENT NO.	GUTTER OR INLET NO.	AREA (AC)	PERCENT IMPER.	TOTAL SIMULATED RAINFALL (IN)	TOTAL RUNOFF DEPTH (IN)	TOTAL LOSSES (IN)	PEAK RUNOFF RATE (CFS)	RUNOFF DEPTH (IN)	PEAK RUNOFF RATE (CFS)	RUNOFF DEPTH (IN)	PEAK RUNOFF RATE (CFS)	PEAK UNIT RUNOFF (IN/HR)
300	200	1.08	85.2	1147.40	32.043	1116.239	0.757	1104.969	5.498	946.176	6.255	5.786

*** NOTE *** IMPERVIOUS AREA STATISTICS AGGREGATE IMPERVIOUS AREAS WITH AND WITHOUT DEPRESSION STORAGE

SUMMARY STATISTICS FOR CHANNEL/PIPES

CHANNEL NUMBER	FULL FLOW (CFS)	FULL VELOCITY (FPS)	FULL DEPTH (FT)	MAXIMUM COMPUTED INFLOW (CFS)	MAXIMUM COMPUTED OUTFLOW (CFS)	MAXIMUM COMPUTED DEPTH (FT)	MAXIMUM COMPUTED VELOCITY (FPS)	TIME OF OCCURRENCE DAY	TIME OF OCCURRENCE HR.	LENGTH OF SURCHARGE (HOUR)	MAXIMUM SURCHARGE VOLUME (AC-FT)	RATIO OF MAX. TO FULL FLOW	RATIO OF MAX. DEPTH TO FULL DEPTH
201				0.00				1/ 0/1900	0.00				
200				6.26				11/13/1968	5.50				

TOTAL NUMBER OF CHANNELS/PIPES = 2

*** NOTE *** THE MAXIMUM FLOWS AND DEPTHS ARE CALCULATED AT THE END OF THE TIME INTERVAL

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#             Runoff Quality Summary Page             #
# If NDIM = 0 Units for:   loads    mass rates        #
#             METRIC = 1    lb        lb/sec          #
#             METRIC = 2    kg        kg/sec          #
# If NDIM = 1 Loads are in units of quantity          #
#             and mass rates are quantity/sec         #
# If NDIM = 2 loads are in units of concentration     #
#             times volume and mass rates have units  #
#             of concentration times volume/second    #
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Total Su NDIM = 0
METRIC = 1

	Total Su
Inputs	
1. INITIAL SURFACE LOAD.....	21.
2. TOTAL SURFACE BUILDUP.....	21576.
3. INITIAL CATCHBASIN LOAD.....	0.
4. TOTAL CATCHBASIN LOAD.....	0.
5. TOTAL CATCHBASIN AND SURFACE BUILDUP (2+4).....	21576.

Remaining Loads

6.	LOAD REMAINING ON SURFACE...	4.
7.	REMAINING IN CATCHBASINS....	0.
8.	REMAINING IN CHANNEL/PIPES..	0.

Removals

9.	STREET SWEEPING REMOVAL.....	0.
10.	NET SURFACE BUILDUP (2-9)...	21576.
11.	SURFACE WASHOFF.....	21565.
12.	CATCHBASIN WASHOFF.....	0.
13.	TOTAL WASHOFF (11+12).....	21565.
14.	LOAD FROM OTHER CONSTITUENTS	0.
15.	PRECIPITATION LOAD.....	0.
15a.	SUM SURFACE LOAD (13+14+15).	21565.
16.	TOTAL GROUNDWATER LOAD.....	0.
16a.	TOTAL I/I LOAD.....	0.
17.	NET SUBCATCHMENT LOAD (15a-15b-15c-15d+16+16a)....	21565.
>>Removal in channel/pipes (17a, 17b):		
17a.	REMOVE BY BMP FRACTION.....	0.
17b.	REMOVE BY 1st ORDER DECAY...	0.
18.	TOTAL LOAD TO INLETS.....	21565.
19.	FLOW WT'D AVE.CONCENTRATION (INLET LOAD/TOTAL FLOW).....	mg/l 93.

Percentages

20.	STREET SWEEPING (9/2).....	0.
21.	SURFACE WASHOFF (11/2).....	100.
22.	NET SURFACE WASHOFF(11/10)..	100.
23.	WASHOFF/SUBCAT LOAD(11/17)..	100.
24.	SURFACE WASHOFF/INLET LOAD (11/18).....	100.
25.	CATCHBASIN WASHOFF/ SUBCATCHMENT LOAD (12/17)...	0.
26.	CATCHBASIN WASHOFF/ INLET LOAD (12/18).....	0.
27.	OTHER CONSTITUENT LOAD/ SUBCATCHMENT LOAD (14/17)...	0.
28.	INSOLUBLE FRACTION/ INLET LOAD (14/18).....	0.
29.	PRECIPITATION/ SUBCATCHMENT LOAD (15/17)...	0.
30.	PRECIPITATION/ INLET LOAD (15/18).....	0.
31.	GROUNDWATER LOAD/ SUBCATCHMENT LOAD (16/17)...	0.
32.	GROUNDWATER LOAD/ INLET LOAD (16/18).....	0.
32a.	INFILTRATION/INFLOW LOAD/ SUBCATCHMENT LOAD (16a/17)..	0.
32b.	INFILTRATION/INFLOW LOAD/ INLET LOAD (16a/18).....	0.

32c.CH/PIPE BMP FRACTION REMOVAL/
SUBCATCHMENT LOAD (17a/17).. 0.
32d.CH/PIPE 1st ORDER DECAY REMOVAL/
SUBCATCHMENT LOAD (17b/17).. 0.
33. INLET LOAD SUMMATION ERROR
(18+8+6a+17a+17b-17)/17..... 0.

CAUTION. Due to method of quality routing (Users Manual, Appendix IX)
quality routing through channel/pipes is sensitive to the time step.
Large "Inlet Load Summation Errors" may result.
These can be reduced by adjusting the time step(s).
Note: surface accumulation during dry time steps at end of simulation is
not included in totals. Buildup is only performed at beginning of
wet steps or for street cleaning.

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* TSS Particle Size Distribution *
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Diameter (um)	%	Specific Gravity	Settling Velocity (ft/s)	Critical Peclet Number
2.	5.0	2.65	0.000009	0.032973
5.	5.0	2.65	0.000055	0.056296
8.	10.0	2.65	0.000141	0.074071
20.	15.0	2.65	0.000875	0.126463
50.	10.0	2.65	0.005346	0.215914
75.	5.0	2.65	0.011640	0.273579
100.	10.0	2.65	0.019828	0.323611
150.	15.0	2.65	0.040138	0.410039
250.	15.0	2.65	0.087320	0.552510
500.	5.0	2.65	0.198831	0.828097
1000.	5.0	2.65	0.365264	1.241146

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* Summary of TSS Removal *
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TSS Removal based on NJCAT Lab Performance Curve

Model #	Low Q Treated (cfs)	High Q Treated (cfs)	Runoff Treated (%)	TSS Removed (%)
HS 4	0.996	11.507	94.7	68.8
HS 5	1.959	11.507	98.3	76.3 <=TSS Removal
HS 6	2.954	11.507	99.4	81.6
HS 7	3.921	11.507	99.7	84.9
HS 8	5.010	11.507	99.9	87.7
HS 9	6.200	11.507	100.0	90.2
HS 10	7.544	11.507	100.0	92.2
HS 12	10.424	11.507	100.0	95.0

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* Summary of Annual Flow Treatmnet & TSS Removal *
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HS 4

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	1157013.8	1115364.6	616.9	425.5	191.4	96.4	69.0
1949.	1213045.5	1208405.1	814.3	589.5	224.8	99.6	72.4
1950.	1321663.1	1290628.2	724.6	529.6	195.0	97.7	73.1
1951.	2117497.2	2070285.2	1028.0	728.9	299.0	97.8	70.9
1952.	1778968.2	1725168.9	906.1	629.6	276.5	97.0	69.5
1953.	2016623.6	1954174.9	968.9	670.7	298.3	96.9	69.2
1954.	2154949.2	2042662.8	1023.6	727.5	296.1	94.8	71.1
1955.	1959981.4	1890703.2	803.3	557.2	246.1	96.5	69.4
1956.	1841637.8	1805603.8	982.9	698.6	284.2	98.0	71.1
1957.	1423857.0	1387264.4	804.0	564.0	240.1	97.4	70.1
1958.	1979213.1	1907967.9	992.6	674.1	318.5	96.4	67.9
1959.	2021840.8	1863695.4	950.1	671.1	279.1	92.2	70.6
1960.	1874777.5	1825890.0	958.0	670.1	287.9	97.4	69.9
1961.	1562581.6	1434829.8	921.1	598.0	323.1	91.8	64.9
1962.	2022230.4	1964981.8	932.2	651.2	281.0	97.2	69.9
1963.	1498773.1	1452961.1	855.2	611.0	244.3	96.9	71.4
1964.	1320803.9	1222702.8	830.3	567.9	262.5	92.6	68.4
1965.	1108992.2	1097738.1	789.7	562.8	227.0	99.0	71.3
1966.	1445436.0	1405305.2	849.8	615.3	234.5	97.2	72.4
1967.	1841177.0	1792553.0	1024.0	704.0	320.0	97.4	68.7
1968.	1863374.0	1636593.1	876.6	555.4	321.2	87.8	63.4
1969.	1238394.0	1046093.4	658.7	406.6	252.1	84.5	61.7
1970.	1155465.9	722159.5	608.0	311.6	296.3	62.5	51.3
1971.	1570814.5	1519762.2	931.1	623.4	307.7	96.7	67.0
1972.	1360580.1	1301031.2	731.9	489.2	242.7	95.6	66.8

HS 5

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	1157013.8	1149900.8	616.9	467.7	149.2	99.4	75.8
1949.	1213045.5	1213045.5	814.3	649.7	164.6	100.0	79.8
1950.	1321663.1	1310972.8	724.6	581.3	143.4	99.2	80.2
1951.	2117497.2	2113889.5	1028.0	805.1	222.8	99.8	78.3
1952.	1778968.2	1772365.9	906.1	695.7	210.4	99.6	76.8
1953.	2016623.6	1983039.2	968.9	744.0	225.0	98.3	76.8
1954.	2154949.2	2136759.8	1023.6	805.1	218.6	99.2	78.6
1955.	1959981.4	1957859.8	803.3	618.5	184.9	99.9	77.0
1956.	1841637.8	1841637.8	982.9	772.1	210.7	100.0	78.6

1957.	1423857.0	1423857.0	804.0	619.4	184.6	100.0	77.0
1958.	1979213.1	1962228.9	992.6	750.3	242.2	99.1	75.6
1959.	2021840.8	1975364.0	950.1	742.9	207.3	97.7	78.2
1960.	1874777.5	1873158.4	958.0	741.8	216.3	99.9	77.4
1961.	1562581.6	1535069.8	921.1	675.4	245.7	98.2	73.3
1962.	2022230.4	2017642.2	932.2	722.8	209.4	99.8	77.5
1963.	1498773.1	1498136.6	855.2	674.5	180.8	100.0	78.9
1964.	1320803.9	1283508.1	830.3	634.5	195.8	97.2	76.4
1965.	1108992.2	1108992.2	789.7	619.4	170.4	100.0	78.4
1966.	1445436.0	1441176.0	849.8	677.0	172.8	99.7	79.7
1967.	1841177.0	1841177.1	1024.0	781.7	242.4	100.0	76.3
1968.	1863374.0	1750163.4	876.6	626.2	250.4	93.9	71.4
1969.	1238394.0	1136637.5	658.7	461.4	197.3	91.8	70.0
1970.	1155465.9	916336.8	608.0	363.0	245.0	79.3	59.7
1971.	1570814.5	1570814.5	931.1	694.5	236.6	100.0	74.6
1972.	1360580.1	1350633.0	731.9	546.5	185.4	99.3	74.7

HS 6

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	1157013.8	1157013.8	616.9	501.3	115.7	100.0	81.3
1949.	1213045.5	1213045.5	814.3	687.0	127.3	100.0	84.4
1950.	1321663.1	1321663.0	724.6	613.9	110.8	100.0	84.7
1951.	2117497.2	2117497.2	1028.0	857.8	170.2	100.0	83.4
1952.	1778968.2	1778968.2	906.1	742.6	163.5	100.0	82.0
1953.	2016623.6	2001869.9	968.9	794.9	174.0	99.3	82.0
1954.	2154949.2	2154949.2	1023.6	855.5	168.1	100.0	83.6
1955.	1959981.4	1959981.4	803.3	661.5	141.8	100.0	82.4
1956.	1841637.8	1841637.8	982.9	822.0	160.9	100.0	83.6
1957.	1423857.0	1423857.0	804.0	663.3	140.7	100.0	82.5
1958.	1979213.1	1979213.1	992.6	808.8	183.7	100.0	81.5
1959.	2021840.8	2017961.4	950.1	792.5	157.6	99.8	83.4
1960.	1874777.5	1874777.5	958.0	794.1	163.9	100.0	82.9
1961.	1562581.6	1562308.5	921.1	724.2	196.9	100.0	78.6
1962.	2022230.4	2022230.5	932.2	773.9	158.3	100.0	83.0
1963.	1498773.1	1498773.1	855.2	716.6	138.6	100.0	83.8
1964.	1320803.9	1311286.5	830.3	678.8	151.5	99.3	81.8
1965.	1108992.2	1108992.2	789.7	656.3	133.5	100.0	83.1
1966.	1445436.0	1445436.0	849.8	720.6	129.2	100.0	84.8
1967.	1841177.0	1841177.1	1024.0	833.3	190.8	100.0	81.4
1968.	1863374.0	1804558.0	876.6	679.4	197.1	96.8	77.5
1969.	1238394.0	1181810.0	658.7	498.7	160.1	95.4	75.7
1970.	1155465.9	1050968.8	608.0	402.4	205.6	91.0	66.2
1971.	1570814.5	1570814.5	931.1	741.8	189.3	100.0	79.7
1972.	1360580.1	1360580.1	731.9	591.1	140.8	100.0	80.8

HS 7

Year	Flow Vol	Flow Treated	TSS IN	TSS Rem	TSS Out	Flow Treated	TSS Removal

	(ft3)	(ft3)	(lb)	(lb)	(lb)	(%)	(%)
1948.	1157013.8	1157013.8	616.9	521.7	95.2	100.0	84.6
1949.	1213045.5	1213045.5	814.3	712.6	101.6	100.0	87.5
1950.	1321663.1	1321663.0	724.6	632.4	92.2	100.0	87.3
1951.	2117497.2	2117497.2	1028.0	892.6	135.4	100.0	86.8
1952.	1778968.2	1778968.2	906.1	773.3	132.8	100.0	85.3
1953.	2016623.6	2016318.1	968.9	826.7	142.2	100.0	85.3
1954.	2154949.2	2154949.2	1023.6	888.6	135.0	100.0	86.8
1955.	1959981.4	1959981.4	803.3	686.4	117.0	100.0	85.4
1956.	1841637.8	1841637.8	982.9	853.0	129.9	100.0	86.8
1957.	1423857.0	1423857.0	804.0	686.4	117.6	100.0	85.4
1958.	1979213.1	1979213.1	992.6	840.4	152.1	100.0	84.7
1959.	2021840.8	2021840.8	950.1	820.8	129.4	100.0	86.4
1960.	1874777.5	1874777.5	958.0	825.0	133.1	100.0	86.1
1961.	1562581.6	1562581.6	921.1	757.2	163.9	100.0	82.2
1962.	2022230.4	2022230.5	932.2	802.5	129.6	100.0	86.1
1963.	1498773.1	1498773.1	855.2	740.0	115.3	100.0	86.5
1964.	1320803.9	1320803.9	830.3	703.5	126.7	100.0	84.7
1965.	1108992.2	1108992.2	789.7	682.5	107.3	100.0	86.4
1966.	1445436.0	1445436.0	849.8	747.7	102.2	100.0	88.0
1967.	1841177.0	1841177.1	1024.0	867.5	156.5	100.0	84.7
1968.	1863374.0	1823705.0	876.6	710.8	165.6	97.9	81.1
1969.	1238394.0	1210997.9	658.7	523.5	135.2	97.8	79.5
1970.	1155465.9	1112514.6	608.0	425.2	182.8	96.3	69.9
1971.	1570814.5	1570814.5	931.1	771.7	159.3	100.0	82.9
1972.	1360580.1	1360580.1	731.9	614.9	117.0	100.0	84.0

HS 8

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	1157013.8	1157013.8	616.9	540.7	76.2	100.0	87.7
1949.	1213045.5	1213045.5	814.3	736.9	77.3	100.0	90.5
1950.	1321663.1	1321663.0	724.6	651.9	72.7	100.0	90.0
1951.	2117497.2	2117497.2	1028.0	924.6	103.3	100.0	89.9
1952.	1778968.2	1778968.2	906.1	799.0	107.0	100.0	88.2
1953.	2016623.6	2016623.6	968.9	858.3	110.6	100.0	88.6
1954.	2154949.2	2154949.2	1023.6	918.9	104.7	100.0	89.8
1955.	1959981.4	1959981.4	803.3	710.1	93.3	100.0	88.4
1956.	1841637.8	1841637.8	982.9	879.7	103.2	100.0	89.5
1957.	1423857.0	1423857.0	804.0	708.1	95.9	100.0	88.1
1958.	1979213.1	1979213.1	992.6	867.4	125.2	100.0	87.4
1959.	2021840.8	2021840.8	950.1	844.6	105.5	100.0	88.9
1960.	1874777.5	1874777.5	958.0	851.1	106.9	100.0	88.8
1961.	1562581.6	1562581.6	921.1	783.5	137.6	100.0	85.1
1962.	2022230.4	2022230.5	932.2	826.0	106.2	100.0	88.6
1963.	1498773.1	1498773.1	855.2	765.3	89.9	100.0	89.5
1964.	1320803.9	1320803.9	830.3	723.2	107.1	100.0	87.1
1965.	1108992.2	1108992.2	789.7	704.1	85.6	100.0	89.2
1966.	1445436.0	1445436.0	849.8	772.5	77.4	100.0	90.9
1967.	1841177.0	1841177.1	1024.0	898.2	125.8	100.0	87.7

1968.	1863374.0	1844903.6	876.6	736.3	140.2	99.0	84.0
1969.	1238394.0	1237741.4	658.7	542.9	116.0	99.9	82.4
1970.	1155465.9	1147431.0	608.0	447.0	161.0	99.3	73.5
1971.	1570814.5	1570814.5	931.1	800.0	131.0	100.0	85.9
1972.	1360580.1	1360580.1	731.9	634.2	97.7	100.0	86.7

HS 9

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	1157013.8	1157013.8	616.9	555.1	61.8	100.0	90.0
1949.	1213045.5	1213045.5	814.3	754.9	59.3	100.0	92.7
1950.	1321663.1	1321663.0	724.6	666.1	58.5	100.0	91.9
1951.	2117497.2	2117497.2	1028.0	948.0	79.9	100.0	92.2
1952.	1778968.2	1778968.2	906.1	821.9	84.2	100.0	90.7
1953.	2016623.6	2016623.6	968.9	883.0	85.9	100.0	91.1
1954.	2154949.2	2154949.2	1023.6	946.2	77.4	100.0	92.4
1955.	1959981.4	1959981.4	803.3	731.6	71.7	100.0	91.1
1956.	1841637.8	1841637.8	982.9	904.9	78.0	100.0	92.1
1957.	1423857.0	1423857.0	804.0	729.3	74.6	100.0	90.7
1958.	1979213.1	1979213.1	992.6	895.0	97.5	100.0	90.2
1959.	2021840.8	2021840.8	950.1	865.7	84.4	100.0	91.1
1960.	1874777.5	1874777.5	958.0	875.6	82.4	100.0	91.4
1961.	1562581.6	1562581.6	921.1	806.6	114.5	100.0	87.6
1962.	2022230.4	2022230.5	932.2	849.9	82.2	100.0	91.2
1963.	1498773.1	1498773.1	855.2	782.1	73.1	100.0	91.5
1964.	1320803.9	1320803.9	830.3	745.0	85.3	100.0	89.7
1965.	1108992.2	1108992.2	789.7	724.5	65.2	100.0	91.7
1966.	1445436.0	1445436.0	849.8	788.7	61.1	100.0	92.8
1967.	1841177.0	1841177.1	1024.0	927.2	96.8	100.0	90.5
1968.	1863374.0	1863099.2	876.6	760.1	116.3	100.0	86.7
1969.	1238394.0	1238394.0	658.7	559.2	99.7	100.0	84.9
1970.	1155465.9	1155465.9	608.0	461.8	146.2	100.0	76.0
1971.	1570814.5	1570814.5	931.1	825.6	105.4	100.0	88.7
1972.	1360580.1	1360580.1	731.9	652.9	79.0	100.0	89.2

HS 10

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	1157013.8	1157013.8	616.9	565.8	51.2	100.0	91.7
1949.	1213045.5	1213045.5	814.3	770.7	43.6	100.0	94.6
1950.	1321663.1	1321663.0	724.6	679.3	45.3	100.0	93.7
1951.	2117497.2	2117497.2	1028.0	969.1	58.9	100.0	94.3
1952.	1778968.2	1778968.2	906.1	841.1	65.0	100.0	92.8
1953.	2016623.6	2016623.6	968.9	900.7	68.3	100.0	93.0
1954.	2154949.2	2154949.2	1023.6	964.3	59.3	100.0	94.2
1955.	1959981.4	1959981.4	803.3	747.5	55.8	100.0	93.0
1956.	1841637.8	1841637.8	982.9	922.8	60.1	100.0	93.9

1957.	1423857.0	1423857.0	804.0	747.2	56.8	100.0	92.9
1958.	1979213.1	1979213.1	992.6	918.3	74.3	100.0	92.5
1959.	2021840.8	2021840.8	950.1	881.4	68.7	100.0	92.8
1960.	1874777.5	1874777.5	958.0	893.3	64.7	100.0	93.2
1961.	1562581.6	1562581.6	921.1	826.9	94.2	100.0	89.8
1962.	2022230.4	2022230.5	932.2	866.7	65.4	100.0	93.0
1963.	1498773.1	1498773.1	855.2	800.0	55.2	100.0	93.5
1964.	1320803.9	1320803.9	830.3	758.3	72.0	100.0	91.3
1965.	1108992.2	1108992.2	789.7	740.1	49.6	100.0	93.7
1966.	1445436.0	1445436.0	849.8	802.0	47.8	100.0	94.4
1967.	1841177.0	1841177.1	1024.0	947.5	76.6	100.0	92.5
1968.	1863374.0	1863374.0	876.6	777.7	98.7	100.0	88.7
1969.	1238394.0	1238394.0	658.7	574.8	84.2	100.0	87.3
1970.	1155465.9	1155465.9	608.0	476.4	131.6	100.0	78.4
1971.	1570814.5	1570814.5	931.1	845.6	85.5	100.0	90.8
1972.	1360580.1	1360580.1	731.9	670.6	61.3	100.0	91.6

HS 12

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	1157013.8	1157013.8	616.9	583.8	33.1	100.0	94.6
1949.	1213045.5	1213045.5	814.3	789.4	24.9	100.0	96.9
1950.	1321663.1	1321663.0	724.6	697.3	27.4	100.0	96.2
1951.	2117497.2	2117497.2	1028.0	992.7	35.3	100.0	96.6
1952.	1778968.2	1778968.2	906.1	870.1	35.9	100.0	96.0
1953.	2016623.6	2016623.6	968.9	929.1	39.8	100.0	95.9
1954.	2154949.2	2154949.2	1023.6	987.8	35.8	100.0	96.5
1955.	1959981.4	1959981.4	803.3	766.5	36.9	100.0	95.4
1956.	1841637.8	1841637.8	982.9	946.7	36.2	100.0	96.3
1957.	1423857.0	1423857.0	804.0	770.8	33.2	100.0	95.9
1958.	1979213.1	1979213.1	992.6	946.7	45.9	100.0	95.4
1959.	2021840.8	2021840.8	950.1	906.9	43.2	100.0	95.5
1960.	1874777.5	1874777.5	958.0	921.9	36.1	100.0	96.2
1961.	1562581.6	1562581.6	921.1	856.7	64.4	100.0	93.0
1962.	2022230.4	2022230.5	932.2	889.5	42.7	100.0	95.4
1963.	1498773.1	1498773.1	855.2	818.1	37.1	100.0	95.7
1964.	1320803.9	1320803.9	830.3	784.0	46.3	100.0	94.4
1965.	1108992.2	1108992.2	789.7	760.1	29.7	100.0	96.2
1966.	1445436.0	1445436.0	849.8	818.2	31.6	100.0	96.3
1967.	1841177.0	1841177.1	1024.0	973.9	50.1	100.0	95.1
1968.	1863374.0	1863374.0	876.6	810.2	66.3	100.0	92.4
1969.	1238394.0	1238394.0	658.7	598.8	59.9	100.0	90.9
1970.	1155465.9	1155465.9	608.0	506.0	102.0	100.0	83.2
1971.	1570814.5	1570814.5	931.1	873.8	57.3	100.0	93.8
1972.	1360580.1	1360580.1	731.9	693.0	38.9	100.0	94.7

```
**************************************************
*  Summary of Quantity and Quality Results at    *
*  Location        200  INFlow in cfs.           *
*  Values are instantaneous at indicated time step *
**************************************************

  Heywood Hospital Addition
  DMH#14

     Date      Time         Flow   Total Su
 Mo/Da/Year  Hr:Min          cfs    mg/l
 ----------  -------     -------  --------
Flow wtd means.....         0.011       93.
Flow wtd std devs..         0.068       70.
Maximum value......         6.255      291.
Minimum value......         0.000        0.
Total loads........      3713025.    21578.
                         Cub-Ft     POUNDS

===> Runoff simulation ended normally.

===> SWMM 4.4     simulation ended normally.
     Always check output file for possible warning messages.

**************************************************
*       SWMM 4.4     Simulation Date and Time Summary  *
**************************************************
* Starting Date... April      13, 2021              *
*          Time...          12:40:43.534            *
*   Ending Date... April      13, 2021              *
*          Time...          12:40:47.722            *
*  Elapsed Time...               0.070 minutes.     *
*  Elapsed Time...               4.188 seconds.     *
**************************************************
```

MASS DEP "Standard Method to Convert Required Water Quality Volume to a Discharge Rate for Sizing Flow Based Manufactured Proprietary Stormwater Treatment Practices"

DMH#17 Water Quality Unit

For First 1-Inch Runoff WQV

Step 1: Area of Impervious Surface to Structure

1.608 acres @ 92.3% Impervious = 1.484 Acres Impervious
1.484 Acres x .0015625 sq mi = ***2.3e(-3) square miles.***

Step 2: Tc of Train

P-122 to DCB#16:	5.0 min
DCB#16 to DMH#15:	0.6 min
DMH#15 to DMH#16:	0.8 min
DMH#16 to DMH#17:	0.6 min
Total Tc to DMH#14:	***7.0 min or 0.116 hours***

Step 3: Determine qu

From Figure 4:

Tc @ 0.116, qu=755 csm/in

Step 4: Determine Q1

Q1=(qu)x(A)x(WQV)

Q1=(755csm/in)x(2.3e-3)x(1 in)

Q1=1.74 CFS

Determination

Determination of Water Quality Flow rates for units by New Jersey Corporation for Advanced Technology (NJCAT) Program

From Technology Verification
HG 6 Treatment Flow rate
2.6 cf.s > 1.74 c.f.s. "Pass"

HydroGuard HG6 to be utilized in Design.

INSTRUCTIONS:

Non-automated: Mar. 4, 2008

1. Sheet is nonautomated. Print sheet and complete using hand calculations. Column A and B: See MassDEP Structural BMP Table
2. The calculations must be completed using the Column Headings specified in Chart and Not the Excel Column Headings
3. To complete Chart Column D, multiple Column B value within Row x Column C value within Row
4. To complete Chart Column E value, subtract Column D value within Row from Column C within Row
5. Total TSS Removal = Sum All Values in Column D

Location: DMH#17

TSS Removal Calculation Worksheet

A BMP[1]	B TSS Removal Rate[1]	C Starting TSS Load*	D Amount Removed (B*C)	E Remaining Load (C-D)
Deep Sump Hooded Catch Basin	0.25	1.00	0.25	0.75
HydroWorks HG6	0.76	0.75	0.57	0.18

Total TSS Removal = 82%

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: Heywood Hospital

Prepared By: Hannigan Engineering, Inc.

Date: 5/11/2021

*Equals remaining load from previous BMP (E) which enters the BMP

Summary for Reach DMH17: TO UGS#1B

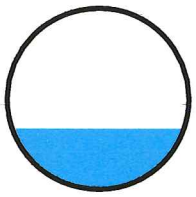
[52] Hint: Inlet/Outlet conditions not evaluated
[61] Hint: Exceeded Reach DMH16 outlet invert by 0.25' @ 12.10 hrs

Inflow Area = 1.608 ac, 92.28% Impervious, Inflow Depth = 2.07" for 1-Year event
Inflow = 3.60 cfs @ 12.08 hrs, Volume= 0.278 af<=WQV
Outflow = 3.60 cfs @ 12.09 hrs, Volume= 0.278 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.91 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.20 fps, Avg. Travel Time= 0.1 min

Peak Storage= 5 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.50'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 14.86 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 10.0' Slope= 0.0200 '/'
Inlet Invert= 1,178.50', Outlet Invert= 1,178.30'



Summary for Subcatchment P122: TO DCB#17

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.30 cfs @ 12.07 hrs, Volume= 0.022 af, Depth= 2.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-Year Rainfall=2.50"

Area (sf)	CN	Description
486	74	>75% Grass cover, Good, HSG C
5,156	98	Paved parking, HSG C
5,642	96	Weighted Average
486		8.61% Pervious Area
5,156		91.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0250	1.27		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	125	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	175	Total, Increased to minimum Tc = 5.0 min <=Tc			

Summary for Reach DCB16: TO DMH#15

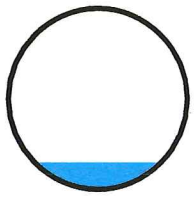
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.130 ac, 91.39% Impervious, Inflow Depth = 2.06" for 1-Year event
Inflow = 0.30 cfs @ 12.07 hrs, Volume= 0.022 af
Outflow = 0.29 cfs @ 12.08 hrs, Volume= 0.022 af, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.03 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.33 fps, Avg. Travel Time= 0.6 min <=Tc

Peak Storage= 3 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.15'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.22 cfs

12.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 46.0' Slope= 0.0304 '/'
Inlet Invert= 1,181.70', Outlet Invert= 1,180.30'



Summary for Reach DMH15: TO DMH#16

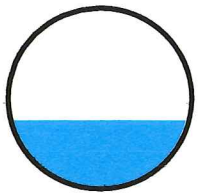
[52] Hint: Inlet/Outlet conditions not evaluated
[62] Hint: Exceeded Reach DCB16 OUTLET depth by 0.22' @ 12.10 hrs
[62] Hint: Exceeded Reach DCB17 OUTLET depth by 0.15' @ 12.10 hrs
[62] Hint: Exceeded Reach DCB18 OUTLET depth by 0.01' @ 12.10 hrs

Inflow Area = 0.812 ac, 86.55% Impervious, Inflow Depth = 1.92" for 1-Year event
Inflow = 1.75 cfs @ 12.08 hrs, Volume= 0.130 af
Outflow = 1.74 cfs @ 12.08 hrs, Volume= 0.130 af, Atten= 1%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.10 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.32 fps, Avg. Travel Time= 0.8 min<=Tc

Peak Storage= 27 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.47'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 5.75 cfs

15.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 63.0' Slope= 0.0079 '/'
Inlet Invert= 1,180.20', Outlet Invert= 1,179.70'



Summary for Reach DMH16: TO DMH#17

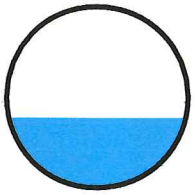
[52] Hint: Inlet/Outlet conditions not evaluated
[61] Hint: Exceeded Reach DMH15 outlet invert by 0.47' @ 12.10 hrs

Inflow Area = 1.608 ac, 92.28% Impervious, Inflow Depth = 2.07" for 1-Year event
Inflow = 3.62 cfs @ 12.08 hrs, Volume= 0.278 af
Outflow = 3.60 cfs @ 12.08 hrs, Volume= 0.278 af, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.74 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.84 fps, Avg. Travel Time= 0.6 min <=Tc

Peak Storage= 45 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.58'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 11.49 cfs

18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 71.0' Slope= 0.0120 '/'
Inlet Invert= 1,179.60', Outlet Invert= 1,178.75'



```
  ************************************************
*      Storm Water Management Sizing Model       *
*                Hydroworks, LLC                 *
*                 Version 4.4                    *
*                                                *
*        Continuous Simulation Program           *
*              Based on SWMM 4.4H                *
*              Hydroworks, LLC                   *
*               Graham Bryant                    *
*                2003 - 2013                     *
************************************************

                 Developed by

************************************************
*               Hydroworks, LLC                  *
*             Metcalf & Eddy, Inc.               *
*            University of Florida               *
*       Water Resources Engineers, Inc.          *
*      (Now Camp Dresser & McKee, Inc.)          *
*               Modified SWMM 4.4                *
************************************************

         Distributed and Maintained by

************************************************
*                                              *
*               Hydroworks, LLC                *
*                888-290-7900                  *
*             www.hydroworks.com               *
*                                              *
************************************************

************************************************
*     If any problems occur executing this     *
*     model, contact Mr. Graham Bryant at      *
*     Hydroworks, LLC by phone at 908-272-4411 *
*     or by e-mail: support@hydroworks.com     *
************************************************

************************************************
*     This model is based on EPA SWMM 4.4      *
*  "Nature is full of infinite causes which    *
*   have never occurred in experience" da Vinci *
************************************************


************************************************
* Entry made to the Rain Block                 *
* Created by the University of Florida - 1988  *
* Updated by Oregon State University, March 2000 *
************************************************
```

Heywood Hospital Addition
DMH#17

```
 ########################################
 #  Precipitation Block Input Commands  #
 ########################################

Station Name.........................  Sterling 2 Nnw

Station Location.....................  Massachusetts

Station, ISTA........................    8159

Beginning date, IYBEG (Yr/Mo/Dy).....  1948/ 1/ 1

Ending date, IYEND (Yr/Mo/Dy)........  1972/12/31

Minimum interevent time, MIT.........     1

Number of ranked storms, NPTS........    10

NWS format, IFORM (See text).........     1

Print storm summary, ISUM (O-No 1-Yes)    0

Print all rainfall, IYEAR (O-No 1-Yes)    0

Save storm event data on NSCRAT(1)....    0
(IFILE =0 -Do not save, =1 -Save data)

IDECID 0 - Create interface file
       1 - Create file and analyze
       2 - Synoptic analysis.........     2

Plotting position parameter, A........  0.40

Storm event statistics, NOSTAT........  1100


KODEA (from optional group B0)........     2
 = 0, Do not include NCDC cumulative values.
 = 1, Average NCDC cumulative values.
 = 2, Use NCDC cumulative value as inst. rain.

KODEPR (from optional group B0).......     0
 Print NCDC special codes in event summary:
 = 0, only on days with events.
 = 1, on all days with codes present.
 Codes: A = accumulated value, I = incomplete value,
        M = missing value,     O = other code present
```

```
*****************************************************
*  Precipitation output created using the Rain block   *
*  Number of precipitation stations...        1        *
*****************************************************

Location Station Number
-------- --------------
       1.     8159


STATION ID ON PRECIP. DATA INPUT FILE = 5902
REQUESTED STATION ID =     8159  CHECK TO BE SURE THEY MATCH.



$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
Note, 15-min. data are being processed, but hourly
print-out, summaries, and statistics are based on
hourly totals only.  Data placed on interface file
are at correct 15-min. intervals.
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$

#####################################################
# Entry made to the Runoff Block, last updated by #
# Oregon State University, and Camp, Dresser and  #
# McKee, Inc., March 2002.                        #
#####################################################
# "And wherever water goes, amoebae go along for  #
#  the ride"                    Tom Robbins       #
#####################################################



                  Heywood Hospital Addition

                  DMH#17



Snowmelt parameter - ISNOW.....................          0

Number of rain gages - NRGAG...................          1

Horton infiltration equation used - INFILM.....          2
Maximum infiltration volume is limited to RMAXINF input on  subcatchment lines.
Infiltration volume regenerates during  non rainfall periods.

Quality is simulated - KWALTY..................          1

IVAP is negative.  Evaporation will be set to zero
    during time steps with rainfall.

Read evaporation data on line(s) F1 (F2) - IVAP..          1
```

```
Hour of day at start of storm - NHR.............          1

Minute of hour at start of storm - NMN..........          1

Time TZERO at start of storm (hours).............      1.017

Use U.S. Customary units for most I/O - METRIC...          0

Runoff input print control...                              0

Runoff graph plot control....                              1

Runoff output print control..                              0

Print headers every 50 lines - NOHEAD (0=yes, 1=no)        0

Print land use load percentages -LANDUPR (0=no, 1=yes)     0

Limit number of groundwater convergence messages to 10000 (if simulated)

Month, day, year of start of storm is:              1/ 1/1948

Wet time step length (seconds).......                   300.

Dry time step length (seconds).......                   900.

Wet/Dry time step length (seconds)...                   450.

Simulation length is......                       19721231.0 Yr/Mo/Dy

Percent of impervious area with zero detention depth    25.0

Horton infiltration model being used
Rate for regeneration of infiltration = REGEN * DECAY
DECAY is read in for each subcatchment
REGEN = ........................................   0.01000
```



```
*******************************************************
*   Processed Precipitation will be read from file    *
*******************************************************

  ############################
  #        Data Group F1     #
  # Evaporation Rate (in/day) #
  ############################

 JAN.  FEB.  MAR.  APR.  MAY   JUN.  JUL.  AUG.  SEP.  OCT.  NOV.  DEC.
 ----  ----  ----  ----  ----  ----  ----  ----  ----  ----  ----  ----
 0.00  0.00  0.00  0.10  0.10  0.15  0.15  0.15  0.10  0.10  0.00  0.00
```



C H A N N E L A N D P I P E D A T A

Input equen umber	NAMEG: Channel ID #	Drains to NGTO:	Channel Type	Width (ft)	Length (ft)	Invert Slope (ft/ft)	L Side Slope (ft/ft)	R Side Slope (ft/ft)	Intial Depth (ft)	Max Depth (ft)	Mann- ings "N"	Full Flow (cfs)
1	201	200	Dummy	0.0	0.0	0.0000	0.0000	0.0000	0.0	0.0	0.0000	0.00E+00

S U B C A T C H M E N T D A T A

NOTE. SEE LATER TABLE FOR OPTIONAL SUBCATCHMENT PARAMETERS

SUBCATCH- MENT NO.	CHANNEL OR INLET	WIDTH (FT)	AREA (AC)	PERCENT IMPERV.	SLOPE (FT/FT)	RESISTANCE IMPERV.	FACTOR PERV.	DEPRES. IMPERV.	STORAGE(IN) PERV.	INFILTRATION RATE(IN/HR) MAXIMUM	INFILTRATION RATE(IN/HR) MINIMUM	DECAY RATE (1/SEC)	GAGE NO.	MAXIMUM VOLUME (INCHES)
1	300	200	264.66	1.61	92.30	0.0200	0.015	0.250	0.020	0.200	2.50	0.40	0.00055	1	4.00000

TOTAL NUMBER OF SUBCATCHMENTS... 1
TOTAL TRIBUTARY AREA (ACRES).... 1.61
IMPERVIOUS AREA (ACRES)..... 1.48
PERVIOUS AREA (ACRES)..... 0.12
TOTAL WIDTH (FEET)..... 264.66
PERCENT IMPERVIOUSNESS..... 92.30

G R O U N D W A T E R I N P U T D A T A

SUB-CATCH NUMBER	CHANNEL OR INLET	ELEVATIONS GROUND (FT)	BOTTOM (FT)	STAGE (FT)	BC (FT)	TW (FT)	FLOW CONSTANTS A1 (IN/HR-FT^B1)	B1	A2 (IN/HR-FT^B2)	B2	A3 (IN/HR-FT^2)
0	602	10.00	0.00	0.00	2.00	2.00	4.500E-05	2.600	0.000E+00	1.000	0.00E+00

G R O U N D W A T E R I N P U T D A T A (CONTINUED)

S O I L P R O P E R T I E S

SUBCAT. NO.	POROSITY	SATURATED HYDRAULIC CONDUCTIVITY (in/hr)	WILTING POINT	FIELD CAPACITY	INITIAL MOISTURE	MAX. DEEP PERCOLATION (in/hr)	PERCOLATION PARAMETERS HCO	PCO	ET PARAMETERS DEPTH OF ET (ft)	FRACTION OF ET TO UPPER ZONE
0	.4000	5.000	.1500	.3000	.3000	2.000E-03	10.00	15.00	14.00	0.350

```
*******************************************************
*    Arrangement of Subcatchments and Channel/Pipes     *
*******************************************************
* See second subcatchment output table for connectivity *
* of subcatchment to subcatchment flows.                *
*******************************************************

   Channel
   or Pipe
      201     No Tributary Channel/Pipes
              No Tributary Subareas.....


    INLET
      200     Tributary Channel/Pipes...        201
              Tributary Subareas........        300


*******************************************************
* Hydrographs will be stored for the following   1 INLETS *
*******************************************************
          200
```



```
###################################################
#              Quality Simulation                 #
###################################################
#      General Quality Control Data Groups        #
###################################################
```

Description	Variable	Value	
Number of quality constituents.....	NQS.....	1	
Number of land uses.....	JLAND.....	1	
Standard catchbasin volume.....	CBVOL.....	4.00	cubic feet
Erosion is not simulated.....	IROS.....	0	
DRY DAYS PRIOR TO START OF STORM...	DRYDAY.....	3.00	DAYS
DRY DAYS REQUIRED TO RECHARGE CATCHBASIN CONCENTRATION TO INITIAL VALUES.....	DRYBSN.....	5.00	DAYS
DUST AND DIRT STREET SWEEPING EFFICIENCY.....	REFFDD.....	0.000	
DAY OF YEAR ON WHICH STREET SWEEPING BEGINS.....	KLNBGN.....	120	
DAY OF YEAR ON WHICH STREET SWEEPING ENDS.....	KLNEND.....	270	

```
##########################################
#     Land use data on data group J2     #
##########################################
```

AND USE LNAME)	BUILDUP EQUATION TYPE (METHOD)	FUNCTIONAL DEPENDENCE OF BUILDUP PARAMETER(JACGUT)	LIMITING BUILDUP QUANTITY (DDLIM)	BUILDUP POWER (DDPOW)	BUILDUP COEFF. (DDFACT)	CLEANING INTERVAL IN DAYS (CLFREQ)	AVAIL. FACTOR FRACTION (AVSWP)	DAYS SINCE LAST SWEEPING (DSLCL)
Urban De	EXPONENTIAL(1)	AREA(1)	2.500E+01	0.500	60.000	30.000	0.300	30.000

```
##############################################
#     Constituent data on data group J3      #
##############################################
```

	Total Su
Constituent units.....	mg/l
Type of units.....	0
KALC.....	2
Type of buildup calc.....	EXPONENTIAL(2)
KWASH.....	0
Type of washoff calc.....	POWER EXPONEN.(0)
KACGUT.....	1
Dependence of buildup....	AREA(1)
LINKUP.....	0
Linkage to snowmelt.....	NO SNOW LINKAGE
Buildup param 1 (QFACT1).	25.000
Buildup param 2 (QFACT2).	0.500
Buildup param 3 (QFACT3).	60.000
Buildup param 4 (QFACT4).	0.000
Buildup param 5 (QFACT5).	0.000
Washoff power (WASHPO)...	1.100
Washoff coef. (RCOEF)....	3.000
Init catchb conc (CBFACT)	100.000
Precip. conc. (CONCRN)...	0.000
Street sweep effic (REFF)	0.000
Remove fraction (REMOVE).	0.000
1st order QDECAY, 1/day..	0.000
Land use number.....	1

```
**********************************************
* Constant Groundwater Quality Concentration(s) *
**********************************************

 Total Susp has a concentration of..    0.0000   mg/l
```

```
*********************************************
* REMOVAL FRACTIONS FOR SELECTED CHANNEL/PIPES *
* FROM J7 LINES                               *
*********************************************

  CHANNEL/   CONSTITUENT
     PIPE Total Susp
---------- --------
       201    0.000


*****************************************************
*     Subcatchment surface quality on data group L1 *
*****************************************************
```

No.	Land Usage	Land Use No.	Total Gutter Length 10**2ft	Number of Catch-Basins	Input Loading load/ac Total Su
1	300 Urban De	1	5.30	2.00	0.0E+00
Totals (Loads in lb or other)			5.30	2.00	0.0E+00

```
    ***********************
    *    DATA GROUP M1    *
    ***********************


TOTAL NUMBER OF PRINTED GUTTERS/INLETS...NPRNT..        1
NUMBER OF TIME STEPS BETWEEN PRINTINGS..INTERV..        0
STARTING AND STOPPING PRINTOUT DATES.....               0        0


    ***********************
    *    DATA GROUP M3    *
    ***********************

CHANNEL/INLET PRINT DATA GROUPS......       -200




          ****************************************
          * Rainfall from Nat. Weather Serv. file  *
          * in units of hundredths of an inch      *
          ****************************************

         Heywood Hospital Addition
         DMH#17
```

Rainfall Station Sterling 2 Nnw
State/Province Massachusetts

Rainfall Depth Summary (in)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1948.	1.8	0.0	0.0	0.0	6.8	4.1	4.8	1.6	0.4	2.7	7.7	3.0	32.9
1949.	4.7	3.9	2.2	5.2	3.0	0.4	1.9	2.1	3.7	2.6	1.0	3.8	34.5
1950.	5.6	5.2	4.8	3.7	2.5	1.9	2.0	0.0	0.0	0.3	7.1	3.8	36.9
1951.	4.4	6.8	6.4	3.3	5.2	3.2	6.7	3.2	2.7	5.8	6.9	5.1	59.6
1952.	5.8	2.8	4.5	5.5	4.2	4.7	3.3	8.1	2.4	0.8	5.0	3.0	50.1
1953.	6.4	3.9	8.7	8.2	4.8	2.6	1.9	2.0	2.0	6.4	3.4	5.9	56.3
1954.	2.9	3.4	3.3	5.1	7.2	3.9	2.6	7.8	7.6	4.1	6.7	5.7	60.3
1955.	0.6	4.2	4.6	4.6	1.7	5.7	2.2	10.6	2.3	11.0	5.2	1.6	54.1
1956.	8.4	4.7	6.9	5.4	2.0	3.8	2.3	1.4	3.9	2.7	4.4	6.0	51.9
1957.	2.9	2.1	3.3	2.9	3.8	3.0	0.9	2.7	1.7	4.3	6.3	6.4	40.2
1958.	10.3	3.3	4.8	6.4	4.3	2.3	4.9	3.7	6.6	2.7	4.4	2.6	56.4
1959.	3.9	3.4	5.3	4.7	1.5	3.7	8.8	5.1	2.3	6.7	4.9	6.6	56.9
1960.	2.6	5.3	3.4	4.6	5.6	2.4	6.7	2.3	7.6	3.5	5.2	3.8	52.9
1961.	1.0	3.1	3.0	6.1	3.1	3.4	4.4	2.6	5.6	2.5	4.4	5.4	44.4
1962.	2.4	5.9	2.8	5.4	4.1	4.2	1.4	4.3	8.3	6.6	5.3	5.9	56.5
1963.	3.7	3.6	4.6	1.8	2.7	2.4	1.7	3.0	4.5	1.4	9.1	3.9	42.6
1964.	5.8	3.3	4.1	3.7	2.0	2.0	2.6	1.5	1.8	2.1	2.9	5.6	37.4
1965.	2.5	3.7	3.7	2.6	2.6	1.6	1.9	2.1	2.7	3.1	2.9	2.4	31.9
1966.	4.2	4.6	2.6	1.5	3.5	2.9	2.6	1.1	6.8	3.0	4.4	3.8	40.8
1967.	2.6	4.0	5.1	6.0	7.6	4.5	4.7	3.5	4.3	2.1	5.1	2.8	52.3
1968.	3.3	1.4	7.5	2.0	5.5	9.5	3.3	0.8	2.2	2.5	9.2	4.6	51.7
1969.	1.7	2.2	2.8	4.2	1.8	2.3	3.6	5.0	5.0	0.5	0.0	5.6	34.8
1970.	1.2	5.4	4.4	3.8	0.0	0.0	0.3	3.5	3.2	3.1	1.4	4.3	30.5
1971.	3.2	4.5	2.6	2.7	5.1	3.2	2.6	7.0	0.8	3.4	5.6	3.4	44.2
1972.	2.6	5.6	7.8	1.5	7.9	5.3	2.5	3.4	2.1	0.0	0.0	0.0	38.7

Total Rainfall Depth for Simulation Period 1149.0 (in)

Rainfall Intensity Analysis (in/hr)

(in/hr)	(#)	(%)	(in)	(%)
0.10	26817	69.7	333.	29.0
0.20	7398	19.2	274.	23.9
0.30	1466	3.8	94.	8.2
0.40	1250	3.2	110.	9.5
0.50	371	1.0	42.	3.7
0.60	207	0.5	28.	2.4
0.70	273	0.7	43.	3.8
0.80	174	0.5	33.	2.8
0.90	81	0.2	18.	1.5
1.00	93	0.2	22.	1.9
1.10	34	0.1	9.	0.8
1.20	29	0.1	8.	0.7

1.30	39	0.1	12.	1.1
1.40	35	0.1	12.	1.0
1.50	19	0.0	7.	0.6
1.60	39	0.1	15.	1.3
1.70	6	0.0	3.	0.2
1.80	21	0.1	9.	0.8
1.90	15	0.0	7.	0.6
2.00	14	0.0	7.	0.6
> 2.00	88	0.2	64.	5.5

Total # of Intensities 38469

Daily Rainfall Depth Analysis (in)

(in)	(#)	(%)	(in)	(%)
0.10	693	26.0	40.	3.5
0.20	458	17.2	66.	5.7
0.30	322	12.1	78.	6.8
0.40	232	8.7	80.	6.9
0.50	171	6.4	76.	6.7
0.60	161	6.0	88.	7.6
0.70	116	4.3	75.	6.5
0.80	92	3.4	68.	6.0
0.90	68	2.5	57.	5.0
1.00	62	2.3	59.	5.1
1.10	37	1.4	39.	3.4
1.20	49	1.8	56.	4.9
1.30	38	1.4	47.	4.1
1.40	31	1.2	42.	3.6
1.50	18	0.7	26.	2.3
1.60	24	0.9	37.	3.2
1.70	15	0.6	25.	2.1
1.80	16	0.6	28.	2.4
1.90	13	0.5	24.	2.1
2.00	7	0.3	14.	1.2
> 2.00	46	1.7	124.	10.8

Total # Days with Rain 2669

****
* End of time step DO-loop in Runoff *
****

Final Date (Mo/Day/Year) = 1/ 1/1973
Total number of time steps = 1668942
Final Julian Date = 1973001
Final time of day = 1. seconds.
Final time of day = 0.00 hours.
Final running time = 219168.0000 hours.
Final running time = 9132.0000 days.

****
* Extrapolation Summary for Watersheds *

```
* # Steps ==> Total Number of Extrapolated Steps *
* # Calls ==> Total Number of OVERLND Calls      *
**************************************************

 Subcatch   # Steps   # Calls  Subcatch   # Steps   # Calls  Subcatch   # Steps   # Calls
 --------   -------   -------  --------   -------   -------  --------   -------   -------
      300   7237489   1861027

**************************************************
*     Extrapolation Summary for Channel/Pipes    *
* # Steps ==> Total Number of Extrapolated Steps *
* # Calls ==> Total Number of GUTNR Calls        *
**************************************************

Chan/Pipe   # Steps   # Calls Chan/Pipe   # Steps   # Calls Chan/Pipe   # Steps   # Calls
 --------   -------   -------  --------   -------   -------  --------   -------   -------
      201         0         0
↑
**********************************************
*       Continuity Check for Surface Water   *
**********************************************
                                                                  Inches over
                                                     cubic feet    Total Basin
Total Precipitation (Rain plus Snow)                   6697420.      1147.
Total Infiltration                                      500655.        86.
Total Evaporation                                       281014.        48.
Surface Runoff from Watersheds                         5955840.      1020.
Total Water remaining in Surface Storage                     0.         0.
Infiltration over the Pervious Area...                  500655.      1114.
                      --------
Infiltration + Evaporation +
Surface Runoff + Snow removal +
Water remaining in Surface Storage +
Water remaining in Snow Cover.........                 6737510.      1154.
Total Precipitation + Initial Storage.                 6697420.      1147.


The error in continuity is calculated as
***************************************
* Precipitation + Initial Snow Cover  *
*      - Infiltration -               *
*Evaporation - Snow removal -         *
*Surface Runoff from Watersheds -     *
*Water in Surface Storage -           *
*Water remaining in Snow Cover        *
*-------------------------------------*
* Precipitation + Initial Snow Cover  *
***************************************
Error.................................       -0.599 Percent


**********************************************
*       Continuity Check for Channel/Pipes   *
**********************************************
                                                                  Inches over
```

	cubic feet	Total Basin
Initial Channel/Pipe Storage.....	0.	0.
Final Channel/Pipe Storage.....	0.	0.
Surface Runoff from Watersheds.....	5955840.	1020.
Baseflow.....	0.	
Groundwater Subsurface Inflow.....	0.	0.
Evaporation Loss from Channels.....	0.	0.
Channel/Pipe/Inlet Outflow.....	5955840.	1020.
Initial Storage + Inflow.....	5955840.	1020.
Final Storage + Outflow.....	5955840.	1020.

```
*****************************************
* Final Storage + Outflow + Evaporation  - *
* Watershed Runoff - Groundwater Inflow  - *
*     Initial Channel/Pipe Storage         *
*     ---------------------------------    *
*  Final Storage + Outflow  + Evaporation  *
*****************************************
```

Error..... 0.000 Percent

↑

```
************************************************
*     Continuity Check for Subsurface Water    *
************************************************
```

	cubic feet	Inches over Subsurface Basin
Total Infiltration	0.	0.
Total Upper Zone ET	0.	0.
Total Lower Zone ET	0.	0.
Total Groundwater flow	0.	0.
Total Deep percolation	0.	0.
Initial Subsurface Storage	210133.	36.
Final Subsurface Storage	210133.	36.
Upper Zone ET over Pervious Area	0.	0.
Lower Zone ET over Pervious Area	0.	0.

```
*****************************************
* Infiltration + Initial Storage - Final *
* Storage - Upper and Lower Zone ET -    *
* Groundwater Flow - Deep Percolation    *
* -------------------------------------- *
*     Infiltration + Initial Storage     *
*****************************************
```

Error ..... 0.000 Percent

↑

SUMMARY STATISTICS FOR SUBCATCHMENTS
====================================

	PERVIOUS AREA	IMPERVIOUS AREA	TOTAL SUBCATCHMENT AREA

SUBCATCH-MENT NO.	GUTTER OR INLET NO.	AREA (AC)	PERCENT IMPER.	TOTAL SIMULATED RAINFALL (IN)	TOTAL RUNOFF DEPTH (IN)	TOTAL LOSSES (IN)	PEAK RUNOFF RATE (CFS)	RUNOFF DEPTH (IN)	PEAK RUNOFF RATE (CFS)	RUNOFF DEPTH (IN)	PEAK RUNOFF RATE (CFS)	PEAK UNIT RUNOFF (IN/HR)
300	200	1.61	92.3	1147.40	33.692	1114.877	0.589	1102.134	8.860	1019.864	9.449	5.876

*** NOTE *** IMPERVIOUS AREA STATISTICS AGGREGATE IMPERVIOUS AREAS WITH AND WITHOUT DEPRESSION STORAGE

SUMMARY STATISTICS FOR CHANNEL/PIPES

CHANNEL NUMBER	FULL FLOW (CFS)	FULL VELOCITY (FPS)	FULL DEPTH (FT)	MAXIMUM COMPUTED INFLOW (CFS)	MAXIMUM COMPUTED OUTFLOW (CFS)	MAXIMUM COMPUTED DEPTH (FT)	MAXIMUM COMPUTED VELOCITY (FPS)	TIME OF OCCURRENCE DAY	TIME OF OCCURRENCE HR.	LENGTH OF SURCHARGE (HOUR)	MAXIMUM SURCHARGE VOLUME (AC-FT)	RATIO OF MAX. TO FULL FLOW	RATIO OF MAX. DEPTH TO FULL DEPTH
201				0.00				1/ 0/1900	0.00				
200				9.45				11/13/1968	5.50				

TOTAL NUMBER OF CHANNELS/PIPES = 2

*** NOTE *** THE MAXIMUM FLOWS AND DEPTHS ARE CALCULATED AT THE END OF THE TIME INTERVAL



```
#######################################################
#            Runoff Quality Summary Page              #
# If NDIM = 0 Units for:   loads    mass rates       #
#             METRIC = 1    lb        lb/sec         #
#             METRIC = 2    kg        kg/sec         #
# If NDIM = 1 Loads are in units of quantity         #
#             and mass rates are quantity/sec        #
# If NDIM = 2 loads are in units of concentration    #
#             times volume and mass rates have units#
#             of concentration times volume/second   #
#######################################################
```

Total Su NDIM = 0
METRIC = 1

	Total Su
Inputs	
1. INITIAL SURFACE LOAD.....	31.
2. TOTAL SURFACE BUILDUP.....	32585.
3. INITIAL CATCHBASIN LOAD.....	0.
4. TOTAL CATCHBASIN LOAD.....	0.
5. TOTAL CATCHBASIN AND SURFACE BUILDUP (2+4).....	32585.

Remaining Loads

6.	LOAD REMAINING ON SURFACE...	5.
7.	REMAINING IN CATCHBASINS....	0.
8.	REMAINING IN CHANNEL/PIPES..	0.

Removals

9.	STREET SWEEPING REMOVAL.....	0.
10.	NET SURFACE BUILDUP (2-9)...	32585.
11.	SURFACE WASHOFF.....	32568.
12.	CATCHBASIN WASHOFF.....	0.
13.	TOTAL WASHOFF (11+12).....	32568.
14.	LOAD FROM OTHER CONSTITUENTS	0.
15.	PRECIPITATION LOAD.....	0.
15a.	SUM SURFACE LOAD (13+14+15).	32568.
16.	TOTAL GROUNDWATER LOAD.....	0.
16a.	TOTAL I/I LOAD.....	0.
17.	NET SUBCATCHMENT LOAD (15a-15b-15c-15d+16+16a)....	32568.
>>Removal in channel/pipes (17a, 17b):		
17a.	REMOVE BY BMP FRACTION.....	0.
17b.	REMOVE BY 1st ORDER DECAY...	0.
18.	TOTAL LOAD TO INLETS.....	32568.
19.	FLOW WT'D AVE.CONCENTRATION mg/l (INLET LOAD/TOTAL FLOW).....	88.

Percentages

20.	STREET SWEEPING (9/2).....	0.
21.	SURFACE WASHOFF (11/2).....	100.
22.	NET SURFACE WASHOFF(11/10)..	100.
23.	WASHOFF/SUBCAT LOAD(11/17)..	100.
24.	SURFACE WASHOFF/INLET LOAD (11/18).....	100.
25.	CATCHBASIN WASHOFF/ SUBCATCHMENT LOAD (12/17)...	0.
26.	CATCHBASIN WASHOFF/ INLET LOAD (12/18).....	0.
27.	OTHER CONSTITUENT LOAD/ SUBCATCHMENT LOAD (14/17)...	0.
28.	INSOLUBLE FRACTION/ INLET LOAD (14/18).....	0.
29.	PRECIPITATION/ SUBCATCHMENT LOAD (15/17)...	0.
30.	PRECIPITATION/ INLET LOAD (15/18).....	0.
31.	GROUNDWATER LOAD/ SUBCATCHMENT LOAD (16/17)...	0.
32.	GROUNDWATER LOAD/ INLET LOAD (16/18).....	0.
32a.	INFILTRATION/INFLOW LOAD/ SUBCATCHMENT LOAD (16a/17)..	0.
32b.	INFILTRATION/INFLOW LOAD/ INLET LOAD (16a/18).....	0.

32c.CH/PIPE BMP FRACTION REMOVAL/
SUBCATCHMENT LOAD (17a/17).. 0.
32d.CH/PIPE 1st ORDER DECAY REMOVAL/
SUBCATCHMENT LOAD (17b/17).. 0.
33. INLET LOAD SUMMATION ERROR
(18+8+6a+17a+17b-17)/17..... 0.

CAUTION. Due to method of quality routing (Users Manual, Appendix IX)
quality routing through channel/pipes is sensitive to the time step.
Large "Inlet Load Summation Errors" may result.
These can be reduced by adjusting the time step(s).
Note: surface accumulation during dry time steps at end of simulation is
not included in totals. Buildup is only performed at beginning of
wet steps or for street cleaning.

****
* TSS Particle Size Distribution *
****

Diameter (um)	%	Specific Gravity	Settling Velocity (ft/s)	Critical Peclet Number
2.	5.0	2.65	0.000009	0.032973
5.	5.0	2.65	0.000055	0.056296
8.	10.0	2.65	0.000141	0.074071
20.	15.0	2.65	0.000875	0.126463
50.	10.0	2.65	0.005346	0.215914
75.	5.0	2.65	0.011640	0.273579
100.	10.0	2.65	0.019828	0.323611
150.	15.0	2.65	0.040138	0.410039
250.	15.0	2.65	0.087320	0.552510
500.	5.0	2.65	0.198831	0.828097
1000.	5.0	2.65	0.365264	1.241146

****
*
* Summary of TSS Removal *
*
****

TSS Removal based on NJCAT Lab Performance Curve

Model #	Low Q Treated (cfs)	High Q Treated (cfs)	Runoff Treated (%)	TSS Removed (%)
HS 4	0.996	11.507	91.4	61.3
HS 5	1.959	11.507	96.3	69.9
HS 6	2.954	11.507	98.3	76.2 <=TSS Removal
HS 7	3.921	11.507	99.1	79.8
HS 8	5.010	11.507	99.6	82.8
HS 9	6.200	11.507	99.8	85.9
HS 10	7.544	11.507	99.9	88.4
HS 12	10.424	11.507	100.0	92.3

****
* Summary of Annual Flow Treatmnet & TSS Removal *
****

HS 4

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	1858855.8	1721493.5	933.1	578.9	354.2	92.6	62.0
1949.	1949925.0	1906819.0	1234.9	807.0	428.0	97.8	65.4
1950.	2124742.8	2026367.9	1085.7	715.5	370.2	95.4	65.9
1951.	3402474.0	3269330.2	1539.4	988.1	551.3	96.1	64.2
1952.	2856968.2	2672629.2	1363.2	836.3	527.0	93.5	61.3
1953.	3237965.2	3064198.2	1450.6	893.4	557.3	94.6	61.6
1954.	3448079.2	3147579.5	1545.7	986.1	559.6	91.3	63.8
1955.	3123214.5	2869290.8	1214.3	752.8	461.5	91.9	62.0
1956.	2959723.2	2844388.2	1471.2	939.5	531.9	96.1	63.9
1957.	2287547.5	2173333.2	1220.4	769.6	450.8	95.0	63.1
1958.	3178040.2	2991004.0	1495.0	904.7	590.4	94.1	60.5
1959.	3235356.0	2862824.5	1429.3	908.5	520.9	88.5	63.6
1960.	3006491.2	2824140.5	1450.9	908.4	542.6	93.9	62.6
1961.	2506976.2	2150118.8	1396.1	794.3	601.9	85.8	56.9
1962.	3236690.0	3053654.2	1405.6	881.3	524.4	94.3	62.7
1963.	2408363.5	2273465.8	1295.3	829.2	466.2	94.4	64.0
1964.	2117561.8	1872044.1	1261.9	772.1	489.9	88.4	61.2
1965.	1781520.5	1723238.4	1203.7	770.5	433.2	96.7	64.0
1966.	2322194.2	2200413.5	1287.5	845.2	442.4	94.8	65.6
1967.	2958639.2	2775643.5	1549.4	937.2	612.3	93.8	60.5
1968.	2980635.0	2499653.8	1322.7	743.8	578.9	83.9	56.2
1969.	1976194.9	1555807.5	1003.9	543.3	460.6	78.7	54.1
1970.	1830032.4	995764.9	921.0	395.8	525.2	54.4	43.0
1971.	2524900.8	2332628.2	1407.8	829.0	578.9	92.4	58.9
1972.	2185170.8	2035577.6	1104.6	655.8	448.8	93.2	59.4

HS 5

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	1858855.8	1821669.0	933.1	652.7	280.4	98.0	69.9
1949.	1949925.0	1948416.6	1234.9	906.5	328.5	99.9	73.4
1950.	2124742.8	2087238.5	1085.7	801.8	283.9	98.2	73.9
1951.	3402474.0	3355671.0	1539.4	1113.2	426.2	98.6	72.3
1952.	2856968.2	2803072.2	1363.2	963.5	399.7	98.1	70.7
1953.	3237965.2	3162513.2	1450.6	1020.3	430.4	97.7	70.3
1954.	3448079.2	3336982.2	1545.7	1119.8	426.0	96.8	72.4
1955.	3123214.5	3066021.5	1214.3	858.9	355.5	98.2	70.7
1956.	2959723.2	2928145.0	1471.2	1061.1	410.3	98.9	72.1

1957.	2287547.5	2256409.5	1220.4	867.7	352.7	98.6	71.1
1958.	3178040.2	3095118.2	1495.0	1033.5	461.7	97.4	69.1
1959.	3235356.0	3049591.8	1429.3	1029.4	400.0	94.3	72.0
1960.	3006491.2	2971915.8	1450.9	1034.4	416.5	98.8	71.3
1961.	2506976.2	2368133.2	1396.1	923.6	472.6	94.5	66.2
1962.	3236690.0	3182957.8	1405.6	998.6	407.1	98.3	71.0
1963.	2408363.5	2363472.0	1295.3	938.3	357.1	98.1	72.4
1964.	2117561.8	2001246.6	1261.9	880.8	381.3	94.5	69.8
1965.	1781520.5	1769834.8	1203.7	869.8	333.9	99.3	72.3
1966.	2322194.2	2284257.5	1287.5	947.9	339.6	98.4	73.6
1967.	2958639.2	2920566.5	1549.4	1081.8	467.6	98.7	69.8
1968.	2980635.0	2695251.8	1322.7	854.0	468.7	90.4	64.6
1969.	1976194.9	1725198.5	1003.9	633.6	370.4	87.3	63.1
1970.	1830032.4	1260812.6	921.0	485.2	435.8	68.9	52.7
1971.	2524900.8	2485558.0	1407.8	960.0	447.9	98.4	68.2
1972.	2185170.8	2116935.0	1104.6	752.2	352.4	96.9	68.1

HS 6

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	1858855.8	1844965.0	933.1	707.9	225.2	99.3	75.9
1949.	1949925.0	1949925.0	1234.9	984.0	251.0	100.0	79.7
1950.	2124742.8	2105419.5	1085.7	868.2	217.5	99.1	80.0
1951.	3402474.0	3392571.2	1539.4	1203.6	335.8	99.7	78.2
1952.	2856968.2	2845215.0	1363.2	1046.4	316.8	99.6	76.8
1953.	3237965.2	3186012.8	1450.6	1112.2	338.5	98.4	76.7
1954.	3448079.2	3419798.5	1545.7	1216.5	329.2	99.2	78.7
1955.	3123214.5	3115925.2	1214.3	934.3	280.1	99.8	76.9
1956.	2959723.2	2959723.2	1471.2	1153.9	317.5	100.0	78.4
1957.	2287547.5	2287547.5	1220.4	938.8	281.6	100.0	76.9
1958.	3178040.2	3148288.5	1495.0	1129.1	366.1	99.1	75.5
1959.	3235356.0	3159152.2	1429.3	1118.1	311.3	97.6	78.2
1960.	3006491.2	3003705.5	1450.9	1121.9	329.0	99.9	77.3
1961.	2506976.2	2453299.8	1396.1	1021.4	374.8	97.9	73.2
1962.	3236690.0	3226661.5	1405.6	1086.6	319.1	99.7	77.3
1963.	2408363.5	2404057.0	1295.3	1019.8	275.6	99.8	78.7
1964.	2117561.8	2058220.8	1261.9	966.7	295.4	97.2	76.6
1965.	1781520.5	1781520.5	1203.7	940.5	263.3	100.0	78.1
1966.	2322194.2	2311480.8	1287.5	1024.3	263.2	99.5	79.6
1967.	2958639.2	2958639.2	1549.4	1181.5	368.0	100.0	76.3
1968.	2980635.0	2798145.2	1322.7	942.5	380.2	93.9	71.3
1969.	1976194.9	1815669.4	1003.9	699.7	304.3	91.9	69.7
1970.	1830032.4	1447416.2	921.0	548.7	372.3	79.1	59.6
1971.	2524900.8	2524554.8	1407.8	1047.0	360.9	100.0	74.4
1972.	2185170.8	2162898.5	1104.6	823.1	281.5	99.0	74.5

HS 7

Year	Flow Vol	Flow Treated	TSS IN	TSS Rem	TSS Out	Flow Treated	TSS Removal

	(ft3)	(ft3)	(lb)	(lb)	(lb)	(%)	(%)
1948.	1858855.8	1858749.5	933.1	743.4	189.7	100.0	79.7
1949.	1949925.0	1949925.0	1234.9	1023.8	211.1	100.0	82.9
1950.	2124742.8	2121123.0	1085.7	901.7	184.0	99.8	83.1
1951.	3402474.0	3402474.0	1539.4	1256.9	282.5	100.0	81.7
1952.	2856968.2	2856968.2	1363.2	1093.1	270.1	100.0	80.2
1953.	3237965.2	3205074.8	1450.6	1161.9	288.8	99.0	80.1
1954.	3448079.2	3448079.2	1545.7	1269.2	276.5	100.0	82.1
1955.	3123214.5	3123214.5	1214.3	978.0	236.3	100.0	80.5
1956.	2959723.2	2959723.2	1471.2	1206.1	265.2	100.0	82.0
1957.	2287547.5	2287547.5	1220.4	981.6	238.8	100.0	80.4
1958.	3178040.2	3173310.2	1495.0	1191.4	303.7	99.9	79.7
1959.	3235356.0	3210114.5	1429.3	1164.4	264.9	99.2	81.5
1960.	3006491.2	3006491.8	1450.9	1174.9	276.0	100.0	81.0
1961.	2506976.2	2497096.8	1396.1	1075.3	320.9	99.6	77.0
1962.	3236690.0	3236690.0	1405.6	1141.2	264.4	100.0	81.2
1963.	2408363.5	2408363.2	1295.3	1063.2	232.2	100.0	82.1
1964.	2117561.8	2085490.6	1261.9	1010.5	251.5	98.5	80.1
1965.	1781520.5	1781520.5	1203.7	979.1	224.7	100.0	81.3
1966.	2322194.2	2322194.2	1287.5	1069.6	218.0	100.0	83.1
1967.	2958639.2	2958639.2	1549.4	1235.5	313.9	100.0	79.7
1968.	2980635.0	2870097.8	1322.7	996.6	326.0	96.3	75.3
1969.	1976194.9	1862987.4	1003.9	735.5	268.6	94.3	73.3
1970.	1830032.4	1592754.8	921.0	582.2	338.8	87.0	63.2
1971.	2524900.8	2524900.8	1407.8	1097.2	310.7	100.0	77.9
1972.	2185170.8	2184708.0	1104.6	869.8	234.8	100.0	78.7

HS 8

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	1858855.8	1858855.8	933.1	770.2	162.9	100.0	82.5
1949.	1949925.0	1949925.0	1234.9	1057.3	177.7	100.0	85.6
1950.	2124742.8	2124742.8	1085.7	928.5	157.2	100.0	85.5
1951.	3402474.0	3402474.0	1539.4	1305.0	234.4	100.0	84.8
1952.	2856968.2	2856968.2	1363.2	1133.3	230.0	100.0	83.1
1953.	3237965.2	3223049.8	1450.6	1206.1	244.5	99.5	83.1
1954.	3448079.2	3448079.2	1545.7	1311.4	234.3	100.0	84.8
1955.	3123214.5	3123214.5	1214.3	1016.3	198.1	100.0	83.7
1956.	2959723.2	2959723.2	1471.2	1246.7	224.6	100.0	84.7
1957.	2287547.5	2287547.5	1220.4	1020.3	200.1	100.0	83.6
1958.	3178040.2	3178040.2	1495.0	1235.5	259.6	100.0	82.6
1959.	3235356.0	3234287.8	1429.3	1209.4	219.9	100.0	84.6
1960.	3006491.2	3006491.8	1450.9	1220.0	230.9	100.0	84.1
1961.	2506976.2	2506975.2	1396.1	1115.4	280.8	100.0	79.9
1962.	3236690.0	3236690.0	1405.6	1182.5	223.1	100.0	84.1
1963.	2408363.5	2408363.2	1295.3	1098.9	196.5	100.0	84.8
1964.	2117561.8	2113392.0	1261.9	1046.5	215.5	99.8	82.9
1965.	1781520.5	1781520.5	1203.7	1013.9	189.8	100.0	84.2
1966.	2322194.2	2322194.2	1287.5	1107.3	180.3	100.0	86.0
1967.	2958639.2	2958639.2	1549.4	1280.4	269.0	100.0	82.6

1968.	2980635.0	2901539.2	1322.7	1040.9	281.8	97.3	78.7
1969.	1976194.9	1906775.0	1003.9	774.8	229.2	96.5	77.2
1970.	1830032.4	1712257.4	921.0	620.9	300.1	93.6	67.4
1971.	2524900.8	2524900.8	1407.8	1138.9	269.0	100.0	80.9
1972.	2185170.8	2185170.8	1104.6	904.1	200.5	100.0	81.8

HS 9

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	1858855.8	1858855.8	933.1	799.2	133.9	100.0	85.7
1949.	1949925.0	1949925.0	1234.9	1092.9	142.0	100.0	88.5
1950.	2124742.8	2124742.8	1085.7	956.4	129.2	100.0	88.1
1951.	3402474.0	3402474.0	1539.4	1354.3	185.1	100.0	88.0
1952.	2856968.2	2856968.2	1363.2	1178.5	184.7	100.0	86.5
1953.	3237965.2	3237965.2	1450.6	1253.1	197.5	100.0	86.4
1954.	3448079.2	3448079.2	1545.7	1360.2	185.5	100.0	88.0
1955.	3123214.5	3123214.5	1214.3	1051.8	162.6	100.0	86.6
1956.	2959723.2	2959723.2	1471.2	1292.7	178.6	100.0	87.9
1957.	2287547.5	2287547.5	1220.4	1054.0	166.4	100.0	86.4
1958.	3178040.2	3178040.2	1495.0	1284.5	210.6	100.0	85.9
1959.	3235356.0	3235355.8	1429.3	1250.2	179.1	100.0	87.5
1960.	3006491.2	3006491.8	1450.9	1264.2	186.7	100.0	87.1
1961.	2506976.2	2506975.2	1396.1	1162.4	233.8	100.0	83.3
1962.	3236690.0	3236690.0	1405.6	1222.7	182.9	100.0	87.0
1963.	2408363.5	2408363.2	1295.3	1134.6	160.8	100.0	87.6
1964.	2117561.8	2117561.8	1261.9	1081.1	180.9	100.0	85.7
1965.	1781520.5	1781520.5	1203.7	1052.7	151.0	100.0	87.5
1966.	2322194.2	2322194.2	1287.5	1144.7	142.8	100.0	88.9
1967.	2958639.2	2958639.2	1549.4	1330.8	218.7	100.0	85.9
1968.	2980635.0	2925089.0	1322.7	1086.8	235.8	98.1	82.2
1969.	1976194.9	1940041.9	1003.9	813.0	191.0	98.2	81.0
1970.	1830032.4	1771696.8	921.0	653.4	267.6	96.8	70.9
1971.	2524900.8	2524900.8	1407.8	1183.2	224.7	100.0	84.0
1972.	2185170.8	2185170.8	1104.6	940.0	164.6	100.0	85.1

HS 10

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	1858855.8	1858855.8	933.1	824.0	109.1	100.0	88.3
1949.	1949925.0	1949925.0	1234.9	1123.5	111.4	100.0	91.0
1950.	2124742.8	2124742.8	1085.7	980.2	105.5	100.0	90.3
1951.	3402474.0	3402474.0	1539.4	1394.4	145.0	100.0	90.6
1952.	2856968.2	2856968.2	1363.2	1212.7	150.6	100.0	89.0
1953.	3237965.2	3237965.2	1450.6	1292.7	157.9	100.0	89.1
1954.	3448079.2	3448079.2	1545.7	1399.6	146.1	100.0	90.5
1955.	3123214.5	3123214.5	1214.3	1083.0	131.4	100.0	89.2
1956.	2959723.2	2959723.2	1471.2	1326.6	144.7	100.0	90.2

1957.	2287547.5	2287547.5	1220.4	1084.7	135.7	100.0	88.9
1958.	3178040.2	3178040.2	1495.0	1320.2	174.9	100.0	88.3
1959.	3235356.0	3235355.8	1429.3	1281.7	147.6	100.0	89.7
1960.	3006491.2	3006491.8	1450.9	1301.8	149.1	100.0	89.7
1961.	2506976.2	2506975.2	1396.1	1201.4	194.7	100.0	86.1
1962.	3236690.0	3236690.0	1405.6	1255.9	149.7	100.0	89.4
1963.	2408363.5	2408363.2	1295.3	1166.1	129.3	100.0	90.0
1964.	2117561.8	2117561.8	1261.9	1107.8	154.2	100.0	87.8
1965.	1781520.5	1781520.5	1203.7	1082.7	121.1	100.0	89.9
1966.	2322194.2	2322194.2	1287.5	1176.4	111.2	100.0	91.4
1967.	2958639.2	2958639.2	1549.4	1370.5	178.9	100.0	88.5
1968.	2980635.0	2950842.5	1322.7	1125.0	197.5	99.0	85.1
1969.	1976194.9	1974411.9	1003.9	836.7	167.4	99.9	83.3
1970.	1830032.4	1814946.4	921.0	689.5	231.5	99.2	74.9
1971.	2524900.8	2524900.8	1407.8	1221.1	186.7	100.0	86.7
1972.	2185170.8	2185170.8	1104.6	967.7	136.8	100.0	87.6

HS 12

Year	Flow Vol (ft3)	Flow Treated (ft3)	TSS IN (lb)	TSS Rem (lb)	TSS Out (lb)	Flow Treated (%)	TSS Removal (%)
1948.	1858855.8	1858855.8	933.1	858.4	74.7	100.0	92.0
1949.	1949925.0	1949925.0	1234.9	1169.0	65.9	100.0	94.7
1950.	2124742.8	2124742.8	1085.7	1018.0	67.7	100.0	93.8
1951.	3402474.0	3402474.0	1539.4	1452.3	87.1	100.0	94.3
1952.	2856968.2	2856968.2	1363.2	1266.9	96.3	100.0	92.9
1953.	3237965.2	3237965.2	1450.6	1349.2	101.4	100.0	93.0
1954.	3448079.2	3448079.2	1545.7	1457.7	88.0	100.0	94.3
1955.	3123214.5	3123214.5	1214.3	1133.3	81.0	100.0	93.3
1956.	2959723.2	2959723.2	1471.2	1382.0	89.3	100.0	93.9
1957.	2287547.5	2287547.5	1220.4	1135.4	85.0	100.0	93.0
1958.	3178040.2	3178040.2	1495.0	1382.5	112.5	100.0	92.5
1959.	3235356.0	3235355.8	1429.3	1329.5	99.8	100.0	93.0
1960.	3006491.2	3006491.8	1450.9	1355.9	95.0	100.0	93.5
1961.	2506976.2	2506975.2	1396.1	1256.0	140.1	100.0	90.0
1962.	3236690.0	3236690.0	1405.6	1306.7	98.9	100.0	93.0
1963.	2408363.5	2408363.2	1295.3	1211.5	83.8	100.0	93.5
1964.	2117561.8	2117561.8	1261.9	1156.4	105.6	100.0	91.6
1965.	1781520.5	1781520.5	1203.7	1129.0	74.7	100.0	93.8
1966.	2322194.2	2322194.2	1287.5	1215.9	71.7	100.0	94.4
1967.	2958639.2	2958639.2	1549.4	1435.8	113.6	100.0	92.7
1968.	2980635.0	2980635.0	1322.7	1175.6	146.9	100.0	88.9
1969.	1976194.9	1976194.9	1003.9	880.3	123.9	100.0	87.7
1970.	1830032.4	1830032.4	921.0	723.9	197.1	100.0	78.6
1971.	2524900.8	2524900.8	1407.8	1280.6	127.3	100.0	91.0
1972.	2185170.8	2185170.8	1104.6	1012.5	92.0	100.0	91.7



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**************************************************
*  Summary of Quantity and Quality Results at    *
*  Location        200  INFlow in cfs.           *
*  Values are instantaneous at indicated time step *
**************************************************

  Heywood Hospital Addition
  DMH#17

     Date      Time         Flow   Total Su
 Mo/Da/Year  Hr:Min          cfs    mg/l
 ----------  -------     -------  --------
Flow wtd means.....         0.017       88.
Flow wtd std devs..         0.106       69.
Maximum value......         9.449      291.
Minimum value......         0.000        0.
Total loads........      5952668.    32588.
                         Cub-Ft     POUNDS

===> Runoff simulation ended normally.

===> SWMM 4.4    simulation ended normally.
     Always check output file for possible warning messages.

**************************************************
*       SWMM 4.4    Simulation Date and Time Summary  *
**************************************************
* Starting Date... April      13, 2021              *
*          Time...          12:41:40.316            *
*   Ending Date... April      13, 2021              *
*          Time...          12:41:44.531            *
*  Elapsed Time...               0.070 minutes.     *
*  Elapsed Time...               4.215 seconds.     *
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3.1
OPERATION AND MAINTENANCE

STORMWATER OPERATION, MAINTENANCE AND POLLUTION PREVENTION PLAN

Henry Heywood Memorial Hospital
242 Green Street
Gardner, Massachusetts

RESPONSIBLE PARTY DURING CONSTRUCTION:
To Be Determined.

RESPONSIBLE PARTY POST CONSTRUCTION:
Henry Heywood Memorial Hospital
Frank Yavorosky, Director of Facilities
242 Green Street
Gardner, MA 01440
978-630-6388

BEST MANAGEMENT PRACTICES

To prevent the migration of soils, Best Management Practices (BMP's) shall be employed. During construction, hay bales and silt fence will be installed as shown on the plans and also at additional locations on an as needed basis to provide sufficient erosion controls on the site. These components shall be installed to catch and trap the migrating soil materials and pollutants.

All applicable BMP's listed below and in the Department of Environmental Protection's Stormwater Management Handbooks (Volume1: Overview of Massachusetts Stormwater Management Standards and Volume 2: Technical Guide for Compliance with Massachusetts Stormwater Management Standards) dated January 2008 (as amended), shall be incorporated in this project. This Plan shall be followed by the Homeowners Association and residents as required and amended by the Massachusetts Department of Environmental Protection's Stormwater Management Regulations

INSPECTION AND MAINTENANCE (DURING CONSTRUCTION)

1. At all times, hay bales, siltation fabric fencing and wooden stakes sufficient to construct sedimentation control barrier a minimum of 50 feet long will be stockpiled on the site in order to repair established barriers which may have been damaged or breached.

2. Necessary erosion controls shall be in place prior to any clearing or construction on the site. Construction sequence shall be phased in such a manner that the on-site detention basins are stabilized and functioning prior to the establishment of any new impervious areas on the site. The Contractor shall provide temporary stilling or settling basins as needed to catch and trap any migrating soil materials and pollutants from the construction areas.

3. An inspection of all erosion control and stormwater management systems shall be conducted at least once every fourteen (14) calendar days and following significant storm events. Where sites have been finally or temporarily stabilized, or runoff is unlikely due to winter conditions, such inspections shall be conducted at least once every month. (EPA SWPPP IS REQUIRED FOR THIS PROJECT)
In case of any noted breach or failure, the General Contractor shall immediately make appropriate repairs to any erosion control system and notify the engineer of any problems involving storm water management systems.

   A significant storm event shall be defined as all or one of the following thresholds.

   a. Any storm in which rain is predicted to last for twelve consecutive hours or more.
   b. Any storm for which a flash flood watch or warning is issued.
   c. Any single storm predicted to have a cumulative rainfall of greater than one inch.
   d. Any storm not meeting the previous three thresholds but which would mark a third consecutive day of measurable rainfall.

4. If site inspections identify BMPs not operating effectively, maintenance must be performed as soon as possible and before the next storm event.

5. If BMPs need modification or additional BMPs need to be added, implementation must be completed before the next storm if practicable. If implementation before the next storm event is impracticable, the situation must be documented in the construction log and alternative BMPs must be implemented as soon as possible

6. The General Contractor shall also inspect the erosion control and stormwater management systems at times of significant increase in surface water runoff due to rapid thawing when the risk of failure of erosion control measures is significant.

7. In such instances as remedial action is necessary, the General Contractor shall repair any and all significant deficiencies in erosion control systems within two days.

8. The Department of Public Works and/or Conservation Commission shall be notified of any significant failure of storm water management systems and erosion and sediment control measures and shall be notified of any release of pollutants to a water body (stream, brook, pond, etc.).

9. The General Contractor shall remove the sediment from behind the fence of the sedimentation control barrier when the accumulated sediment has reached one-half of the original installed height of the barrier.

INSPECTION AND MAINTENANCE (POST-CONSTRUCTION)

It is the agreement of the responsible parties to finance, inspect, and perform the long-term maintenance of the erosion control devices and the stormwater management systems within the limits stated below.

1. A visual inspection of all erosion control and stormwater management systems shall be conducted by the above identified person(s) a minimum of once per month and after every major storm during the first six months of operation (a portion of that time must be in the growing season). Thorough investigations shall be conducted twice a year. Monthly maintenance requirements may be adjusted based upon the results obtained from the first year of operation.

2. Roads and parking lots shall be swept at least twice per year and on a more frequent basis depending on sanding operations. All resulting sweepings shall be collected and properly disposed of off-site in accordance with MADEP and other applicable requirements.

3. Accumulated sediment shall be removed a minimum of one time per year by means of a clamshell bucket or equivalent from the bottom of the deep sump catch basins and manhole. Disposal of accumulated sediment and pollutants must be in accordance with local, state, and federal guidelines and requirements.

4. Hydroworks Units shall be inspected and maintained per the manufactures recommendations or as needed.

5. All resulting sweepings or sediment removed from catch basins, Hydroworks Units, and manhole connections shall be collected and properly disposed of off-site in accordance with MADEP and other applicable requirements.

6. This plan shall be followed by the ***Landowner*** as required and amended by the Massachusetts Department of Environmental Protection's Stormwater Management Regulations.

7. It shall be the responsibility of the ***Landowner*** to ensure that the Operation and Maintenance of all stormwater structures is performed as outlined in the provided Maintenance Schedule and to provide full funding of the required tasks.

8. It shall be the responsibility of the ***Landowner*** to maintain records for all Operation and Maintenance work performed including inspections, repairs, modifications, to the applicable infrastructure. These records shall be maintained for a period of at least five (5) years.

9. **Maintenance Schedule**

Structure Type	Inspection	Maintenance	Task	Cost Estimate
Deep Sump Catchbasin	Quarterly and at the end of the foliage and snow removal seasons	Quarterly, or whenever the depth of deposits is greater than or equal to one half the depth from the bottom of the invert of the lowest pipe	Clean/Remove Debris and Sediment	$4,500* *($4,500/Year)*
Hydroworks Unit	Annually in the spring	Annually in the spring	Clean/Remove Debris and sediment	$2,000* *($2,000/Year)*
Rip/Rap Aprons	Twice a Year	Every 10 Years	Clean/Add Stone	$1,000* *($100/Year)*
Spillways	Twice a Year	Every 10 Years	Remove Debris & Add Stone	$1,000* *($100/Year)*
StormTech Underground Storage	Seasonally	Six Months	Clean/Remove Debris	$1,500* *($1,500/Year)*
	Total Annual Estimated Cost			$8,200/Year

NOTES:

*Cost estimate per RS Means: Site work & Landscape Cost Data, Includes Mobilization, Material and Installation costs for work

LONG TERM POLLUTION PREVENTION PLAN

1. Access drives to the site shall be swept on an annual basis with a commercial cleaning unit. Any sediment removed shall be disposed of in accordance with applicable local and state requirements.

2. Trash and other debris shall be removed from the drives periodically as needed. Full inspection of the site shall be made on a semi-annual basis to ensure clean and neat appearance to the site. This measure will help in the overall performance of the onsite systems.

3. Trash and other debris shall be removed from landscaped and planted areas periodically as needed. Full inspection of the site shall be made on a semi-annual basis to ensure clean and neat appearance to the site. This measure will help in the overall performance of the onsite systems.

4. Reseed any bare areas as soon as they occur. Erosion control measures shall be installed in these areas to prevent deposits of sediment from entering the drainage system

5. Grass shall be maintained at a minimum blade height of two to three inches and only 1/3 of the plant height shall be removed at a time.

6. Plants shall be pruned as necessary. The use of phosphorous based fertilizer shall be prohibited, and application of organic fertilizer will be kept at a level consistent with typical residential use. Fertilizer will be applied a maximum of once to twice per year during the initial planting and stabilization of landscaped areas. Once plants are established and growing well fertilizer will be applied judiciously.

7. The use of pesticides will be kept at a level consistent with typical residential use. Where possible mechanical methods (i.e. pest traps) or biological methods (i.e. beneficial insects) of pest control shall be implemented.

8. Pet waste shall be disposed of in accordance with local regulations. Pet waste shall not be disposed of in a storm drain or catch basin.

SOURCE CONTROL AND POLLUTIN PREVENTION PLAN

Potential sources of pollution associated with this project include but are not limited to contaminants produced by traffic flow in excess of 1,000 vehicles per day. The potential stormwater contaminants that are recognized are oil based contaminants that are produced from daily traffic. To prevent contamination, the stormwater management system employs methods of containment. The initial method of containment are the deep sump-hooded catchbasins. These catchbasins will allow for TSS removal, and significant reduction in large debris materials such as natural and man-produced waste. Following this level of treatment the drainage treatment train utilizes a proprietary Hydrowork unit that functions as a oil-grit separator that removes the pollutants with, resulting in a combined minimum 80% TSS removal efficiency. In the event of a large spill that results in hazardous waste reaching any stormwater BMP, proper notification to applicable parties as stated in local and federal laws will be completed.

Inspection Log

Henry Heywood Memorial Hospital
242 Green Street, Gardner, Massachusetts
(Logs shall be kept on record a period of at least five (5) years)

DATE	ACTION	RESULT	PERFORMED BY

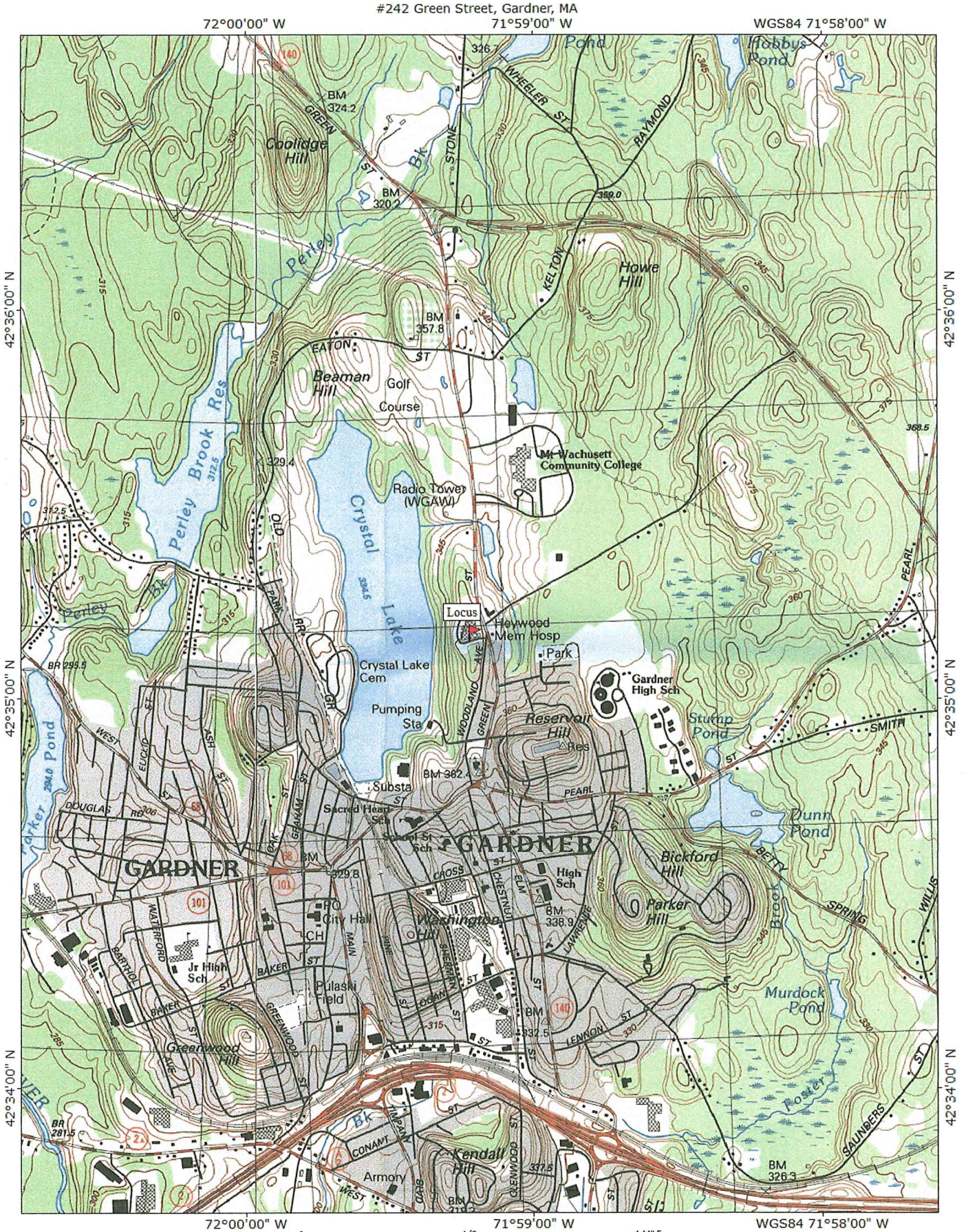
Maintenance Log

Henry Heywood Memorial Hospital
242 Green Street, Gardner, Massachusetts
(Logs shall be kept on record a period of at least five (5) years)

DATE	ACTION	PERFORMED BY

FIGURE 1
LOCUS MAP AND SOILS MAP

#242 Green Street, Gardner, MA



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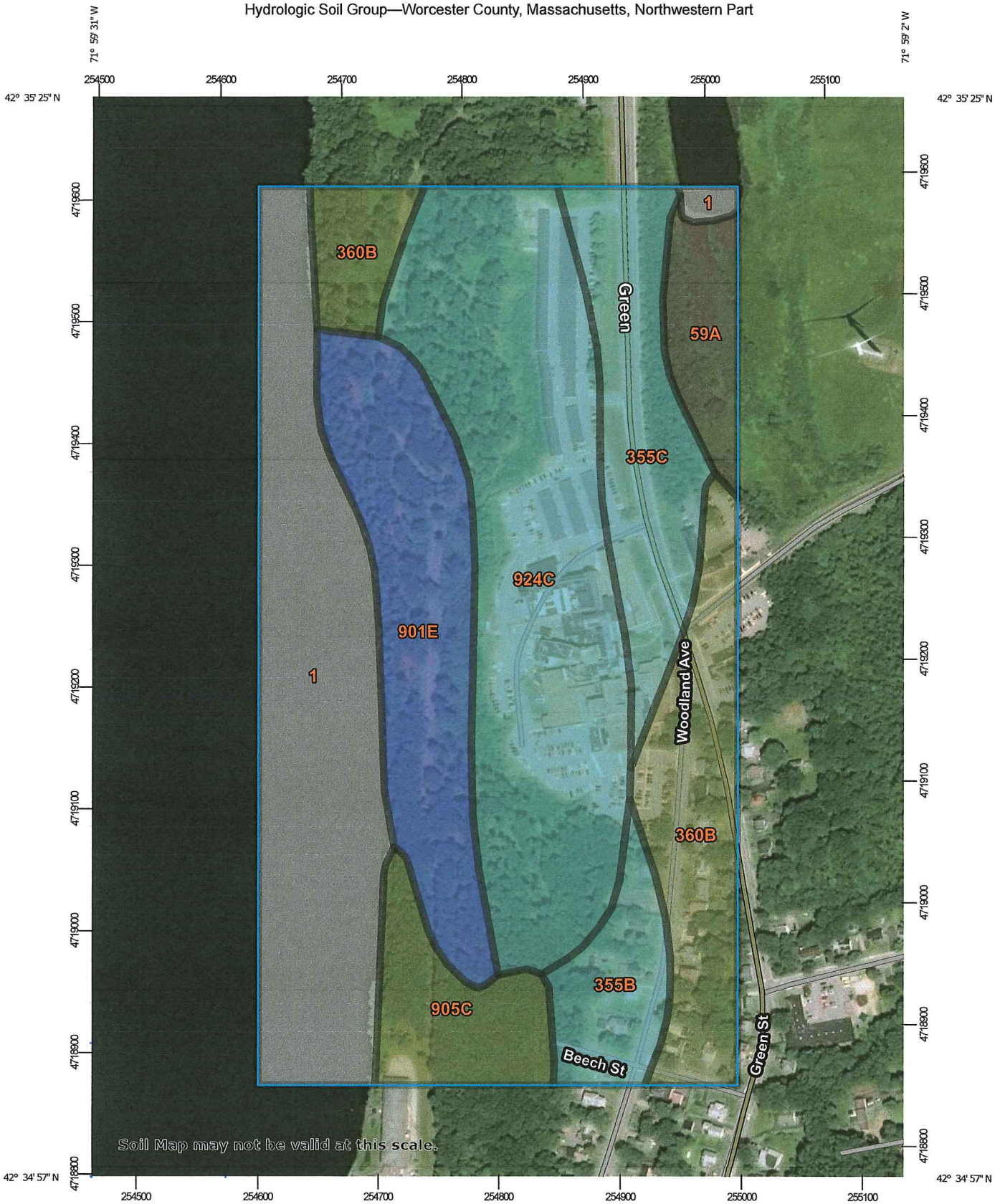
Hydrologic Soil Group—Worcester County, Massachusetts, Northwestern Part



Map Scale: 1:4,320 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Worcester County, Massachusetts, Northwestern Part
Survey Area Data: Version 14, Jun 10, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 18, 2019—Jul 9, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1	Water		15.5	21.4%
59A	Bucksport and Wonsqueak mucks, 0 to 2 percent slopes	B/D	2.8	3.8%
355B	Marlow fine sandy loam, 3 to 8 percent slopes	C	3.4	4.7%
355C	Marlow fine sandy loam, 8 to 15 percent slopes	C	7.1	9.8%
360B	Peru fine sandy loam, 3 to 8 percent slopes	C/D	9.4	13.0%
901E	Berkshire-Marlow association, 15 to 45 percent slopes, extremely stony	B	10.2	14.1%
905C	Peru-Marlow association, 3 to 15 percent slopes, extremely stony	C/D	4.1	5.6%
924C	Tunbridge-Lyman-Berkshire association, 3 to 15 percent slopes, extremely stony	C	20.0	27.6%
Totals for Area of Interest			**72.5**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

FIGURE 2
PRE-DEVELOMPENT WATERSHED MAP

PROJECT INFORMATION

LAND INFORMATION

MAP/PARCEL:	AS NOTED
BOOK–PAGE:	AS NOTED
EXISTING FRONTAGE:	1,290 FT±
EXISTING AREA:	12.1 ACRES±

ZONING INFORMATION

ZONING DISTRICT: RURAL RESIDENTIAL (R2)
SINGLE FAMILY RESIDENTIAL (R1)

DIMENSIONAL REQUIREMENTS:	(R2)	(R1)
MINIMUM AREA:	60,000 S.F.	12,500 S.F.
MINIMUM FRONTAGE:	150'	100'
MAXIMUM HEIGHT:	3 STORIES (36')	
MINIMUM SETBACKS:		
FRONT YARD:	30'	30'
SIDE YARD:	20'	15'
REAR YARD:	40'	20'

GENERAL NOTES:

1. PROPERTY LINE INFORMATION BASED DEEDS AND PLANS OF RECORD. NO CERTIFICATION OF PROPERTY LINES SHOWN ON THIS PLAN IS INTENDED OR IMPLIED BY HANNIGAN ENGINEERING, INC. TOPOGRAPHIC INFORMATION IS THE RESULT OF AN ON-THE-GROUND TOPOGRAPHIC SURVEY BY HANNIGAN ENGINEERING, INC. IN JULY OF 2020.
2. AREAS SUBJECT TO PROTECTION UNDER THE WETLANDS PROTECTION ACT HAVE BEEN DELINEATED BY CARON ENVIRONMENTAL CONSULTING, LLC ON JULY 2, 2020. THESE AREAS ARE DEPICTED ON THE PLANS BASED ON FIELD SURVEY LOCATION DURING THE TOPOGRAPHIC SURVEY. LOCATION OF BANK OF CRYSTAL LAKE WAS FIELD LOCATED BY THIS OFFICE AND DEFINES WATERSHED PROTECTION DISTRICT LIMITS.
3. LOCATION OF ALL UTILITIES ARE APPROXIMATE AS SHOWN AND BASED UPON VISIBLE STRUCTURES AT THE TIME OF THE FIELD SURVEY. LOCATION OF EXISTING UTILITIES AND SUBSURFACE STRUCTURES, WHETHER OR NOT SHOWN ON THESE PLANS, SHALL BE DETERMINED BY THE CONTRACTOR, MARKED IN THE FIELD, AND REVIEWED BY THE ENGINEER PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL BE AWARE OF THE OBLIGATION TO ALL UTILITY COMPANIES AND AGENCY AS WELL AS DIG-SAFE PRIOR TO EXCAVATION. (SEE NOTE)
4. NOTIFICATION REQUIREMENTS SHOWN ON THIS PLAN SHALL NOT RELIEVE THE CONTRACTOR OF ANY OTHER REQUIREMENTS WHICH MAY EXIST UNDER LOCAL, STATE, OR FEDERAL JURISDICTION TO WHICH THE CONTRACTOR IS OBLIGATED.
5. RELOCATION OF AND/OR CONNECTION TO EXISTING UTILITIES SHALL BE PERFORMED IN ACCORDANCE WITH PROVISIONS OF THE APPROPRIATE UTILITY COMPANY AND/OR REGULATORY AGENCY.
6. UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND WORKMANSHIP SHALL CONFORM WITH THE REQUIREMENTS OF THE CITY OF GARDNER AND THE MASS DOT SPECIFICATIONS OF HIGHWAYS AND BRIDGES.
7. ALL SLOPES UNLESS OTHERWISE SPECIFIED, SHALL BE LOAMED AND SEEDED FOR STABILIZATION.
8. ANY DEVIATIONS IN DESIGN AS SHOWN SHALL REQUIRE A REVIEW AND APPROVAL OF THE DESIGN ENGINEER OR FIRM. CHANGES MADE IN THE FIELD MADE WITHOUT AUTHORIZATION SHALL BE SUBJECT TO REVIEW BY THE ENGINEER AND APPROPRIATE APPROVING AUTHORITY. EXPENSES INCURRED TO BRING THE UNAUTHORIZED CHANGES TO ACCEPTABLE CONFORMANCE SHALL BE BORNE BY THE COMPANY OR CONTRACTOR MAKING THE UNAUTHORIZED CHANGE.
9. ANY MATERIALS DISCOVERED ON-SITE WHICH ARE NOT SUITABLE FOR USE IN THE PROJECT AS SHOWN ON THIS PLAN SHALL BE REMOVED AND HAULED OFF-SITE TO AN APPROPRIATELY LICENSED FACILITY.
10. PLANS TO BE REVIEWED BY APPLICABLE UTILITY AGENCIES FOR COMPLIANCE WITH REGULATIONS. FINAL LOCATION IS SUBJECT TO CHANGE.
11. APPLICANT SHOULD BE AWARE OF OBLIGATIONS TO COMPLY WITH CHAPTER 131, SECTION 40 OF THE MASSACHUSETTS GENERAL LAWS, OTHERWISE KNOWN AS THE WETLANDS PROTECTION ACT, AND THE ASSOCIATED REGULATIONS (310 CMR 10.00)
12. STOCKPILING OF MATERIAL SHALL NOT BE PERMITTED WITHIN ANY AREAS SUBJECT TO PROTECTION UNDER THE WETLANDS PROTECTION ACT WITHOUT PRIOR APPROVAL BY THE LOCAL CONSERVATION COMMISSION. STOCKPILES SHALL BE PLACED IN A SUITABLE LOCATION AND SURROUNDED BY A ROW OF STAKED HAY BALES FOR EROSION CONTROL.
13. AREAS OF FILL TO BE COMPACTED TO A MINIMUM 95% DRY DENSITY IN AREAS WITHIN ROADWAYS AND UTILITY EASEMENTS. OTHER AREAS OF FILL TO BE COMPACTED TO A MINIMUM 90% DRY DENSITY. ALL FILL MATERIALS ARE TO BE CLEAN FILL, FREE OF DELETERIOUS MATERIALS AND DEBRIS.
14. ALL SIDEWALKS AND RAMPS TO CONFORM TO REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA), AS REQUIRED. SEE ARCHITECTURAL PLANS FOR CONFORMANCE REQUIREMENTS FOR PROPOSED BUILDINGS.
15. THE AREA PROPOSED FOR DEVELOPMENT IS NOT WITHIN A 100 YEAR FLOOD PLAIN PER F.E.M.A. FIRM PANEL #250305 0005 B, DATED: JULY 2, 1981. COMPLIANCE WITH APPLICABLE REGULATIONS IS REQUIRED.
16. ALL REINFORCED CONCRETE PIPE TO BE CLASS III UNLESS OTHERWISE NOTED.
17. PRE-CONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
18. ALL UTILITIES ARE TO BE INSTALLED BY A LICENSED UTILITY CONTRACTOR LICENSED BY THE CITY OF GARDNER.

HANNIGAN ENGINEERING, INC.
CIVIL ENGINEERS & LAND SURVEYORS
8 Monument Square (978) 534-1234 (T)
Leominster, Massachusetts 01453 (978) 534-6060 (F)
www.hanniganengineering.com

EXISTING WATERSHED PLAN IN GARDNER, MASSACHUSETTS

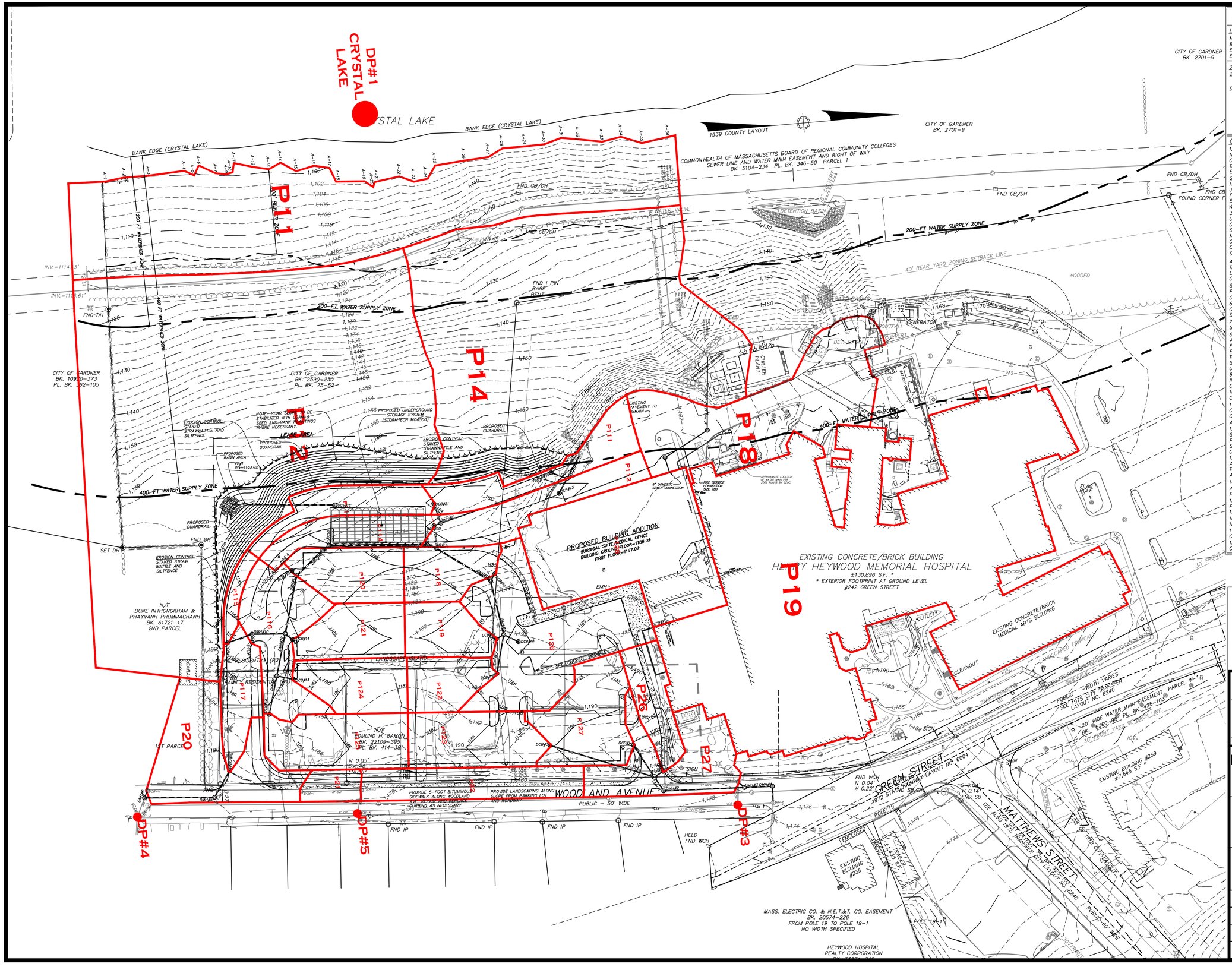
PREPARED FOR:
WATERSTONE PROPERTIES, INC.
NICO RECINE
117 KENDRICK STREET – SUITE 325
NEEDHAM, MASSACHUSETTS 02494
TEL: (781) 675-2063

GRAPHIC SCALE: 1"=50'

0 10 20 30 40 50 75 100 150 200 FEET
0 5 10 15 20 30 40 50 60 METERS

CALC: CMA	DRWN: CMA	SCALE: 1"=50'
CHKD: CMA	APPD: CMA	DATE: MAY 17, 2021
SRV: JHG	FB:	JOB NO: 2670
TAB: WS	SHEET 1 OF 2	PLAN NO: FILE

FIGURE 3
POST-DEVELOMPENT WATERSHED MAP


DP#1
CRYSTAL LAKE
CRYSTAL LAKE
BANK EDGE (CRYSTAL LAKE)
BANK EDGE (CRYSTAL LAKE)
1939 COUNTY LAYOUT
CITY OF GARDNER BK. 2701-9
CITY OF GARDNER BK. 2701-9
COMMONWEALTH OF MASSACHUSETTS BOARD OF REGIONAL COMMUNITY COLLEGES
SEWER LINE AND WATER MAIN EASEMENT AND RIGHT OF WAY
BK. 5104-234 PL. BK. 346-50 PARCEL 1
FND CB/DH
FND CB/DH
FND CB/DH
FOUND CORNER
P11
200 BUFFER ZONE
200 FT WATERSHED ZONE
200-FT WATER SUPPLY ZONE
INV.=1114.3'
INV.=1113.61'
FND DH
P14
200-FT WATER SUPPLY ZONE
FND I PIN BASE BENT
CITY OF GARDNER BK. 2590-230 PL. BK. 75-52
CITY OF GARDNER BK. 10920-373 PL. BK. 362-105
NOTE: REAR SLOPE TO BE STABILIZED WITH LOAM & SEED AND BANK PLANTINGS WHERE NECESSARY.
EROSION CONTROL: STAKED STRAWWATTLE AND SILTFENCE
LEASE AREA
P12
PROPOSED GUARDRAIL
PROPOSED BASIN AREA
TEMP. INV=1163.0±
400-FT WATER SUPPLY ZONE
PROPOSED GUARDRAIL
SET DH
FND DH
EROSION CONTROL: STAKED STRAW WATTLE AND SILTFENCE
N/F DONE INTHONGKHAM & PHAYVANH PHOMMACHANH BK. 61721-17 2ND PARCEL
P20
1ST PARCEL
P15
P16
P17
P18
P19
P120
P121
P122
P123
P124
P125
P126
P127
P128
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